



# ELEKTRALITE

division of group one

product manual  
# E\_10051a

model n° c p 1

- CP1 Operational Manual
- CP1 Quick Form Manual
- CP1 Software Rev 1.1 Software
- CP1 Software Rev 1.2



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## INTRODUCTION

The Elektralite CP-1 is a small but powerful moving light controller designed to control up to 8 Clay Paky instruments. It is quick and easy to program and will do many of the things that up until now could only have been done with much more expensive lighting consoles. Features include:

- Rack mount 19" X 2 space chassis.
- Battery backed RAM for 200 scenes, 50 chases, and 50 macros.
- 32 character LCD display for ease of programming.
- Simple panel layout with dedicated switches for ease of use.
- High quality 60mm faders for instrument control.
- Separate faders for crossfade and chase speed control.
- High quality joystick for pan and tilt control.
- 12 digit keypad for data entry.
- "Latch" feature to allow pile on of scenes and chases.
- Audio input for chase speed control.
- Midi in and out for automation and memory backup.
- Controls 8 Golden Scans, Mini Scans or Silverados in any combination.

## SYSTEM SETUP

After unpacking the CP-1, plug in the external power supply and turn on the power switch on the front panel. The display should light up and display the product name along with the current software revision. If the display does not light up consult the troubleshooting chapter in this manual.

### DMX512

The Clay Paky instruments are connected to the CP-1 via the DMX512 jack on the rear panel. You can attach any of the Clay Paky products including both the 6 channel Golden Scans and the 4 channel Miniscans or Silverados. The CP-1 can control up to 8 instruments using 48 DMX512 channels. If you are connecting more than 8 instruments, some will have to share channels and will operate in unison. You must set the address switches on the instruments regardless of the instrument type to the following addresses: (consult your particular instrument's instructions on how to set the channel addresses using the dipswitches).

Instrument	Start Address
1	1
2	7
3	13
4	19
5	25
6	31
7	37
8	43

You must next program the CP-1 to tell it which type of instrument is connected at the particular address. To do this press "Enter", "Scene", "998", "Enter". The display will read:

```
INSTRUMENT TYPE  
INST 1 GOLD SCAN
```

To program the instrument type for each of the 8 instruments, first select the instrument number "1-8" using the numbered keyswitches. Next use the "+" or "-" key to select the instrument type, either Golden or Mini Scan, (Silverados are the same as Mini Scans). You must do this for all 8 instruments. The selections will be stored in battery backed memory so you won't have to set them again until you change your system. To exit this display, press any other control switch.

### AUDIO IN

Connect the audio input to a line level output from a mixing console or an audio preamp. Do not connect this to a power amp or any speaker level source. The input is ground isolated so you should not create any hum in your audio system when this is connected. Consult the chapter on chases as to how this input is used.

### MIDI IN/OUT

If you are using MIDI with the CP-1, connect the MIDI out on the CP-1 to the MIDI in on your computer interface, sequencer, or data storage device. Connect the MIDI out on the CP-1 to the MIDI in on the other device. Read the chapter on MIDI for more information.

## SCENES

The CP-1 allows you to store up to 200 scenes in memory which can later be recalled directly using the numbered keyswitches and Go switch or recalled in automatic sequences using chases and macros.

### Programming Scenes

To program a scene you must first create a “look” on stage. This is done by setting the control levels for each instrument. You can do this one instrument at a time or in any group combination. To select the instrument(s) you want to control, press “Instrument” then press the corresponding numbered keyswitch. You can select any combination of instruments by pressing more keyswitches. Pressing the keyswitch of an instrument that is already selected will deselect that instrument. Pressing “0” will deselect all instruments. Once an instrument is selected you can control its tilt and pan with the joystick or control its iris, color, gobos, and strobe settings with the 4 faders on the far left side of the panel.

NOTE: 4 channel instruments such as the Miniscan or Silverado do not have iris control, in addition gobos and strobe share the same channel and therefore cannot be used simultaneously. If a gobo is selected it will disable the strobe setting and if a strobe setting is used it will disable the gobos setting.

When creating a new scene from scratch always start by pressing “Black”. This will zero all instruments at the start of the programming process. Next select instruments as described in the preceding paragraphs. Use the joystick and control faders to set up the instruments that are to be used in the scene. Once the look has been established, store the scene in memory by pressing “Enter”, then “Scene”, the following message will be displayed:

```
ENTER SCENE _  
XFADE 00.0 SEC
```

Next use the “Xfade Speed” fader to set the crossfade time for this scene. This will establish the speed at which the lights will move to this new scene when called. Set this to 0 for the fastest possible movement. Next use the numbered keyswitches to select a scene number from 1 - 200 to store this scene to. It is not necessary to enter 3 digits. If for example you are saving scene 1, you only need to press keyswitch 1. Finally press “Enter” to store the scene. If a scene has already been saved at this location you will be prompted with the following display:

```
SCN 001 EXISTS,  
ENTER OR CHANGE
```

Press “Enter” to write over the old scene or you can select a new number and then press “Enter” to save it at a different location. Once the scene has been saved the display will read:

```
SCENE 001 SAVED
```

### Recalling Scenes

Once scenes have been stored in memory they can be directly recalled by pressing “Scene”. The display will read:

```
NEXT SCENE _
```

Select the desired scene number (1 - 200) using the keyswitches. Press “Go” to call the scene. A bar graph will appear in the lower half of the display if there is a crossfade and will show the progress of the fade. Also the next consecutive scene number will automatically be displayed. This will allow you to press “Go” again without having to select the next scene number in sequence. You can also use the “+” or “-” key to increment or decrement the next scene number.

