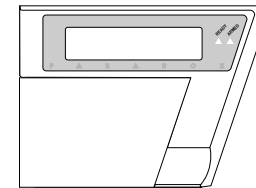


///IESPRIT ***MODEL 640 KEYPAD***



Installation Manual

P ▲ R ▲ D O X
S E C U R I T Y S Y S T E M S
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S E C U R I T Y S Y S T E M S

IM640 961025-0001

Esprit Model 640 LCD Keypad

Description

The Esprit Model 640 LCD Keypad is compatible with all Esprit Series 8 control panels batch code 079 onward. (See diagram on page 19.) Standard preprogrammed information is presented in English, and most installer-programmable information can be entered in the language of your choice. The large 16-character LCD illuminated display can be adjusted for brightness and contrast. Information is easy to retrieve, and when correctly programmed, simple for the end user to understand.

The standard Esprit keypad layout is enhanced by the addition of three more keys; **[+]**, **[INFO]**, and **[-]**. The **[+]** and **[-]** keys can be used to scroll through information at sequential locations. The **[INFO]** key provides explanations of the functions of all keys in most operating modes.

Control panel programming is performed in the usual manner, either from the keypad or from a computer, using **Espload** up/downloading software. Keypad programming must be conducted at the keypad.

Keypad programming permits personalized information to be entered into the LCD display. This information can include zone descriptions, time and day of the week, and a special customized message stored in the keypad which can then be activated by a computer download command from **Espload**.

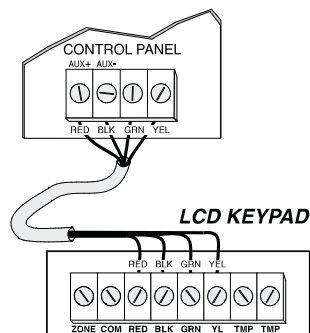
(Important: *The Esprit 640 LCD “top view” LCD display should*

be installed at user “eye level” or lower to provide optimum display clarity and visibility.)

KEYPAD CONNECTION

The four keypad connections labelled “RED”, “BLACK”, “GREEN” and “YELLOW” should be connected to the corresponding colour terminals on the control panel PC board. (See diagram below.)

Keypad connection



Installer Programming and End User Programming

“Installer programming” mode permits trained personnel to carry out all programming functions of the 640 LCD keypad. In addition, the end user has limited access to perform certain simple programming functions. These functions, as well as basic programming instructions, are described in a separate “End User” manual.

“Teaching” Programmed Information to Additional Keypads

A special serial cable is available for Esprit keypad programming, which is equipped with a 4 pin connector on each end. After one LCD keypad in a system has been completely programmed, it can be used to “teach” the programming to other keypads, by means of this special cord. Complete instructions on how to conduct this operation appear on page 16 of this manual.

“Day of the Week” and “Time of Day” Display

Both the “day of the week” and the “time of day” can be viewed in the LCD display, and are easily programmed in “keypad programming” mode.

CUSTOM PROGRAMMING OF THE LCD KEYPAD

Installer Programming

The Esprit 640 LCD keypad contains its own microprocessor which controls the display and other LCD display functions. This processor operates independently of the control panel processor, and must be accessed separately, using a special “Installer **Keypad** Programming” code.

The control panel should be programmed in either of the usual ways, by means of standard keypad commands or using Espload from a PC. (Please refer to the “Instruction Manual” for complete information on panel programming.) Keypad programming must be conducted at the keypad. Once control panel programming is complete, enter “Keypad Programming Mode” in this way:

Press **[CLEAR]**.

Press **[ENTER]** **[KEYPAD PROGRAMMING CODE]**
(Default code is **0000**)

A short series of beeps will be emitted by the keypad, and the **[ENTER]** light will flash.

“**KEYPAD PROG. SECTION: _____**” appears in the display.

Enter two digits representing one of the programming addresses, and program the required information.

Address 00 Day of the Week/Time of Day Programming

The display will read “**DAY:** (followed by the currently programmed day of the week)”. To program the correct day, find the number corresponding to the day of the week on the list below, and press the single digit shown for that day, followed by **[ENTER]**.

