

# Fil m-Tech

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If you are not a qual ified technician, pl ease make no adjuatments to anything you may read about in these Adobe manual downl oads

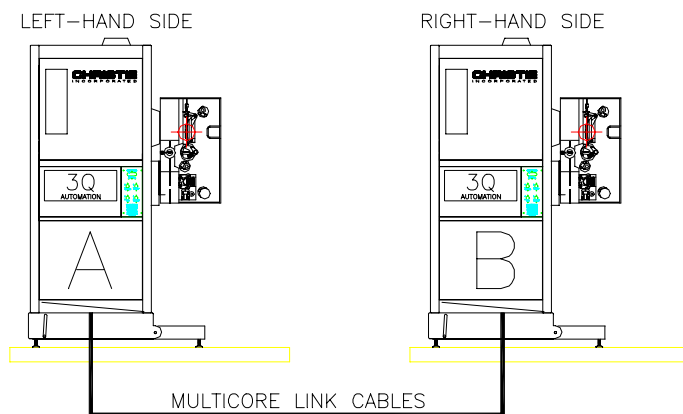
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# CHRISTIE<sup>®</sup>

## INCORPORATED

### ASIA

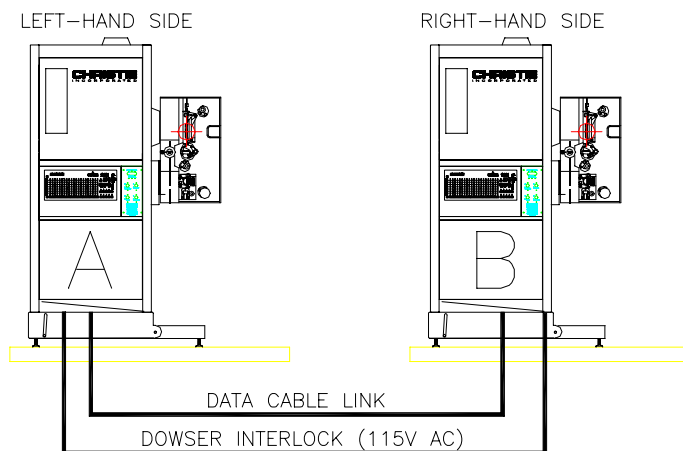
## Typical Dual-Projector Installations using Christie Consoles



### 3Q™ Automation in Coupled Mode **Refer to section IN-001a.**

Requires some additional wiring “on site”, and the addition of the relays contained within the Christie Dual Projector Change-over Kit  
Part No. 196118-001

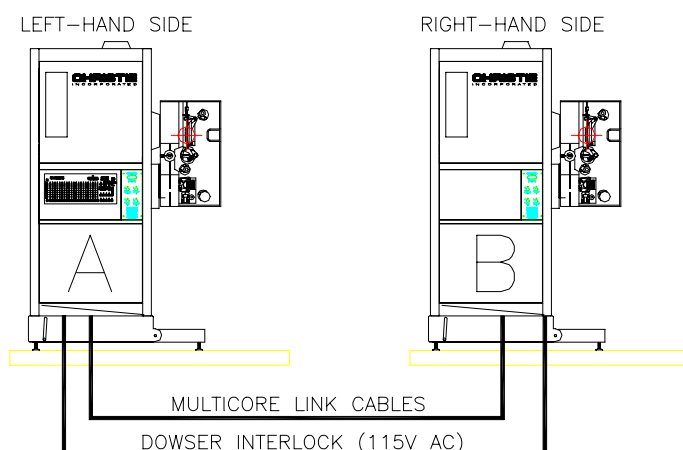
*May operate with or without a platter.  
Can be part of an interlock group, if required (restrictions apply).*



### CA21 or CA100 in Coupled Mode **Refer to section IN-001b.**

An Automation unit is mounted in each console (2 units total). Requires a data cable link between the two consoles. Dual mode is an operator-selected set-up option.

*May operate with or without a platter.  
Can be part of an interlock group, if required (restrictions apply).*



### CA21 or CA100 in Master Mode **Refer to section IN-001b.**

An Automation unit is mounted in the “A” console only (1 unit total). Requires a data cable link between the two consoles, and additional multicore links for assorted relay and cue functions. Dual mode is an operator-selected set-up option.

