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
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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

<table>
<thead>
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<th>EKTAPRO Accessories</th>
<th>CAT NO</th>
<th>See page</th>
</tr>
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<td>4 x 4 Condenser Kit</td>
<td>714 4967</td>
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<tr>
<td>80 Slide Tray</td>
<td>712 8580</td>
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<td>Cable Remote (4 m)</td>
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<td>Carrying Case</td>
<td>718 1993</td>
<td>50</td>
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<td>Dissolve Cable</td>
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<td>Extra Bright Dual Lamp Module</td>
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<td>IR Remote Receiver RA</td>
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<td>IR Remote System RA</td>
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<td>Lens Support</td>
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<td>Lenses (see section “Lenses”)</td>
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<td>Remote Extension Cable 8 m</td>
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<td>Standard Heatfilter</td>
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<td>Projection Lamp FHS -70 h</td>
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Quick Reference -- The ultimate reference for Kodak EKTAPRO Slide Projectors
Remote Control Cable

- General

All current and all former Ektapro models

Ektapro Cable Remote
CAT No 712 1080
4 m

Extension cable
CAT No 712 5925
8 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

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

30 m!

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

Max. 3 extension cables

CAT No 712 5925
8 m
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

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.
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

<table>
<thead>
<tr>
<th>Parallel Projection</th>
<th>You want to control:</th>
<th>You Need:</th>
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<tr>
<td></td>
<td>2 projectors</td>
<td>1 Remote System RA and 1 IR Receiver</td>
</tr>
<tr>
<td></td>
<td>3 projectors</td>
<td>1 Remote System RA and 2 IR Receivers</td>
</tr>
<tr>
<td></td>
<td>4 projectors</td>
<td>1 Remote System RA and 3 IR Receivers</td>
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</table>
Parallel Projection
IR and a Twin Socket

- IR Remote System and a Twin Socket

Twin Socket
CAT No 712 5909

All current and all former Ektapro models

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

Quick Reference -- The ultimate reference for Kodak EKTAPRO Slide Projectors
Parallel Projection
Cable Remote + Twin Socket

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

All current and all former Ektapro models

CAT No 712 5909

Twin Socket Connecting Cable
2 m
CAT No 712 5917

CAT No 712 1080
4 m

*Twin Socket

*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.

Parallel Projection

<table>
<thead>
<tr>
<th>You want to control:</th>
<th>2 projectors</th>
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<tr>
<td>You Need:</td>
<td>1 Cable Remote</td>
</tr>
<tr>
<td></td>
<td>1 Twin Socket</td>
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<tr>
<td></td>
<td>1 Twin Socket Connecting Cables</td>
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<table>
<thead>
<tr>
<th>You want to control:</th>
<th>3 projectors</th>
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</thead>
<tbody>
<tr>
<td>You Need:</td>
<td>1 Cable Remote</td>
</tr>
<tr>
<td></td>
<td>1 Twin Socket</td>
</tr>
<tr>
<td></td>
<td>2 Twin Socket Connecting Cables</td>
</tr>
</tbody>
</table>

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

- One IR Remote and two Ektapro 7020 or 9020 Projectors

![Diagram showing connection of two projectors via Dissolve Cable]

- EKTAPRO 7020, 9020
  - MASTER

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

- To activate the Parallel Mode input <970> and confirm with <*>

- 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**

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**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)

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**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.

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

- External Timer (no Kodak product)

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

EKTAPRO 320, 4020, 7020

External Timer
Endless Projection
Autotimer Setting

- One Projector, IR Remote System and Autotimer Mode Setting

EKTAPRO
5020,
7020,
9020

IR Remote Receiver
CAT No 712 8606

30 m!

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

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

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

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!

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

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

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

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

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

**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!

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 <*>
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**

EKTPRO Slide Tray for **80** slides
CAT. No. 712 8580

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

max 3.2 mm

---

**KODAK CAROUSEL TRANSVUE**

Slide Tray for **140** slides
CAT. No. 184 0768

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

max 1.6 mm

---

EKTPRO
4020,
5020,
7020, 9020

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*Quick Reference -- The ultimate reference for Kodak EKTAPRO Slide Projectors*
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. Do not forget to take the slide out of the slide gate!
Important Note for use of Autofocus

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.
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.