[1] = SUNDAY	[5] = THURSDAY
[2] = MONDAY	[6] = FRIDAY
[3] = TUESDAY	[7] = SATURDAY
[4] = WEDNESDAY	

Example: To program “Thursday”, in keypad programming mode, at address **00**, press **[5]** **[ENTER]**.

After selecting the required day and pressing **[ENTER]**, the keypad will advance to the “time of day” setting. The display now reads “**TIME:**”, followed by the currently programmed time of day.

To modify the time programmed, enter the four (4) digits corre-

sponding to the required time, according to the “24 hour clock”. After the 4 digits have been entered, you will hear a “confirmation” beep, indicating that the time programmed has been automatically saved in memory.

Ex.: To program **4:05 p.m.**, enter **16:05** by pressing **[1]** **[6]** **[0]** **[5]**. Once the correct keypad time has been programmed, press **[ENTER]**. The LCD display will return to the “**KEYPAD PROG. SECTION: _____**” message. Enter the next address.

IMPORTANT: “Panel time” MUST ALSO be programmed.

“One-key access” programming can be used to set panel time. Press **[ENTER]**, followed by installer, master or user code 1. Press **[MEM]**, then enter 2 digits (**00** to **23**) for hours, and 2 digits (**00** to **59**) for minutes. Press **[ENTER]** to save panel time in memory.

Address 01 - 24

Add. **01** = Zone 1 description
Add. **02** = Zone 2 description
Add. **03** = Zone 3 description
Add. **04** = Zone 4 description
Add. **05** = Zone 5 description
Add. **06** = Zone 6 description
Add. **07** = Zone 7 description
Add. **08** = Zone 8 description
Add. **09** = Zone 9 description
Add. **10** = Zone 10 description
Add. **11** = Zone 11 description
Add. **12** = Zone 12 description

Zone descriptions

Add. **13** = Zone 13 description
Add. **14** = Zone 14 description
Add. **15** = Zone 15 description
Add. **16** = Zone 16 description
Add. **17** = Zone 17 description
Add. **18** = Zone 18 description
Add. **19** = Zone 19 description
Add. **20** = Zone 20 description
Add. **21** = Zone 21 description
Add. **22** = Zone 22 description
Add. **23** = Zone 23 description
Add. **24** = Zone 24 description

Complete instructions on how to program zone description information and other keypad messages are found below.

“Special Function Keys”

Entries at addresses **01 - 25** can be made in any language. In order to enter information, the following function keys should be used, in combination with the number keys on the keypad.

[11] *Toggles between “alpha” and “numeric” modes.*
Ex.: Pressing key **[1]** will cause the digit “1” to appear in the display. By pressing key **[11]** before pressing key **[1]**, the keypad will switch to “alpha” mode and display an “a”. (Pressing key **[1]** a second time will cause the display to show the letter “b”, and a third press of key **[1]** will result in the letter “c” being displayed.)

[2ND] *In “alpha” mode, [2ND] key toggles between **UPPER** and **lower** case.*

[12] *Toggles in and out of “ASCII” mode. ASCII mode can be used to enter special characters in the display, like asterisks, apostrophes, arrows, etc. These characters may be chosen by entering the three digit code corresponding to the required symbol found in the chart on the last page of this manual.*

[TRBL] Inserts a space between characters/words.

[MEM] Deletes a character.

[BYP] Deletes from the cursor position to the end of the line.

[+] Moves cursor to the right.

[-] Moves cursor to the left.

Programming Numbers in the Keypad Display

Numerals may be entered as follows:

Key **[1]** = 1 **[2]** = 2 **[3]** = 3 **[4]** = 4 **[5]** = 5
[6] = 6 **[7]** = 7 **[8]** = 8 **[9]** = 9 **[10]** = 0

Programming Words in the Keypad Display

Use key **[11]** to enter “alpha” mode. The letters of the alphabet can then be programmed, according to the “**Alphabetical Characters**” chart below.

Alphabetical Characters			
Key	Press key once	Press key twice	Press key 3 times
[1]	A	B	C
[2]	D	E	F
[3]	G	H	I
[4]	J	K	L
[5]	M	N	O
[6]	P	Q	R
[7]	S	T	U
[8]	V	W	X
[9]	Y	Z	

Example: “Programming a Zone Description”

To enter zone 7 description “Patio Door”, in “Keypad Programming” mode, press the following keys in the order indicated.

