

Microcomputer Specialists, Inc.  
 18 Lyman Street, Westboro, Massachusetts 01581  
 Telephone: (617) 366-1200

## Model AD613 Real Time Calendar/Clock Module

Provide your North Star ADVANTAGE  
 with accurate time keeping capability.

Microcomputer Specialists, Inc. announces the availability of the Model AD613 Real Time Calendar/Clock Module for business and scientific users of the North Star ADVANTAGE.

The Model AD613 combines a complete time-of-day clock with alarm

and one hundred year calendar, a programmable periodic interrupt and square wave generator, and watch dog timer.

For more information on the AD613 Real Time Calendar/Clock Module call us or write.

### AD613 Real Time Calendar/Clock Features:

- Accurate Time-of-day Clock**  
 Crystal controlled time base counts seconds, minutes, and hours. Data in 12 or 24 hour mode with AM and PM in 12 hour mode. All interface data can be in binary or BCD format.
- Versatile Calendar**  
 Counts day of the week, day of the month, month, and year. Automatic end of month recognition, leap year compensation, and Daylight Savings Time option.
- Programmable Time Base Generator**  
 Programmable periodic rates from 30.5 microseconds through 500 milliseconds, once-per-second, and once-per-day.
- Watch Dog Timer**  
 One second watch dog timer (WDT) can be monitored externally to signal hardware or software failure.
- Selectable Interrupt Capability**  
 Three interrupts separately software maskable and testable: Time of day alarm, once-per-second, once-per-day, and periodic rates.
- Battery Backup**  
 Internal battery backup insures data integrity while computer power is off. Status flag warns of power loss. Provision is made for external battery connection.
- I/O Connections**  
 An industry standard 15-pin D-type connector provides a TTL interface to the time base frequency, periodic and alarm interrupts, and WDT output. Opto-isolated outputs are also provided for interrupts and WDT.

# MICROCOMPUTER SPECIALISTS, INC.



Microcomputer Specialists, Inc.  
18 Lyman Street, Westboro, Massachusetts 01581  
Telephone: (617) 366-1200

## Model AD407 D/A Interface Module

**High Resolution Analog Output  
Puts your North Star ADVANTAGE in the Loop.**

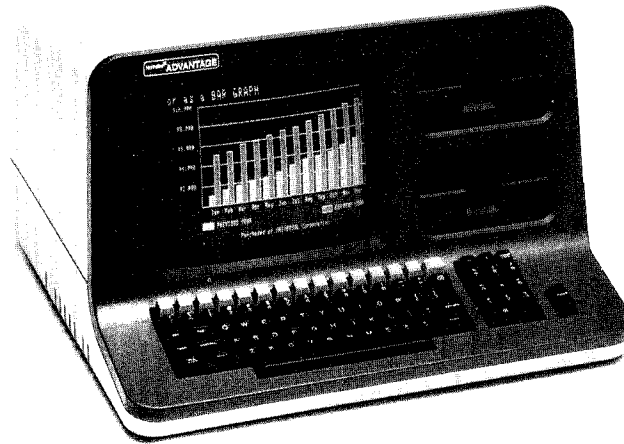
Microcomputer Specialists, Inc. announces the availability of the Model AD407 Analog Output Module, designed especially for the North Star ADVANTAGE computer.

The Model AD407 is a high speed Digital to Analog converter board that fits right into the North Star ADVANTAGE, occupying one of the available I/O slots.

With primary applications in instrumentation and control systems, the AD407 provides 0.0244% FS (12 bit) resolution in its voltage and current outputs.

An industry standard 15-pin D-type connector makes all output signals available externally.

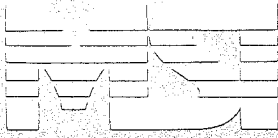
For more information on the AD407 D/A Interface Module call us or write.



### AD407 D/A Interface Module Features:

- High Resolution Converter  
A 12 bit binary D/A Converter provides high resolution output suitable for open and closed loop control applications.
  - Flexible Output Levels  
Voltage outputs of 0-100 mv., 0-1 v., and 0-10 v.
  - Easy Adjustment  
Provision is made for span and zero adjustment of voltage and current outputs.
- Current outputs of 1-5 ma. and 4-20 ma.

