



Architectural Lighting Controller AC612 XU User Manual

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AC612 XU User Manual

The ELC Architectural Lighting Controller AC612 XU is available in several variations;

The AC612XUB is a 12-memory push button playback panel with terminal connections. The AC612XUBX has the same functionality but is supplied with XLR connections for DMX and a USB connection for firmware upgrades and programming.

The AC612XUF is a 5-memory fader playback panel with terminal connections. The AC612XUFX has the same functionality but is supplied with XLR connections for DMX and a USB connection for firmware upgrades and programming.

The AC612XUBF is a combined playback panel providing 6-memory buttons and 3-memory faders with terminal connections. The AC612XUBFX has the same functionality but is supplied with XLR connections for DMX and a USB connection for firmware upgrades and programming.

All XLR versions are provided with a universal USB power supply.

The AC612DIN is a DIN-rail mounted version based on the AC612XUB 12-memory push-button unit. It has contact closure terminals for each memory/chase making it ideal for system integration. A USB connection is provided for programming, and the versatile design incorporates a programmable DMX merger.

Features

- Captures data from DMX data signal
- 12 memories of 512 DMX channels, individually recalled by a push button
- Each memory can be a scene or a chase (total desk capacity is 126 chase steps)
- Stores chaser step length and times
- Master up/down fade buttons controls lighting states from 0% to 200%
- AC612 editor freeware provides programming functions

Functional overview

All versions of the ELC Architectural Lighting Controller AC612 XU have a DMX input, a DMX output and a built-in merger. The merger has operating modes like HTP/LTP and Priority. The memories are captured from the DMX input and all have 512 channels. In addition to the memories, there is a master intensity control that runs from 0% to 200%. The master is controlled by the Up and Down keys. The master Up/Down can also be set up as speed control.

The AC612XU units need an external 200mA power supply with an output voltage of 9V to 24V. The USB connector is available for future software upgrades and editor software.

The AC612 Editor software – available for download on the ELC website (www.elclighting.com) – can be used to preprogram the AC612XU's memory. With the AC612 Editor software it is possible to create memories for each button or fader with multiple steps (device total of 126). A USB connection is required to import or export the memories to and from the device.

This product may only be used for
controlling dimmers and moving lights.
Using the product outside of these specifications
will remove all responsibility from the supplier.

Installation

AC612 XUB / XUF / XUBF

The AC612XU is a hardwired wall mounted lighting controller. Installation has to be performed by a qualified technician.

Installation steps:

- Open the cover of the unit (2 screws at the top and 2 at the bottom)
- Connect the external power supply (9V-24V) to the PWR + and – screw terminals
- Connect the DMX input to the IN terminals:
 - G** → pin 1 (shield)
 - +** → pin 3 (data +)
 - → pin 2 (data -)
- Connect the DMX output to the OUT terminals:
 - G** → pin 1 (shield)
 - +** → pin 3 (data +)
 - → pin 2 (data -)
- Mount the unit to the wall (optional)
- Close the cover with the 4 screws

AC612 DIN

The DIN version has 12 contact closure contact inputs on screw terminals. When connecting a opto-coupler output to the contact closure input, make sure that the polarity is in order.

Setup mode

Changing operating modes

For the AC612 XUB, XUF and XUBF it is possible to change the operating modes by entering setup mode. Setup mode allows you to change individual settings for the operating modes on the AC612 XU (e.g. merger mode, memory handling).

To enter setup mode, follow these steps:

- Press and hold the STORE button
- Press and hold the UP button
- Wait for approximately 10 seconds for the LEDs to start flashing (the UP and STORE LEDs remain on)
- The settings can now be changed, as described in the following sections
- When no button has been pressed for about 10 seconds, the unit will timeout of the setup mode and will store the current settings and go back to normal operation.

Merger mode

Key		Function
Up	Down	
○	○	HTP merge
☼	○	LTP merge
○	☼	Priority merge (memories of the unit are disabled if a valid DMX signal is on the input)

Store disable

If the LED on the store button is on, then storing new memories is disabled.

The following settings are only available on the button version.