- a) [0] [7] (Address for Zone 7)
- b) [11] (switches to “alpha” mode)
- c) [6] (letter “p” appears in display)
- d) [2ND] (“p” switches to upper case “P”)
- e) [+] (Moves cursor one space to the right)
- f) [1] (Letter “A” appears)
- g) [2ND] (“A” switches to lower case “a”)
- h) [+] (Moves cursor one space to the right)
- i) [7] [7] (Letter “t” appears)
- j) [+] (Moves cursor one space to the right)
- k) [3] [3] [3] (Letter “i” appears)
- l) [+] (Moves cursor one space to the right)
- m) [5] [5] [5] (Letter “o” appears)
- n) [+] [+] (Cursor moves right two spaces)
- o) [2] (letter “d” appears)
- p) [2ND] (“d” switches to upper case “D”)
- q) [+] (Moves cursor one space to the right)
- r) [5] [5] [5] (Letter “O” appears)
- s) [2ND] (“O” switches to lower case “o”)
- t) [+] (Moves cursor one space to the right)
- u) [5] [5] [5] (Letter “o” appears)
- v) [+] (Moves cursor one space to the right)
- w) [6] [6] [6] (Letter “r” appears)
- x) [ENTER] (Information is saved in memory)

Address 25 Preprogrammed Message

A message with a length of up to 16 characters may be programmed at address **25**, with the same character entry method used in “Zone Descriptions”. (“Preprogrammed message” is **only available** using control panel software versions **1.4 onward**.) This message will not appear in the keypad display after exiting programming mode, until the Espload command “**LCD MSG**” (LCD message) is sent to the keypad during computer download. (Espload must be in “panel monitoring” mode, and will indicate that the feature has been activated by the message “LCD message displayed”.)

The preprogrammed message should be deactivated using Espload. (It will also be automatically deactivated when the panel is powered down.)

Address 26 Creating a New Installer Keypad Programming Code

A new Installer Keypad Programming code should be created to replace the factory default code of “**0000**”. The new 4-digit code permits access to **keypad programming only**, and **must** be different from any other installer codes used in the alarm system.

To create a new Installer Keypad Programming code, go to address **26**. The display will read “**KEYPAD CODE: ENTER 4 DIGITS**”. Key in the four digits of the chosen code, followed by **[ENTER]**.

Example: To create the Installer Keypad Programming code 9999, in programming mode, press **[2] [6], [9] [9] [9] [9]**, followed by **[ENTER]**. The Installer Keypad Programming code is now 9999.

Address 28 LCD Contrast Adjustment

At this address, the display reads "Contrast Adj.00". Press the **[+]** or **[-]** keys to increase or decrease the contrast level as required. When the desired contrast level is reached, press **[ENTER]**. (The maximum contrast level is "00", and on keypad reset, the level always reverts to "00".)

Address 29 LCD Backlight Adjustment

At this address, the first time the keypad is programmed, the display reads "Backlite Adj.00". Press the **[+]** key. The display will now read "Backlite Adj.01". Each time the **[+]** key is pressed, the number in the display will change, and the display illumination level will increase. The maximum numeric reading is "07", and at this point the maximum illumination is achieved. When the desired illumination level is reached, press **[ENTER]**.

Address 30 Chime Zone Selection/Keypad Mute

At address 30, the LCD message alternates between "CHIME ZONES 1-12, 2ND, TRBL" and "MUTE: ACTIVATED (OR DEACTIVATED) PRESS BYP". These two messages alternate every 2 seconds. Up to 12 zones of the Esprit 640 keypad can be programmed as "chime" zones. Any or all zones of Esprit **718**, **728L**, **728** and **738** control panels can be programmed as "chime" zones. On the **748** and **748ES**, any or all of zones 1-12 may be programmed "chime" zones.

