



USER'S MANUAL



ARIZONA SUN

MODEL PL-AS8014

MODEL PL-AS1214

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INTRODUCTION

After 12 years and hundreds of thousand of dollars, Pro-Lite has overcome the biggest obstacles of LED outdoor sign: the brightness and the viewing angle, the ArizonaSun is by far, the brightest LED sign that is available. Pro-Lite guarantees that the ArizonaSun will be CLEARLY VISIBLE under direct sun light in Arizona at 12:00 noon. The ArizonaSun is also the least expensive sign to operate and maintain. It consumes 19 times less electricity than traditional light bulbs and requires virtually no maintenance for 10 years.

You will find that the ArizonaSun has a wide variety of applications. These applications range from sales displays and information counters to even use as a large digital clock. The ArizonaSun is an effective way of attracting people to all kinds of sales displays. Just use your imagination and you will certainly find your ArizonaSun an exceptionally effective medium for all kinds of promotional activities.

INFRARED REMOTE CONTROL KEYBOARD

The ArizonaSun come with a hand-held detachable keyboard for programming message. Before you being to program messages, you had better recognize the different sets of keys on the keyboard. There are three sets of keys: Controls, Character, and Command Keys.

	OPEN←	OPEN→	OPEN↑	OPEN↓	OPEN↔	OPEN→←	
	A	B	C	D	E	F	
Shift Button	SHIFT←	SHIFT→	SCRA↑	SCRA↓	APPEAR	JUMPON	Command Keys
	G	H	I	J	K	L	
	WIPE←	WIPE→	WIPE↑	WIPE↓	WIPE↔	WIPE→←	
	M	N	O	P	Q	R	
	ROTA↑	ROTA↓	SCRD↑	SCRD↓	CLEAR	PAUSE	
	S	T	U	V	W	X	
	FAT	FLASH	SPEED	CLOCK	HALT	END	
	Y	Z	(<	>)	[()]	
	@	#	\$	&	"	'	
	•	.	:	;	!	?	
		-	^	\	~	`	
	1	2	3	4	5	%	
	+	-	*	/	=	→	
Control Keys	6	7	8	9	0	←	
	PROG	ESC	↑	DATE	GRAPH		
	RUN	DEL	←	LOCL	ALT	SPACE	
	STOP		↓				
			→				

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A. CONTROL KEYS

CONTROL KEYS allow you to program message and move your message across the display for editing. CONTROL KEYS are used to be gin programming a message and to end programming a message. SHIFT button is one of the CONTROL KEYS, SHIFT button located at left-hand up corner of the keyboard.

B. CHARACTER KEYS

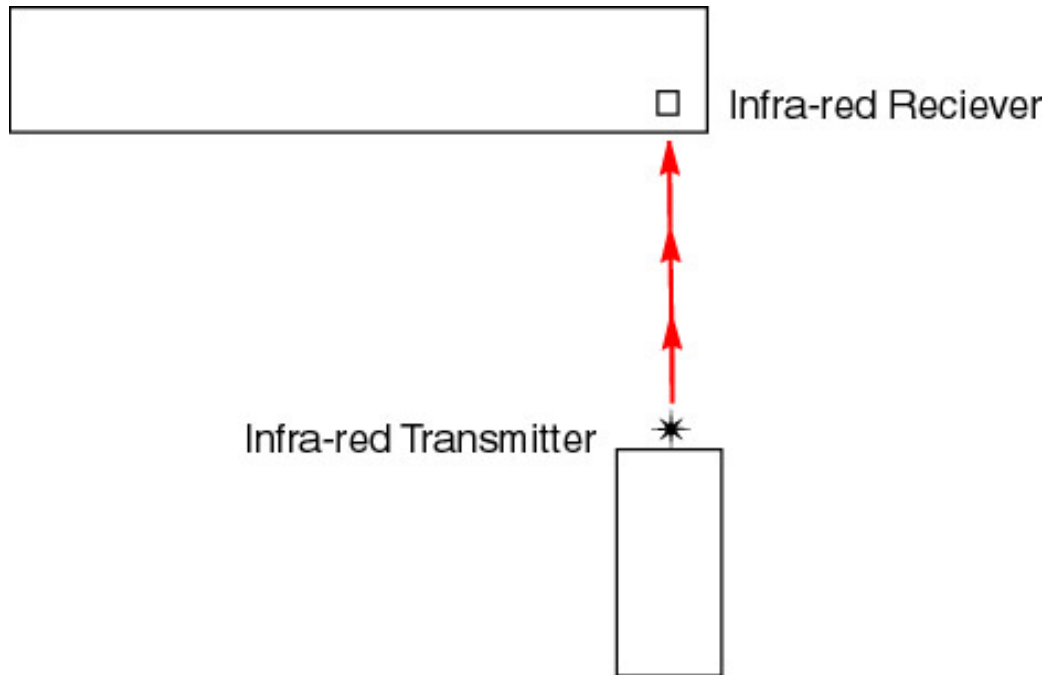
CHARACTER KEYS include numerals, letters of the alphabet, and symbols. CHARACTER KEYS are used to enter messages on the display.

