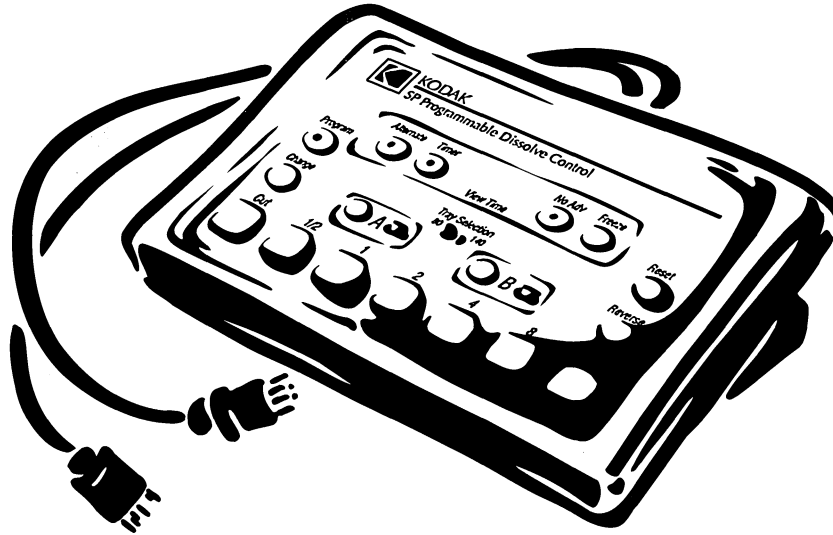


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[www.KodakParts.com](http://www.KodakParts.com)  
KODAK SP Programmable Dissolve Control Operating Manual



PRESENTATION TECHNOLOGIES

## Compliments of: **IMPORTANT SAFETY INSTRUCTIONS**

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When using your **KODAK SP** Programmable Dissolve Control, basic safety precautions should always be followed, including the following:

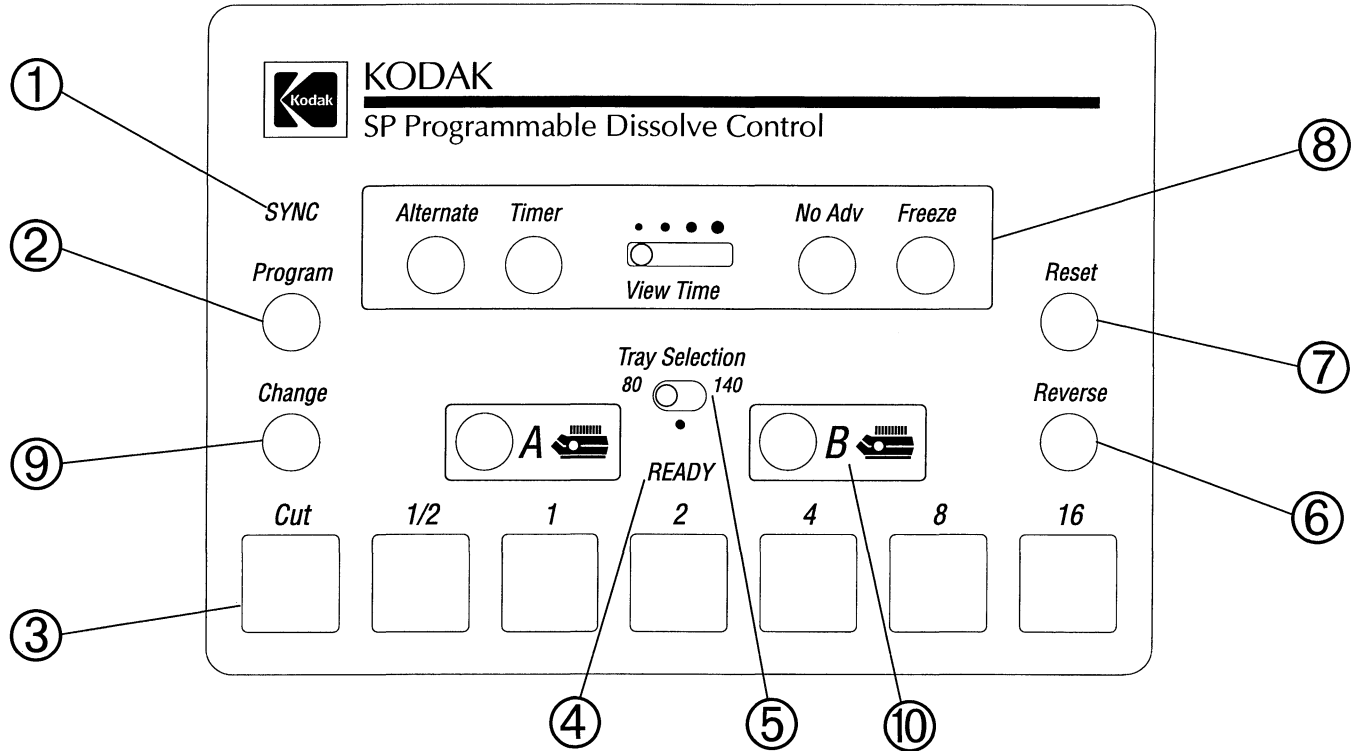
- 1) Read and understand all instructions before using.
- 2) Close supervision is necessary when any unit is used by or near children.
- 3) Do not operate the unit with a damaged cord or if the unit has been dropped or damaged—until it has been examined by a qualified service person.
- 4) Position cords so that it will not be tripped over, pulled, or contact hot surfaces.
- 5) If an extension cord is necessary, a cord with a current rating at least equal to that of the unit should be used. Cords rated less amperage may overheat.
- 6) Always unplug the AC Adapter from electrical outlet when not in use. Never yank on the cord to pull the AC Adapter from an outlet. Grasp the AC Adapter and pull to disconnect.
- 7) Let the unit cool completely before putting away. Loop cords loosely around the unit when storing.
- 8) To reduce the risk of electrical shock, do not immerse or expose the Dissolve Control to water, or other liquids.
- 9) To reduce the risk of electrical shock, do not disassemble the unit. Take it to a qualified service person when service or repair work is required. Incorrect reassembly can cause electrical shock when the SP Programmable Dissolve Control is subsequently used.
- 10) Connect the AC Adapter and projectors to a properly wired, grounded outlet.

**SAVE THESE INSTRUCTIONS**

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<b>Front Panel</b> .....	2	<b>No Advance</b> .....	13
<b>Front Panel Description</b> .....	3	<b>Reverse</b> .....	13
<b>Back Panel</b> .....	4	<b>The MATE-TRAC™ Sync Signal</b> .....	14
<b>Back Panel Description</b> .....	5	<b>A Word About Tape Recorders</b> .....	14
<b>Setup Connection Diagram</b> .....	6	<b>Synchronization Connection Diagram</b> .....	16
<b>Setup Procedure</b> .....	7	<b>Synchronizing Your Show</b> .....	17
<b>Setting Slide Projector Control</b> .....	7	<b>Connection for Synchronizing</b> .....	17
<b>Focus &amp; Alignment</b> .....	8	<b>Making Changes to Your Show</b> .....	18
<b>Familiarization</b>		<b>Making Changes at the End</b> .....	18
Dissolve Keys .....	9	<b>Making Changes Within a Show</b> .....	19
Lamp Buttons .....	9	<b>Playing Back Your Show</b> .....	21
Timer .....	10	<b>Playback Connection Diagram</b> .....	20
View Time Select .....	10	<b>Remote Control</b> .....	22
Freeze .....	11	<b>Terminology</b> .....	23
Alternate .....	11	<b>Troubleshooting Guide</b> .....	24
Change .....	12	<b>Index</b> .....	26

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**FRONT PANEL CONTROLS**



## FRONT PANEL DESCRIPTION

---

### 1) ***SYNC***

The green ***SYNC*** indicator light comes on whenever the KODAK SP Programmable Dissolve Control receives the MATE-TRAC™ synchronizing signal. The ***SYNC*** indicator **stays on** while a proper sync signal is being received. If the ***SYNC*** indicator flickers, the ***SYNC*** signal being received is not of good quality (see page 24, Troubleshooting).

