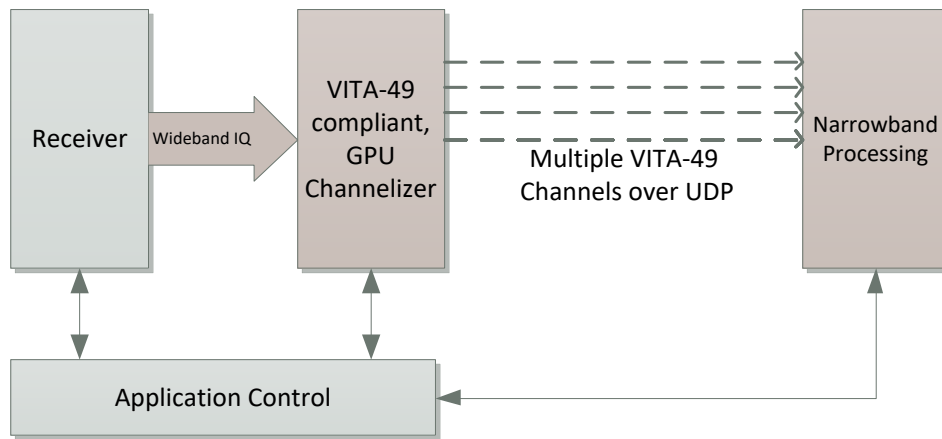


# Channel Z

## VITA-49 Compliant GPGPU Channelizer Solution

**Channel Z** from **Zeta Defense** is the next generation channelizer technology. It eliminates the need for custom FPGA and ASIC boards and leverages COTS GPU equipment used on everyday PC's. With independently configured center frequency, bandwidth and sampling rate down to 32-bit floating point resolution, applications receive the exact signal they demand. With VITA-49 compliant I/O over network, Channel Z can be customized to scale both within a system or a cluster.



## Key Features

- Depending on COTS hardware, allowing more options to design the system.
- Easily modified to answer customer specifications
- Support for multiple inputs and outputs, limited by the COTS hardware
- Easy performance upgrade by replacing the COTS hardware
- Channel parameters that can be specified to 32 –bit floating point resolution
- Dynamic reprogramming of the channelizer during operation, there is no need to stop and restart the kernel
- CUDA powered architecture; any updates to CUDA capabilities will be directly implemented to increase performance, reliability.
- Support for any CUDA capable GPU (GeForce, Tesla, Quadro)
- Unparalleled value / performance.

## Example Performance

A performance test with very low profile hardware

**Hardware :** CPU : Intel Core i7, GPU : GeForce GTX 850M, on a 2015 laptop

**Performance:** 100 MHz Input Signal Bandwidth, 16 bit complex-IQ baseband, randomly located 128 channels with 300 kHz bandwidth



## Specifications

### Base System

Input Data Type	Complex IQ
Number of Input Channels – offline	Unlimited
Number of Input Channels – real time	Limited by GPU – Host data transfer bandwidth
Input Channel Number of Bits	16 (can be tailored to customer specification)
Input Channel Sample Rate (fsin)	100 MHz (can be tailored to customer specification)
Number of Real-Time Output Channels	Limited by GPU used and GPU – Host data transfer bandwidth
Channel Center Tuning Resolution	IEEE-compliant 32-bit floating point resolution
Output Channel Sample Rate	Can be set any desired value-300 kHz max (can be tailored to customer specification)
Output Channel Sample Resolution	IEEE-compliant 32-bit floating point resolution
Output Channel Number of Bits	16 (can be tailored to customer specification)

## Warranty

All hardware and software procured from Zeta is under warranty against manufacturing or design failures for 2 years. Customers specific demands for warranty may also be arranged.

## Disclaimer

Due to ongoing R&D, Zeta reserves the right to change the product specification without notice.

## Custom Services & Solutions

Zeta Defense provides customers with solutions optimized to their specific needs. This includes feasibility reports; customized training sessions on Spectrum Monitoring and SIGINT related issues and complete turnkey solutions.

## About Zeta Defense

Zeta Defense is a young company developing solutions for RF Spectrum Monitoring & Management, ELINT, COMINT fields. Our capabilities include digital signal processing, highly parallel computation architectures (FPGAs and GPUs), high and low level software development, client-server architectures based on high performance reliable messaging structures, RF hardware simulation and design and systems engineering,

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