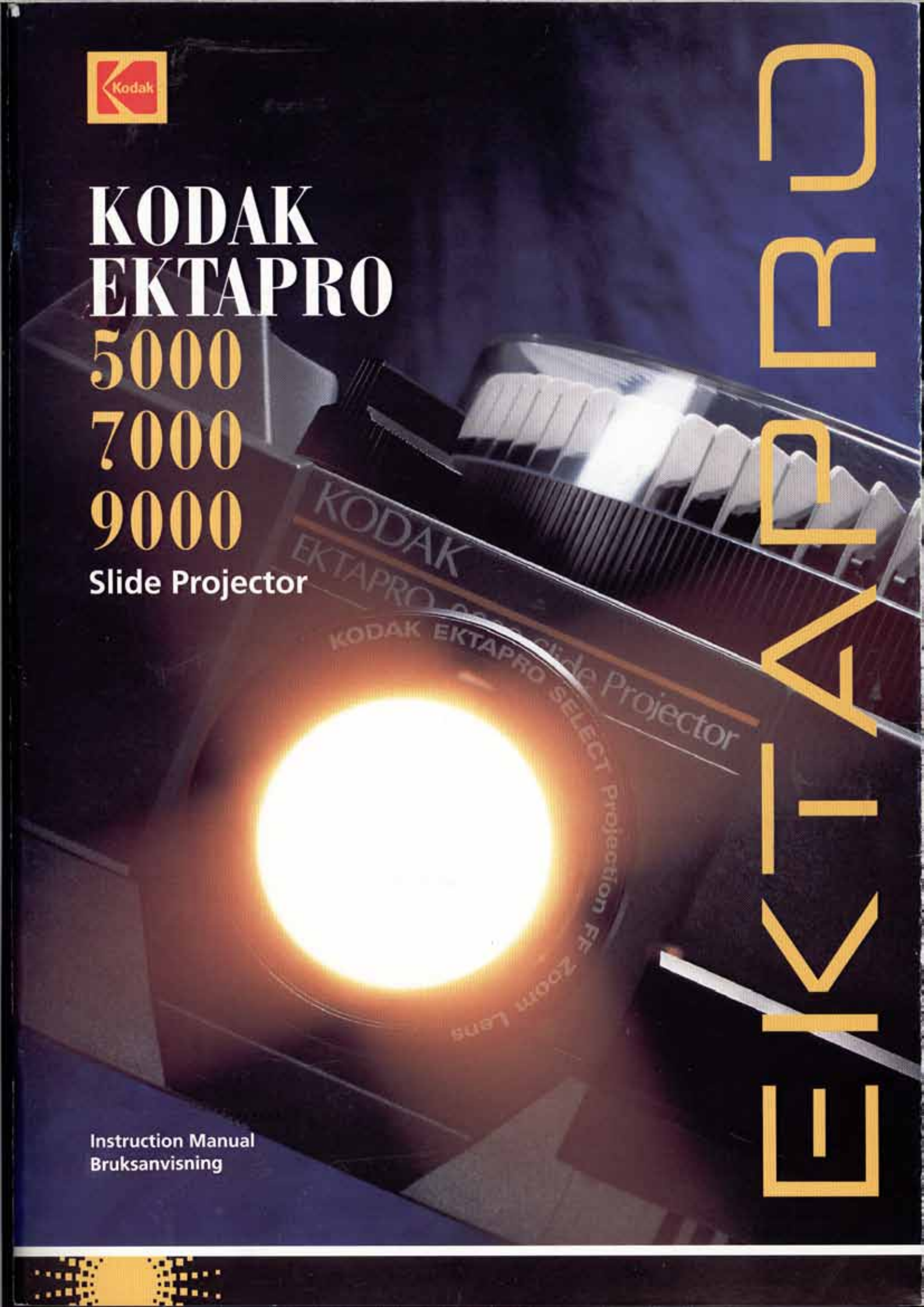
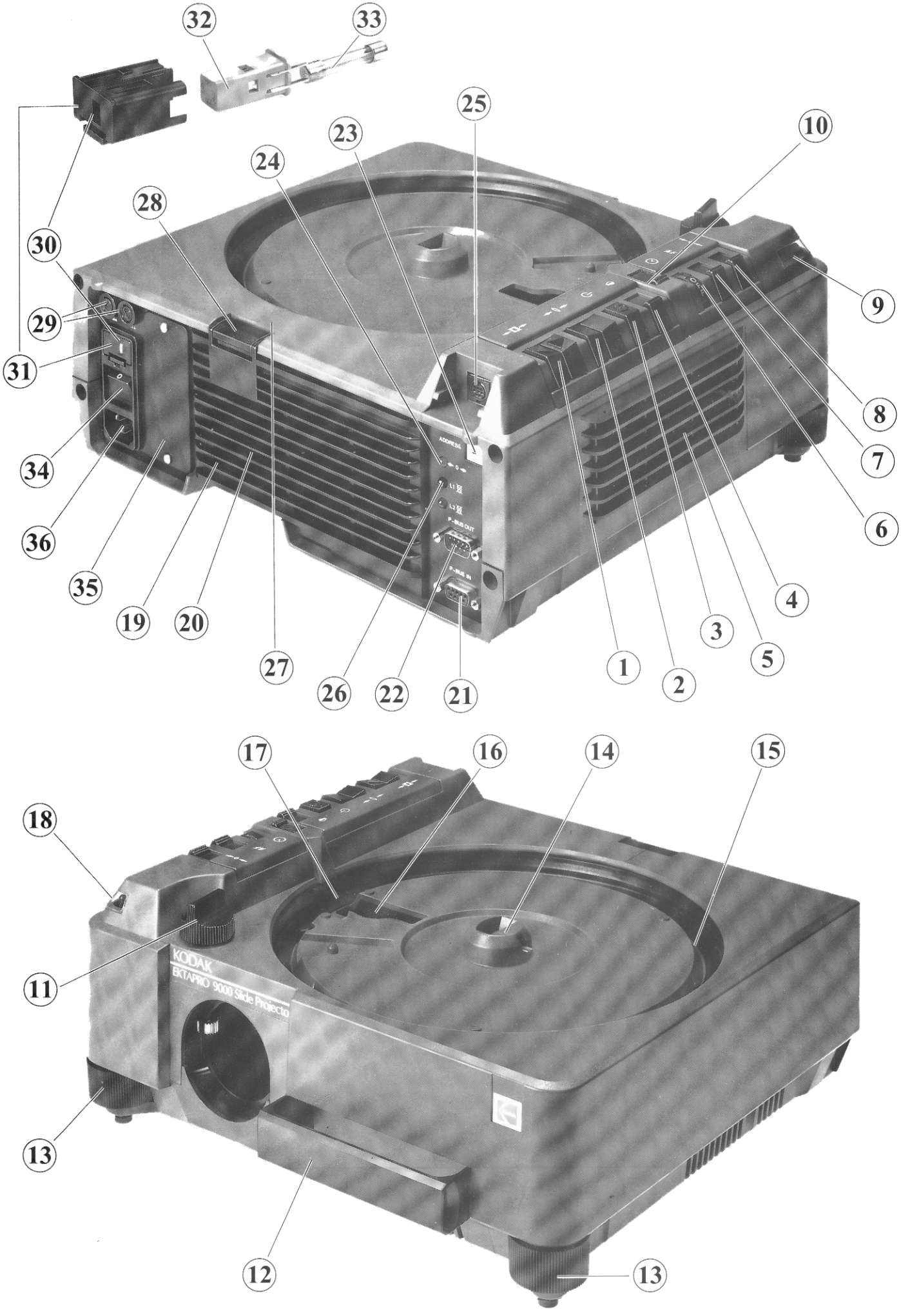
KODAK EKTAPRO 5000 7000 9000

