Edition 2001!

Quick Reference

EKTAPRO

The Quick Reference - is designed to be your ultimate source to all applications, technical constellations, accessories etc. for **Kodak Ektapro Slide Projectors**

Introduction to the Millenium Edition of the Quick Reference

50 questions regarding projection techniques with EKTAPRO. This is our most important improvement in this revised edition. You will find an answer to all questions in this Quick Reference. We will take you there. With the help of these questions, we would like to help the user not only to find problem solutions but we would like to point out the variety of applications/AV-solutions possible with Ektapro projectors.

Not only the 50 questions but the index on page 76 will help you to get quick and specific information.

Should we have missed something - please let us know. Our address is found in the appendix.

Stuttgart, January 2001

Content

👉 **For a detailed search, please use the INDEX at page 76**

Quick Reference -- The ultimate reference for Kodak EKTAPRO Slide Projectors

50 FAQs

Compatibility

1. **Q**: I still own lenses with spiral rack for my old Kodak S-AV projectors. Can I use these for the Kodak EKTAPROs as well? ☞ **PAGE 30**

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Quick Reference -- The ultimate reference for Kodak **EKTAPRO** *Slide Projectors*

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Lamp Module/Light

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Remote Control

35. Q: Although the IR remote control is supposed to reach a 30 m range, I get no response at 10 m. Why is that? 👉 **PAGE 11**

36. Q: The range of the IR remote control (of 30 m) is not sufficient for my application. Is it possible to extend the range? 👉 **PAGE 11**

37. Q: The premises are so adverse that I cannot aim directly at the projector from the lectern. Is it possible to place the receiver somewhere else? 👉 **PAGE 11**

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Lenses

41. Q: Long focal distance lenses have the disadvantage that the projected image moves e.g. during slide change. Is there a solution? 👉 **PAGE 31**

42. Q: Why can't all lenses be used for 4x4 projections? 👉 **PAGE 33**

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44. Q: For a special application I would like to turn off the "No Slide No Light" feature. The projector aperture should remain open if no slide is in the slide gate. Is that possible? 👉 **PAGE 27**

**45. Q:** What is fade in/out? How do I activate this on my projector? 👉 **PAGE 22**

46. Q: I would like to get a longer dissolve cable for my Master/Slave application (dissolve with 2 EKTAPROs). Can I use an ordinary RS232 extension cable? 👉 **PAGE 65**

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48. Q: I would like to build the projector into a special rack/furniture. Are there any specified fixing holes? 👉 **PAGE 54**

49. Q: *T*o eliminate fan and slide change noises, we would like to build the projector into a noise insulation. What do I need to consider? 👉 **PAGE 54**

50. Q: Before starting my multivision show I need to adjust the projectors accurately. Are there any aids available? 👉 **PAGE 55**

Global Usage

Voltage
indication
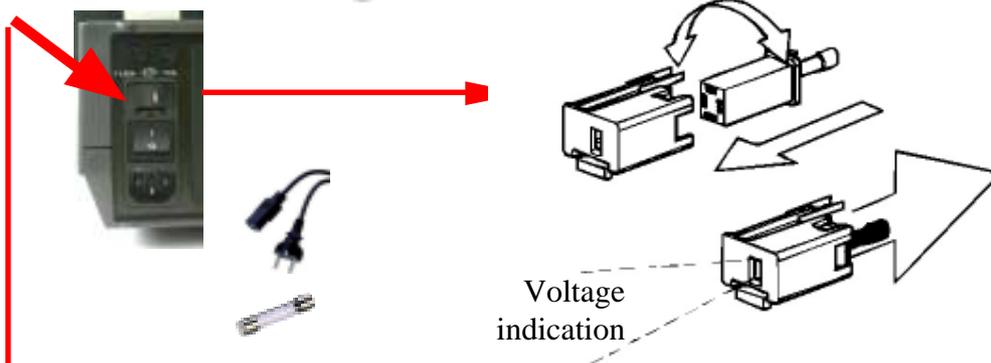
EKTAPRO Slide Projectors can be used around the world if you pay attention to the following:

1. Get informed about the local mains plug at your destination. Different wall plugs need a different mains cable or an adaptor!

2. Get informed about the local mains voltage. You need to set the voltage selector to the local mains voltage at your destination. *An incorrectly adjusted mains voltage can damage the projector!* For correct voltage setting, see the instruction manual.

3. Different fuse: countries with **100 or 120 V** mains need a **4 A slow blow/250 V fuse;** countries with **220, 230 or 240 V** mains need a **T 2A L/250 V fuse.** For fuse exchange, see the instruction manual.

Use of slide shows:
Please note the following when travelling international with Ektapro projectors and multivision slide shows:
Due to different voltage frequencies (50 Hz or 60 Hz), some fast programmed slide sequences may be projected a little bit faster or slower!

Optional Accessories

EKTAPRO Accessories	CAT NO	See page
4 x 4 Condenser Kit	714 4967	33
80 Slide Tray	712 8580	24
Cable Remote (4 m)	712 1080	9
Carrying Case	718 1993	50
Dissolve Cable	715 3992	61
Extra Bright Dual Lamp Module	712 4369	37
Extra Bright Single Lamp Module	718 3379	37
Heatfilter +10	717 7157	39
IR Remote Receiver RA	712 8606	14
IR Remote System RA	712 1072	10
IR Remote System RA/LP with built in Laser Pointer	712 1064	10
Lens Support	715 1335	31
Lenses (see section "Lenses")		29
Remote Extension Cable 8 m	712 5925	9,11
Standard Heatfilter	717 7140	39
Twin Socket Adapter	712 5909	15,16
Twin Socket Adapter Cable	712 5917	15,16
CAROUSEL TRANSVUE 140 Slide Tray	184 0768	24
Projection Lamp EXR -35 h	145 2259	34
Projection Lamp EXY- 200 h	145 2143	34
Projection Lamp FHS - 70 h	147 7678	34

Remote Control
Cable

■ **General**

Ektapro Cable
Remote

All current
and all former
Ektapro
models
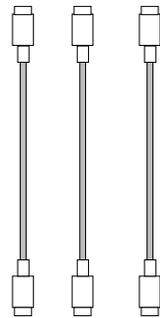
Extension cable
CAT No
712 5925
8 m

Ektapro Cable
Remote
CAT No
712 1080
4 m

Max. 3 extension
cables = 28 m!

Your Control Distance:	up to 4 m
You Need:	cable remote, only
Your Control Distance:	up to 12 m
You Need:	cable remote and 1 extension cable
Your Control Distance:	up to 20 m
You Need:	cable remote and 2 extension cables
Your Control Distance:	up to 28 m
You Need:	cable remote and 3 extension cables

Remote Control
Infrared

■ **General**

All current and all
former Ektapro
models
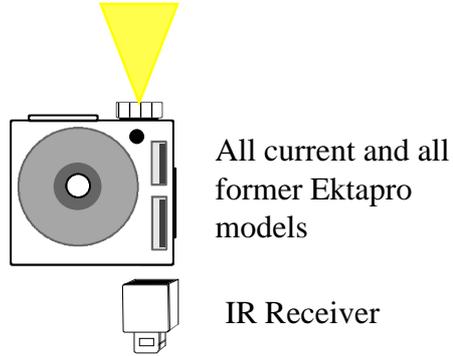
IR Receiver

30 m!

Note
Dimmed fluorescent light (neon) may
reduce max. achievable IR distance! For
more information see page 12!

IR Remote System RA
CAT No 712 1072
and RA/LP
CAT No 712 1064

The Kodak IR Remote System
always consists of a transmitter and
a receiver!
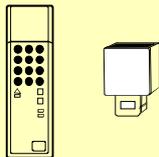
Remote Control
IR + Extension Cable

■ **One Ektapro Projector, IR Remote System and 8 m extension cable for optimal placement of IR receiver**

All current and all former Ektapro models

Extension cable
CAT No 712 5925
8 m

IR Receiver

CAT No
712 5925
8 m

Max. 3 extension cables

30 m!

IR Remote System RA
CAT No 712 1072
and RA/LP
CAT No 712 1064

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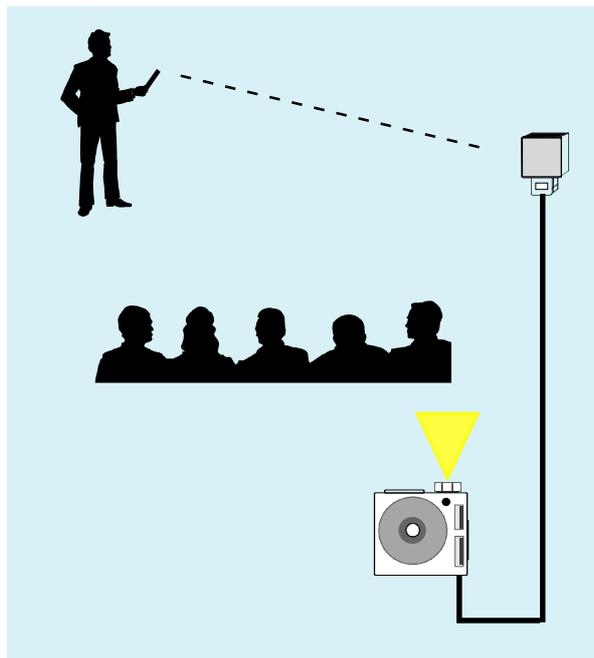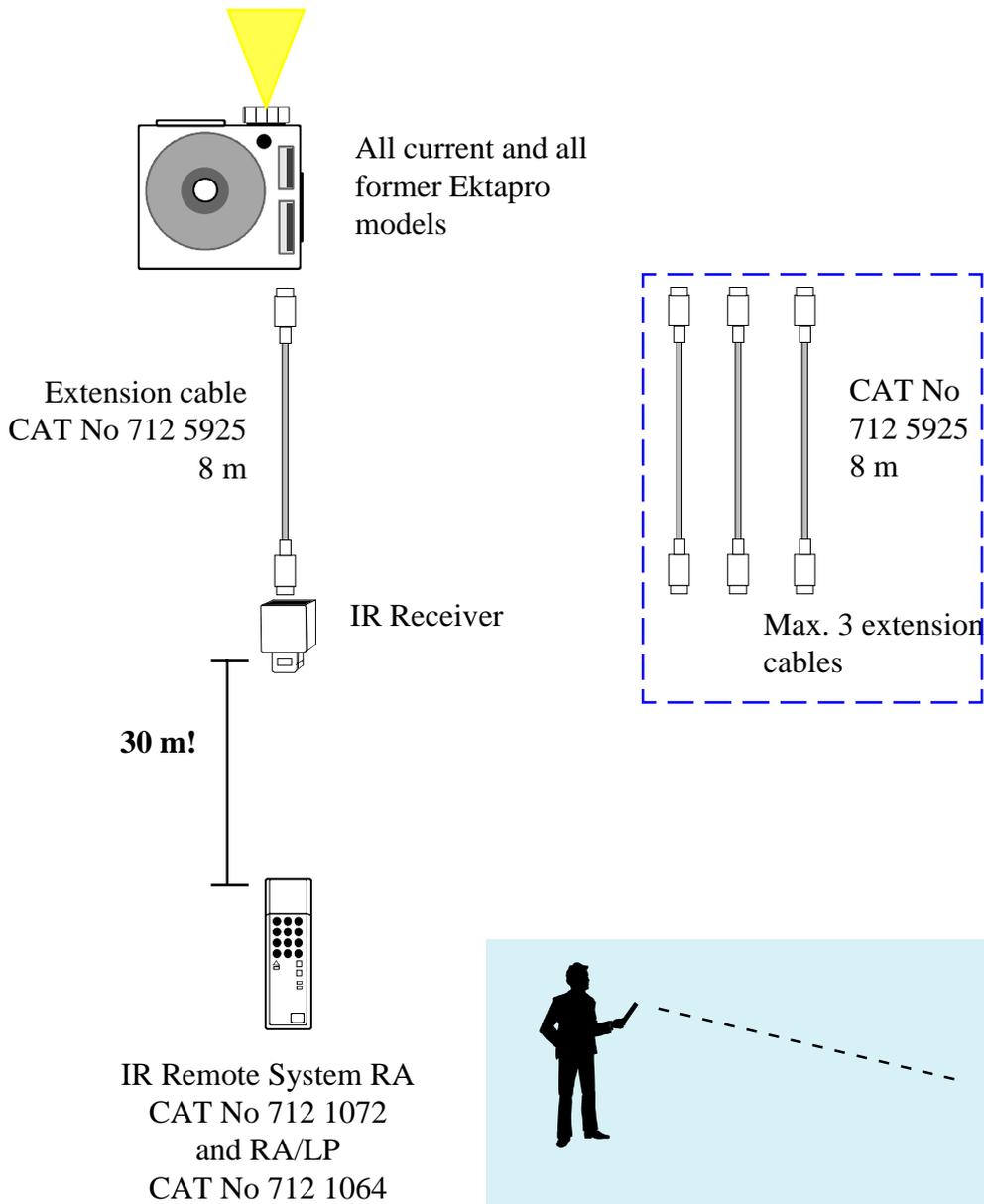
Remote Control
Reduced operation distance with IR remote controls

Reduced operation distance
A reason for reduced operation distance could be fluorescent light which is dimmed. The light itself emits IR radiation that is influencing the IR operation of the projectors in a negative way.

Solution
We recommend the following two solutions:

1. Use of an extension cable (CAT No. 712 5925, see page 11)

2. A shield for the IR Receiver
As the housing is transmissive for IR radiation we recommend to use a black carton to shield the top and rearside of the receiver. According to our experience in most cases the problem will be overcome.

Shield
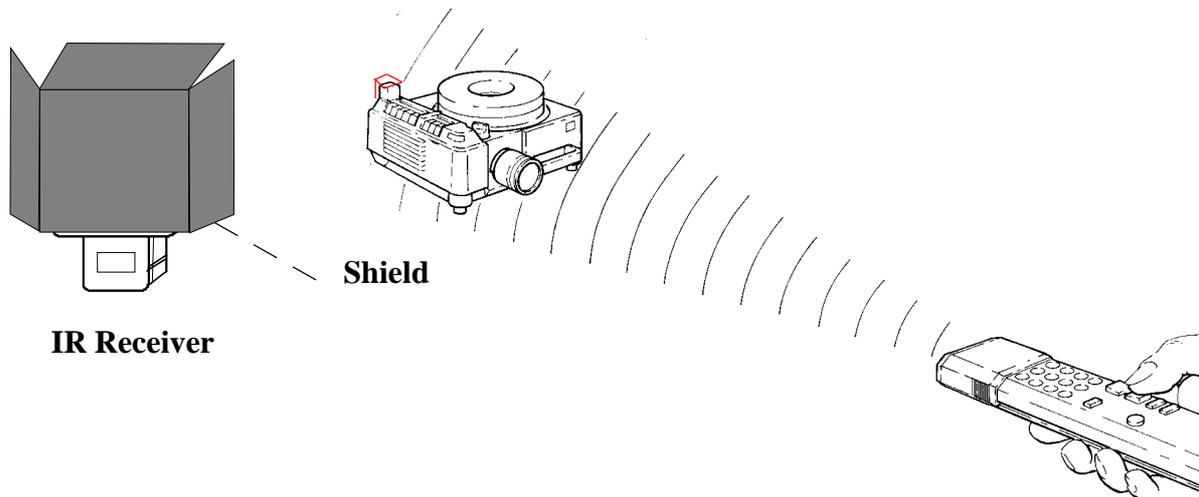
IR Receiver

Remote Control
2 IR Systems

■ **Individual control of two projectors in one room via 2 IR Systems**

Channel 1

Channel 0
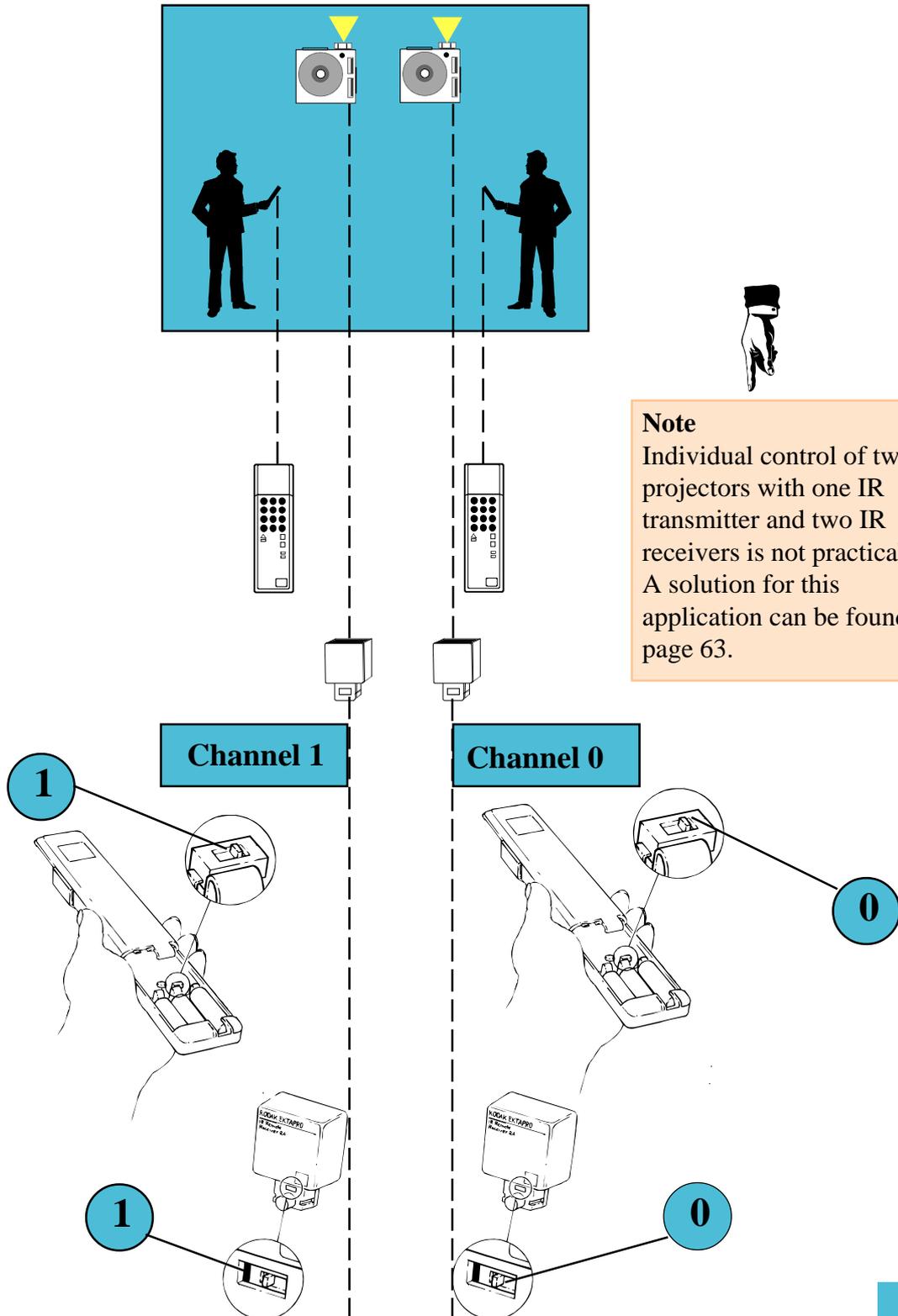
Note

Individual control of two projectors with one IR transmitter and two IR receivers is not practicable. A solution for this application can be found on page 63.

