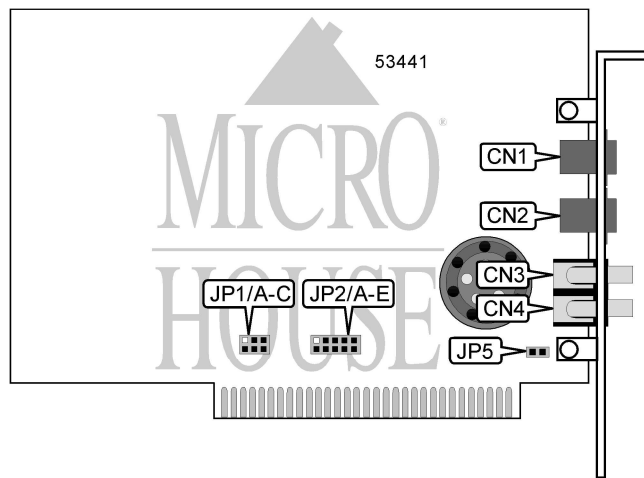


# QUADRANT COMPONENTS, INC. CHOICE 33.6 VOICE

<b>Card Type</b>	Modem (asynchronous)
<b>Chipset</b>	U.S. Robotics
<b>I/O Options</b>	Microphone in, speaker out, voice, speakerphone
<b>Maximum Data Rate</b>	33.6Kbps
<b>Maximum Fax Rate</b>	14.4Kbps
<b>Data Modulation</b>	Bell 103A, 212A
	ITU-T V.21, V.22, V.22bis, V.32, V.32bis, V.34
<b>Fax Modulation</b>	Unidentified
<b>Error</b>	MNP5, V.42, V.42bis
<b>Correction/Compression</b>	
<b>Fax Class</b>	Class I & II
<b>Data Bus</b>	8-bit ISA
<b>Card Size</b>	Full height, half length



CONNECTIONS			
Function	Label	Function	Label
Telephone line	CN1	Speaker out or microphone in	CN3
Telephone line	CN2	Speaker out or microphone in	CN4

Note: It is not known which one of CN3 and CN4 is the speaker out and which is the microphone in.

USER CONFIGURABLE SETTINGS			
Setting	Label	Position	
Speaker out connector is stereo	JP5	Closed	
Speaker out connector is mono	JP5	Open	

SERIAL PORT ADDRESS SELECTION			
Setting	JP1/A	JP1/B	JP1/C
3F8h (COM1:)	Closed	Closed	Closed
2F8h (COM2:)	Open	Closed	Closed
3E8h (COM3:)	Closed	Open	Closed
2E8h (COM4:)	Open	Open	Closed
Plug-N-Play	Open	Open	Open

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## CHOICE 33.6 VOICE

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INTERRUPT SELECTION					
Setting	JP2/A	JP2/B	JP2/C	JP2/D	JP2/E
2	Closed	Open	Open	Open	Open
3	Open	Closed	Open	Open	Open
4	Open	Open	Closed	Open	Open
5	Open	Open	Open	Closed	Open
7	Open	Open	Open	Open	Closed
í Plug-N-Play	Open	Open	Open	Open	Open

SUPPORTED STANDARD COMMANDS
<b>Basic AT Commands</b>
+++ , 'comma', A/
A, B, C, E, F, H, L, M, O, P, T, V, X
&C, &D, &G, &P, &R, &S, &T, &W, &Z
<b>S-Registers</b>
S0, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S18, S25, S38
Note: See MHI help file for complete information.

## Proprietary AT Command Set

DIAL	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] D<#>:[cmds]
<b>Description:</b>	Dials the telephone number indicated according to any modifiers included in the string.
<b>Command</b>	<b>Function</b>
DL	Re-dial last number.
DP	Pulse dialing enabled.
DR	Answer mode enabled; originate mode disabled following handshake initiation.
DS $n$	Dial stored telephone number $n$ .
DT	Tone dialing enabled.
DW	Dialing resumed following dial tone detection.
D,	Dialing paused for amount of time specified in S8 register.
D/	Dialing paused for 1/8 second.
D!	Flash function initiated. Modem commanded to go off-hook for specified time before returning on-hook.
D@	Wait for Quiet Answer function enabled. Modem waits until a "quiet answer," a ring-back signal followed by silence up to the time specified in S7, is received prior to executing the rest of the dial string.
D;	Modem returned to idle state after dialing. The semicolon can only be placed at the end of the dial command.

DISPLAY CHIPSET MANUFACTURER	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #MFR? [cmds]
<b>Description:</b>	Displays the voice chipset manufacturer's name.