# MICROCOMPUTER SPECIALISTS, INC.



Microcomputer Specialists, Inc.  
 18 Lyman Street, Westboro, Massachusetts 01581  
 Telephone: (617) 366-1200

## Model AD512 A/D Interface Module

### High Resolution Analog Measurements: A New Option for your North Star ADVANTAGE.

Microcomputer Specialists, Inc. announces the development and availability of the Model AD512 Analog Input Module, designed especially for the North Star ADVANTAGE computer.

The Model AD512 Interface Module is a high speed Analog to Digital converter board that fits right into the North Star ADVANTAGE, occupying one of the available I/O slots.

A 37-pin D-type connector provides eight analog input channels. The selected input signal is stored in a high-speed sample-and-hold circuit and is converted to a 12 bit binary number.

A simple software interface selects the desired input channel and initiates the conversion with a single output command. The module signals completion of the conversion by setting a status bit which can either be polled or used to interrupt the processor. Conversion takes less than 50 microseconds.

For applications where 8 bit resolution is sufficient, the high order 8 bits can be read from the converter in one byte. When required, the low order 4 bits can be read in a second byte.

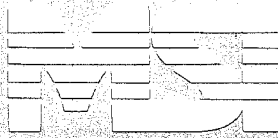
The Model AD512 Interface Module uses the latest monolithic and hybrid integrated circuit technology to achieve accuracy and speed at an affordable price.

For more information on the AD512 Interface Module call us or write.

#### AD512 A/D Interface Module Features:

- |   |  |
|---|--|
| <p><b>Multiple Input Channels</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Up to 8 Multiplexed Input Signals</li> </ul> <p><b>Flexible Input Levels</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 0 to + 10 volts Unipolar/Bipolar</li> <li><input type="checkbox"/> 0 to 20 volts Bipolar</li> </ul> <p><b>Simple Software Interface</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Write Channel and Start Conversion</li> <li><input type="checkbox"/> Read Converter Status</li> <li><input type="checkbox"/> Read Converter High Byte</li> <li><input type="checkbox"/> Read Converter Low Byte</li> </ul> | <p><b>Selectable Interface Response</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Poll for Conversion Status</li> <li><input type="checkbox"/> Interrupt on Conversion Complete</li> </ul> <p><b>High Resolution</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 8 Bits – 40 millivolts</li> <li><input type="checkbox"/> 12 Bits – 2.5 millivolts</li> </ul> <p><b>Fast Conversion</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Less than 50 microseconds</li> </ul> |
|---|--|

# MICROCOMPUTER SPECIALISTS, INC.



Microcomputer Specialists, Inc.  
 18 Lyman Street, Westboro, Massachusetts 01581  
 Telephone: (617) 366-1200

## Model AD525 High Speed Serial I/O Module

Maximize the throughput of your Serial Printer...  
 without tying up your North Star ADVANTAGE.

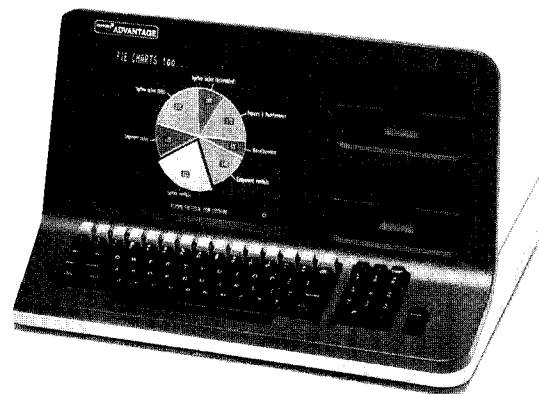
Microcomputer Specialists, Inc. announces the availability of the Model AD525 High Speed Serial I/O (HSSIO) Module for the North Star ADVANTAGE.

The HSSIO is a direct replacement for the North Star SIO module with one important difference. Rather than tying up your North Star ADVANTAGE while the printer does its job, the HSSIO accepts data as fast as your computer can send it; up to 16,000 characters in a single burst.