If the **[2ND]** key flashes, this indicates that zones 13-24 are being displayed on the keypad (Zone 13 is represented by key **[1]**, zone 14 by key **[2]**, and so on). Activity in zones 13- 24 will

cause the corresponding keys to illuminate, and chime feature for these zones will be activated. **[2ND]** key will only flash for a period of 2 minutes, so use of chime feature on zones 13-24 is not recommended. **Note:** The chime feature for zones 1-12 is not functional when the **[2ND]** key is flashing.

At Address **30**, to activate a zone's chime, press the corresponding key so that it lights. Example: If key **[3]** is lit, zone 3 (zone 15 if **[2ND]** key is flashing) is programmed as a "chime" zone.

Keypad zone chimes

The **[TRBL]** key must be illuminated for the first keypad zone's "chime" feature to be activated, and the **[2ND]** key must be pressed to activate the second keypad zone's "chime" feature.

Keypad Mute

To mute the keypad, so that no sounds will be generated by system activity unless keys are actually pressed, press **[BYP]**. "ACTIVATED" appears in the LCD "Mute" message. (Press **[BYP]** again to deactivate "mute" feature.)

Address 32 Keypad Options

At address 32, number of keypad zones and assignment of keypad zone numbers (1 or 2) can be selected. In addition, "keypad zone supervision" feature can be activated if required.

The desired options can be selected at address **32** by toggling "on" or "off" the necessary key(s). This message appears in the LCD display: "KEYPAD OPTIONS: "ON" = ENABLED" at address **32**.

The “on” or “off” status of keys [1], [2] and/or [3] determines which keypad options are enabled, according to the definitions found in the following table:

Key	Feature	Key light OFF	Key light ON
[1]	ATZ keypad zone doubling	<i>Disabled</i>	<i>Enabled</i>
[2]	Keypad zone shown on keypad as Kpd1/Kpd2***	<i>Kpd 1</i>	<i>Kpd 2</i>
[3]	Keypad zone supervision	<i>Disabled</i>	<i>Enabled</i>
[4]	Keypad Clock mode	<i>Refreshed by panel</i>	<i>Stand alone</i>
[5]	View Event List mode	<i>Versions prior to 2.00</i>	<i>Versions 2.XX</i>

Address 32, key [1]

KEYPAD ZONE CONNECTION

A “single” keypad zone (key [1] “off”) can be configured for N.C. and/or N.O. contacts using 1 zone resistor. (see page 20, “single keypad zone” connection diagram)

Activation of “ATZ” keypad zone doubling (key [1] “on”) reduces wiring and installation requirements by permitting connection of two distinct zones per input (loop), on the same pair of wires. Each zone can be reported separately, using different resistor values. The first keypad zone (regular zone) is identified by a **1K Ω** resistor, and the second keypad zone (doubled zone) is identified by a **2.2K Ω** resistor. (See page 21, “2 Keypad zones” connection diagram.)

Address 32, key [2]

KEYPAD ZONE DISPLAY

This key’s function is only applicable when key [1] is “off” (ATZ zone doubling is **disabled**.)

***When “zone doubling” is disabled, you can select which zone will be displayed as the keypad zone by the panel. For keypad zone assignment, refer to the table below. Activate or deactivate key [2] according to which of the two possible keypad zones should be reported and displayed as the keypad zone for the particular panel model being used.

Panel software versions prior to 2.00

Esprit panel model	Kpd 1 Key [2] “off”	Kpd 2 Key [2] “on”
718	7	8
728	7	8
728L	7	8
738	13	19
748	13	19
748ES	13	19

Panel software versions 2.XX

Esprit panel model	Kpd 1 Key [2] “off”	Kpd 2 Key [2] “on”
728 Express	5	6
728	5 (no ATZ); 9 (with ATZ)	6 (no ATZ); 10(with ATZ)
738 Express	7	8
738	7 (no ATZ); 13 (with ATZ)	8 (no ATZ); 14(with ATZ)

Address 32, key [3]

KEYPAD ZONE SUPERVISION

Key = “on”: Available only on “Series 8” control panels with software versions 1.4 onward. Enable “keypad zone supervision” on control panel (address 210, key [11] “on” for keypad zone 1, key [12] “on” for keypad zone 2) for each keypad zone to be supervised. Refer to the panel installation manual for further instructions.

Key = “off”: Disabled.