Startup memory (at power on)

Key				Function	Key				Function
1	2	3	4		1	2	3	4	
○	○	○	○	No startup memory					
☀	○	○	○	Memory 1	☀	☀	☀	○	Memory 7
○	☀	○	○	Memory 2	○	○	○	☀	Memory 8
☀	☀	○	○	Memory 3	☀	○	○	☀	Memory 9
○	○	☀	○	Memory 4	○	☀	○	☀	Memory 10
☀	○	☀	○	Memory 5	☀	☀	○	☀	Memory 11
○	☀	☀	○	Memory 6	○	○	☀	☀	Memory 12

Memory mode

Key		Function (Memory Hold)
5	6	
○	○	Swap → only one memory active
☀	○	Toggle → switch memory on/off
○	☀	Flash → temporary memory

Fade tables (see Creating memories)

Key		Fade time tables				
7	8	Table	Fade time 1	Fade time 2	Fade time 3	Fade time 4
○	○	1	0 seconds	1 second	2 seconds	5 seconds
☀	○	2	0 seconds	5 seconds	10 seconds	15 seconds
○	☀	3	1 second	10 seconds	15 seconds	20 seconds
☀	☀	4	5 seconds	10 seconds	20 seconds	30 seconds

Up/down mode

Key		Function
9	10	
○	○	Up/Down buttons control intensity
☀	○	Up/Down buttons control speed
○	☀	Up/Down buttons control intensity Off/Store buttons control speed (AC612XUB only)

Master / Slave (AC612XUB/DIN) / Operation mode

Key		Function
11	12	
○	○	Normal standalone operation
☼	○	Device is master of a system (contains memories)
○	☼	Slave in a system
☼	☼	Last slave in a system (RDM signal is blocked)

In Master/Slave mode, the master device should be first in the DMX line.

The slaves are then daisy-chained to the master. In daisy-chaining, the output of the master device is connected to the input of the slave device. The output of the slave device can then be connected to the input of another slave device, and so on.

The master device communicates with the slave devices through RDM (bidirectional DMX). If devices after the last slave device are not handling the RDM signal correctly, the last slave should be programmed as slave-last (this will block the RDM signal).

Operation

Creating memories

Fader version (AC612XUF/AC612XUFX)

To store a memory (captured from the DMX input) into one of the five faders, follow the next steps:

- Press the Store button (the button will now start flashing, indicating that no fader has been selected). The built-in merger is now disabled and will pass through the DMX input signal.
- Create the required memory by the external DMX source
- Move the chosen fader to it's full position. The Store LED will now be on. (If the fader is already at the full position, move it down first and back up.)
- Selecting the same fader again will undo the selection and a different fader can be selected.
- Press the Store button to save the memory

Creating memories

Button version (AC612XUB/AC612XUBX)

To store a memory (captured from the DMX input) into one of the 12 buttons, follow the next steps:

- Press the store button (the button will now start flashing, indicating that no button has been selected). The built-in merger is now disabled and will pass through the DMX input signal.
- Create the required memory by the external DMX source
- Press the chosen memory button (1-12) – the Store LED is now on
- Set the fade time for the memory, by using the next table:

Key		Function
Up	Down	(depends on fade time table)
○	○	Fade time 1 (0/0/1/5 seconds)
☼	○	Fade time 2 (1/5/10/10 seconds)
○	☼	Fade time 3 (2/10/15/20 seconds)
☼	☼	Fade time 4 (5/15/20/30 seconds)

- Pressing the same button again will disable the selection
- Press the Store button to save the memory

To set the blackout/fadeout timing, follow the steps above – only instead of selecting one of the 12 memory buttons, select the blackout button (next to the Store button).

Creating memories

Button/fader version (AC612XUBF/AC612XUBFX)

To store a memory (captured from the DMX input) into one of the three faders or six buttons, please refer to the above sections on how to store memories for the button and fader versions of the ELC AC612XU.

Creating memories

DIN version (AC612DIN)

Memories can only be created on the AC612 DIN version through the AC612 Editor software. This process is described further on in this manual.

