LΩGIC™ 16X36

Quick Reference Guide

ILUMINARC®

About this Guide	The LΩGIC ™ 16X36 Quick Reference Guide (QRG) only contains the product's connection and mounting information, as well as the menu options and the DMX values.

Disclaimer	This QRG does not replace the product's User Manual. You must download the corresponding User Manual from the ILUMINARC® Web site (www.iluminarc.com) to learn about the disclaimers, safety notes, programming modes, and technical information.

Safety Notes

· DO NOT open this product unless instructed. It contains no user serviceable parts.
· DO NOT look at the light source when the LΩGIC™ products are on.
· DO NOT touch the LΩGIC™ controller or products while operating because they may be hot.
· DO NOT cover the ventilation slots when this product is operating to avoid internal overheating.
· DO NOT leave any flammable material within 50 cm from the LΩGIC™ controller or products while connected to the power outlet to minimize the risk of fire.
· DO NOT mount this product overhead without using a safety cable.
· DO NOT operate this product or any LΩGIC™ product in any location where dust, excessive heat, water, or humidity may affect them.
· DO NOT operate this product or any LΩGIC™ product if you see damage on the housing, lenses, or cables. In such case, have the damaged parts replaced by an authorized technician at once.
· DO NOT connect this product to a dimmer or rheostat.
· ONLY connect this product to a grounded and protected circuit.

What Is Included

· One LΩGIC™ 16X36
· One RJ-45 to 3-pin DMX male adapter (input)
· One RJ-45 to 3-pin DMX female adapter (output)
· Sixteen (16) RJ-45 couplers
· One Warranty Card
· One Quick Reference Guide

Features   1, 2, 3, 4, 6, 9, or 48-channel DMX control

Operating modes:

> 1-channel: RGB, dimmer (no individual RGB adjustments)
>
> 3-channel: RGB control (individual RGB adjustments)
>
> 4-channel: RGB control, dimmer
>
> 6-channel: RGB control, dimmer, color macro, strobe
>
> 9-channel: RGB control, dimmer, color macro, strobe, auto
>> + custom, auto speed, zone selection
>
> 48-channel: RGB control, line control

- · 16 output lines
- · RGB color mixing with or without DMX control
- · Automated and customizable programs
- · Recall auto and custom programs via master/slave or DMX

Additional Features

- · Master/Slave (RJ-45)
- · Static Playing
- · RGB and white color calibration
- · Schedule playback with time clock functions
- · LCD display with password protection
- ·

AC Power

The LΩGIC™ 16X36 has an auto-ranging power supply that can work with an input voltage range of 100~240 VAC, 50/60 Hz.

Make sure that you are connecting this product to the proper voltage, as per the specifications in this guide, the product's User Manual, or on the product's sticker.

AC Plug

The LΩGIC™ 16X36 comes with a power input cord that enters through a strain relief boot that is then hardwired to the inside of the unit. The other end of the power cord is bare-ended. Please use the table below to wire the new plug.

Connection	Wire (US)	Screw Color (US)	Wire (Europe)
AC Live	Black	Yellow or Brass	Brown
AC Neutral	White	Silver or Gray	Blue
AC Ground	Green/Yellow	Green	Green/Yellow

Fuse Replacement

1) Disconnect the product from the power outlet.
2) With a Phillips #2 head screwdriver, unscrew the fuse holder cap from its housing.
3) Remove the blown fuse and replace it with a good fuse of the same type and rating (F 10 A, 250 V).
4) Screw the fuse holder cap back in its place and reconnect power.

Mounting

Before mounting this product, read the safety notes at the beginning of the LΩGIC™ 16X36 User Manual and follow the mounting procedures indicated in it.

The LΩGIC™ 16X36 consists of a single unit with 4 mounting points. ILUMINARC® recommends following the general guidelines below when mounting the LΩGIC™ 16X36.

When selecting an installation location, consider ease of access to the unit for operation, programming adjustments, and routine maintenance.

Never mount the unit in places where rain, high humidity, extreme temperature changes, or restricted ventilation may affect it.

Make sure that the location where you are mounting the unit can support its weight. Please see the *Technical Specifications* section of the User Manual for the weight requirement of this unit.