C. COMMAND KEYS

COMMAND KEYS allows you to give commands to the moving message and enter display functions to change the appearance of your message. COMMAND KEYS include the five rows in the keyboard.

The wireless, hand-held remote control keyboard is a very sensitive infrared device, please press a key with a duration that within or less than 2/3 second. Otherwise, you may transmit double or multiple commands to the display by a longer press-duration on the same key.

Remember, you have to point the infrared transmitter of keyboard to the infrared receiver of the display in a straight line. Otherwise, you may lose control.



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PROGRAMMING THE ARIZONASUN

Starting The ArizonaSun

Whenever you turn on power or re-plug The ArizonaSun to the power source, you have to press SHIFT button and LOCK key simultaneously to stop the automatic running message. Otherwise, the ArizonaSun display keeps on running messages automatically, and will not be controlled by the remote keyboard.

[Procedures]

1. Turn on the Power or Re-Plug the ArizonaSun to the power source.
2. A default message will start to run.
3. Press [SHIFT] button and [LOCK] key simultaneously.
4. Make sure the running message has come to a stop.
5. Press [Run/Stop] key to resume display animation.

Programming Simple Message

At this point, the ArizonaSun display should be running default message. Follow the following procedures to program a simple message to the display.

[Procedures]

1. Press [Run/Stop] key to pause the running message.
2. Press [PROG] key.
3. A **<START>** message will be displayed. This is where you can start entering message to the ArizonaSun.
4. Use the Character Keys, and enter a brief message. (Example: WELCOME)
5. You should see the following on the display: **<START> WELCOME**
6. After you are done inputting the message, click [ALT] key and then the [End] key.
7. The display should read **<START> WELCOME <END>**
8. Press [Run/Stop] key to resume the display animation.
9. The message **WELCOME** will move across the display from left to right.

Editing Messages

To edit a message that has already been programmed, for example, from **WELCOME** to **WELCOME TO PRO-LITE**. We will be using the CONTROL KEYS and CHARACTER KEYS on the keyboard.

[Procedures]

1. Press [Run/Stop] to stop the running display.
2. Press [PROG] key and the display should read: **<START>**
3. Press the [→] key to move forward.
4. Continue to press the [→] key until **WELCOME** appears on the display.
5. Make sure the character **E** is at the right-edge of the display before you start to add new character/text to the message. On your remote keyboard, press [Space], then enter **TO**.

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6. The display should read: **<START>WELCOME TO**
7. Continue to use the keyboard (character keys) and finish the rest of the message. After all the message have been entered, press [Alt] and then [End] key.
8. The display should read: **<START> WELCOME TO PRO-LITE <END>**
9. Press [Run/Stop] key to resume display animation.

Note:

Press [ESC] key and then [→] to go directly to the <END>

Press [ESC] key and then [←] to return to <START>

Delete Characters and Inserting Symbols

If you want to change the message from **WELCOME TO PRO-LITE** to **WELCOME TO +++ARIZONASUN+++** then you will need to use the [Del] key.

