



# XC-62

## COMPACT PORTABLE DIMMER

### OWNERS MANUAL

Revision 0.2

03/08/2011

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**XC-62 UNIT DESCRIPTION**

The XC-62 is a six circuit compact dimmer with a load capacity of 1200 Watts per circuit. Each circuit is protected by a 10 Amp fuse. It can be controlled in several ways - the most common being DMX-512. Other control modes are also provided for stand alone operations. These include individual channel control and chaser functions. Individual circuits may be operated as non-dim (relay) circuits. Individual circuits may be set for one of several response curves and may be limited to less than full intensity. In addition to full soft patch capability there is a quick pack address function which enables rapid setup.

The XC-62 can optionally be provided with a wireless DMX receiver.

**INSTALLATION**

**POWER REQUIREMENTS**

The XC-62 operates from two separate 120VAC, 20 Amp service feeds. Each feed must include a NEUTRAL and a safety GROUND. The unit is provided with power cord stubs containing Edison plugs for this purpose.

One power cord supplies the power for channels "A", "C", and "E". The other one supplies channels "B", "D", and "F".

**The combination of the lighting loads on EACH of these power feeds can not exceed 2400 Watts (20 Amps).**

**LOCATION AND MOUNTING**

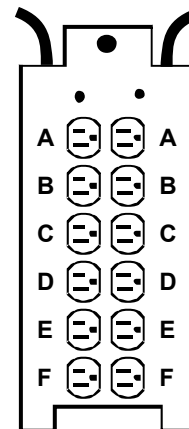
Locate the unit in a well ventilated area away from moisture and heat. The unit should be operated in free air to ensure good air flow around all sides. Do not block any of the vent holes.

**THE XC-62 COMPACT DIMMER PACK IS INTENDED FOR INDOOR USE ONLY.**

Two 1/2" diam. holes are provided at the top of the unit for a lighting bar pipe clamp and a safety cable.

**LOADS AND LOAD CONNECTIONS**

Lighting fixtures connect to the 6 duplex outlets on one side of the unit. They are designated as "A" through "F". There are two load connections per circuit. Each circuit is referred to as a "channel". A diagram is provided on the unit which identifies each channel.

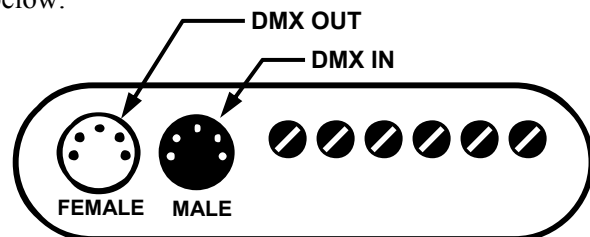


Each XC-62 channel has a 1200 Watt MAXIMUM rating and is protected by a 10 Amp fuse. 10 Amps equates to 1200 Watts at 120VAC. If you operate a channel at 1200 watts then you are very close to blowing its fuse. This will occur if AC line voltages are high or you have power surges. Other conditions which may cause the fuse to blow include turning a cold lamp quickly on to full intensity.

A practical working load is 1000 Watts per channel.

**DMX CONTROL SIGNAL CONNECTIONS**

DMX control is connected via the male 5 pin XLR connector located in the end of the dimmer. A female 5 pin XLR is also provided so you can chain the connection to other dimmers or other DMX devices. Wiring information for the XLR connectors is shown below.



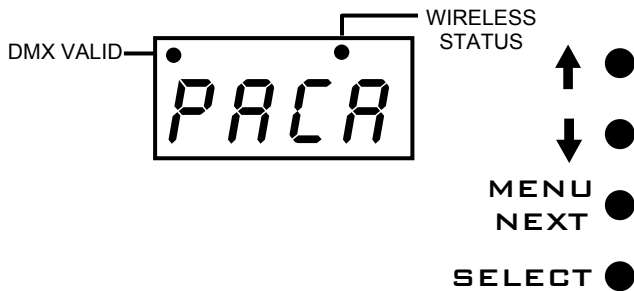
**XC-62 COMPACT DMX DIMMER  
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XLR PIN #	SIGNAL DESCRIPTION
1	DMX Common
2	DMX Data -
3	DMX Data +
4	Not Used
5	Not Used

**OPERATION**

**SETUP AND OPERATING CONFIGURATION**

All operating functions and settings for the XC-62 are menu controlled using the LED Display and the 4 buttons located near it on the back surface of the unit.