Use four screws to attach the unit to a flat, dry surface. Make sure that you can access the unit for maintenance and programming.
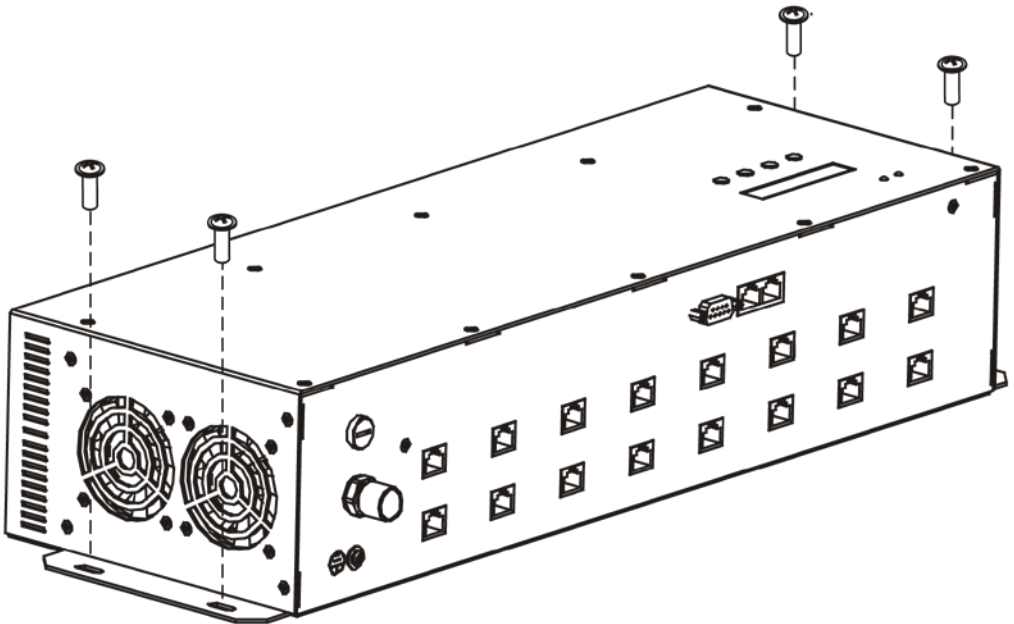
CAT5 Linking

The LΩGIC™ 16X36 controller uses a signal patch implemented with a CAT5/6 cable to link to other LΩGIC™ 16X36 controllers (see *Cable Connections*).

To use this product in Master/Slave mode, you must connect the master and slave LΩGIC™ 16X36 controller using the CAT5 link.

DMX Linking

Each LΩGIC™ 16X36 controller comes with a pair of RJ-45 to XLR 3 adapters for connection to a DMX universe (DMX controller and other DMX products linked with a DMX connection). See *Cable Connections* for a detailed pin out diagram.

LΩGIC™ Fixture Connectivity

Each LΩGIC™ product comes with a CAT5 cable to link it to the LΩGIC™ 16X36 controller. You can connect the product directly to any of the 16 output lines of the LΩGIC™ 16X36 controller, or you could make an extension to install the LΩGIC™ product at a farther location.

In this case, you can use an RJ-45 coupler or an RJ-45 splitter to connect the LΩGIC™ product to the extension cable. See *Fixture Connection Diagram* for more details.

Splitter

Each LΩGIC™ product comes with an RJ-45 splitter to allow the connection of two products to a single LED output port of the LΩGIC™ 16X36 controller. You can use more than one splitter on a single LED output as long as you respect the maximum load of 36 LEDs (12 LEDs per color). See *Maximum Output Line Loading* for more details.
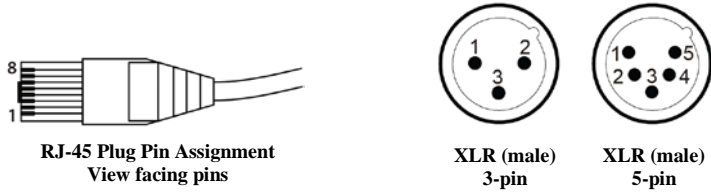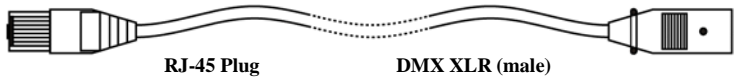
RJ-45 Terminator

To make an RJ-45 terminator, connect 120 ohms, ¼ W resistor between pins 6 (green/white) and 7 (white/brown) of an RJ-45 plug.

Insert the terminator into the DMX Out RJ-45 jack of the last LΩGIC™ 16X36 controller, as shown in *Product Connection Diagram*.

