WT-900 is an integrated ultrasonic station for in line weld inspection. Especially of interest for tube and pipe manufacturers requiring UT testing immediately after the welding process.

The system is built around 4 channel pulser receiver modules, each individually capable to sequentially test in puls-echo for direct flaw detection and through transmission for coupling check. The same modules can also be set up for wall thickness testing and delamination testing (HAZ).

Up to 4 modules can be placed in the system, resulting in a 16 channel weld tester. A typical configuration for detection longitudinal defects, transverse defects and wall thickness can be as follows:

Where:

- Defect detection channel for 1 mode
- Defect detection channel for X mode
- Decoupling channel
- HAZ channel
- 1 & X mode Probe face orientation
WT-900:

The multiplexer system is based on the proven high performance MFD900 technology. Supplied in a 19” frame and up to 5 multiplexer modules can be inserted, each driving 4 transducers in PE or TR mode in a flexible way.

KEY FEATURES:

The instrument features up to 999 program locations to store inspection settings.

- Easy operation by PC mouse control
- Each channel equipped with 2 flaw gates with analog peak detectors, alarm logic and gated amplifier
- Selective attenuation and gain on each gate
- One water path meter and one universal thickness meter available on each channel
- Segmented TCG on each channel
- PRF per channel = 20 kHz/number of scan table entries
- 2 encoder inputs for in line production testing and displaying real time graphics
- Industrial I/O and PLC interface
- High speed real time analog and alarm output option
- Position programmable paint marker output
- Ethernet and RS232 interface
- Standard interface for external hardware, such as sorters/alarm/ PLC/data processing equipment
- 4 user levels. Each user level can be set to allow certain features to be operated

- Powerful recording and reporting software
- On-line /Real-time support by the internet with Team Viewer!

-User Define charts and graphs
-User defined reporting documents
Technical Specification:

Supply voltage : 90..240V (internally selectable)
Supply voltage tolerance : 190..240V / 80..120V AC 50/60Hz
Power consumption : max. 250W (10 channels installed)
Dimensions : 450 x 570 mm (WXHXD) 19 inch 3U
Weight : 6 kg
Construction : Plug in modules
PC Interface : Gigabit Ethernet UDP/IP Protocol with error correction
System interface : 16 bits bus for data, 16 bits bus for settings
External : 16 Inputs, 16 Outputs (1=dedicated fast alarm output)
Encoders : 2, quadrature or clock / direction 4 x resolution in quadrature mode
Encoder freq. : 2 MHz maximum
Remote I/O : RS485 / High Speed Output
Options : Real Time Output unit
Trigger : Input / output via BNC with frequency limit, TTL level

Pulser Receiver PRU924 Specifications:

TOF : 2, measuring between IP and IF echo (water path)
      Measuring between 2 echoes in the gate,
      Noise blanking and zero crossing detection (Thickness gauge)
TOF Clock : 50 MHz (TOF1) / 160 MHz (TOF2)
Detector : 2 Digital peak detectors @ 100 MHz (150 MHz optional)
Flaw gates : 2, each with peak detector, alarm logic and gated amplifier
Alarm : OFF, POS, NEG
Alarm filter : 1..200 (consecutive alarms)
Interface : Via dedicated interface gate
Gate Trigger : OFF, IP/IF/ARTIF
Connectors : BNC
Gain control : -10 .. +90 dB
Bandwidth : 100 KHz .. 30MHz (-6/-6 dB)
Filters : HPF (Off, 1MHz, 2.5MHz, 5MHz) @ 12dB/oct
         BPF (Off, 1MHz, 2.25MHz, 5MHz, 7.5MHz, 10MHz
         15MHz, 25MHz) 100% bandwidth
         LPF (Off, 5MHz, 10MHz, 20MHz) 24dB/oct
Output : RF, HW-, HW+, FW, FW+F1, FW+F2, Fw+ F3
Input impedance : 50 Ohm / 1 kOhm selectable in through transmission modes
Linearity : Better than 1% of full scale
Eq. Input Noise : 50uV RMS (10KHz .. 50MHz)
Gated Gain : -20 .. +20dB
TCG Type : Segmented with 16 segments Control Range : -20 .. +50 dB

Pulser Specifications (A/B Pulser)

Output : Negative Square wave
Connector : BNC
Width : 25 .. 500 ns adjustable in 1 ns steps
Voltage : -50 .. -350 V
Fall time : < 10 ns (-200V pulse)
Rise time : <15 ns (Damping 50 Ohm, no load, -200V pulse)
Impedance : <10 Ohm
Repetition Rate : max 10 kHz, adjustable per pulser
Damping Range : 25 .. 315 Ohm in 5 Ohm steps