### 2) ***Program***

The ***Program*** button turns the synchronizing signal on or off. When the sync output is turned on, the red ***Program*** indicator lights. When the ***Program*** indicator is lit, the *Sync Input* is turned off. Therefore, the CONTROL will not play back a show with the ***Program*** indicator lit. The ***Program*** indicator flashes whenever a sync signal is being sent to the CONTROL to remind you that the Sync Input is turned off. To playback a show from tape, the ***Program*** indicator must be off.

### 3) ***Dissolve Keys***

The ***Dissolve*** keys create dissolve effects. Each time a key is pressed, one lamp fades on while the other fades off. Each key is labeled with a

number representing a given amount of time in seconds (the Cut key is .25 seconds—the fastest dissolve possible). When a lamp has completed fading off, the tray advances to the next slide.

### 4) ***Ready***

The ***Ready*** indicator tells you that the Control is ready to accept another command (press of a key). The ***Ready*** indicator remains off while a projector is busy fading, advancing or reversing. If a command is given to the Control before the ***Ready*** indicator lights, it may create undesirable results. The ***Ready*** indicator also serves as the power indicator.

**NOTE:** The ***Ready*** indicator does not light when the ***SYNC*** indicator is on.

### 5) ***TRAY***

The ***Tray*** switch tells the Control the capacity of the slide trays being used. The Control accommodates 80 and 140 slide carousel trays. ***This switch MUST be set to the proper position during the programming process.***

**NOTE:** If you intend to use a linear tray and a carousel tray together in the same presentation, the ***Tray*** switch must be set to the center position.

### 6) ***Reverse***

The ***Reverse*** button performs a reverse dissolve. This is useful for live lectures, or just trying out

different methods of dissolve. The ***Reverse*** feature is programmable and can be recorded onto tape as part of a presentation.

### 7) ***Reset***

The ***Reset*** button turns off both lamps and returns the slide trays to their starting positions (normally tray position 1). The ***Reset*** feature is programmable—it can be recorded on to tape at the end of a show. This automatically returns the trays to the starting tray position at the end of a presentation.

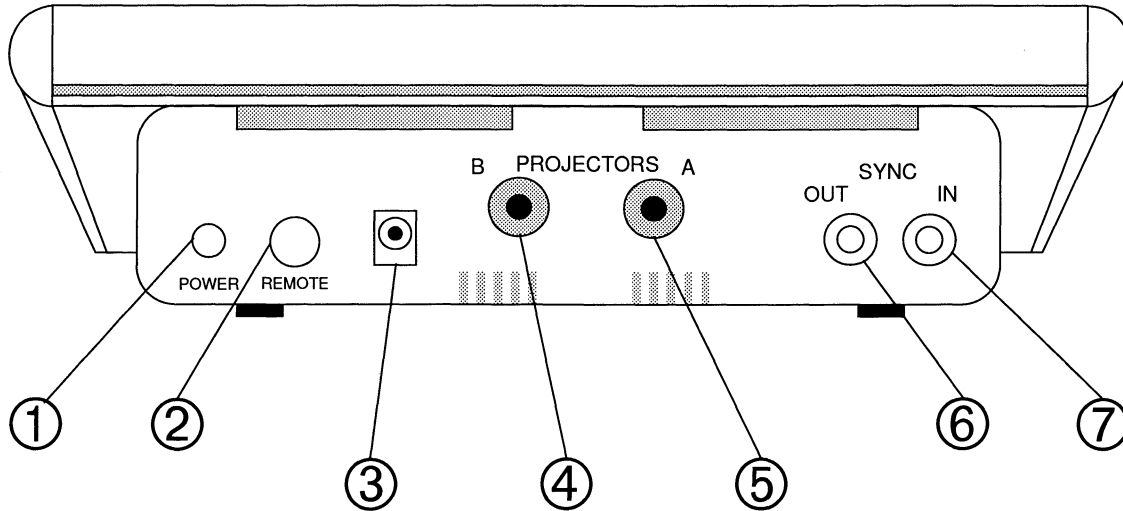
8) This is the special effects area of the front panel. It includes the following features:

#### ***Alternate***

The ***Alternate*** feature creates many special screen effects. ***Alternate*** can be used to create the illusion of motion by rapidly flashing images back and forth, such as a railroad crossing light. ***Alternate*** also can be used to flash just one lamp.

#### ***Timer***

The Timer feature creates continuous dissolves. Any of the dissolve rates can be used with the ***Timer*** feature.



**NOTE: Each Projector Lamp Must Not Exceed 300 Watts**

## FRONT PANEL DESCRIPTION (continued)

---

### ***View Time***

The ***View Time*** switch provides additional flexibility to extend the total projection time of a slide. It is used in conjunction with either the ***Alternate*** or ***Timer*** feature. It's affect on the total projection time is variable, depending on the dissolve time selected. (See chart on page 10)

### ***No Adv***

Occasionally the need arises to show an image more than once. The normal operation of the KODAK SP Programmable Dissolve Control is to advance the tray of the projector whose lamp has just completed fading off. The ***No Adv*** feature (No Advance) is used to prevent a projector from advancing the tray to the next slide. The ***No Adv*** feature is activated when the red indicator is lit. This indicator flashes to help remind you that the ***No Adv*** feature is turned on.

### ***Freeze***

The ***Freeze*** feature stops a dissolve in progress. This is useful for creating endless screen effects. With ***Freeze*** you can hold a dramatic landscape image at 60% of full intensity, then superimpose title slides at full brightness. The ***Freeze*** feature can also be used to help match images of varying exposures.

### 9) ***Change***

The ***Change*** button changes the dissolve rate. This is most often used in conjunction with the Lamp buttons for superimposition effects.

### 10) ***Lamp A & B***

The SP Programmable Dissolve Control has two buttons with red indicators labeled ***A & B***. These are used for individual control of each projector lamp and are used to create superimpositions, and other special effects.