**NOTE:** When a scene crossfades, only pan, tilt and iris actually fade as these are the only continuous type controls. All other non-continuous type settings; color, gobos and strobe, snap to position at the end of the crossfade.

## Editing Scenes

To edit an existing scene, first recall the scene as described in the previous paragraphs. Make any changes as needed using the control faders and joystick. Press “Enter”, “Scene”, then adjust the “Xfade” if desired. Select the scene number using the keyswitches. You can write over the same scene number or you can select a different one if you are copying this scene to another location. Finally press “Enter” to store the edited scene. If you are writing over the original scene press “Enter” again when the display reads:

```
SCN 001 EXISTS,  
ENTER OR CHANGE
```

## CHASES

The CP-1 can store up to 50 chases each with up to 99 steps. A chase is a series of scenes which are called one at a time in order. Each scene in the chase is referred to as a step. The chase will loop continuously as it steps through each scene at a pre-programmed speed. In addition you can set the crossfade speed from one step to the next. If there is an audio signal present at the audio input on the CP-1, the chase will try to sync to the beat of the audio.

### Programming Chases

The scenes in the chase are accessed from the scene memory so you must first create and store some scenes as described in the previous chapter. Once you have done so you can then program a chase. To begin, press “Enter” then “Chase”. The display will read:

```
CHASE_  BPM 080  
STEP 01  SCN
```

Use the cursor keyswitches “< >” to move the underline cursor on the display to the lower right corner of the display next to the word “SCN”. Select the number for the first scene of the chase using the number keyswitches. Press “Enter”. The display will automatically increment to the next step and the number next to “SCN” will go blank allowing you to enter the scene for the next step of the chase. Repeat this process until you have entered all of the scenes for this chase.

After entering the scenes, adjust the “Chase Speed” fader until the display shows the desired BPM (beats per minute). Next adjust the “Xfade Speed” fader to the desired crossfade time. The display will switch from “BPM” to “XF” and show the selected crossfade time in seconds. If you want your chase to snap to each scene, set the crossfade to 0. There is only one crossfade speed for the entire chase, the crossfades that are stored with the scenes are not used.

**NOTE:** if the crossfade time is set too long (longer than the time between steps), the chase steps will be unable to reach their destinations before the following steps are called. This will prevent color and gobo changes from happening as these take place only after a scene has reached its destination.

Once everything has been set, press “Enter” again until the underline cursor moves back to the top line of the display next to the word “Chase”. Select a number to assign the chase from 1-50 using the keyswitches. Press “Enter” again to store the chase at that location. As when storing a scene, if there is already a chase at that location the display will read:

```
CHASE 01 EXISTS,  
ENTER OR CHANGE
```

Press “Enter” to write over that location or select a new location and press “Enter”.

### Recalling Chases

Once a chase has been stored in memory it can be recalled by pressing “Chase”. The display will read:

```
SELECT CHASE _
```

Select the desired chase number with the keyswitches then press “Go”. The display will read:

```
CHASE  BPM 080  
STEP 01  SCN 001
```

As the chase runs, the display will increment with each step of the chase showing the current step and scene number. You can adjust the speed and crossfade rate while the chase is running.

## Audio Sync

If there is an audio signal present at the audio input jack on the rear panel, any currently running chase will attempt to sync to it. The chase will try to derive a beat from the bass frequencies and trigger the steps from it. If at any time the beat stops or is intermittent the speed will revert back to the programmed speed. When the chase is using the audio signal for its speed, the display will show the message “AUD” next to BPM instead of a number.

The sensitivity of the audio input to the signal level can be adjusted by pressing “Enter”, “Scene”, “999”, “Enter”. The display will read:

```
AUDIO IN SENSE 1  
0-LEAST, 9-MOST
```

Use the keyswitches to select the desired sensitivity from 0-9 with 9 being the most sensitive (for the weakest audio signal). The value will be saved in battery backed memory.

## Editing Chases

Once a chase is programmed and stored in memory it can be edited and re-stored at any time. You can change the scene number at a step, you can remove steps, you can add or insert steps, you can change the speed and you can change the crossfade rate. You can also modify a chase and copy it to a different location, keeping the original while creating a new one.

**NOTE:** Whenever you edit a chase you must always store it again, either at the same location or at a new one.

To edit a chase, press “Enter” then “Chase”. The display will read:

```
CHASE_ BPM 080  
STEP 01 SCN
```

Use the keyswitches to select the number of the chase you want to edit. That chase will be copied into an edit buffer where you can make changes to it without affecting the original which will still be stored in battery backed memory.