1

0

1

0

Parallel Projection
Via IR Receivers

■ **IR Remote System and additional receivers in a single room**

All current and all
former Ektapro
models

IR Remote Receiver
CAT No 712 8606

30 m!

IR Remote System RA
CAT No 712 1072
and RA/LP
CAT No 712 1064
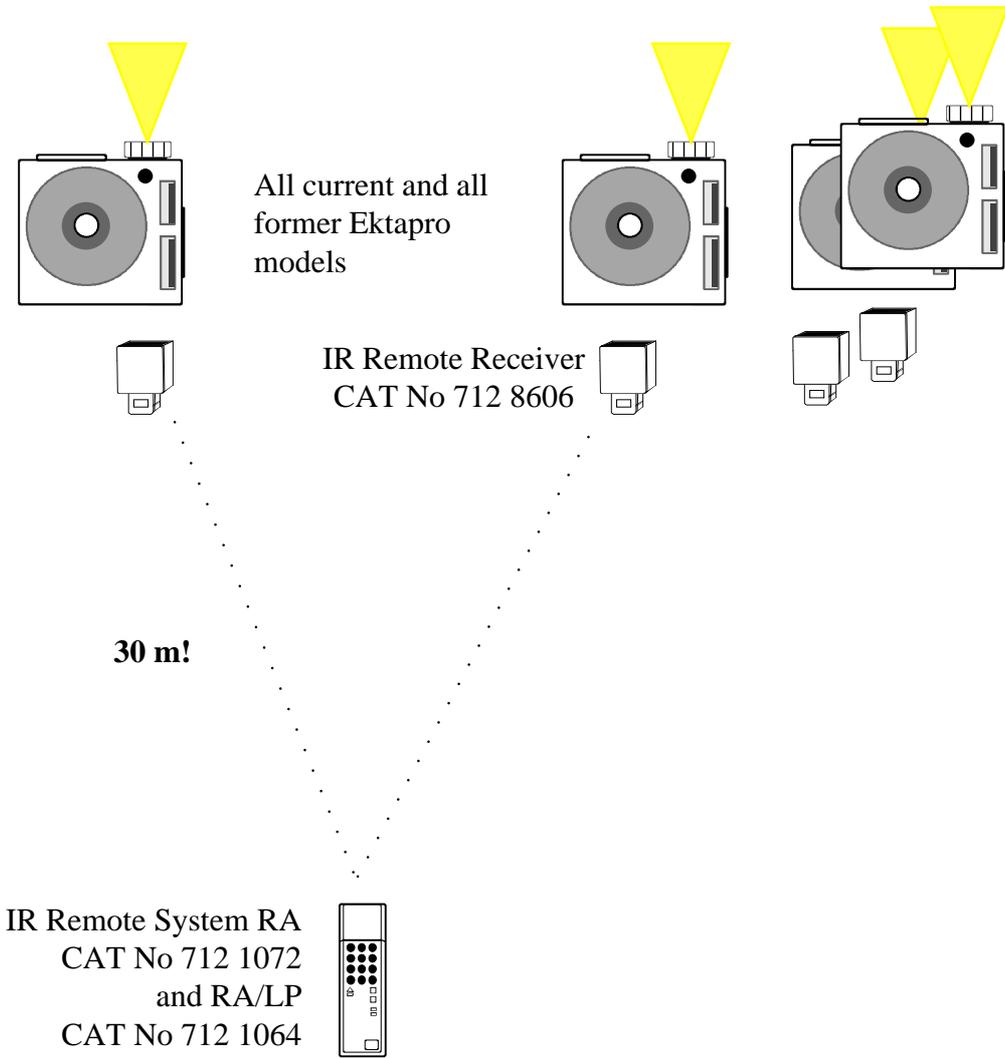
Parallel Projection	
You want to control:	2 projectors
You Need:	1Remote System RA and 1 IR Receiver
You want to control:	3 projectors
You Need:	1Remote System RA and 2 IR Receivers
You want to control:	4 projectors
You Need:	1Remote System RA and 3 IR Receivers

Parallel Projection
IR and a Twin Socket

■ **IR Remote System and a Twin Socket**

All current and all former Ektapro models

Twin Socket CAT No 712 5909

Twin Socket Connecting Cable 2 m CAT No 712 5917

Extension cable CAT No 712 5925 8 m

IR Remote Receiver CAT No 712 8606

30 m!

IR Remote System RA CAT No 712 1072 and RA/LP CAT No 712 1064
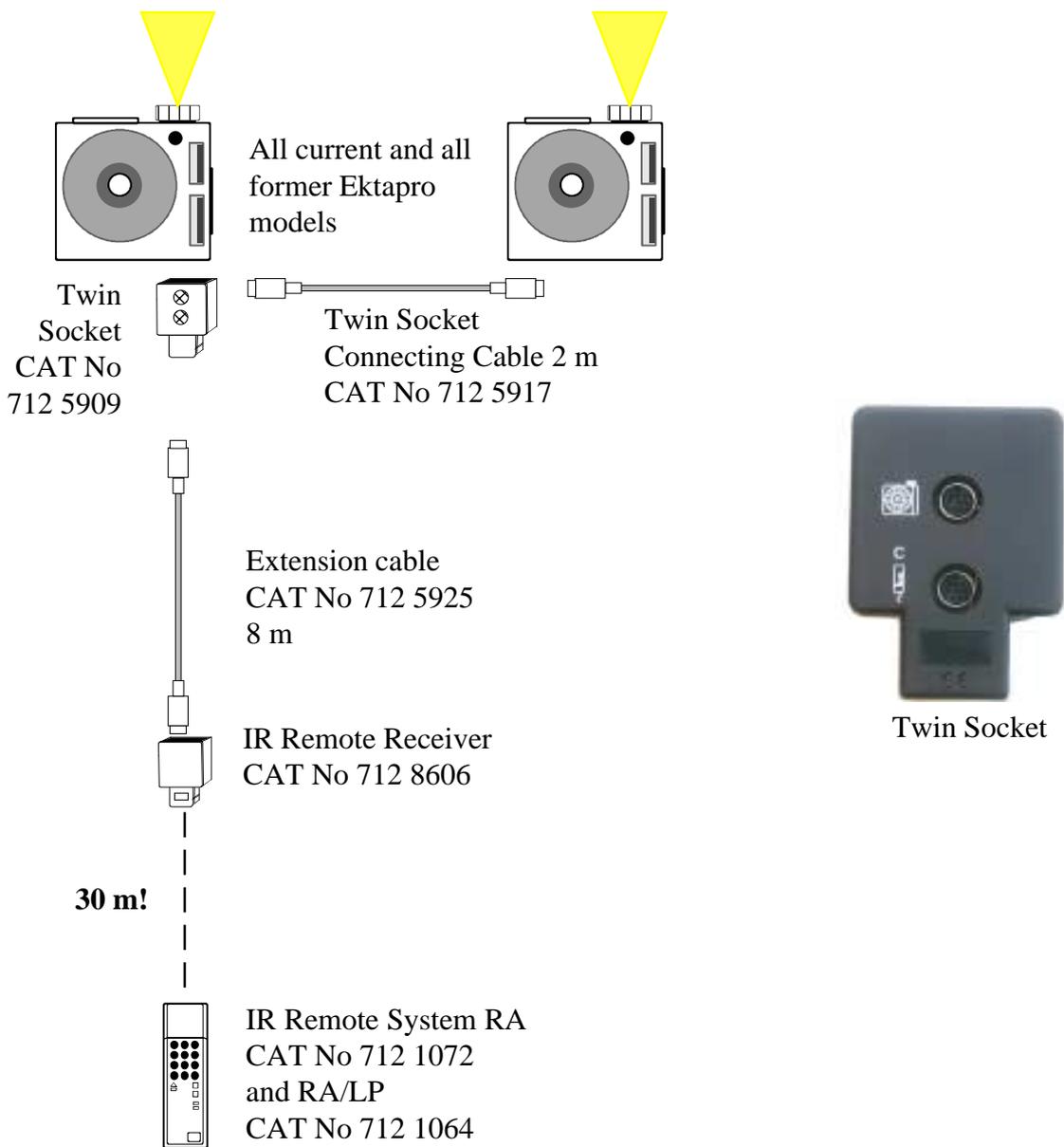
Twin Socket

Parallel Projection
Cable Remote + Twin Socket

■ **Cable Remote and Twin Socket(s) for max. three projectors***

All current and all former Ektapro models

Twin Socket CAT No 712 5909

Twin Socket Connecting Cable 2 m CAT No 712 5917

Twin Socket Connecting Cable 2 m CAT No 712 5917

CAT No 712 1080 4 m
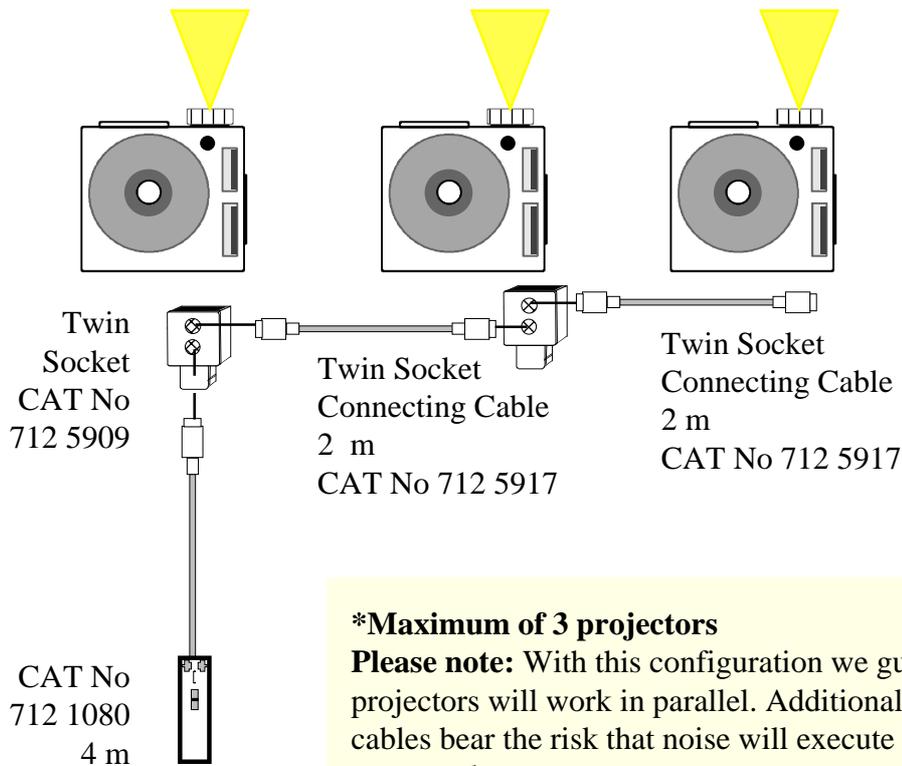
*Maximum of 3 projectors
Please note: With this configuration we guarantee that 3 projectors will work in parallel. Additional projectors or longer cables bear the risk that noise will execute unwanted transport commands.

Note
If cable length is not sufficient, it can be extended. See page 9.

Parallel Projection	
You want to control:	2 projectors
	1 Cable Remote
	1 Twin Socket
You Need:	2 Twin Socket Connecting Cables
You want to control:	3 projectors
	1 Cable Remote
	1 Twin Socket
You Need:	2 Twin Socket Connecting Cables

Parallel Projection
Parallel Mode Setting

■ **One IR Remote and two Ektapro 7020 or 9020 Projectors**

EKTAPRO
7020, 9020
MASTER

EKTAPRO
4010, 4020, 5000, 5020,
7000, 7010, 9000, 9010,
9020
SLAVE

Dissolve Cable
CAT NO 715 3992

**max.
30 m!**

**To activate the Parallel Mode
input <970> and confirm
with <*>**
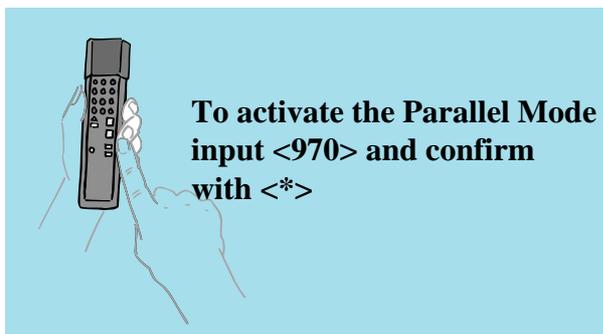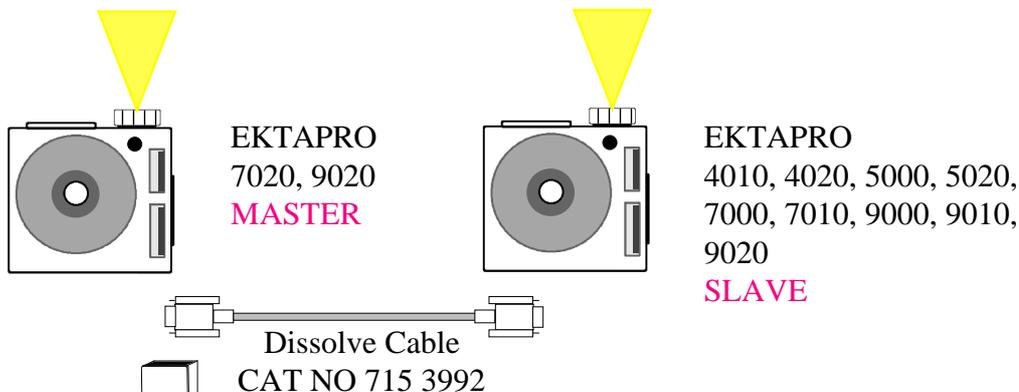
IR Remote System RA
CAT No 712 1072
and RA/LP
CAT No 712 1064

Note
The Parallel Mode (970) must be set again
after projector has been switched off/on
again! If you want to keep the setting,
switch projector to standby! Do not switch
it off!

Need a third projector in parallel?
With a special cable available from AVSZ (☞ address page 69) you can connect a third
projector
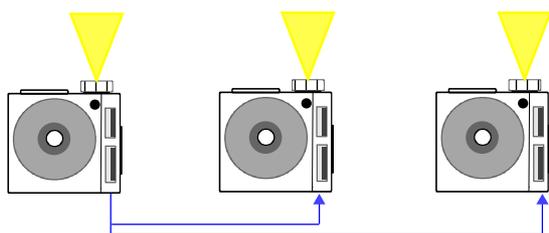
Endless Projection
Timer

■ **Integrated Timer**

The built-in timer enables the projector to automatically transport your slides. Eleven time settings between 1 and 60 seconds can be made.
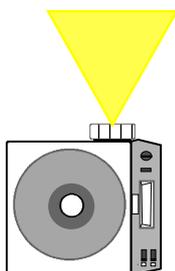
EKTAPRO
5020, 9020

👉 **Note Ektapro 5020 Projector:**
In order to avoid "dark pause" it is recommended that the slide tray is filled as completely as possible (81 or 141 slides):

1. Due to the tray design, it is not possible to insert a slide directly into the zero compartment

2. Insert the slide directly into the slide gate

3. Place the tray as usual in the zero-position (see page 25)

4. With the next slide transport the slide will be lifted from the slide gate into the zero compartment of the tray

👉 **Note EKTAPRO 9020 Projector:**
You can immediately bring the tray back to the zero position after the last slide with the help of the automatic zero positioning feature. This is useful when continuous projection is required using only a few slides.

Endless Projection
Timer

■ **External Timer (no Kodak product)**

EKTAPRO
320, 4020,
7020

Note
An external timer is offered by AVSZ
(☞ Address on page 69).

External Timer

Endless Projection
Autotimer Setting

■ **One Projector, IR Remote System and Autotimer Mode Setting**

EKTAPRO
4020,
5020,
7020, 9020

IR Remote Receiver
CAT No 712 8606

30 m!

Settings 1-60 sec. To activate the autotimer mode input codes 600 - 660.

Example: 4 s
Input <604> and confirm with <*>

IR Remote System RA
CAT No 712 1072
and RA/LP
CAT No 712 1064

Note
The Autotimer Mode must be set again after projector has been switched off/on!

Endless Projection
Autotimer Setting

■ **Two Projectors, IR Remote System and Autotimer Mode Setting**

Ektapro
7020, 9020
MASTER

Ektapro
4010, 4020, 5000, 5020,
7000, 7010, 9000, 9010,
9020
SLAVE

Dissolve Cable
CAT No 715 3992

IR Remote Receiver
CAT No 712 8606

30 m!

Settings 1-60 sec. To activate the autotimer mode input codes 600 - 660.

Example: 4 s
Input <604> and confirm with <*>

IR Remote System RA
CAT No 712 1072
and RA/LP
CAT No 712 1064
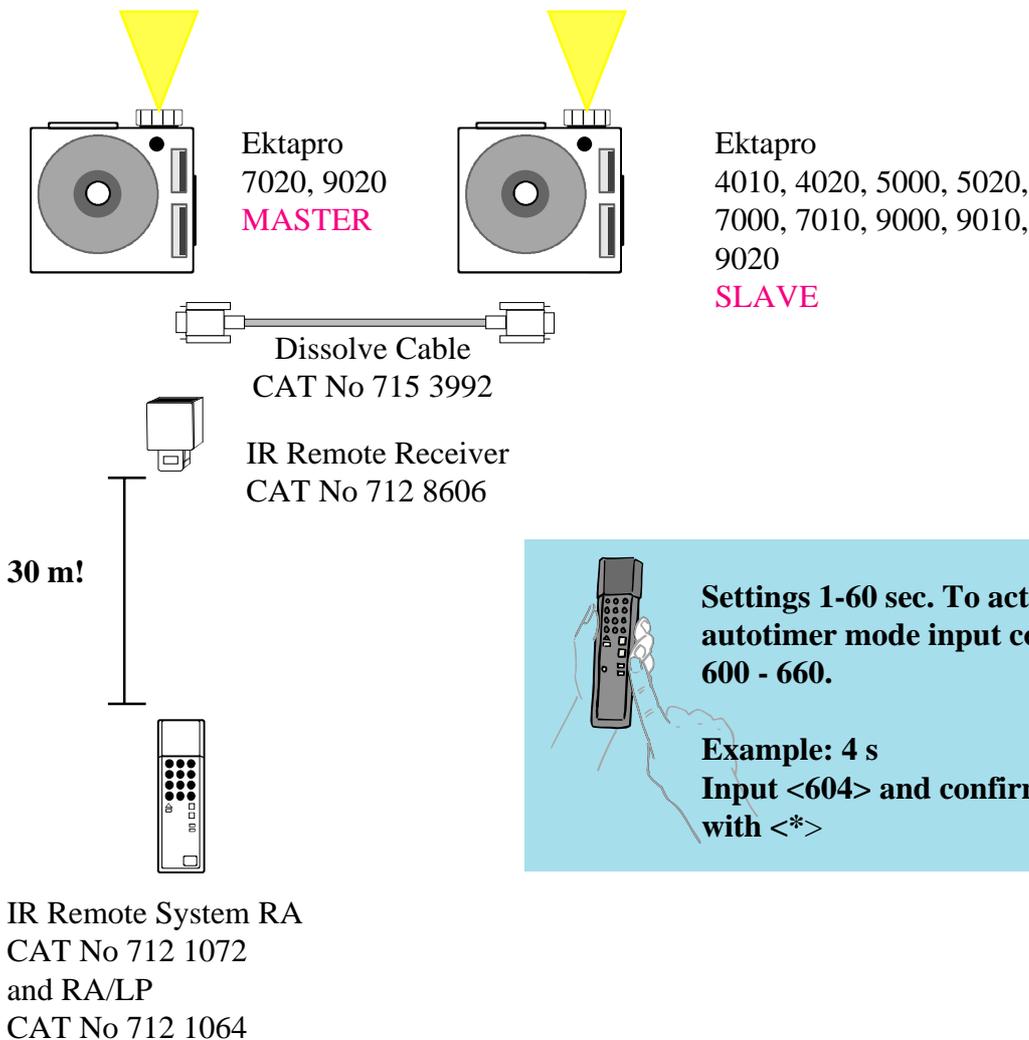
☞ **Note**
The Autotimer Mode must be set again after the projector has been switched off/on!