Then, the HSSIO takes over running the printer while your North Star ADVANTAGE returns to the tasks that only it can perform.

The Model 525 HSSIO is fully compatible with the North Star ADVANTAGE computer and supports full duplex serial printers with RS-232C DTE and X-ON/X-OFF protocol.

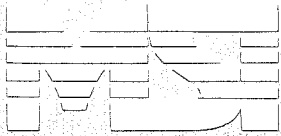
For more information on the AD525 High Speed Serial I/O Module call or write.



### AD525 High Speed Serial I/O Module Features:

- Direct Replacement for SIO  
Fully compatible with the North Star SIO for plug in replacement.
- Large Print Buffer  
16K print buffer assures that printer and computer resources will be maximized.
- Fast Processor Interface  
Data is transferred to the AD525 at up to 50,000 characters per second regardless of printer baud rate.

# MICROCOMPUTER SPECIALISTS, INC.



Microcomputer Specialists, Inc.  
18 Lyman Street, Westboro, Massachusetts 01581  
Telephone: (617) 366-1200

# ReCal Financial Forecasting System

... joins the family of North Star Application Software.

## Develop Complex Financial Forecasts:

ReCal allows you to define a custom forecast report. A powerful built-in editor helps you specify the format of a report up to 199 lines long and as many as 26 columns wide. Define the relationship of one report value to another. Process and print the report using up-to-the-minute input data. Perfect for those "what if" reports that model your financial future.

## Interface Directly to your North Star General Ledger System:

Financial data from your North Star General Ledger system can be accessed directly by the ReCal Financial Forecasting system. This means revenue forecasts, profit projections, and cash flow analyses can be produced on the spot, automatically.

## Transfer your Report to Northword Word Processing:

ReCal reports can be transferred to NorthWord, \*\* the North Star word processing system. There, you may edit your reports and integrate them with other word processing documents.

## The Total Financial System:

No other computer system offers such a complete selection of fully integrated financial software.

## Available for your North Star Computer:

- ACCPAC† General Ledger
- Financial Reporting
- Accounts Payable
- Accounts Receivable, and now . . .
- ReCal Financial Forecasting

For more information on the ReCal Financial Forecasting System call us or write.

\*\*NorthWord is a trademark of North Star Computers, Inc.  
†ACCPAC is a trademark of Basic Software Group.  
\*ReCal is a trademark of Microcomputer Specialists, Inc.

## ReCal Financial Forecasting System Features:

### Versatile Arithmetic Operators

- Addition
- Subtraction
- Multiplication
- Division
- Summation
- Percentage

### Powerful Calculation Operators

- Prompting For Values
- Auto Repeat Ranging

- Macro Definitions
- Temporary Registers
- Wild Cards

### Flexible Format Effectors

- Title Centering
- Underlining
- Decimal Specifications
- Dollar Format
- New Page
- Line Skips
- Rounding

# MICROCOMPUTER SPECIALISTS, INC.



Microcomputer Specialists, Inc.  
18 Lyman Street, Westboro, Massachusetts 01581  
Telephone: (617) 366-1200

SOFTWARE

# MISys Manufacturing Inventory System

... a new application software package  
for your North Star Computer.

MISys, a sophisticated inventory management program, has been developed for the small to medium sized manufacturer who stocks common parts, subassemblies and finished goods.

**The system is designed for the non-technical operator and offers all the flexibility and power necessary to meet even the most demanding manufacturing inventory requirements.**

- Inventory Control:**  
Maintains detailed information on all inventory items including quantities, costing and statistical data.
- Bill of Material Processing:**  
Extensive BOM inquiry and explosion functions permit rapid materials access and transfer.
- Purchase Order Processing:**  
Purchase order subsystem designed to aid buyers in ordering, expediting and acquiring raw materials.

MISys provides many labor saving functions necessary for prudent inventory management. The system can anticipate answers to speed up

data input and checks for erroneous entries wherever possible. Special features allow multiple users simultaneous access to the inventory data.

For more information on the MISys package call us or write.