---

## BACK PANEL DESCRIPTION

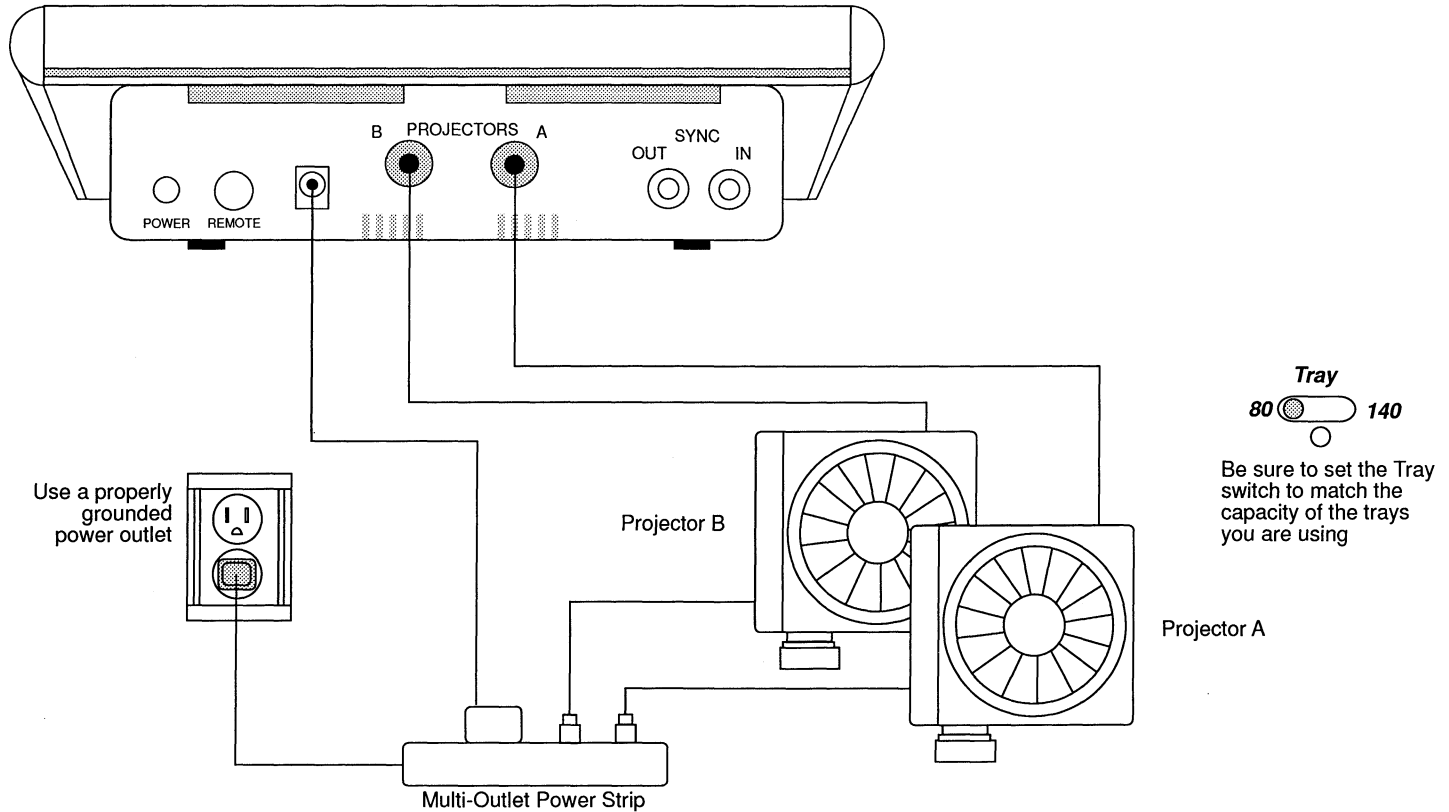
---

- 1) The ***Power*** switch turns the KODAK SP Programmable Dissolve Control on and off. However, it does not control the power to the projectors.
- 2) The ***Remote*** receptacle allows control from a remote location. This 8-Pin Mini-DIN style connector accommodates most Kodak EC Remote Controls by using the Remote Control Cable Adapter supplied with your SP Programmable Dissolve Control. Pressing the Forward button, on a Kodak EC Remote Control, starts a 1 second dissolve. Pressing the reverse button performs a reverse dissolve. Remote Controls with a Focus button allow a 1/2 second dissolve.

**NOTE:** Although the Kodak EC Remote Control is limited to Forward and Reverse functions, other remotes are able to use the 8-pin connector to access all of the features available on the KODAK SP Programmable Dissolve Control.

- 3) This receptacle accommodates the AC Adapter. Replacement AC Adapters can be found at most audio/video stores. Only use AC Adapters that are rated **12 Volts DC, and at least 250 mA** (milliamperes).
- 4) The ***B Projector*** control cord plugs into the remote control receptacle of the ***B Projector***. ***The projector lamp must not exceed 300 watts.***
- 5) The ***A Projector*** control cord plugs into the remote control receptacle of the ***A Projector***. ***The projector lamp must not exceed 300 watts.***
- 6) The ***Sync Out*** connector is a standard phono (RCA) female jack. The MATE-TRAC™ synchronizing signal is sent out this jack whenever the red Program indicator is lit.
- 7) The ***Sync In*** connector is also a standard RCA (Phono) female jack. This jack is most often used to receive the MATE-TRAC™ signal previously recorded on audio tape.

## SETUP CONNECTION DIAGRAM





## SETUP PROCEDURE

Before you begin, set the power switches on all equipment to OFF

- 1) Plug the projector power cords into a multi-outlet power strip.
- 2) Plug the AC Adapter of the KODAK SP Programmable Dissolve Control into the same multi-outlet power strip as the projectors.

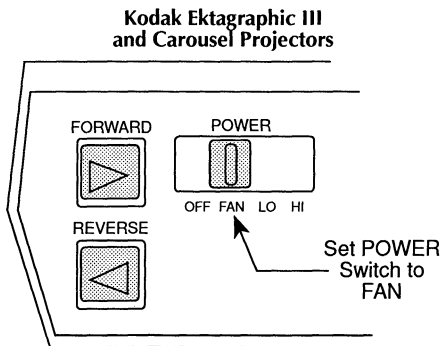
**IMPORTANT:** The projectors and the SP Programmable Dissolve Control must get their power from the same wall outlet.

- 3) Plug the projector control cords of the SP Programmable Dissolve Control into the Remote Control Receptacles found on the projectors.
- 4) Set the power selector switch of the projectors to the FAN position (the projector fans turn on, but the lamps remain off).
- 5) Set the **Tray** switch on the SP Programmable Dissolve Control to the slide capacity of the trays you are using.
- 6) Set the power switch of the SP Programmable Dissolve Control to ON. If the projectors are connected properly the Lamp A & B indicators turn on for a short time, then turn off.

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- 7) Set the trays to position 1, the starting tray position.

## SETTING SLIDE PROJECTOR CONTROLS

Slide projector controls differ in the way they turn power on and off to the projector lamps. For example KODAK slide projectors have a single slide switch as shown below. With KODAK projectors the **POWER** switch must be set to the **FAN** position for the KODAK SP Dissolve Control to operate properly. Having the **POWER** switch in either the **LO** or **HI** positions prevents the SP Dissolve Control from fading the lamp on and off.



## FOCUS and ALIGNMENT

It works well to use alignment slides to give your presentation the professional look. Place the alignment slides into tray position 80 if you are using slide trays having a capacity of 80 slides, or position 140 for 140 slide capacity trays.

- 1) Using the tray positioning controls found on the projectors, move each tray to the position containing the alignment slides (if you do not have alignment slides, use full-frame slides).
- 2) Turn the A Projector lamp on using the controls on the projector Lo or Hi positions. Focus, size and align the image. Turn the lamp control back to the FAN position.
- 3) Turn the B Projector lamp on using the controls on the projector. Focus, size and align the image.
- 4) Turn the A Projector lamp on again. Superimpose both the slides, and align them. Set both projector power switches back to the FAN position.
- 5) Move the trays back to the start position.

**NOTE:** As you finish the alignment, make sure that the projector power selector switches **are set to the FAN position.**

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**IMPORTANT!**

Once you have completed the setup procedure.

### **DO NOT MOVE**

### **THE TRAYS BY HAND!**

The KODAK SP Programmable Dissolve Control keeps the trays in perfect synchronization for you relative to the starting tray position. If you move the trays by hand after the setup procedure, the Control has no way of knowing this. The result is that your show may appear out of synchronization. To remedy the situation:

- 1) Move the trays to position 1.
- 2) Turn the SP Programmable Dissolve Control off, wait about 10 seconds then turn it back on.

Then....let the SP Programmable Dissolve Control keep you in sync!

## FAMILIARIZATION

---

The best method for becoming familiar with the KODAK SP Programmable Dissolve Control is to start “pushing buttons.” Like your 35 mm camera, the SP Programmable Dissolve Control has several features and controls. Each feature is explained and supported with an example. However, like your 35 mm camera, it is up to you to combine these features to produce what we call “a slide show!”

### **Dissolve Keys**

---

The SP Programmable Dissolve Control has seven precision dissolve rates. An internal computer calibrates each dissolve providing accurate, reproducible dissolve effects. The result is a beautiful, flowing transition of images.

**NOTE:** Wait for the **Ready** indicator to turn on before pressing another dissolve key. Rushing a dissolve in progress results in “choppy” screen effects.

*Press RESET to go on to the next sample.*

### **Example:**

Press the 2 second **Dissolve Key**

Projector A fades on

Press the 2 second **Dissolve Key**

Projectors dissolve from A to B

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Press the 1/2 second **Dissolve Key**

Projectors dissolve from B to A

Press the 4 second **Dissolve Key**

Projectors dissolve from A to B

Press the 1 second **Dissolve Key**

Projectors dissolve from B to A

Continue trying different dissolve rates in varying combinations.

### **Projector Buttons**

---

The projectors buttons allow individual control of each projector lamp. This feature is useful for creating superimpositions and other special effects.

*Press RESET to go on to the next sample.*

### **Example:**

Press the 2 second **Dissolve Key**

Projector A fades on

Press the **Projector B** button

Projector B fades on, superimposing A

Press the **Projector A** button

Projector A fades off, Projector B stays on

Press the **Projector B** button

Projector B fades off

Press the **Projector A & B** buttons together

Both Projectors A & B fade on

Press the **Projector A & B** buttons once again.