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

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.
Creating 35 mm slides with film recorders

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

<table>
<thead>
<tr>
<th>Kodak EKTAPRO FF Lenses</th>
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<tbody>
<tr>
<td>75-120 Zoom</td>
<td>CAT 847 0346</td>
</tr>
<tr>
<td>100-150 Zoom</td>
<td>CAT 143 3432</td>
</tr>
<tr>
<td>100-200 Zoom</td>
<td>CAT 712 5743</td>
</tr>
<tr>
<td>85 mm</td>
<td>CAT 712 5503</td>
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<td>CAT 712 5511</td>
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<td>180mm</td>
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<tbody>
<tr>
<td>75-120 Zoom</td>
<td>CAT 712 5479</td>
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<tr>
<td>87-200 Zoom</td>
<td>CAT 712 5487</td>
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<td>200-300 Zoom</td>
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<td>36 mm</td>
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<tr>
<td>150mm</td>
<td>CAT 712 5461</td>
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**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 delivered 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

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

**Kodak S-AV Retinar Lenses**
**Spiral Lenses**

**Kodak Ektapro FF Lenses**
**Gear Rack Lenses**

<table>
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<tbody>
<tr>
<td>All Kodak S-AV Slide Projectors</td>
<td>All Kodak Ektapro Models</td>
</tr>
<tr>
<td>All Kodak Ektapro Models</td>
<td>Kodak S-AV models 1010, 1030 1050, 2010, 2050, 2060</td>
</tr>
</tbody>
</table>

**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](http://www.dia.de)  Click on Bässgen and go to Download and click on SCREEN 2.0.

Lens calculator by Stumpfl:
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 recommended to use the following lenses together with the lens support:

<table>
<thead>
<tr>
<th>KODAK FF Projection Lenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-120 Zoom  CAT 847 0346</td>
</tr>
<tr>
<td>100-150 Zoom  CAT 143 3432</td>
</tr>
<tr>
<td>100-200 Zoom  CAT 712 5743</td>
</tr>
<tr>
<td>180mm      CAT 712 5529</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KODAK EKTAPRO SELECT FF Projection Lenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-120 Zoom  CAT 712 5479</td>
</tr>
<tr>
<td>87-200 Zoom  CAT 712 5487</td>
</tr>
<tr>
<td>200-300 Zoom  CAT 712 5495</td>
</tr>
<tr>
<td>150mm      CAT 712 5461</td>
</tr>
</tbody>
</table>
Lenses
Lens Support

- **Installation**

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.

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

Position for lenses with a **large** diameter. Turn baseplate.
Condensor for 4 x 4 (super slides) Projection

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 are almost not visible.

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):

<table>
<thead>
<tr>
<th>KODAK FF Projection Lenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>85 mm</td>
</tr>
<tr>
<td>100 mm</td>
</tr>
<tr>
<td>180 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KODAK EKTAPRO SELECT FF Projection Lenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>93 mm</td>
</tr>
<tr>
<td>150 mm</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>CAT No</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXR</strong> 82V 300W 35h</td>
<td>145 2259</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FHS</strong> 82V 300W 70h</td>
<td>147 7678</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EXY</strong> 82V 250W 200h</td>
<td>145 2143</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th><strong>STANDARD Lamp Mode</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All Ektapro models</td>
<td><strong>STANDARD MODE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brightness</strong></td>
<td><strong>Lifetime</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXR 1300 lumens</td>
<td>35h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FHS 1030 lumens</td>
<td>70h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXY 780 lumens</td>
<td>200h</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ECONOMY Lamp Mode</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible with Ektapro 4020, 5020, 7020, 9020</td>
<td><strong>ECONOMY MODE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brightness</strong></td>
<td><strong>Lifetime</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXR 975 lumens</td>
<td>105h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FHS 780 lumens</td>
<td>210h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXY 585 lumens</td>
<td>600h</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>HIGH LIGHT Lamp Mode</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible with Ektapro 7020, 9020, only</td>
<td><strong>HIGH LIGHT MODE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brightness</strong></td>
<td><strong>Lifetime</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXR 1560 lumens</td>
<td>25h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FHS 1240 lumens</td>
<td>50h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXY 936 lumens</td>
<td>140h</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*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 brilliant 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 DUAL Lamp Module
CAT No 718 4369

Kodak Extra Bright SINGLE Lamp Module
CAT No 718 4351

For use with Kodak Ektapro 4010, 4020, 5000, 5020, 7000, 7010, 7020, 9000, 9010 and 9020, ONLY!