## MISys Manufacturing Inventory System Features:

- Complete data kept on every inventory item and assembly
- Comprehensive vendor data including multiple vendors for each inventory item
- Rapid material transfer functions with mandatory audit trail
- Purchase order processing subsystem includes printing of customized purchase orders
- Archiving of purchase order histories
- Quick access to physical inventory counts
- High-speed inventory adjustments
- Simultaneous, multi-user access
- Separate material and labor cost reporting
- Extensive error checking and protection
- Menu driven for ease of use

## Hardware Requirements:

- North Star HORIZON or ADVANTAGE computer with Hard Disk
- TSS/A Multi-User Operating System is required for multi-user access to MISys database

**MICROCOMPUTER  
SPECIALISTS, INC.**

MICROCOMPUTER SPECIALISTS, INC.  
18 LYMAN STREET  
WESTBORO, MASSACHUSETTS 01581  
(617) 366-1200

DEALER PRICE LIST  
JULY 1, 1982

ReCal Financial Forecasting Revision 2.0.0	
Quantity 1 (End User List Price)	499.00
Quantity 1 (Dealer Net)	349.00
MISys Manufacturing Inventory Revision 1.0.0	
Quantity 1 (End User List Price)	5000.00
Quantity 1 (Dealer Net)	3500.00
AD488 IEEE Interface Module for North Star Advantage	
Quantity 1 (End User List Price)	395.00
Quantity 5 (Dealer Net)	275.00
Quantity 25 (OEM Net)	245.00
Quantity 50 (OEM Net)	235.00
AD488 Diagnostic & Sample Code Disk	50.00
AD512 A/D Converter Module for North Star Advantage	
Quantity 1 (End User List Price)	495.00
Quantity 5 (Dealer Net)	349.00
Quantity 25 (OEM Net)	319.00
Quantity 50 (OEM Net)	299.00
AD512 Diagnostic & Sample Code Disk	50.00
AD407 D/A Converter Module for North Star Advantage	
Quantity 1 (End User List Price)	395.00
Quantity 5 (Dealer Net)	275.00
Quantity 25 (OEM Net)	245.00
Quantity 50 (OEM Net)	235.00
AD503 Prototype Board for North Star Advantage	
Quantity 1 (End User List Price)	99.00
Quantity 5 (Dealer Net)	85.00
Quantity 25 (OEM Net)	75.00
Quantity 50 (OEM Net)	70.00
AD613 Real Time Calendar/Clock for North Star Advantage	
Quantity 1 (End User List Price)	395.00
Quantity 5 (Dealer Net)	275.00
Quantity 25 (OEM Net)	245.00
Quantity 50 (OEM Net)	235.00
AD613 Diagnostic & Sample Code Disk	50.00



Microcomputer Specialists, Inc.  
18 Lyman Street, Westboro, Massachusetts 01581  
Telephone: (617) 366-1200

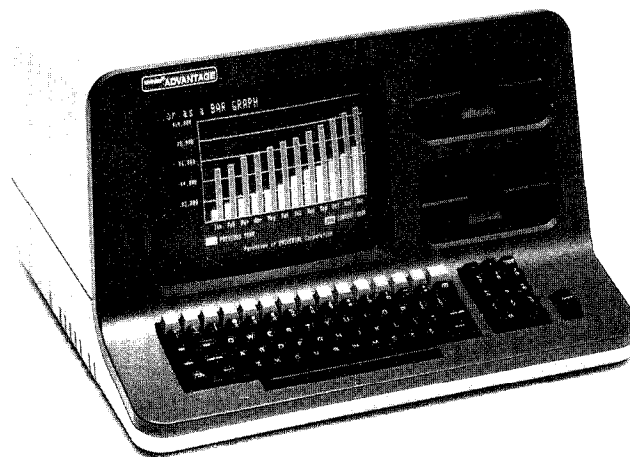
## Model AD503 Prototype Board

Prototype your own hardware interfaces for the North Star ADVANTAGE.

Microcomputer Specialists, Inc. announces the availability of the Model AD503 Prototype Board for developers of custom hardware interfaces for the North Star ADVANTAGE.

The Model AD503 is specifically designed to speed development of analog and digital circuitry. It is ideal for breadboarding, prototyping, and hand-wired final products.

