NIA-II™
RACKMOUNT
NTDS I/O ANALYZER

Sabtech's NIA-II™ Rackmount allows you to easily capture the data exchanged between two actively communicating NTDS devices. The ability to see what is actually happening on an NTDS channel is a key factor in verifying both hardware and software performance. Anyone who has experienced unexpected interface problems on an NTDS system can tell you about the serious impact it can have to costs and schedules. NIA-II™ helps you avoid this by providing the visibility you need to quickly analyze interface timing relationships, protocol, throughput, and data integrity. The NIA-II™ is an invaluable tool to help you successfully develop and maintain NTDS systems.

Capabilities

The NIA-II™ can monitor any combination of NTDS Type A, B, C, H, D, or E channels. It connects to the input and output cables of an NTDS channel and passively "listens" to communications without interfering. Data collected by the NIA is available for immediate viewing or it can be stored for later analysis. Each word captured is tagged with a 125 nanosecond resolution time-stamp making it easy to measure real-time performance.

This NIA-II™ Rackmount can be configured to monitor communications on up to 10 NTDS cables in any combination of inputs or outputs. NTDS Type selection (A, B, C, H, D, or E) is made in groups of 2, allowing you to concurrently monitor up to 5 different NTDS channel types. There are two capture modes supported – Buffer Capture and Continuous Capture. Buffer Capture Mode provides a snapshot with data before and after a specific event. Buffer sizes are selectable from 128 to 32,000 32-bit words. Continuous Capture Mode continuously streams data to disk until stopped manually, by a trigger event, or after a specified number of words. This provides the user with a complete data dump rather than data related to a specific event. Data can be displayed or printed in binary, hexadecimal or octal format.

Triggering

Data is collected on all active channels, with any one channel used for the trigger. In Buffer Capture Mode the trigger can be positioned within a fixed-size buffer to collect 0%, 25%, 50%, 75% or 100% of pre-trigger data to optimize the view around the trigger event. Continuous Capture Mode can be configured to start data collection on the trigger, stop collection on the trigger, or start and stop on successive occurrences of an event. The trigger is entered as a 32-bit word in binary, hexadecimal or octal format (with X's for don't cares). The trigger is then set to match on Data, External Interrupt (EI)/External Function (EF), Forced EI/EF or any word type matching the trigger pattern. NTDS Serial Type E channels can also trigger on a Parity Error, Sink Timing Error or either error.
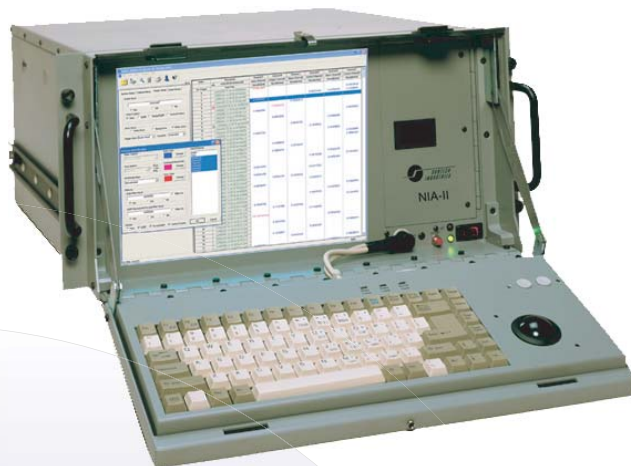
More Than a Diagnostic Tool

The NIA-II's remarkable versatility can be used effectively in a variety of ways:
- To monitor system performance during peak loads or to optimize code
- To develop and debug new interfaces and protocols
- To evaluate timing and sequence relationships between devices or subsystems
- To certify software deliveries for compliance to specifications
- To integrate new equipment into a system
- Reverse engineer an undocumented protocol or IDS
- To collect data for analysis during shipboard exercises
- As a diagnostic tool for interface troubleshooting

Remote Access

An advanced feature of the NIA-II™ is its ability to be remotely controlled. Using the available 10/100Base-TX Ethernet port, all analyzer controls and displays can be accessed from a remote system, giving you immediate access to data for offsite analysis. From your desktop, you can remotely control your NIA-II™ connected in the lab down the hall or halfway around the world.

Make Cable Connections Fast

Cable connections are easy to make with NIA-II™ Tap Boxes (sold separately). Parallel and serial Tap interface modules come with your choice of military standard NTDS connectors. Simply disconnect the cables from the device under test and plug them directly into the Tap interface module. Cable jumpers (sold separately) are then connected from the Tap interface module to the device. See the *Accessories* section of this website for tap boxes and cables.

Options and Custom Configurations

The NIA-II™ Rackmount can be configured to achieve the right balance of features and cost for your application. The basic configuration allows for monitoring of 1 NTDS channel (2 cables). Capability can be added to monitor up to 4 more channels. The NIA-II™ Rackmount comes packed with disk storage, including an internal hard drive, a removable hard drive, and CD-RW. The unit can be optionally equipped with Zip® drive, optical drive or other forms of removable media. Other options include a modem for remote access, and a rugged transport case with room for the Tap Box, and Cables. Custom NIA II™ configurations are available upon request.

