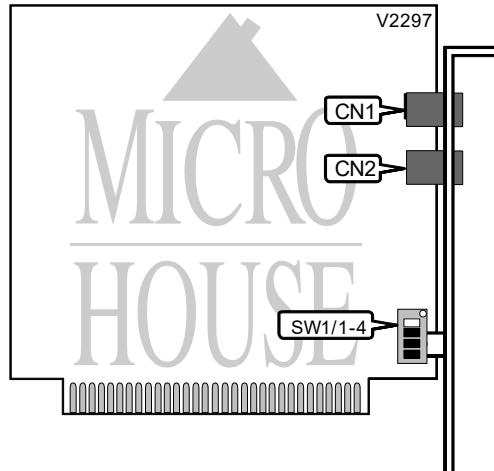


CARDINAL TECHNOLOGIES, INC

9600BPS V.32 V.42BIS FAX (1/2CARD-VER.1)

| | |
|------------------------------|---------------------------------|
| Card Type | Modem (asynchronous) |
| Chip Set | Unidentified |
| Maximum Data Rate | 9600bps |
| Maximum Fax Rate | Unidentified |
| Data Bus | 8-bit ISA |
| Fax Class | Class I & II |
| Data Modulation Protocol | Bell 103/212A |
| | ITU-T V.21, V.22, V.22bis, V.32 |
| Fax Modulation Protocol | Unidentified |
| Error Correction/Compression | MNP5, V.42, V.42bis |



| CONNECTIONS | | | |
|-------------|-------|-------------|-------|
| Function | Label | Function | Label |
| Line out/in | CN1 | Line in/out | CN2 |

| SERIAL PORT ADDRESS | | | |
|---------------------|-------|--|-------|
| Setting | SW1/1 | | SW1/2 |
| COM1 (3F8h) | Off | | Off |
| COM2 (2F8h) | Off | | On |
| COM3 (3E8h) | On | | Off |
| COM4 (2E8h) | On | | On |

| INTERRUPT SELECTION | | | |
|---------------------|-------|--|-------|
| Setting | SW1/3 | | SW1/4 |
| 2 | On | | On |
| 3 | Off | | On |
| 4 | Off | | Off |
| 5 | On | | Off |

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| SUPPORTED COMMAND SET | |
|---|--|
| Basic AT Commands | |
| AT, 'Comma', A/ | |
| A, B, C, E, F, H, L, M, N, O, P, Q, S, T, V, W, X, Y, Z | |
| &C, &D, &F, &G, &K, &L, &M, &P, &Q, &R, &S, &T, &U, &V, &W, &Y, &Z | |
| Extended AT Commands | |
| \A, \B, \C, \G, \J, \O, \U, \V, \X, \Y, \Z | |
| %A, %E, %G | |
| S Registers | |
| S0, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S14, S16, S18, S21, S22, S25 | |
| S26, S27, S30, S37, S95, S108, S109, S110 | |
| Special Commands | |
| "H, "O, -C, -J, -V | |
| Note: Please see MHI Help file for full command documentation. | |

Proprietary AT Command Set

| BIT-MAPPED REGISTER S23 | | |
|-------------------------|---|--|
| Format | AT [cmds] S23= <i>n</i> [cmds] | |
| Default: | 15 | |
| Range: | 0-191 | |
| Unit: | Bit-mapped | |
| Description: | Grants/denies remote digital loopback, controls DTE rate and parity, and sets guard tone. | |
| Bit | Value | Function |
| 0 | 0 | Remote digital loopback denied |
| | 1 | Remote digital loopback allowed |
| 3 - 1 | 000 | Sets serial port speed to 0-300bps |
| | 001 | Sets serial port speed to 1200bps |
| | 010 | Sets serial port speed to 2400bps |
| | 011 | Sets serial port speed to 4800bps |
| | 100 | Sets serial port speed to 7200bps |
| | 101 | Sets serial port speed to 9600bps or 14400bps |
| | 110 | Sets serial port speed to 19200bps |
| | 111 | Sets serial port speed to 38400bps or 57600bps |
| 5, 4 | 00 | Parity even |
| | 01 | Space or No parity |
| | 10 | Parity odd |
| | 11 | Mark Parity |
| 7, 6 | 00 | Guard tone disabled |
| | 01 | Guard tone 550Hz enabled |
| | 10 | Guard tone 1800Hz enabled |