Cable Connections

**DMX to RJ-45 adapter**: Used to link a DMX controller to the LΩGIC™ 16X36

RJ-45 Plug　　　　**DMX XLR (male)**

**RJ-45 Plug Pin Assignment
View facing pins**

**XLR (male)
3-pin**　　**XLR (male)
5-pin**

RJ-45 Plug	3-pin XLR Male	5-pin XLR Male
Pin 1: Not Used		
Pin 2: Not Used		
Pin 3: Not Used		
Pin 4: Not Used		Pin 4: Not Used
Pin 5: **+5 V**		Pin 5: Not Used
Pin 6: **Data +**	Pin 3: **Data +**	Pin 3: **Data +**
Pin 7: **Data -**	Pin 2: **Data -**	Pin 2: **Data -**
Pin 8: **GND**	Pin 1: **GND**	Pin 1: **GND**

Signal Patch cable: Used for linking two LΩGIC™ 16X36 controllers
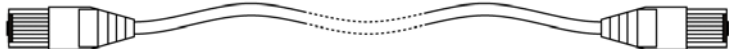
RJ-45 Plug		RJ-45 Plug
Pin 1: Not Used		Pin 1: Not Used
Pin 2: Not Used		Pin 2: Not Used
Pin 3: Not Used		Pin 3: Not Used
Pin 4: Not Used		Pin 4: Not Used
Pin 5: **+5 V**		Pin 5: **+5 V**
Pin 6: **Data +**		Pin 6: **Data +**
Pin 7: **Data -**		Pin 7: **Data -**
Pin 8: **GND**		Pin 8: **GND**

LED Patch Cable: Used to link the LΩGIC™ 16X36 controller to its products.
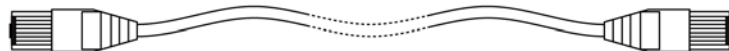
Pin #	Wire Color	Function
1	White/Orange	Red LED +
2	Orange/White	Green LED +
3	White/Green	Blue LED +
4	Blue/White	Not Used
5	White/Blue	Red LED -
6	Green/White	Green LED -
7	White/Brown	Blue LED -
8	Brown/White	Not Used

Product Connection Diagram

RJ-45 to DMX adapter
(Included with controller)

DMX Controller

Connect the DMX controller to the first LΩGIC™ 16X36 using a DMX to RJ-45 adapter cable.

Link each LΩGIC™ 16X36 with a RJ-45 signal patch cable, as shown. You can use a *RJ-45 coupler* to link the LED patch and the product's CAT5 cable.

LED patch

RJ-45 Coupler
(Included with controller)

You should use an *RJ-45 terminator* on the DMX output of the last LΩGIC™ 16X36.

Signal patch

RJ-45 Terminator

Once done, connect your lights (loads) directly to the corresponding line outputs.

Alternatively, you can use the line splitter connector(s), as seen in the diagram.

RJ-45 Splitter
(Included with product)
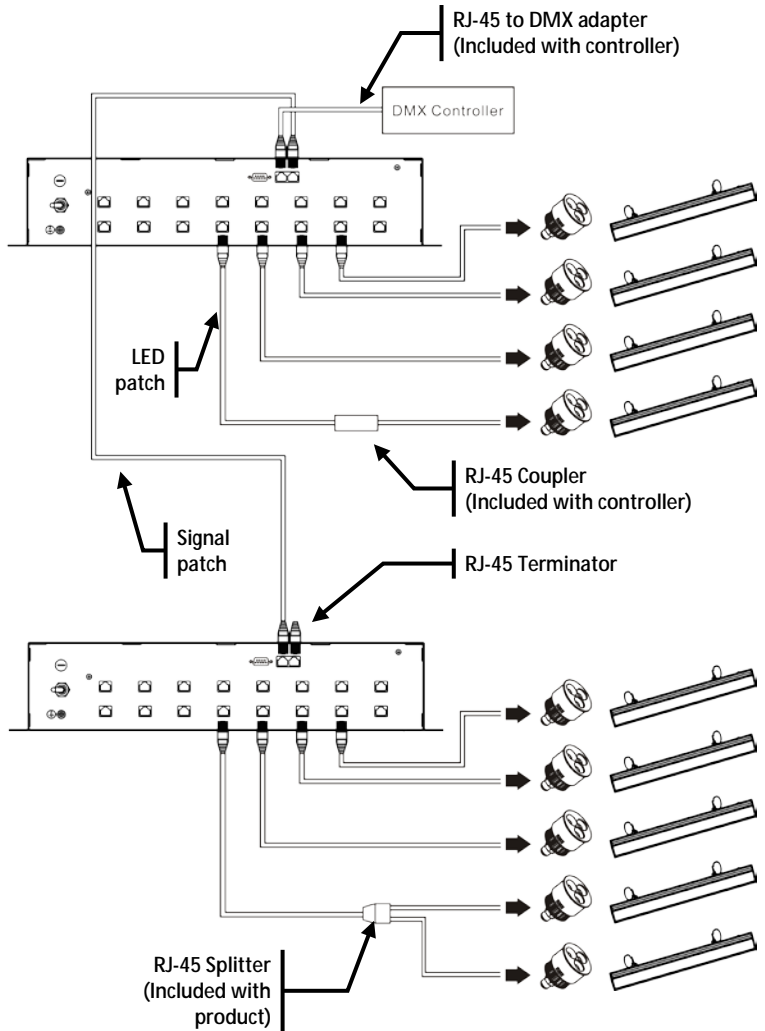
Do not use the splitter as a coupler. All cables must be terminated to a product.

