

# **V.3225 and V.3225L Manual**

Compliments of

**ARC ELECTRONICS**

800-926-0226 / 281-302-6333

<http://www.arcelect.com/>  
[arc@arcelect.com](mailto:arc@arcelect.com)

## Chapter 3 Option Selection

### GENERAL

*Note: This chapter contains the options available by pushbutton in response to the LCD. Users of the non-LCD model are encouraged to consult the different sections of this chapter as appropriate for further information on modem operation and option selection.*

There are four factory option sets to choose from. The modem is shipped configured to factory option set #1 (see Appendix D). Because of the number of possible applications, most modems require some option changes to fit into the network.

A user programmed option set is available for storing a custom configuration.

### STRAP OPTION SELECTION

Modem configuration is determined by front panel controls, AT commands, and hardware option straps located on the pc board. Remove the modem cover for access to the option straps.

*Note: Normally pc board straps will not have to be changed.*

Removing Cover

**Warning:** Disconnect AC power before removing the cover. Although dangerous voltage levels are not exposed, disconnecting power ensures an electrical shock hazard is not present.

Place the unit on its side on a flat surface. Insert a medium size flat screwdriver blade in one of the bottom rear latch slots. DO NOT PUSH the screwdriver but lightly pry the handle away from the unit as illustrated in Figure 3-1. This will disengage the lock prong from the lock clip. Assist removal by pushing the cover from the chassis with your fingers on the unit rear edges. Repeat this procedure with the remaining three latch slots.

To replace the cover align the lock clips, rear guide grooves, and front lock tabs. Press the cover in place until the lock clips engage the lock prongs.

Figure 3-2 shows typical strap configurations and Figure 3-3 shows strap locations.

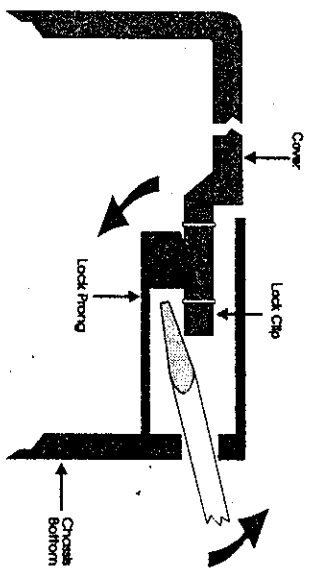


Figure 3-1  
Cover Removal

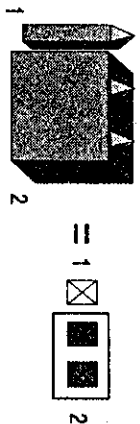


Figure 3-2  
Option Strap Configuration

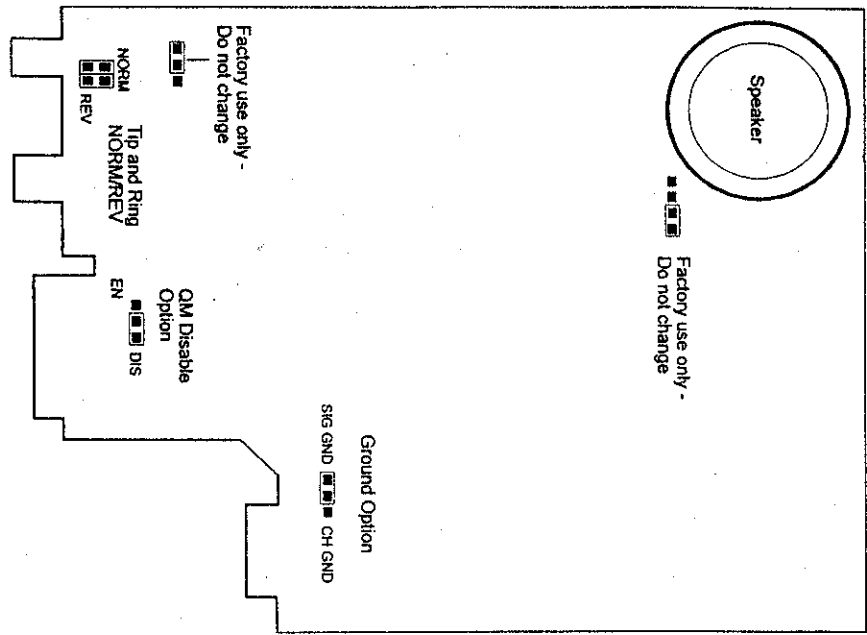


Figure 3-3  
Strap Locations

**HARDWARE STRAPS**

**Tip and Ring Polarity**

Some telephones are tip and ring polarity sensitive. If a dial tone is detected after dialing, reverse these two straps.