For more information on the AD503 Prototype Board call us or write.



### AD503 Prototype Board Features:

- High Current Power Bus**  
Extra heavy etch along the entire perimeter of the board insures effective distribution of Vcc and Ground. Provisions are made for multiple decoupling capacitors and filters.
- Versatile I/O Connector**  
An industry standard 37-pin D-type connector is included for easy connection to external devices. The I/O connector also serves to mechanically lock the

Prototype Board in the North Star ADVANTAGE's bus slot.

- Special I/O Headers**  
All Model AD503 I/O signals are routed through male wire-wrap headers (0.025 inch square posts) which can be installed on either side of the Prototype Board. For analog or discrete circuits, these headers may be discarded.

- Flexible Component Grid**  
A grid of 0.042 inch dia.

holes on 0.100 inch centers will accept wire-wrap sockets, T42 component clips, or can be used for point-to-point soldered connections.

- High Quality Construction**  
The Model AD503 is constructed of 0.062 inch G10 epoxy glass with tin plated 2 ounce copper etch. The I/O fingers are gold plated for reliable connection.

# MICROCOMPUTER SPECIALISTS, INC.



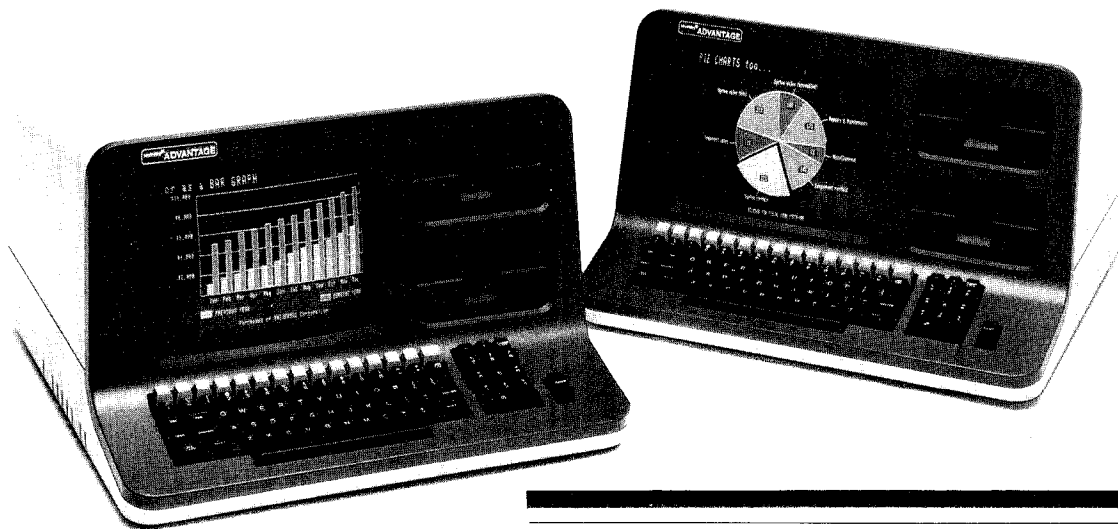


Microcomputer Specialists, Inc.  
18 Lyman Street, Westboro, Massachusetts 01581  
Telephone: (617) 366-1200

HARDWARE

## Model AD488 IEEE Interface Module

**Instrumentation Users:**  
**Put your North Star ADVANTAGE on the IEEE-488 Bus.**



Connect your computer to thousands of industry standard devices.

The Model AD488 Interface Module allows your North Star ADVANTAGE computer to function as an intelligent talker/listener/controller fully compliant with the IEEE-488 GPIB specification.

Diagnostic software and interface source code diskette is available.

For more information on the AD488 Interface Module call us or write.

### AD488 IEEE Interface Module Features:

- Automatic Addressing and Handshake Protocol
- Programmable Data Transfer Rate
- Complete Source/Acceptor Handshake
- Primary & Secondary Address Recognition
- Full Implementation of Transfer Control Protocol
- Synchronous Control Seizure
- Interrupt or Polled Response
- Interface Clear Sending Capability
- End of Sequence Message Recognition

**MICROCOMPUTER  
SPECIALISTS, INC.**