Slide Projector



Instruction Manual
Bruksanvisning

EKTAPRO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EKTAPRO 9000 Slide Projecto
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Projector-Features

1 Slide change buttons (forwards; backwards)
2 Focusing buttons
3 Standby button
4 Lamp economy switch
5 Fan (air inlet)
6 Interval Timer *(EKTAPRO 5000 and 9000)*
7 Autofocus - on/off switch **AF**
(EKTAPRO 5000 and 9000)
8 Switch for slide tray zeroing on/off
(EKTAPRO 9000)
9 Centre position indicator of lens mount
10 Tray setting switch 80/140
11 Focusing knob for gear rack lenses
12 Retractable handle
13 Height adjustment foot
14 Slide tray lock
15 Slide tray transport ring
16 Slide gate
17 Slide tray release (140) and lever for slide tray positioning (80)
18 Operation indicator (LED)
19 Air exhaust
20 ALC-Lamp module
21 P-Bus in (RS232)
22 P-Bus out (RS232) (EKTAPRO 7000 and 9000)
23 ADDRESS Switch (EKTAPRO 7000 and 9000)
24 Zero positioning indicator
25 Remote control socket
26 Lamp failure indicator (L1, L2)
27 Tray positioning index mark
28 Lamp module release
29 Fuse holder (secondary circuit)
30 Voltage indicator
31 Fuse link compartment (primary circuit)
32 Fuse link
33 Fuse (primary circuit)
34 Mains switch (electrical)
35 Module expansion slot (EKTAPRO 7000 and 9000)
36 AC mains socket

Electrical Approvals and Radio Interference

Electrical Approvals
The KODAK EKTAPRO 5000/7000/9000 Slide Projector complies with International Safety requirements and bears following safety marks:
- UL (Underwriter Laboratories Inc.)
- CSA (Canadian Standards Association)
- VDE

Radio interference:
EEC directive 87/308
Australia standards AS 1044
RFS49 ISSUES July 1989
VCCI Regulations Nov. 1987 Class 2
Part 15 of FCC Rules Subpart J Class B
Canadian DOC C 108,8 -M 1983 Class B

Note: This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference regulations of the Canadian Department of Communications.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occurr in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technican for help.

Content

Using the instruction manual

Open the cover flap. Here you will find illustrations of the projector. The figures have also been incorporated into the operating instructions to enable quick and exact identification of the individual projector features.

Action arrow: ⟶ Reference arrow: →

Important texts are highlighted in grey.

WARNINGS are framed.

Important Safety Precautions

When using your photographic equipment, basic safety precautions should always be followed, including the following:

1. *Read and understand all instructions before using.*
2. *Always use the correct voltage, as described on page 22. Incorrect voltage can lead to malfunctions in the projector.*
3. *Close supervision is necessary when any appliance is used by or near children, or others who may not understand the need for the following precautions. Do not leave the projector unattended while in use.*
4. *Care must be taken as burns can occur from touching hot parts.For lamp replacement let the module cool down before touching the lamp and the surrounding area. Do not place the lampmodule on heat sensitive surfaces (s. p. 30).*
5. *Do not operate projector with a damaged cord or if the projector has been dropped or damaged - until it has been examined by a qualified service technician.*
6. *Position the cord so that it will not be tripped over, pulled, or placed in contact with hot surfaces.*
7. *If an extension cord is necessary, a cord with a current rating at least equal to that of the projector should be used. Cords rated for less amperage than the projector may overheat.*
8. *Always unplug the projector from the mains before cleaning and servicing (e.g. lamp replacement) and when not in use. Never yank cord to pull plug from outlet. Grasp plug and pull to disconnect.*
9. *Let the projector cool completely before putting away.*
10. *To reduce the risk of electric shock, do not immerse this projector in water or other liquids.*
11. *To reduce the risk of electric shock, do not disassemble this projector, but take it tó a qualified service technican if service or repair work is required. Incorrect reassembly can cause an electric shock when the projector is used subsequently.*
12. *The use of an accessory attachment not recommended by the manufacturer may cause a risk of fire, electric shock, or injury to persons. Only devices with safety-low voltage (SELV) are allowed to be connected.*
13. *Connect this projector to a grounded outlet.*
14. *Keep air inlet (5) and air outlet (19) free from obstruction.*

SAVE THESE INSTRUCTIONS!

Introduction

Welcome to the world of the new KODAK EKTAPRO Slide Projectors. You are, with your EKTAPRO Slide Projector, holding one of the newest generation KODAK projectors. It will certainly help you meet your current and future 35mm slide projection challenges.
A few benefits of your new KODAK EKTAPRO Slide Projector are listed below. We wish you much pleasure in presenting with this projector.

- *Highest precision*

All functions are continually monitored and controlled with the highest precision by the built-in micro-processor. This, for example, guarantees that the slide change time will always be kept, independent of the voltage used.

- *Optical quality*

All important structural elements for the optical equipment such as the slide gate and base for the lens mount housing are in die-cast and adjustment problems are, thereby, minimized.

- *Communication*

Connection to the PC world! You are able to communicate with the projector via a connected PC with the help of EKTAPRO P-COM Protocol- the projector's communications language. The interface is called P-Bus.
Total intergration of the projector into the multi-media scene is now realizable.

- *Convenience*

Working with EKTAPRO Projectors means presenting with the greatest of ease: Standby, no-slide-no-light, modern 82-volt halogen cold light mirror lamp and random access are but a few of the features.

- *Flexibility*

The modular design, lamp module and the module expansion slot allow your projector to be constantly adapted to todays and future developments.

- *Up-to-date*

Due to environmental and recycling reasons EKTAPRO Slide Projectors are not varnished. This is visable on the shade-differences of the housing.