**FACTORY DEFAULT CONFIGURATION**

The XC-62 is supplied with a factory default setup configuration. The unit may be reset to this condition by keeping the **SELECT** button held down while power is applied. The display briefly shows **FACT** while the reset is being performed. The XC-62 is set as follows when a reset is performed:

1. The unit is set for DMX (5Pin) operation.
2. The DMX pack address (PACA) will be set to address 1 (P001).
3. Softpatch is set to DMX addresses 1 - 6
4. All channels curves are set for incandescent dimming (Dim).
5. Channel limiting is turned off (255).
6. Chase functions are set as follows:  
 Pattern #: 01  
 Rate: 004 (1 sec. per step)  
 Fade: 050 (%)  
 Brightness: 100 (%)
7. The architectural Unit ID is set to 01
8. Power type is set to AUTO

**DISPLAY STATUS INDICATORS**

The LED display shows a dot near the upper left corner when a valid DMX signal is being received.

If equipped with the wireless option, another dot at the top of the display indicates the status of an active wireless link.

**MENU ACCESS AND USE**

Hold the **MENU/NEXT** button down for approx. 5 seconds to gain access to the complete menu system.

If there is no button activity for 1 minute while inside the menus then the unit will revert back to the normal display (PACA).

To exit from anywhere in the menus - Hold down **MENU/NEXT** for approx. 5 seconds. The unit will revert back to the normal display (PACA).

A flow diagram of menu/display operation is provided at the back of this manual.

**QUICK PACK ADDRESSING**

The XC-62 has a quick DMX address setup which enables you to set the starting address of the pack (the address for channel "A") without accessing the rest of the menu system. When this is used, the remaining 5 channels ("B", "C", "D", "E", "F") are set to the next consecutive addresses.

During normal operation the LED display toggles back and forth between **PACA** and the current pack address such as **P001**. Use the **↑** and **↓** buttons to set different pack address. Push **SELECT** to save the setting when done.



If you set the pack address to **P000** then the unit will run in soft patch mode. In this mode you can set ANY channel of the pack (A - F) to ANY DMX address (000-512) by using the dimmer setup (dSEt) menus. See **CHANNEL ADDRESSING** for details.

## CHANNEL TEST

You can test the operation of each dimmer channel by pushing **MENU/NEXT**. The display will show the intensity of channel A (00 - 99%) as shown below.

**A - 00**

Use **↑↓** to adjust the intensity to the desired level. Push **MENU/NEXT** to advance to the next channel (Channel B). The dimmer will return to its normal display when you go past the last channel.

The channel levels will remain when you set them. The control console can override the test setting by raising the channel fader to full then back down. The channel test feature operates like LOCAL mode but local mode LOCKS OUT all other control sources.

A usefull feature of the channel test mode is that the display shows the current channel intensity level regardless of the control signal source.

## DIMMER SETUP

The dimmer setup menu (dSEt) enables you to set several parameters which control how each individual channel will operate. You can set a DMX address, set a maximum intensity limit, and set a response curve.

Hold **MENU/NEXT** for aprox. 5 sec. to access the dimmer setup menu. The display will show dSET.

## CHANNEL ADDRESSING (SOFTPATCHING)

In order to invoke the softpatching settings you must first set the pack address (PACA) to P000. You can set softpatch addresses at any time but they will be ignored if PACA is not at P000.

## TO SET CHANNEL SOFTPATCH ADDRESSES

Push **SELECT** at the dSEt menu. The display will toggle between the dA-A and the current DMX address assignment number.

**dA - A**  **001**

Use **↑↓** to set the desired DMX address (000 - 512) for that channel. Push **SELECT** to save the change.

Push **MENU/NEXT** move to the next channel.

## CHANNEL LIMITING

Each channel in the XC-62 can be set to limit the maximum power applied to a channel. This feature can lengthen the life of lamps and prevent premature failures from power surges and high line voltage. The following table gives the approximate XC-62 menu setting for some typical limit percentage settings.

% MAX. Intensity	Dimmer Limit Setting
100	255
90	230
75	190
50	130
25	65
10	25

Note that limiting reduces the voltage applied to the channel. The perceived light from the fixture will not necessarily appear to track the limit setting in a linear fashion.

Push **SELECT** at the dSEt menu. Then push **MENU/NEXT** until the display toggles between dL-A and the actual limit value 010 - 255.

**dL - A**  **255**

Use **↑** and **↓** to set the desired limiting value for that channel. Push **SELECT** to save the change.