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## CHOICE 33.6 VOICE

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DISPLAY CHIPSET MODEL NAME	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #MDL? [cmds]
<b>Description:</b>	Displays the model name of the modem's voice chipset.

DISPLAY CHIPSET REVISION	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #REV? [cmds]
<b>Description:</b>	Displays the revision level of the modem's voice chipset.

FLOW CONTROL - MODEM-TO-MODEM	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] &In [cmds]
<b>Description:</b>	Selects the type of modem-to-modem flow control used.
<b>Command</b>	<b>Function</b>
&I0	Software flow control disabled.
&I1	XON/XOFF pass-through enabled.
&I2	XON/XOFF pass-through disabled.
&I3	Hewlett-Packard ENQ/ACK host mode enabled.
&I4	Hewlett-Packard ENQ/ACK terminal mode enabled.
&I5	XON/XOFF pass-through enabled in normal mode and disabled in error-correcting mode.

MODE SELECTION	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #CLS= <i>n</i> [cmds]
<b>Description:</b>	Selects which mode the modem will operate in.
<b>Command</b>	<b>Function</b>
#CLS=0	Modem will operate in data mode.
#CLS=1	Modem will operate in fax class I mode.
#CLS=2	Modem will operate in fax class II mode.
#CLS=8	Modem will operate in voice mode.

PROFILE ON POWER-UP	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] Y <i>n</i> [cmds]
<b>Description:</b>	Selects the profile that the modem will reset to on power-up.
<b>Command</b>	<b>Function</b>
í Y0	Modem resets to user profile 0 on power-up.
Y1	Modem resets to user profile 1 on power-up.
Y2	Modem resets to factory generic profile on power-up.
Y3	Modem resets to factory hardware flow control profile on power-up.
Y4	Modem resets to factory software flow control profile on power-up.
Y6	Displays link diagnostics.

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STATUS REGISTER BIT	
<b>Type:</b>	Configuration
<b>Format:</b>	<b>Write:</b> AT [cmds] <i>Sn.m</i> =0 or 1 [cmds] <b>Read:</b> AT [cmds] <i>Sn.m?</i> [cmds]
<b>Description:</b>	Sets/clears or reads bit <i>m</i> of register <i>n</i> .

TONE DETECTION	
AT [cmds] #VTD= <i>x,y,z</i> [cmds]	
<i>x,y,z</i> 63	
0 - 63	
Sets which tones the tone detection will report.	
The value of <i>x</i> sets the tone detection modes in voice transmit mode, <i>y</i> sets the voice command mode.	

Value	Function
0	DTMF tones are not detected.
í 1	DTMF tones are detected.
0	V.25 1300Hz calling tone is not detected.
í 1	V.25 1300Hz calling tone is detected.
0	T.30 1100Hz fax tone is not detected.
í 1	T.30 1100Hz fax tone is detected.
0	V.25/T.30 2100Hz answer tone is not detected.
í 1	V.25/T.30 2100Hz answer tone is detected.
0	Bell 2225Hz answer tone is not detected.
í 1	Bell 2225Hz answer tone is detected.
0	Call progress tones are not detected.
í 1	Call progress tones are detected.

TONE GENERATOR - DIRECT ENTRY	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #VTS=[ <i>m, n, x</i> ]
<b>Range:</b>	<i>m</i> 200-3000, <i>n</i> 200-3000, <i>x</i> 0-255
<b>Unit:</b>	<i>m</i> 1 Hz, <i>n</i> 1 Hz, <i>x</i> .1 second
<b>Description:</b>	Generates a dual-frequency tone for duration <i>x</i> at frequencies <i>m</i> and <i>n</i> .

TONE GENERATOR - TIMED PHONE KEYS	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #VTS={ <i>a, n</i> }
<b>Range:</b>	<i>a</i> 0-9, A-D, #, *; <i>x</i> 0-255
<b>Unit:</b>	<i>x</i> .1 second
<b>Description:</b>	Generates the DTMF tone for duration <i>x</i> for the character <i>a</i> .

TONE GENERATOR - PHONE KEYS	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #VTS= <i>a</i>
<b>Range:</b>	0-9, A-D, #, *
<b>Description:</b>	Generates the DTMF tones for the characters in the string for the duration set with +VBT.

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## CHOICE 33.6 VOICE

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TONE GENERATOR LENGTH	
<b>Format:</b>	AT [cmds] #VBT= <i>n</i> [cmds]
<b>Default:</b>	10
<b>Range:</b>	0 - 40
<b>Unit:</b>	0.1 second
<b>Description:</b>	Sets the length of DTMF tones that are generated.