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

- Lumen output for standard, economy and high light mode.

Lumen Output

<table>
<thead>
<tr>
<th>Lumen</th>
<th>Economy</th>
<th>Standard</th>
<th>H-Light*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1600</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Ektapro 7020, 9020

Quick Reference -- The ultimate reference for Kodak EKTAPRO Slide Projectors
## Extra Bright Lamp Module

### History

#### Versions of Kodak Ektapro Lamp Modules

<table>
<thead>
<tr>
<th>Name</th>
<th>Ektapro Models</th>
<th>Heat Filter</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kodak Ektapro Single Lamp Module</td>
<td>Ektapro 3000</td>
<td>Yes - 6 mm thick</td>
<td></td>
</tr>
<tr>
<td>Kodak Ektapro DUAL Lamp Module +10</td>
<td>Ektapro 5000, 7000, 9000</td>
<td>Yes - 6 mm thick</td>
<td>10 % light increase</td>
</tr>
<tr>
<td>Kodak Ektapro Single Lamp Module +10</td>
<td>Ektapro 3010</td>
<td>Yes - 3 mm thick</td>
<td>10 % light increase</td>
</tr>
<tr>
<td>Kodak Ektapro DUAL Lamp Module +10</td>
<td>Ektapro 4010, 7010, 9010</td>
<td>Yes - 3 mm thick</td>
<td></td>
</tr>
<tr>
<td>Kodak Ektapro Extra Bright Single Lamp Module</td>
<td>Ektapro 3020, 320</td>
<td>No heat filter! See page 36 for detailed information.</td>
<td>30 % light increase</td>
</tr>
<tr>
<td>Kodak Ektapro Extra Bright DUAL Lamp Module</td>
<td>Ektapro 4020, 5020, 7020, 9020</td>
<td>No heat filter! See page 36 for detailed information.</td>
<td>30 % light increase</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>To modify into</th>
<th>Ektapro Extra Bright Lamp Modules</th>
<th>Ektapro Lamp Modules +10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ektapro Extra Bright Lamp Modules</td>
<td>Insert a 3 mm heat filter CAT No 717 7157</td>
<td>Insert a 6 mm heat filter CAT No 717 7140</td>
</tr>
<tr>
<td>Ektapro Lamp Modules +10</td>
<td>Replace the 3 mm heat filter with the 6 mm one CAT No 717 7140</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Lamp Module</th>
<th>Temperature °C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EXR lamp</td>
</tr>
<tr>
<td>Extra Bright</td>
<td>80</td>
</tr>
<tr>
<td>Extra Bright in High Light Setting</td>
<td>90</td>
</tr>
<tr>
<td>Extra Bright in Economy Setting</td>
<td>65</td>
</tr>
<tr>
<td>Standard</td>
<td>65</td>
</tr>
<tr>
<td>Standard +10</td>
<td>75</td>
</tr>
</tbody>
</table>

Quick Reference -- The ultimate reference for Kodak EKTAPRO Slide Projectors
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.
External Control

General

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.

Illustration 1:
PC (Software) Direct Control

Illustration 2:
PC (Software) and Hardware Controller

A standard RS232 cable (not a Kodak product!)
- **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 configure it on your own.

---

**9-Pin Sub D Connector**

![View from front side!](image)

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

---

**25-Pin Sub D Connector**

![View from front side!](image)

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

---

**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

---

**P-Bus Connector DB9 male**

<table>
<thead>
<tr>
<th>Pin No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NC</td>
</tr>
<tr>
<td>2</td>
<td>RXD</td>
</tr>
<tr>
<td>3</td>
<td>TXD</td>
</tr>
<tr>
<td>4</td>
<td>NC</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
</tr>
<tr>
<td>6</td>
<td>NC</td>
</tr>
<tr>
<td>7</td>
<td>NC</td>
</tr>
<tr>
<td>8</td>
<td>NC</td>
</tr>
<tr>
<td>9</td>
<td>NC</td>
</tr>
</tbody>
</table>

---

**Connector 25-pin male**

<table>
<thead>
<tr>
<th>PIN No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>TXD</td>
</tr>
<tr>
<td>3</td>
<td>RXD</td>
</tr>
<tr>
<td>4</td>
<td>RTS</td>
</tr>
<tr>
<td>5</td>
<td>CTS</td>
</tr>
<tr>
<td>6</td>
<td>DSR</td>
</tr>
<tr>
<td>7</td>
<td>GND</td>
</tr>
<tr>
<td>8</td>
<td>DCD</td>
</tr>
<tr>
<td>20</td>
<td>DTR</td>
</tr>
<tr>
<td>22</td>
<td>RI</td>
</tr>
</tbody>
</table>
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 configure this cable on your own.

