FAAST-PA,
A unique and patented UT Phased Array

Main Features

Up to 128 full parallel channel per rack
(8x16; 4x32; 2x64; 1x128)

All channels driven with the same standard software, API and SDK, allowing numerous arrangements:
- 2 Racks: 16x16; 8x32; 4x64; 2x128; 1x256
- 4 Racks: 32x16; 16x32; 8x64; 4x128; 2x256; 1x512
- Ability to drive more racks (ie: Channels) on request

Transmission of multiple oriented beams in one single shot through all type of multi-element array probes. The capabilities of our FAAST technology are the following:

- Multi-angle
- Multi-focus
- Multi-frequency
- Multibeam

Real time data processing and multi A-Scan display
Real time analog & digital outputs
Ethernet Gigabit data transfer
Complete & Friendly Software development kit included with source code

*For more details, please contact us on www.socomate.com
### MAIN SPECIFICATIONS

#### HARDWARE

- Industrial rack 19° - 3U. Including: FRB connector for multi-element probes
- Consumption per 64CH rack: 0.45 kVA.
- Operating temperature: 0° to 40°C (32° to 104°F)

#### LINEAR TRANSMITTERS

- Single shot multi-directional transmitter and arbitrary waveform generator per channel. Delay resolution: up to 1 ns.
- Probe frequency range: 0.5 – 15MHz.
- Max amplitude: 80Vpp (50 Ohms).
- Max PRF: 20kHz.

#### RECEIVERS

- Pass-band: 0.5 – 20 MHz (-3 dB).
- Gain: 0 to 70 dB.
- DAC dynamic: 70 dB.
- DAC slope: ±70 dB/ 0.1 µs Max.

#### GATES

- Gate IF (yellow). Gate 1 (red) & Gate 2 (blue). All gates fully independent. Start: 80 ns to 655 µs/ 20 ns step. Width: 20 ns to 655 µs/ 20 ns step. Level: 10% to 90%/ 1% step. Double threshold: Gates 1 & 2. Triggers: Not active/ initial pulse/ interface/ artificial, on Gates 1 & 2, and Gate-to-Gate on Gate 2. Back-echo tracking on Gate 1.

#### FLAW IN-LINE

- Flaw alarm: Positive/ Negative.
- Noise suppression: 0 to 250 violations.
- Flaw mode: Max. or first echo peak amplitude on Gates 1 & 2.
- Amplitude resolution: 0.5% FSH.

#### TOF/ Wall Thickness In-line

- Alarms: Min. & Max. Noise suppression: 0 to 30 violations.
- Mode: First echo on Gate IF and Max. or first echo on Gates 1 & 2. Origins: Peak, flank, zero crossing. Gateway: HW+, HW-, FW & RF.
- WT Data process (DSP): Upper & lower limits, Max deviation, filtering, averaging, etc...

#### A-SCAN DISPLAY

- Mode: HW+, HW-, FW & RF Gates: Yellow (IF), Red (G1) & Blue (G2). DAC Curve: 0% to 70% FSH (0-70dB).
- Delay: 0 to 655 µs/ 20 ns step. Range: 1 µs to 1.3 ms/ 20 ns step. Trigger: Initial pulse/ Gate 1 Start/ Gate 2 Start/ Gate 1 Trigger/ Gate 2 Trigger. Displayed peak: Snapshot or Max. peak.
- Velocity: Interface and material.
- A-Scan length: 100 to 512 points.
- Acquisition mode: Free running or external. Angle beam trigonometry: Distance & depth. Units: µs/ mm/ inch/ composite Ply restitution.
- Moving averaging: on 1/ 2/ 4/ 8/ 16 A-Scan.
- Gate IF (yellow). Gate 1 (red) & Gate 2 (blue); All gates fully independent. Start: 80 ns to 655 µs/ 20 ns step. Width: 20 ns to 655 µs/ 20 ns step. Level: 10% to 90%/ 1% step. Double threshold: Gates 1 & 2. Triggers: Not active/ initial pulse/ interface/ artificial, on Gates 1 & 2, and Gate-to-Gate on Gate 2. Back-echo tracking on Gate 1.

#### DATA PROCESSING

- Digitizer per channel: 14 bits. Delay resolution: Up to 5 ns.
- Processing and display: Real time multi-directional A-Scan.

#### DATA TRANSFER

- Ethernet gigabit data transfer

#### SOFTWARE & SDK

- FPGA: Allowing real time stand alone running (Socomate property).
- Standard API (LabVIEW): USPC.exe + sources, API tutorial software: Help!, DLL for Windows OS (x64 bit): 7 / 10...and over, DLL with Help! tutorial software.
- LabVIEW demo acquisition software with *.exe + sources.
- For Visual Samples Studio with *.exe + sources.

#### FAST SOFTWARE TOOLS:


---

**STANDARDS & APPROVALS**

**Phased Array: ISO 18563-1**

Socomate International maintains the right to modify the specification of their equipments, at any time and in whatever manner, in order to improve their performances.