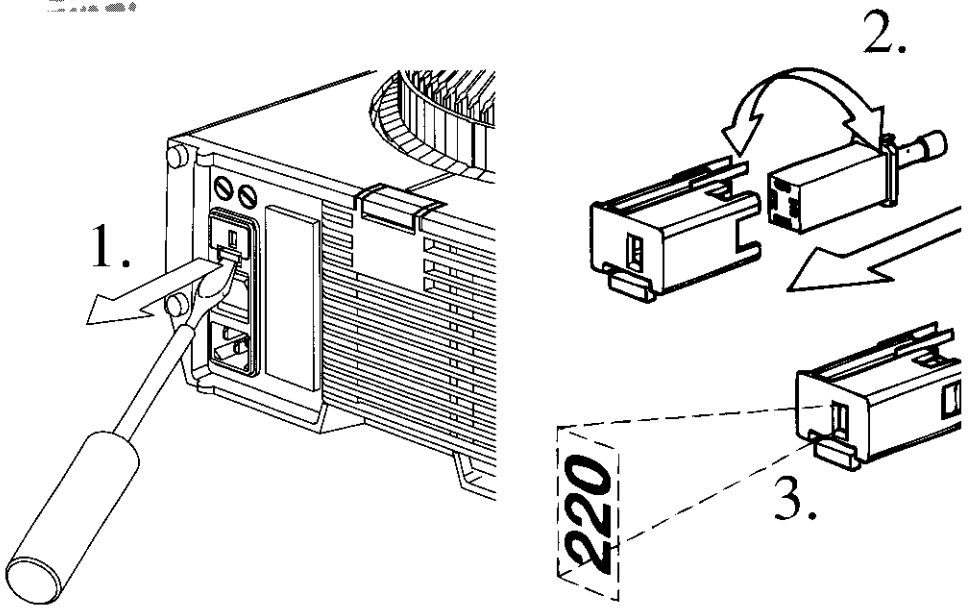
english

Switching-on the projector

Check voltage setting

KODAK EKTAPRO Slide Projectors will be exported throughout the world to countries with differing mains voltages. The projectors are **already** set during manufacture to a **fixed** mains voltage.
Shipments to countries with **100 or 120 V** mains will be equipped with a **4 A slow blow/ 250 V fuse.** A spare fuse for replacement is also supplied.
Shipments to countries with **220, 230 or 240 V** mains will be equipped with a **T 2A H/ 250 V fuse.** A spare fuse for replacement is also supplied.

Before you switch on your projector ensure that the voltage is correctly adjusted! An incorrectly adjusted mains voltage can damage the projector! The voltage indicator (30) must show your country's actual mains voltage!



Setting of a different operation voltage

WARNING
For safety, the mains lead must be unplugged!

Important:
Ensure that the 100 and 120 V setting uses a different fuse to the 220 -240 V setting. See text above!

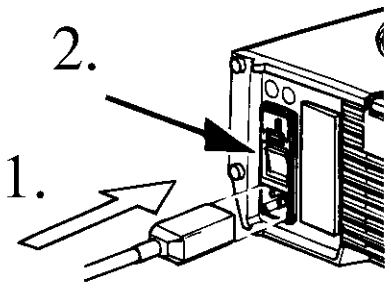
1. Unlock the fuse link compartment (31) by using a screwdriver and pull compartment out.

2. Push the fuse link (32) into the compartment so -

3. - that the applied voltage can be seen in the window (30) of the compartment.

- Push the loaded compartment (with mounting underneath) firmly into the projector opening provided.

Switching- on the projector



1. Connect your EKTAPRO Slide Projector to the mains with the mains lead .

UK users note: A suitable fused 13A plug must be fitted. See instructions on cable!

- Ensure the tray setting switch (10) is in the correct position. Round trays for both 80 slides and 140 slides can be used.

80 Tray setting:
Ensure the tray setting switch (10) is pressed forwards (mark "80").

140 Tray setting:
Ensure the tray setting switch (10) is pressed backwards (mark "140").

Note: Setting the tray type only possible when projector is switched off! An incorrect setting will cause transport failure and your slides can be damaged!

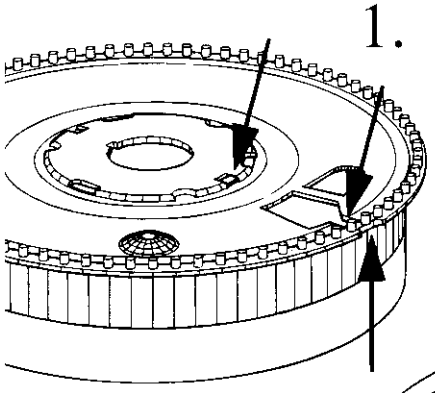
2. Turn on the mains switch (34).
The projector starts with a system check (duration 2-7 sec). The operation indicator (18) will light up and the tray transport ring (15) is on 0-Position.
Your projector is now ready for operation.

Note:
*If a problem on the slide lift control or tray transport mechanism is detected during the system check the red LED * (18) (operation indicator) will start to blink and the projector can no longer be operated.*
If the error cannot be found with the help of the Trouble Shooting Guide (see page 32), please contact your Kodak customer services or dealers.

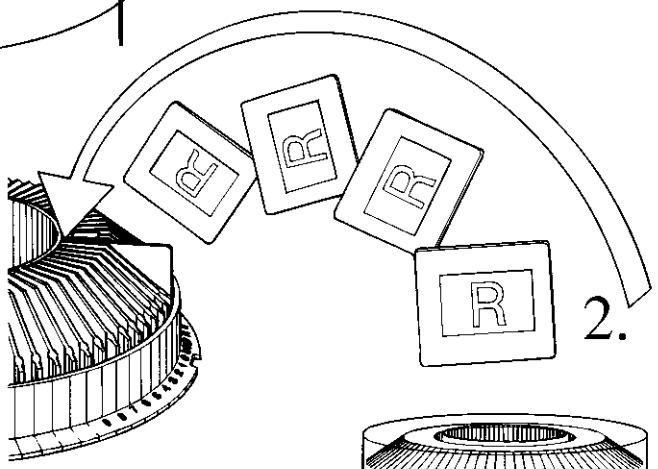
*Light Emitting Diode

Loading and installing the slide tray

Please note:
Your new KODAK EKTAPRO Slide Projector will accept all 80 and 140 Carousel, Ektagraphic and S-AV Slide Trays.
All KODAK S-AV Slide Trays, KODAK CAROUSEL and EKTAGRAPHIC 80 and 140 slide trays are interchangeable with KODAK EKTAPRO slide trays.
An EKTAPRO 80 slide tray is supplied with your projector. The tray will hold up to 80 slides with a maximum thickness of 3.2 mm. A slide tray index (80 and 140 slides) for copying can be found on pages 72 and 73. This is ideal for archiving and an index copy can be made for each slide tray.



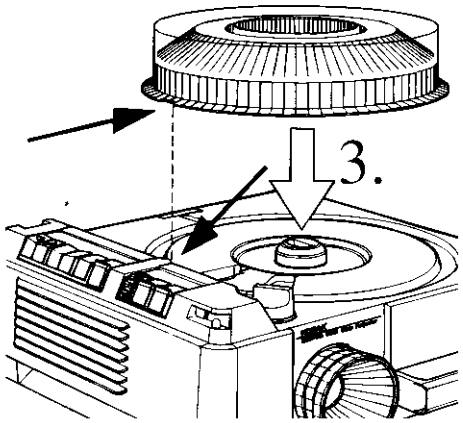
1. Check that the baseplate of the slide tray is locked into zero-position and cannot be rotated.



2. Load the slides upside down for normal front projection.

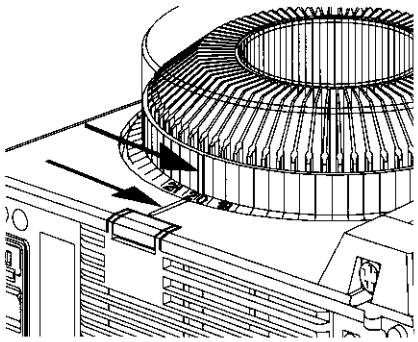
• Replace and lock the cover to prevent damage and splitting in case the tray is dropped or turned over.

3. Place the loaded tray into its zero position on the projector's transport ring (15). The cleft in the slide tray (zero position) fits on to the notch of the transport ring.



Note: Before you switch on the projector please ensure that the tray setting switch is in the correct position!

Tray positioning index mark



Projectors are often installed on racks where tray installation may be difficult and only possible from the rear of the projector. In this case the tray positioning index mark (27) on the back of the projector is very helpful: The tray is properly set when the index mark aligns with the mark placed on the tray (at slide no. 20 of the 80 slide tray and at slide no. 35 on the 140 slide tray).