<table>
<thead>
<tr>
<th>Pin No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NC</td>
</tr>
<tr>
<td>2</td>
<td>RXD Transmit Data</td>
</tr>
<tr>
<td>3</td>
<td>TXD- Receive Data</td>
</tr>
<tr>
<td>4</td>
<td>NC</td>
</tr>
<tr>
<td>5</td>
<td>GND Ground</td>
</tr>
<tr>
<td>6</td>
<td>NC</td>
</tr>
<tr>
<td>7</td>
<td>NC</td>
</tr>
<tr>
<td>8</td>
<td>NC</td>
</tr>
<tr>
<td>9</td>
<td>NC</td>
</tr>
</tbody>
</table>

Macintosh Mini DIN 8 male

<table>
<thead>
<tr>
<th>Pin No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HSKo Handshake out</td>
</tr>
<tr>
<td>2</td>
<td>HSKI Handshake in</td>
</tr>
<tr>
<td>3</td>
<td>TXD- Transmit Data inverted</td>
</tr>
<tr>
<td>4</td>
<td>GND Ground</td>
</tr>
<tr>
<td>5</td>
<td>RXD- Receive Data</td>
</tr>
<tr>
<td>6</td>
<td>TXD+ Transmit Data</td>
</tr>
<tr>
<td>7</td>
<td>GPI General Purpose Input</td>
</tr>
<tr>
<td>8</td>
<td>RXD+ Receive Data</td>
</tr>
</tbody>
</table>
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”. Programs 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!

<table>
<thead>
<tr>
<th>Command</th>
<th>Valid for the following EKTAPRO Models</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4010 4020 5000 5020 7000 7010 7020 9000 9010 9020</td>
</tr>
<tr>
<td>RandomAccess</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>SetBrightness</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>GroupAddress</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>FadeUP/DOWN</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>SetFadeLimit High Value</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>SetFadeLimit Low Value</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>AutoFocus ON/OFF</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>HighLight ON/OFF</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>AutoShutter ON/OFF</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>BlockKeys ON/OFF</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>BlockFocus ON/OFF</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>Standby ON/OFF</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>SlideForward</td>
<td>X X X X X X X X</td>
</tr>
<tr>
<td>SlideBackward</td>
<td>X X X X X X X X</td>
</tr>
<tr>
<td>FocusForward</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>FocusBackward</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>FocusStop</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>ShutterOpen</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>ShutterClose</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>ResetSystem</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>SwitchLamp</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>ClearErrorFlags</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>StopFading</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>GetTrayPosition</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>GetKeys</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>SystemStatus</td>
<td>X X X X X X</td>
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<tr>
<td>SystemReturn</td>
<td>X X X X X X</td>
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</tbody>
</table>
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.
**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
### 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. For further details see page 67.

### 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).*

Key Benefits

- If the distance between computer and projectors is greater than 30 m, data transfer with the standard RS232 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 (Gigaset M 101 Data) 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 systems 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

Quick Reference -- The ultimate reference for Kodak EKTAPRO Slide Projectors
Some companies offer racks for professional use. (Addresses pages 69 and 72)

**Racks**

**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

**Screws** M5
(max. length allowed 49 mm)

1. **Note** the position of the slot!

2. diameter 6.4 mm
   depth 10 mm

3.
Professional Installation
Fixing Holes

- Fixing Holes

- Diagram with dimensions:
  - Diameter: 6.4 mm
  - Depth: 10 mm

Dimensions:
- 106,00 mm
- 38,00 mm
- 50,00 mm
- 204,00 mm
- 40,00 mm
- 63,50 mm
- 52,00 mm
- 250,00 mm
Professional Installation
Tilting - Operating Temperature

■ Tilting

Professional Installation
Tilting - Operating Temperature

■ Operating Temperature

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

-10%  b  +6%

a = Ambient temperature
(C°)
b = Nominal voltage
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!