After the chase has been selected, use the cursor keys to move the underline cursor until it is underneath the step number. Select the step that you want to edit using the keyswitches.

After a step is selected the display will show the scene that is stored at that step. If you want to change the scene number at that step, move the cursor until it is underneath the scene number then use the keyswitches to enter a new scene. Press “Enter”. The step number will automatically increment to the next step. If you don’t need to edit that step press “Enter” again and the cursor will return to the chase number on the top line. To store the edited chase at the same location press “Enter” again. If you are copying the chase to another location, select a different chase number before pressing “Enter”. If you are storing to the same location the display will read:

```
CHASE 01 EXISTS,  
ENTER OR CHANGE
```

Press “Enter” to store the new edited chase over the old one.

**To add more scenes** to the end of a chase, first load the chase into the edit buffer as explained earlier. Move the cursor to the step number on the display and select the step number that is one higher than the last step in the chase. The scene number will be blank for that step. Move the cursor to the blank scene field and select a scene number. Press “Enter”. The display will automatically increment allowing you to enter more steps to the end of the chase. When you are finished press “Enter” and the cursor will return to the chase number. Press “Enter” again to overwrite the old chase or select a new location then press “Enter”.



**To delete steps** from a chase, load the chase into the edit buffer as explained earlier. Select the step number that you want to delete by moving the cursor under the step number in the display and selecting it. Press “Delete”. That step will be deleted from the chase and any steps above that one will move down to the next lower step number. The display will show that the scene that was at the next step has now moved down to the step that you just deleted. If the step you deleted was the last step of the chase, the scene field will go blank showing that there is now no scene at this step. Finally you must store the chase after you have edited it.

**To insert a chase step** into the middle of an existing chase, first load the chase into the edit buffer as explained earlier. Call the step number where you want to insert the new step by moving the cursor under the step number and selecting it. Press “Insert”. A blank step will be inserted at this step number and any steps above this one will be moved up one step number. Move the cursor over to the scene number which will be blank. Select the scene number to insert at this location then press “Enter”. The step number will automatically increment and you can insert another step by moving the cursor back to the step number and repeating the previous operation. Finally you must store the chase once you are finished editing.

**To erase an entire chase** from memory press “Enter” then “Chase”. Select the chase number then press “Delete”. The display will read:

```
ERASE CHASE 01?
+ = YES, - = NO
```

Press the “+” key to confirm the erase or press “-” to escape.

## MACROS

The CP-1 can store up to 50 macros each with up to 99 steps. A macro is a list of scenes, chases and blackouts which are automatically called one at a time in order. Each item on the macro list is referred to as a step. A hold time is also stored with each macro step which determines the amount of time that will elapse until the next macro step is automatically called. This allows you to pre-program an entire show that will loop continuously .

### Programming Macros

To program a macro first press “Enter” then “Macro”. The display will read:

```
MACRO _ STEP 01  
SCN _ HOLD
```

Use the cursor keyswitches to move the underline cursor on the display to the lower left corner of the display underneath the word “SCN”. If the first step is to be a scene, press “Enter” and the cursor will move to the scene number. If instead you want to put a chase at this step press any of the numbered keyswitches to toggle the selection from “SCN” to “CHS”. If you want to put a blackout at this step first set the “Xfade Speed” fader to the desired crossfade speed for the blackout then press “Black”. After selecting “SCN”, “CHS” or “SCN BLK” press “Enter”. The cursor will move to the next field which selects the scene or chase number. Use the number keyswitches to select the desired scene or chase for this step. If you have selected a blackout for this step “BLK” will be displayed next to “SCN” and no additional selection is necessary. Press “Enter”. The cursor will now move to the next field which selects the hold time for this step. Use the keyswitches to enter the hold time in seconds (1-999). Press “Enter”. The cursor will return to the left of the display and will automatically increment to the next step number allowing you to repeat the previous operation for the next macro step.

Once all steps have been programmed, press “Enter” repeatedly or use the cursor keys until the underline cursor moves back to the top line of the display next to the word “Macro”. Select a number to assign the macro from 1 -50 using the keyswitches. Press “Enter” again to store the macro at that location. If there is already a macro at that location the display will read:

```
MACRO 01 EXISTS.  
ENTER OR CHANGE
```

Press “Enter” to write over that location or select a new location and press “Enter”.

### Recalling Macros

Once a macro has been stored in memory it can be recalled by pressing “Macro”. The display will read:

```
SELECT MACRO _
```

Select the desired macro with the keyswitches then press “Go”. The display will read:

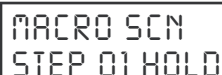
```
MACRO 01 STEP 01  
SCN 001 HOLD 010
```

The display will change with each step of the macro showing the current step and what is stored there. The hold time will also count down on the display showing the time remaining until the next step call.. While it is running, you can pause the macro by pressing the “-” key then continue by pressing “+”. “Go” will advance the macro to the next step.

## Editing Macros

Once a macro is programmed and stored in memory it can be edited and re-stored at any time. You can change the scene or chase number as well as the hold time at any step. You can remove steps, add or insert steps. You can also modify a macro and copy it to a different location, keeping the original while creating a new one.