Key Features (NIA-II™ RACKMOUNT)

• High-speed design assures proper operation at highest data transfer rates

• Capture high speed NTDS data on parallel and serial NTDS channels

• Monitors up to 5 NTDS I/O channels (10 cables) concurrently

• Buffer or Continuous Capture Modes with flexible capturing options

• Multiple trigger options available for any channel-trigger on first word, specific word/mask combination, word type, or error (NTDS Type E)

• Multiple timestamp views-real time, timestamp time, trigger offset, and delta time between words

• Rugged 19" Rackmount enclosure

• 1.44 MB floppy drive, internal hard drive, removable hard drive and CD-RW for data storage

• Time-Stamps captured data with 125ns resolution

• Detachable PC-style keyboard with trackball

• 10/100 Mbits/sec Ethernet port

• Easy-to-use menu-driven user interface

• Easy to connect and setup

• View data in hex, octal or binary

• Customizable coloring and split window options

Specifications

NTDS Interface: MIL-STD-1397C

• Parallel Type A, B, C, H

• Serial Type D or E

Disk Storage:

• 1.44MB floppy drive

• 1 Internal hard drive

• 2 Removable hard drives

• CD-RW

Display:

• 12.1" TFT 800 x 600 resolution LCD screen

I/O Ports:

• Parallel Printer Port

• 2 Serial Ports

LAN Interface:

• 10/100 Mbits/sec Ethernet port

Weight:

• 40 lbs

Dimensions:

• 8.75" x 19" x 19"

• 19" Rackmount

Relative Humidity:

• 0% to 90% (non-condensing)

Operating Temperature:

• 0˚C to +55˚C

Power Supply:

• 110/220VAC with auto switching

Specifications subject to change without notice (E&OE)

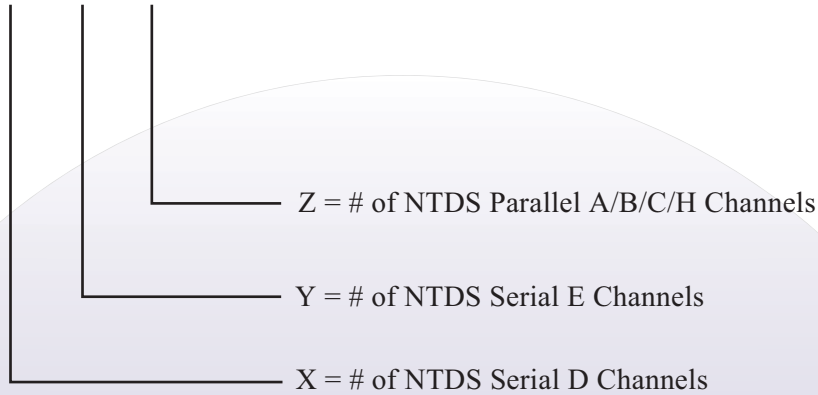## NIA-II™ RACKMOUNT ORDERING INFORMATION

NIA-II™ Rackmount system can be configured for any combination of NTDS Parallel (A/B/C/H) or NTDS Serial (D/E) for up to five (5) channels.

Ordering Model Number: ***

BA - RP X Y Z - 00

Z = # of NTDS Parallel A/B/C/H Channels

Y = # of NTDS Serial E Channels

X = # of NTDS Serial D Channels

*** Cables to go from the NIA-II™ Analyzer to the Tap Boxes are included with system purchase*

OPTIONAL TAP BOXES: (One required for each channel on the NTDS I/O Adapter)

Parallel:
• AN-PT511-00 Parallel Tap Box, Passive, NTDS Type A/B/C/H, M81511 (AN/UYK-7) Connectors
• AN-PT840-00 Parallel Tap Box, Passive, NTDS Type A/B/C/H, M28840 (AN/UYK-43) Connectors
• AN-PT999-00 Parallel Tap Box, Passive, NTDS Type A/B/C/H, D38999 (AN/UYK-44) Connectors
• AN-BT511-00 Isolated Passive Tap Box, NTDS Type A/B/C/H, M81511 (AN/UYK-7) Connectors
• AN-BT840-00 Isolated Passive Tap Box, NTDS Type A/B/C/H, M28840 (AN/UYK-43) Connectors
• AN-BT999-00 Isolated Passive Tap Box, NTDS Type A/B/C/H, M38999 (AN/UYK-44) Connectors
• AN-PT000-00 Universal Parallel Tap Box, NTDS Type A/B/C/H, M81511, M28840, D38999 Connectors

Serial:
• AN-ST012-00 Isolated Passive Tap Box, NTDS Type E, Triaxial Connectors
• AN-ST013-00 Isolated Passive Tap Box, NTDS Type D, Coaxial Connectors

CABLE ASSEMBLIES: Interconnection between NTDS equipment

Plug:
• CA-81511-00 Cable Assembly Set (AN/UYK-7) 85 pin, 10 feet long (M81511/06EF01S1 TO /S2)
• CA-28840-00 Cable Assembly Set (AN/UYK-43) 92 pin, 10 feet long (M28840/16AG1S1 TO /S2)
• CA-38999-00 Cable Assembly Set (AN/UYK-44) 79 pin, 10 feet long (D38999/26WG35SA TO /SN)
• CA-EA03U-00 Cable Assembly Set, Serial, Coaxial Type D, 10 feet long
• CA-EA04U-00 Cable Assembly Set, LLS Triaxial Type E, 10 feet long

TRANSPORT CASE

• RP-CCASE-00 Rugged Transport Case, NIA-II™ Rackmount