Soft Slide Change
(One Projector)

■ **Fading up and down (Soft Slide Change) with one projector via IR Remote System**

Fading avoids hard light changes during slide transport!

Fade Down: Set time via IR. Within this time lamp decreases brightness!

Fade Up: Set time via IR. Within this time lamp increases brightness!

EKTAPRO
7020, 9020

IR Remote Receiver
CAT No 712 8606

Input fade times of 0 sec (hard cut) up for a long fade of 9.9 sec in increments of a tenth of a second
Code: <801 - 899>

Example: 4 s
Input <840> and confirm with <*>

max. 30 m!

IR Remote System RA
CAT No 712 1072
and RA/LP
CAT No 712 1064

Note
The Fading Mode must be set again after projector has been switched off/on! If you want to keep the setting, switch projector to standby! Do not switch it off!

Trays
Inserting Slides

■ **General**
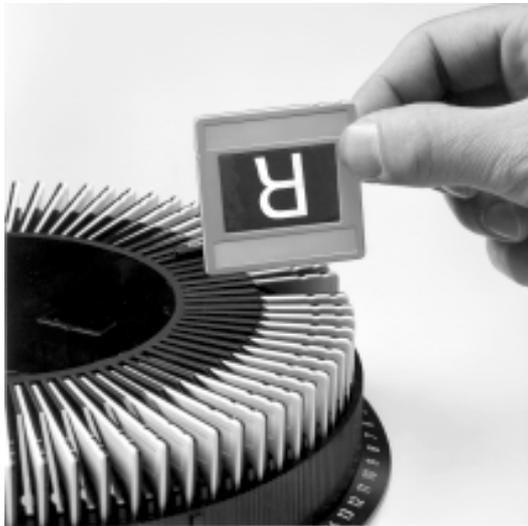
BEFORE:
■ Check each slide's orientation (horizontal or vertical), and arrange them in the order you wish to show them. *Then turn the slide upside down.*

■ Number each mount in the upper right-hand corner of the film's shiny side.

■ Insert your first slide into the first slot in the tray so that the number is visible on the outer circumference of the tray. Insert your second slide in the second slot with the emulsion (dull side) facing your first slide, and so on.

AFTER:
■ View each slide against a light source and orient for projection (check for proper horizontal, vertical, right and left positioning.)

■ Arrange the slides in the order you wish to show them.

■ Rotate them 180 degrees - *upside down.*

■ Number (or mark) each mount in the upper right-hand corner.

■ Insert the slides into the tray slots so that the number (or mark) is on the outer circumference of the tray.

Trays
Tray Selector Switch

KODAK
EKTAPRO Slide
Tray for **80** slides
CAT. No. 712 8580

KODAK CAROUSEL TRANSVUE
Slide Tray for **140** slides
CAT. No. 184 0768

For use with all types
of mounts (e.g. 3 mm,
2.3 mm CS,
cardboard, LKM,

For use with cardboard and very
thin glassless plastic mounts,
only!

max 3.2 mm

max 1.6 mm

80

140

EKTAPRO
4020,
5020,
7020, 9020
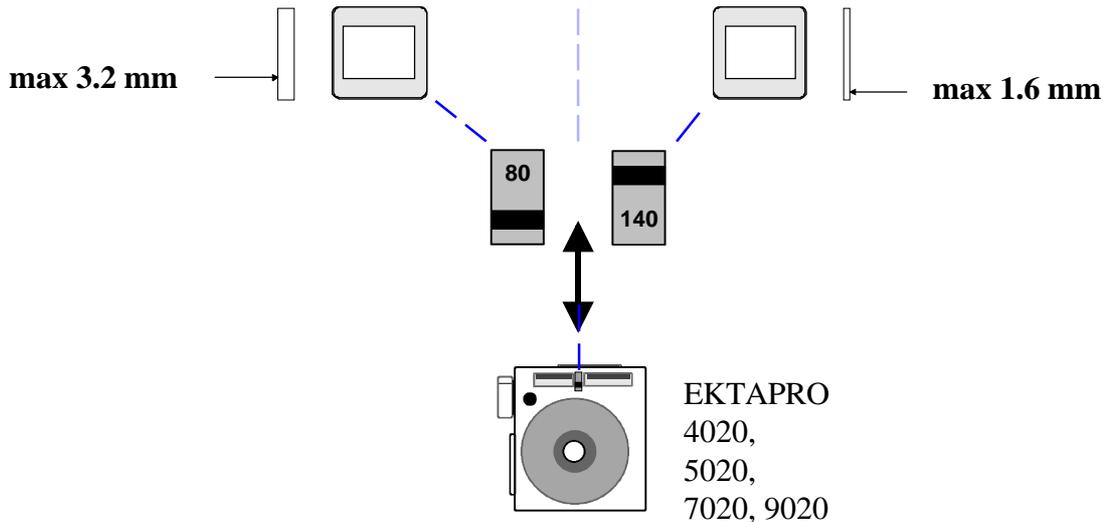
Trays
Installation and Removal

■ **Installing the slide tray**

Important note: First switch on the projector before you install the slide tray. This will ensure that the projector's transport ring is in the zero position. Otherwise the tray cannot be placed properly and will not be transported.

■ **Removing the slide tray**

Always lift off the slide tray in the zero position!

(Indication: The tray is in zero position when the green LED at the front of the projector lights up (not Ektapro 320!))

Move tray to zero position:

a) Using the slide change button on your projector or remote control units
Hold the slide transport-**backwards** button down. The slide tray goes into rapid search and stops automatically in the zero position.

b) Using the IR Remote Control
Select "0" on the keypad and confirm with "*". The slide tray moves to the zero position.

c) Using the mains switch
Turn the projector off by the mains switch. When the projector is turned on again, it will complete a system check and bring the slide tray back to the zero position!

Removing the slide tray in any position (e.g. after a slide jam)

1. Push aside and hold the slide tray lock
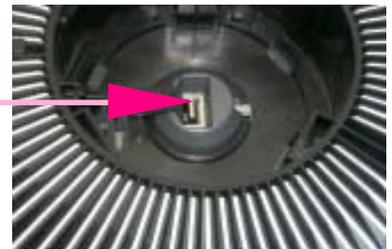
2. Lift off the slide tray.

3. Turn slide tray over and rotate the base plate until it locks into the zero position, otherwise the slide tray cannot be replaced on the projector in the zero position.

Autofocus

■ **Important Note for use of Autofocus**

Ektapro
5020, 9020

👉 ■ **Important**
Use **either** glass or glassless (cardboard) mounted slides! **Never mix them!**

■ **AF and Superslides**
Use of Autofocus with 4 x 4 slides and 4 x 4 condensor is not recommended. As the sides of the condensor are too smooth (not grounded, IR radiation from the lamp can enter the condensor and may interfere the IR detectors of the AF.

■ **AF and slide mount material**
Some slide mounts consist of plastic material that allows the IR radiation to pass through. As not reflected it will not be detected by the IR sensor. The AF will not work properly. In this case you need to replace these mounts.

No slide no light

■ Switchable "no slide no light" feature

No slide no light means: If no slide is in the tray compartment (and therefore, in the slide gate of the projector) the shutter will not open. No disturbing white light will interrupt your presentation.

Ektapro
4020, 5020, 7020
and 9020

To switch off (and on again) the "no slide no light feature" input <550> and confirm with <*>

IR Receiver

IR Remote System RA
CAT No 712 1072
and RA/LP
CAT No 712 1064
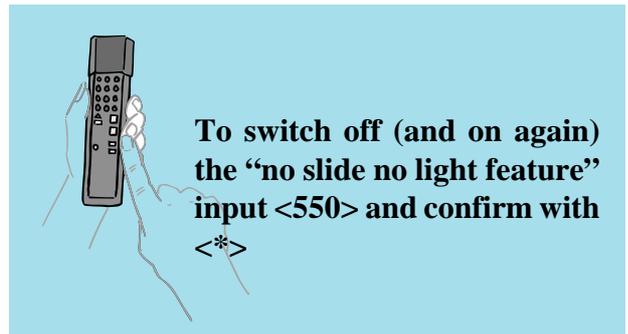
Note
There are two reasons to switch off this feature:
1. High IR-transmissive slide mounts
There are some mounts on the market which do not reflect IR radiation. That means they cannot be detected by the IR sensor in the slide gate. The result is that the shutter will not open.

2. Light on the screen
Tray replacement is easier done if the room is not totally dark. You will appreciate to have light on the screen.

Slide Recording

■ **Creating 35 mm slides with film recorders**

Computer

Film recorder (☞ Addresses page 71)
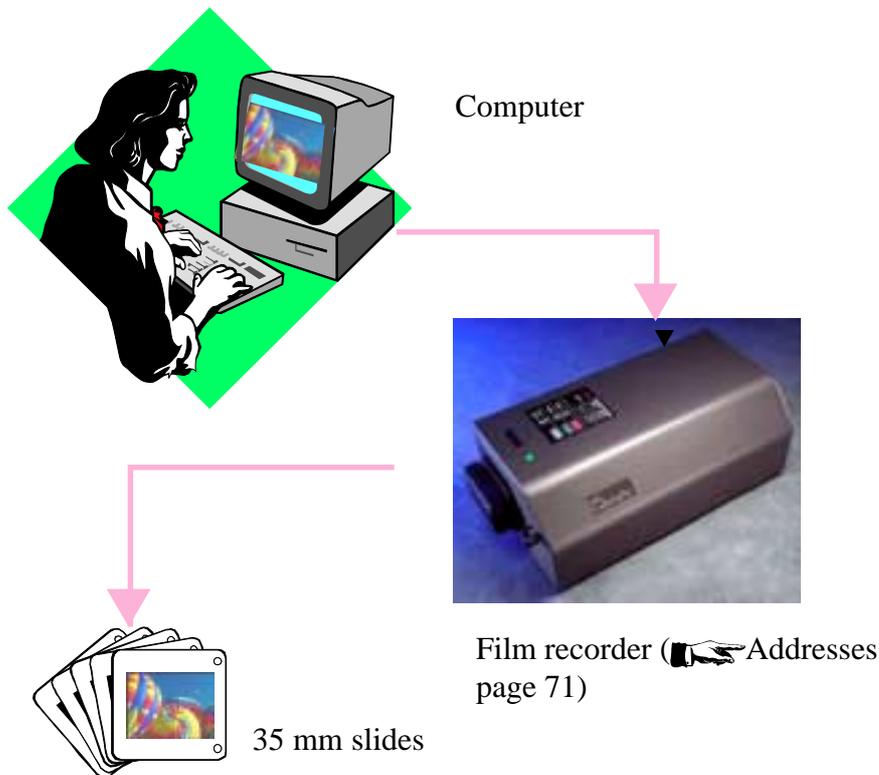
35 mm slides

☞ Nowadays it is very easy to create 35 mm slides from images generated by the computer. Modern film recorders are easily set up as they support WINDOWS. Therefore, they are as easily used as printers.
You can use any software (e.g. PowerPoint, Word, Photoshop) to create templates (with regards to the 2:3 image ratio).

In almost every city you will find service companies which will offer the recording of your electronic files. Mostly they are listed in the yellow pages of the phonebook. Some offer their service via the Internet

■ Available lenses from Kodak

Kodak EKTAPRO FF Lenses	
75-120 Zoom	CAT 847 0346
100-150 Zoom	CAT 143 3432
100-200 Zoom	CAT 712 5743
85 mm	CAT 712 5503
100mm	CAT 712 5511
180mm	CAT 712 5529
Kodak EKTAPRO Select FF Lenses	
75-120 Zoom	CAT 712 5479
87-200 Zoom	CAT 712 5487
200-300 Zoom	CAT 712 5495
36 mm	CAT 712 5446
93 mm	CAT 712 5453
150mm	CAT 712 5461

Why Select?

√   Select stands for a Higher Quality Lens. There are four main differences:
√   All lenses have a metal housing
√   All lenses are multicoated
√   Each lens has individual focal length information accurate to 0.1 mm.
√   For safety carrying and practical storage they are delievered in plastic system boxes

Note:
All Ektapro Lenses are GEAR RACK lenses! Therefore, not all are compatible with former Kodak S-AV slide projectors. For further information about compatibility see page 30.

Lenses
Compatibility with former S-AV Projectors

Kodak S-AV Retinar Lenses
SPIRAL LENSES

Kodak Ektapro FF Lenses
GEAR RACK LENSES

1992

Suitable for:

- ■ **All Kodak S-AV Slide Projectors**
- ■ **All Kodak Ektapro Models**

Suitable for:

- ■ **All Kodak Ektapro Models**
- ■ **Kodak S-AV models 1010, 1030 1050, 2010, 2020, 250, 2050**

☞

WEB User

Lens Calculator
You do not know what kind of lens you need for your projection venue?
Two well made lens calculators are available on the WEB. It is freeware
and can be easily downloaded.

Lens calculator by Bässgen:
Go to **http://www.dia.de** Click on Bässgen and go to Download and click
on SCREEN 2.0.

Lens calculator by Stumpfl:
Go to **http://www.stumpfl.com/E/Service/**

Lenses
Lens Support

■ **KODAK EKTAPRO Lens Support CAT No 715 1335**

√ **Gives maximum hold for heavy lenses**
√ **Is ideal in fixed installations where lens positions (focus, image size) should be kept**
√ **Supports smooth operation of focus/autofocus when heavy lenses are used**

It is recomended to use the following lenses together with the lens support:

KODAK FF Projection Lenses
75-120 Zoom	CAT 847 0346
100-150 Zoom	CAT 143 3432
100-200 Zoom	CAT 712 5743
180mm	CAT 712 5529

KODAK EKTAPRO SELECT FF Projection Lenses
75-120 Zoom	CAT 712 5479
87-200 Zoom	CAT 712 5487
200-300 Zoom	CAT 712 5495
150mm	CAT 712 5461
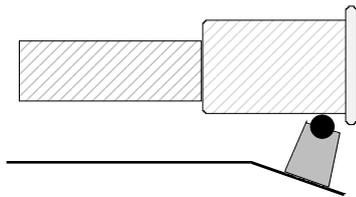
Lenses
Lens Support

■ **Installation**

Slot up!

Brass
Insert

1.
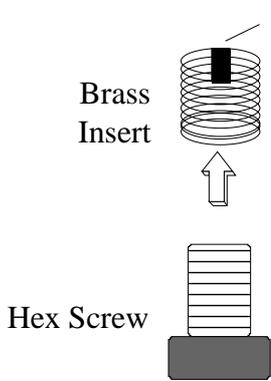
Hex Screw

1. Screw hex screw into the insert.

2. Use the hex spanner to screw hex screw with the insert into the projector's hole.
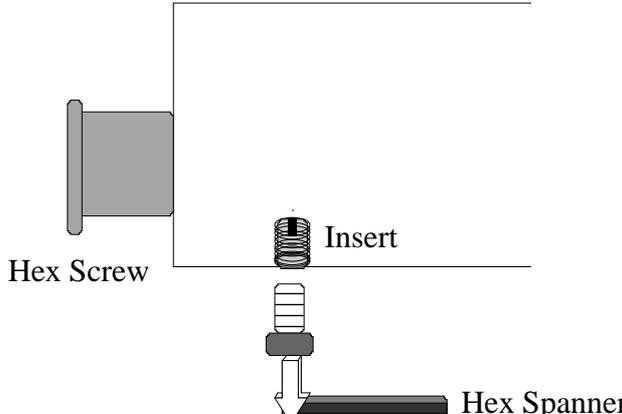
3. Remove hex screw and fix baseplate as shown in the picture. The insert remains in the hole.

2.

Slot up!

Insert
Hex Screw

Hex Spanner

Position for lenses with a **small** diameter.

Position for lenses with a **large** diameter. Turn baseplate.

3.

Hex Screw

Insert

Hex Spanner
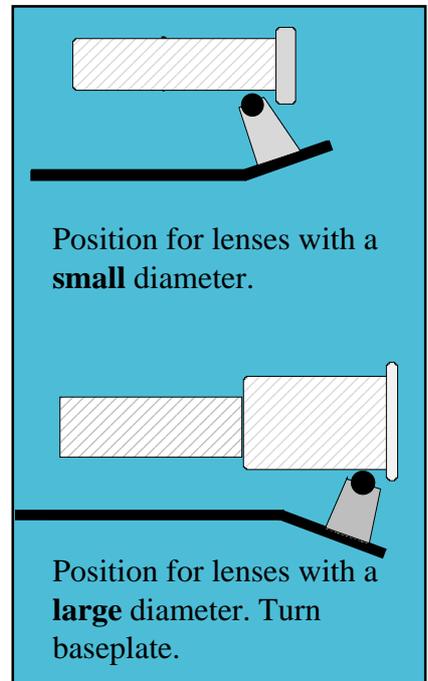
Lenses
4 x 4 condensor

■ **Condensor for 4 x 4 (super slides) Projection**

STANDARD Condensor

4 x 4
slide format

24 x 36 mm
slide format

illumination
area

dark
corners

4 x 4 Condensor

4 x 4
slide format

24 x 36 mm
slide format
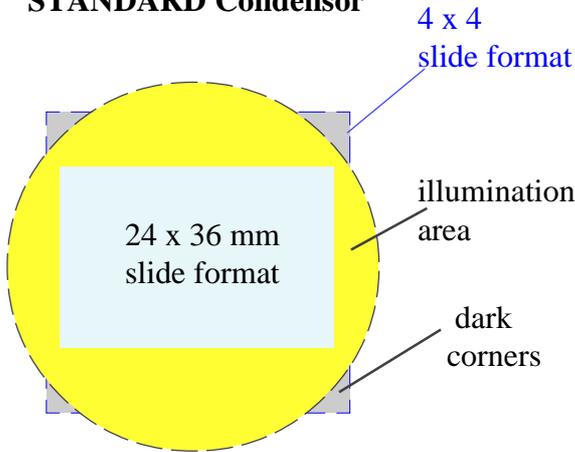
illumination
area

Illumination with **standard condensor**: The condensor is adjusted for 24 x 36 mm slides.When projecting 4 x 4 slides, the dark corners will be seen clearly.
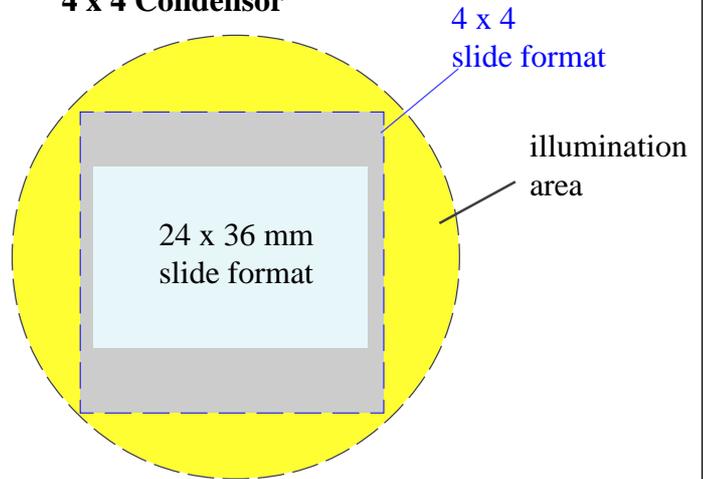
Illumination with **4 x 4 condensor**: The condensor enlarges the cone of light and minimize the dark corners. .When projecting 4 x 4 slides, the dark corners will be seen clearly seen.