\*Normal tip and ring connection

Reverse tip and ring connection

**Ground Option Strap**

Signal ground is normally connected to chassis ground. If interference exists, isolate signal ground from chassis ground.



\*Signal ground connected to chassis ground selected

**QM Disable Option**

When enabled, the Quality Monitor (QM) output is connected to the EIA-232 (pin 11) interface. Disabled disconnects the QM output. Refer to Chapter 4 and Table 2-1 for more QM information.



\*QM output not connected to EIA-232 interface

**LCD OPTION SELECTION**

The modem options can be observed or changed through the front panel LCD. The LCD also gives modem status.

\* factory setting

**MAIN MENU**

There are six main menus that support modem operations. They are described in this chapter in the same sequence as presented here:

- MODEM STATE
- DIAL STORED NUMBER
- DISPLAY STATUS
- SELECT TEST
- MODIFY CONFIGURATION
- CHANGE PHONE NUMBERS

Each main menu is supported by various submenus, items, and options (Table 3-1). The two right columns in the table show the associated AT commands and S-registers as a cross reference.

**Menu Sequence**

Main menus consist of six displays which allow access to submenus. Each submenu has a submenu item column; if an option setting is selected or if all options have been scrolled through, the menu will return to the submenu header.

If the NO pushbutton is pressed and held, the modem automatically scrolls through the menu.

*Note: Main Menu 1 does not scroll. The displays in Main Menu 1 show the current operating mode or status. These displays are the results of other selected options and are not themselves option selections.*

*While operating in the option menu, pressing NO scrolls vertically down the columns in Table 3-1 and pressing YES advances horizontally across the columns.*

**Table 3-1**  
*Menu Options*

MAIN MENU		LCD MESSAGES		ITEM OPTION	AT COM.	S REG
M A I N 1	V.32 9600 IDLE V.32 9600 TALK V.32 9600 TRAINING V.32 9600 ONLINE V.32 9600 RINGING V.32 9600 IN TEST	(Press NO to advance to MAIN 2)				
M A I N 2	MAIN MENU	SUBMENU	SUBMENU ITEM	ITEM OPTION	AT COM.	S REG
M A I N 2	DIAL STORED NUMBER ?		DIAL #1-9	YES, NO	DSn (n=1-9)	---
M A I N 3	DISPLAY STATUS ? (status only)	DTE SIGNALS	DIR ON/OFF DSR ON/OFF OH ON/OFF RI ON/OFF	DISPLAYS STATUS	---	---
		MNP LEVEL	NEGOTIATING MNP LEVEL 2, 3, 4, OR 5 CONNECTION	DISPLAYS STATUS	---	---
	CARRIER DESCRIPTIONS	RECEIVE LEVEL NEAR END ECHO LEVEL FAR END ECHO LEVEL FAR END ECHO LEVEL DELAY ESTIMATED DELAY FREQUENCY TRANSLATION		DISPLAYS STATUS	---	---
M A I N 4	SELECT TEST ?	LOCAL ANALOG LOOP	LOCAL ANALOG LOOP	INITIATE, EXIT	AT1	S16
		LAL WITH TP	LAL WITH TP	INITIATE, EXIT	AT8	S16
		REMOTE ANALOG LOOP	REMOTE ANALOG LOOP	INITIATE, EXIT	AT2	S16
	(4-wire only)	PAL WITH TP	PAL WITH TP	INITIATE, EXIT	AT9	S16
		LOCAL DIGITAL LOOP	LOCAL DIGITAL LOOP	INITIATE, EXIT	AT3	S16
		REMOTE DIGITAL LOOP	REMOTE DIGITAL LOOP	INITIATE, EXIT	AT6	S16
		ROL WITH TP	ROL WITH TP	INITIATE, EXIT	AT7	S16
		TEST PATTERN	TEST PATTERN	INITIATE, EXIT	%T	---
M A I N 5	MODIFY CONFIGURATION ?	CHANGE MODEM OPTIONS ?	CHANGE DCE RATE	DTE SPEED 9600 TRELLIS 9600 UNCODED 4800 UNCODED 2400 V.22 Bps 1200 V.22 Bps 300 BELL 103	%B %A86 %A85 %A84 %A83 %A82 %A81	\$B9