Both Lamps fade off; the trays advance

Another benefit of individual projector control is the ability to create dramatic image transitions. Using short periods of darkness between dissolves can create impressive results. The following example shows how this can work:

*Press RESET to go on to the next sample.*

### **Example:**

Press the 4 second **Dissolve Key**

Projector A fades on at 4 second rate

Press the **Projector A** button again

Projector A begins to fade off

*Just before you begin to lose sight of the image fading off, press the **Projector B** button*

Projector B begins to fade on

Press the **Projector B** button

Projector B begins to fade off

*Just before you begin to lose sight of the image fading off, press the **Projector A** button*

Projector A begins to fade on

---

## Timer

The Manual Timer feature is a very versatile tool for creating continuous dissolves.

Press **RESET** to go on to the next sample.

### Example 1:

Set the **View Time** switch to 

Press the 2 second **Dissolve Key**

Projector A fades on

Press the **Timer** button

The Timer indicator begins flashing

Press the 1 second **Dissolve Key**

Continuous dissolves begin. The Timer indicator is on steady

Move the **View Time** switch to 

The viewing time for each image increases to 4.7 seconds

Press the 1/2 second **Dissolve Key**

The dissolve speed changes to 1/2 second; total time decreases to 4.0 seconds

Move the **View Time** switch to 

The viewing time decreases to 2.5 seconds

To turn the Timer off:

Press the **Timer** button.

The Timer indicator begins to flash, then turns off


### Example 2:

To show 45 slides with a piece of music lasting 2 minutes, 46 seconds (2:46).

- 1) Convert 2:46 to seconds  
 $60 \times 2 = 120 + 46 = 166$  seconds.
- 2) Divide the 166 seconds by the 45 slides  
 $166/45 = 3.7$  seconds per slide (rounded).
- 3) Look under **Seconds Per Slide** on the chart.  
 Find the combinations that come the closest.

In this example there are two possibilities. One would use a dissolve rate of 1 second while the other uses a 2 second dissolve rate. This is how you would set the KODAK SP Programmable Dissolve Control for this first possibility.


Press **RESET** to go on to the next sample.

- 1) Set the **View Time** switch to 
- 2) Press the **Timer** button  
 The Timer indicator begins to flash
- 3) Press the 1 second **Dissolve Key**  
 Continuous dissolves begin; the **Timer** indicator is on steady.
- 4) As the last slide fades on, press the **Timer** button to stop  
 The Timer indicator begins to flash, then turns off.

VIEW TIME 

If dissolve rate is:	Total Projection Seconds per Slide			
Cut (.25)	2.25	3.0	4.0	6.0
1/2second	2.5	3.25	4.25	6.25
1second	3.0	3.7	4.7	6.7
2seconds	3.9	4.7	5.7	7.7
4seconds	5.8	6.6	7.6	9.6
8seconds	9.6	10.4	11.4	13.4
16seconds	17.0	18.0	19.0	21.0

This is how the next possibility would be setup:

- 1) Set the **View Time** switch to 
- 2) Press the **Timer** button  
 The Timer indicator begins to flash
- 3) Press the 2 second **Dissolve Key**  
 Continuous dissolves begin; the **Timer** indicator is on steady.
- 4) Press the **Timer** button to stop the Timer  
 indicator begins to flash, then turns off.

## **Freeze**

The KODAK SP Programmable Dissolve Control can hold an image at any projector lamp intensity—hence the name Freeze. This is great for combining background images with title slides.

*Press RESET to go on to the next sample.*

### **Example:**

Press the 1 second **Dissolve Key**

Projector A fades on

Press the 4 second **Dissolve Key**

Projector A begins dissolving from A to B

*Before the dissolve is complete*

Press the **Freeze** button

The dissolve is interrupted

Press the **Freeze** button again

The dissolve is completed

Press the 8 second **Dissolve Key**

Projector B begins dissolving from B to A

*Before the dissolve is complete*

Press the **Freeze** button

The dissolve is interrupted

Press the **Reverse** button

The dissolve reverses to Projector B

Press the **Projector B** button

Projector B begins to fade off

*Before the Projector fades completely off*

Press the **Freeze**

Projector B stops fading

Press the **Freeze** button again

Projector B continues fading off

## **Alternate**

The Alternate feature allows projector lamps to flash back and forth, flash one lamp only, or both lamps together. You can also select the dissolve rate at which the lamp(s) will turn on and off. The **View Time** switch is used with **Alternate** to determine how long each slide remains on.

*Press RESET to go on to the next sample.*

### **Example 1:**

Press the **Alternate** button

The Alternate indicator begins flashing.

Press the **Projector A** button

Projector A begins flashing; the Alternate indicator remains on steady.

Press the **Alternate** button

Projector A turns off; the tray advances; the Alternate indicator flashes then turns off.

Press the 1/2 **Dissolve Key**

Projector A fades on

Press the **Alternate** button

The Alternate indicator begins to flash

Press the Cut **Dissolve Key**

Projectors A & B alternate

Press the **Alternate** button

Both Lamps turn off; both trays advance; the Alternate indicator flashes then turns off.

*Press RESET to go on to the next sample.*

### **Example 2:**

Press the 2 second **Dissolve Key**

Projector A fades on at 2 seconds

Press the **Alternate** button

The Alternate indicator begins flashing.

Press the **Projector A** button

Projector A begins flashing; the Alternate indicator remains on steady.

Press the 1 second **Dissolve Key**

Projector B fades on

Press the 1 second **Dissolve Key**

Projector B fades off; the tray advances

Press the 4 second **Dissolve Key**

Projector A begins to fade on 4 seconds  
before Projector B completes fading on

Press the **Freeze** button.

Projector B stops fading; Projector A  
continues flashing.

Press the **Freeze** button again

Projector B continues fading off

Press the **Alternate** button

Projector A turns off; both trays advance;  
the Alternate indicator flashes then turns  
off.

### **Change**

The Change feature allows you to change the  
dissolve rate of either lamp. This is most often  
used in conjunction with the projector lamp  
buttons.

*Press RESET to go on to the next sample.*

#### **Example 1:**

Press the 4 second **Dissolve Key**

Projector A fades on at 4 second rate

Press the **Change** button

Press the 1 second **Dissolve Key**

Press the **Projector B** button

Projector B fades on at 1 second rate

Press the **Change** button

Press the 8 second **Dissolve Key**

Press the **Projector A** button

Projector A fades off at 8 second rate

Press the **Change** button

Press the 1/2 second **Dissolve Key**

Press the **Projector B** button

Projector B fades off at 1/2 second rate

The Change feature can also be used along with  
the Alternate and Timer features.

*Press RESET to go on to the next sample.*

#### **Example 2:**

Press the **Alternate** button

The Alternate indicator begins flashing

Press the **Projector A** button

Projector A begins flashing on and off at a  
Cut dissolve rate.

Press the **Change** button

Press the 1/2 second **Dissolve Key**

Projector A now begins flashing at a 1/2  
second dissolve rate.

Press the **Alternate** button

Projector A stops flashing; the Alternate  
indicator flashes then turns off; the tray  
advances.

*Press RESET to go on to the next sample.*

#### **Example 3:**

Press the 2 second **Dissolve Key**

Projector A fades on at 2 second rate

Press the **Timer** button

The Timer indicator begins flashing

Press the **Projector B** button

Projector B begins continuous fading on  
then off, showing a new slide each time.

Press the **Change** button

Press the 1/2 second **Dissolve Key**

Projector B now fades at a 1/2 second rate

Press the **Change** button

Press the 4 second **Dissolve Key**

Projector B now fades at a 4 second rate.

Press the **Timer** button

Projector B fades off; the tray advances;  
the Timer indicator flashes then turns off.

---

## No Adv

The **No Adv** feature inhibits the normal tray advance that takes place when a lamp has completed fading off. **No Adv** is used quite often in conjunction with the Lamp buttons, however it can be combined with any other feature as well.

*Press RESET to go on to the next sample.*

### Example 1:

Press the 2 second **Dissolve Key**

Projector A fades on at 2 second rate

Press the **No Adv** button

The Red indicator begins flashing—a reminder that the **No Adv** feature is active.

Press the 1 second **Dissolve Key**

Projector A fades off while Projector B fades on; the tray on Projector A does not advance.

Press the 1 second **Dissolve Key** again

Projector B fades off while projector A fades on; the tray on projector B does not advance.