[Procedures]

1. Press [Run/Stop] to stop the running display. Then press the [PROG] key to enter message-editing mode.
2. Press the [→] key continuously until you are at the edge of the last text of the message.
3. Press the [Del] key to delete and continue to press [Del] key until **PRO-LITE** has been cleared away.
4. Press the [SHIFT] key and then the [6] key three times. The display should read: **+++**
5. Use the character keys and enter: **ARIZONASUN**
6. Press the [SHIFT] key again and then the [6] key three times.
7. The entire message should read: **WELCOME TO +++ARIZONASUN+++**
8. Press [Alt] key and then the [End] key to finish the programming.
9. Press [Run/Stop] key to resume display animation.

Setting Password to Prevent Unauthorized Access to Display

The ArizonaSun has the security function that allows the user to assign a certain password. Any unauthorized user will not be able to change/update the message program without the password.

[Procedures]

1. Press [Run/Stop] to stop the running display. Then press the [PROG] key to enter message-editing mode.
2. Press the [LOCK] key and the display will read: **LOCK-XXXX** (The XXXX are present lock code of your display. Keep it, or change to your preferred lock code number.)
3. Press four numeric numbers, for example, 6,7,8,9 and then your display appears **LOCK-6789**. Press [Run/Stop] key to store the new numeric lock code.

If you already have a lock code assigned, and would like to edit/update the message, follow the following procedure:

[Procedures]

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1. Press the [LOCK] key.
2. Press the [Run/Stop] key - The running display won't be controlled. (Normally, the message will stop running, but in this case, you lose the control)
3. Press the [LOCK] key and followed by the numeric code. The message should stop running, and the display is under control again.
4. ArizonaSun remains unlocked until the [LOCK] key is pressed again.
5. Press [LOCK] key to resume the display animation.

ADDING DISPLAY FUNCTIONS TO THE MESSAGE

The ArizonaSun includes the function that allows the user to be creative in how the message will be displayed. The display functions allows you to:

- Enlarge characters
- Make message flash on and off
- Choose the speed of messages
- Choose direction of messages
- Stop messages
- Make message scroll on and off the screen

Adding Enlarge and Flash Character

The FAT command enlarges characters and FLASH command makes characters or entire message flash on and off. Both commands shall be entered before characters and entered at the last position of the messages to terminate them.

Press [Alt] key and then the [FAT] key. The display will appear <FAT>

Press [Alt] key and then the [FLASH] key. The display will appear <FLASH>

[Procedures]

1. Press [Run/Stop] key and then the [PROG] key to enter editing mode.
2. Press [Alt] key and then the [FAT] key.
3. Use the character keys and enter messages. (For example: ARIZONASUN)
4. Press [Alt] key and then the [FAT] key to terminate the FAT command.
5. The display should read: **<FAT> ARIZONASUN <FAT>**

Note: The same procedures can be applied to adding the FLASH command to the message.

Setting the Speed of the Message

[Procedures]

1. Press [Run/Stop] key and then the [PROG] key to enter editing mode.
2. Press the [Alt] and then the [SPEED] key.
3. The display should read: **<START> <SPEED>**
4. Enter the number '3'

5. Enter your message
6. Press [Alt] and then the [End] key to terminate programming.
7. Press [Run/Stop] key to resume display animation.

Note: There are five options for selection of speed. Enter key 1 or key 2 or key 3 or key 4 or key 5 to set the speed. Speed 5 is the highest speed and speed 1 is lowest speed. Normal is 3.

Stopping the Message

To allow a message to stop on the display, you will have to use the HALT key.

[Procedures]

1. Press [Run/Stop] and then the [PROG] key to start editing the message.
2. Enter the message using the character keys.
3. Press [Alt] and then the [HALT] key. Make sure you see a <HALT> right after your message.
4. Press [Alt] and then the [End] key to terminate programming.
5. Press [Run/Stop] key to resume display animation.

Note: The message on the display will remain stopped until any key on the remote keyboard is pressed.

Changing the Direction of the Moving Message

Motion and direction of moving messages can be changed by using the COMMAND keys. Below is a list of commands that you can use to make your message more dynamic.

Leading Commands – They have to be entered before the message.