Push **MENU/NEXT** to advance to the next channel.

## RESPONSE CURVE SELECTION

The XC-62 provides a selection of five response curves to select from to accommodate a variety of lamp and fixture types:

**DIM:** Used for normal incandescent lamps.

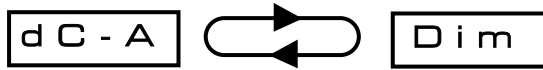
**RELAY:** Used for devices which cannot be dimmed or for ON/OFF only control.

**LED1 / LED2:** Two curve settings for LED fixtures.

**FLUORESCENT:** For dimmable fluorescent ballasts which can be used with a conventional dimmer.

These are sometimes referred to generically as "two wire" ballasts.

Push **SELECT** at the dSEt menu. Then push **MENU/NEXT** until the display toggles between dC-A and the current curve setting.



Use **↑↓** to set the desired curve for that channel. Push **SELECT** to save the change.

Push **MENU/NEXT** to advance to the next channel or hold down **MENU/NEXT** for approx. 5 seconds to exit back to the display (PACA).

### CHASE OPERATION

The XC-62 can run one of 16 chase patterns which can be selected from the CHAS menus. The rate, fade time, and brightness of these patterns may be controlled by the user. These settings apply to ALL chase patterns.

The sYst, CnFG menu, which selects the dimmer control source, must be set to chAS in order to run chase patterns.

SELECTING CHASE PATTERN 00 TURNS OFF CHASE OPERATIONS.

### SETTING CHASE PATTERNS AND PARAMETERS

Hold **MENU/NEXT** for approx. 5 seconds to access the menus. The display will show dSEt.

#### CHASE PATTERN SELECTION

Push **MENU/NEXT** until the display shows CHAS.

Push **SELECT**. The display will toggle between ChPt and the currently selected chase pattern number.



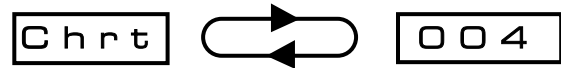
Use **↑↓** to set the desired pattern number. Push **SELECT** to save the change.

Push **MENU/NEXT** to move to the next chase parameter (chase rate).

#### CHASE RATE

The chase rate is actually set by selecting a step duration time. This time is shown on the display in 1/4 sec. increments. Therefore a 1 chase step per second rate will show as setting of 4 on the display.

The display will toggle between Chrt and the current chase rate.



Use **↑** and **↓** to set the desired chase rate. Push **SELECT** to save the change.

Push **MENU/NEXT** to advance to the next chase parameter (Chase Fade).

#### CHASE FADE

The display will toggle between ChFd and the current fade setting (% of the step time). Times of 0, 25,50 and 100% are available.



Use **↑↓** to set the desired fade time. Push **SELECT** to save the change.

Push **MENU/NEXT** move to the next chase parameter (chase brightness).

#### CHASE BRIGHTNESS

The display will toggle between Chbr and the current chase brightness level (0 = 100%).



Use **↑↓** to set the desired brightness. Push **SELECT** to save the change.

Hold **MENU/NEXT** for approx. 5 seconds to exit from the menus.

### SYSTEM SETUP

The system setup menu (SYSt) controls how the overall dimmer pack is configured. The SYSt menu has 5 submenus: CnFG, Log-, ScEn, ArcU, and Pwr.

### CONTROL SOURCE SELECTION (CnFG)

The CnFG menu selects what source will control the dimmer pack. The 6 choices are:

1. Normal wired DMX (5Pin)
2. Stand alone chase (chAS)
3. Local (LoCL)
4. Architectural Station (Arch)
5. RS485 (r485)
6. Wireless DMX (Antd)

**DMX:** When selected, the dimmer pack responds to USITT DMX-512 signals received on the male 5 pin XLR connector in one end of the unit. The female 5 pin XLR connector is used to pass the DMX signal on to another DMX dimmer pack.

**STAND ALONE CHASE:** This menu enables chaser operation. The dimmer will ignore other signal sources when chaser operation is active.

**LOCAL:** Local control enables you to operate the XC-62 channels manually without an external controller. You can set a static scene and leave the unit as is. This may be useful for a store display or other situation where a continuous lighting scene is needed. The dimmer will IGNORE OTHER CONTROL SIGNAL SOURCES when local operation is active.

See the section for CHANNEL TEST for more about operating channels locally.

