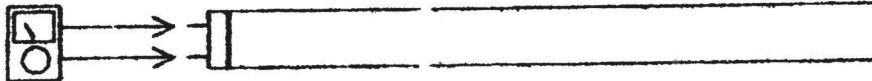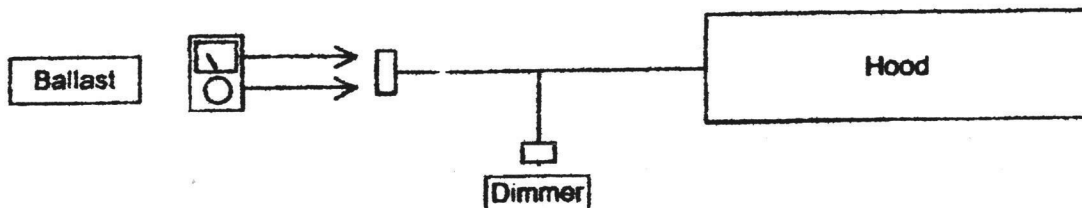# ICECAP BALLAST AND DIMMER INSTALLATION CHECKLIST

0. Set Multitester to read ohms (Ω). The red probe should be hooked into the ohms (Ω) port as well, and the black probe should be hooked into the COM port.

1. Sand all the pins on each lamp to remove any tarnish or deposits

2. Measure the resistance across the two pins on the same end of the lamp. Resistance should be between .5 and 1.8 ohms.

3. Insert lamps into sockets and screw down firmly. (Endcaps must be mounted)

4. Measure the resistance across the following pairs of colored wires as seen from the Icecap ballast harness. The resistance should ideally be within the specified ranges. Any significant variation needs to be investigated and solved before continuing.

Suggestions: Loose or misaligned endcaps, loose wiring and bad wiring connections are probable causes for high readings. Shorts are the main cause of low readings.

Red-Red	0.5 to 1.8 ohms
Blue-Blue	0.5 to 1.8 ohms
Orange-Orange	0.5 to 1.8 ohms
Yellow-Yellow	0.5 to 1.8 ohms
Brown-Brown	1.0 to 3.6 ohms
Purple-Purple	1.0 to 3.6 ohms

5. Run the lamps for a week without using the dimmer. After the week is completed, repeat step 4. If the measurements are within the specified tolerances, move to step 6. Otherwise, find and repair the issue(s) causing the resistance to change.

6. Install the dimmer during the middle of the day when the lighting should be at 100%. After powering up both the ballast and dimmer, wait aproximately two minutes before step 7

7. Manually dim up and down to ensure operation. Move unit to the System-Ck screen and check programmed values as the scroll by. You have now completed the installation.

```
Model - LWM V6.1
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System Ck - Pass	Time 12:00pm	Date 1/12/03	Today Sunny	Dawn 6:00am	Sunrise 6:30am	Noon Bgn 7:30am
WaveLED 00000000	Temp 78F OK	PH 8.3 OK	ORP 450 OK	Sunset 7:00pm	Dusk 8:00pm	Moonrise 9:00pm
				Moonset 6:30am	MnPhase |||||||	TimerLED 0000

Time 12:00pm
- hour [12]   minute [00]   am/pm [pm]

Date 1/12/03
- month [1]   day [12]   year [03]

Lighting Settings
- to X10, Wakenkr, Temp, pH, ORP (other side)   >>>>>>>>

Manual Dimmers
- port1 [100%]   port2 [100%]

Seasonal Changes

Summertime				Wintertime			
Dawn	6:00am	hour [6]	minute [00]	Dawn	7:00am	hour [7]	minute [00]
Sunrise	6:30am	hour [6]	minute [30]	Sunrise	7:30am	hour [7]	minute [30]
Noon Bgn	9:00am	hour [9]	minute [00]	Noon Bgn	11:00am	hour [11]	minute [00]
Noon End	5:00pm	hour [5]	minute [00]	Noon End	3:00pm	hour [3]	minute [00]
Sunset	7:30pm	hour [7]	minute [30]	Sunset	6:30pm	hour [6]	minute [30]
Dusk	8:00pm	hour [8]	minute [00]	Dusk	7:00pm	hour [7]	minute [00]

Daytime Levels
- daytime [75%]   noontime [100%]

Moon Options
- MnPhase ||||||| intensity [20%]   port1 follow [N]

Storm Center
- activity [0]   intensity [5]   seasonal [Y]

Light Timers
- TimerLED   0000
  - Timer1   on [dawn]   off [dusk]   offset [00]
  - Timer2   on [sunrise] off [sunset]   offset [00]
  - Timer3   on [noonon]   off [noonoff]   offset [00]
  - Timer4   on [dusk]   off [dawn]   offset [00]

Doser Timers
- Doser1   frequency [0x]   duration [00:00]
- Doser2   frequency [0x]   duration [00:00]

Port 2 Offset
- offset [00]

X10 Settings

House Code	A/B	– house code [A/B]
Timer1	A1	
Timer2	A2	
Timer3	A3	
Timer4	A4	
Wave1a	A5	
Wave1b	A6	
Wave2a	A7	
Wave2b	A8	
Wave3a	A9	
Wave3b	A10	
Wave4a	A11	
Wave4b	A12	
pH High	A13	
pH Low	A14	
Temp High	A15	
Temp Low	A16	
ORP High	B1	
ORP Low	B2	
Doser1a	B3	
Doser1b	B4	
Doser2a	B5	
Doser2b	B6	
CO2	B7	

Wavemkr Settings

		feedtime	feedcontrol		
WaveLED 00000000					
Feed Timer	[15]	feedcontrol	00		
Wavemaker1	1a time	[00:00]	off time	[00:00]	1b time [00:00]
Wavemaker2	2a time	[00:00]	off time	[00:00]	2b time [00:00]
Wavemaker3	3a time	[00:00]	off time	[00:00]	3b time [00:00]
Wavemaker4	4a time	[00:00]	off time	[00:00]	4b time [00:00]
Night Mode	N	night mode	[N]		
Lunar Mode	N	lunar mode	[N]		
Storm Cycle	N	storm cycle	[N]		

Temp Settings

Temp	78F OK		
Targ Temp	78.8		
SummerTemp	82	summertemp	[82]
WinterTemp	78	wintertemp	[78]
Temp Range	0.2	temp range	[0.2]
Temp Calibration		cal temp [75.0]	calibrate? [N]

pH Settings

PH	8.3 OK		
targ pH	8.3	Targ pH	[8.3]
pH Range	.05	pH range	[.05]
10.0 Calibration		Calibrate?	[N]
7.0 Calibration		Calibrate?	[N]

ORP Settings

ORP	450 OK		
Targ ORP	450		
ORP Range	50		
ORP7 Calibration		Calibrate?	[N]
ORP4 Calibration		Calibrate?	[N]