[Alt] + OPEN←	Message opens from right to left.
[Alt] + OPEN→	Message opens from left to right.
[Alt] + OPEN↑	Message opens from bottom to top.
[Alt] + OPEN↓	Message opens from top to bottom.
[Alt] + OPEN↔	Message opens from center and move toward both sides simultaneously.
[Alt] + OPEN↔←	Message opens from both sides simultaneously and move toward the center.
[Alt] + SHIFT←	Message moves from right to left.
[Alt] + SHIFT→	Message moves from left to right.
[Alt] + SCRA↑	Message scrolls from bottom to top.
[Alt] + SCRA↓	Message scrolls from top to bottom.
[Alt] + APPEAR	Message appears simultaneously.
[Alt] + JUMPON	Characters in the message jump onto the display one by one from left to right.

Tail Commands – Enter the message and followed by the tail command.

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[Alt] + WIPE←	Message is cleared from right to left.
[Alt] + WIPE→	Message is cleared from left to right.
[Alt] + WIPE↑	Message is cleared from bottom to top.
[Alt] + WIPE↓	Message is cleared from top to bottom.
[Alt] + WIPE↔	Message is cleared from center to both sides simultaneously.
[Alt] + WIPE→←	Message is cleared from both sides to center simultaneously.
[Alt] + ROT↑	Message rotates upward once.
[Alt] + ROT↓	Message rotates downward once.
[Alt] + SCRD↑	Message scrolls from bottom to top.
[Alt] + SCRD↓	Message scrolls from top to bottom.
[Alt] + [CLEAR]	Message clears/disappears.
[Alt] + [PAUSE]	Message pauses for approx. 0.5 seconds. (Length of pause depends on the speed, which the message is set.)

Displaying Lower Case Characters and European Language Characters

By Pressing the [SHIFT] button and a character key simultaneously, you will be able to insert lower case character onto your display.

To display European language characters, press GRAPH key and a character key each time to get the required European language character. The chart below displays the location of the characters in contrast to the remote keyboard. (There should be a similar chart on the reverse side of the remote keyboard for you to refer to)

	ß	Ç	Ş	É	£
Å	θ	Ø	ì	è	Æ
ä	ò	Ö	ö	é	æ
â	Ù	Ü	ü	α	°
à	å	Γ	Δ	Ñ	ñ
θ	^	≡	Π	ı	ı
Σ	Φ	Ψ	Ω	φ	pt
PROG	ESC			GRAPH	
Run/Stop	DEL				

How to Set the Clock

The ArizonaSun also has the function to display the current time. Follow the procedures below to set the clock:

[Procedures]

1. Press [Run/Stop] and then the [ESC] key.
2. The display should read: **GRA, DT, CK, TM?** (Graphics, Date, Clock or Timer?)
3. Press [Alt] and then [CLOCK] key. The 6 digital clock will appear on the display, and the first digit on the left-hand side is flashing. The clock is in a format of hour-minute- seconds.
4. Press the numerical key to choose the number you want. Input each individual numbers to set up the current time.
5. Use the DIRECTION KEY [→] or [←] to move the inserting point to any digit to change number if there's a mistake been made on the clock.
6. Press [Run/Stop] to finish and store the clock made in the display. The display will appear previous messages.

The next procedures will show you how to insert the current time into your messages:

[Procedures]

1. Press [Run/Stop] and [PROG] key. **<START>**
2. Press [Alt] and then the [CLOCK] key. **<START><CLOCK>**
3. Press [Alt] and [End] key. **<START><CLOCK><END>**
4. Press [Run/Stop] key to resume display animation.

Note: You can set the clock function to be a 12-hour mode or a 24-hour mode. After setting the clock digits, press [ESC] key once or twice to choose the 12/24-hour mode. Then, Press [CLOCK] key to return to the CLOCK mode or press [Run/Stop] to resume display animation.

How to Set the Date

The procedure of setting the Date is similar to Clock mode.

[Procedures]

1. Press [Run/Stop] and then the [ESC] key. **GRA, DT, CK TM?**
2. Press the [DATE] key to enter the Date editing mode.
3. The Date format is as followed: Day-Month-Date-Year.
4. Press [↑] or [↓] key to choose a day name.
5. Press [→] key to move to month.
6. Press [↑] or [↓] key to choose a month.
7. Press [→] key to the Date selection. Use the numeric key to enter the number of current date.
8. Follow the previous steps to set the Year.
9. For correction, use the [→] or [←] key to move to the location of the error. Use the numeric key to insert the correction.
10. Press [Run/Stop] key to resume display animation.