Note:
To avoid annoying automatic refocusing during presentation, damaged, distorted or warped slides should not be used as they may jam the projector's transport mechanism.

Fitting the lens*

Your KODAK EKTAPRO slide projector is equipped with a universal lens mount. You can, therefore, use both gear rack and spiral grooved lens barrels. KODAK offers you a wide range of high precision EKTAPRO Projection Lenses in various focal lengths.

The table of projected picture sizes (pages 70,71) may help you to select the optimum lens focal length for each projection condition.

Gear rack lenses:
KODAK EKTAPRO gear rack lenses are pushed into the lens mount housing.

Spiral lenses:
Spiral grooved lenses are screwed clockwise (from front of the projector) into the lens mount housing.

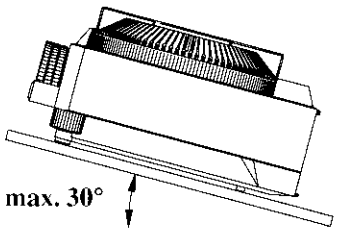
*Purchased seperately from your AV dealer to suit your application

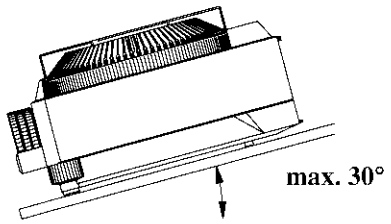
Setting up the projector

Place the projector on a firm, vibration free base for stable and smooth operation.

For professional use we recommend the special projection racks available from dealers (fastening; see page 30). The projector may be elevated plus or minus 30° from the horizontal along the projection axis.

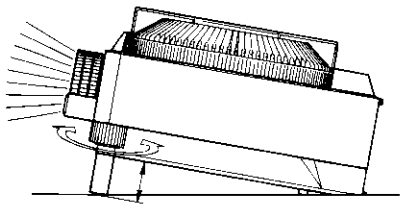
Note: *Operating the projector at its maximum angle setting may reduce the average lamp life time!*





Important! 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 (5) and air outlet (19) free from obstruction!

Leveling the projector
Push the slide-forward button △(1) to project a slide.

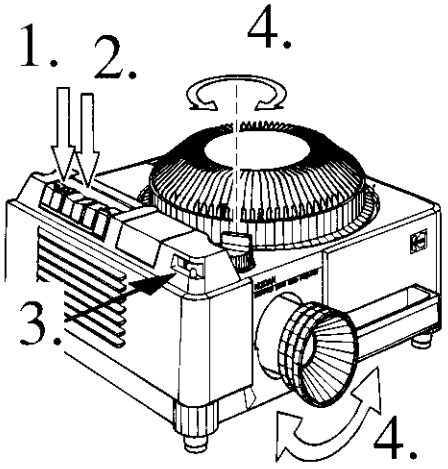


• Turn the projector feet (13) to adjust the height.

EKTAPRO 7000 Projector: Focusing the image

The picture focus can be altered at any time during the projection by using the focus buttons (2) on the projector or the corresponding buttons on the remote control.

The first slide, at the beginning of every projection, must be focused by turning the knob for gear rack lenses (11) or by turning the spiral lens:



1. Slide positioning
Press lightly the slide forward button △(1). The first slide will move into the slide gate and will be projected.

2. Move the lens mount to the middle position
Repeatedly press the focus buttons (2) until-

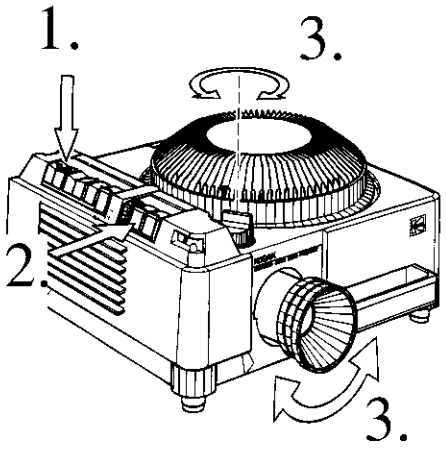
3. - the indicator pointer of the centre position indicator (9) reaches the middle position.

4. Focusing
a) with KODAK EKTAPRO Lenses or any other gear rack lens:
- by turning the focusing knob (11)

b) with spiral lenses:
- by turning the lens by hand.

EKTAPRO 5000 und 9000 Projector: Focusing with the autofocus

Manual refocusing during projection is no longer necessary as the built-in autofocus device will automatically give the best definition.
However, before you start, the first slide has to be manually focused by turning the knob for gear rack lenses (11) or by turning the spiral lens:



1. Slide positioning
Press lightly the slide forward button △(1). The first slide will be moved into the slide gate and will be projected.

2. Switch the autofocus (7) on
(Push button in).

3. Focusing
a) with KODAK EKTAPRO lenses or other gear rack lenses:
- by turning the focusing knob (11)

b) with spiral lenses:
- by turning the lens by hand

Override feature
You can, however, re-adjust the focus at any time using the focus buttons (2). The autofocus is re-activated with the next slide change.

Operation

Slide changing

I. Using the buttons on the projector:

Single Movement:

Press button (1)

△ forwards

▽ backwards

Quick search and zero positioning:

To transport the tray quickly in either direction, press and hold down the slide change button (1) [△ or ▽] until the position wanted is reached. The tray will, however, automatically stop at 0 and will remain in this position. If you want to repeat the search run, press slide change buttons again.

Note: Your EKTAPRO Slide Projector can sense when there is a slide in the gate. Only then will the shutter open and the lamp achieve its optimum brightness. It is no longer necessary to use dark slides when the slide gate is empty.

II. Using a KODAK EKTAPRO Remote

There are three different remotes controls available as accessories to your EKTAPRO Slide Projector. (Description of the most important features under "Accessories" page 33):

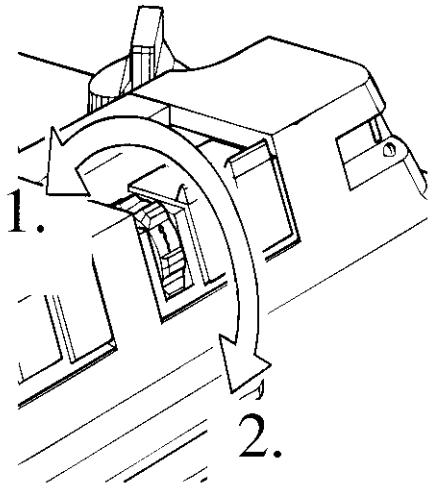
Please note: *These advanced level remote controllers are not compatible with previous model S-AV and EKTAGRAPHIC cabled and IR-handsets.*

III. Using the built-in interval timer (EKTAPRO 5000 and 9000 Projectors)

The built-in timer (6) enables the projector to automatically transport your slides.

Eleven time settings can be made:
Marked time settings:
1; 2; 3; 4; 5; 10; 30; 60 sec

Unmarked interim time settings:
8 sec
(timer position between 5 and 10 sec)
20 sec
(timer position between 10 and 30 sec)
45 sec
(timer position between 30 and 60 sec)



1. Setting the timer:
Turn the timer clockwise, to the right, until the time required agrees with the indicator on the projector. The timer is now activated and the first picture will be projected after expiration of the set time interval.

