

MODEM II PROGRAMMING PROTOCOL

8 Data Bits
 No Parity
 300 Baud
 1 Stop bit
 Uppercase only

COMMANDS

When programming your modem, enter only one character at a time. Do not attempt to type (or send) the "next" character until the "current" character is echoed. Your Modem will either echo the character you send (display it on the Screen if you're using Videotex) or send an error symbol (? or N), indicating that you sent an invalid command. Occasionally your Modem will neither echo the character nor send an error message (a question mark). When this happens, just send the character again (this usually occurs only when sending an *).

Remember! Type in all commands as capital letters. The Modem II doesn't recognize lowercase letters. These commands are explained in more detail in Appendix B.

MODEM II PROGRAMMING COMMANDS

COMMAND	FUNCTION
*	Opens modem for programming.
C	Clears (resets) modem memory.
D	Clears current telephone number from memory. Must precede any new telephone number.
F	Fast rotary dialing (20 pps).
L	Transmits (displays) current contents of modem memory to the computer (terminal).
P	Inserts a two-second pause in dialing sequence.
Q	Puts modem into LOCal Test Mode.
R	Rotary dialing (default value).
S	Slow rotary dialing (10 pps) (default value)
T	Tone dialing (10 digits per second).
X	Executes current program (dials the phone number in memory).

Before programming, be sure to use the correct protocol (see Table 1) and be sure that the Computer you intend to communicate with is using the same protocol.

MODEM II PROGRAMMING MODE

The Modem II contains a custom 8-bit microprocessor which has user memory that allows the Modem to dial a number which can be up to 25 digits in length. The Modem may dial the number from either AUTO/ORIGinate or AUTO/ANSwer Mode.

Before programming the Modem, you must put it in programming mode. You can do this two ways:

- * Setting FORCE DTR to ON and then sending an asterisk (*) to the Modem.
- * Setting FORCE DTR to OFF and then sending an asterisk (*) or disasserting (turning off) DTR from the Computer or Terminal.

MODEM II TIMING PROTOCOL

The Modem II has several software timers implemented in its program. These timers are used for various reasons and are fairly accurate since the microprocessor's clock is crystal controlled. The OPERATIONAL FLOWCHART (see Appendix C) should be studied if the Modem is to be used for unattended operation. Table 3 describes the Modem II timers:

MODEM II SOFTWARE TIMERS

TIME	FUNCTION
6 seconds	The 6 second timer is used for a "warm start" condition. It is invoked when power is applied.
3 seconds	The 3 second timer is used for a disconnect timer. After receiving a disconnect, the Modem drops the phone line and delays three seconds before executing the front panel switches.
2 seconds	The 2 second timer is the Bell 103J standard. The delay is set from the time the Modem seizes the phone line to the time it transmits carrier. This is used in all modes.
12 seconds	There is a 12 second delay from when the Modem transmits carrier to disconnect if remote is not detected.
33 ms.	This is the time to transmit a character to or from the Modem II (10 bits at 300 baud). Also, the delay time for the echo hand-shaking scheme used to program the Modem.

(css 08/04/94)