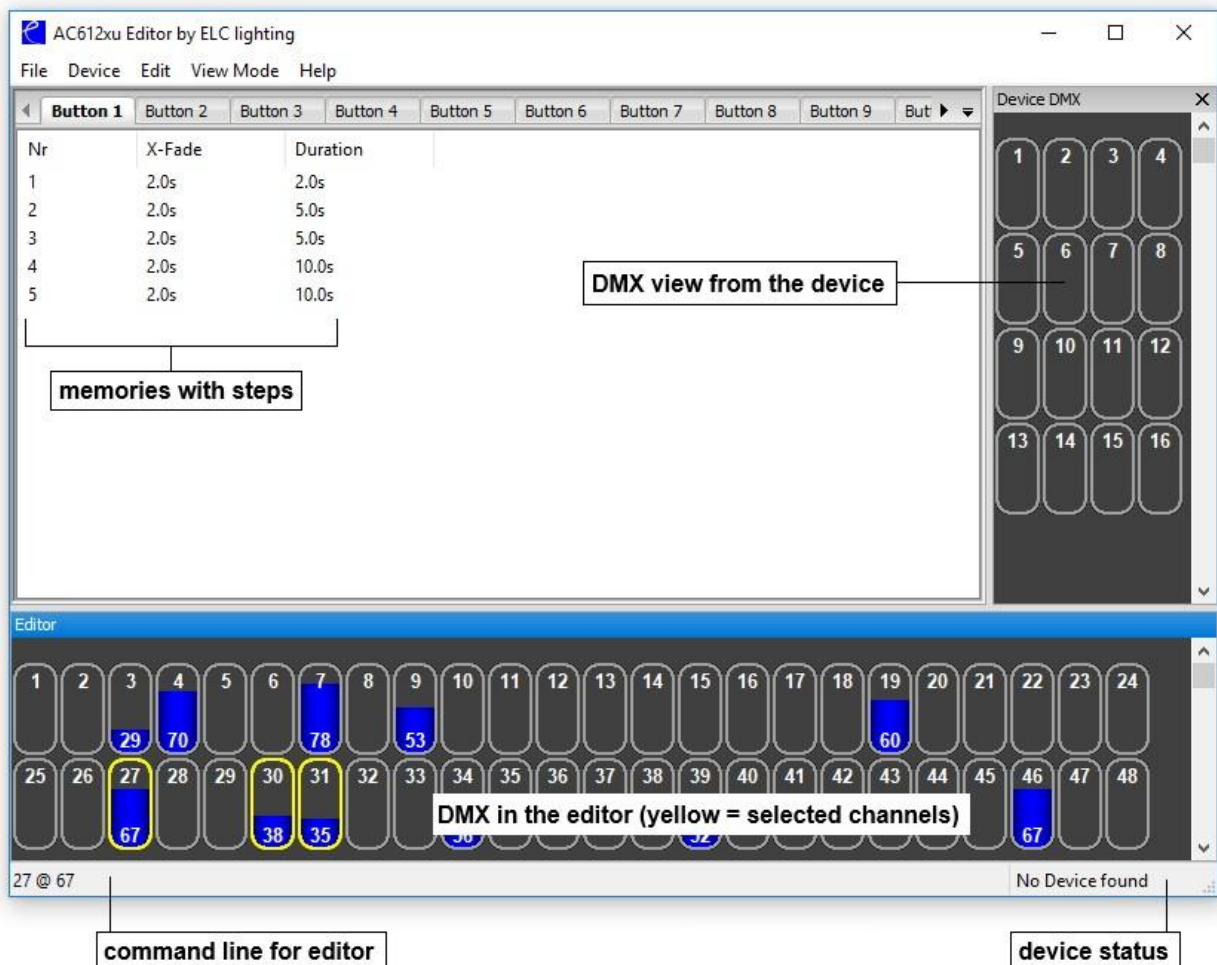
Normal operation

In normal operation, you can recall memories using the faders or buttons. The master intensity control (0% to 200%) is handled by the Up and Down buttons. If both the Up and Down button LEDs are off, the master control is at 100%. If the Up button LED is on, the master control is above 100%. With the Down button LED on, the master control is below 100%. To set the master control back to 100%, press the Up and Down buttons simultaneously.

Editor software (PC/Mac)

The editor software – available on the ELC website (www.elclighting.com) – can be used to create the memories. Each memory can have multiple steps and each step (from a total of 126) can have its own crossfade time and duration.

Main window



File menu

- New → clear all memories and settings
- Open → open a previously created setup of memories and settings
- Save → store all memories & settings to disk
- Save as → store all memories & settings to disk (different file name)
- Exit → quit the application

Device menu

- View DMX → reopen the DMX window if it is not displayed
- Merge DMX → if checked the DMX output of the AC612XU will be a HTP merge of the device DMX and the Editor
- Grab DMX → load the device DMX data into the Editor
- Settings → open the Settings window (explained below)
- Import → load memories & settings from the device into the Editor
- Export → store memories & settings from the Editor onto the device

Edit menu

- Record Step → opens the Record window to update the current step or store the information to a different/new step
- Add Step → similar to Record step but the step number is incremented
- Delete Step → removes the currently selected step
- Clear Editor → sets all channels in the Editor to 0%
- Clear Memory → deletes all steps in the memory

View mode

In this menu you can select the naming of the cue list tabs to match your device.