Please note: The 4 x 4 condensor will not improve general eveness of illumination! It only will reduce the dark corners when projecting 4 x 4 slides.

The projection of 4 x 4 slides is only recommended with the following KODAK Lenses together with the 4x4 Condensor (CAT No 714 4967):

KODAK FF Projection Lenses		
85 mm	CAT No 712 5503	
100 mm	CAT No 712 5511	
180 mm	CAT No 712 5529	
KODAK EKTAPRO SELECT FF Projection Lenses		
93 mm	CAT No 712 5453	
150 mm	CAT No 712 5461	

Note:
The 35 mm EKTAPRO Select FF Lens cannot be recommended for 4 x 4 projection!
In general Zoom lenses are not recommended, too. As performance depends on quality of the lenses, we advice you to test Zoom lenses before purchasing.

Lamps
Brightness - Lifetime

		CAT No
EXR	82V 300W 35h	145 2259
FHS	82V 300W 70h	147 7678
EXY	82V 250W 200h	145 2143

Note:
Due to manufacturing lamps can show tolerances within a batch.
This is another reason for us not to recommend the use of the EXW lamp, which is available on the market. The EXW is 15% brighter but this is often compensated by tolerances.

■ **Standard - Economy - High Light Setting**

STANDARD Lamp Mode

All Ektapro models

	STANDARD MODE		
	Brightness		Lifetime
EXR	1300 lumens	100%*	35h
FHS	1030 lumens	80%	70h
EXY	780 lumens	60%	200h

ECONOMY Lamp Mode
Possible with
Ektapro 4020, 5020, 7020, 9020

	ECONOMY MODE		
	Brightness		Lifetime
EXR	975 lumens	75%	105h
FHS	780 lumens	60%	210h
EXY	585 lumens	45%	600h

HIGH LIGHT Lamp Mode
Possible with
Ektapro 7020, 9020, only

	HIGH LIGHT MODE		
	Brightness		Lifetime
EXR	1248 lumens	120%	25h
FHS	780 lumens	96%	50h
EXY	936 lumens	72%	140h

* All other percentage values are related to this value!

Lamps
Active Lamp

■ **Ektapro Extra Bright DUAL Lamp Module. Choose of the active lamp after lamp replacement**

In case the active projection lamp fails, the system automatically activates the second projection lamp. After having replaced the lamp you can choose whether the projector should use lamp 1 (L1) or lamp 2 (L2).

If you want to check which lamp is active switch the economy button. The respective lamp LED (L1 or L2) lights up for a short time.

Mode "Priority Lamp L1" (factory setting)
In this mode the projector will automatically go into lamp 1 position after switching on. This is indicated by a short blinking of the LED L1 when switching the projector on.

Mode "Lamp position on the last active lamp"
In this mode the projector stays -even after replacement of a defect lamp - on the last active lamp in use after switching the projector back on. At unsupervised continuous presentation (projection) this has the advantage that an unused spare lamp with full life time is always available.

Choosing the individual mode
You can switch anytime to the other mode. For this purpose keep the standby button pressed when switching the projector on.

Extra Bright Lamp Module
General

■ **How it works**

All current Kodak Slide Projectors are equipped with the Extra Bright Lamp Module offering 30% more light than compared to former models**:**

> √ **more light**
> √ **more brillant colors**
> √ **higher contrast**
> √ **better legibility**

According to a new cold light mirror the biggest part of the IR (heat) light will be absorbed and not reflected. Therefore, the heat filter could be removed (see illustration). This system is unique to Kodak.
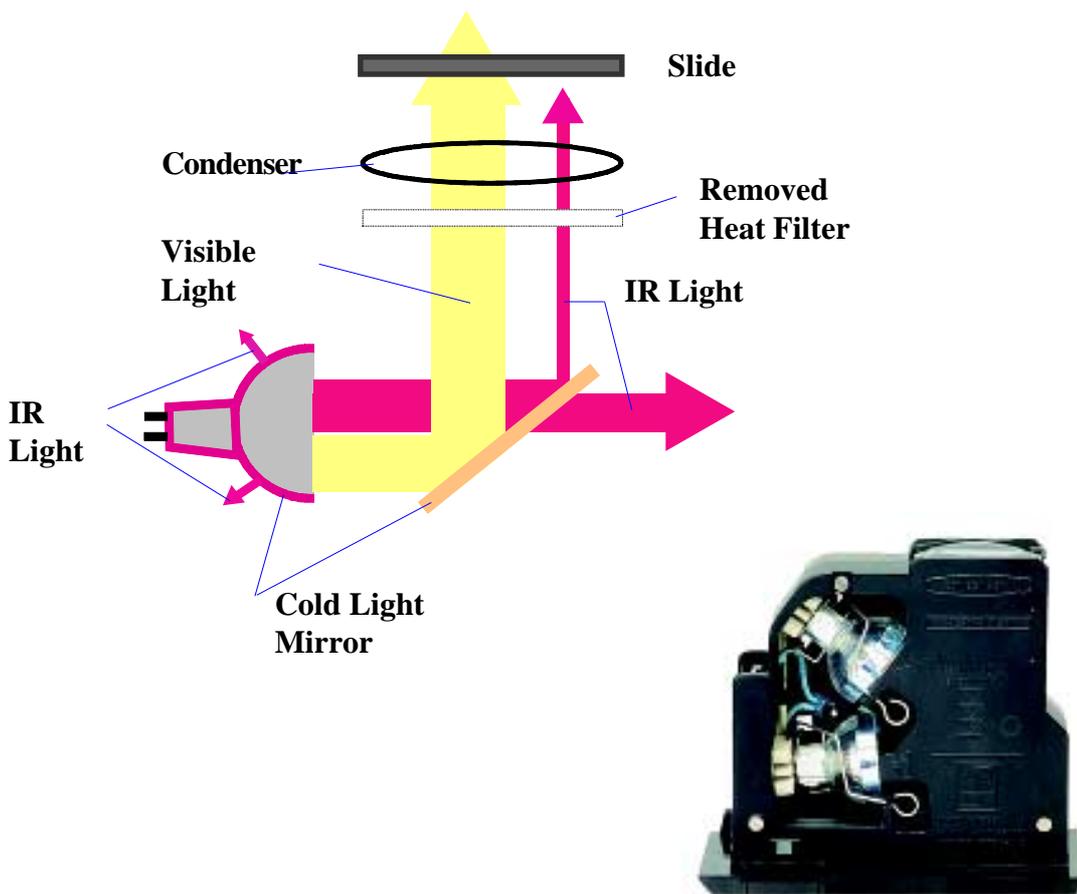
Extra Bright Lamp Module
General

■ **Specifications**

Kodak Extra Bright SINGLE Lamp Module
CAT No 718 4351

Kodak Extra Bright DUAL Lamp Module
CAT No 718 4369

For use with Kodak Ektapro 3000, 3010, 3020 and 320, **ONLY**!

For use with Kodak Ektapro 4010, 4020, 5000, 5020, 7000, 7010, 7020, 9000, 9010 and 9020, **ONLY**!
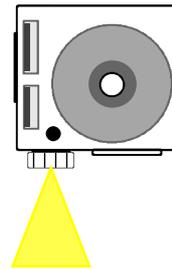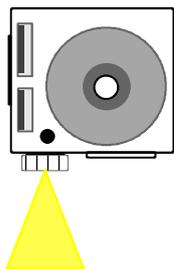
■ **Lumen output for** *standard*, *economy* **and** *high light* **mode.**

Lumen Output

*Ektapro 7020, 9020
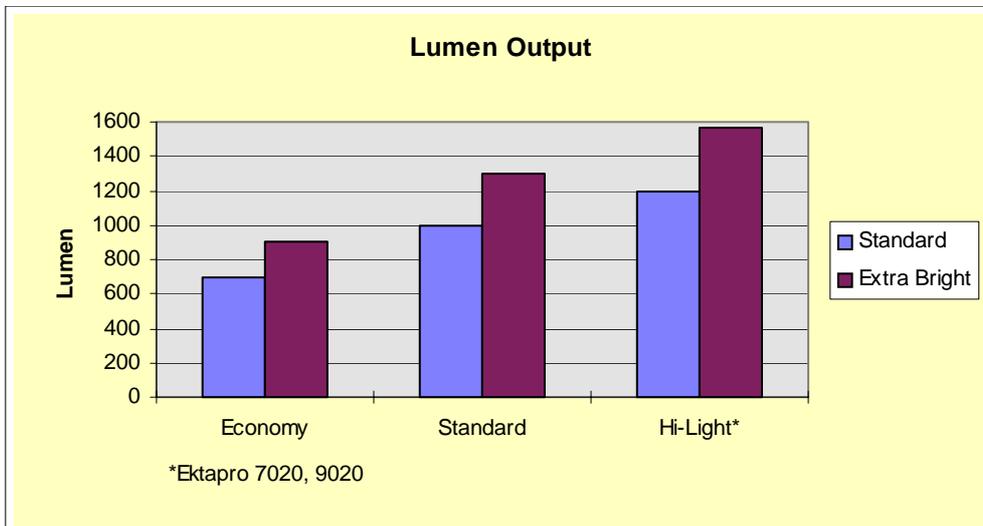
Extra Bright Lamp Module
History

■ **Versions of Kodak Ektapro Lamp Modules**
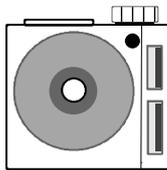
Name	Built- in	Heat filter	Comments
Kodak Ektapro Single Lamp Module	Ektapro 3000	Yes - 6 mm thick	
Kodak Ektapro DUAL Lamp Module	Ektapro 5000, 7000, 9000	Yes - 6 mm thick	
Kodak Ektapro Single Lamp Module +**10**	Ektapro 3010	Yes - **3** mm thick	**10 %** light increase
Kodak Ektapro DUAL Lamp Module +**10**	Ektapro 4010, 7010, 9010	Yes - **6** mm thick	**10 %** light increase
Kodak Ektapro **Extra Bright** Single Lamp Module	Ektapro 3020, 320	**No heat filter!** See page 36 for detailed information.	**30 %** light increase
Kodak Ektapro **Extra Bright** DUAL Lamp Module	Ektapro 4020, 5020, 7020, 9020	**No heat filter!** See page 36 for detailed information.	**30 %** light increase

Extra Bright Lamp Module
Downgrading

■ Downgrading (reducing brightness and heat)

There are two reasons for downgrading Ektapro lamp modules:

√ in order to match same slide gate temperature as your former models (e.g. an Ektapro 5020 should match the gate temperature of an Ektapro 5000).

√ in order to match same colour temperature as your former models (e.g. an Ektapro 9020 should match the colour temperature of an Ektapro 9000).

Downgrading is easily done by inserting the proper heat filter:

	To modify into	
	Ektapro Lamp Modules +10	Ektapro Lamp Modules
Ektapro Extra Bright Lamp Modules	Insert a 3 mm heat filter CAT No 717 7157	Insert a 6 mm heat filter CAT No 717 7140
Ektapro Lamp Modules +10		Replace the 3 mm heat filter with the 6 mm one CAT No 717 7140

Note:
Never upgrade a lamp module by just taking out the heat filter! This is not allowed as heat increases and could damage your slides! If you need more light for any older Ektapro projector, you can use the Ektapro Extra Bright Light Module! For further information see pages 37 and 38!

Extra Bright Lamp Module
Safety Precautions

According to a temperature increase in the slide gate which, therefore, needs more careful handling when using slides, mounts and lamps.

With the higher light output of the Extra Bright Lamp Module the temperature in the slide gate rises. To enable a smooth operation following should be considered:

√   Use **only light** respectively **light gray** slide mounts (e.g. Wess slide mounts). Slide mounts with only one dark or black side have to be sorted in with the light side facing the lamp. Please pay special attention when sorting your slide mounts in rear projections:
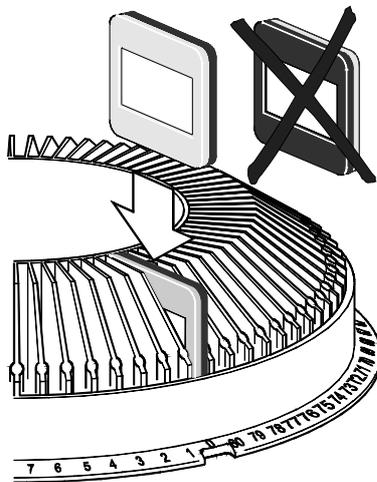
√   Do not use a lamp type EXW/15 h for the projector (higher temperature - lamp not available from Kodak).
√   Consider the room temperature! It may not exceed 35 degrees C!
√   High-Light-Mode (models 7010, 7020, 9010, 9020): Slide projection time per slide may not exceed **1 minute!**
If these hints are not considered, mounts may deform!

■ **Slide Gate Temperature**

Lamp Module	Temperature °C		
	EXR lamp	**FHS lamp**	**EXY lamp**
Extra Bright	80	58	49
Extra Bright in High Light Setting	90	64	56
Extra Bright in Economy Setting	65	50	42
Standard	65		
Standard +10	75		

Extra Bright Lamp Module
Sweat Spots

■ **Sweat Spots**

Due to the higher slide gate temperature of the Extra Bright Lamp Module, sweat spots may appear faster when glass mounted slides are used (in long term projections). As soon as the slides warm up the spots will disappear. Have a look at the following hints:

- Switch on the projector with the loaded tray approx. half an hour before you start your presentation and let the projector transport (using the built-in timer.) The slides will warm up.
- Leave the projector with the loaded tray overnight in the standby mode. Heat will be sufficient to warm up your slides.
- If you do not need highest light output, use the economy lamp setting or use the FHS or EXY lamp.

■ The state of the way to control Ektapro slide projectors

Thanks to the modern RS232 interface (P-Bus) of the Ektapro slide projectors controlling and programming slide shows have never been so easy and comfortable as nowadays. Hence, all systems on the market are based on the same controlling principals:
Either they do a direct control via a PC (see illustration 1) or control is done via a separate hardware controller (see illustration 2).

Please note, you will still find systems on the market which do not use any software for the programming and /or controlling. But the possibilities in creating shows are rather poor as the systems have access to only a few of the features of the Ektapro projector. In most cases such systems synchronize the dissolves to an audio tape.

☞ **addresses see page 69**

Illustration 1:
PC (Software) Direct Control
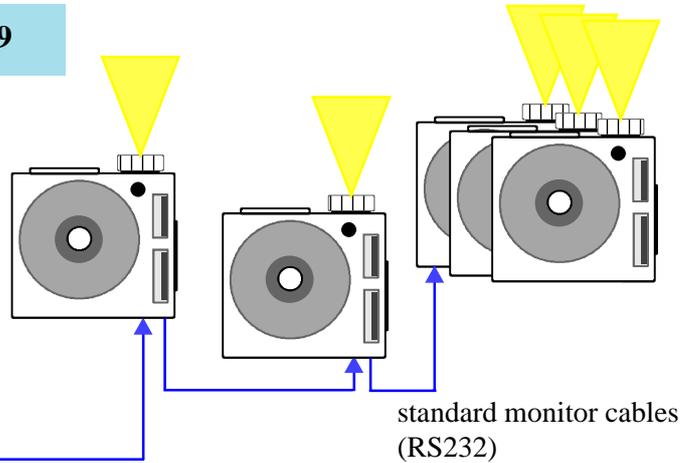
standard monitor cables
(RS232)

standard monitor cable
(RS232)

A standard monitor cable (not a Kodak product!)
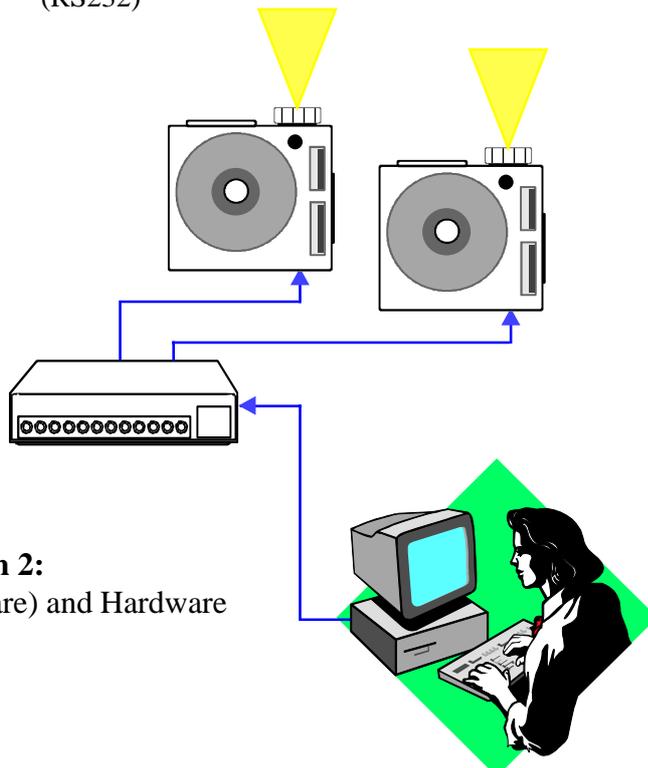
Illustration 2:
PC (Software) and Hardware Controller

External Control
PC Cables

■ PC cable for an older 25-pin computer serial interface

Some older PCs have a 25 pin instead of the current 9 pin serial interface. For these connectors you either need an adapter or you have to configurate it on your own.

View from front side!