Press the **No Adv** button

The red indicator turns off

Press the 1 second **Dissolve Key** again

Projector A fades off while projector B

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fades on; the tray on projector A now advances.

*Press RESET to go on to the next sample.*

### Example 2:

Press the 1 second **Dissolve Key**

Projector A fades on at 1 second rate

Press the **No Adv** button

The red indicator begins flashing—a reminder that the **No Adv** feature is active.

Press the 1/2 second **Dissolve Key** several times (try different dissolve rates also).

Images dissolve back and forth; the trays do not advance when the projectors finish fading off.

### Reverse

The **Reverse** feature is useful for proofing sessions, lectures, seminars—any time there is a need to look back at images previously presented. In addition, **Reverse** can be used with other features to create special screen effects—and it is programmable! Each time the **Reverse** button is pressed, the image on the screen fades off while the other tray immediately reverses, then fades on.

*Press RESET to go on to the next sample.*

### Example 1:

Press the 1 second **Dissolve Key**

Projector A fades on at 1 second rate

Press the 1 second **Dissolve Key** again

Projectors dissolve from A to B Press the **Reverse** button

Projector B begins to fade off while Projector A reverses the tray; Projector A fades on.

**NOTE:** Wait for the **Ready** indicator to turn on before pressing another dissolve key. Rushing a dissolve in progress results in “choppy” screen effects.

*Press RESET to go on to the next sample.*

### Example 2:

Press the 4 second **Dissolve Key**

Projector A fades on

Press the 4 second **Dissolve Key** again

Before the dissolve is complete

Press the **Freeze** button.

The dissolve is interrupted.

Press the **Reverse** button

The dissolve reverses; the images become “unfrozen.”

## THE MATE-TRAC™ SYNC SIGNAL

The KODAK SP Programmable Dissolve Control produces a special synchronizing signal called MATE-TRAC™. This digital signal is recorded onto audio tape on a channel adjacent to the music/narration channel. When the MATE-TRAC™ signal is sent back to the SP Programmable Dissolve Control it reproduces exactly what was programmed time-and-time again.

The MATE-TRAC™ signal is far advanced over the older tone (1,000 Hz) systems. MATE-TRAC™ tells each projector where to place the trays, how fast to fade the Projectors, etc. This information is updated every 20 times a second. This feature enables the slide trays to self-synchronize no matter where you begin to play the audio tape. MATE-TRAC™ is compatible with all Kodak Programmable Dissolve Controls.

## A WORD ABOUT TAPE RECORDERS

When producing slide shows that are to be synchronized with audio tape, it is necessary to use a tape recorder that has at least two separate audio tracks.

One track is used for music and/or narration, and the other for the synchronizing signal used by the dissolve control.

Cassette tape recorders are most often used for slide show productions because of their low cost and portability. However, not all cassette recorders are made the same.

There are special cassette recorders used for slide show production. These machines are referred to as AV Sync Recorders. They allow separate record control of the audio channel and the channel used for recording the synchronizing signal. AV Sync Recorders are different from home stereo cassette recorders. What makes the two machines different is the **type of tape heads** they use, and the **record control** features.

A home stereo cassette recorder uses tape heads that divide the tape into **four tracks** (see fig. 1). When the A side of the tape is played, you hear the Left and Right tracks. When you flip the tape over to the B side, you hear the other two Left and Right tracks. **With a home stereo cassette recorder you can record and play both sides of the cassette.**

## HOME STEREO CASSETTE TAPE FORMAT

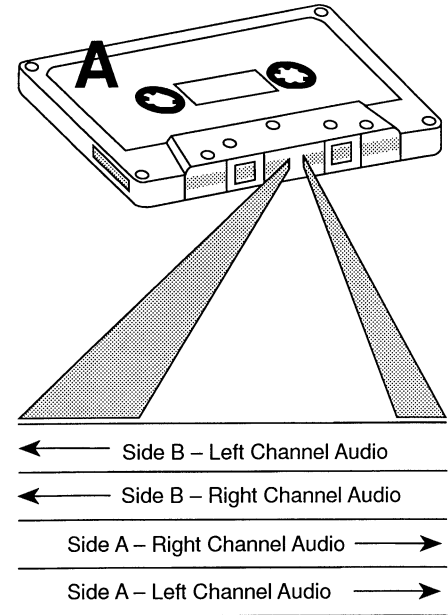


fig. 1



An AV Sync Recorder uses a tape head that divides the tape into **two tracks** (*see fig. 2 at right of page*). These machines are not designed for stereo audio. Rather, there is one track for music/narration, and the other for the synchronizing signals that go to the dissolve control.

When playing the A side of a cassette on an AV Sync Recorder, the audio is heard through the speaker while the synchronizing signal is played directly into the dissolve control. If you were to flip the cassette to the B side, you would hear the synchronizing signal played backwards through the speaker. The audio would be played backwards into the dissolve control—not a desirable arrangement. **An AV Sync Recorder can record and play on only one side of the cassette.**

Another difference between the home stereo cassette machine and the AV Sync Recorder is the recording control. When you record with a home stereo cassette machine *both the Left and Right channels* record at the same time. For example, you cannot listen to music on the Left channel and be recording narration on the Right channel.

Utilizing a home stereo cassette machine would require that you record your music/narration *and* record the synchronizing signals from the dissolve control at the same time. Though it can be done, it is not recommended.

The normal process of assembling a slide show begins with the recording of the music/narration. When the audio portion is complete you can concentrate on combining your visuals with the audio. At this point you need to *listen to the audio, and record the synchronizing signals* from the dissolve control. **AV Sync Recorders have independent record control over each channel.**

Another type of cassette tape recorder is Multi-Track. These machines use tape heads that divide the tape into four tracks, similar to the home stereo tape head format (*see fig. 3 at right of page*). However, all four tracks play in one direction similar to the AV Sync Recorder. With four tracks available you could have Left and Right stereo audio, and still have two tracks left for the synchronizing signal and narration. Multi-Track Recorders are commonly used by amateur musicians and are often found at stores where guitars and keyboards are sold.