To edit a macro, press “Enter” then “Macro”. The display will read:



```
MACRO SCN
STEP 01 HOLD
```

Use the keyswitches to select the macro that you want to edit. The selected macro will be copied into an edit buffer where you can make changes to it without affecting the original which will still be stored in battery backed memory.

After the macro has been selected, use the cursor keys to move the underline cursor underneath the step number. Select the step that you want to edit using the keyswitches. When a step is selected the display will show the information that is stored at that step. If you want to change anything at that step, move the cursor until it is underneath the item you wish to change then use the keyswitches to enter a new value. Press “Enter” after each new entry. If you continue to press “Enter” the cursor will move to each item on the step display. If you do not want to change that item, press “Enter” and the cursor will move on then automatically increment to the next step. If you don’t need to edit the next step keep pressing “Enter” until the cursor returns to the macro number on the top line. To store the edited macro at the same location press “Enter” again. If you are copying the macro to another location, select a different macro number before pressing “Enter”.

**To add more steps** to the end of a macro, first load the macro into the edit buffer as explained above. Move the cursor to the step number on the display and select the step number that is one higher than the last step in the macro. The scene and hold numbers will be blank for that step. Move the cursor under “SCN” if you want to change it to “CHS”. Press “Enter”. The cursor will automatically move to the next field so that you can enter the scene or chase number and finally the hold time for the new step. After entering a hold time and pressing “Enter” the display will automatically increment allowing you to enter more steps to the end of the macro. When you are finished continue to press “Enter” or use the cursor keys to return the cursor to the macro number. Press “Enter” again to overwrite the old macro or select a new location then press “Enter”.

**To delete steps** from a macro, load the macro into the edit buffer as explained above. Select the step number that you want to delete by putting the cursor under the step number in the display and selecting the desired one. Press “Delete”. That step will be deleted from the macro and any steps above that one will move down to the next lower step number. The display will show that the values that were at the next step have now moved down to the step that you have just deleted. If the step you deleted was the last step of the macro, the scene and hold field will go blank showing that there is now nothing at this step. Finally you must store the edited macro as explained previously.

**To insert a macro step** into the middle of an existing macro, first load the macro into the edit buffer as explained. Call the step number where you want to insert the new step by moving the cursor under the step number in the display and selecting the desired step. Press “Insert”. A blank step will be inserted at this step number and any steps above this one will be moved up one step number. Move the cursor over to the scene field which will be blank. Select the scene, chase or blackout to insert at this location then press “Enter”. Enter a new hold time and press “Enter”. The step number will automatically increment and you can insert another step by moving the cursor back to the step number and repeating the previous operation. Finally you must store the edited macro.

**To erase an entire macro** from memory press “Enter” then “Macro”. Select the macro to erase then press “Delete”. The display will read:

```
ERASE MACRO 01?  
+ = YES, - = NO
```

Press the “+” key to confirm the erase or press“-” to escape.

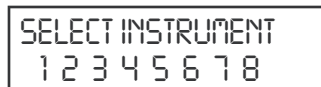
## PERFORMANCE

Live performance of the CP-1 for the most part involves calling scenes, chases, and macros. The easiest method of performance which doesn't require an operator, is to call a macro or chase and let it loop continuously. The macro or chase will continue to run until it is interrupted by a call to another macro, chase, or scene, or by pressing "Black". A macro can be paused by pressing the "-" key, "+" will continue after the pause, and "Go" will advance the macro to the next step.

An operator can also choose to call scenes directly by pressing "Scene", then the keyswitches to select the desired scene number, then "Go". The next scene number will automatically be displayed so that the operator can continue to press "Go" to call one scene after another in ascending order. The "+" and "-" keys can also be used to select the next scene.

### Direct Control of Instruments

During performance an operator can take direct control of any instrument or group of instruments using the joystick and control faders. To select which instruments to control press "Instrument". The display will read:



```
SELECT INSTRUMENT
1 2 3 4 5 6 7 8
```

In the above example all 8 instruments are active. To enable or disable any instrument press the corresponding number keyswitch. Its number in the display will toggle on or off. Pressing "0" will toggle all instruments off. The current instrument selection is saved in battery backed memory so that when the CP-1 is turned off it will always power up as you left it.

Instruments whose numbers are displayed will respond to any movement of the joystick or control faders (iris, color, gobos or strobe). This gives the operator the option of live performance control even if a macro or chase is running. Of course if there is a fast chase in progress the operator will be fighting with the chase by trying to override any of the controls. The CP-1 uses "latest takes precedence" which means that the last control signal sent to the instruments sets the control.

### Black

Pressing the "Black" switch sets all control channels to 0 which turns off all of the instruments. It also turns off any currently running chase or macro. The blackout will crossfade at whatever speed the "Xfade Speed" fader is currently set to.

### Xfade Speed

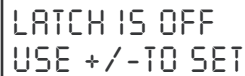
If a crossfade is in progress it can be overridden by moving this fader. If the "select scene" or "black" displays are active, a bar graph is displayed showing the progress of the crossfade. If a chase is running, the crossfade for every scene in the chase is affected. Remember that if the crossfade time is set too long, scenes in the chase won't reach their destinations before the next chase step is called. If this happens, shorten the crossfade time until the scenes move to their correct locations and the gobos and color wheels snap to their proper settings.