9-Pin Sub D Connector

max. length 30 m,
(not a Kodak product)

shield

P-Bus Connector DB9 male		
Pin No		Description
1	NC	
2	RXD	Transmit Data
3	TXD-	Receive Data
4	NC	
5	GND	Ground
6	NC	
7	NC	
8	NC	
9	NC	

25 -Pin Sub D Connector

View from front side!

Note: The following bridging inside the **25-Pin** connector is necessary:
pin **4** with pin **5**
pin **6** with pin **20** and
pin **8** with pin **20**
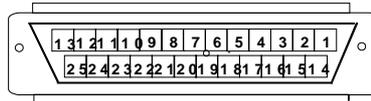
Connector 25-pin male		
PIN No		Description
2	TXD	Transmit Data
3	RXD	Receive Data
4	RTS	
5	CTS	
6	DSR	
7	GND	Ground
8	DCD	
20	DTR	
22	RI	

External Control
PC Cable

■ **Apple Macintosh Computer Cable with Mini DIN 8 connector**

If you use an Apple Macintosh Computer with a Mini DIN 8 connector, you have to configurate this cable on your own.

Ektapro 7020,
9020 (4020 and
5020 as a last in
the row, only)
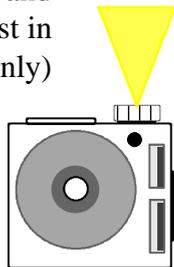
P-Bus Connector DB9 male		
Pin No		Description
1	NC	
2	RXD	Transmit Data
3	TXD-	Receive Data
4	NC	
5	GND	Ground
6	NC	
7	NC	
8	NC	
9	NC	

max. length 30 m,
(not a Kodak
product)

shield

1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8
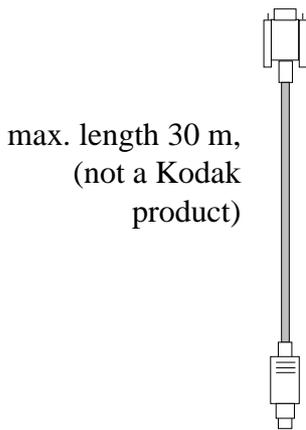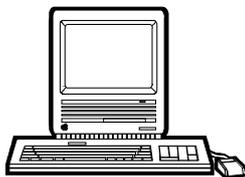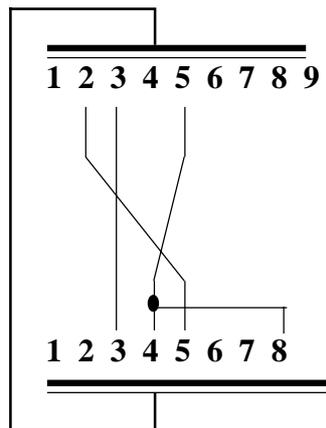
Macintosh Mini DIN 8 male		
Pin No		Description
1	HSKo	Handshake out
2	HSKi	Handshake in
3	TXD-	Transmit Data inverted
4	GND	Ground
5	RXD-	Receive Data
6	TXD+	Transmit Data
7	GPi	General Purpose Input
8	RXD+	Receive Data

External Control
P-COM Protocol

■ **Need to create own software?**

The Command Language
A character string that both the computer and the projector understand must be defined in order to give the projector clear commands. The defined character string for the KODAK EKTAPRO Slide Projectors is called P-Com Protocol and is in binary form. Please note this is not a software to be installed once on the computer to produce the necessary commands. It is simply the character strings necessary in order to program the commands. Hidden behind the name P-Com is, therefore, nothing other than the "projector's communications language". Programms can be written for the individual needs of the user. The booklet is available at Kodak.

Following we give you an overview about all command which can be created. **Note, due to model changing and different features not all commands (e.g. fade up/down) can be used for all models**!

Command	Valid for the following EKTAPRO Models									
	4010	4020	5000	5020	7000	7010	7020	9000	9010	9020
RandomAccess	X	X	X	X	X	X	X	X	X	X
SetBrightness	X	X	X	X	X	X	X	X	X	X
GroupAddress	X	X	X	X	X	X	X	X	X	X
FadeUP/DOWN						X	X		X	X
SetFadeLimit High Value						X	X		X	X
SetFadeLimit Low Value						X	X		X	X
AutoFocus ON/OFF			X	X				X	X	X
HighLight ON/OFF						X	X		X	X
AutoShutter ON/OFF	X	X	X	X	X	X	X	X	X	X
BlockKeys ON/OFF	X	X	X	X	X	X	X	X	X	X
BlockFocus ON/OFF		X		X		X	X		X	X
Standby ON/OFF	X	X	X	X	X	X	X	X	X	X
SlideForward	X	X	X	X	X	X	X	X	X	X
SlideBackward	X	X	X	X	X	X	X	X	X	X
FocusForward	X	X	X	X	X	X	X	X	X	X
FocusBackward	X	X	X	X	X	X	X	X	X	X
FocusStop	X	X	X	X	X	X	X	X	X	X
ShutterOpen	X	X	X	X	X	X	X	X	X	X
ShutterClose	X	X	X	X	X	X	X	X	X	X
ResetSystem	X	X	X	X	X	X	X	X	X	X
SwitchLamp	X	X	X	X	X	X	X	X	X	X
ClearErrorFlags	X	X	X	X	X	X	X	X	X	X
StopFading						X	X		X	X
GetTrayPosition		X		X		X	X		X	X
GetKeys		X		X		X	X		X	X
SystemStatus	X	X	X	X	X	X	X	X	X	X
SystemReturn	X	X	X	X	X	X	X	X	X	X

External Control
Shutter Control

■ **Shutter Control via PC**

Ektapro 4020, 5020, 7020 and 9020

Control via P-COM Protocol

Speed:
Permanent use: 3 times per second
Solid use: approx. 8 times per second
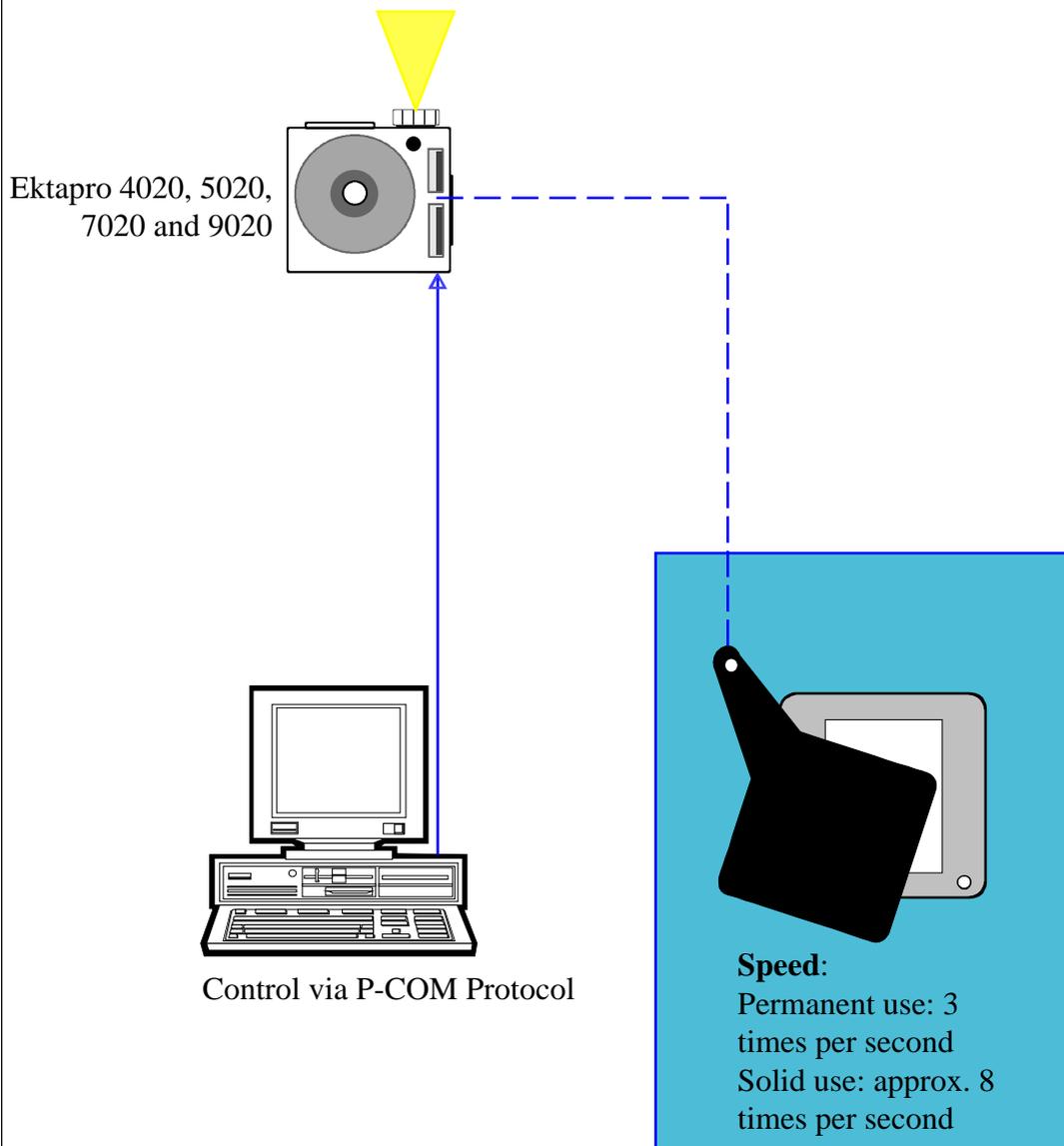
☞ **Note**
If shutter is moved in its fastest speed for some seconds, the shutter may get slower or switch off and on again (after some minutes) by the internal thermal cut.

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External Control
Important Hint

■ **Simultaneous Control via IR Remote and via RS232 controllers (AV Slot, P-Bus)**

☞ **Important**
If you control the Ektapro via the RS232 computer interface (P-Bus or AV slot) you are not allowed to send additional commands via a remote control or vice versa! This will create conflicts in the command executive!

Control via RS 232   Interface
(P-Bus or AV Slot)

Control via remote control
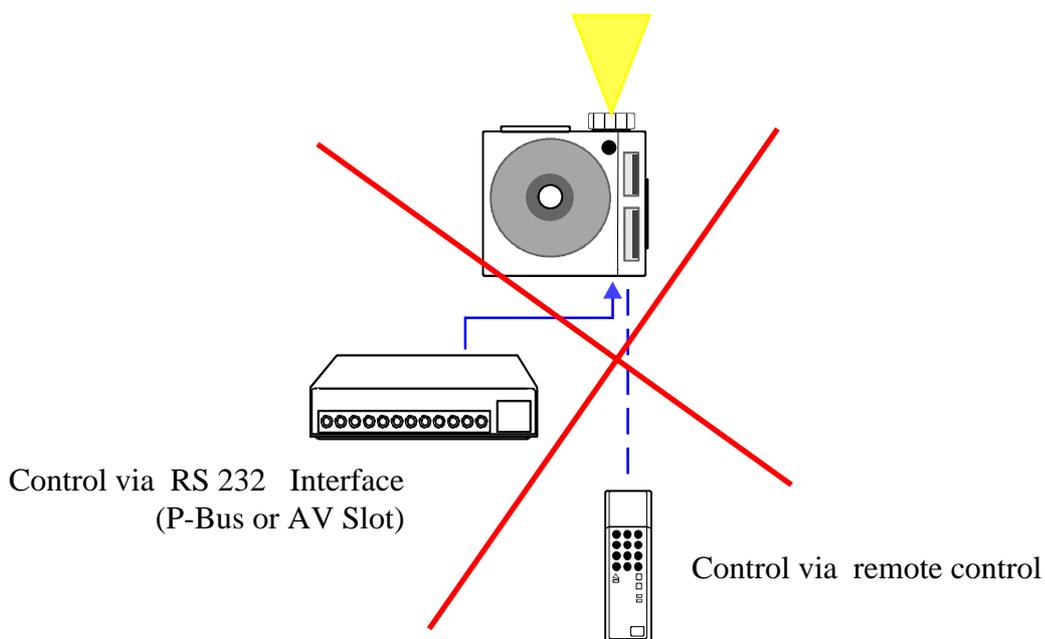
External Control
Important Hints

■ **Controlling an Ektapro via 1000 Hz Cassette Recorder**

Years ago there have been cassette recorders on the market with a slide synchronizer installed. The synchronizer allowed to send and record a 1000 Hz signal to the projector which actuated the slide transport. The 1000 Hz recorders can be used with an Ektapro but a so called slide synchronizer adapter between recorder and projector is needed. As only a simple closing contact is required it is possible to solder such an adapter by your own.

■ **Last slide position memory**

If the Ektapro is switched on and off the system executes a check up and turns the transport ring and slide tray into the zero position. Hence, when switching the projector on again, it will not proceed with the slide position at the time you switched it off.

If you need such a special feature we can offer you a modified Ektapro model. It is the **Ektapro 9020 Cine** - a model special modified for the needs of a cinema. When switched off, the projector remembers the tray position. When switched on, the tray is automatically transported to this position

Since these models have other modifications as well, we advise you to get further details from Kodak before purchasing it.

External Control
Cordless RS 232 Control

■ **Cordless RS232 control of Ektapro Projectors**

A new IR V.24/RS232 adapter by Siemens allows cordless connection (DECT standard) of an Ektapro to a PC (or any other hardware with RS232 interface).*

P-Bus-IN
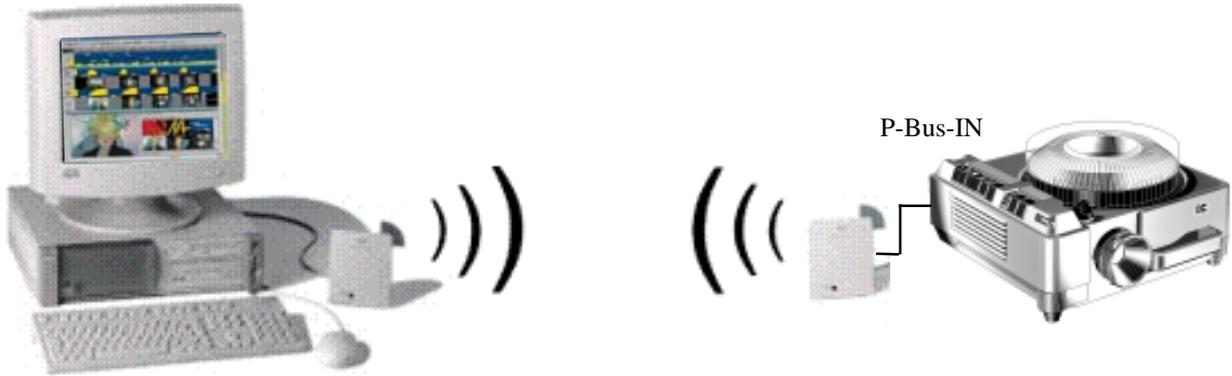
Key Benefits

■ If the distance between computer and projectors is greater than 30 m, data transfer with the standard monitor cable is not guaranteed. In this case you need special amplifiers or you can use this cordless transfer device.

■ Sometimes cordless transfer is a solution if -according to some other reasons - there is no way to lay any cables.

Siemens (☞ address see page 72) offers a data adapter with standard V.24 interface for cordless DECT (digital enhanced cordless tele communications) data connection with a high-speed transmission rate of up to 115 kbit/s.
Indoors the device will work properly up to **50 m, outdoors up to 300 m.**

* there are also RC433 MHz infrared systens on the market available.

Carrying Case

- **Low Weight**
- **Stackable**

Dimensions
Inside: 380 x 260 x 255 mm (W x D X H)
Outside: 380 x 260 x 255 mm (W x D X H)

CAT No 718 1993

To carry **projector**, **lens** and **tray**

Projector

Tray

Lens

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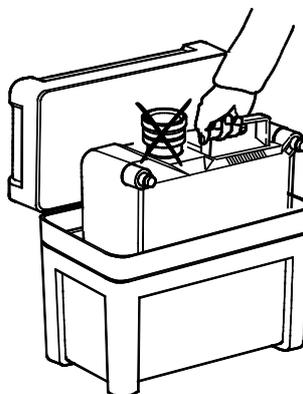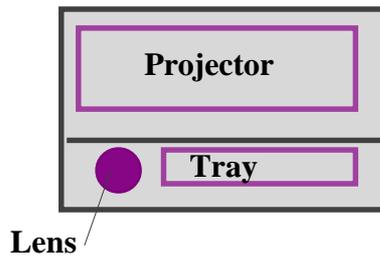
■ **Racks**

Some companies offer racks for professional use. (☞ Addresses pages 69 and 72)

■ **Fixing the projector**

For fixing the projector you can use the three holes on the bottom (☞ see illustration next page!)
Into the holes you have to screw so called inserts (expansion collars) that can hold the screws. The
illustrations show how to put the inserts into the projector's holes.

Inserts (expansion collars)
outer thread M7
inner thread M5

Note the position of the slot!

1.

Screws M5
(max. length allowed 49 mm)

2.

3.