Note: When keypad zone supervision is activated, keypad zones **should not be assigned** “24 hour” definition.

Address 32, key [4] KEYPAD CLOCK MODE

Key = “on”: Keypad clock runs independently.

Key = “off”: Keypad clock is refreshed by the panel (available only on control panel software version 0.98 onward.)

Address 32, key [5] VIEW EVENT LIST MODE

Key = “off”: Event list for control panel software versions prior to 2.00.

Key = “on”: Event list for control panel software versions 2.XX.

When scrolling through the events on this list, the first event which appears is the most recent. Information displayed includes event name, event number, time and day.

In “normal” mode, pressing **[MEM]**, followed by **[ENTER]** switches the system to “view event list” mode. The display will indicate: Event/Event number/Day/Time ex: **ALARM 01A / 001 Sun :52.**

Press **[ENTER]** once to advance to next event. At the end of event list, system will revert to normal mode. To exit “view event list” mode at any time, press **[CLEAR]**. If “**DAY 00:00**” appears and the display automatically advances to the end of the event list buffer, no more events are stored in memory. Press **[CLEAR]** to exit immediately.

Important: If “timer lost” message appears in the display, the time and day indicated may not be accurate. If the time was reprogrammed following power loss, all messages displayed **before** “reset timer loss” message contain the correct time and day.

Address 34 Installer Keypad Lockout

To protect installer-programmed information in the 640 keypad from unauthorized or accidental modification, enable the “Installer Keypad Lockout” feature. When enabled, only individuals possessing the new Installer Keypad Programming code can gain access to keypad programming mode. To erase programmed information, enter programming address **34** and disable the “Installer Keypad Lockout” feature. At address **34**, the message “**KEYPAD LOCK, PRESS 1, 4, 6**” will appear in the LCD display.

“Installer Keypad Lockout” is **enabled** only when keys **[1]**, **[4]** and **[6]** are “on” (lit) at address **34**. If any other combination of lighted/ unlighted keys is entered at this address, the “Installer Keypad Lockout” feature is **disabled**.

If installer keypad lockout is disabled, installer-programmed data can be erased in the following manner:

1. Place a jumper across the two pins on the bottom left side of the back of the LCD keypad circuit board (to the left of the bottom corner of the processor chip.)
2. Disconnect keypad from its power source.
3. Restore power to the keypad.
4. Remove jumper.

The keypad will now automatically revert to factory default values, and all installer programmed information will be erased.

“Teaching” a Keypad Program to Another Keypad

Once the initial keypad in a system has been programmed, the programmed information found at addresses **01 - 25** can be “taught” to other keypads by doing the following:

- 1- Connect the special serial cable with four-pin connector to four pins located in bottom left corner of the back of the “master” or source 640 keypad. Similarly, connect the other end of the cable to the four pins on the back of the “slave” or destination 640 keypad. The “master” keypad requires no other wires at this time; the “slave” keypad should be connected to a panel.
- 2- The “slave” keypad should be in normal operating mode, not in programming mode.
- 3- Press **[ENTER]** **[INSTALLER KEYPAD CODE]** **[TRBL]** on “master” keypad.
- 4- Wait 10 seconds.

The programming information has now been “taught” to the second keypad. Disconnect the serial cable and repeat these steps as required for any additional keypads.

The **[INFO]** key

This key can be used when both the control panel and keypad are in any operating mode (except installer/ user keypad programming modes), whether the system is armed or disarmed.

When the **[INFO]** key is pressed, the LCD display will read:

“INFORMATION ON ? : PRESS A KEY”

In any mode, (exceptions noted above) pressing on the key for which additional information is required will bring up a brief explanation of the key’s function in the display. *Example:* In “trouble display” mode, pressing **[INFO]**, followed by any key from **[1]** - **[12]**, will cause a description of the trouble condition represented by that key to appear in the LCD display.

In regular mode, if the key selected is a numbered key from **[1]** to **[12]**, the description of that zone will appear in the display. For systems with more than 12 zones, the **[2ND]** key should be pressed before pressing the **[INFO]** key to view zone descriptions for zones 13-24. (Reminder: when the **[2ND]** key is pressed, **[1]** represents zone 13, **[2]** represents zone 14, and so on.)