Table 3-1  
Menu Options, continued

MAIN MENU	SUBMENU	SUBMENU ITEM	ITEM OPTION	AT COM.	\$ REG
M A I N	CHANGE MODEM OPTIONS ?	FORCED ANSWER OR NORMAL ORIGINATE	NORM ORIGIN FORCED ANSWER	*OR *OR1	S14
		V.32 FAST TRAIN	ENABLE, DIS	*F1, *F1	S29
		AUTO RETRAIN	ENABLE, DIS	%E1, %E	S60
		TRANSMIT CLOCK	INTERNAL EXTERNAL RECEIVE	*X, *X1 *X2	S27
		LINE TYPE	LEASED, DIAL	*L1, *L2, *L	S27
		JACK TYPE	PER - RJ11 PROG - RJ15	%Z	---
		LINE CURRENT DISCONNECT	OFF, 8 MS 90 MS	*LC, *LC1 *LC2	S32
		LONG SPACE DISCONNECT	ENABLE DISABLE	Y	S21
		V.32 CLEARDOWN	ENABLE DISABLE	H2 H3	S14
		V.22 GUARD TONE	DIS, 550 1800 HZ	*G, *G1 *G2	S23
		2-WIRE/4-WIRE	2-WIRE, 4-WIRE	*L1, *L2 *DB, *DB1	S32
		DIAL BACKUP	MANUAL, AUTO	*DB, *DB1	S32
		LOOKBACK TIMER	OFF, 15, 30, 45, 80 MIN	---	S28
		TRANSMIT LEVEL	0 TO -15 DB	*TL	S32
		C H A N G E M O D E M O P T I O N S ?	CHANGE MNP OPTIONS ? (Asyn Only)	MNP PROTOCOL	ENABLE DISABLE
AUTO FALLBACK/ DISCONNECT (MNP Proto En)	DISCONNECT FALLBACK TO NON EC MODE			*M2 *M3	S70
DTE SPEED	DTE = DCE CONSTANT DTE			*V1 *V	S72
MNP FLOW CONTROL	DISABLE XON/XOFF CTS only RTS/CTS			*Q1 *Q2 *Q3	S54
XON/XOFF PASS THROUGH	ENABLE DISABLE			*X1 *X	---
DATA COMPRESSION	ENABLE DISABLE			%C1	S60
MNP INACTIVITY TIMER	OFF, 15, 30, 45, 60, 75, 90 MIN			---	S58
MNP BREAK CONTROL	0, 1, 2, 3, 4, 5			*K, *K1, *K2, *K3 *K4, *K5	S59

Table 3-1  
Menu Options, continued

MAIN MENU	SUBMENU	SUBMENU ITEM	ITEM OPTION	AT COM.	\$ REG
M A I N	CHANGE DTE OPTIONS ?	OPERATION	SYNC ASYNC	*M1, *M2, *M3, *M4, *M5 *M	S27
		DTE RATE (Asyn)	19200, 9600, 4800, 2400, 1200, 300	---	S61
		CHAR SIZE (Asyn)	7 BIT 8 BIT	---	S61
		PARITY (Asyn)	NO, EVEN, ODD	---	S61
		AT COMMAND SET	ENABLE DISABLE	*M1 *M2 *M3 *M4 *M5	S27
		DIAL METHOD (Sync) (Asyn allows DTR control)	ASYNC DTR, MANUAL, V.25 BISSYNC, V.25 SDLC	---	S30
		CHARACTER TYPE (V.25 only)	ASCII, EBCDIC	---	---
		DTR RESPONSE	IGNORE RECALL CMD DISCONNECT RESET	*D1 *D2 *D3	S21
		DSR STATE	NORMAL FORCED HIGH OFF 5 SEC ON DISCONNECT FOLLOWS ON	*S1 *S2 *S3	S21
		DCD STATE	NORMAL FORCED HIGH OFF 5 SEC ON DISCONNECT FOLLOWS REMOTE RTS	*C1 *C2 *C3	S21
		CTS STATE	NORMAL FORCED HIGH CTS FOLLOWS DCD CTS=RTS	*R1 *R2 *R3	S21
		RTS/CTS DELAY	0 to 90 ms (10 ms)	---	S26
		DTE COMMANDED FALLBACK	ENABLE DISABLE	*F1 *F2	S33
		OPTIONS RES/ RETND AT DISC	RESTORED RETAINED	*R0 *R1	S29
		C H A N G E T E S T	CHANGE TEST OPTIONS ?	BILATERAL ANALOG LOOP	ENABLE DISABLE
BILATERAL DIGITAL LOOP	ENABLE DISABLE			*DG1 *DG	S34
DTE LOCAL TEST	ENABLE DISABLE			*LA *LA	S34