**diameter
6.4 mm
depth 10 mm**
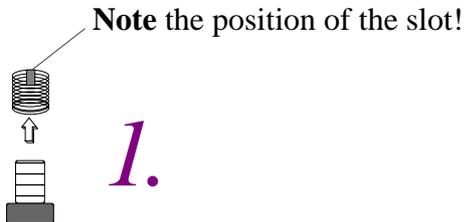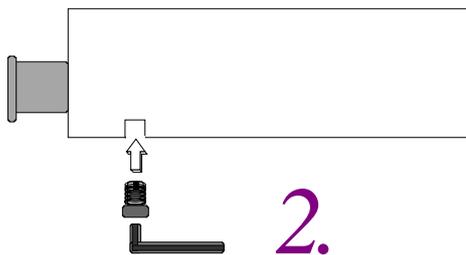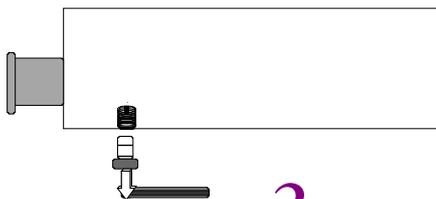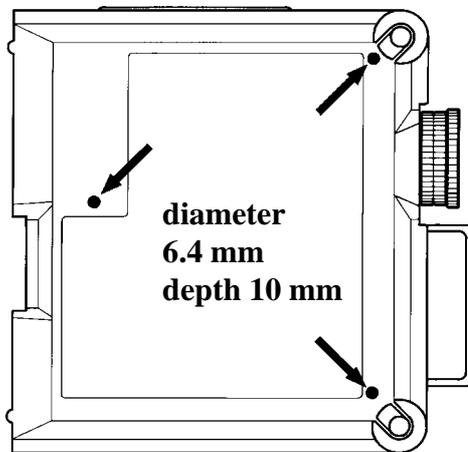
Professional Installation
Fixing Holes

■ **Fixing Holes**

**diameter
6.4 mm
depth 10 mm**

106,00   38,00

50,00

204,00

63,50

40,00

38,00

52,00

40,00   250,00

■ **Tilting**

max.
30º

max.
30º
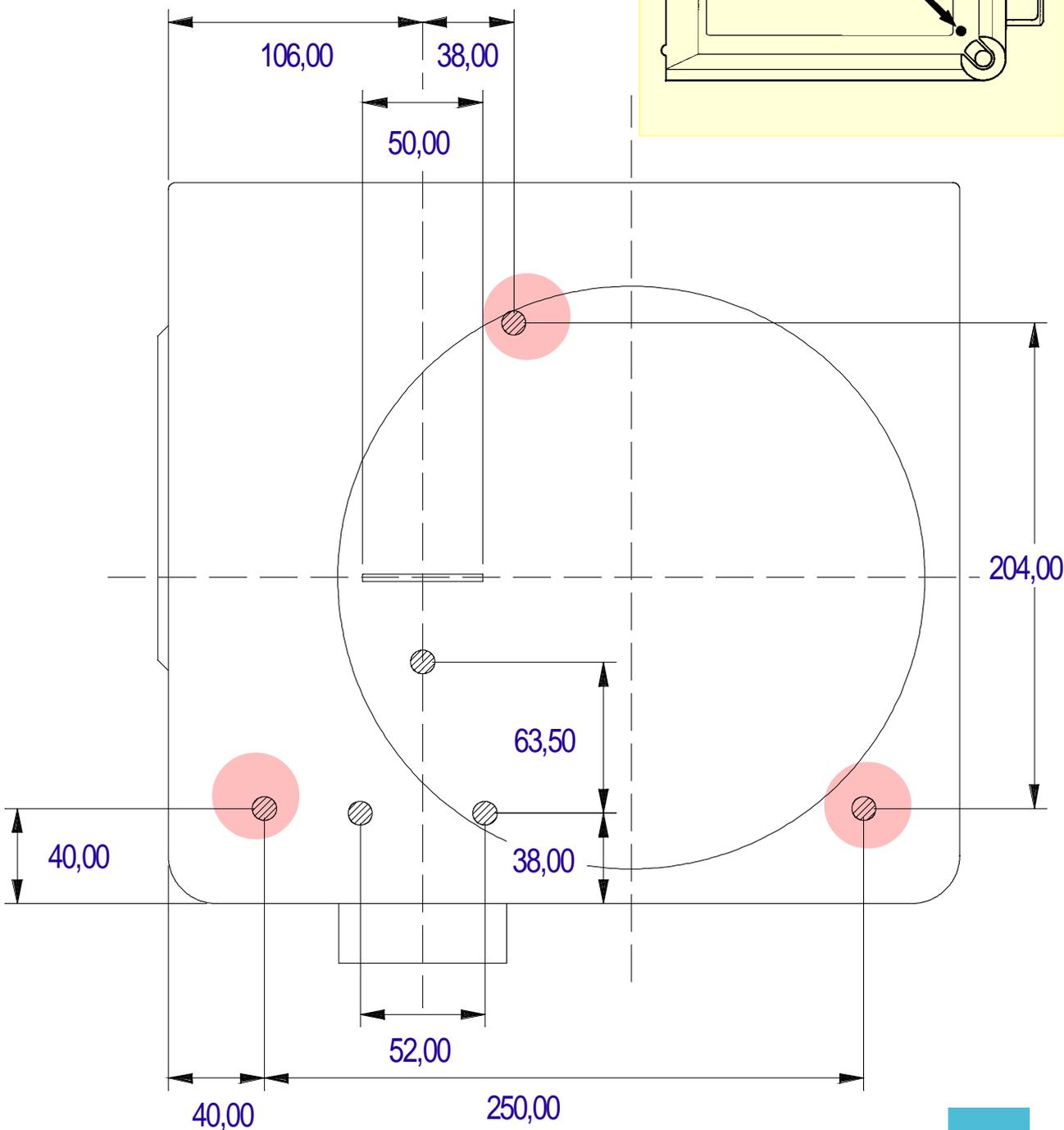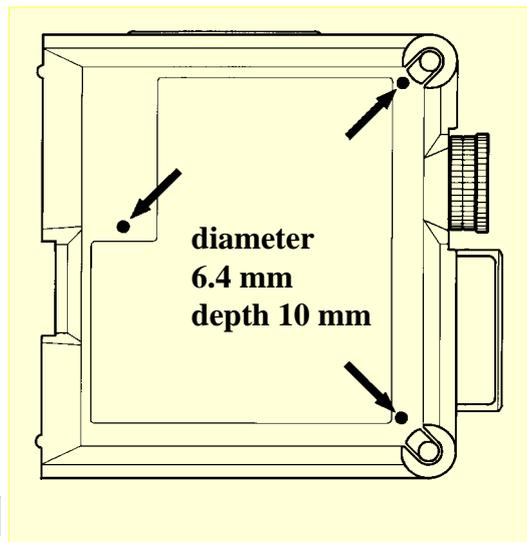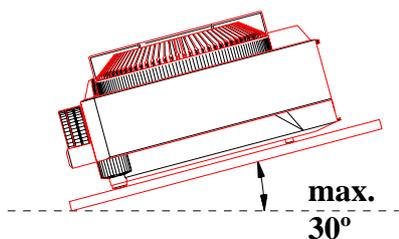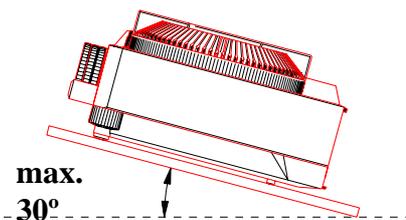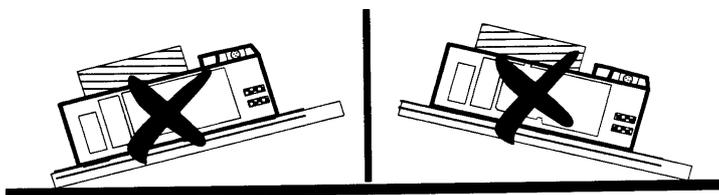
■ **Operating Temperature**

> **Note**
> Standard and economy setting:
> Minimum 0º C and maximum +40º C
> High Light setting (models 7020/9020):
> Minimum 0º C and maximum + 35º C

a

40º
35º
30º

20º

10º

-10%   b   +6%

a = Ambient temperature
(Cº)
b = Nominal voltage

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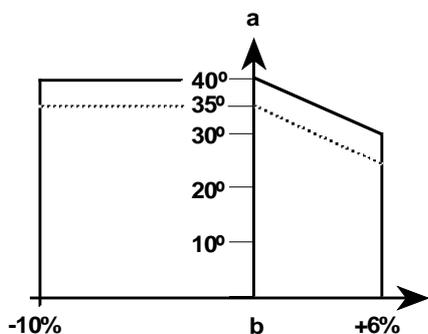
Professional Installation
Boxes, Furniture

■ **Installation in boxes, furniture**

☞ **Important Note**
Proper ventilation is required!
Check that the projector can draw-in
sufficient cool air and that warm air can be
freely expelled. Keep air inlet and air outlet
free from obstruction!

Cabinet

cool air into the projector
(1m³ per minute)

warm air out
of the cabinet
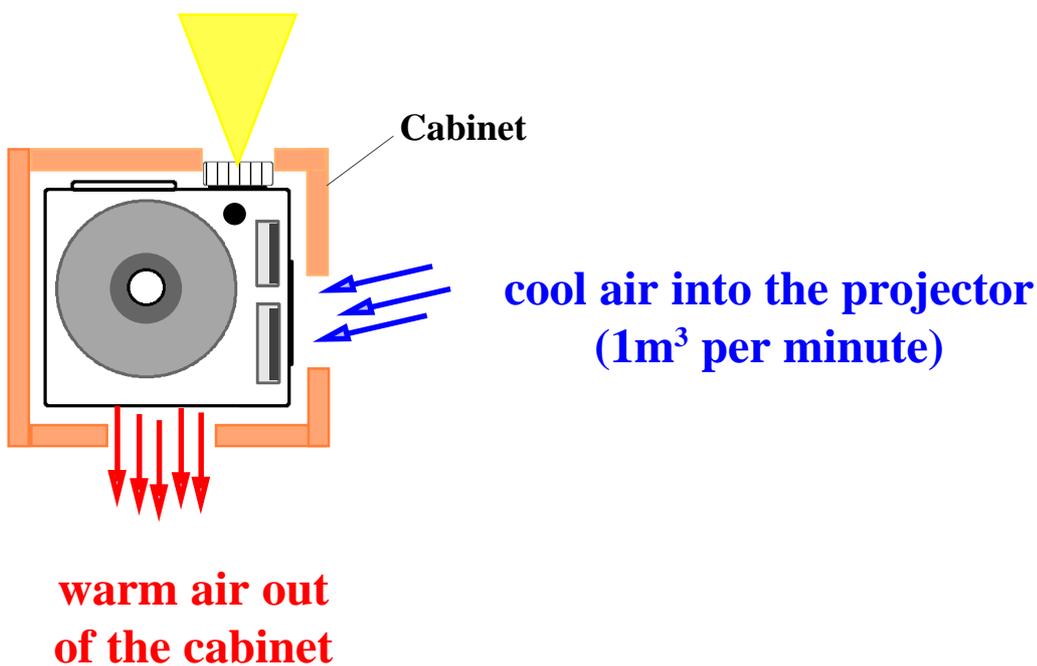
Note
Should the projector overheat, e.g., due to
lack of cooling air, the built-in thermal cut-
out automatically switches the lamp off and
on again once it has cooled down.

Professional Installation
Line-up

■ **Line -Up**

Ektapro
4020, 5020,
7020, 9020

Aligning the projectors i.e. fully fading up all projectors, in multivision operation is difficult, since dissolve units often do not provide this kind of option.

With the Line-up feature you can turn the light of every projector on and off independently. This means the projectors can be aligned or checked at any time.

You can **only set the line-up on the projector panel.** (The external controlling via P-Bus is rejected during setting. With line-up standby will also be switched off and the shutter will be opened)**:**

Line-up on: Press both transport buttons on the projector simultaneously for at least 1 second. The lamp now lights up at a maximum output and the zero position indicator (green LED) flashes.

Line-up off: Press the standby button!

Note, line up slides are offered by the professional slide mount manufacturer. Sometimes manufacturer of control systems offer them, too.

Specifications
Dimensions

■ **Projector Dimensions**

Length: 340 mm
Width: 336 mm
Height: 140 mm
Height with tray: 175 mm
Weight without tray: approx. 9000 g
Weight of tray without slides: 540 g
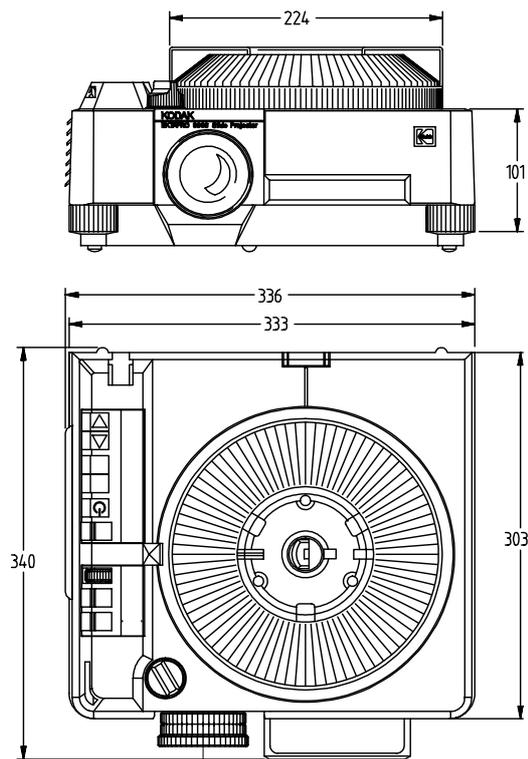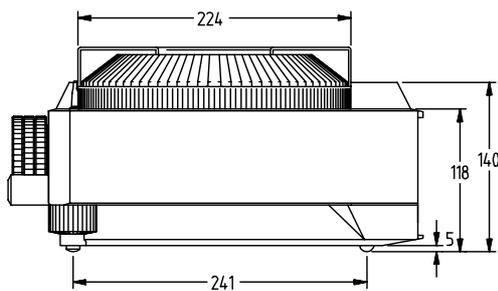
Specifications
Connectors

■ 8-pin Standard Projector Socket

(For connecting the KODAK EKTAPRO
Remote Systems or KODAK EKTAPRO
Twin Socket Adapter).

Pin 1: 12 VDC
Pin 2: Gnd
Pin 3: Signal 1 (LSB)
Pin 4: Signal 2
Pin 5: Signal 3
Pin 6: Signal 4
Pin 7: Signal 5 (MSB)
Pin 8: Interrupt
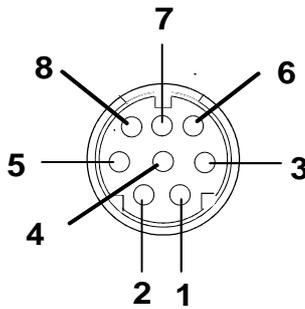
■ Slot for Modules

Pin a1:   SDA   Pin b1: SCL
Pin a2:   -   Pin b2: PLL_DISS
Pin a3: SLOT_232_R   Pin b3: SLOT_232_T
Pin a5:   SLOT_A   Pin b4: STBY_DIS
Pin a6:   SLOT_C   Pin b5: SLOT_B
Pin a8:   12 VDC   Pin b6: SL_DISS
Pin a9:   34 VDC   Pin b8: VSS 12
Pin a10:24 VAC_N   Pin b9: VSS 34
                     Pin b10: 24 VAC_L

a10 a9 a8 a7 a6 a5 a4 a3 a2 a1

b10 b9 b8 b7 b6 b5 b4 b3 b2 b1
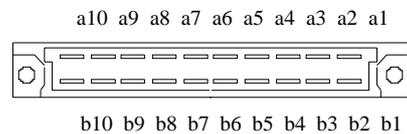
■ P-Bus-in and P-Bus-out

The following pin connections
are used for data transmission:

Pin 2: Transmit Data TxD
Pin 3: Receive Data RxD
Pin 5: Signal ground

5 4 3 2

9 8 7
6
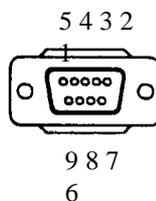
Applications 👉 Opera Houses (Theatre) 🎭

■ **Control via Lighting Control Console (DMX-512 standard signal line)**

Bässgen DMX Controllers
(👉 Address page 69)

Ektapro 7020 or 9020,
(4020 or 5020 as a last
in the chain, only)
up to 4 projectors
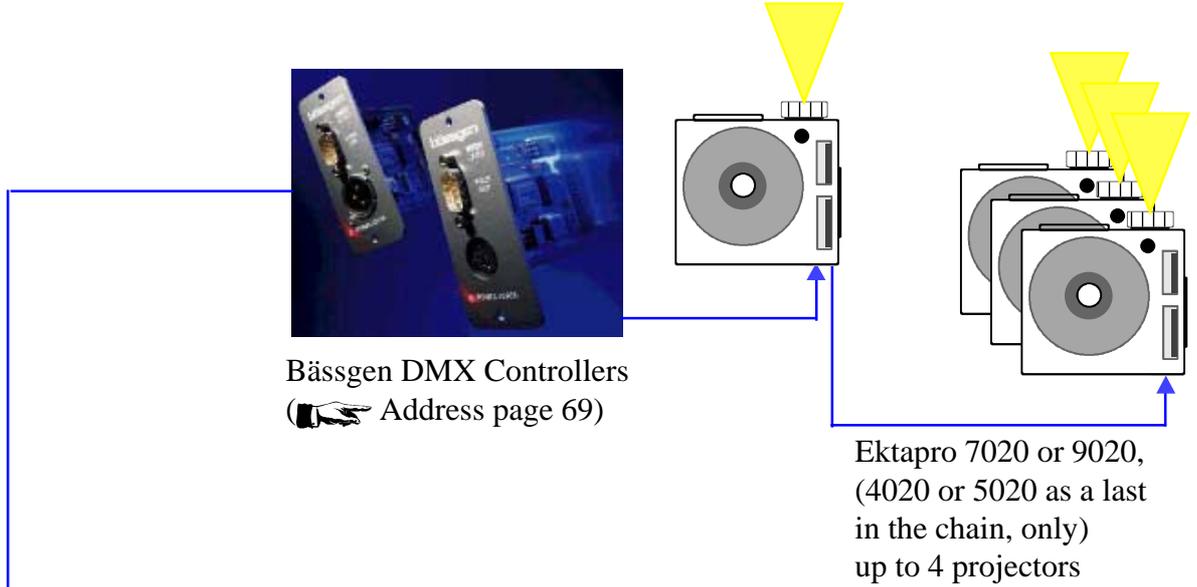
Lighting Console with DMX 512 Standard

Applications ☛ Music-Stages (Performance)

■ **Control via MIDI Signal (from any MIDI music device and MIDI sequencers**

The Bässgen MIDI Cards or the Bässgen BASIX controller allows to control and program Ektapro slide projectors from any music instrument with MIDI interface (e.g. keyboard) and computers with music sequencers. This allows new applications and might especially be interesting for musicians. It allows them to have slide projection on stage (☛).