Fixture Internals

To understand the maximum load allowed per output line, it is important to know how the internal components are wired inside the LΩGIC™ products.

LEDs and Dies

Single color LEDs have a single die (the part of the LED that generates light). Tri-color LEDs have three dies (one for each color) on a single package.

LEDs and Clusters

Inside the LΩGIC™ products, the LEDs are grouped in clusters of three LED dies each.

·   In a product with single color LEDs, three individual LEDs compose the cluster.
·   In a product with tri-color LEDs, a single tri-color LED makes up the cluster.

LEDs Wiring

In an LED cluster, each LED die connects to an individual output channel from the LΩGIC™ controller. When a product has more than one cluster, all the LED dies of a particular color connect to the same output channel.

Maximum Output Line Loading

The LΩGIC™ 16X36 controller has 16 output lines. You can select each output line individually or you can select all output lines (Zone Selection).

Each output line has three channels: Red, Green, and Blue.

Each of the three output channels can support up to 12 LED dies. Therefore, the maximum number of LED dies supported per output line is 36.

⚠ **When connecting LΩGIC™ products to the LΩGIC™ 16X36 controller, do not exceed the maximum of 12 LED dies per output channel (36 LEDs dies per output line).**

The table below shows the maximum number of LΩGIC™ products that can be loaded onto an output line per product model.

Model Name	Total LEDs	Total LED Dies	Max. Fixtures per Output
Ilumiline LΩGIC™ 24 RGB	24	24	1
Ilumiline LΩGIC™ 24 Optic RGB	24	24	1
Ilumiline LΩGIC™ 12 Optic RGB	12	12	3
Ilumipod LΩGIC™ 12 Optic RGB	12	12	3
Ilumipod LΩGIC™ 6 Optic RGB	6	6	6
Ilumipod LΩGIC™ 3 Optic RGB	3	3	12
Ilumipod LΩGIC™ Tri-1 RGB	1	3	12
Ilumipod LΩGIC™ Tri-4 RGB	4	12	3

RGB Mode Menu Options

Main	Programming Steps					Instructions
1. Play auto	*RGB 1~10*		*SPEED*		*1~255*	Choose from 20 automatic programs
	RGBL 1~10					
2. Play custom	**CUSTOM 1~10**					Choose from 10 user-defined programs
3. Play static	*STATIC PLAYING*	*LALL* *L-1~16* (Output Line)	**RED**		*0~255*	Configure and/or play a single step program per output line
			GREEN			
			BLUE			
			DIMMER			
			STROBE		*0~20*	
4. Play schedule	**SCHEDULE PLAYING!**					Play scheduled program
5. DMX address	**001~512**					Sets DMX starting address
6. Personality	**EFFECT**					9-channel mode
	RGB					3-channel mode
	RGB+D					4-channel mode
	RGB+DMS					6-channel mode
	RGB+LINE					48-channel mode
	RGB+LINE+DMS					51-channel mode
	SOLID					1-channel mode
7. Edit custom	*C-1~10* (Custom)	*S-1~20* (Scene)	*R* *G* *B*		*0~255*	Combine Red, Green, and Blue to generate a custom color
			S		*0~20*	Set the strobe frequency
			T		*0~255*	Set the on time
			F			Set the fading time
8. Settings	*PASSWORD*	**ON/OFF**				Turn password protection on after 30 seconds of being idle
	ALLOW EDIT	**YES/NO**				Enable/disable Custom program editing
	RESET ALL					Default all settings
	RESET CUSTOM					Erase the custom programs
	RESET SCHEDULE					Erase the schedule
	UPLOAD	*PASSWORD?*	[Enter Password]			Transfer custom programs from master to slave units
	CLOCK	**TIME NOW**				View the current DOW, date, and time.
		EDIT TIME	*DOW*	SU~SA		Edit the DOW, date, and time
			DAY	01~31		
			MONTH	01~12		
			YEAR	00~99		
			HOUR	00~23		
			MIN	00~59		
			SEC			