**ARCH:** Operation from Lightronics architectural smart remote stations is not currently available.

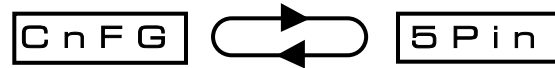
**RS-485:** Operation from RS-485 devices is not currently available.

**WIRELESS DMX:** The XC-62 wireless option allows the unit to be run from a console or other controller which transmits DMX over a wireless link.

### SELECTING A CONTROL SOURCE

Hold **MENU/NEXT** for approx. 5 seconds to access the menus. The display will show dSET.

Push **MENU/NEXT** until the display shows SYSt. Push **SELECT**. The display will toggle between CnFG and the currently selected control source.



Use **↑↓** to select the desired source. Push **SELECT** to save the change.

Push **MENU/NEXT** to advance to the next system setup menu display.

### OTHER SYSTEM SUB MENUS

The wireless logoff menu (Log-) will function only if the optional wireless hardware is installed in the XC-62. Otherwise it is ignored.

The remaining sub menus ScEn, ArcU, and Puor (power type) are associated with features which are not currently available. Some of these settings can be changed within the menus but the changes will be ignored.

## **XC-62 WIRELESS OPTION**

### **DESCRIPTION**

The XC-62 dimmer can be supplied with additional components which enable it to use a wireless DMX control signal. The option includes an antenna.

When operated as a wireless unit the XC-62 receives the same information it would get using a cable connected to a DMX lighting console. For wireless operation the XC-62 can be used only with a console which has an compatible wireless DMX transmitter.

The wireless system uses the 2.45 GHz band and operates at low power (< 100mW). The operating range is approximately 1400 ft. indoors and about 4000 ft. for outdoor operation. This range could vary significantly depending on the surrounding conditions.

A link between an XC-62 dimmer and a specific single console is invoked to enable wireless operation. The linking operation is performed at the console. Once linked, the XC-62 can operate as wireless ONLY with that console. The link is retained even when the dimmer and/or console are powered off.

The XC-62 will not link to any other console until the established link it released. The link can be released either at the XC-62 or at the transmitting console.

### **INSTALLATION AND SETUP**

There are only three steps to perform to operate the XC-62 in the wireless mode.

1. Install the supplied antenna. The antenna threads onto a SMA connector located in the end of the unit. Do not overtighten it or wrench it down. It can be rotated into a convenient position when installed.
2. Link the unit to a compatible console. This is done at the console.
3. Set the control source to wireless (Antd). This is done using the SYSt, CnFG menu on the XC-62 dimmer.

### **LINKING TO A WIRELESS EQUIPPED CONSOLE**

A link between an XC-62 dimmer and console is performed by using a button on the console. This causes the console to search out and link all wireless dimmers within its range which are not already linked to another wireless control source. The wireless link LED on the console is ON when the wireless transmitter section is getting a DMX signal from the main console circuits.

The XC-62 has two indicators which show wireless status. One is a green LED in the end of the unit near the antenna. The other is a dot in the main display. These indicators function identically as follows:

Not linked to a console - indicators OFF.  
Linked but not receiving a signal - indicators FLASH.  
Link process in progress - indicators FLASH FAST  
Linked and receiving a signal - indicators ON

### **TO LINK AN XC-62 TO A CONSOLE**

Push (DO NOT HOLD DOWN) the wireless link button on the console. The green wireless link LED on the console and the dimmer indicators will flash. After approx. 10 seconds the console LED will revert to ON but the dimmer indicators will continue to flash at a rapid rate for several more seconds until a solid link is established. The XC-62 indicators will be ON when a link is fully established.

The XC-62 can link even if is not in the wireless mode but since the unit can operate in several other modes it will not respond to the wireless commands unless switched into wireless operation (Antd) from the display SYSt, CnFG menu.

The XC-62 factory reset function does not log the unit off but it does take it out of wireless mode.

### **UNLINKING AN XC-62 FROM A CONSOLE**

An unlink operation can be done either at the dimmer or at the console. If done from the dimmer then only that specific XC-62 will be released from the link and it can then be linked by another compatible wireless controller or relinked to the same one. If the unlink operation is done at the console then ALL dimmers linked to it and in receiving range will be released.



**TO RELEASE THE LINK AT THE XC-62**

The XC-62 link can be released regardless of whether or not it is in the wireless operation mode (Antd).

1. Hold down **MENU/NEXT** for about 5 seconds to access the menus. The display will show **dSEt**.
2. Push **MENU/NEXT** until **SYSt** is displayed.
3. Push **SELECT**. The display will toggle between **CnFG** and the currently selected control signal source.
4. Push **MENU/NEXT**. The display will toggle between **LOG -** and **OFF?**.



