



# ICE-BLOCK

Stand-Alone 1U Network Attached Appliance



## Overview

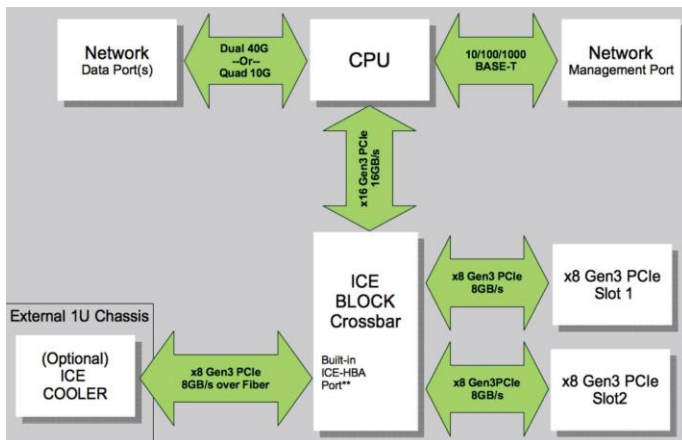
One rack unit (1U) preconfigured network attached appliance for data conversion, data streaming, and content filtering applications. Data recording or playback with 8 terabytes of available storage is also an option.

## Features

- Preconfigured, bootable embedded Linux® with stand-alone processor
- Powerful single board computer (Intel® Core™ i7 Quad-core, 16GB RAM)
- Mirrored solid-state system and data drives (RAID1)
- Holds up to 2 ICE-PIC6 series DSP cards (Limited speeds and configurations)
- Holds up to 2 ICE-PIC7/ICE-PIC8 Series DSP cards
- Supports up to 4 I/O modules, 2 crossbar interfaces, and 4 processor modules
- PCI-Express Gen3 crossbar architecture
- Single GbE management port
- Dual QSFP+ network ports (Factory configurable as 2x 40GbE or 4x 10GbE)
- Support for several multicast formats (ICE Packets, VITA.49, SDDS, etc.)
- Optional ICE-COOLER expansion interface (8 GB/s)
- Front/Back or Back/Front rackmount options
- Redundant hot-swap 380 Watt power supplies, 1+1
- Integrated over-temperature protection
- Software configurable to support a variety of data conversion and processing needs

## Applications

- RF-to-network conversion (packetized data multicast or digitized analog signals)
- Optical-to-Network conversion (packetized data multicast or OTN/SONET)
- Network-to-Network processing (packet ingest/filter/analyze/modify/broadcast)
- Custom FPGA processing of data streams
- Digital tunin, demodulation, and multicast distribution of data



# ICE Enterprises

Innovative Computer  
Engineering

## ICE-BLOCK

### 1U Network Attached Appliance

Add an ICE-RAID to record or playback packets from the ICE-BLOCK

ICE-RAID (2U-48TB/3U-96TB/4U-140TB available)



Analog/SONET/Packet/Network Recording



ice-online.com

ICE Enterprises, Inc. ♦ 10302 Eaton Place ♦  
Fairfax ♦ VA 22030 ♦ 703-934-4879  
info@ice-online.com ♦ www.ice-online.com

|   |  |
|---|--|
| Cards / Devices / Appliances / Packet Engines   | <b>ICEPIC</b><br>PCI Express Card<br>ICEPIC1 PCI 32bit, ICEPIC2 PCI 32bit, ICEPIC3 PCI 32bit, ICEPIC4 PCI 64bit, ICEPIC5 PCI X 64bit, ICEPIC6 PCIe Gen1, ICEPIC7 PCIe Gen2, ICEPIC8 PCIe Gen3 6GB/sec            |
|   | <b>ICEPOD</b><br>Ultra Portable High Speed Recorder (HSR) "Shoe Box Size"<br>ICEPOD6, ICEPOD6.5, ICEPOD8 M8-HSR 2600MB/sec Removable Storage   |
|   | <b>ICEPAC</b><br>Ultra Portable Device "Pocket Size" / Quad 10 GbE Network Output<br>ICEPAC 400MB/sec Dual I/O Site  |
|   | <b>ICE BLOCK (Network Attached ICE-Cards/Modules)</b><br>Dual 40 GbE or Quad 10 GbE Network-Attached Appliance (8TB Record/Playback option available)<br>Network Attached 1U Appliance Hosting Dual ICEPIC Cards |
|   | <b>ICE COOLer (PCIe Attached over Fiber ICE-Cards/Modules)</b><br>Advanced Connection Over Optically Linked er<br>PCIe Remote Attached 1U Chassis Hosting Dual ICEPIC Cards                                      |
|   | <b>ICE GigEXD / TGigEXD</b><br>1 Gigabit and 10 Gigabit Data Conversion device (Stand Alone and up to 4-Channel 1U Chassis)<br>GigEXD 1Gbit, Works w/ ICE-AA2D TenGigEXD 10Gbit with 4 Tuners, Works w/ D2AWG2   |
| <b>ICE-DPI8 (Deep Packet Inspection)</b><br>PCI Express Card / Dual 40G or Quad 10G - Intel® XL710 Interface<br>Heavy Load Packet Processing/Inspection |  |