### Chase Speed

If a chase is running, its speed can be adjusted by moving this fader. If audio is controlling the speed of the chase, this fader will have no effect until the audio signal stops, then the speed will revert back to the adjusted fader speed. If "latch" is on, only the latest chase will be affected by the speed control.

## Latch

When you press “Latch” the display will read:



```
LATCH IS OFF
USE +/- TO SET
```

Use the “+” key to turn latch on and the “-” key to turn it off. Turning latch on will allow scenes and chases to “pile on”. This means that instead of replacing one scene or chase with another each time a new one is called, previously called scenes and chases are left active and new ones are added to the overall look on stage. For a scene call this means that if an instrument is not used in the latest called scene, it will retain its current settings from the previous scenes when the new scene is called. Any instruments that are used in the new scene however will change. This is because the CP-1 always adheres to “latest takes precedence”. Note that when latch is off, an instrument will go to black if it is not used in the scene that has been called.

To give an example of how latch might be used when calling scenes, consider having scene 1 which moves and focuses instrument 1 with all other instruments off, scene 2 which moves and focuses instrument 2 with all other instruments off, and scene 3 which moves and focuses instrument 3 with all other instruments off. With latch on, calling scene 1 will only move and focus instrument 1 while all other instruments retain their old settings. Calling scene 2 will now focus instrument 2 while instrument 1 keeps its settings from scene 1, and finally calling scene 3 will focus instrument 3 while instruments 1 and 2 retain their settings from scenes 1 and 2. If latch were off, calling scene 1 would focus instrument 1 but all other instruments would go to black. Calling scenes 2 and 3 would also only focus one instrument while all others would go to black.

With latch on, up to three different crossfades can occur simultaneously which are fading different instruments at different speeds. In the unlikely event that three crossfades are happening at once, the last called scene will occur without a crossfade.

For chases, latch on means that up to three chases can run simultaneously. To be effective though, each chase that is running should be operating different instruments. If an instrument is shared between several chases that are running simultaneously, the chases will fight over that instrument with latest takes precedent having control at any one time. If three chases are already running, any new chase that is called will replace the oldest chase. The display will only show the status of the latest chase that was called and likewise the “Chase Speed” and “Xfade Speed” faders will only affect that chase. If audio takes control of the chase speed, all chases will try to sync to it.

Macros do not take advantage of the latch feature. If latch is on a macro ignores it.

The current latch status is stored in battery backed memory so that when you turn the CP-1 off it will power up as you left it.

## SYSTEM PROGRAMMING

There are a number of hidden functions and settings for the CP-1 that are to be programmed during installation that seldom if ever need to be set again. They are generally used by the installer to customize the system to the particular application and then left alone. They are all accessed by pressing “Enter”, “Scene”, “99X”, “Enter”, with X being the number of the particular function. Any selection that involves setting something will be stored in battery backed memory.

### Memory Lock

Press “Enter”, “Scene”, “994”, “Enter”. The display will read:

```
MEMORY LOCK OFF  
USE +/- TO SET
```

Use the “+” or “-” key to turn memory lock on or off. With memory lock on the scene, chase and macro memory will be protected from accidental writes from the front panel. If anyone tries to store a scene, chase or macro, the message “MEMORY LOCKED” will appear in the display.

### Save Memory Via MIDI

Press “Enter”, “Scene”, “995”, “Enter”. The display will read:

```
PRESS GO TO SAVE  
MEMORY VIA MIDI
```

Press “Go” to initiate a memory dump via the MIDI out port. This will encode and send a copy of the scene, chase and macro memory to a data storage device for backup. Consult the MIDI chapter for more information.

### Erase All Memory

Press “Enter”, “Scene”, “996”, “Enter”. The display will read:

```
DELETE 5 TIMES TO  
ERASE MEMORY
```

Press “Delete” 5 times to erase all scene, chase and macro memory as well as setting all system parameters to their factory settings. Use this feature with caution.

### Set MIDI Channel

Press “Enter”, “Scene”, “997”, “Enter”. The display will read:

```
MIDI CHANNEL 01  
SELECT FROM 1-16
```

Use the keyswitches to select the MIDI channel (1-16) that the CP-1 will send and receive performance information on. Consult the MIDI chapter for more information.

### Set Instrument Type

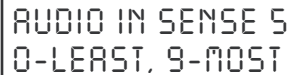
Press “Enter”, “Scene”, “998”, “Enter”. The display will read:

```
INSTRUMENT TYPE  
INST 1 GOLD SCAN
```

Use the number keyswitches to select each instrument (1-8) then use the “+” and “-” keys to toggle between 6 channel Gold Scan and 4 channel Mini Scan (Silverado). You must set each instrument separately. This allows the CP-1 to adjust its channel output internally so that the control signals will be directed properly for the instrument type.