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| BREAK TYPE | | | | |
|--------------|---|---|--|--|
| Type: | Configuration | | | |
| Format: | AT [cmds] \Kn [cmds] | | | |
| Description: | Configures action of break signal | | | |
| Command | Break from DTE in RELIABLE or NORMAL mode | Modem receives \B during command state | Break from DTE in DIRECT mode | Break received from remote modem |
| \K0 | Online command mode enabled, send no break to remote modem | Break sent to remote modem and buffers cleared | Online command mode enabled, send break to remote modem | Buffers cleared, break sent to DTE |
| \K1 | Break sent to remote modem and buffers cleared | Break sent to remote modem and buffers cleared | Send break to remote modem immediately | Buffers cleared, break sent to DTE |
| \K2 | Online command mode enabled, send no break to remote modem | Send break to remote modem immediately | Online command mode enabled, send break to remote modem | Break sent immediately to DTE |
| \K3 | Send break to remote modem immediately | Send break to remote modem immediately | Send break to remote modem immediately | Break sent immediately to DTE |
| \K4 | Online command mode enabled, send no break to remote modem | Send break with transmitted data | Online command mode enabled, send break to remote modem | Break sent with received data to the DTE |
| í \K5 | Send break with transmitted data | Send break with transmitted data | Send break to remote modem immediately | Break sent with received data to the DTE |

| COMPRESSION | |
|--------------|--------------------------|
| Type: | Configuration |
| Format: | AT [cmds] %Cn [cmds] |
| Description: | Selects data compression |
| Command | Function |
| %C0 | MNP5 disabled |
| í %C1 | MNP5 enabled |

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| CONNECT MODE | |
|--------------|---|
| Type: | Configuration |
| Format: | AT [cmds] \N <i>n</i> [cmds] |
| Description: | Controls the type of connection the modem will operate in |
| Command | Function |
| \N0 | Normal mode enabled |
| \N1 | Direct mode enabled |
| \N2 | MNP reliable mode enabled |
| i \N3 | V.42 auto-reliable mode enabled |
| \N4 | V.42 reliable mode enabled |
| \N5 | LAPM/Normal mode enabled |

| DIAL | |
|--------------|---|
| Type: | Immediate |
| Format: | AT [cmds] D<#> [cmds] |
| Description: | Dials telephone number according to any modifiers included in the string |
| Note: | Any combination of modifiers can be used to produce the desired dial functions in sequence. |
| Modifier | Function |
| P | Pulse dialing enabled |
| R | Answer mode enabled, originate mode disabled following handshake initiation |
| S= <i>n</i> | Dial stored telephone number <i>n</i> =0-3 |
| T | Tone dialing enabled |
| W | Dialing resumed following dial tone detection |
| , | Dialing paused for amount of time specified in S8 register |
| ! | Modem commanded to go off-hook for specified time before returning on-hook |
| @ | Wait for quiet answer |
| ; | Modem returned to command state after dialing |

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| DTE CONNECT SPEED | |
|-------------------|---|
| Type: | Configuration |
| Format: | AT [cmds] S112= <i>n</i> [cmds] |
| Description: | Select the DTE speed during data transfer |
| Command | Function |
| í S112=0 | Last AT speed |
| S112=1 | Not used |
| S112=2 | Sets DTE speed to 300bps |
| S112=3 | Sets DTE speed to 1200bps |
| S112=4 | Sets DTE speed to 2400bps |
| S112=5 | Sets DTE speed to 4800bps |
| S112=6 | Sets DTE speed to 7200bps |
| S112=7 | Sets DTE speed to 9600bps |
| S112=8 | Sets DTE speed to 12000bps |
| S112=9 | Sets DTE speed to 14400bps |
| S112=10 | Sets DTE speed to 16800bps |
| S112=11 | Sets DTE speed to 19200bps |
| S112=12 | Sets DTE speed to 38400bps |
| S112=13 | Sets DTE speed to 57600bps |
| S112=14 | Sets DTE speed to 600bps |

| FLOW CONTROL TYPE | |
|-------------------|--|
| Type: | Configuration |
| Format: | AT [cmds] \Q <i>n</i> [cmds] |
| Description: | Sets type of flow control used by modem |
| Command | Function |
| \Q0 | Flow control disabled |
| \Q1 | Bi-directional XON/XOFF flow control enabled |
| \Q2 | Unidirectional hardware flow control enabled |
| í \Q3 | Bi-directional hardware flow control enabled (RTS/CTS) |

| INACTIVITY TIMER | |
|------------------|--|
| Type: | Configuration |
| Format: | AT [cmds] \T <i>n</i> [cmds] |
| Default: | 0 |
| Range: | 0-90 |
| Unit: | 1 minute |
| Description: | Sets the length of time that the modem does not receive information before it disconnects. |

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| REPORT INFORMATION | |
|--------------------|--------------------------------|
| Type: | Immediate |
| Format: | AT [cmds] ln [cmds] |
| Description: | Displays information requested |
| Command | Function |
| I0 | Reports product code |
| I1 | Reports ROM checksum |
| I2 | Tests and reports ROM checksum |
| I3 | Reports ROM components |
| I4 | Reports modem capabilities |