Solution 1:
Bässgen MIDI-Card

Ektapro 7020 or 9020,
(4020 and 5020 could
be used as the last in
the chain)

Keyboard with MIDI Interface

Ektapro
4020, 5020,
7020, 9020

Solution 2:
Bässgen BASIX

Ektapro
4020, 5020,
7020, 9020
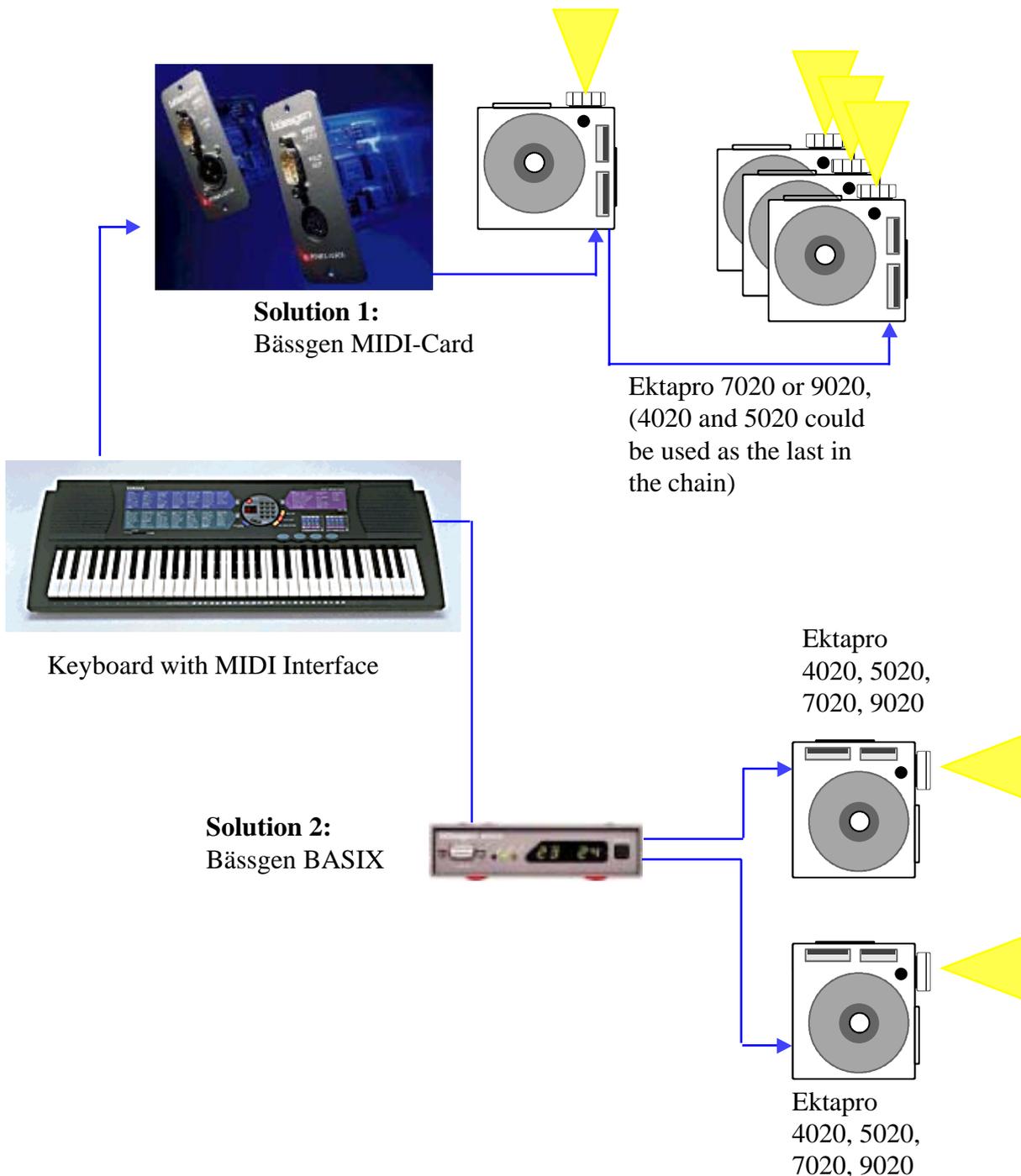
Applications 👉 **Business Presentation**

■ **Use of two control systems via standard computer switchboard**

Control System 1

Control System 2

T-Switch
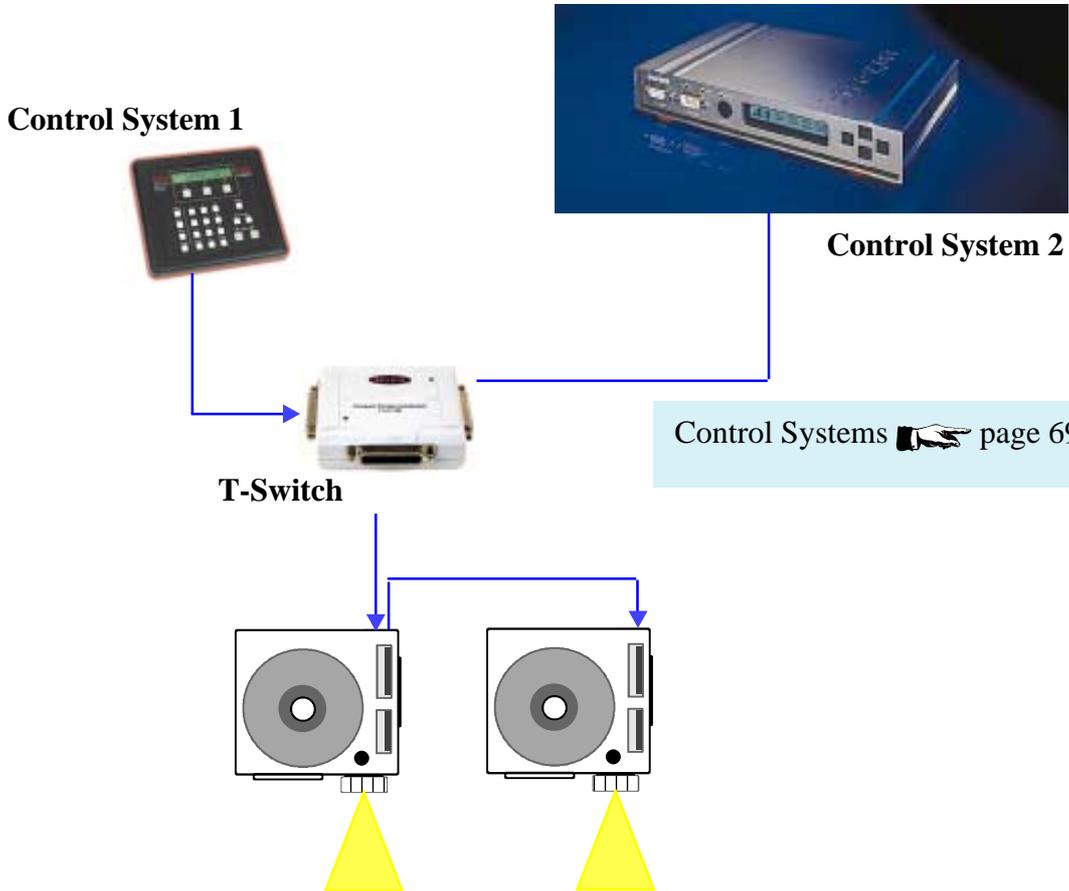
Control Systems 👉 page 69 - 72

Ektapro
7020, 9020 (4020 and 5020 for stand alone
applications or as a last in a chain, only)

■ **Presenting with two projectors via integrated dissolver. Take control of the presentation!**

MASTER Ektapro
7020, 9020

SLAVE Ektapro
4010, 4020, 5000. 5020, 7000, 7010, 7020, 9000, 9010 9020
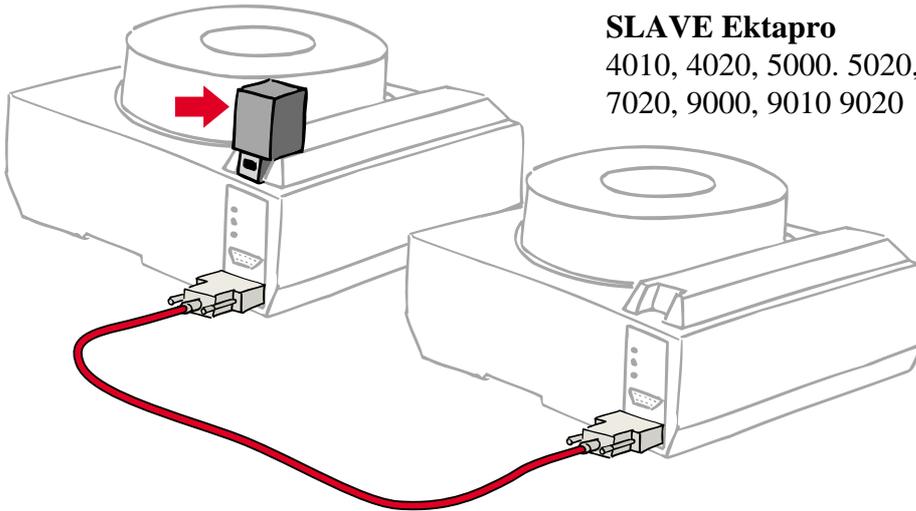
For this configuration you need:

MASTER SLAVE Projection	
MASTER Ektapro 7020 or 9020	1
SLAVE Ektapro 4020, 5020, 7020, 9020	1
Dissolve Cable CAT NO 715 3992	1
IR Remote System RA CAT NO 712 1072 or **IR Remote System RA/LP** CAT NO 712 1064	1
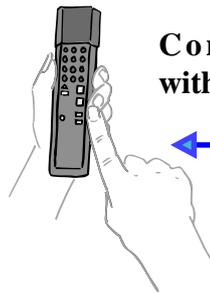
Confirm with <*>

Function	Code
•Dissolve times (0.1 - 9.9 s) CUT	801 - 899 / 800
Random Access	0-160
Fade: MASTER SLAVE	770 / 707
Alternate	777
Freeze	789
•Independant Projector Control Mode	980
•Parallelprojection Focus Slave*	970 / 666*
•Reactivating dissolve mode	990
•Remote Security Mode	989
Reset	999
Autotimer (1-60 s) ----- off	601 - 660 / 600

Applications ☞ **Business Presentation**

■ **Presenting with two projectors (MASTER-SLAVE) via integrated dissolver.**

1. **One field (screen) application. Two projectors dissolve.**
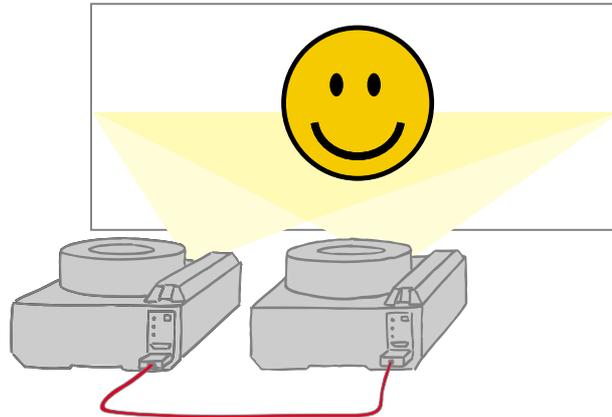
Setting the dissolve time:

Input dissolve times of 0 sec (hard cut) up to a long dissolve of 9.9 sec in increments of a tenth of a second
Code: <801 - 899>

Example: 4 s
Input <840> and confirm with <*>

☞ **For further details see the projectors manual!**

Applications 👉 **Business Presentation**

2. **Two fields (screens) application parallel in harmony or panorama.**
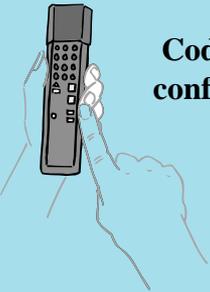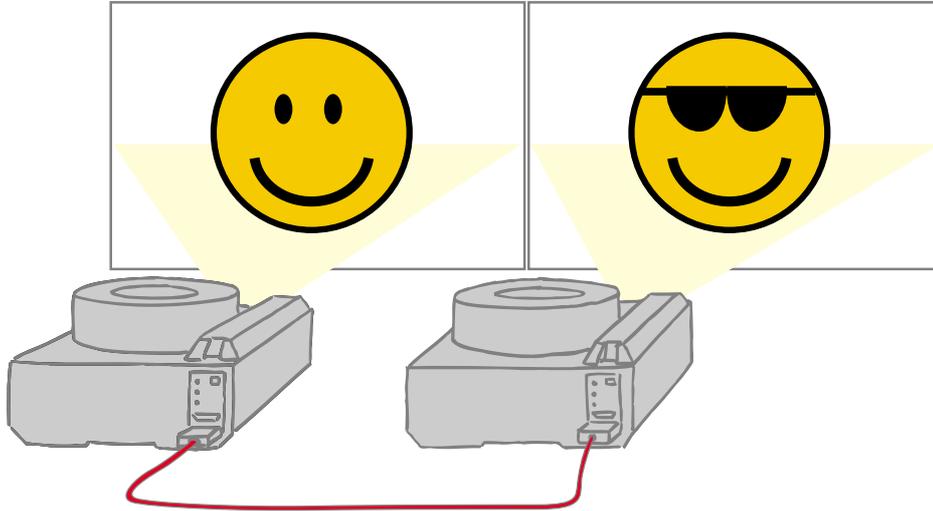
Code: <970> and confirm with <*>

3. **Parallel independant** 👉 **For further details see the projectors manual!**

With the number combination <980> and <*> you can control the transport of the **two projectors individually** with the remote control.

Code: <980> and confirm with <*>

4. Two fields (screens) - application parallel in harmony or panorama with four projectors
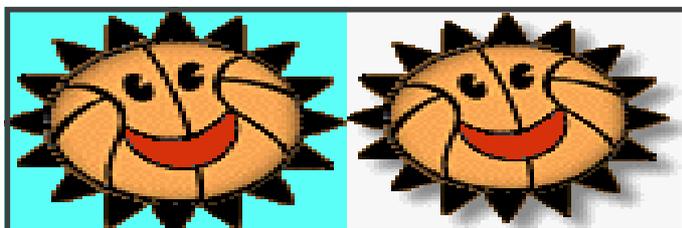
For setting the dissolve time see page 62. Please **note,** in this special application MASTER 2 and SLAVE 2 will work in parallel to MASTER 1 and SLAVE 1!

SLAVE 1

MASTER 1

SLAVE 2

MASTER 2

Dissolve cable

Dissolve cable

Twin Socket

Twin Socket Connecting Cable 2 m

Twin Socket

Extension cable 8 m

IR Remote Receiver

IR Remote System RA and RA/LP
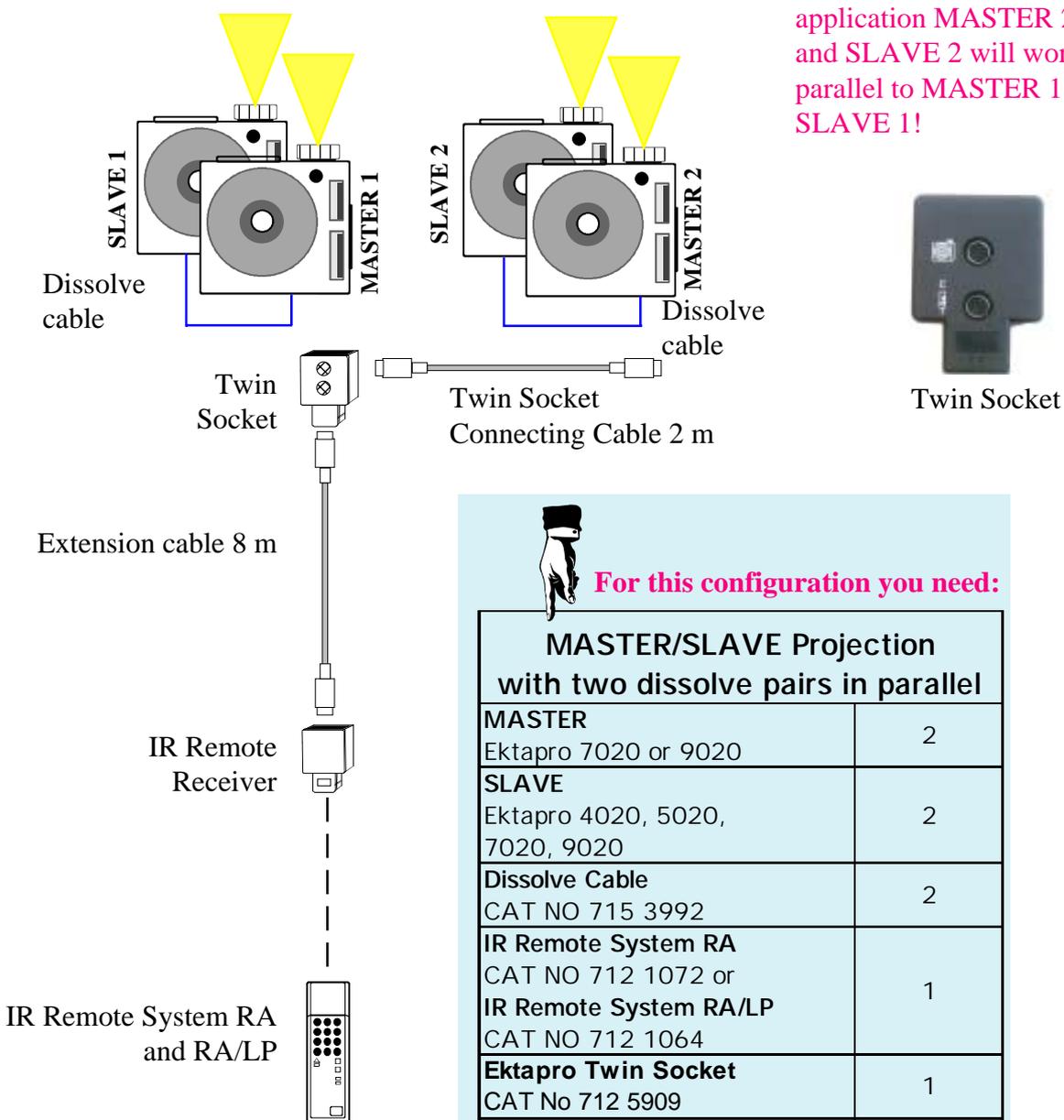
For this configuration you need:

MASTER/SLAVE Projection with two dissolve pairs in parallel	
MASTER Ektapro 7020 or 9020	2
SLAVE Ektapro 4020, 5020, 7020, 9020	2
Dissolve Cable CAT NO 715 3992	2
IR Remote System RA CAT NO 712 1072 or **IR Remote System RA/LP** CAT NO 712 1064	1
Ektapro Twin Socket CAT No 712 5909	1
Ektapro Twin Socket Connecting Cable CAT No 712 5917	1

Business Presentation

■ **Dissolve Cable Configuration**

The Kodak Ektapro Dissolve cable has a length of 1 m sufficient enough to connect the MASTER and SLAVE projector in almost any application. If for any reasons longer cables are requested you have two choices:

1. You buy a standard monitor extension cable (RS232 cable - available at computer retailers) and extend the dissolve cable. **Do not use the extension cable alone! Neither will it fit, nor the pin configuration will match!**

MASTER   SLAVE

Kodak Dissolve Cable   **Standard Monitor Cable**
CAT NO 715 3992   **(not a Kodak product!)**
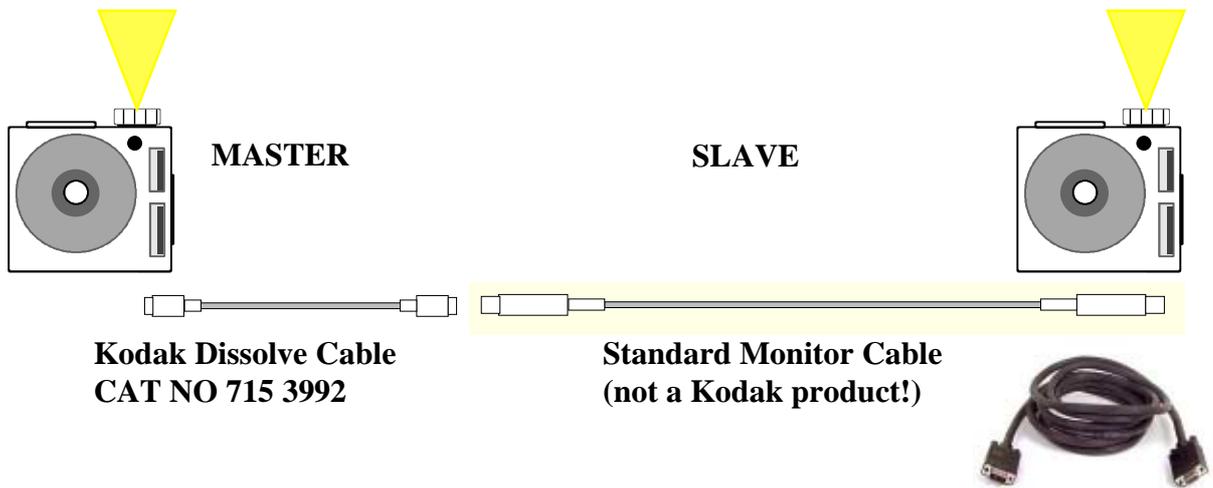
2. You configure a cable at the length you need. Note, you need **two sub D Male connectors**!