2. Switching the timer off:
Turn the timer to the "OFF" position.

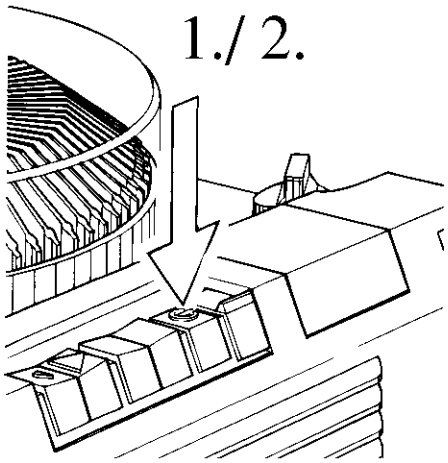
Note: The slide transport button can be pressed at any time to project the next slide independently of the timer setting. The preset time of the timer will not be interrupted.

Automatic zero positioning (EKTAPRO 9000)

The KODAK EKTAPRO 9000 Slide Projector has an automatic zero positioning selector switch (8). When switched on, it automatically returns the tray to the zero position, via the quickest route, as soon as the slide gate is empty.
This eliminates the need for special triggering slides such as those that would be used in the KODAK CAROUSEL S-AV 2010 Projector.
Existing shows can only be used when the triggering slide has been removed.

The automatic zero-positioning is particulary useful for presentations with few slides and in continuous operation.

Standby Function



1. Projector in Standby:
Press the standby button ⏻(3) on the projector or remote control.
The projection lamp and the fan will be switched off. The tray remains in its position!

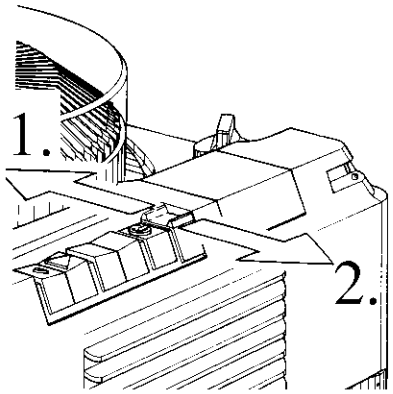
2. Projector in operation:
Press again the standby button on the projector or remote control. The presentation can now be continued.

Standby
The standby function enables you to interrupt and restart at any time during your presentations.
Standby places the projector in readiness for operation.

Note (EKTAPRO 7000 and 9000 Slide Projector):
The fan will ***not*** *be switched off in the standby mode if any module (e.g. KODAK EKTAPRO 12/7-Pin Module) is installed into the module expansion slot (35). If the projector, as in this case, is to be controlled externaly,* ***no*** *standby-function is possible!*

Economy lamp setting

The projection lamp of your EKTAPRO Slide Projector can be used in either standard or economy setting.



1. Economy Setting:
Move switch (4) .

2. Standard Setting:
Return the switch (4) to original position.
The economy setting offers you approximately three times longer life-span by reducing the projection brightness.
The setting can be changed by the lamp economy switch.

Note*: See page 34 for information about projection lamp performance .*

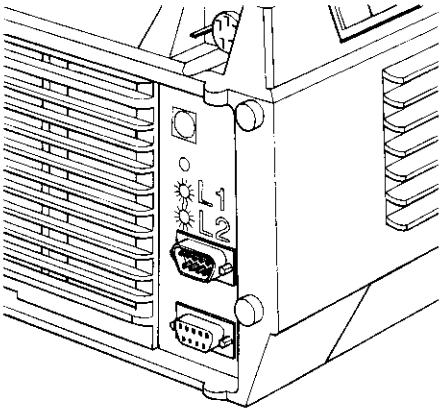
Lamp failure indicator

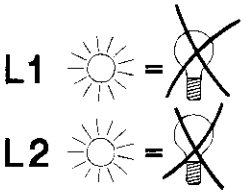
Your KODAK EXTRAPRO Slide Projector is provided with an automatic lamp changer module (20) (also available as an accessory, see page 33).
Should the projection lamp (L1) fail, the system automatically activates the second projection lamp (L2). Centering of the lamp is not necessary because each lamp is prealigned in its own reflector.

Lamp failure is indicated by two red LEDs (26):

Red LED L1 lit:
Lamp 1 failed
Red LED L2 lit:
Lamp 2 failed

As soon as a failed lamp is replaced the LED shuts off (for replacement see page 30).





Changing the slide tray (in zero position)

Always lift off the slide tray in the zero position.
The zero positioning indicator (24) lights up when the slide tray transport ring is in the zero position.

Move tray to zero position:

a) Using the slide change buttons on your projector or remote control units
Keep the slide change button pushed down (forwards or backwards) until the tray automatically stops at the zero position.

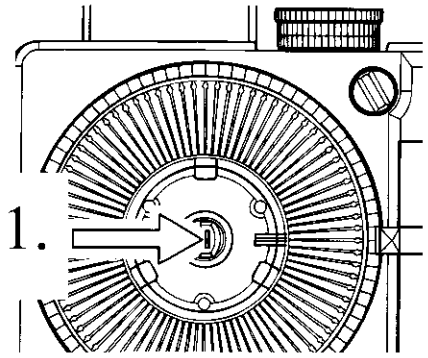
b) Using the KODAK EKTAPRO IR Remote System RA or the KODAK EKTAPRO IR Remote System RA/LP:
Press the "0" on the control pad and confirm with the 'enter' key .

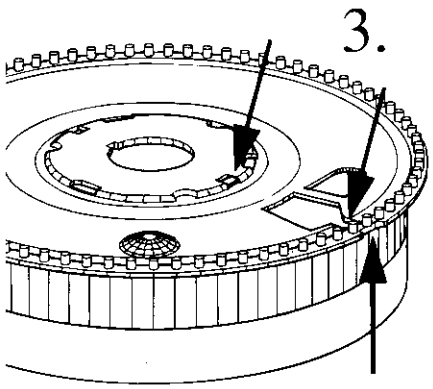
c) Using the mains switch
Turn the projector off by the mains switch (34). When the projector is turned on again, it will complete a system check and bring the slide tray back to the zero position!

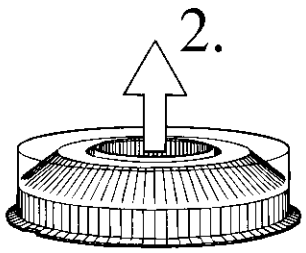
Tray positioning index mark
The tray positioning index mark (27) on the back of your projector is a further guide. The tray is in the zero position when the marking on the slide tray is over the index mark (27) (slide No. 20 on 80 slide tray and slide No. 35 on 140 slide tray).

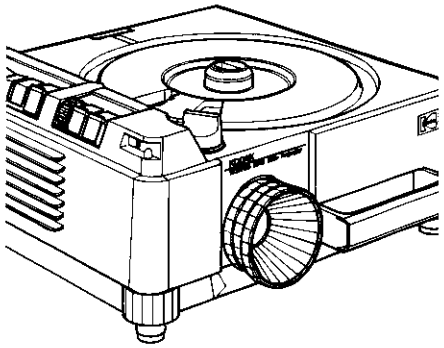
Removing the slide tray (in any position)

In an emergency, e.g. transport failure, the tray can be removed from the projector in any position:









• First switch off your projector!

1. Push aside and hold the slide tray lock (14) while -

2. - lifting off the slide tray.