## Set Audio Sensitivity

Press “Enter”, “Scene”, “999”, “Enter”. The display will read:



```
AUDIO IN SENSE 5
0-LEAST, 9-MOST
```

Select a value from (0-9) to control the sensitivity of the audio input which is used to sync chase speed to audio. The audio input is a line level input with a low pass filter driving trigger and debounce routines. In order to be effective the music on this input must have some sort of pulsing beat to drive the chase.

The sensitivity sets the trigger level with 0 being the least sensitive and 9 being the most sensitive. If the audio source can be adjusted, leave this setting at 5 and adjust at the source. If the signal can't be adjusted, try different settings until you get the best results. A setting of 9 would be for very weak audio signals and a setting of 0 would be for strong signals.



## MIDI

The CP-1 has an extensive MIDI implementation which will allow you to automate performances as well as backup scene, chase and macro memory to disk.

NOTE: This manual does not attempt to explain how MIDI works or how to sequence a lighting show.

### MIDI Channel

To set the MIDI channel on the CP-1 press “Enter”, “Scene”, “997”, “Enter”. The display will read:

```
MIDI CHANNEL 01
SELECT FROM 1-16
```

Use the keyswitches to change the MIDI channel if desired. The MIDI channel will affect continuous controller messages and program changes which are sent and received by the CP-1. If you are only concerned with backing up the memory with MIDI, the MIDI channel need not be set.

### Continuous Controllers

Each of the 48 control channels used by the CP-1 as well as the chase speed and crossfade controls will send and receive MIDI continuous controller messages. The continuous controller numbers used are 1 -48 (01H-30H) which correspond to DMX512 output channels 1 -48. Continuous controller 49 (31H) is used for the “Xfade Speed” fader and continuous controller 50 (32H) for the “Chase Speed” fader. Each of these controls send or receive a 7 bit control value from 0-127 (00H-7FH). Continuous controller 0 is used as a bank select for the MIDI program change commands. Banks 0 and 1 select the scenes, bank 2 selects chases and bank 3 selects macros. The MIDI controllers with their corresponding CP-1 controls are shown in the MIDI implementation chart which follows.

### Program Changes

The CP-1 sends and receives MIDI program changes when selecting scenes, chases, macros and blackouts. Because MIDI only allows for 127 programs, bank switching is used with continuous controller 0 selecting the bank (0-3). Whenever a scene, chase or macro is called from the CP-1 panel, a continuous controller 0 message which determines the bank number (as explained in the previous paragraph) is sent followed by a program change. Bank 0 selects scenes 1 -127, bank 1 selects scenes 128-200, bank 2 selects chases 1 -50 and bank 3 selects macros 1 -50. The program change value is equal to the scene, chase or macro number with the exception of bank 1 where scenes 128-200 correspond to MIDI programs 1 -73. A program change value of 0 is sent when “Black” is pressed with no bank select message needed. Instead of sending a bank number, “Black” first sends a crossfade value using controller 49 before sending a program 0 message.

### System Exclusive (Memory Backup)

MIDI system exclusive messages are used by the CP-1 to encode the memory contents of the scenes, chases and macros. A memory dump can be initiated from the front panel of the CP-1 or requested through the MIDI in port using a system exclusive message. To back up or restore the CP-1 ‘s memory using a computer or MIDI data storage device first consult the instructions for your particular storage device. To start the dump from the CP-1, press “Enter”, “Scene”, “995”, “Enter”. The display will read:

```
PRESS GO TO SAVE
MEMORY VIA MIDI
```

When your receiver is ready press “Go” to start the memory dump. The message “SENDING” will appear on the CP-1 display. After the dump is complete the display will return to its previous state. The memory dump will require approx. 60K of disk space. When sending a memory dump back to the CP-1 the message “RECEIVING MEMORY” will appear in the CP-1 display. After the memory dump has been received the message “MEMORY RECEIVED” will appear in the

display. If the “received” message does not appear, then the memory dump was improperly received. The CP-1 must not be in enter scene, chase or macro mode when receiving a memory dump. The contents of the memory messages are shown in the MIDI implementation chart which follows.

## MIDI Implementation Chart

**NOTE:** All numbers are in hexadecimal unless stated otherwise. Continuous Controllers (sent and received)

Bn 00 bb	Bank select
Bn 01 vv	Inst. 1 Iris
Bn 02 vv	Inst. 1 Color
Bn 03 vv	Inst. 1 Gobos
Bn 04 vv	Inst. 1 Strobe
Bn 05 vv	Inst. 1 Pan
Bn 06 vv	Inst. 1 Tilt
Bn 2B vv	Inst. 8 Iris
Bn 2C vv	Inst. 8 Color
Bn 2D vv	Inst. 8 Gobos
Bn 2E vv	Inst. 8 Strobe
Bn 2F vv	Inst. 8 Pan
Bn 30 vv	Inst. 8 Tilt
Bn 31 vv	Xfade Speed
Bn 32 vv	Chase Speed

n = MIDI channel (0-F), bb = bank (0-3), w = 7 bit value (0-7F)

**Program Changes** (sent and received)

Cn 00	Blackout
Cn vv	Scenes, Chases and Macros

**Note:** scenes, chases and macros are always preceded by a bank select message.

**System Exclusive Messages**

F0 00 00 19 05 01 dd ... F7	Memory dump
F0 00 00 19 05 00 F7	Memory dump request

dd = 61,000(dec.) data bytes

## TROUBLESHOOTING & SERVICE

There are no user-serviceable parts inside the CP-1. Any internal problem should be referred to a qualified service technician.