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Main	Programming Steps				Instructions
8. Settings (Cont.)	*CALIBRATION*	*WHITE 1~9*	*R G B*	0~255	Modify the White macros (RGB mode)
		RGB TO WHITE			Configure **RGB to WHITE** values
	RGB TO WHITE	YES/NO			**[Yes]** RGB TO WHITE defines output color when RGB faders are at "255" **[No]** Max. intensity when RGB faders are at "255"
9. Operation	DMX				Work with a DMX controller
	SLAVE				Slave mode
	EASY PLAY				Optional remote
10. Schedule	*SUNDAY~SATURDAY* (Different schedules for each DOW)	*No.* **[1~10]**	*RGB RGBL CUSTOM*	**1~10**	After selecting DOW, schedule #, and program, enter starting and ending time [00:00~23:59]
	EVERYDAY (Same schedule for every DOW)		STATIC		
			PLAY NONE		
11. Patch	*PATCH 1~6*	*RGB RGBL CUSTOM*		**1~10**	Used with optional controller

RGB Mode DMX Values

EFFECT	Channel	Function	Value	Percent/Setting
	1	Red	000 ↔ 255	0~100%
		Step Time		When CUS. 01-10 in CH. 7 is activated
	2	Green	000 ↔ 255	0~100%
		Step Time		When CUS. 01-10 in CH. 7 is activated
	3	Blue	000 ↔ 255	0~100%
	4	Dimmer	000 ↔ 255	0~100%
	5	Color Macro + White Balance	000 ↔ 010	No Function
			011 ↔ 035	R: 100% G: Up B: 0%
			036 ↔ 060	R: Down G: 100% B: 0%
			061 ↔ 085	R: 0% G: 100% B: Up
			086 ↔ 110	R: 0% G: Down B: 100%
			111 ↔ 135	R: Up G: 0% B: 100%
			136 ↔ 160	R: 100% G: 0% B: Down
			161 ↔ 185	R: 100% G: Up B: Up
			186 ↔ 210	R: Down G: Down B: 100%
			211 ↔ 215	White 1: 3,200 K
			216 ↔ 220	White 2: 3,400 K
			221 ↔ 225	White 3: 4,200 K
			226 ↔ 230	White 4: 4,900 K
			231 ↔ 235	White 5: 5,600 K
			236 ↔ 240	White 6: 5,900 K
			241 ↔ 245	White 7: 6,500 K
			246 ↔ 250	White 8: 7,200 K
			251 ↔ 255	White 9: 8,500 K
	6	Strobe	000 ↔ 004	No Function
			005 ↔ 255	0~20 Hz
	7	Auto + Custom Programs	000 ↔ 020	No function
			021 ↔ 030	Auto RGB 1
			031 ↔ 040	Auto RGB 2
			041 ↔ 050	Auto RGB 3
			051 ↔ 060	Auto RGB 4
			061 ↔ 070	Auto RGB 5
			071 ↔ 080	Auto RGBL 1
			081 ↔ 090	Auto RGBL 2
			091 ↔ 100	Auto RGBL 3
			101 ↔ 110	Auto RGBL 4
			111 ↔ 120	Auto RGBL 5
			121 ↔ 130	Custom 1
			131 ↔ 140	Custom 2
			141 ↔ 150	Custom 3
			151 ↔ 160	Custom 4
			161 ↔ 170	Custom 5
			171 ↔ 180	Custom 6
			181 ↔ 190	Custom 7
			191 ↔ 200	Custom 8
			201 ↔ 210	Custom 9
			211 ↔ 220	Custom 10
			221 ↔ 255	No function
	8	Auto Programs Speed	000 ↔ 255	Slow~fast

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DMX Mode
(Cont.)

