be determined by querying the SR830 for its value. A query is formed by appending a question mark "?" to the command mnemonic and omitting the desired parameter(s) from the command. Values returned by the SR830 are sent as a string of ASCII characters terminated by a carriage return <cr> on RS232 and by a line-feed <lf> on GPIB. If multiple queries are sent on one command line (separated by semicolons, of course) the answers will be returned individually, each with a terminator.

Examples of Command Formats

FMOD 1 <lf>   Set reference source to internal

FREQ 10E3 <lf>   Set the internal reference frequency to 10000 Hz (10 kHz)

✳IDN? <lf>   Queries the device identification

STRT <lf>   Starts data acquisition

OUTP? 1 <lf>   Queries the value of X

INTERFACE READY AND STATUS

The Interface Ready bit (bit 1) in the Serial Poll Status Byte signals that the SR830 is ready to receive and execute a command. When a command is received, this bit is cleared indicating that an operation is in progress. While the operation is in progress, no other commands will be processed. Commands received during this time are stored in the buffer to be processed later. Only GPIB serial polling will generate a response while a command is in progress. When the command execution terminates, the Interface Ready bit is set again and new commands will be processed. Since most commands execute very quickly, the host computer does not need to continually check the Interface Ready bit. Commands may be sent one after another and they will be processed immediately.

When using the GPIB interface, serial polling may be used to check the Interface Ready bit in the Serial Poll Byte while an operation is in progress. After the Interface Ready bit becomes set, signalling the completion of the command, then the ERR or ESB bit may be checked to verify successful completion of the command.

If the RS232 interface is used, or serial polling is not available, then the ✳STB?, ✳ESR?, ERRS?,

and LIAS? status query commands may be used to query the Status Bytes. Since the SR830 processes one command at a time, the status query will not be processed until the previous operation is finished. Thus a response to the status query in itself signals that the previous command is finished. The query response may then be checked for various errors.

GET (GROUP EXECUTE TRIGGER)

The GPIB interface command GET is the same as the TRIG command. GET is the same as a trigger input. GET only has an effect if the sampling rate is triggered or if triggers start a scan.