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

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_DIS
- 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_DIS
- Pin a9: 34 VDC  Pin b8: VSS 12
- Pin a10: 24 VAC_N  Pin b9: VSS 34
- Pin b10: 24 VAC_L

**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
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
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 (Address page 69).

Solution 1:
Bässgen MIDI-Card

Solution 2:
Bässgen BASIX
Use of two control systems via standard computer switchboard

Control System 1

T-Switch

Control System 2

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:

<table>
<thead>
<tr>
<th>Function</th>
<th>Code</th>
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<tr>
<td>Dissolve times (0.1 - 9.9 s) CUT</td>
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<td>Random Access</td>
<td>800</td>
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<td>Fade: MASTER SLAVE</td>
<td>770 - 777</td>
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<tr>
<td>Alternate</td>
<td>707</td>
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<tr>
<td>Freeze</td>
<td>789</td>
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<tr>
<td>Parallel projection Focus Slave*</td>
<td>970 - 990</td>
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<tr>
<td>Reactivating dissolve mode</td>
<td>666*</td>
</tr>
<tr>
<td>Remote Security Mode</td>
<td>989</td>
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<tr>
<td>Reset</td>
<td>999</td>
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<td>Autotimer (1-60 s) ----- off</td>
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<td></td>
<td>600</td>
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</tbody>
</table>
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

2. Two fields (screens) application parallel in harmony or panorama.

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.
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!

For this configuration you need:

| MASTER/SLAVE Projection with two dissolve pairs in parallel |
|---------------------------------|----|
| MASTER                          | 2  |
| Ektapro 7020 or 9020            |    |
| SLAVE                           | 2  |
| Ektapro 4020, 5020, 7020, 9020  |    |
| Dissolve Cable                  | 2  |
| CAT NO 715 3992                 |    |
| IR Remote System RA             | 1  |
| CAT NO 712 1072                 |    |
| IR Remote System RA/LP          | 1  |
| CAT NO 712 1064                 |    |
| Ektapro Twin Socket             | 1  |
| CAT No 712 5909                 |    |
| Ektapro Twin Socket Connecting  | 1  |
| Cable                           |    |
| CAT No 712 5917                 |    |
- **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 RS232 extension 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!**

![Dissolve Cable Diagram](image)

Kodak Dissolve Cable
CAT NO 715 3992

Standard RS232 Cable
(not a Kodak product!)

2. You configure a cable at the length you need. Note, you need **two sub D Male connectors!**

![Configuration Diagram](image)

9 pin sub D Male

**Dissolve Cable**

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<tr>
<th>Pin</th>
<th>Description</th>
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<tbody>
<tr>
<td>2</td>
<td>RXD Receive Data</td>
</tr>
<tr>
<td>3</td>
<td>TXD Transmit Data</td>
</tr>
<tr>
<td>5</td>
<td>GND Ground</td>
</tr>
</tbody>
</table>