### Cleaning and Maintenance

As with any type of control console, keep drinks away from the CP-1. If you need to clean the front panel use a soft cloth. If necessary you can spray a small amount of glass cleaner on the cloth. Do not spray directly on the CP-1. Do not spray electronic cleaners into the faders. Refer fader and switch maintenance to a service technician.

### Power Supply

If the CP-1 will not turn on check the external power supply. There is no fuse inside the CP-1. If the power supply should ever fail or become lost, only replace it with a U.L approved one with the same voltage and power rating. The supply must provide 9 volts DC at 500 ma. The plug has a 2.5mm hole with + voltage at the center.

### Battery

The CP-1 uses a battery to maintain its memory. On power up the battery voltage is always checked and the following message will be displayed when the battery voltage gets low.

```
WARNING, BATTERY  
VOLTAGE BELOW 2V
```

If this happens, take the CP-1 to a qualified service center to have the battery replaced. The battery can be replaced without losing the memory as long as it is carefully removed and replaced with the power on. Nevertheless it is always a good idea to back up your memory to disk in case of any possible memory loss.

### DMX512

If your instruments are not responding to the CP-1 check the dipswitches on the instruments and refer to their instructions to make sure they are set properly as outlined in the chapter on setup. Also check your cabling and connectors for opens or shorts.- Never connect the shield of your DMX cable to the shell of the connector. If you are running long lines you need to terminate the last instrument in your DMX512 chain with a special termination plug. If you don't have one you can make one by taking a 5 pin male XLR plug and soldering a 120 ohm resistor between pins 2 and 3. Plug this into the open connector on the last instrument in your DMX512 chain.

## ELEKTRALITE WARRANTY

Elektralite products are warranted to be free from defects of material and workmanship for a period of two years from the date of delivery to the original user. Repair will be made at no cost for labor or materials within this time period. This warranty is void if the product has been modified without prior authorization or subjected to abuse.

All warranty repairs should be returned prepaid to:

**Elektralite** division  
Group One Limited  
70 Sea Lane Farmingdale  
New York 11735 USA

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## CP-I Quick Form Manual

The CP-I was designed specifically to be able to control moving lights as well as DMX dimmer packs. The layout is simple to understand and enables the user to quickly program any number of different looks. Utilizing only high grade components, the CP-I will provide years of trouble free service.

### Moving Light Controller

- 48 Channels of DMX able to control moving lights as well as DMX dimming packs.
- Controls up to 8 Clay Paky Silverados/Miniscans and Golden Scans in any combination.
- 200 Scene memories, 50 Chase memories and 50 Macro memories.
- UL Listed /CSA approved power supply.
- Easy to program (Really).
- Non-volatile memory.
- Masking and Non-Masking capabilities.
- Timed Crossfade.
- Coarse and Fine joystick control. .
- Absolute or Relative joystick control.
- 2 year limited warranty.
- Midi In/Midi Out.
- Sound to light control input.
- Available 110V/220V.

## ELEKTRALITE CP-1 QUICK INSTRUCTIONS

Instruments must be set to the following addresses regardless of instrument type. For instruments 1-8 use addresses 1, 7, 13, 19, 25, 31, 37, 43.

**To set inst.** type on CP-1: press Enter / Scene / 998 / Enter. Use keypad to select inst., +/- to toggle type.

**To select instruments** to control or program: press Instrument / use keypad to select instruments desired. 0 key will clear selections, any combination allowed, selection is maintained in battery memory.

**To program scene:** press black to clear all channels / select instruments / use joystick and faders to set up scene / press Enter / Scene / assign number from 1 -200 / set crossfade time / Enter.

**To call scene:** press Scene / enter number from 1 -200 / Go. Next scene will automatically increment to next number. You can press Go or enter a new number. If latch is on, scenes will pile on with latest takes precedence for each instrument. Up to 3 separate long crossfades can occur simultaneously. In the unlikely event that 3 fades are in progress the next call will happen without a fade. With latch off, scenes replace each other with unused instruments going to black.

**To edit scene:** call scene / make any changes with joystick or faders / press Enter / Scene / use keypad to select same or different location number / Enter.

**To program chase:** press Enter / Chase / use arrow keys to move cursor to "SCN" field / use keypad to enter scene number / Enter / step will automatically advance / enter next scene number / after last entry (up to 99) press Enter / cursor will return to Chase field / select chase number (1 -50) / set chase speed with speed fader / set cross fade if desired (will default to 0) / Enter.

**To call chase:** press Chase / select chase number with keypad / Go. Chase speed and Xfade can be adjusted while chase is running. If xfade is too long, chase step will not reach destination before next step call. If latch is on, up to 3 chases can run simultaneously, speed and xfade can only be adjusted for latest chase, chase steps will pile on with latest takes precedence, after 3 chases are called any subsequent chase call will replace oldest chase. If audio is present, programmed speed is overridden.

