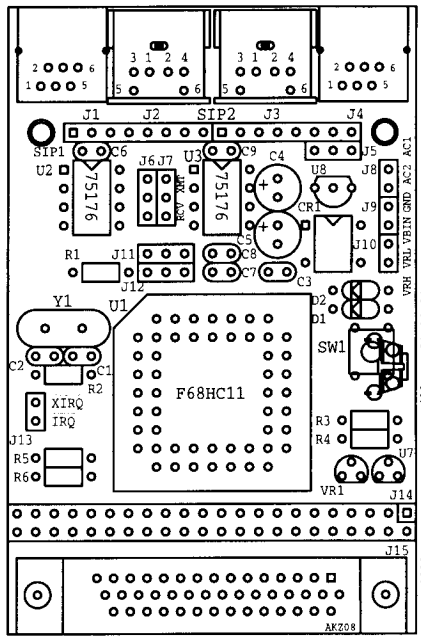
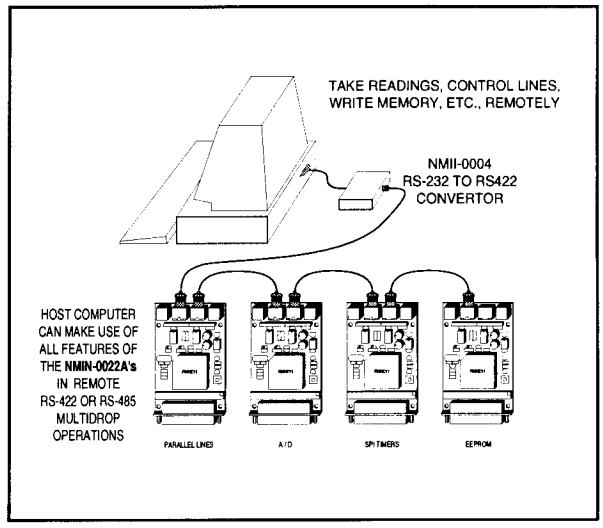
MAXDDE PACKAGE FOR WINDOWS

The Multidrop-Point, NMIN-0022A, is a 68HC11-based CPU board in 2.2" x 3.4" format. It offers all the features of the 68HC11FN installed in single-chip mode, with power supply features and RS-422/485 conversion.



- 68HC11FN (F68HC11E9FN V3.5 Standard)
- 5 parallel ports
- 1 Asynchronous Serial Channel
- 1 Synchronous Serial Channel
- 8-channel, 8-bit A/D
- 8-bit counter
- 16-bit timer
- 3 or 4 input captures
- 5 or 4 output compares
- 1/2K EEPROM
- 1/2K RAM (E9 CPU)
- RS-422/485 conversion of serial-in/serial-out
- MiniDIN-6 and RJ11 RS-422/485 connector
- VM08 full bridge rectifier
- LM2936 5V Regulator
- Optinal LM385-2.5 Voltage Reference for A/D
- Accept 7-28VAC or 6.6-40 VDC @ ~10mA



The Multidrop-Points are complete single-ship systems, particularly well suited to operate as an interactive, low-cost, remote, data collection or control points. Their serial channel is designed to work on RS-422, modified for multidrop use. Thereby, a host can operate a network of these single board computers from a single serial port. RS-422 allows up to 32 units to be multidroped, and total cable lengths up to 4000 feet (not possible with RS-232). More units and distance are possible with repeaters. Several CPU's with interactive languages can be used. When equiped with an Easy-A protocol-compliant CPU, MAXDDE software (available separately) can directly "hook" data from the boards into Windows programs.

MAXDDE-PACK

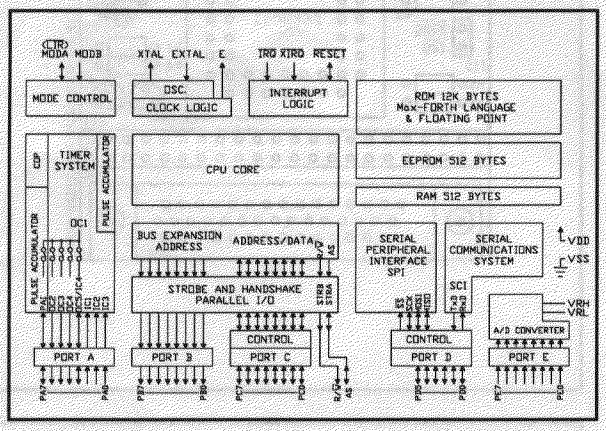
MAXDDE WINDOWS INTERFACE PACKAGE

MAXDDE WINDOWS INTERFACE PACKAGE

Any of the 68HC11FN chips can be used in the board, as long as the user takes responsibility for operation of a suitable multidrop protocol. 68HC11A0's through E9's, including E2's and 711E9's, can be used. This allows many language development options, including Assembly, C, Max-FORTH™, STAMAX™, etc.

A multidrop protocol is needed to operate more than one processor on a communications line. The Easy-A protocol was designed for this purpose. (Extensive documentation of the Easy-A protocol is available from New Micros, Inc., in Applications Note: AN0002) Easy-A implements the protocol needed to operate in multidrop Host-Slave configuration. Easy-A protocol-compliant CPU's are available with STAMAX™, and Max-FORTH™ by adding extensions, interactive languages.

When equiped with an Easy-A compliant interactive language, the NMIN-0022A can interactively develop code, or, accept automatically downloaded program code from a RS-422 based personal computer.



The internal RAM can hold several short command functions. Applications of up to 512 bytes can be developed using the internal EEPROM for storage. For applications which require more memory, the NMIN-0022A can be expanded with two additional memory sockets using the NMIN-2003, at the cost of two ports and slightly higher current requirements..

The Multidrop-Point can be used as an RS-422/485 peripheral. A host can interactively access all the features of the 68HC11. The host's commands are sent as ASCII encoded Max-FORTH™ or STAMAX™ instructions. The A/D can be read, the ports changed, and the SPI operated. Even the EEPROM can be read and written remotely. Mixing interactive commands and small programs can make even more complete utility of the 68HC11 features. Predefined functions can be moved into EEPROM and invoked at the discretion of the host.

RS-422 ported computers are not common, however, any RS-232 host can be converted to RS-422 using a NMII-0004 converter. Both DB-25 andd DB-9 connections are provided for the RS-232 side. The converter changes the RS-232 signals to TTL and then again to RS-422 differential signals. The Mini-DIN and RJ11 connectors on the RS-422 side match the connectors on the NMIN-0022A.

The NMII-0004 also provide power to the attached network of NMIN-0022A's. This allows a single cable chain to provide both power and communications connections to the network. Up to 1000mA. of regulated D.C. or unregulated A.C. can power the network. Each NMIN-0022A typically draws less than 15 mA. so many can be powered in this configuration. An off-board 7-28 VAC or 6.6-40 VDC power source can also operate the NMIN-0022A's if different interface is used.

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