3. Having removed the slide tray turn it 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.

. Turn the projector on again. The slide remaining in the slide gate will be ejected by the slide lift and can be replaced in the slide tray.

Other projection modes

Continuous projection (EKTAPRO 5000 and 9000 Projectors)

You can create automatic running slide shows using the built-in timer (6) with possible slide change-times of between 1 and 60 seconds (see page 25).

EKTAPRO 5000 Projector
In order to avoid "dark pause" it is recommend that the slide tray be filled as completely as possible.

Tip:
To avoid the dark pause caused by the 0-slot of the slide tray, you can work with 81 or 141 slides:
Before loading the full slide tray, insert an additional 81st slide (141st slide) in the slide gate (16).

KODAK EKTAPRO 9000 Projector
You can bring the tray immediately back to the zero position after the last slide with the help of the automatic zero positioning. This is of advantage when continuous projection is required using only a few slides. By pressing the switch (8), you can activate the automatic zero positioning.

Random access operation

Any slide can be directly chosen using the KODAK EKTAPRO IR Remote System (available as accessory, see page 33). Access is fast, within approx. 0,3sec.

The RA operation is ideal for lectures, interactive learning programmes and computer control.
For further details, please see the instructions manual for the IR EKTAPRO Remote System RA and EKTAPRO IR Remote System RA/LP.

Simultaneous Projection

1. Using the KODAK EKTAPRO Cable Remote, Twin Socket Adapter and the Twin Socket Connecting Cable (all available as accessories):

Two EKTAPRO Slide Projectors can be connected for a projection in parallel. You can operate the projectors at the same time through the KODAK EKTAPRO Cable Remote when using the KODAK Twin Socket Adapter. Check connections are correct! Further details can be found with the Twin Socket Adapter.

Remote System RA and EKTAPRO IR Remote System RA/LP.

2. Using the KODAK EKTAPRO IR Remote Systems

Several EKTAPRO Projectors can be operated simultaneously when each projector is equipped with an EKTAPRO IR Receiver (available as accessory, see page 33).

Notes:
- This mode should only be used for slide change purposes! The focus operation will occur on all projectors in parallel!
- Ensure that all receivers and the transmitter are set to the same channel!

Dissolve and multi-projection mode

Your EKTAPRO Slide Projector is fully equipped for dissolve and multi-vision operation. The following possibilities are available for controlling the projector:
a) Control through professional dissolve units. Your projector is fully compatible with systems already in existence (see next chapter).
b) The show can be completely programmed and controlled with a personal computer (further details under "Computer-Operation").

Compatibility with KODAK S-AV CAROUSEL and KODAK EKTAGRAPHIC Projectors and their Accessories (EKTAPRO 7000 and 9000 Projectors)

Your EKTAPRO Projector is fully compatible with all professional AV equipment that is equipped with a 12 or 7 pole standard interface. A corresponding module is available as accessory to connect to these systems (KODAK EKTAPRO 12/7-Pin Module, see page 33).

You can programme new multi-visions as well as play back shows already programmed on this system with the connected equipment. Further information on module installation and the operating order of the connected equipment can be found in the corresponding operating instructions.

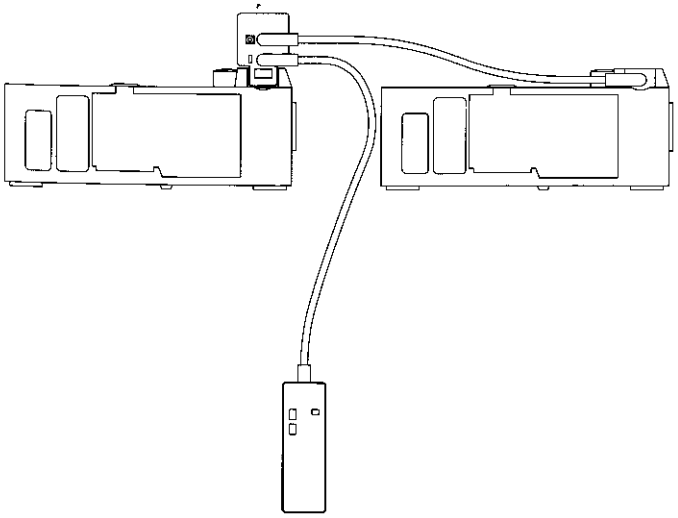
Operation with Personal Computer

Your EKTAPRO Projector can be connected directly to any PC with a standard interface RS232 via the P-Bus-in (22) (9-pin sub D socket). **For connection use a simple monitorcable (1:1, shielded)!**

With the help of the communications language P-COM Protocol, commands are given directly to the projector's microprocessor and information from the projector is received. Commands are transfered in binary code.

Slide shows can, for the first time, be completely controlled from a computer with P-COM Protocol.
Sixteen projectors (EKTAPRO 7000 or 9000), in all, can be controlled independently. In this instance all projectors will be addressed by setting the address switch (23). Only the first projector is connected to the PC; the other projectors are daisy-chained. Another RS232 interface must be attached to the PC if further projectors are required.

No corresponding software was available at the time of going to press. However, users, who are familiar with computer programming languages can request from Kodak a report on the binary programming of the different commands as well as the corresponding computer configuration. This information is available only in the English language. Please contact the KODAK Headquaters in your country. Some addresses can be found on the back page of these operating instructions.

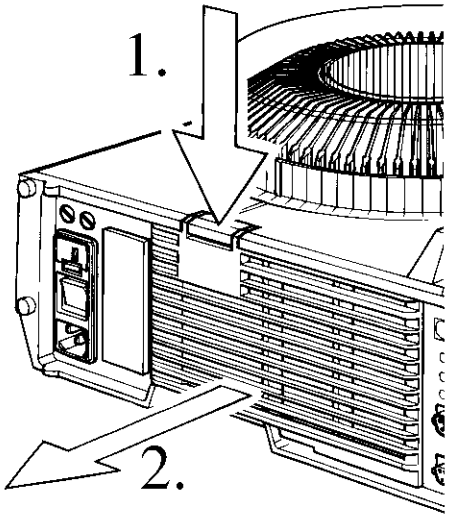


Replacement of a defective lamp

WARNING:
Before pulling out the lamp module, switch off the projector and unplug the mains lead first!
For lamp replacement let the module cool down before touching the lamp and the surrounding area. Do not place the hot lampmodule on heat sensitive surfaces.
Glass may shatter. Wear gloves. Keep glass covered.

Do not touch the small bulb or the mirror surface! If you accidentally get finger prints on them, remove marks with a soft cloth moistened with rubbing alcohol.

Replacement of a defective lamp is very easy with your EKTAPRO Slide Projector:

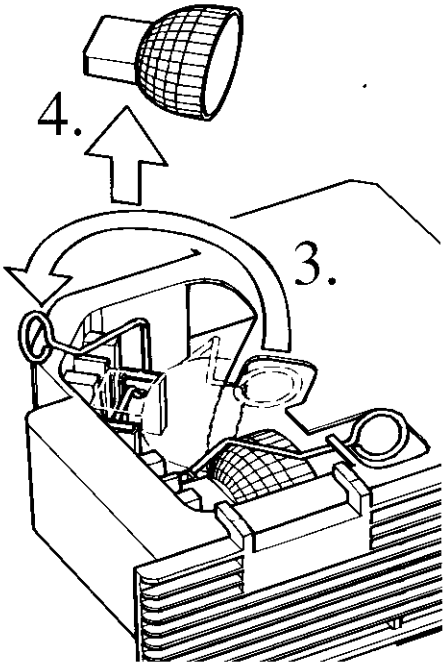


1. Press down and hold down the lamp module release (28) and...

2. ... pull out the lamp module (20).