**Do not connect GND with Shield!**
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”!

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!
Applications

Business Presentation

- 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

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

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

Business Presentation

- 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

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

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<thead>
<tr>
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<td><strong>Alfi</strong></td>
<td>P.O.B 10 20 47 86010 Augsburg, Germany</td>
<td>slide mounts</td>
</tr>
<tr>
<td></td>
<td>FON: +49-821-808 67-0  FAX: +49-821-808 67-40</td>
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</tr>
<tr>
<td><strong>ARION</strong></td>
<td>4952 Farmington Ave. SE Delano, MN 55328 8158 U.S.A.</td>
<td>controllers, slide show presentation equipment</td>
</tr>
<tr>
<td></td>
<td>FON: +1-612 972 3351  FAX: +1-612 972 3524</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="http://www.arion.com">www.arion.com</a></td>
<td></td>
</tr>
<tr>
<td><strong>AV&amp;F</strong></td>
<td>Rijksweg 74a 6247 AK Gronsveld The Netherlands</td>
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</tr>
<tr>
<td></td>
<td><a href="http://www.dia.nl">www.dia.nl</a></td>
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<tr>
<td><strong>AVSZ</strong></td>
<td>Tarweakker 63 2723 TB Zoetermeer The Netherlands</td>
<td>all kinds of accessories, e.g. external timer</td>
</tr>
<tr>
<td></td>
<td>FON: +31-79 341 43 46  FAX: +31-793 425 687</td>
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<tr>
<td><strong>Bässgen</strong></td>
<td>Hauptstraße 58 79104 Freiburg Germany</td>
<td>controllers, slide show presentation equipment, racks, DMX - MIDI</td>
</tr>
<tr>
<td></td>
<td>FON: +49-761 239 53  FAX: +49-761 350 42</td>
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<td><strong>Buhl</strong></td>
<td>1009 Beech Avenue Pittsburgh, PA 15233 U.S.A.</td>
<td>projection lenses</td>
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<td><strong>Califone</strong></td>
<td>Superior Street Chatsworth, CA 91311 U.S.A.</td>
<td>AV tape recorders</td>
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<tr>
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<tr>
<td><strong>CCG</strong></td>
<td>Lorsbacherstr. 56A 65719 Hofheim Germany</td>
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<tr>
<td><strong>Chief</strong></td>
<td>14310 Ewing Avenue South Burnsville, MN 55337 U.S.A.</td>
<td>racks</td>
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<td>3100 N. Detroit Str. Warsaw, IN 46581 0137</td>
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<tr>
<td>Dataton</td>
<td>Box 257</td>
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<td>S-581 02 Linköping</td>
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## Addresses

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<td>Management</td>
<td>1401 E 79th Street Minneapolis, MN 55425 U.S.A.</td>
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<td>Mirus</td>
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<td>FON: +1-408 980-660 FAX. +1-408 980-6601 <a href="http://www.mirus.com">www.mirus.com</a></td>
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<tr>
<td>M-Objects</td>
<td>Auf dem Berg 7 59387 Ascheberg Germany</td>
<td>software for PC direct control</td>
</tr>
<tr>
<td></td>
<td>FON +49-2593 988 88 Fax +49-2593 988 89 <a href="http://www.mobjects.com/">www.mobjects.com/</a></td>
<td></td>
</tr>
<tr>
<td>Miiwo</td>
<td>In den Maltwiesen 11 72379 Hechingen- Stetten Germany</td>
<td>controllers, slide show presentation equipment</td>
</tr>
<tr>
<td></td>
<td>FON +49-7471 15830</td>
<td></td>
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<tr>
<td>Navitar</td>
<td>200 Commerce Dr. Rochester, NY 14623 U.S.A.</td>
<td>projection lenses</td>
</tr>
<tr>
<td>Polaroid</td>
<td>549 Technology Square Cambridge, MA 02139 U.S.A.</td>
<td>slide recorders</td>
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## Addresses

<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roha</strong></td>
<td>Bruno Jacoby Weg 11 70597 Stuttgart Germany FON: +49-711 723621</td>
<td>racks</td>
</tr>
<tr>
<td><strong>Siemens AG</strong></td>
<td>80312 München Germany <a href="http://www.ic.siemens.com/">http://www.ic.siemens.com/</a></td>
<td>radio data transfer</td>
</tr>
<tr>
<td><strong>Stumpfl</strong></td>
<td>Rudigierstr. 8 4701 Bad Schallerbach Austria FON +43-7249 42811 Fax: +43)-7249 42811 18 <a href="http://www.stumpfl.com/">www.stumpfl.com/</a></td>
<td>controllers, slide show presentation equipment, screens</td>
</tr>
<tr>
<td><strong>Wess</strong></td>
<td>70 Commerce Drive Hauppauge, NY 11788 U.S.A. FON: +1 516 231 0608</td>
<td>slide mounts</td>
</tr>
<tr>
<td><strong>VICOM</strong></td>
<td>Kuhnbergstr. 15 D-73037 Göppingen Germany FON:+49 7161 984030 FAX: +49 7161 984039 <a href="http://www.vicom.de">www.vicom.de</a></td>
<td>slide dryer cabinet</td>
</tr>
</tbody>
</table>
Quality

- Lifetime of Ektapro Projectors

Quality find its strongest expression in reliability and in the lifetime of a product. 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
## History

### Models - Year of Launch and Modifications

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

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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:

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Germany
Phone: int +711 406 5151
Fax: int + 711 406 5367
E-mail: heinrich@kodak.com

Stuttgart, July. 1998

Last revision: 1/2001
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