Channel	Function	Value	Percent/Setting
9	Zone Selection	000 ♦ 009	All Lines
		010 ♦ 029	Line 1
		030 ♦ 049	Line 2
		050 ♦ 069	Line 3
		070 ♦ 089	Line 4
		090 ♦ 109	Line 5
		110 ♦ 129	Line 6
		130 ♦ 149	Line 7
		150 ♦ 169	Line 8
		170 ♦ 189	Line 9
		190 ♦ 199	Line 10
		200 ♦ 209	Line 11
		210 ♦ 219	Line 12
		220 ♦ 229	Line 13
		230 ♦ 239	Line 14
		240 ♦ 249	Line 15
		250 ♦ 255	Line 16

RGB

Channel	Function	Value	Percent/Setting
1	Red	000 ♦ 255	0~100%
2	Green	000 ♦ 255	0~100%
3	Blue	000 ♦ 255	0~100%

RGB+D

Channel	Function	Value	Percent/Setting
1	Red	000 ♦ 255	0~100%
2	Green	000 ♦ 255	0~100%
3	Blue	000 ♦ 255	0~100%
4	Dimmer	000 ♦ 255	0~100%

RGB+DMS

Channel	Function	Value	Percent/Setting
1	Red	000 ♦ 255	0~100%
2	Green	000 ♦ 255	0~100%
3	Blue	000 ♦ 255	0~100%
4	Dimmer	000 ♦ 255	0~100%
5	Color Macro + White Balance	000 ♦ 010	No Function
		011 ♦ 035	R: 100% G: Up B: 0%
		036 ♦ 060	R: Down G: 100% B: 0%
		061 ♦ 085	R: 0% G: 100% B: Up
		086 ♦ 110	R: 0% G: Down B: 100%
		111 ♦ 135	R: Up G: 0% B: 100%
		136 ♦ 160	R: 100% G: 0% B: Down
		161 ♦ 185	R: 100% G: Up B: Up
		186 ♦ 210	R: Down G: Down B: 100%

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RGB+DMS (Cont.)

Channel	Function	Value	Percent/Setting
5	**Color Macro + White Balance (Cont.)**	211 ⚡ 215 216 ⚡ 220 221 ⚡ 225 226 ⚡ 230 231 ⚡ 235 236 ⚡ 240 241 ⚡ 245 246 ⚡ 250 251 ⚡ 255	White 1: 3,200 K White 2: 3,400 K White 3: 4,200 K White 4: 4,900 K White 5: 5,600 K White 6: 5,900 K White 7: 6,500 K White 8: 7,200 K White 9: 8,500 K
6	**Strobe**	000 ⚡ 004 005 ⚡ 255	No Function 0~20 Hz

RGB+LINE

Channel	Function	Value	Percent/Setting
1	**Red #1**	000 ⚡ 255	0~100%
2	**Green #1**	000 ⚡ 255	0~100%
3	**Blue #1**	000 ⚡ 255	0~100%
⋮	⋮	⋮	⋮
46	**Red #16**	000 ⚡ 255	0~100%
47	**Green #16**	000 ⚡ 255	0~100%
48	**Blue #16**	000 ⚡ 255	0~100%

SOLID

Channel	Function	Value	Percent/Setting
1	**Master Dimmer**	000 ⚡ 255	0~100%

Button	Function
<MENU>	Exits from the current menu or function
<ENTER>	Enables the currently displayed menu or sets the currently selected value into the selected function
<UP>	Navigates upwards through the menu list and increases the numeric value when in a function
<DOWN>	Navigates downwards through the menu list and decreases the numeric value when in a function

Control Panel Description

Programming Notes

1. Press **<MENU>** repeatedly until **WELCOME** appears on the top line of the display. This is the top of the menu map.
2. Press **<MENU>** repeatedly until finding the desired Main level option for the current mode.
3. Press **<ENTER>** to access the Main level function currently displayed.

   What appears on the bottom line of the display is one of the choices for the current option.

1. Use **<UP>** and **<DOWN>** to navigate the menu map and menu options.
2. Press **<ENTER>** to access the menu option currently displayed or to enable a select value.
3. To return to the previous option or menu without changing the value, press **<MENU>**.

For details on how to program the LΩGIC™ 16X36 controller, download the corresponding User Manual from www.iluminarc.com.

Contact Us

General Information

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