• Push the lamp ejector lever down so that it clears the retaining clip.

Note:
For your projection requirements you have a choice of 3 lamps with different brightness and lamp life (see Accessories page 33).



3. Push the ejector lever completely to the side.
The defective lamp will come free of it's holder.

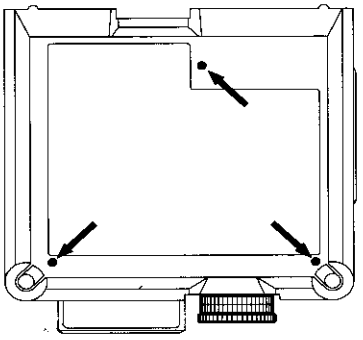
4. Remove the defective lamp and insert the new lamp.

• Push the ejector lever back to the right and press down until it locks into its holding.

• Push the lamp module back into the projector until it locks.

Fastening or mounting the projector

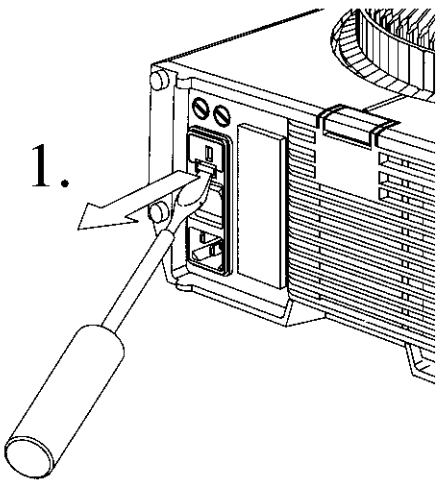
To reduce vibration or for security you will find fixing holes suitable for inserts (M5) in the baseplate of the projector (see figure). For further questions please contact Kodak.



Replacement of fuses

WARNING:
Always switch off the projector and unplug the mains lead before replacing a fuse!
Avoid the risk of fire, replace only with a fuse of same type and rating!

The electric circuits in your projector are protected by **three** fuses which you can replace yourself. The casing need not, therefore, be opened.



Replacement of primary circuit fuses

1. Pull out the fuse link compartment (31). Do not change the position of the fuse holder when reinserting into the projector (see also page 22).

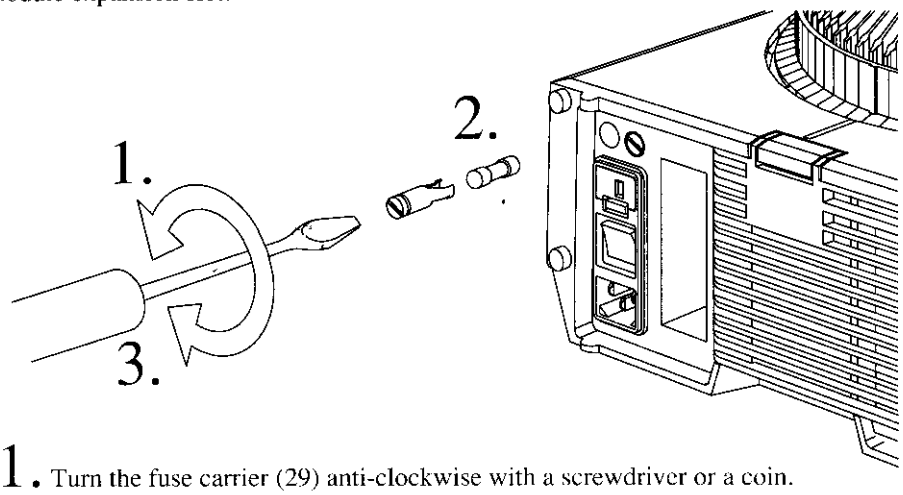
- Replace the defective fuse (33) (technical data, page 35).

- Push the fuse link compartment back into the projector.

Replacement of secondary circuit fuses

Please note:
These fuses are different! See technical data, page 35.

Two secondary fuses protect the projector against damage caused from too higher current drawn by external equipment connected to the projector's remote socket or to the module expansion slot.



1. Turn the fuse carrier (29) anti-clockwise with a screwdriver or a coin.
2. Replace the defective fuse. (Technical data, page 35).
3. Re-screw the carrier clockwise into position.

Maintenance and waranty

Reliability and sturdiness are important features of your EKTAPRO Slide Projector.

The projector should be periodically serviced as needed to prolong its life. Dirt and dust can have adverse effects on the lubricants used in the projector and thus can cause malfunctions. With the help of the built in micro-processor your Kodak service center can make a fast and reliable diagnosis of the projector.

Defective or worn parts can be detected and replaced or repaired. We recommend routine maintenance approximately every 1500 hours of operation or three years whichever comes first.

Where the projector is used in very dusty locations (e.g. exhibitions) more frequent servicing will be needed.

This EKTAPRO Slide Projector is **warranted** by Kodak to function properly for **three years** from the date of purchase as long as the projector was maintenanced routinely.

Cleaning the projector

WARNING:
For safety, always turn the machine off, unplug the mains lead and allow the projector to cool down before cleaning.

Housing:
Wipe the housing with a soft, cotton cloth and use a cleaner designed for plastic materials. Do not use solvents or spirit based cleaners.

Optics:
Do not touch optical surfaces!
Clean the lens with a soft lintfree cloth or with special lens tissues.
Never wipe over a dry surface!
Use a special lens cleaner (available from photographic dealers) or add moisture by breathing over the parts to be cleaned.

Possible problems during operation

Problem	Possible reasons	Help
After switching on, projector is not operable. No defect is indicated by the red LED.	Fuse (primary or secondary) blown.	Check fuse and possibly replace it. For UK users: Check 13 A plug fuse also.
Red LED is flashing, and all functions are blocked (after switching-on or during operation).	Projector drive system failure (tray transportation, slide lift): 1. Jammed slide in the slide gate. 2. Slide tray base plate not in the zero position. 3. Slide tray base plate bent. 4.Tray setting switch is not set correctly.	1. Switch off projector; lift off slide tray; remove slide from the slide gate; rotate the base plate until it locks in position; replace the tray and switch on the projector. 2.Switch off projector; lift off slide tray, rotate the base plate until it locks in position; replace tray and switch on the projector. 3.Use a new slide tray. 4.Switch off projector; lift off slide tray, rotate the base plate until it locks in position; set tray setting switch to correct position; replace tray and switch on the projector.
Image can't be focused by focus buttons.	1. Lens mount housing was not set to its default position. 2. Slide is distorted 3. Slide mount is defect.	1. Press focus buttons to move lens mount housing to its default setting. Focus the image as indicated in the manual. 2.Use glass mounted slides. 3.Replace slide mount.
The tray cannot be fit on the tray transport ring	Tray transport ring not in zero position.	- Hold slide change buttons depressed till tray stops in zero-position or - switch projector off and then on again.
The tray cannot be moved.	Tray has not been placed correctly on the transport ring.	Lift off the tray; switch projector on and then off again and then replace tray.
Slides are one-sided illuminated.	Condensor out of position.	Switch off the projector; pull out the lamp module and let it cool down; check that the condensor is correctly seated and push back into position if necessary.
Fan runs but lamp is switched off.	1. Lamp failure 2. Lamp module is not properly fixed.	1. Refer to page 32 2. Refer to page 32
Even if autofocus is switched on, the image is not in focus.	1. Lens mount housing was not set to its default position. 2. Slide is distorted. 3. Slide mount is defective.	1. Switch autofocus on and then off again. Focus the image as indicated in the manual (s. p. 24). 2.Use glass mounted slides. 3.Replace slide mount.
After switching on the EKTAPRO 9000 Slide Projector the tray is permanently transported from the 0-position to the 1-position and vice versa.	Timer and the switch for slide tray zeroing is switched on.	Switch off timer and/or switch for slide tray zeroing.

