V.3229/V.3229L
Manual

For Sales or Service Contact:

Data Connect Enterprise
301-924-7400

http://www.data-connect.com/
sales@data-connect.com

909-999: Reserved for future use

Rate Select

000-006: Not applicable

007: V.22 1200 bps

008: V.22 bis 2400 bps

009-033: Not applicable

034: V.32 4800 bps echo canceling

035: V.32 9600 bps echo canceling

036: V.32 9600 bps trellis echo canceling

037 - 045: Not applicable

046: V.32 bis 7200 bps trellis echo canceling

047: V.32 bis 12,000 bps trellis echo canceling

048: V.32 bis 14,400 bps trellis echo canceling

049-999: Reserved for future use

Chapter 8
Protocols

CCITT V.42 bis ERROR CONTROL PROTOCOL

V.42 bis is an industry standard for error control adopted by the Consultative Committee for International Telephone and Telegraph (CCITT). The CCITT V.42 bis protocol incorporates two error control algorithms, LAPM and MNP. LAPM is a CCITT Link Access Protocol family member related to LAPB and LAPD currently in use in other communications applications. MNP is Microcom Networking Protocol that has become an industry standard by the number of its users.

The use of V.42 bis requires both local and remote modems to be V.42 bis compatible. Error control protocol is transparent to the user and requires no special hardware or software. Data to be transmitted is put in a buffer so the modem can retransmit it if an error occurs. The modem also buffers data received from the remote modem in case an error occurs and the data is retransmitted. To avoid overfilling the buffer, flow control is used to control data between the modem and the terminal. V.42 bis protocol options can be set by AT commands.

RELIABLE

When a LAPM or MNP link is established the modem is in reliable mode. V.42 bis allows negotiation with a remote modem to the highest level of protocol common to both units. Both LAPM and MNP control data errors by retransmitting any block of data that was corrupted in transit. LAPM is assigned highest priority and if not supported, then an MNP connection is attempted.

AUTO-RELIABLE

In auto-reliable mode the modem negotiates to the highest protocol (LAPM or MNP) common to both modems. However, if a reliable connection cannot be established, auto-reliable allows the protocol to fallback to normal mode.

CONSTANT SPEED INTERFACE

The modem serial port adapts to the data rate of the DTE and does not change speed if the modem telephone line connects at another speed. Therefore the DTE to DCE interface speed is constant.

DATA COMPRESSION

Using MNP Class 5 data compression, the modem can achieve data throughput approaching 28800 bps. With LAPM data compression, the modem can achieve data throughput approaching 57600 bps. This increase in speed is achieved by automatically analyzing the data stream and reducing the number of bits required to represent the characters. 100% error-free transmission is assured by the application of the MNP or LAPM error control protocol on the compressed data.

Compression takes place only if the modem detects that the remote modem supports compression. If not, a reliable connection is made without compression.

Although data compression is compatible with any type of data, it is most efficient for ASCII text files. For maximum throughput when using data compression, the terminal should be set to a higher speed than the "true data link speed" with the constant speed interface on and flow control enabled. When transmitting or receiving data files in one direction, the throughput can be increased for V.42 bis by having extra buffer and more processor time with the &C2 and &C3 data compression commands.

NORMAL MODE

No error control with or without constant speed DTE interface. Data is buffered.

DIRECT MODE

The DTE speed and DCE speed are forced to be the same. No error control or buffering.

FLOW CONTROL

If the serial port speed exceeds that of the modem connection, characters may be sent by the DTE to the modem faster than it can send them to the remote modem. The modem holds characters in an internal buffer until they can be transmitted. When this buffer is full, the modem uses flow control to stop data from the DTE. As the modem continues to transmit data and the buffer empties, flow control is again used to start data from the DTE.

Chapter 9
Maintenance

> *Warning: Disconnect power before performance maintenance. Although dangerous voltage levels are not exposed, disconnecting power will ensure an electric shock hazard is not present.*

GENERAL

The modem contains no internal electronic components that can be serviced or replaced by the user. Repairs should not be attempted by the user.

FUSE

If a fuse fails, replace it with one of equal rating. Repeated failure indicates a more serious problem.

MAINTENANCE

The modem provides maintenance free service. Periodically it is necessary to remove dust that has collected on internal components. Remove dust with a soft bristle brush and low pressure air or vacuum.

Before attempting diagnostic tests, check that all connectors and plugs are firmly inserted. The test procedures will identify the faulty component in a bad communications link.

If the unit appears faulty, contact Motorola UDS at one of the numbers listed on the Toll Free Numbers page at the end of the manual. Do not return the unit without prior instructions.

only one page