*May operate with or without a platter.  
Can be part of an interlock group, if required (restrictions apply).*

# CHRISTIE INCORPORATED ASIA

## Installation Notes

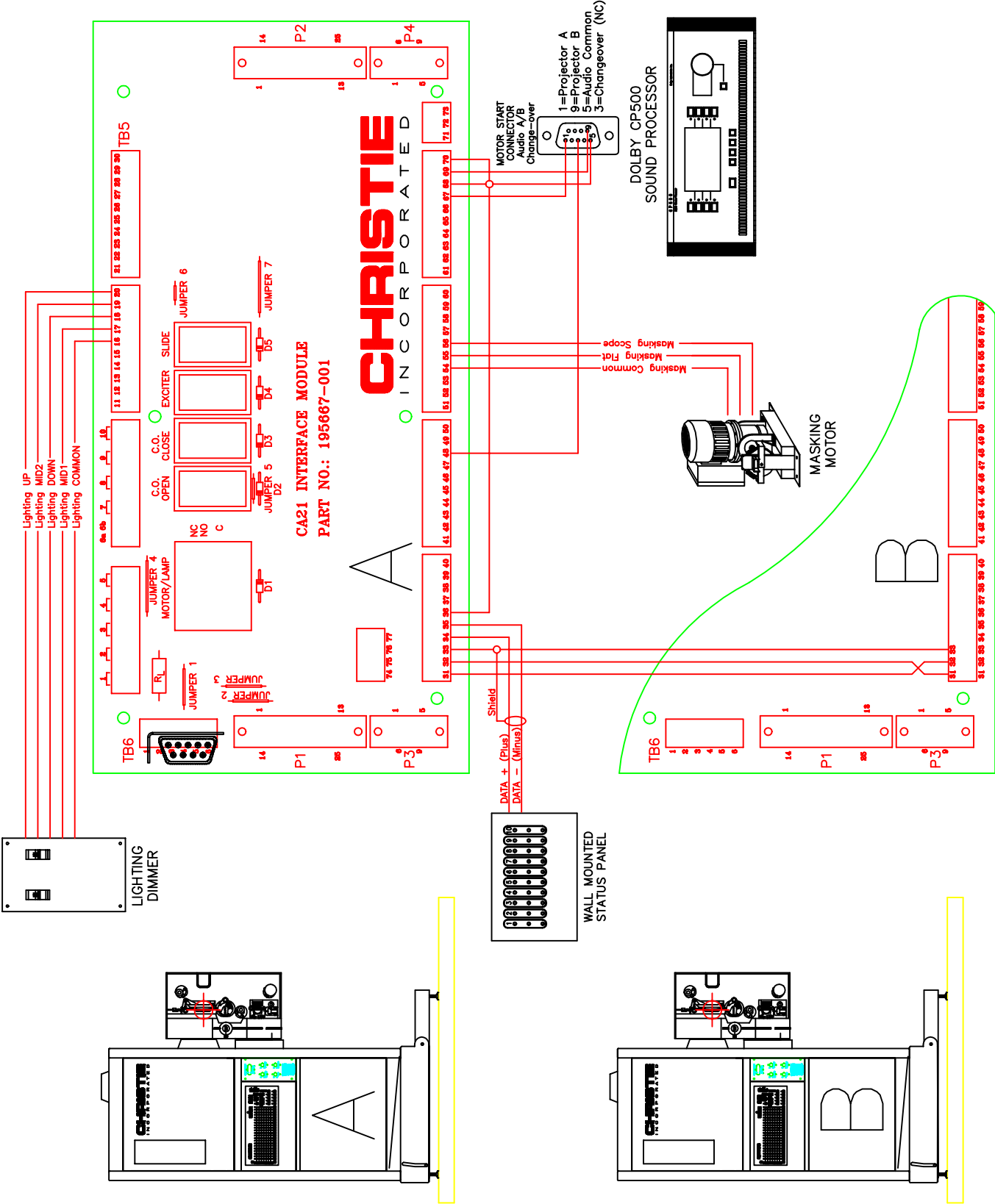
for

### DUAL PROJECTOR CHANGEOVER 2 x CA21, (COUPLED MODE)

**NOTE:** Dual changeover using CA-21 or CA100 Automations may be either:

- a) **Coupled Mode**, using dual automations (1 per projector, total = 2)
- b) **Master Mode**, using a single Automation in Machine A only (total = 1)

# DUAL PROJECTOR CHANGEOVER FOR CA-21 AUTOMATION (COUPLED MODE, USING TWO AUTOMATIONS)





CA21  
Pennywise<sup>TM</sup> Cinema Automation  
Two Projector Coupling  
(Coupled Mode)

23<sup>rd</sup> October 1998

## Introduction

The Pennywise Peripherals CA21 Cinema Automation now allows two CA21's to be coupled for two projector operation. This coupling is achieved by a bidirectional serial port between the two CA21's.