Inserting the Date in the message follows the same procedures as inserting the time.

[Procedures]

1. Press [Run/Stop] and then the [PROG] key to enter Editing mode. **<START>**
2. Press [DATE] key. **<START><DATE>**
3. Press [Alt] and then the [End] key. **<START><DATE><END>**
4. Press [Run/Stop] key to resume display animation.

How to Set the Timer

There are 8 timers to be preset to run different section at different time. When the time is met the time of the built-in clock, the display will stop running the current message. It will automatically change to run the message of the preset section.

[Procedures]

1. Press [Run/Stop] and then the [ESC] key. The display will read: **GRA, DT CK TM?**
2. Press the [SPACE] key; The display will read: **TIMER1 00:00-0** (00:00 is the time you can set – 0 is the number of section you can set)
3. Press any numeric key to enter the numbers to set the time.
4. Use the [→] or [←] key to change position of the insertion point if needed.
5. Press the [] or [] key to set up a second Timer.
6. Press [ESC] key once or twice to make sure the display reads: **TIMER ON.**
7. Press [Run/Stop] key to resume display animation.

Note:

1. When you are setting a timer, you can press [CLOCK] key to check and/or set the present time of your display. After your time checking, press [SPACE] key again to return to TIMER mode.
2. Whenever you turn power on or re-plug to power source, the TIMER function doesn't have function until you entered the TIMER SETTING mode and set a new Timer.
Timer only can be used in 24-hour mode.
If you set a timer with the section number of '0' – The display will not display anything. The t
5. Because the HALT command is an endless command and will halt the operation until a key is pressed on the remote keyboard. Therefore, don't use HALT command in the messages which you may apply a timer function.

Setting the Temperature

The ArizonaSun is an outdoor waterproof electronic sign display. Each of the LED pixel is composed of 14 pieces of LEDs. It comes with the function where it can detect the current temperature of its environment.

[Procedures]

1. Press [Run/Stop] and then the [PROG] to enter the Editing mode.

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- For Celsius Temperature- Press [Alt] then the [] key and the display will read: **<START> <T-C>**
- For Fahrenheit Temperature- Press [Alt] then the [] key and the display will read: **<START> <T-F>**
- Press [Alt] and then [End] key to finish programming.
- Press [Run/Stop] to resume display animation.

Sectioned Display

You can use END command to separate message into several sections.
For example, enter the Editing mode ([Run/Stop] + [PROG]) and type the following program:

WELCOME TO ARIZONASUN <END> THE SIGN WORKS GREATE <END>

In this program, there are two sections; each section is defined by <END> command, which is located at the final position of the message.

Creating Graphic Images

One of the ArizonaSun's unique feature is the ability to create graphic images to be displayed.

To create the graphic, follow the procedure:

- Press [Run/Stop] and then the [ESC] key.
- The display will read: GRA, DT, CK TM?
- Press [GRAPH] key and a list of graphic will appear.
- Press the [SHIFT] button and the [A] key simultaneously. The far left graphic will flash.
- At this point, you can edit how the graphic will appear by using your remote keyboard.
- Refer the following chart to see how to edit the graphic with the character keys:

OPEN←	OPEN→	OPEN↑	OPEN↓	OPEN↔	OPEN→←
A	B	C	D	E	F
SHIFT←	SHIFT→	SCRA↑	SCRA↓	APPEAR	JUMPON
G	H	I	J	K	L
WIPE←	WIPE→	WIPE↑	WIPE↓	WIPE↔	WIPE→←
M	N	O	P	Q	R
ROTA↑	ROTA↓	SCRD↑	SCRD↓	CLEAR	PAUSE
S	T	U	V	W	X
FAT	FLASH	SPEED	CLOCK	HALT	END
Y	Z	(<)>	{	}
@	#	\$	&	"	'
•	.	:	;	!	?
	-	^	\	~	`
1	2	3	4	5	%

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Each graphic is composed of 42 points; they are in a format of 7 rows and 6 columns. The [A] key represents the first point of the first row and also the first point of the first column. The [%] key represents the 7th point of the 7th row and also the 7th point of the 7th column.

