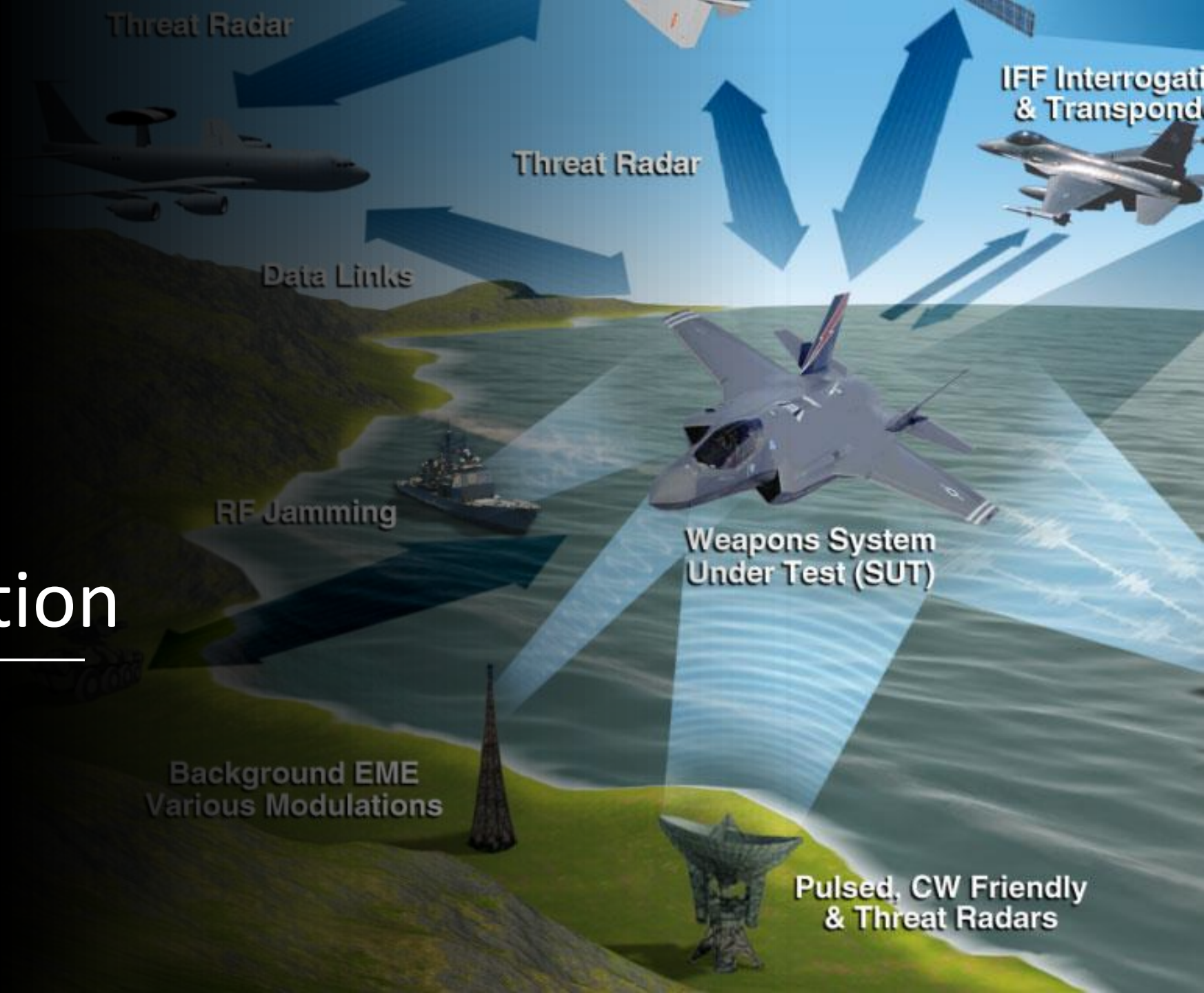
TRANS PACIFIC TECHNOLOGIES, INC.