Help menu

- About → show the software version

Using the Editor

The Editor can be used either with the keyboard (command line) or the mouse.

Using the keyboard (command line)

By typing in the required channels and setting the levels you can create a scene.

The keys used are:

- 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 → digit entry
- +, -
- t (or / on Windows keypad) → through
- ' (or * on Windows keypad) → at
- f (or . on Windows keypad) → full
- Enter → activate the command

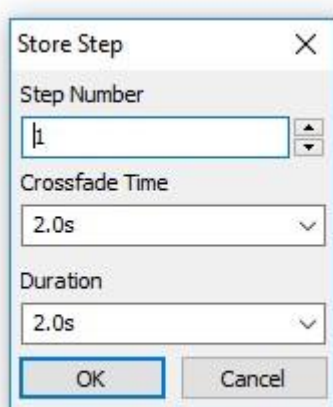
Examples:

- **1 t 12 ' 50** → 1 → 12 @ 50 (channel 1 through 12 at 50%)
- **1 + 3 f** → 1 + 3 full (channel 1 and 3 at 100%)

Using the mouse

Select a channel by left clicking it in the Editor window. The channel will be highlighted in yellow to indicate that it is selected. To select multiple channels hold the Ctrl key when left clicking channels. To change the value, click and hold the left mouse button and drag the channel value up and down. Dragging with the right mouse button will change the value at a slower pace for more precision.

Recording a step



Select Record Step from the Device menu (or press R or A) to bring up the Record Step window.

Step number indicates the number of the step (maximum of 126 memories for the device).

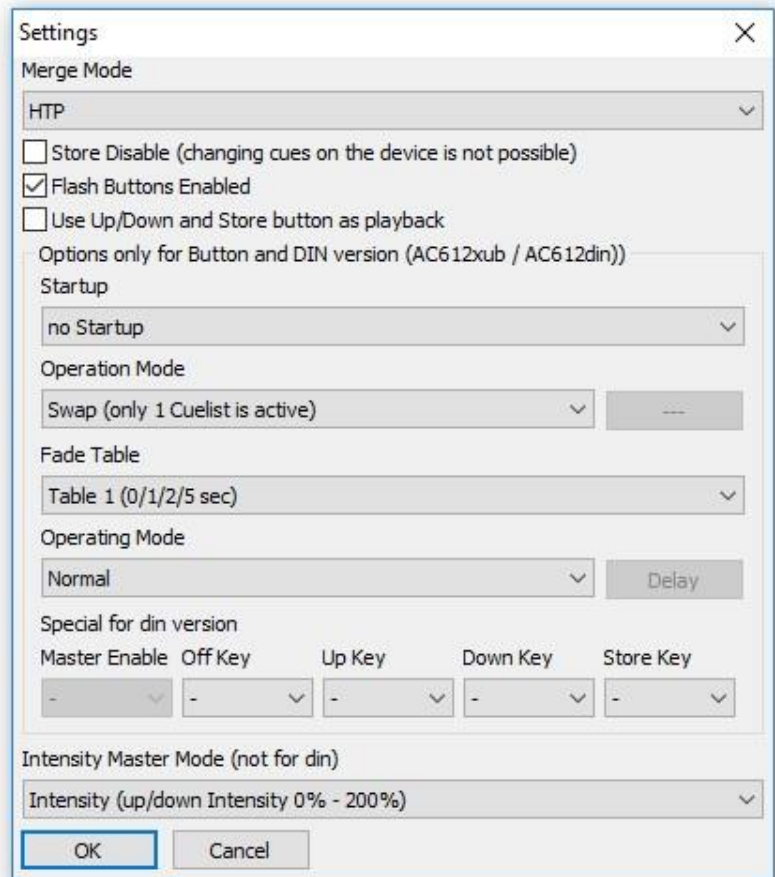
Crossfade Time sets the fade time for the step.

Duration sets how long the step will last (time before the next step is activated).

Setting the duration to STOP will end the playback of the memory at that step. If no step in a memory has a STOP programmed, then the memory will loop through all steps.

Device settings

The Device Settings window provides an easy menu to change settings like merge mode, store disable, etc. All of these functions are described in the Setup Mode section of this manual.