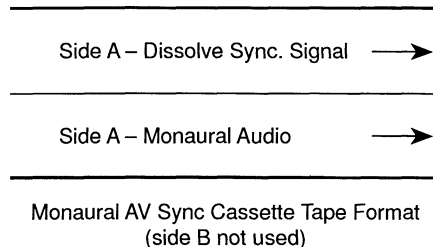


fig. 2

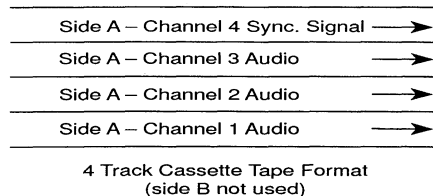
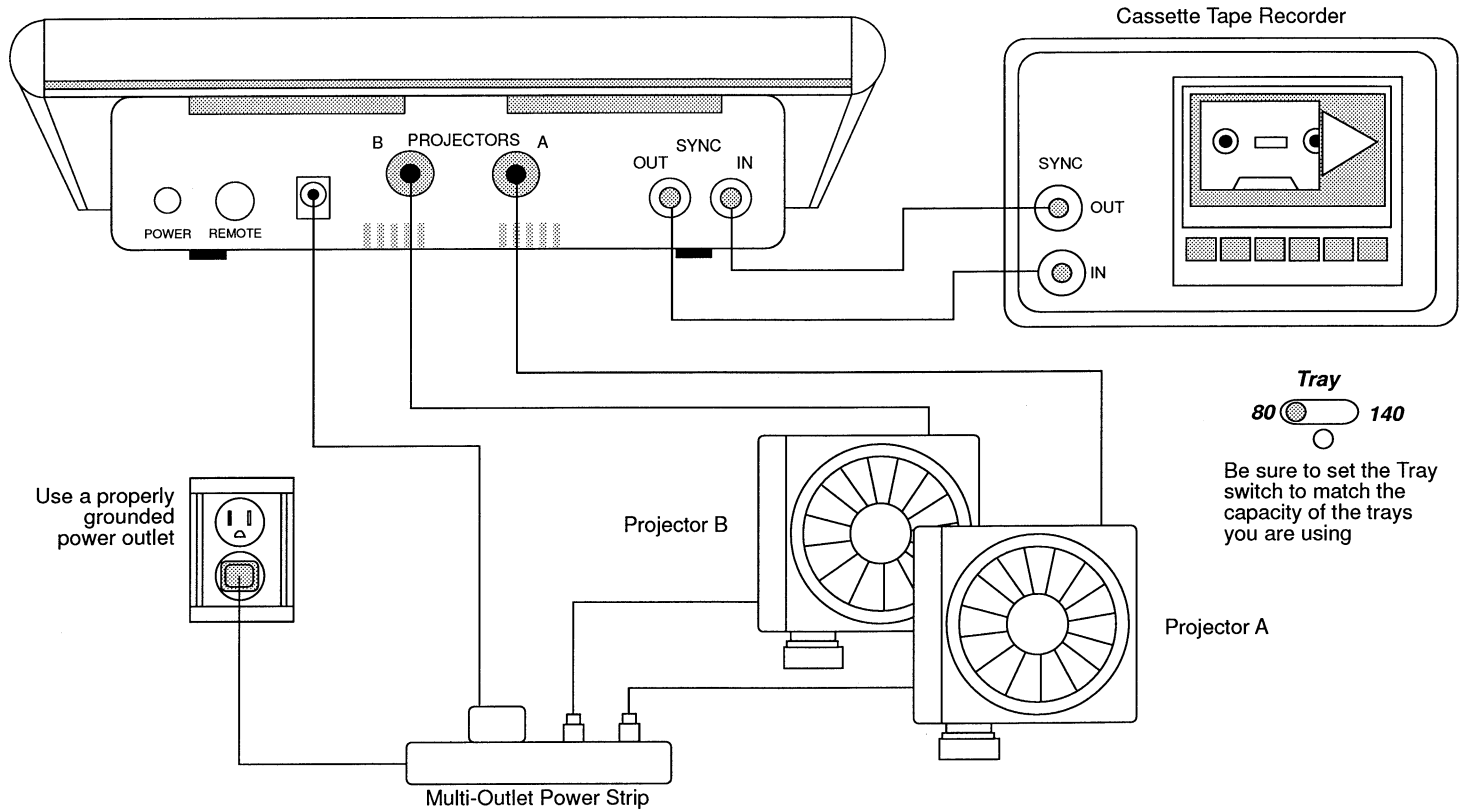


fig. 3

Compliments of:  
[www.KodakParts.com](http://www.KodakParts.com)

# SYNCHRONIZING CONNECTION DIAGRAM



## SYNCHRONIZING YOUR SHOW

---

With your soundtrack complete, the next step is to synchronize your visuals to the audio. If this is your first attempt at synchronizing a slide show, please read through A WORD ABOUT TAPE RECORDERS found on page 14.

What you are about to do is record the MATE-TRAC™ synchronizing signal onto the audio tape on a channel adjacent to the audio channel. As you perform each dissolve, a signal for that dissolve will be recorded onto the tape. When you send the MATE-TRAC™ signal to the KODAK SP Programmable Dissolve it reproduces exactly what you programmed.

### CONNECTION FOR SYNCHRONIZING YOUR SHOW

---

See illustration on next page.

- 1) Connect a shielded audio cable (available at any audio/video store) from the **SYNC OUT** found on the back panel of the Dissolve Control and the SYNC IN or LINE IN on your tape recorder.

- Compliments of:  
www.KodakParts.com
- 2) Connect a shielded audio cable from the **SYNC IN** found on the back panel of the Dissolve Control to the SYNC OUT or LINE OUT on your tape recorder.
  - 3) Press the **Program** button—the red indicator lights. This turns the synchronizing signal output on.
  - 4) Activate the sync channel to record/pause. If your tape recorder does not have automatic level control on the sync channel, set the recording level to 0db on the VU meter. If your tape recorder has automatic level control, no adjustment is necessary.
  - 5) Release the pause, and begin programming.  
**NOTE:** With some tape recorders you will hear the MATE-TRAC™ signal (a “high pitched” sound) through the audio speaker while recording. The amount of signal heard during recording varies from machine to machine. *This occurs only during recording. You will not hear the signal when playing back.* Varying the treble and/or bass controls of the tape deck helps reduce the level of the signal heard.
  - 6) To turn off the synchronizing signal, press **Program**—the red indicator turns off.
-

## MAKING CHANGES TO YOUR SHOW

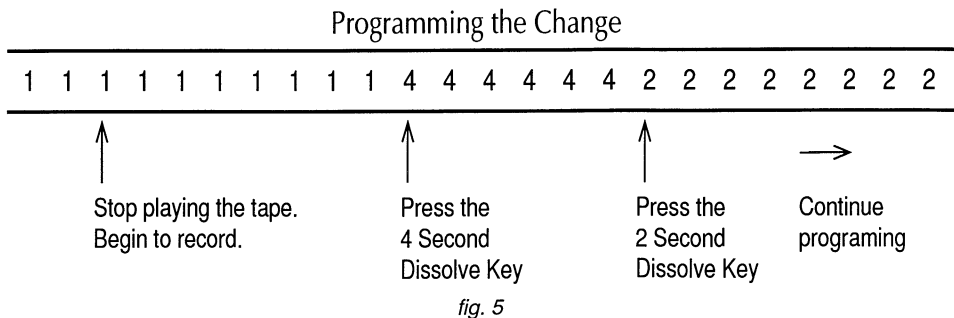
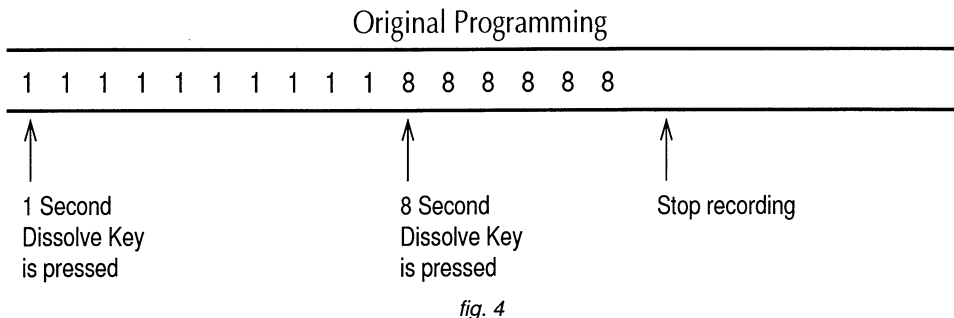
During the process of producing a slide show you may find yourself experimenting with your images—trying different dissolve rates and effects. This does not always happen the first time through and much of your time may be spent getting “that special look.” The Dissolve Controls Synchronizing Signal makes changes fast and easy.

### TO MAKE CHANGES AT THE END

- 1) Stop the tape. Press the **Program** button to turn off the synchronizing signal.
- 2) Rewind the tape. Play it to a point *just before* the mistake was made. Stop the tape.
- 3) Set the tape recorder ready to record on the sync channel.
- 4) Press the **Program** button to turn the synchronizing signal on.
- 5) Begin recording. Correct the mistake, and carry on programming.

Below is a graphic representation of what the synchronizing signals might look like if you could see the signals on audio tape. In the following example, the last images were programmed to dissolve at an 8 second rate (see figure 4). However, the 8 second dissolve looked too slow—it does not “work” with the music. We need to speedup the dissolve.

To make the change, simply rewind the tape, press the **Program** button (to turn the sync signal off), play the tape just before the point where the change is to take place, press **Program** to turn on the sync signal, begin recording, then continue on (see figure 5).



Making changes within a presentation is slightly different than adding instructions to the end. Because the synchronizing signal tells the KODAK SP Programmable Dissolve Control where each projector should be at any time, we need to make sure that new instructions are recorded on the tape and that it replaces all the old instructions (see figure 7). If remnants of the old instruction are allowed to remain, you may see undesirable results (see figure 8).