Newsletter 10月号

System Integration



System Integration for MIL-STD-1553 Data Converter Solution

Acromag
THE LEADER IN INDUSTRIAL I/O

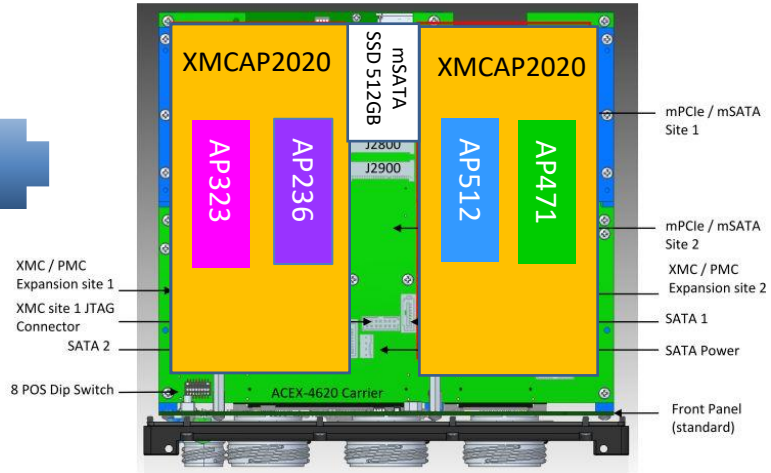
ARCX-4120

H83.57mm x W213.49mm x D211.71mm

Alta dt
data technologies

ENETX-MA4-1D4-EF

1553 & A429 combo
Ethernet converter



Background

回転翼機搭載向けシステム監視・警報装置

Keyword

1553、A429を含む各種I/Oを小型軽量低消費電力のシステムで提供
弊社オリジナルのカタログ品として提供（弊社にてコンフィグレーション管理）

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Basic System

Acromag - Rugged Embedded Computer - ARCX-4120
CPU - Core i7-4700EQ, 2.4GHz, quad core
OS – VxWorks 7.0 + VxWorks 7 Plus Profile (Audio I/O) license

Integrated Solution **Networking Interface**
Alta Data – 1553 & A429 combo Ethernet Converter
ENETX-MA4-**1**D**4**-EF – MIL-STD-1553 : **1**ch RT & ARINC429 : **4**ch Rx

Integrated Solution **Analog Input**
Acromag – A/D 16 bit : 20ch – AP323

Integrated Solution **Analog Output**
Acromag – D/A 16 bit : 8ch – AP236

Integrated Solution **RS422**
Acromag – RS422 Serial ports : 4ch – AP512

Integrated Solution **Digital I/O**
Acromag – TTL Level Digital I/O : 48ch – AP471

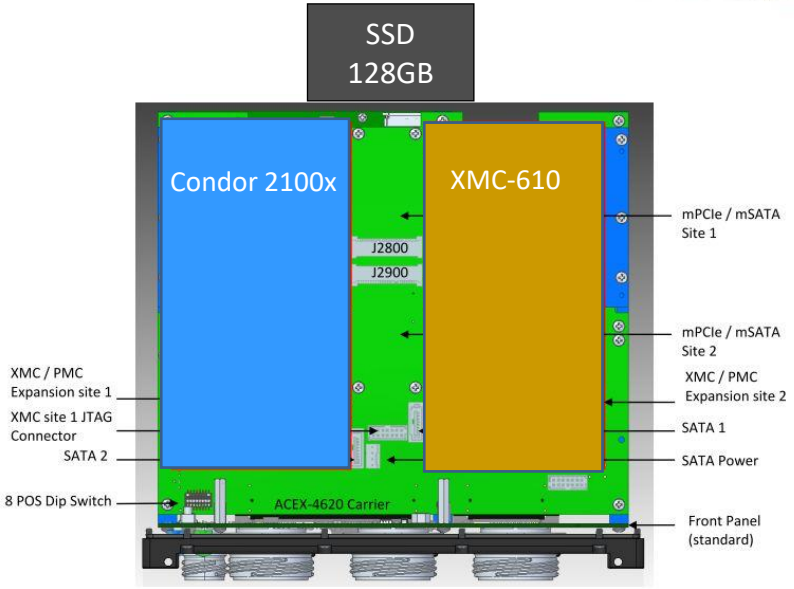
Environmental
Conduction-cooled, Conformal coating
Operating Temperature : -40℃ ～ +55℃,
Storage Temperature : -40℃ ～ +85℃
Power Consumption : up to 100W (as a whole system)