VOICE BUFFER SPACE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #VSK= <i>n</i> [cmds]
<b>Default:</b>	255
<b>Range:</b>	0 - 255
<b>Unit:</b>	1 byte
<b>Description:</b>	Sets the amount of data the modem can send into the buffer after the XOFF signal is sent.

VOICE DEVICE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #VLS= <i>n</i> [cmds]
<b>Description:</b>	Selects the I/O device for the DSP chip.
<b>Note:</b>	This modem may not support all options listed below. The #VLS? command will display the available options.
<b>Command</b>	<b>Function</b>
#VLS=0	Telephone line and handset used for voice I/O.
#VLS=1	Telephone handset used for voice I/O.
#VLS=2	Internal speaker only used for voice I/O.
#VLS=3	External microphone only used for voice I/O.
#VLS=4	Telephone line and handset used for voice I/O; internal speaker enabled.
#VLS=5	Headset used for voice I/O.
#VLS=6	Speakerphone used for voice I/O.
#VLS=7	Handset muted by disconnecting handset or speakerphone from telephone line.
#VLS=8	Connects caller ID relay for recording of conversation over handset.
#VLS=9	Connects handset (or speakerphone) to DSP chip for recording or playback.

VOICE - DISPLAY BUFFER SIZE	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #VBQ? [cmds]
<b>Description:</b>	Displays the size of the voice buffer.

VOICE - DISPLAY COMPRESSION TYPE	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #VCI? [cmds]
<b>Description:</b>	Displays the type of compression currently in use.

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## CHOICE 33.6 VOICE

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VOICE - LOCAL SERIAL PORT SPEED	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #BDR= <i>n</i> [cmds]
<b>Default:</b>	0
<b>Range:</b>	0 - 48
<b>Unit:</b>	2400bps
<b>Description:</b>	Sets the speed of the local serial port when in voice mode. A value of 0 indicates that the modem should auto-detect the correct serial port speed.

VOICE RE-RING DETECT TIME	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #VRA= <i>n</i> [cmds]
<b>Default:</b>	70
<b>Range:</b>	0-255
<b>Unit:</b>	10 mS
<b>Description:</b>	Sets the maximum time the modem will wait for the remote station to ring again before it assumes that it has gone off-hook.

VOICE RECEIVE	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #VRX
<b>Description:</b>	Commands the modem to begin receiving voice data.

VOICE RING DETECT TIME	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #VRN= <i>n</i> [cmds]
<b>Default:</b>	Unidentified
<b>Range:</b>	Unidentified
<b>Unit:</b>	Unidentified
<b>Description:</b>	Sets the maximum time the modem will wait for the remote station to ring before it assumes that it went off-hook before it rang.

VOICE SAMPLE QUALITY	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #VBS= <i>n</i> [cmds]
<b>Description:</b>	Selects the number of bits per sample that the modem records.
<b>Note:</b>	This modem may not support all options listed below. The #VBS? command will display the available options.
<b>Command</b>	<b>Function</b>
#VBS=2	Modem records 2 bits per sample in ADPCM encoding.
#VBS=3	Modem records 3 bits per sample in ADPCM encoding.
í #VBS=4	Modem records 4 bits per sample in ADPCM encoding.
#VBS=8	Modem records 8 bits per sample in PCM encoding.
#VBS=16	Modem records 16 bits per sample in PCM encoding.

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## CHOICE 33.6 VOICE

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VOICE SAMPLING RATE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #VSR= <i>n</i> [cmds]
<b>Description:</b>	Sets the sampling rate used when recording voice signals.
<b>Command</b>	<b>Function</b>
i #VSR=7200	Selects a sampling rate of 7.2KHz.
#VSR=11025	Selects a sampling rate of 11.025KHz in PCM encoding only.

VOICE SILENCE DETECTION TIME	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #VSP= <i>n</i> [cmds]
<b>Default:</b>	Unidentified
<b>Range:</b>	0 - 255
<b>Unit:</b>	.1 second
<b>Description:</b>	Sets the minimum amount of silence that the modem will detect.

VOICE SILENCE DETECTION THRESHOLD	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #VSS= <i>n</i> [cmds]
<b>Description:</b>	Sets the threshold of sensitivity that the modem uses to determine silence detection.
<b>Command</b>	<b>Function</b>
#VSS=0	Silence detection disabled.
#VSS=1	Minimum silence detection sensitivity.
#VSS=2	Standard silence detection sensitivity.
#VSS=3	Maximum silence detection sensitivity.

VOICE TRANSMIT	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #VTX
<b>Description:</b>	Commands the modem to begin transmitting voice data.

### Proprietary AT Command Set

See QUADRANT COMPONENTS, INC. CHOICE 33.6 for a full command summary.