“One key access” panel programming mode:

The **[INFO]** key can also be used to view a description of several of the functions of “one-key access” programming keys. To view these descriptions, press **[ENTER]**, followed by installer, master or user code 1. The keypad is now in “key access programming” mode.

Press **[INFO]** for a brief explanation of **[MEM]**, **[BYP]**, **[TRBL]**, **[AWAY]** and **[STAY]** key functions (listed below). After viewing explanations, to access these functions, press **[CLEAR]**, followed by the required key(s). (For a full explanation of “key access programming”, please refer to the “Installation manual.”)

- [MEM]** *Panel time and clear "trouble 8"* (all 3 codes)
Key **[MEM]** flashes.^② Enter two digits (00 to 23) for hours + 2 digits (00 to 59) for minutes. (Press **[ENTER]**.)^①
- [BYP]** *Test report* (all 3 codes)
Reporting is enabled at address **206** keys **[11]**, **[12]**. A value must be entered at address **175**, and both telephone and account numbers must be programmed.
- [TRBL]** *Call Espload via telephone* (all 3 codes)
Panel and PC ID numbers (addresses **001-004**) and PC download phone number (addresses **060-067**) must be programmed.
- [AWAY]** *Answer Espload* (all 3 codes)
This feature is available when using the ADP-1 adapter. In Espload, "blind dial" must be activated in "modem setup" section, and panel phone number programmed (works also without ADP-1).
- [STAY]** *Cancel communication attempts*
(master code and user 1 can only stop calls from/to Espload), (installer code - all communications)
- [STAY]** *Reset to default panel settings* (installer code only)
(This feature is available only on control panel software versions prior to 2.00.) Connect reset jumper. Press **[ENTER]** and installer code, followed by **[STAY]**. Remove reset jumper.

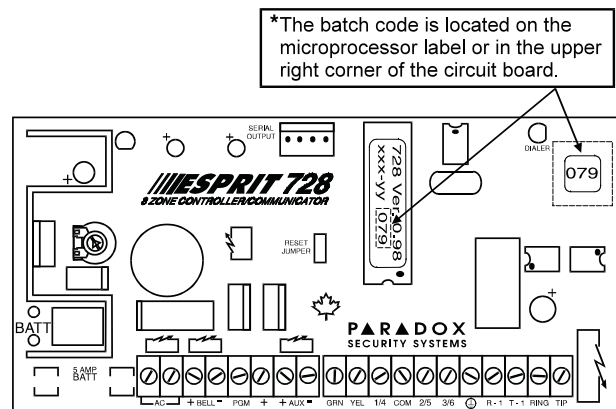
^① Control panel software versions prior to 2.00.

^② Control panel software versions 2.00 and beyond.

Power supply failure

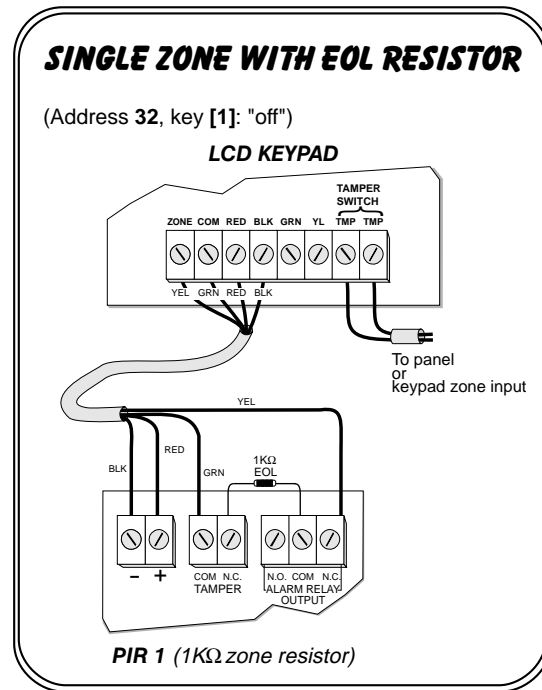
If **[TRBL]** key flashes in "normal" mode, this indicates a "power supply failure". Display will alternate between :**SYSTEM TROUBLE** / **POWER SUPPLY** and the system "status" message.