RS-170A Video Recording System

Acromag
THE LEADER IN INDUSTRIAL I/O

ARCX-4121-PF

H131.7mm x W213.5mm x D211.7mm



Background

固定翼機搭載向けビデオレコーダーシステム（外部信号入力による緊急消去）

Keyword

レガシーな2ch NTSC信号入力に対応、HD-SDIへのアップグレード対応可能

Basic System

Acromag - Rugged Embedded Computer - ARCX-4121-PF
CPU - Core i7-4700EQ, 2.4GHz, quad core
OS – RHEL-7

Integrated Solution **Removable SSD**

OS : 64GB, Data Storage : 64GB

Write protection required for OS area
Secure Erase required for data storage

Integrated Solution **Video Graphics**

EIZO – XMC Graphics Board & Video Input Card
Condor-2100x

Integrated Solution **Gigabit Ethernet**

Acromag – Quad-port Gigabit Ethernet
XMC NIC Card XMC610

Environmental

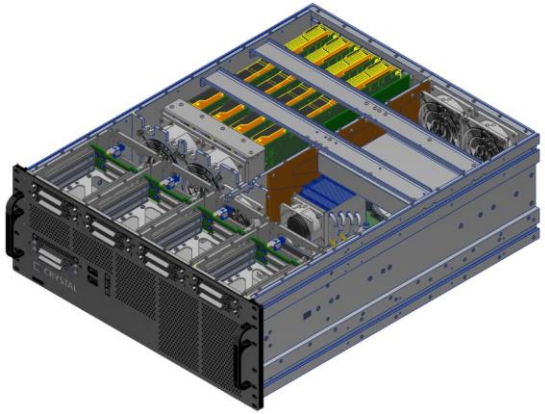
Conduction-cooled, Conformal coating
Operating Temperature : -15℃ ～ +55℃,
Storage Temperature : -40℃ ～ +71℃
Power Consumption : up to 100W (as a whole system)
Vibration : MIL-STD-810F, Shock : 20G 6～9ms

TPT
TRANS PACIFIC TECHNOLOGIES INC.

Deep Learning and AI

RS4105L22

NVIDIA Tesla V100



Basic System

CRYSTAL Group - Rugged 4U Server – RS4105L22

CPU - Dual Socket 2nd Generation Intel® Xeon® Scalable options up to 28 cores each

External Bay - Five Crystal FORCE expansion bays, up to 15x SSD or other FORCE accessory modules

Memory - 16GB – 3TB DDR4 RDIMM/LRDIMM

Software - Supports Windows 10®, Windows Server, VMware®, or Linux®

Integrated Solution GPGPU

NVIDIA Tesla V100

Background

DSP, SIGINT, C4ISR, Radar等のアプリケーションに最適

Keyword

Tesla V100を最大４基搭載可能

GPU & GPGPU負荷１００%→４基搭載で５０℃までの耐熱

Environmental

MIL-STD-810, Operational Temperature, Method 501, Procedure I/II: -30° C to +50° C
MIL-STD-810, Storage, Method 501, Procedure I/II: -40° C to +85° C
MIL-STD-810, Humidity, Method 507, Procedure II: 240 hours with conformal coat
MIL-STD-810, Altitude, Method 500: 12,500ft operation, 40,000ft transport
MIL-STD-810, Vibration, Method 514, Procedure I: 2 GRMS, 5-2,000Hz, 60 min/axis
MIL-S-901, Grade B

Electromagnetic Compatibility

AC, FCC compliant
AC, MIL-STD-461, RE102, CE102 compliant
DC, MIL-STD-461, RE102, CE102 compliant

