6. Application Notes

6.1 V.22 Calling Modem Application

This section describes how the CMX867A can be used in a V.22 Calling modem application, employing V.25 automatic answering and the V.22 recommended handshake sequence. This attempts to establish a 1200bps connection.

1. Ensure that the CMX867A is powered up. Set the Tx Mode Register to DTMF/Tones mode (set to 'No Tone' at this time), and the Rx Mode Register to Call Progress Detect mode.

2. Connect the line (go off hook) then dial the required number using the DTMF generator, monitoring for call progress signals (dial tone, busy, etc). Change to Answer Tone Detect mode.

3. On detection of the 2100Hz answer tone wait for it to end then wait for the 2225Hz answer tone detector to respond. (The '2225Hz' answer tone detector will recognise unscrambled binary 1s at 1200bps High Band as well as 2225Hz). When unscrambled binary 1s or 2225Hz have been received for 155ms set a 456ms timer.

4. When the 456ms timer expires check that the 2225Hz or unscrambled 1s is still being received, then set the Tx Mode Register for V.22 1200bps Low Band transmission of scrambled 1s (continuous 1s with the scrambler enabled). Also set the Rx Mode register to V.22 1200bps High Band receive, descrambler enabled and Rx USART disabled.

5. When scrambled 1s (at 1200bps) have been received for 270ms enable the Rx USART, set a 765ms timer and load the Tx Data Register with the first data to be transmitted.

6. When the timer expires set the Tx Mode Register for Start-Stop or Synchronous transmission of data from the Tx Data Buffer. This will start transmission of the data loaded in step 5.

7. A 1200bps data connection has now been established.