Shield

9 pin sub D   **9 pin sub D**
Male   **Male**
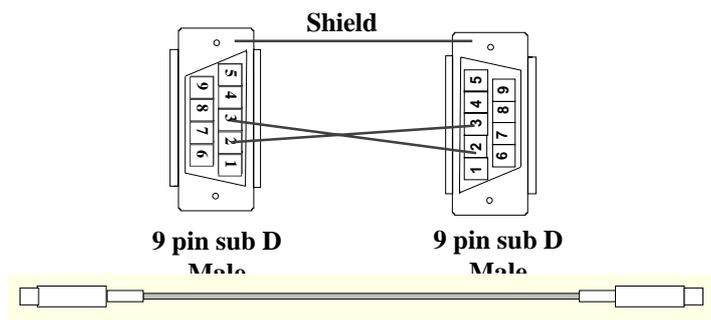
Dissolve Cable		
Pin		Description
2	RXD	Receive Data
3	TXD	Transmit Data
5	GND	Ground

Do not connect GND with Shield!

Applications 👉 **Business Presentation**

■ IR Remote Control Security Setting

With the security setting you can set up your remote control so that when the transport button is pressed, only one transport step or only one dissolve is executed. The focus buttons are also disabled so that if you happen to press the buttons, the focus on the projector is not changed. All other functions remain active (and can be secured by the cover on the remote control). Even novice presenters can now "not put a foot wrong"!

Ektapro 4020, 5020, 7020, 9020

Code: <989> and confirm with <*>
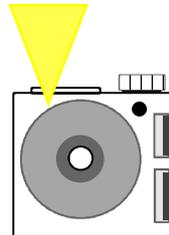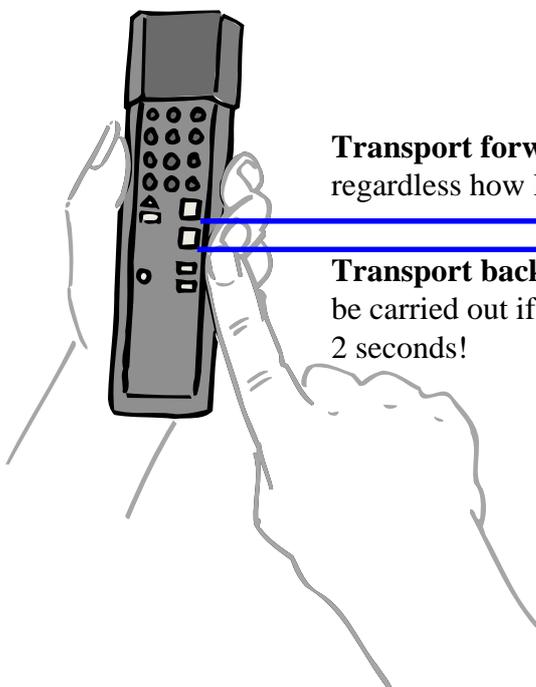
Transport forwards: Only one transport step, regardless how long button is pressed.

Transport backwards: A transport step will be carried out if button is pressed longer than 2 seconds!

■ Using built-in control systems (control from a speaker's desk) or former S-AV Cable Remote Control

Almost all congress halls, lecture halls etc. have speaker's desks. From this desk the speaker is able to use installed remote controls for all kinds of presentation equipment such as slide projectors. In many cases the technique of control is based on "closing contacts". All Ektapros (except the Ektapro 320) accept digital commands only; and therefore, can not directly be connected to the existing cables at the venue. For connecting to such systems use a so called "**slide synchronizer adapter**"   (
☞ **Addresses see page 71 and 72**).
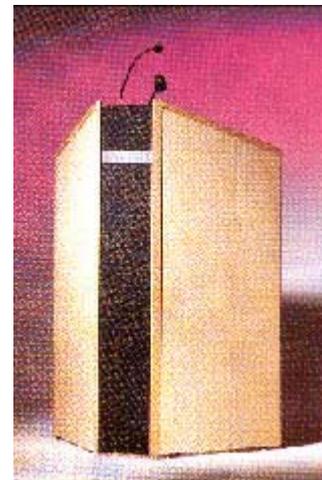
Pin Configuration for the Ektapro 320:

The projector has an 8-pin connector. Hence an adapter between the projector and existing 6 pin cable (or S-AV cable remote control) is necessary.

□ Pin 8 must always be connected with pin 2!

□ Slide transport forwards:
connect pin 7 with pin 2
□ Slide transport reverse:
connect pin 6 with pin 2
□ Focus forwards:
connect pin 5 with pin 2
□ Focus backwards:
connect pin 4 with pin 2
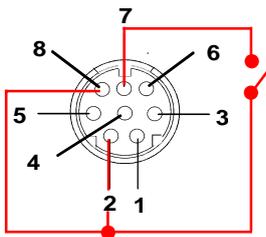
e.g. slide transport forwards

Note: If you need a simple closing contact for a **slide transport forwards, only** (e.g. to connect a 1000 Hz AV recorder or an external slide synchronizer) you have the following options:

• Use of a slide synchronizer adapter (☞ **Addresses see page 71 and 72**) or

• Solder an adapter with the following pin configuration:
For Ektapro 320: See above

For all other Ektapro projectors:

□ Pin 8 must always be connected with pin 7!

□ Slide transport forwards:
connect pin 7 with pin 2
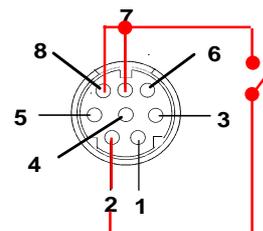
■ Controlling a projector via PC and PowerPoint software

Splint is a Microsoft PowerPoint® 97 or PowerPoint® 2000 add-in which allows you to link your PowerPoint® presentation to slides in a Kodak Ektapro® slide projector (model 40XX and higher). Once you have put your presentation together you can simultaneously show your PowerPoint® screens with relevant slides from your projector.
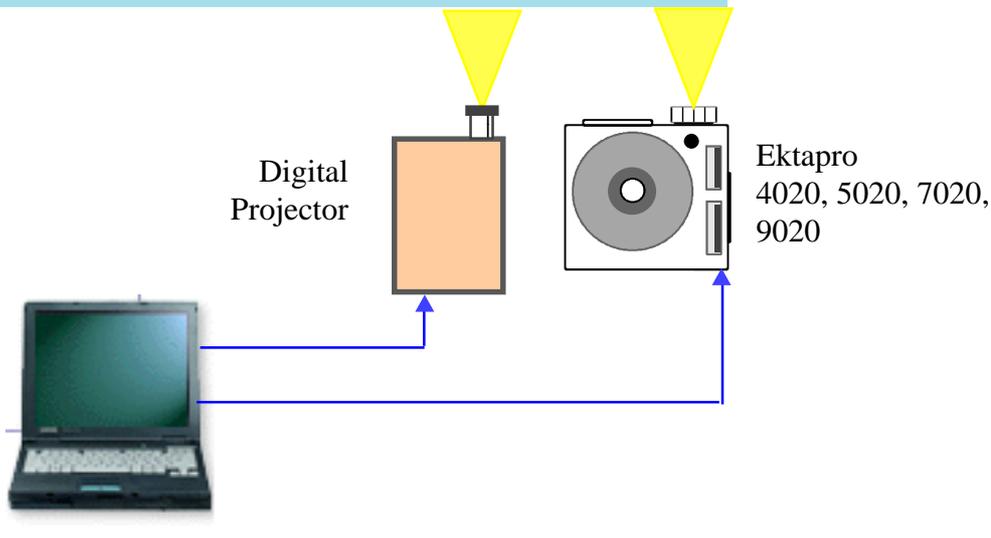
This approach means you can use a computer-based presentation and yet still make excellent use of your legacy 35 mm slides without the need to scan and digitize them.

While you are running your PowerPoint® presentation, the Splint controller appears as a narrow band at the top of the screen, and can be hidden so as not to confuse your audience.

👉 **Note**
The software is FREEWARE and can be downloaded at
www.rightword.com.au/products/splint

Digital Projector

Ektapro 4020, 5020, 7020, 9020

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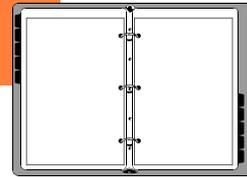
Addresses

Company	Address	Products
Alfi	P.O.B 10 20 47 86010 Augsburg Germany FON: +49-821-808 67-0 FAX: +49-821-808 67-40	slide mounts
ARION	4952 Farmington Ave. SE Delano, MN 55328 8158 U.S.A. FON +1-612 972 3351 FAX +1-612 972 3524 **www.arion.com**	controllers, slide show presentation equipment
AV&F	Rijksweg 74a 6247 AK Gronsveld The Netherlands **www.dia.nl**	racks
AVSZ	Tarweakker 63 2723 TB Zoetermeer The Netherlands FON: +31-79 341 43 46 FAX: +31-793 425 687	**all kinds of accessories, e.g. external timer**
Bässgen	Hauptstraße 58 79104 Freiburg Germany FO+49-761 239 53 FAX: +49-761 350 42 **www.dia.de**	controllers, slide show presentation equipment, racks, DMX - MIDI
Buhl	1009 Beech Avenue Pittsburgh, PA 15233 U.S.A. FON: +1-412 321-0076 FAX: +1-412 322 2640 **www.buhloptical.com/**	projection lenses
Califone	Superior Street Chatsworth, CA 91311 U.S.A. FON: +1-800 722 0500 **www.califone.com**	AV tape recorders
CCG	Lorsbacherstr. 56A 65719 Hofheim Germany FON: +49-6192 9290 0	slide recorders
Chief	14310 Ewing Avenue South Burnsville, MN 55337 U.S.A. FON: +1-612 894-6280 FAX: +1-612 894-6918	racks
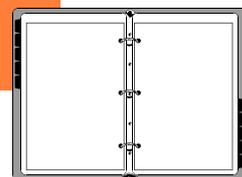
Addresses

Company	Address	Products
Da-Lite	3100 N. Detroit Str. Warsaw, IN 46581 0137 U.S.A. FON: +1-219 267 5101 FAX:+1-219 267 5101 **www.da-lite.com**	screens
Dataton	Box 257 S-581 02 Linköping Sweden FON +46-131 143 25 FAX +46-131 384 45 **www.dataton.se/**	controllers, slide show presentation equipment
Docter	Industriegebiet 35641 Schoffengrund Germany FON: +49-6445 609 0 FAX:+49-6445 609 165 **www.docteroptics-com**	projection lenses
Electrosonic	Hawley Mill Hawley Rd Dartford Kent DA2 7SY England FON +44-1322 282 317 FAX +44-1322 282215	controllers, slide show presentation equipment
Fostex	15431 Blackburn Avenue Norwalk, CA 90650 U.S.A. FON: +1-562 921-1112 FAX. +1-562 802-1964 **www.fostex.com**	AV tape recorders
Gebuhr	Imhoffstr. 4 90429 Nuernberg Germany FON: +49-911 260 304 FAX:+49-911 268 738	AV tape recorders
Geimuplast	P.O.B 1364 82453 Garmisch- Partenkirchen Germany FON: +49-8821 6850 FAX: +49-8821 685100	slide mounts
GEPE	Baarerstr. 43 6304 Zug Switzerland FON: +41-41 711 7588 FAX: +41-41 711 2870 **www.gepe.com/**	slide mounts
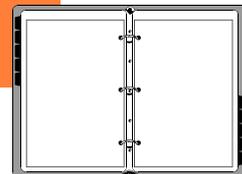
Addresses

Company	Address	Products
Isco	Robert Bosch Breite 10 37013 Goettingen Germany FON:+49-551 5058 3 FAX: +49 551 5058 410 **www.iscooptic-U.S.A..com/**	projection lenses
Lasergraphics	20 Ada Irvine, CA 92718 U.S.A. FON: +1-714 753-8282 FAX: +1-714 727-9282 **www.lasergraphics.com**	slide recorders
Management Graphics,	1401 E. 79th Street Minneapolis, MN 55425 U.S.A. FON: +1-612 854-1220 FAX: +1-612 851-6159 **www.mgi.com**	slide recorders
Mirus	3350 Scott Boulevard, Bldg. 48 Santa Clara, CA 95054 U.S.A. FON: +1-408 980-660 FAX. +1-408 980-6601 **www.mirus.com**	slide recorders
M-Objects	Auf dem Berg 7 59387 Ascheberg Germany FON +49-2593 988 88 Fax: +49-2593 988 89 **www.mobjects.com/**	software for PC direct control
Müwo	In den Maltwiesen 11 72379 Hechingen- Stetten Germany FON +49-7471 15830	controllers, slide show presentation equipment
Navitar	200 Commerce Dr. Rochester, NY 14623 U.S.A. FON: +1-716 359 4000 FAX:+1-716 359 4999 **www.navitar.com**	projection lenses
Polaroid	549 Technology Square Cambridge, MA 02139 U.S.A. FON: +1-781 386-2000 **www.polaroid.com**	slide recorders
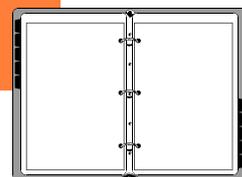
Addresses

Company	Address	Products
Roha	Bruno Jacoby Weg 11 70597 Stuttgart Germany FON: +49-711 723621	racks
Siemens AG	80312 München Germany http://www.ic.siemens.com/	radio data transfer
Stumpfl	Rudigierstr. 8 4701 Bad Schallerbach Austria FON +43-7249 42811 Fax: +43)-7249 42811 18 www.stumpfl.com/	controllers, slide show presentation equipment, screens
Tascam	7733 Telegraph Rd. Montebello, CA 90640 U.S.A. FON: +1-213 726-0303 FAX:+1-213 727 7635 www.tascam.com	AV tape recorders
Wess	70 Commerce Drive Hauppage, NY 11788 U.S.A. FON: +1 516 231 0608 www.wesspl.com	slide mounts
Yamaha	6600 Orangethorpe Av. Buena Park, CA 90620 U.S.A. FON: +1-714 522 9011 www.yamaha.com	AV tape recorders
Zeller	Wettsteinallee 15 4058 Basel Switzerland FON:+41-6168 4343 FAX: +41-6168 3907	slide synchronizer

APPENDIX

■ Lifetime of Ektapro Projectors

Quality find its strongest expression in reliability and in the lifetime of aproduct. Lifetime is measured as the moment a major defect occurs and the projector has to be sent for service. Kodak Ektapro projectors average lifetime has been constantly improved. Starting with 450 000 cycles at launch in 1992 the projector is now backed by a full cycle test of **10 million slide changes** until first major defects occur.

10 million slide changes means having projected approximately **125 000 full 80 slide trays** - giving when piled on top of each other a height of approx. 8.5 km!

10 000 000
SLIDE CHANGES

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History

APPENDIX
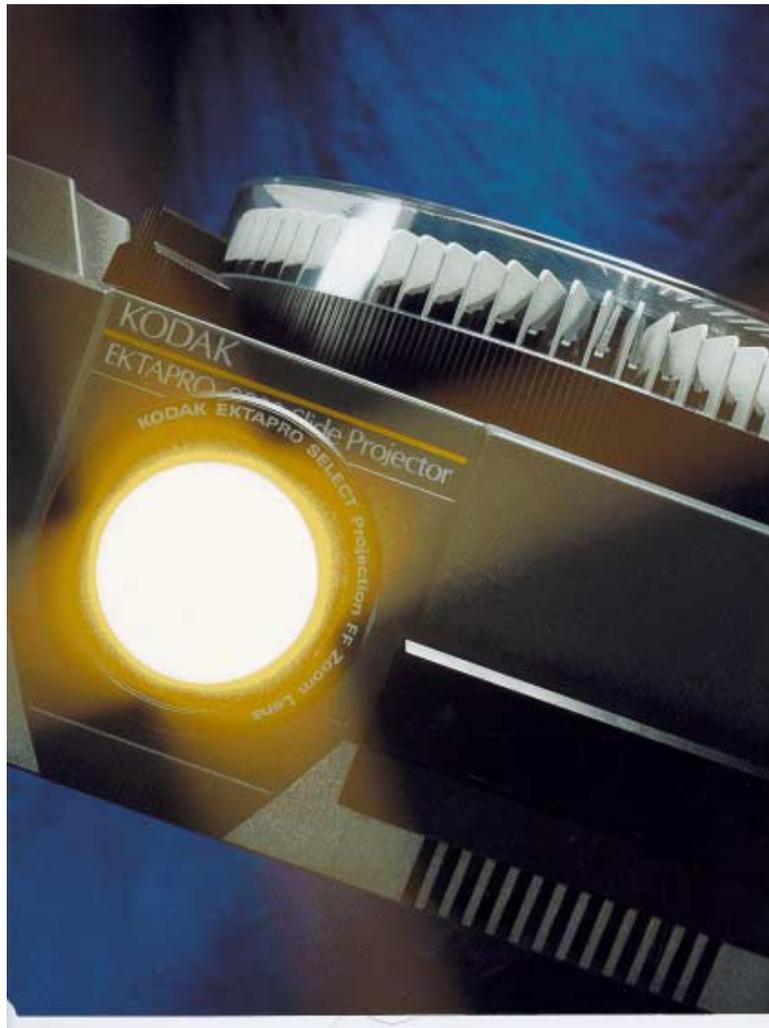
■ **Models - Year of Launch and Modifications**

Year	Model	Replaces	Important New Feature
1992	3000		
1992	5000		
1994	3010	3000	New lamp module + 10 (offering 10% more light) Random Access
1994	4010		New lamp module + 10 (offering 10% more light)
1995	7010	7000	Integrated Dissolver, Line up, Definite Standby, "Sleeping mode" after switching on, New lamp module + 10 (offering 10% more light)
1995	9010	9000	Integrated Dissolver, Line up, Definite Standby, "Sleeping mode" after switching on, New lamp module + 10 (offering 10% more light)
1995	3020	3010	Extra Bright lamp module (offering 30% more light)
1997	7020	7010	Extra Bright lamp module (offering 30% more light), lamp in use indication
1997	9020	9010	Extra Bright lamp module (offering 30% more light), lamp in use indication
1997	320	3020	Only for use of the 80 slide tray No "no slide no light" function No "standby" function No "power on" indication
1997	4020	4010	Extra Bright lamp module (offering 30% more light) "Lamp in use" indication "Line-up" feature "Definite standby" feature "Sleeping mode" after switching on
1997	5020	5000	Extra Bright lamp module (offering 30% more light) "Lamp in use" indication "Line-up" feature "Definite standby" feature "Sleeping mode" after switching on

Editorial

The Quick Reference was created and published by Kodak GmbH, Germany. In case of any questions, requests, useful ideas, please get in direct contact with Kodak. The address is:

Kodak GmbH
PT CMS
Hedelfingerstr. 60
70327 Stuttgart
Germany
Phone: int +711 406 5151
Fax: int + 711 406 5367
E-mail: heinrich@kodak.com

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Quick Reference -- The ultimate reference for Kodak EKTAPRO Slide Projectors