CARDINAL TECHNOLOGIES, INC

9600BPS V.32BIS DIGITAL

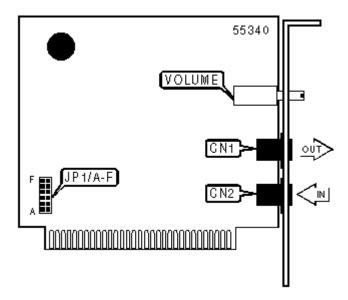
Fax Modulation Protocol

Card TypeModemChip SetUnidentifiedI/O OptionsLine in, line outMaximum Modem Rate9600bpsMaximum Fax Rate9600bpsData Modulation ProtocolBell 103/212A

ITU-T V.21, V.22, V.22bis, V.32 ITU-T V.21 CH 2, V.27ter, V.29

Error Correction/Compression MNP5, V.42, V.42bis

Fax Class I & II
Data Bus Class I & II



	CONNECTIONS		
Function	Label	Function	Label
Line out (RJ-11)	CN1	Line in (RJ-11)	CN2

		SERIAL PORT ADDRESS	
_	Setting	JP1/A	JP1/B
	COM1 (3F8h)	Closed	Closed
	» COM2 (2F8h)	Open	Closed
	COM3 (3E8h)	Closed	Open
	COM4 (2E8h)	Open	Open

	INTERRU	PΤ		
Setting	JP1/C	JP1/D	JP1/E	JP1/F

IRQ2	Open	Open	Open	Closed
» IRQ3	Open	Closed	Open	Open
IRQ4	Closed	Open	Open	Open
IRQ5	Open	Open	Closed	Open

SUPPORTED COMMAND SET

Basic AT Commands

AT, **■+++■**, A/

A, B, E, H, O, Q, M, V

&C, &F, &V

Extended AT Commands

\N

S Registers

S0, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S18, S14, S16, S18

Special Commands

Note: Please see MHI Help file for full command documentation.

Proprietary AT Command Set

DATA SET READY (DSR)

Type: Configuration

Format: AT [cmds] &Sn [cmds]

Description: Selects DSR options

Command Function

■ &S0 DSR forced high

&S1 DSR high only while modem is handshaking or connected

Type:	Configuration

Format: AT [cmds] &Dn [cmds]

Description: Selects modem response to DTR

Command Function

&D0 DTR ignored

&D1 DTR toggle causes online command mode

■ &D2 DTR toggle causes modem to go on-hook

&D3 Modem reset on DTR toggle

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

DP Pulse dialing enabled

DR Answer mode enabled, originate mode disabled following handshake initiation

DT Tone dialing enabled

DW Dialing resumed following dial tone detection

D, Dialing paused for amount of time specified in S8 register

D! Modem commanded to go off-hook for .5 seconds before returning on-hook

D@ Wait for quiet answer

Modem returned to command state after dialing

EXTENDED RESULT CODES

Type: Configuration

D;

Format: AT [cmds] Wn [cmds]

Description: Enables selection of additional result codes

Command Function

W0 Enables CONNECT result codes to report DTE to DCE speed

W1 Enables CONNECT result codes to report error correction

FLOW CONTROL

Type: Configuration

Format: AT [cmds] &Kn [cmds]

Description: Enables flow control options

Command Function

&K0 Flow control disabled

■ &K3 RTS/CTS flow control enabled

&K4 XON/XOFF flow control enabled

&K5 Transparent XON/XOFF flow control enabled

PULSE DIALING RATIO

Type: Configuration

Format: AT [cmds] &Pn [cmds]

Description: Selects pulse dial make/break ratio

Command Function

■ &P0 39/61ms at 10pps (North America)

&P1 33/67ms at 10pps (Europe)

&P2 39/61ms at 20pps

REPORT INFORMATION

Type: Immediate

Format: AT [cmds] In [cmds]

Description: Displays information requested

Command	Function	
10	Reports product code	
I1	Reports ROM checksum	
12	Tests and reports ROM checksum	
13	Reports modem capabilities	
SELECT CALL PROGRESS RESULT CODES		

Type: Configuration

Format: AT [cmds] Xn [cmds]

Description: Enables selection of tone detection and associated result code format options

Command Function

X0 Busy and dial tone detection disabled; result codes 0 - 4, 8 enabled.

X1 Busy and dial tone detection disabled; result codes 0 - 5, 8 & 10 - 15 enabled.

X2 Busy tone detection disabled, dial tone detection enabled; result codes 0 - 6, 8 & 10 - 15 enabled.

X3 Busy tone detection enabled, dial tone detection disabled; result codes 0 - 8, & 10 - 15 enabled.

■ X4 Busy and dial tone detection enabled; result codes 0 - 7 & 10 enabled.

X5 Busy and dial tone detection enabled; result codes 0 - 4, 6 - 8 enabled.

SOFT RESET

Type: Immediate

Format: AT [cmds] Zn [cmds]

Description: Restores modem profiles previously saved in non-volatile RAM using the &W command.

Command Function

Z0 Restore setting

EXTENDED AT COMMAND SET

COMPRESSION

Type: Configuration

Format: AT [cmds] %Cn [cmds]

Description: Selects data compression

Command Function

%C0 Data compression disabled

%C1 MNP5 enabled

S(status) REGISTERS

DCE LINE SPEED

Type: Register

Format AT [cmds] S37=n [cmds]

Description: Sets the maximum allowable data exchange rate attempted during handshake process.

Command Function

S37=0 Current DTE rate

S37=1 V.21 at 300bps

S37=2 Bell 103 at 300bps

S37=5 V.22 at 1200bps

S37=6 V.22bis at 2400bps

S37=8 V.32 at 4800bps

S37=9 V.32 at 9600bps