Signal Processing and Storage Server

CRYSTAL

RS363SF

SPECTRUM

SPECTRUM
M2P.5923-X4

PCIe-6738

PCIe-6535B

Basic System

CRYSTAL Group - Rugged 3U Server – RS363SF

CPU - Intel® Xeon® Scalable processors up to 18 core per socket

External Bay – Three removable SATA or SAS 2.5” or 3.5”HDD

Memory – 16-512GB DDR4

Software - Windows 10®,Windows Server 2016,VMware®,or Linux®

Integrated Solution SPECTRUM – 16bit multi-purpose digitizer – M2P.5923-X4

16bit ADC, PCI Express x 4 interface

SPECTRUM

Integrated Solution NI Analog Output Device – PCIe-6738

PCI Express 16-Bit, 32 Channels, 1 MS/s Analog Output Device

Integrated Solution NI Digital I/O Device – PCIe-6535

PCI Express 32-Channel, 10 MHz, 40 MB/s Digital I/O Device

Environmental

MIL-STD-810, Operational Temperature, Method 501, Procedure I/II: -30° C to +50° C
MIL-STD-810, Storage, Method 501, Procedure I/II: -40° C to +85° C
MIL-STD-810, Humidity, Method 507, Procedure II: 240 hours with conformal coat
MIL-STD-810, Altitude, Method 500: 12,500ft operation, 40,000ft transport
MIL-STD-810, Vibration, Method 514, Procedure I: 2 GRMS, 5-2,000Hz, 60 min/axis
MIL-S-901, Grade B

Electromagnetic Compatibility

AC, FCC compliant
AC, MIL-STD-461, RE102, CE102 compliant
DC, MIL-STD-461, RE102, CE102 compliant

Background

固定翼機搭載向け電子情報収集分析システム

Keyword

12Gbps対応SAS SSDおよびRAID controller搭載

3rdパーティ社製A/Dボード等をカスタマイズしてシステムとして耐環境性能を保証

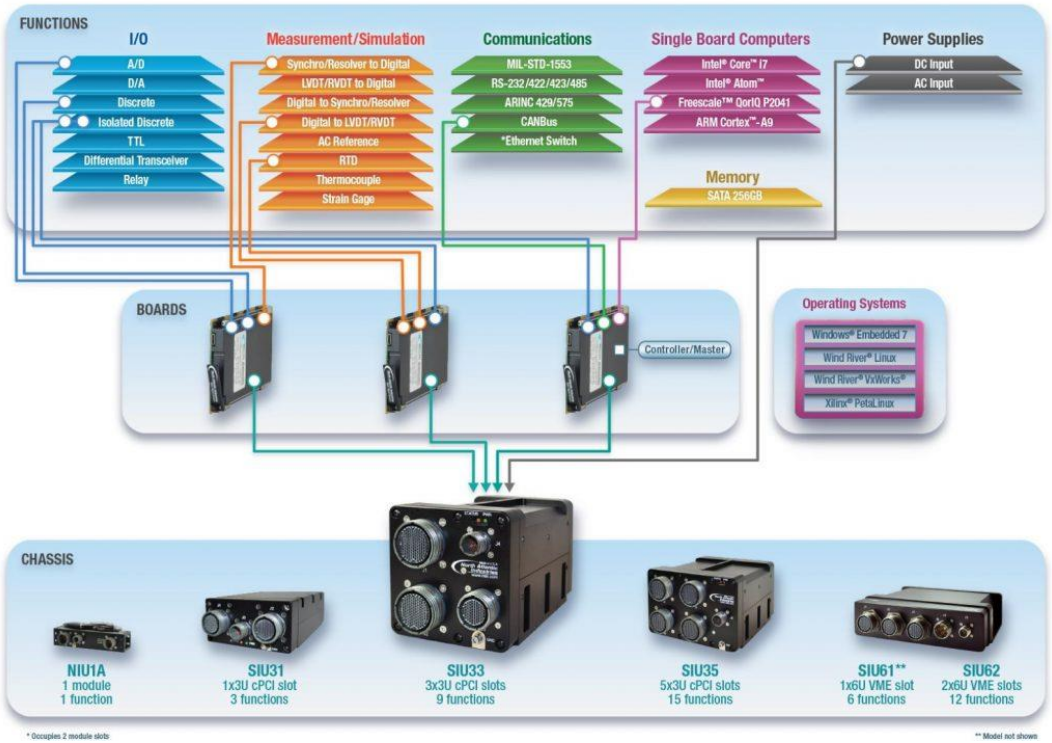
TRANS PACIFIC TECHNOLOGIES INC.