7. Press any key in the above chart once or twice to get the corresponding position's LED lit or extinguished. Continue this process to have your own graphic.
8. Press [SHIFT] and the [B] key simultaneously, the 2nd graphic will flash and has become editable.
9. Press [Run/Stop] key to resume the display animation.

Inserting graphics:

1. Press [Run/Stop] and then the [PROG] key to enter the editing mode.
2. Press [GRAPH] key.
3. Press [SHIFT] and the [B] key simultaneously. The second graphic that is stored in the memory will appear.
4. Press [Alt] and then the [End] key.
5. Press [Run/Stop] to resume the display animation.

Note: See Sample Graphics (page. 15)

Erasing All Message

To erase all messages in The ArizonaSun:

[Procedures]

1. Press [Run/Stop] and then the [PROG] key to enter editing mode.
2. Press the [ESC] key.
3. Press the [DEL] key and the display will read: **ALL CLEAR? Y/N.**
4. Press the [Y] key will erase all messages from the display's memory.
5. Press the [N] key will return to the editing mode.

Checking the Version Number

You can identify your display's version by checking the serial number label with is located at the reverse of the display. You can also check the version umber of the software in the display by following the procedures:

[Procedures]

1. Press [Run/Stop] and [PROG] key to enter editing mode.
2. Press [SHIFT] key.
3. Press [PROG] key and the display will read **VER 2.1** or **VER 2.2** or any other version numbers.
4. Press [Run/Stop] to resume display animation.

Memory Loader

Memory Loader lets you store and transfer messages from one moving message display to another. Please follow the procedures below:

[Procedures]

1. Insert the plug of Memory Loader to the display's socket that is lower than power switch. Either the red LED or green LED of Memory Loader flashes.
2. Press the [Run/Stop] and then the [PROG] key to enter editing mode.
3. Press [GRAPH] key.
4. Press the [PROG] key again, the display should read: **MEMORY LOADER**
5. If you want to transmit the message of Memory Loader to the display, please move the switch of memory Loader to left side where a red LED is on a forward arrow. Then press the [START] button of the Memory Loader.
6. The display will become dark, and the red LED on the Memory Loader emits. After the message has been transferred, the display will run the previous message and then red LED will flash.
7. If you want to absorb the message from the display, please operate the above process (1 – 5) and move the switch of the Memory Loader to the right side where a green LED is on a backward arrow. Then press the [START] button.
8. The display will become dark and then green LED of the Memory Loader emits. After the message has been transferred, the display will display the previous message and the green LED will flash again.
9. Press [SHIFT] button and the [Alt] key simultaneously to resume display animation.

Note: If you press the [START] button on the Memory Loader by mistake, either the red or the green LED slightly emits. Please remove the plug of the Memory Loader and re-plug to operate your message transfer again.

Car Adaptor

The Car Adaptor is specially designed to allow you to display message from your car's back window.

Plug the Car Adaptor into your car's dashboard and then 12-foot cord will reach anywhere within the car's interior.

Application Software for Personal Computer

The ArizonaSun has a built-in RS-232 port and can communicate with the IBM compatible personal computer. A software that is designed for the programming of The ArizonaSun will allow you to control the message of the display from your computer. You can also use this software for controlling display with remote personal computer via a modem system. The software can be purchased from the manufacturer.

Setting the Baud Rate

Baud rate is the number of bites transmitted per second in a serial data transmission system. If you have our personal computer software and you want to control the display by your personal computer, you have to check the baud rate of RS-232 port that built in your personal computer. Baud rate of your personal computer must be as the same as The ArizonaSun.