Table 3-1  
Menu Options, continued

MAIN MENU	SUBMENU	SUBMENU ITEM	ITEM OPTION	AT COM.	\$ REG
M A I N M E N U	CHANGE TEST OPTIONS ? (cont.)	DTE REMOTE TEST	ENABLE DISABLE	*RD1, *RD	S34
		REMOTE COMMAND	ENABLE DISABLE	*T4 *T5	S23
		TEST TIMEOUT	OFF, 60, 120, 180, 240 SEC	---	S18
		DIAL TYPE	PULSE, TONE	P, T	S14
		AUTODIAL #	OFF, 1 - 9	*AUn (n=1-9)	---
		DIAL TONE	BLIND DIAL WAIT FOR DIAL TONE	X, X1, X3 X2, X4	S22
		WAIT DELAY (Blind Dial)	1, 2, 3, 4, 8, 16 32 SEC	---	S6
		PAUSE DELAY	1, 2, 3, 4, 8, 16 32 SEC	---	S8
		CALL TIMEOUT	15, 30, 45, 60, 75, 90, 105, 120 SEC	---	---
		ANSWER RING #X	MANUAL, 1, 2, 4, 8, 16	---	S0
CHANGE DIAL OPTIONS ?	CHANGE SPEAKER OPERATION ?	801 V.32 TIMEOUT	LONG, SHORT	---	S53
		AUTOCALLBACK	ENABLE DISABLE	---	S72
		VOLUME CONTROL	LOW MEDIUM HIGH	L1 L2 L3	S22
LOAD/STORE OPTION SET ?	LOAD FACTORY OPTION	SPEAKER CONTROL	ON UNTIL CARR DETECT ALWAYS ON OFF WHILE DIALING ALWAYS OFF	M1 M2 M3 M	S22
		STORE PRESENT OPTIONS	YES, NO	---	---
		LOAD FACTORY OPTION	NO, 1, 2, 3, 4, RESET SECURITY?	---	---
CHANGE PHONE NUMBERS ?	PHONE NUMBER OPTIONS	NO/ NINE 31-CHAR NUMBERS	---	---	---
		NO/ NINE 31-CHAR NUMBERS	---	---	---

OPTION  
SELECTION

Options are selected by pressing the YES / NO push-buttons. When powered up the modem will go to the selected display under the Main Menu 1 header in Table 3-1. Any time a Main Menu is displayed, pressing NO scrolls through the Main Menus. When the end is reached, the display returns to main #2.

*Note: Certain options are dependent on or are restricted by the mode of operation. For example, dial backup is not available in V.22 mode.*

NO  DIAL STORED NUMBER  NO  DISPLAY STATUS?  NO...  CHANGE PHONE #?

Main Menu

When any Main Menu is on display, pressing YES advances to the first Submenu in that Main Menu group.

MODIFY CONFIGURATION?  YES  CHANGE MODEM OPTIONS?

Submenu

When in a Submenu column, pressing NO will scroll down the Submenu and when the end is reached will return to the Main Menu header for that Submenu group.

CHANGE MODEM OPTIONS?  NO...  LOAD/STORE OPTION SET?  NO  MODIFY CONFIGURATION?

When in a Submenu column, pressing YES advances to the Submenu Item column.

CHANGE MODEM OPTIONS?  YES  DCE RATE

Option Selection

Submenu Item

When in a Submenu Item column, pressing NO will scroll through the items and when the end is reached will return to the Submenu header for that item group.

DCE RATE	NO	ORIG/FORCE ANSWER? 3	NO...	V.22 GUARD TONE DISABLED*	NO	CHANGE MODEM OPTIONS?
----------	----	----------------------	-------	---------------------------	----	-----------------------

*\*This is the last submenu item for modem options.*

When in a Submenu Items column, pressing YES advances to the Option Setting for that Submenu Item. The first option that appears is the currently selected option.

NORMAL ORIG. FORCED ANSWER?	YES	FORCE ANSWER NORMAL ORIG.?
-----------------------------	-----	----------------------------

Item Option

When in the Item Option column, respond to the prompt question on the LCD to either keep or change the current display.

USE RECEIVE TRANSMIT CLOCK?	NO	USE EXTERNAL TRANSMIT CLOCK?	NO	USE INTERNAL TRANSMIT CLOCK?	YES	INTERNAL CLOCK CHANGER?
-----------------------------	----	------------------------------	----	------------------------------	-----	-------------------------

Selecting the Option

Select the submenu containing the option (submenu item) to be changed and press YES. The LCD displays the first submenu item.

If the first submenu item (option) setting displayed is the desired option, press NO to scroll through Submenu Items. If the first setting displayed is not the desired setting, respond to the prompts until the desired setting is displayed, then advance to the next submenu item. In any case, responding to the prompt will guide you to the desired option.

*Note: Because of menu structure and options available, not all Main Menus have Submenus and not all Submenus have Item Options. However, the option selection sequence is the same.*