- 1) Stop the tape. Press the **Program** button to turn off the synchronizing signal.
- 2) Rewind the tape; play until *just before* the mistake was made. Stop the tape.
- 3) Set the tape recorder to "ready to record" on the sync channel.
- 4) Press the **Program** button to turn the synchronizing signal on.
- 5) Begin recording and make the changes.
- 6) **Repeat the instruction just after the point where the change was made (see figure 7).**

1 1 1 1 1 1 1 1 1 1 8 8 8 8 8 8 2 2 2 2 2 2 2 2

↑  
1 Second  
Dissolve Key  
is pressed

↑  
8 Second  
Dissolve Key  
is pressed

↑  
2 Second  
Dissolve Key  
is pressed

fig. 6

fig. 6

1 1 1 1 1 1 1 1 1 1 4 4 4 4 4 4 2 2 2 2 2 2 2 2

↑ Stop playing the tape.  
Begin to record  
the change.

↑ Press the  
4 Second  
Dissolve Key

↑ Press the  
2 Second  
Dissolve Key

→ Stop  
Recording

fig. 7

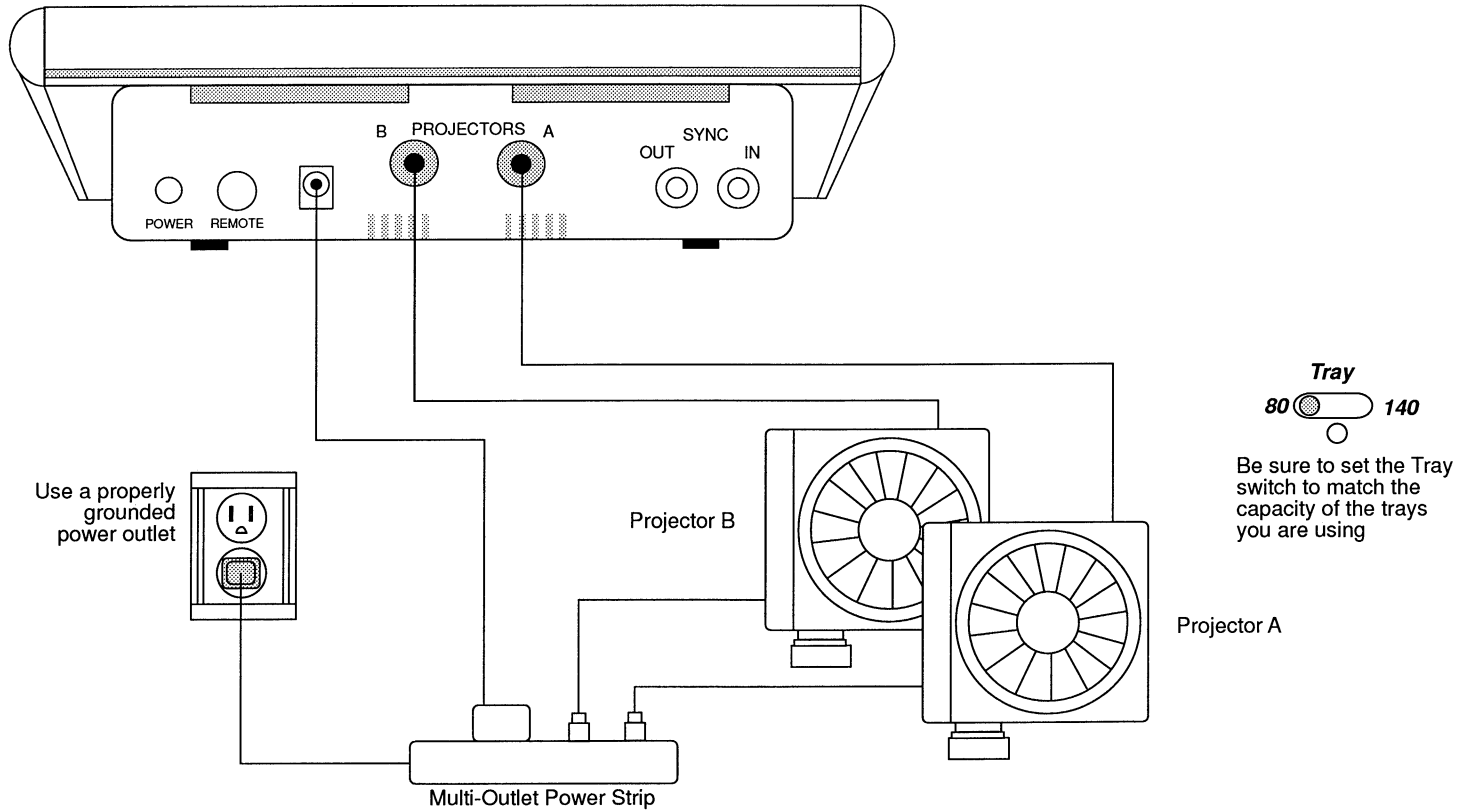
fig. 7

A horizontal line represents a 16-second tape, divided into 16 equal segments. The segments are numbered 1 through 16. The first 10 segments are labeled '1', the next 4 segments are labeled '4', and the last 2 segments are labeled '8'. Below the tape, three arrows point to specific segments with instructions: an arrow points to segment 1 with the text 'Stop playing the tape. Begin to record the change.', an arrow points to segment 4 with the text 'Press the 4 second Dissolve Key', and an arrow points to segment 8 with the text 'Stop recording'. The segment labeled '8' is circled.

fig. 8

*fig. 8*

Compliments of:  
[www.KodakParts.com](http://www.KodakParts.com) **PLAYBACK CONNECTION DIAGRAM**



## PLAYING BACK YOUR SHOW

---

If you have followed the procedure for synchronizing your images to the soundtrack, you are ready to play back your show—no further connections are necessary.

**Begin the setup procedure with the power switches on all equipment set to OFF.**

- 1) Plug the projector power cords into a multi-outlet power strip.
- 2) Plug the AC Adapter of the Kodak Dissolve Control into the same multi-outlet power strip as the projectors.

**IMPORTANT:** The projectors and the KODAK SP Programmable Dissolve Control must get their power from the same wall outlet.

- 3) Plug the projector control cords of the SP Programmable Dissolve Control into the respective Remote Control Receptacles found on the projectors.
- 4) Set the projector's power selector switch to the FAN position. The projector fans turn on, but the lamps remain off.
- 5) Set the **Tray** switch on the SP Programmable Dissolve Control to the slide capacity of the trays you are using.

- Compliments of:  
www.KodakParts.com
- 6) Connect a shielded audio cable (available at any audio/video store) from the **SYNC IN** found on the back panel of the SP Programmable Dissolve Control to the SYNC OUT or LINE OUT on your tape recorder.
  - 7) Set the power switch of the SP Programmable Dissolve Control to ON. The SP Programmable Dissolve Control performs a 3 second self-diagnostic test. The indicators on Projectors A & B light for 2 seconds, then turn off.

### TO TEST YOUR CONNECTIONS:

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- 1) Play the tape. If your tape recorder has output level controls, set the playback level of the synchronizing signal to approximately 0db. If you do not have these controls, no adjustment is required.

When the SP Programmable Dissolve Control receives the MATE-TRAC™ synchronizing signal, the green **SYNC** indicator located on the left of the keyboard will light. If the **SYNC** indicator does not light or flickers refer to the Troubleshooting Section found on page 24.

When you are satisfied that everything is connected properly:

- 2) rewind the tape.
  - 3) Press **Reset**.  
Verify that the trays return to position 1.  
You're ready!
-

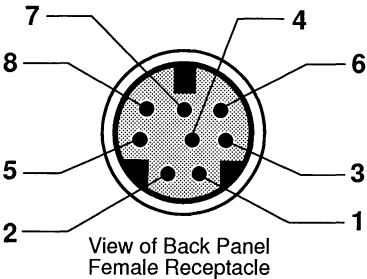
# REMOTE CONTROL

The KODAK SP Programmable Dissolve Control has a provision for control from a remote location. Any Kodak slide projector remote control may be used (An adapter for an 8-pin male Mini-DIN to 5-contact female EBY is supplied with your control). With the EC Remote controls, pressing the FORWARD button will perform as 1 second dissolve. Pressing REVERSE will perform a reverse dissolve. Pressing the FOCUS button causes a 1/2 second dissolve.

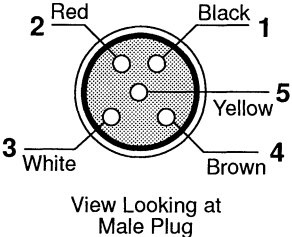
The Remote Control Chart shows the pins of the Remote Control Receptacle (on the back panel of the Dissolve Control), and the Kodak EC Remote Control (supplied with most Kodak Projectors).