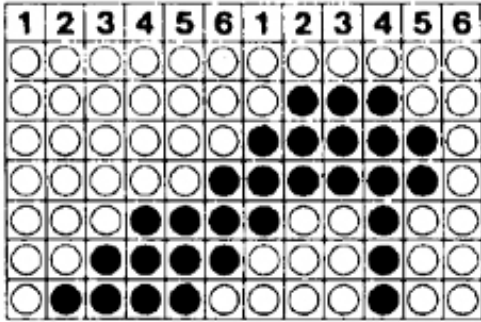
To adjust the baud rate of the display:

[Procedures]

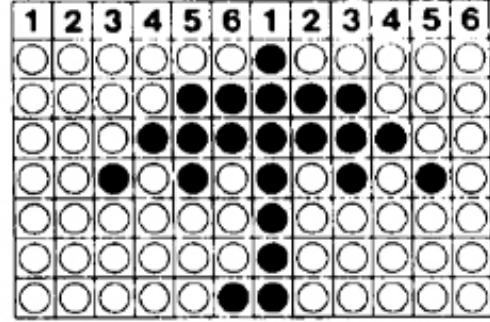
1. Press [Run/Stop] and then the [PROG] key to enter editing mode.
2. Press [GRAPH] key.
3. Press the [ESC] key and the display will read: Baud Rate – 9600.
4. Press the [↑] or [↓] key to adjust the number. (There are four choices: 9600, 4800, 2400, 1200)
5. Press [Run/Stop] to let the resume the display animation.

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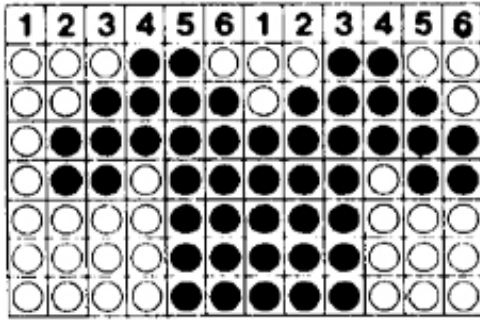
SAMPLE GRAPHICS



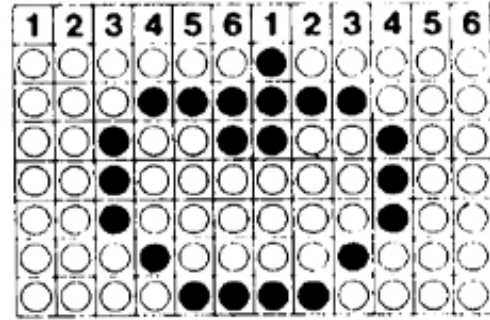
HIGH-HEELED



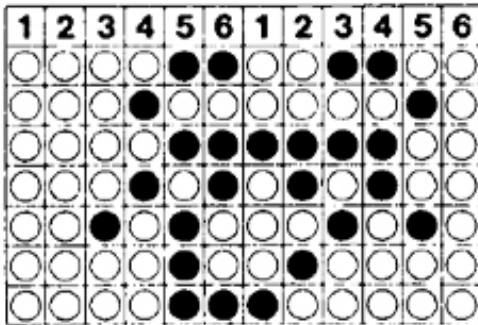
UMBRELLA



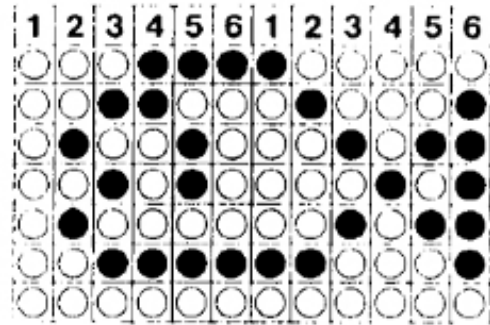
T-SHIRT



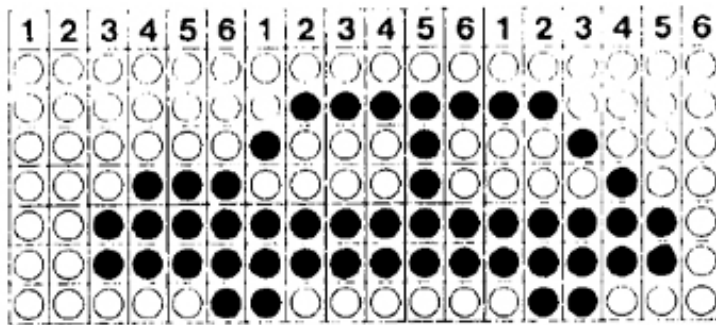
APPLE



COW



FISH



CAR

ARIZONA SUN

Contact Information

Pro-Lite, Inc.
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Costa Mesa, California 92626

Technical Support

<http://www.pro-lite.com/support>