



UNIQUE
IN NDT

PIONEER Max

Arbitrary Waveform Generator

For academic & industrial ultrasound research
User-Friendly Custom Sequence Programming
Online, direct access to all raw RF data

SUPER FAST!



PULSER

Voltage Range	From 10 to 200 Vpp
Waveform Type	Meander, Sine, Burst, Rectangular, Gaussian, Chirp, Custom
Channel Configuration	Each channel can be set independently
Extended Transmit	Up to 1 ms
Signal Bandwidth	100 kHz to 15 MHz
Dynamic	> 40 dB at 5 MHz
Power	30 W (Option for 50 W)
Output impedance	< 7 Ohms
Maximum PRF	20 kHz

RECEIVER

Receiver Resolution	14 bits per channel
Receiver Gain Range	110 dB
Receiver Bandwidth	0.3 to 20 MHz (50 kHz optional)
Receiver Focusing Delay	0 to 40 μ s
Delay Resolution	5 ns
DDF	Up to 64 points

SIGNAL PROCESSING

FIR Filter	Up to 64 taps
Different Filter per Cycle	Choose from 15 user defined filters
Ascan Resolution	8, 14, 16 bits
Ascan Sampling	100 MHz in PA 50 MHz in FMC
Decimation	50, 25, 16.67, 12.50, ... MHz
Ascan Compression	Yes
Acquire All Ascans	Yes
Ascan Length	8 k points in FMC Mode 65 k points in Beamformer Mode
Gates	4 (Amplitude, TOF)
Gate Modes	Any (Peak, Flank, Zero before crossing, Zero after crossing)
IF Gate and Ascan	Yes, no limitations Surface and backwall tracking

COMMUNICATION

Communication Link	LAN 10 Gb (TCP/IP) for each 64-channel board
Useful UT Data Flow ⁽¹⁾	1 GB/s per batch of 64 ch

SYSTEM

Configurations	64/64 AWG, 128/128 AWG, 256/256 AWG 8 mono channels in option Special configuration available up to 1024
UT Modes	Pulse/Echo, Pitch & Catch, Through Transmission (TT)
Full-Matrix Capture	Yes, all FMC techniques available
Dimensions	454 x 233 x 395 mm 17.87 x 9.17 x 15.55 in.
Weights	< 10 Kg 22 lb for all configurations
IP Rating	N/A
Temperature Monitoring	Yes
Open Source SDK	Yes (Fully Documented API)
Software Languages	C++, Python, C#, LabVIEW, MATLAB, etc...
Operating Systems	Windows, Linux
AFM-API (High level API)	Including TFM (Real time acquisition & display in option)
Multiplatform Compatibility	With all AOS products

I/O MANAGEMENT

Encoders	4 encoders (differential, single ended)
Encoder Modes	Quadrature, Quadrature 4 edges, Direction Count, Forward, Backward
Synch In	Pulse Trig, Sequence Trig, Encoders
Synch Out	Pulse Trig, Sequence Trig, Output
Pin Assignments	Programmable
Number I/O	8

⁽¹⁾The maximum data rate can vary according to the PC, the OS setting and the Software environment.

Photos and specifications not contractual.