Note: On control panel software versions 0.98 onward, trouble "memory" mode is no longer available (Flashing **[TRBL]** key indicates the presence of **active** trouble conditions.)



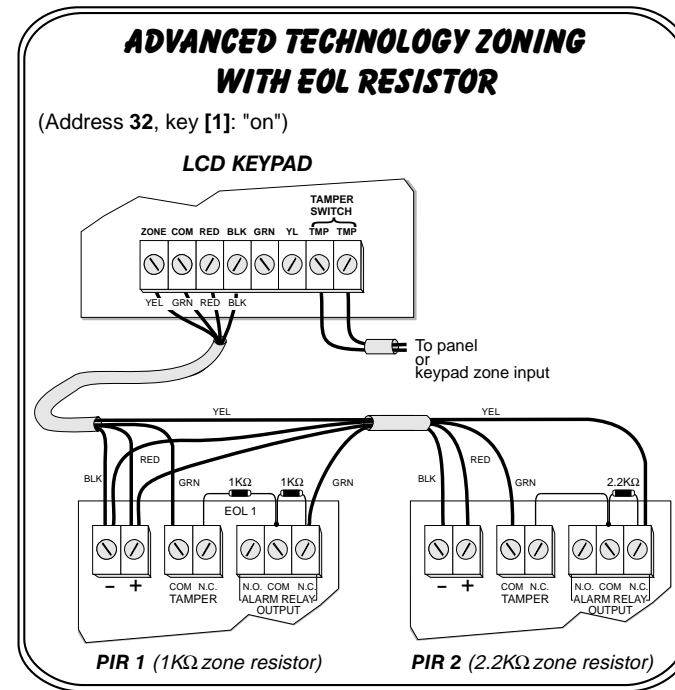
The Esprit Model 640 LCD Keypad is compatible with all Esprit Series 8 control panels batch code **079** onward.

CONNECTION DIAGRAM (SINGLE KEYPAD ZONE)



20

CONNECTION DIAGRAM (TWO KEYPAD ZONES)



21

ASCII Table sxyz {}

To enter any of the characters found in the table below in the LCD display, while in ASCII mode (key **[12]**), type the three digit code corresponding to the required character.

032	Ø	ð	P	`	p	Û	Ê	a	§	Ø	•
033	!	1	A	Q	a	q	Û	Ê	î	±	ℓ
034	"	2	B	R	b	r	Ü	Ë	ï	⊗	°
035	#	3	C	S	c	s	Ü	Ë	í	↑	ß
036	\$	4	D	T	d	t	û	ê	ï	↓	ç
037	%	5	E	U	e	u	ù	è	ì	↵	®
038	&	6	F	V	f	v	ú	é	ñ	ƒ	¤
039	'	7	G	W	g	w	ô	ë	ñ	£	©
040	(	8	H	X	h	x	ò	À	Ñ	→	μ
041	)	9	I	Y	i	y	ó	Á	⚡	⚡	∞
042	*	:	J	Z	j	z	â	à	g	†	ÿ
043	+	;	K	[	k	{	ô	â	v	↓	À
044	,	<	L	¥	l	|	ò	à	¥	¶	¢
045	-	=	M	]	m	}	ó	á	W	½	ã
046	•	>	N	^	n	→	ö	ä	W	⅓	ö
047	/	?	O	_	o	←	ç	Ä	Æ	¼	ð

IMPORTANT

This security system should undergo frequent testing. However, despite regular testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

WARRANTY

Warranty conditions for the Esprit may vary from country to country. Please consult your local dealer for complete warranty information. In all cases, the warranty does not cover malfunctions arising from installer error or failure to follow installation/operation instructions, nor does it apply to damages due to causes beyond the control of Paradox Security Systems, such as lightning, excessive voltage, mechanical shock or water damage.

LIABILITY

Under no circumstances shall Paradox Security Systems be held liable for any direct or indirect damages, loss of anticipated profits, loss of time or any other losses incurred by the buyer in connection with the purchase, installation, operation or failure of this product.

Look for  and  marks on products. Only products bearing those marks are UL and ULC listed.