Sensor Interface Unit/Nano Interface Unit

North Atlantic Industries

Configure Boards & Systems Easily for a Complete COTS Solution

Pre-existing, fully tested functions can be combined in an unlimited number of ways.



Background

70種類以上の既存I/Oモジュールにより、様々な要求仕様に対応することが可能（GUIによるI/Oの設定および動作確認が可能）

Keyword

CPUボード、I/Oモジュールは各種OS向けにBSPおよびドライバが用意されており、動作を保証（相性の心配は皆無）

Basic System

North Atlantic Industries - Rugged SIU/NIU Series

CPU – PowerPC, ARM, Intel

Software - Windows, DDC-I Deos, VxWorks 6.X, 7.X and 653 3.X & HVP, PetaLinux

Integrated Solution I/O Selection

A/D, D/A, Discrete, TTL, Differential Transceiver, Relay

Integrated Solution Measurement/Simulation Selection

Synchro/Resolver to Digital, LVDT/RVDT to Digital, AC Reference, RTD, Thermocouple, Strain Gage

Integrated Solution Communication Selection

MIL-STD-1553, RS-232/422/423/485, ARINC429/575, CANBus, Ethernet Switch

Integrated Solution Single Board Computers Selection

Intel Core i7, Intel Atom, PowerPC, ARM

Integrated Solution Power Supplies Selection

DC Input, AC Input

Specifications

- Operating temp: -40 °C to +71 °C @ thermal interface, conduction cooled; convection & air-cooled options
- 28 VDC 50 ms hold-up option
- Environmental/EMI MIL-STD-461, MIL-STD-810, MIL-STD-1275 & MIL-STD-704A

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RDC (Remote Data Concentrator)

SIU33

Board Level – 1
68PPC2-2-TE1 FT2

Board Level – 2
68G5-2-LD2 DA3 AC2

Board Level – 3
68G5-2-CB6 AD4 DT1

Board Level – 4 PSU
75PS4

Background

固定翼機搭載向けIMA（Integrated Modular Avionics）

Keyword

VPX 3U、DO-178C対応の高密実装システム
AFDX、CANbus、1553および各種I/Oが提供可能

Basic System

North Atlantic Industries - Rugged SIU33 OpenVPX

OS - VxWorks 653 3.0.1 CP2 BSP for T2080
– Path to DO-178C & DO-254 Certification
3 x 3U OpenVPX Slots

Integrated Solution **Board Level-1 68PPC2-2-TE1 FT2**
SBC(NXP® QorIQ® T2080 Quad-Core e6500 Processor @1.5 GHz) + ARINC644(AFDX) + MIL-STD-1553

Integrated Solution **Board Level-2 68G5-2-LD2 DA3 AC2**
4ch LVDT/RVDT + 4ch Digital to Analog output + AC Reference Source

Integrated Solution **Board Level-3 68G5-2-CB6 AD4 DT1**
CANBus + Analog to Digital module + Discrete I/O

Integrated Solution **Board Level-4 Power Supply 75PS4**
75/150-Watt DC/DC Converter

Specifications

- Operating temp: -40 °C to +71 °C @ thermal interface, conduction cooled; convection & air-cooled options
- 28 VDC 50 ms hold-up option
- Environmental/EMI MIL-STD-461, MIL-STD-810, MIL-STD-1275 & MIL-STD-704A

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