## Quick guide to two projector coupling

To couple two CA21's you must do the following:

- 1/ Both of the two CA21's are installed in their separate projectors as they would normally be for a single projector install.
- 2/ The non projector functions such as lights, masking, sound, slides and curtains are then wired to **only one** of the CA21's. It does not matter which CA21 they are wired to. In fact the relays for these functions will operate on both CA21's and some non projector functions could be wired to one CA21 and the others to the second CA21. This splitting of functions across two CA21's is not recommended.
- 3/ Couple the two CA21's via their coupling serial ports. Refer to the section *Coupling Serial Port Connections* in this document for details.
- 4/ There is a new setup option for use with two projector operation. This option is ACH≡ and is the change over delay for use when Achanging over≡ from one projector to the other (Delay from motor on to picture on/off). Refer to section *Setting the Change Over Delay* in this document for further information.
- 5/ The program should now be entered into the CA21's. The program will be split between the two CA21's. The starting CA21 will include the normal AAUTO START≡operation to get the first reel of film running. All subsequent AAUTO START≡ operations on **either** CA21 will be interpreted as a ACHANGE OVER≡ operation.  
Refer the sections: *The change over mechanism* and *Example CA21 program* in this document for further details.
- 6/ Start the show on the CA21 with the first reel as you would start a show for a single projector configuration. Once this CA21 starts it will put the other CA21 into AGO≡ mode ready for the change over operation.

Further information:

### The change over mechanism

When coupling two CA21's for two projector operation, some way of changing over from one projector to the other is required. Extra AAUTO START operations perform this function.

For two projector operation the program will be split between the two CA21's. The starting CA21 will include the normal AAUTO START operation to get the first reel of film running. All subsequent AAUTO START operations on **either** CA21 will be interpreted as a Achange over operation and cause the following sequence:

- 1/ The Astarting projector's motor is started.
- 2/ Delay for the ACH delay.
- 3/ Turn picture on on Astarting projector and picture off on Aending projector.

Note that the total number of AAUTO START operations in both CA21's will be the same as the number of reels to be shown.

### Setting the change over delay

There is a new setup option for use with two projector operation. This option is ACH and is the change over delay for use when Achanging over from one projector to the other.

When Achanging over one projector will be Aending and the other projector will be Astarting. This delay allows the motor on the Astarting projector to come up to speed before its picture is turned on and the Aending projector's picture is turned off. The delay between motor on and picture on/off ACH is specified in seconds between zero and twenty. The ACH option should be set to the same value on both projectors to synchronise their picture on/off operations.

## Example CA21 program

Here are example programs for each of a pair of coupled CA21's. The two CA21's will be referred to as CA21-A and CA21-B. The show will start on CA21-A and four reels of film will be shown. This means that CA21-A will show reels 1 and 3 and CA21-B will show reels 2 and 4. Because the last reel is being shown by CA21-B the show end program operations will be on this CA21. If five reels of film were being shown then CA21-A would have the show end program operations in its program.

### Program for CA21-A

(Start projector for reel 1, select lens format and volume for trailers)

1 ---- AUTO START, FLAT and VOL CHG to 6.0

(Select lens format and volume for feature (still on reel 1))

2 ---- SCOPE, DIGITAL and VOL CHG to 6.5

(Change over to reel 2 on CA21-B)

3 ---- AUTO START

(Change over to reel 4 on CA21-B)

4 ---- AUTO START

### Program for CA21-B

(Change over to reel 3 on CA21-A)

1 ---- AUTO START

(Reel 4 is now finished - shut down show)

2 ---- AUTO STOP

## Starting the show.

The show must be started on the CA21 controlling the first reel of film. Normal start procedures such as setting the timer or pressing GO then CUE can be used. It is not required that the CA21 which will control the second reel be put into GO mode. It will be put into GO mode automatically when the CA21 controlling the first reel of film starts.