Cards/Appliances

|                   |   |
|-------------------|---|
| Analog Digitizers | 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018<br><b>Analog to Digital A2D 12 Bit</b><br>250 MS/sec ICE-A2Dr9, 500 MS/sec ICE-A2Dr10, 250 MS/sec ICE-A2Dr13, Dual 1.6 GS/sec 750 MHz BW ICE-A2Dm18 |
|                   | <b>Analog to Digital A2D 14 Bit</b><br>105 MS/sec ICE-A2Dr7, 125 MS/sec ICE-A2Dr8, 250 MS/sec ICE-A2Dm14, Currently in Prototype, Dual 3 GS/sec 1500 MHz BW ICE-A2Dm20  |
|                   | <b>L-Band 900-2200 MHz Tuner</b><br>900-2200 MHz 85 MHz BW ICE-LB2Dr2, 900-2200 MHz 120 MHz BW ICE-LB2Dr3   |
|                   | <b>Digital to Analog DAC</b><br>160 MS/sec ICE-D2Ar2, 200 MS/sec ICE-D2Ar9, ICE-D2AWG 110 MHz BW 0-500MHz IF, ICE-D2RF 50 MHz BW 70-4000MHz RF, ICE-D2AWG-m3 5GSPS DAC / 400+ MHz BW 0-2500 MHz CF Direct RF Up to 7000 MHz Mixed                                 |
| Processors        | <b>Processor Modules</b><br>Xilinx and Altera Gate Array "Sandbox"<br>DTDm, DTDmX, V5M, V6M Vertex, K8M Xilinx UltraScale, A8M Altera/Intel® Arria 10   |
|                   | <b>SONET Optical Modules</b><br>SONETr1 OC3, SONETr2 OC12, SONETr4 OC48, SONETr5 Dual OC48, SONETr6 Dual OC192, SONETr7 Dual OC192 Enhanced   |
| Packet Engines    | <b>Raw Packet I/O Modules [Dual 10G]</b><br>UDP 10Gr2, UDP 10Gr3  |
|                   | <b>Packet Processing Modules (For ICE-DPI8 Card) [Quad 10G / Dual 40 GbE]</b><br>Deep Packet Inspection Processor   |

Modules - Analog / Digital / Optical / Network / Packet Engine

|   |   |
|---|---|
| Analog/Optical/Packet Rack and Portable Recorders | 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018<br><b>ICE Recorder Technology</b><br>Speed Progression (Megabytes/sec) 20 MB/S 80 MB/S 320 MB/S 1250 MB/S 1400 MB/S 2800+ MB/S 4000+ MB/S |
|   | <b>Custom Analog Recorders</b><br>Many Models-Call for a Solution<br>ICECAP20, ICECAP80, ICECAP320, ICECAP1250, ICECAP WB1400, ICECAP 1600 Quad 400MB/s   |
|   | <b>Rack Mount Optical Recorders</b><br>Tandem OC192 SONETr OC192/10G   Dual 1400MB/s ICEPIC8   SONETr7  |
|   | <b>Portable Small 12 Volt DC Analog Recorders</b><br>ICEPOD8 HSR Dual 1400 MB/S (2800 MB/S)   |
|   | <b>Portable Small 12 Volt DC Optical Recorders</b><br>ICEPOD8 HSR Tandem SONETr OC192 10G ICE-SONETr7   |
|   | <b>Portable ICE Briefcase Recorders "Server-in-a-Briefcase"</b><br>Original QT360 Briefcase 2003, ICE Briefcase XEON Series 48GB RAM Hosting Dual ICEPIC6 Cards, ICE Briefcase Intel® XEON V4 Series 128GB RAM Hosting Dual ICEPIC8 Cards               |
|   | <b>Custom Packet Recorders (4 Channel / 400Megabyte/sec/channel Packet Recorder)</b><br>Example Model listed here - Many Models-Call for a Solution<br>ICE-CSC-M2012 Quad 400MB/s   |

Recorders Rackmount and Portable Technology