Use the Remote Control Chart to configure a remote control to best suit your particular needs.

Compliments of:  
[www.kodakparts.com](http://www.kodakparts.com)  
**Dissolve Control Remote Receptacle**



## Kodak EC Remote Control



Remote Control Adapter Cable				
Pin No.	Remote		Kodak EC	Pin No.
1	12 VDC		Focus	1
2	Common		Forward	2
3	Standby		Reverse	3
4	Timer Feature		Spare	4
5	1/2 Sec Dis		Common	5
6	Reverse Dis			
7	1 Sec Dis			
8	Reserved			



## TERMINOLOGY

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Each business, industry or trade has its own group of special terms. Following is a group of the most commonly used terms used in the business of producing a slide presentation.

**Projector Control Cord**—A permanently attached cord leading from the KODAK SP Programmable Dissolve Control, terminating with a seven pin male plug. This cord contains the wires for the forward, reverse, focus, and lamp control for one projector.

**Projector Power Selector Switch**—The switch found on most Kodak slide projectors have one slide switch that has Off, Fan, and Lamp On positions.

**Projector Remote Control Receptacle**—The receptacle found on the back panel of most projectors. It is usually a seven-contact, female receptacle. The Projector Control Cord from the SP Programmable Dissolve Control is plugged into this receptacle.

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**Projector Tray Positioning Controls**—The buttons found on the projector that control the forward and reverse movement of the slide tray.

**Freeze**—To stop a projector lamp that is fading on or off at a specific level of intensity.

**Flash**—To turn projector lamp(s) on and off in rapid succession without the tray advancing.

**Fade**—The process of turning a single lamp, or lamps in unison, on or off at a selected rate.

**Dissolve**—The process of one lamp fading off (or on) while another is fading on (or off).

**Keystone Distortion**—Distortion caused by projecting an image onto a screen with the projectors aimed at an angle other than 90 degrees to the screen plane.

---

### Problem

While playing back a presentation images “pop” on instead of dissolving and/or projectors advance without projecting an image.

### What to Look For

The green **SYNC** light flickers indicating that poor quality **SYNC** signal is being received from tape.

Usually the irregularity in a presentation occurs at the same time the **SYNC** light flickers. If the problem appears random, it is a strong indication the problem is related to the tape recorder.

If the problem occurs at the same location in the presentation, it is a strong indication of damaged tape, or a programming error (see the **MAKING CHANGES** section on page 19.)

### Remedy

This condition can result from a buildup of dirt and oxide on the tape head. Clean and demagnetize the tape heads.

The tape head of the tape recorder is out of alignment. Realignment must be done by a qualified service technician.

The tape itself is damaged. This can be resolved by having a backup duplicate show tape.

Poor connection between the tape recorder and the KODAK SP Programmable Dissolve Control. Replace the interconnecting cable, being sure to use a shielded audio cable.

---

The trays appear to be out of synchronization.

Press **Reset** to see where the SP Programmable Dissolve Control places the trays. This will be the starting tray position.

Follow the **SETUP** procedure found on page 8. Once the power is turned on to the Dissolve Control, synchronization is maintained relative to the starting tray position (usually position 1). If the trays are moved by hand after power has been turned on, the SP Programmable Dissolve Control has no way of knowing this. Remember the rule, once power is turned on **DO NOT MOVE THE TRAYS BY HAND!**

### Problem

The trays appear to be out of synchronization.

### What to Look For

Pressing **Reset** returns the trays to the proper starting tray positions. However, the trays do not appear to update to the proper positions.

### Remedy

Check that the **Trays** switch on the front panel of the KODAK SP Programmable Dissolve Control is set to match the capacity of the slide trays you are using.

---

When the power is turned on to the Dissolve Control, Projector B turns on at partial or full brightness.

If any Dissolve Keys are pressed, or if MATE-TRAC™ is played into the SP Programmable Dissolve Control, Projector A reacts properly. Projector B does not.

Check to make sure that both projectors *and* the SP Programmable Dissolve Control AC Adapter are plugged into the same power outlet.

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The trays cycle properly, and maintain proper synchronization, however neither lamp fades on.

This condition occurs when operating the keyboard or playing back MATE-TRAC™ from tape.

The lamp in Projector A has failed. Replace the lamp.

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<b>Alternate Button</b> .....	2, 3	<b>Making Changes to Your Show</b> .....	18	<b>Reset Button</b> .....	2
Examples .....	10-12	Making Changes at the end .....	18	<b>Reverse Button</b> .....	2, 3
<b>Back Panel Description</b> .....	4	Making Changes within a show .....	19	Examples .....	14
<b>Cassette Tape</b> .....	14	<b>MATE-TRAC™ Synchronizing</b>		<b>Safety Instructions</b> .....	1
<b>Change Button</b> .....	2	<b>Signal</b> .....	14	<b>Setup Procedure</b> .....	5
Examples .....	12	Moving trays by hand .....	8	Connection Diagram .....	7
<b>Dissolve Keys</b> .....	3	<b>No Advance Button</b> .....	2	<b>Sync Indicator</b> .....	2, 3
Examples .....	9	Examples .....	13	<b>Synchronizing a Show</b> .....	17
<b>Editing a Show</b>		<b>Playing Back a Show</b> .....	21	Connection Procedure .....	17
(see Making Changes)		Playback Connection Procedure .....	21	Connection Diagram .....	16
<b>Familiarization</b> .....	9	Playback Connection Diagram .....	20	<b>Tape Recorders</b> .....	14, 15
<b>Focus and Alignment</b> .....	8	<b>Program Button</b> .....	2	<b>Terminology</b> .....	23
<b>Freeze Button</b> .....	2, 5	(also see Making Changes to Your Show)		<b>Timer Button</b> .....	2, 3
Examples .....	11	Use during Synchronizing a show ..	17	Examples .....	10
<b>Front Panel Description</b> .....	3, 5	<b>Ready Indicator</b> .....	2, 3	<b>Tray Select</b> .....	2, 3
<b>Contents</b> .....	1	<b>Recording Sync Signal</b>		<b>Troubleshooting Guide</b> .....	24-25
<b>Lamp Buttons</b> .....	2, 5	(see Synchronizing a Show)		<b>View Time</b> .....	2, 5
Examples .....	9	<b>Remote Control</b> .....	22	Examples .....	10
		Diagram of Connector .....	22	Slides-Per-Second Chart .....	10

## Compliments of:

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### **KODAK** **NEW AUDIOVISUAL EQUIPMENT WARRANTY**

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Kodak warrants this KODAK SP Programmable Dissolve Control, to function properly for one year from the date of purchase. Kodak makes no other warranties, express, implied, or of merchantability, for this equipment.

Carefully follow all instructions in this manual to get the best results and to prevent damage to Your SP Programmable Dissolve Control. If this SP Programmable Dissolve Control does not function properly within one year after purchase, Kodak will repair or replace the SP Programmable Dissolve Control at its option and at no charge, unless damaged by misuse or other circumstances beyond Kodak's control.

REPAIR OR REPLACEMENT IS KODAK'S ONLY OBLIGATION. KODAK WILL NOT BE RESPONSIBLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES RESULTING FROM THE SALE OR USE OF THIS DISSOLVE

CONTROL, EVEN IF LOSS OR DAMAGE IS CAUSED BY THE NEGLIGENCE OR OTHER FAULT OF KODAK.

For assistance in using this SP Programmable Dissolve Control, contact a dealer in Kodak audiovisual products. Such dealers are listed in the Yellow Pages of your local telephone directory under Audiovisual Equipment and Supplies. For service on this SP Programmable Dissolve Control, return it through a dealer in Kodak audiovisual products or one of the Kodak Equipment Service Centers listed below. To help us get your SP Programmable Dissolve Control back to you promptly, please enclose a note giving details of the problem, date of purchase, and your complete name and address. Pack the unit in a sturdy carton with ample packing material to protect the unit during shipping and handling.

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#### **HOW TO OBTAIN SERVICE**

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To find out how to obtain service, call the Kodak Information Center at 1-800-242-2424. (See Warranty for packing instructions.)

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