### Which CA21 to wire equipment to.

The non projector functions such as lights, masking, sound, slides and curtains are then wired to **only one** of the CA21's. It does not matter which CA21 they are wired to. In fact the relays for these functions will operate on both CA21's and some non projector functions could be wired to one CA21 and the others to the second CA21. This splitting of functions across two CA21's is not recommended.

### Coupled relay operations.

When two CA21's are coupled the following operations are coupled between the automations.

- < Masking Wide
- < Masking Scope
- < Mono
- < Stereo
- < SR
- < Digital
- < Nonsync1
- < Nonsync2
- < Local/Remote
- < Mute
- < House Up
- < House Preset
- < House Down
- < Slides on
- < Slides off
- < Curtain Open
- < Curtain Close
- < Fader level

### **Non coupled operations**

When two CA21's are coupled the following operations are NOT coupled between the automations.

- < Motor On
- < Motor Off
- < Picture On/Dowser Open
- < Picture Off/Dowser Close
- < Lens Flat
- < Lens Scope
- < Exciter On
- < Exciter Off

### **Fader coupling**

When two CA21's are coupled the faders on each CA21 track each other. Fader adjustment on either CA21 will change the fader on both CA21's. Both manual and programmed fader changes perform this way. For serially controlled CP500 sound processor the fader setting on both CA21's will change to match changes made at the CP500.

Note that sound format changes made on the sound processor will only be shown on the CA21 to which the sound processor is connected to. The other CA21 will not show the sound format change on its sound format status LEDs.

## Coupling serial port connections

Serial ports are used to couple two CA21's for two projector operation. These serial ports are simple 3 wire serial ports with transmit, receive and common connections. The transmit and receive connections must be crossed over so that one transmit goes to a receive and vice-versa.

The coupling serial port connections are available on the Christie console automation termination panel as follows:

Signal	Terminal Number
Coupling serial port transmit	31
Coupling serial port receive	32
Coupling serial port common	33

## Sound processor projector source switching

The sound processor needs to know which projector to use as the sound source. A special *AChange Over* relay is provided on each CA21 to control the sound processor source projector switching. In a coupled pair of CA21's the CA21 which has its picture on will activate its *AChange Over* relay.

Both the normally open and normally closed contacts are provided for the *AChange Over* relay. These contact are provided on the Christie console automation termination panel as follows:

Signal	Terminal Number
Audio change over - Normally closed	48
Audio change over - Normally open	47
Audio change over - Common	36

Note that the *Audio change over - common* is also the common for the sound format selection lines.

### **Additional connections for CP500 Sound processor projector source switching for digital operation.**

The CP500 need two additional signals for two projector change over operation. It needs the state of the local projectors motor and the state of the remote projectors motors. The *SPARE RELAY 2* relay will be on when the local projector motor is on and the *SPARE RELAY 3* relay will be on when the remote projector motor is on. These contact are provided on the Christie console automation termination panel as follows:

Signal	Terminal Number
Local motor on signal - Normally open contact (Connect to CP500 <i>Motor Start Connector</i> pin 1) (Motor Start Relay, Proj 1)	67
Local motor on signal - Common (Connect to CP500 <i>Motor Start Connector</i> pin 5) (Ground)	68
Remote motor on signal - Normally open contact (Connect to CP500 <i>Motor Start Connector</i> pin 9) (Motor Start Relay, Proj 1)	69
Remote motor on signal - Common (Connect to CP500 <i>Motor Start Connector</i> pin 5) (Ground)	70

## CA21 hardware modifications required for coupling.

If the CA21's being used have not been ordered from the factory for coupling then the following is required:

A cable must be added to connect the coupling serial port from the CA21 front panel circuit board to the back panel circuit board as follows:

Connection	Connect from: Front panel circuit board CA21 connector J11.	Connect to: Back panel circuit board BIBC connector JP2.
Coupling port TX	Pin 5	Pin 5
Coupling port RX	Pin 3	Pin 3

The connection at the front panel circuit board CA21 connector J11 can use a 20 way female header.

The connections at the back panel circuit board BIBC connector JP2 must be soldered as no connector is mounted on the circuit board.

The CA21 J11 connector is one of two 20 way connectors located along the top edge of the CA21 circuit board. J11 is the connector closest to the centre of the CA21 top edge.

The BIBC JP2 connector is located on the CA21 circuit board which is screwed to the CA21 back panel. It is located on the right hand edge of the circuit board (The power cord enters the left hand edge of the CA21) about half way up from the bottom of the CA21 box.