5. Hold down **SELECT** for about 5 seconds. The XC-62 wireless status indicators will go OFF and the unit will be released from the console.

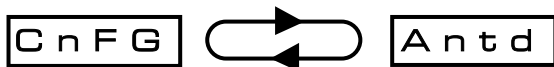
**TO RELEASE ALL LINKS AT THE CONSOLE**

Hold down the wireless link button on the console for about 3 seconds. The LED indicator will flash for about 10 seconds then return to ON.

The XC-62 wireless indicators will go OFF.

**SETTING THE XC-62 TO WIRELESS MODE**

1. Hold **MENU/NEXT** for aprox. 5 seconds to access the menus. The display will show **dSEt**.
2. Push **MENU/NEXT** until **SYSt** is displayed.
3. Push **SELECT**. The display will toggle between **CnFG** and the currently selected control source.

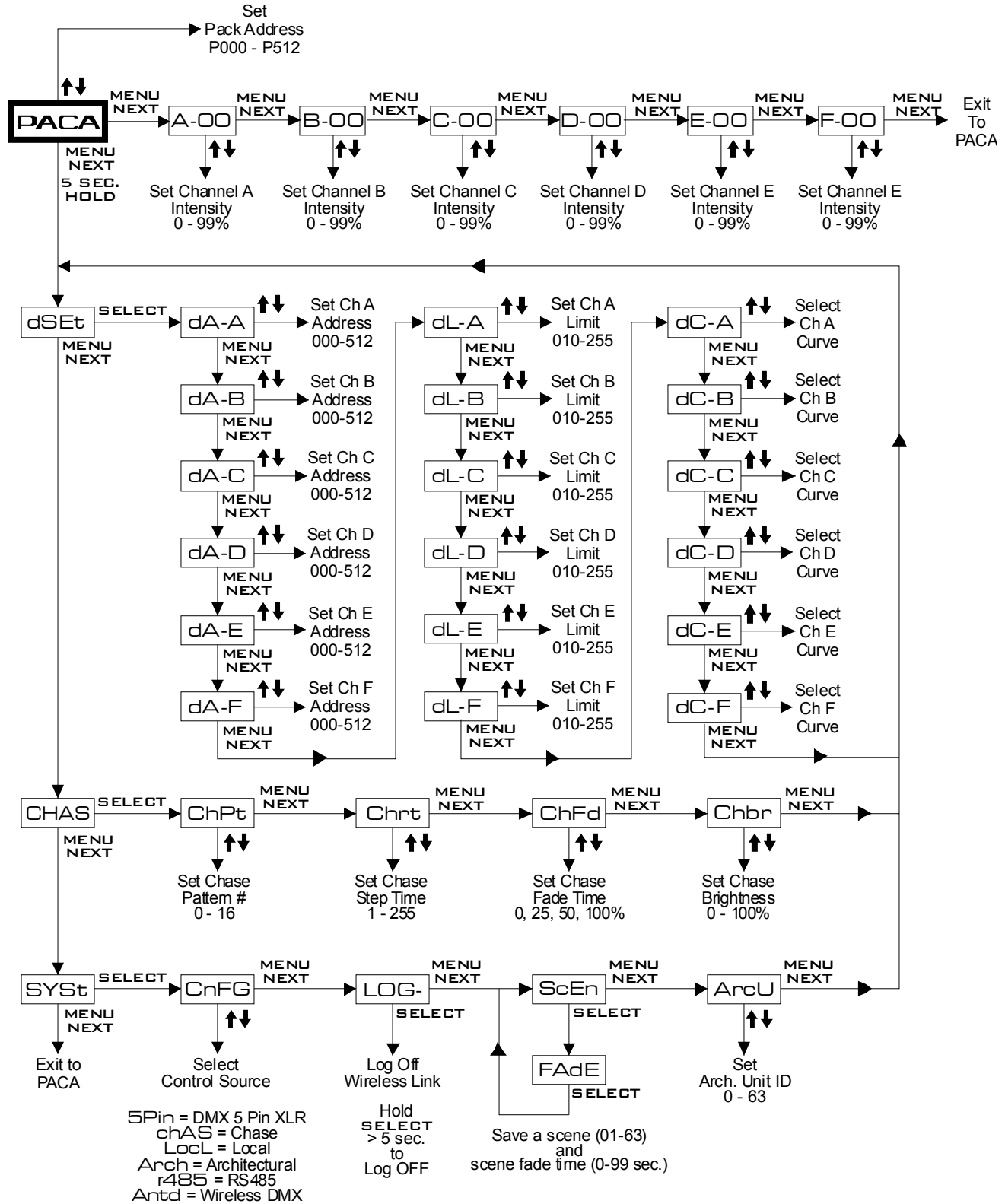


4. Use **↑↓** to select **Antd**.
5. Push **SELECT** to save the change.

Hold **MENU/NEXT** for aprox. 5 seconds to exit from the menus.

