

DAYTRONIC

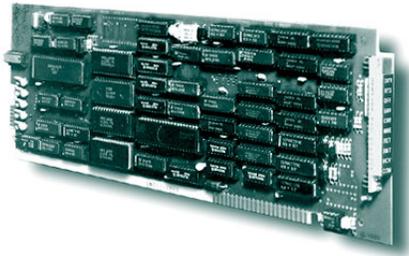
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MODEL 10BACIA

AUXILLARY COMPUTER INTERFACE CARD

["B' CARD SERIES"]



AUXILLARY COMPUTER INTERFACE CARD RS232, RS422 & IEEE-488

For use in System 10 The Model **10BACIA** permits any System 10 "B sized" mainframe to establish simultaneous highspeed communications with more than one external RS-232-C device (computer, terminal, buffered printer, recorder, etc.).

Each 10BACIA supplies an independent "auxiliary" full-duplex RS-232-C interface, operating with its own userspecified "protocol" characteristics. The number of **10BACIA** cards a mainframe may contain is limited only by the number of available "B Slots."

As seen by a connected external RS-232-C device, an "auxiliary" interface port behaves identically to the mainframe's standard Computer Interface Port. That is, a standard mnemonic command issued to a **10BACIA** by the connected device will invoke a response identical in form to that produced by the Computer Interface Port to the same command. For example, a DUMP (DMP) command issued to a **10BACIA** will cause it to "dump" data; a SEND (SND) command will cause it to "send" the specified message; a COLUMNS (CLM) command will establish columnar format for subsequent "stream" and "hardcopy" outputs from that **10BACIA**; and so on. With the "FP" (Floating Point) Option, the **10BACIA** can be instructed to output data for all scanned channels or for a specified range of channels in either IEEE or DEC floating-point format.

The COM command designates a "Default Communications Port" for the mainframe. This is the single system RS-232-C interface port which will respond to all subsequent portrelated commands received by the mainframe. The Model **10BACIA** responds to the System 10 FRAME CHANNELS (FCH) command. This command allows a time-coherent "frame" of data for a specified range of channels to be transferred to the **10BACIA**'s output buffer as soon as this data set has been fully scanned and posted. During loading of the buffer, the **10BACIA** will delay responding to a request for output until the loading has been completed (about 5 milliseconds). If the **10BACIA** is in the process of transmitting data at

By replacing the standard RS-232 backplane of a Model **10BACIA** with the mainframe-mounted Model 10422BP RS-422 Backplane, you can convert the **10BACIA** to a Model 10BACI-422 (see below).

While the activity of a given "auxiliary" interface port can be directly controlled by the external RS-232-C device to which it is connected, it can also be controlled by commands entered through the mainframe's plug-in keyboard or Computer Interface Port. Such control can be effected by one of three "run-time" commands: ATTACH (ATT), VIA (VIA), or COMMUNICATIONS (COM). The ATT and VIA commands serve to route operator or computer-entered commands directly to the end of the scan cycle, loading is suspended. The currently loaded "buffer frame" of data can be subsequently transmitted from the **10BACIA** via any of the standard channel-outputting commands (DMP, STR, HCY, SNP, DSD, DSF, etc.).

The Model **10BACIA** is a system COPROCESSOR. In addition to an auxiliary RS-232-C interface, it also provides an on-board DATA RAM. Externally acquired numeric and logic data can thus be downloaded from the connected RS-232-C device to the **10BACIA** itself. With each internal scan cycle, this data will be locally updated (at the **10BACIA**) and will be read from there by the system Central Processor. Such local handling of downloaded data by the **10BACIA** helps preserve the mainframe's high scan speed when a large number of inputs is involved. Front-edge LED status indicators similar to those on the mainframe's Model 10BIP232 Interface Card let you monitor line and command activity at each auxiliary interface port. In addition, a **10BACIA**'s COM indicator will light when that card has been designated to be the mainframe's "Default Communications Port."

MODEL 10BACIA

AUXILIARY COMPUTER INTERFACE CARD ["B" CARD SERIES]

Model 10BACI-422 RS-422 Auxiliary Computer Interface Card

The Model **10BACI-422** is equivalent to a Model 10BACIA with an integral RS-422 hardware interface on a 9-pin D subminiature female socket (in place of the 10BACIA's standard RS-232-C interface). The RS-422 interface includes an extra pair of wires for communication of an external synchronizing pulse. This allows timed synchronous data collection, controlled by a master timing pulse, when the **10BACI-422** is used with a version of the Model BCP200 Central Processor. Like the 10BACIA, the **10BACI-422** will respond to the FRAME CHANNELS (FCH) command, and may employ the "FP" (Floating Point) Option.

Model 10BACI-488 IEEE-488 Auxiliary Computer Interface Card

The Model **10BACI-488** is equivalent to a Model 10BACIA with a 24-pin parallel port for standard TALKER/LISTENER communications with an IEEE-488 bus (in place of the 10BACIA's standard RS-232-C interface). Special front-panel LAD ("Listener Active Device") and TAD ("Talker Active Device") lights continuously indicate the System 10's current bus role. There are on-board DIP switches for assigning a specific bus address to the System 10. Note also that the rear connector supplied with the **10BACI-488** covers two mainframe "B Slots." While the 10BACI-488 conforms to the hardware protocol of IEEE-488, it employs a proprietary software protocol. Also, the data transfer rate is limited by the rate at which data can be received from the System 10 database (typically 2500 to 3000 channels per second). As a result, the **10BACI-488** transfer rate will normally be about 15,000 to 17,000 bytes per second. Two additional commands have been developed for use with the **10BACI-488**: ADDRESS (ADD), which lets you read the current bus address setting, and END OR IDENTIFY (EOI), which lets you invoke the "END OR IDENTIFY" function at the end of each output line and/or at the end of each complete output transmission. Like the 10BACIA, the 10BACI-488 will respond to the FRAME CHANNELS (FCH) command, and may employ the "FP" (Floating Point) Option.

"FP" (Floating Point) Option

This option applies to all versions of the "10BACI" (10BACI, 10BACIA, 10BACI-422, and 10BACI-488). It allows the "10BACI" card to issue data for all scanned channels or for a specified range of channels in either IEEE or DEC floating-point format. You will use the FLOATING POINT FORMAT (FPF) command to tell the "10BACI" what format you want. A run-time FLOATING POINT DUMP (FDM) command then instructs the "10BACI" to output data once only for all scanned channels or for a specified range of channels, in the specified floating-point format.