The screenshot shows a 'Settings' dialog box with the following sections and options:

- Merge Mode:** A dropdown menu set to 'HTP'.
- Store Disable (changing cues on the device is not possible)
- Flash Buttons Enabled
- Use Up/Down and Store button as playback
- Options only for Button and DIN version (AC612xub / AC612din):**
- Startup:** A dropdown menu set to 'no Startup'.
- Operation Mode:** A dropdown menu set to 'Swap (only 1 Cuelist is active)' with a '...' button to the right.
- Fade Table:** A dropdown menu set to 'Table 1 (0/1/2/5 sec)'.
- Operating Mode:** A dropdown menu set to 'Normal' with a 'Delay' button to the right.
- Special for din version:**
- Master Enable:** A dropdown menu set to '-'.
- Off Key:** A dropdown menu set to '-'.
- Up Key:** A dropdown menu set to '-'.
- Down Key:** A dropdown menu set to '-'.
- Store Key:** A dropdown menu set to '-'.
- Intensity Master Mode (not for din):**
- Intensity (up/down Intensity 0% - 200%):** A dropdown menu.

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Firmware upgrading

Button, fader and button/fader versions

The USB Update software – available in the download center of the ELC website (www.elclighting.com) – is used to upgrade the firmware of the device. The latest firmware for your AC612 unit can also be downloaded from there.

Follow the next steps to execute a firmware upgrade:

- Power off the device
- Press and hold the Store button
- Connect the device to the computer using a USB cable
- Windows users might need to install the USB drivers located in the downloaded .zip-file
- Start the USB Update program
- Press Update
- Select the downloaded firmware
- When the update is completed;
 - Exit the program
 - Disconnect the USB cable
- Power up the device

PLEASE NOTE: Previously created memories might get lost during the update.

DIN version

The USB Update software – available in the download center of the ELC website (www.elclighting.com) – is used to upgrade the firmware of the device. The latest firmware for your AC612 unit can also be downloaded from there.

Follow the next steps to execute a firmware upgrade:

- Disconnect the unit from the power source
- Remove the white cover by undoing the two clips (one on either side)
- Locate the 'update' jumper
- Put the jumper in the 'update' position
- Connect the device to the computer using a USB cable
- Windows users might need to install the USB drivers located in the downloaded .zip-file
- Start the USB Update program
- Press Update
- Select the downloaded firmware
- When the update is completed;
 - Exit the program
 - Disconnect the USB cable
- Put the 'update' jumper back into its original position
- Replace the cover and reconnect the unit to the power source

PLEASE NOTE: Previously created memories might get lost during the update.

Technical specifications

Power:	external power supply 9V – 24V 200mA
Dimensions:	180 x 80 x 23 mm
Weight:	0.5 kg

General safety instructions

Read all instructions - especially the safety requirements - in the user manual before use. Save these instructions - the safety and operating instructions should be retained for future reference. Carefully follow all instructions.

Cleaning

Disconnect all connected supply and signal cables before cleaning the unit. Clean with a dry cloth. Do not use any liquids or aerosols on the unit.

Usage

Do not use the unit near water or moisture. - Do not block any ventilation openings, they are necessary for the essential airflow within the unit and protect it against overheating. - Install in accordance with the manufacturer's instructions. - Do not insert any objects through the ventilation slots of the unit, as these could come in contact with live parts or could cause short circuits. This could cause electric shock and/or fire. - Do not install near any heat sources such as radiators, stoves or other apparatus (including amplifiers) that produce heat. - Unplug this apparatus during lightning storms or when unused for long periods of time. Do not place the unit on unstable surfaces.

Servicing

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way such as; damage to the power supply cord or plug, spillage of liquids, objects falling into the apparatus, exposure to rain or moisture, abnormal operation or falling damage. In all of the previous conditions, disconnect the main plug immediately and call your distributor or technical support!

WARNING

**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE**

Declaration of Conformity

We,

Manufacturers name: ELC lighting b.v.
Manufacturers address: Weerijis 8
5422 WV Gemert
the Netherlands

Herewith take the full responsibility to confirm that the product

Product Category: Lighting control equipment
Name of product: ELC-AC612XUB / ELC-AC612XUF / ELC-AC612XUBF /
ELC-AC612XUBX / ELC-AC612XUFX / ELC-AC612XUBFX

Which refer to this declaration are manufactured in the Netherlands and complies with the following product specifications and harmonized standards:

Safety: LVD (Low Voltage Directive) 2014/35/EU, EN62368-1
EMC: 2014/30/EG, EN55032
ROHS (II): 2011/65/EU

With the presumption that the equipment is used and connected according to the manual, supplied with the equipment. All signal input- and output connections must be shielded and the shielding must be connected to the ground of the corresponding plug.

Gemert, February 16, 2018

ing. Joost van Eenbergen