**XC-62 COMPACT DMX DIMMER  
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**MENU AND DISPLAY OPERATION**



**MAINTENANCE AND REPAIR**

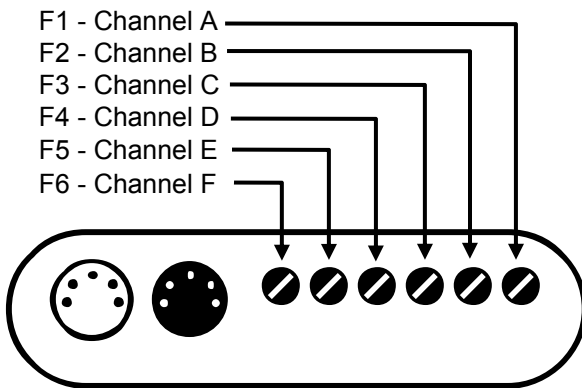
**TROUBLESHOOTING**

- Check that you have power applied to the dimmer.
- Check that all light fixtures are functional.
- Check the fuses.
- Check the DMX cable.
- Check the console setup for correct patching.

**REPAIR**

**FUSE REPLACEMENT**

The only user serviceable parts are externally accessible fuses. Replace fuses **ONLY** with 10 Amp, 250VAC, fast blow fuses. The diagram below identifies the fuse for each channel



**SPECIFICATIONS AND FEATURES**

Channels	6
Channel Capacity	1200 Watts
Total Power	4800 Watts
Power Requirements	2 circuits 120VAC, 20 Amps each
Power Connections	2 Edison Plugs
Control Protocol	DMX-512, RS-485, Architectural, Optional Wireless DMX
Control Connections	Dual 5 pin XLR
Frequency	50/60 Hz
Fusing	10 Amp each channel
Preheat Control	Soft Start
Response Curves	Incandescent, LED, Fluorescent, Relay Mode
Filter Rise Time	350 Microseconds
Efficiency	97%
Size	16"L X 7.0"W X 3.0"D
Weight	8.7 Pounds

Internal service on the unit by other than Lightronics authorized agents will void the warranty.

If service is required, contact the dealer from whom you purchased the dimmer, or Lightronics Service Department, 509 Central Drive, Virginia Beach, VA 23454. Tel: 757 486 3588.



# WARRANTY

All Lightronics products are warranted for a period of TWO/FIVE YEARS from the date of purchase against defects in materials and workmanship.

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This warranty is subject to the following restrictions and conditions:

- A) If service is required, you may be asked to provide proof of purchase from an authorized Lightronics dealer.
- B) The FIVE YEAR WARRANTY is only valid if the warranty card is returned to Lightronics accompanied with a copy of the original receipt of purchase within 30 DAYS of the purchase date, if not then the TWO YEAR WARRANTY applies. Warranty is valid only for the original purchaser of the unit.
- C) This warranty does not apply to damage resulting from abuse, misuse, accidents, shipping, and repairs or modifications by anyone other than an authorized Lightronics service representative.
- D) This warranty is void if the serial number is removed, altered or defaced.
- E) This warranty does not cover loss or damage, direct or indirect arising from the use or inability to use this product.
- F) Lightronics reserves the right to make any changes, modifications, or updates as deemed appropriate by Lightronics to products returned for service. Such changes may be made without prior notification to the user and without incurring any responsibility or liability for modifications or changes to equipment previously supplied. Lightronics is not responsible for supplying new equipment in accordance with any earlier specifications.
- G) This warranty is the only warranty either expressed, implied, or statutory, upon which the equipment is purchased. No representatives, dealers or any of their agents are authorized to make any warranties, guarantees, or representations other than expressly stated herein.
- H) This warranty does not cover the cost of shipping products to or from Lightronics for service.
- I) Lightronics Inc. reserves the right to make changes as deemed necessary to this warranty without prior notification.