**To edit chase:** press Enter / Chase / select chase number with keypad / move cursor to step number / enter step number to edit / move cursor to scene number / enter new scene number / Enter / repeat if desired. To save the edited chase to memory you must move the cursor back to the chase number and press Enter. You can also enter a new number and save it at a different location.

**To erase a chase step:** move cursor to step number / enter step number desired / press Delete. The step will be erased and any higher steps will move down. You must always re-save the chase after editing it.

**To insert a chase step:** move cursor to step number / enter step number / press insert. A blank step will be inserted and all higher steps will move up. You can only insert at a step that contains a scene, if the step is empty, nothing will happen. You can then enter a new scene at this step. You must always re-save the chase after editing it.

**To erase chase:** press Enter / Chase / select chase number / Delete. You will be given a second chance to confirm or abort erase.

**To program macro:** press Enter / Macro / move cursor under "SCN" / use any keypad switch to toggle between SCN or CHS or you can press Black / Enter or use > + to get to next field / use keypad to select scene or chase number or press Black. (Black will store a call to blackout using the current xfade slider position) / Enter / cursor will move to HOLD field / use keypad to select hold time (1-999) seconds / Enter / repeat. After last step is entered press Enter or use < > to move cursor to MACRO number field. Use keypad to select macro number (1-50) / Enter.

**To call macro:** press Macro / use keypad to select number / Go. Macro will loop continuously. Go can then be used to advance to next macro step. “-<” will pause macro, “> +” will continue. Macros ignore the latch feature. Scenes and chases replace each other with the latest step call.

To edit macro: Editing is the same as chase editing. You can insert and delete steps when the cursor is at the step number. To save the edited macro you must move the cursor to the macro number and press Enter.

To adjust audio sensitivity: press Enter / Scene / 999 / Enter. Sensitivity is from 0-9 with 9 being the most sensitive (low audio level from sound board).

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## CP-1 SOFTWARE REVISION 1.1

Some features have been added to the CP-1 since the printing of the instruction manual.

### Crossfades

You can now program each instrument to crossfade all 6 of its control channels or crossfade only its pan and tilt. This also allows you to control standard dimmers via DMX512 from any unused channels.

To program this feature press “Enter”, “Scene”, “993”, “Enter”. The display will read:

```
SET XFADE MODE  
INST 1 PAN/TILT
```

Use the number keyswitches to select each instrument (1-8) then use the “+” and “-” keys to toggle between “ALL CHNLS” and “PAN/TILT”. You must set each instrument separately. The setting will be stored in battery backed memory.

When controlling non-moving lights such as dimmers and par cans be sure to set the instrument type for those channels to golden scan and not mini scan. This will give you access to six instead of only four control channels. Channels 5 and 6 for that instrument will be accessed from the joystick.

### Chases

Software revision 1.1 doubles the chase speed from revision 1.0 allowing chase speeds up to 254 BPM. Any chases written with version 1.0 will be doubled in speed and will need to be edited.

Crossfades are now presented as a percentage rather than in seconds for chases. Setting the crossfade rate to 100% gives a smooth glide from step to step and 0% gives a quick change from step to step. The crossfade time will automatically adjust itself to the chase speed and will always be a percentage of the time between chase steps.

Crossfade will revert to 0% when a chase is controlled from the audio input.

### Joystick

The joystick now has a “fine” mode for positioning the mirrors. To access fine mode, press “Instrument”. The display will read:

```
INSTRUMENT  
1 2 3 4 5 6 7 8
```

Press “Instrument” again and the display will read:

```
INSTRUMENT FINE  
1 2 3 4 5 6 7 8
```

When the instrument selection menu is active, pressing “Instrument” will toggle fine mode on and off. With the joystick in fine mode the mirrors will move in small increments making it easier for exact positioning. Use fine mode only after you first get the mirrors close to position with the joystick in normal mode.

In normal mode the joystick controls the mirrors with absolute position, when the joystick is full left the mirrors are full left, and so forth. In fine mode the joystick control is relative. Moving the joystick will increment or decrement the mirrors from their current position. If in fine mode you run out of joystick when trying to position a mirror, you can disengage the joystick by turning off all instrument assignments (press 0 or any of the currently assigned instrument numbers) then move the joystick to center, then turn the desired instruments back on by pressing the desired instrument numbers. From that point the joystick control will continue where it left off.



## CP-1 SOFTWARE REVISION 1.2

The following features have been added to the CP-1.

### Chase Speed

The chase speed selection has been updated to offer a wider variety of speeds from 0 (stopped) to 999 BPM. In addition the Go button can be used to advance the chase by one step. This is helpful when the chase is stopped.

### Macro Hold

Macro steps can now have a hold time of .25 seconds by entering 0 seconds as the hold time. This allows for quick setups and focusing prior to a scene. For example, the lamps can be switched off and the mirrors refocused in .25 seconds followed by the lamps being switched back on. This will make spots flash on stage rather than glide from one focus to the next.

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