

### FEATURES

- Durable industrial computer for hassle environment
- On board DSP chip for real-time signal processing
- Real-time alarm and paint sprayer handling
- Real-time input and output control
- Up to 256 pulser/receiver channels and 20 kHz PRF
- Windows applications with user-friendly interface
- Real-time multi-window A-scan display
- TOFD, B and C-scan displays
- Real time averaging to reduce noise signal
- Record A-scans and B-scan data for offline data analysis
- Automatic report generation with any kind of printer
- Support foreign languages other than English
- Powerful script file for creating customized testing procedures, special report and automatic quality control
- Affordable ultrasonic inspection systems
- Free one-year software upgrade



### DESCRIPTION

**TFScan 6** is an ultrasonic thickness measurement and flaw detection system for production line inspection and automatic quality control. The system includes:

- transducers and wedges
- an inspection scanner, or a immersion tank with motion control hardware
- an industrial computer containing DSPUT5000 board, and some DT16/DT8 pulser/receiver boards

The on-board digital signal processor (DSP) runs up to 4,800,000,000 instructions per second. With this powerful DSP chip the system can process all the data in real-time. The output pins can be programmed to respond the flaw conditions in order to control the external devices such as alarm, paint sprayer, and production machines. All the tests can be programmed to sense the input pins before triggering the alarm. This feature can be used to report the status of the automatic transducer rising mechanism: up or down. The system can be equipped with up to 256 channels.

TFScan 6 software consists of two packages: basic package and advanced package. The basic software package is just like a multi-channel flaw detector. The user can define up to 256 tests with different parameters such as transmitting channel, receiving channel, gain, gates, pulse width, and so on. Each test can be set to thickness measurement or flaw detection. The thickness measurement can be defined to trigger the output pin if the thickness is below or above a limit. The flaw detection can be defined to trigger the output if the signal is higher or lower than the predefined threshold. Each test will have its own scope window to show the ultrasonic signal and the gates. Pulse Repetition Rate can be defined from 1 to 5000 Hz (20,000 Hz optional) and the system will go through all the tests at each time event.

The advanced software package provides the user with more features such as encoder coded B-scan, TOFD, C-scan, data recording, and powerful script programming. With this advanced software package all the data can be saved on a hard disk and read back later for review. The B-scan display can be drawn based on time and the position of the transducers coded by a quadrature encoder. By using the script programming technique the end user can write his own inspection program to follow a special inspection procedure and to generate customized report.

A translation file can be modified to support the international languages provided by Windows. Other programs are also provided to control a scanner or an immersion tank.

### SPECIFICATIONS

**Computer** 2.4 GHz Pentium 4 or better  
 256 MB RAM  
 40 GB Hard Disk  
 Built-in CD-RW Drive  
 1280x1024 Display or better  
 Connector for external monitor  
 Input: 100/220VAC 50/60 Hz

**Sampling Rate** 100, 50, 25, 12.5, 6.25, and 3.125 MHz

**Data Resolution** 8 bits

**Samples** 16K samples (0 to 9.5" in steel)

**Scan Speed** up to 60 inch/second (1500 mm/s)

**Rectifications** RF, Full, +half, or -half

**Gain** 80 dB in 0.1 dB step

**Pulse Voltage** 40V to 300V in 256 steps

**Pulse Width** 50 ns to 480 ns in 256 steps

**Damping** 50 or 500 ohms

**Total Channels** up to 256

**# of Encoders** up to 6 (TTL level)

**I/O Level** TTL

**# of Gates** up to 10 gates

**AC Power** 100VAC-240VAC/50Hz-60Hz