Note: *If none of the faults listed above caused the problem, please contact your* ***KODAK*** *audiovisual products dealer.*

Accessories

• **KODAK EKTAPRO Projection Lenses**
(lens summary, page 69)

• **KODAK EKTAPRO 80 Slide Tray** with transparent cover.
European CAT No. 712 8580
Trays are available for holding 80 slides.

• **KODAK CAROUSEL TRANSVIEW 140 Slide Tray**
European CAT No. 184 0768 (not widely available in Europe).

• **KODAK EKTAPRO Cable Remote** (4 m)
European CAT No. 712 1080
Control of slide change, focus and standby.

• **KODAK EKTAPRO Remote Extension Cable** / 8 m
European CAT No. 712 5925
Using the EKTAPRO Cable Remote: Up to three of these cables can be joined together giving a possible operation length of up to 28m.

Using the EKTAPRO IR Remote Receiver RA: The receiver can be installed up to 8m away from your projector with this cable.

• **KODAK EKTAPRO IR Remote System RA**
European CAT No. 712 1072
The remote control consists of a transmitter and a receiver. The receiver has been constructed so that it can fit directly into the remote control socket (25).
Furthermore, you can choose between two channels which enable use of two IR remote controls to control two different projectors in one room. The receiver does not need batteries as it receives electricity through the 8-pin remote control socket (25), from the projector.
With this remote system, you can control the functions standby, slide change and focus; or select whatever slide required via the keypad. The keypad has a sliding cover for storage when the random-access feature is not needed.

• **KODAK EKTAPRO IR Remote System RA/LP**
European CAT No. 712 1064
This remote, in addition to above features, has a built-in laser pointer with an illuminous red point for emphasizing important picture content on the screen.

• **KODAK EKTAPRO 12/7-Pin Module**
European CAT No. 712 5875
• **KODAK EKTAPRO 12/7-Pin Adapter Cable**
European CAT No. 712 5883
EKTAPRO 7000 and 9000 Slide Projectors can be connected to the accessories designed for the KODAK CAROUSEL S-AV and EKTAGRAPHIC Projectors (12-pin and 7-pin standard) via this module and the adapter cable. Existing accessories can, therefore, still be used on your ETKAPRO Projector.

• **KODAK EKTAPRO Dual Lamp Module**
European CAT No. 712 5941
• **KODAK EKTAPRO Single Lamp Module**
European CAT No. 712 5958

• **KODAK EKTAPRO IR Remote Receiver RA**
European CAT No. 712 8608
This receiver is necessary for operating another projector in parallel via the EKTAPRO IR remote controls.

• **Projection Lamps**
There are three different projection lamps for varying projection conditions available for your EKTAPRO Slide Projector:
EXR 82V/35h 300W European CAT No. 145 2259
Brightness: 100% (standard value)
FHS 82V/70h 300W European CAT No. 147 7678
Brightness: 80%
EXY 82V/200h 250W European CAT No. 145 2143
Brightness: 60%

• **KODAK EKTAPRO Carrying Case**
European CAT No. 712 5933
Hard case for projector, lens, tray and remote control transportation.

• **KODAK EKTAPRO Twin Socket Adapter**
European CAT No. 712 5909
This adapter allows linkage of an additional projector in parallel and an EKTAPRO Cable Remote. The adapter will fit into the remote control socket.

• **KODAK EKTAPRO Twin Socket Connecting Cable / 2 m**
European CAT No. 712 5917
To connect an additional EKTAPRO Slide Projector to the Twin Socket Adapter for a projection in parallel.

Technical Data

Mechanical System

Projector Measurements (see also page 68):
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

Slide Formats:
24 x 36 mm

Slide Trays:
KODAK EKTAPRO 80 Slide Tray for holding 80 slides with a maximum slide mount thickness of 3.2 mm.
KODAK CAROUSEL TRANSVIEW 140 Slide Tray for holding 140 slides with a maximum slide mount thickness of 1.2 mm.

Slide Gate:
Gravity-feed slide change with register-gate pressure levers in two planes to ensure good slide alignment.

Lens Mount:
Universal lens mount for both spiral- and rack-mounted lenses (such as KODAK EKTAPRO Projection Lenses).

Height Setting:
Height setting to a maximum of 10° via two turnable feet.

Leveling:
The projector may be operated at an angle of plus or minus 30° from the horizontal along the projector axis.
Note: *Tilting the projector side ways will adversely affect the lamp lifetime!*

Housing:
Sturdy, fibre-glass reinforced housing (LEXAN).
All parts are marked and therefore fully recycleable.
All important structural elements for the optical equipment such as slide gate, lamp module and base for the lens mount housing are in die-cast zinc assemblies.

Drive:
1 stepper motor for tray motion
1 stepper motor for slide lift and tray release mechanism
1 DC motor for focus
1 DC motor for fan cooling
1 DC motor for the mirror (automatic lamp changer)
1 rotary solenoid for the shutter

Noise Development:
approx. 57dB (A)

Illumination

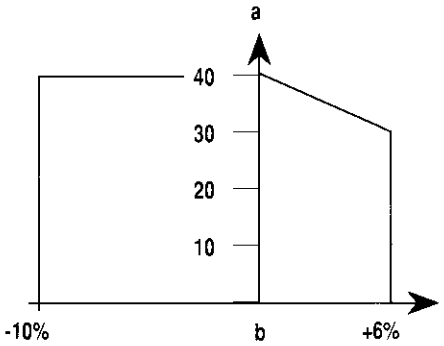
Modular automatic lamp change system with two built-in 82V/35h/300W halogen lamps with integrated cold light reflecting mirror. In case of lamp failure the system automatically switches over to the second lamp. No adjustment necessary.
You can pull out the entire module out of the projector to replace a defective lamp.

Time for automatic lamp change:
<0,3sec
LED indicators showing defective lamps
Choice of standard or economy setting for projection lamp.

Projection Lamps
(available as accessories):
EXR 82V/35h/300W
Brightness **100%**
FHS 82V/70h 300W
Brightness 80%
EXY 82V/200h 250W
Brightness 60%

Lamp economy switch
Reduces the output of the lamp to approx. 75% of its normal brightness.

Temperature range for safe operation
The operating temperature range of the projector depends on the ambient temperature (0° C to +40° C) and the voltage (see illustration).



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

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

Electrical System

Power Voltage: AC ONLY!
Different power voltages are adjustable via the removeable fuse link.
(120, 220, 230, 240V)

Frequency:
50/60Hz

Performance:
approximately 380 W

Fuses:
Primary circuit:
1 x T 2A H/250V for 220, 230 and 240V or
1 x 4 A slow blow/250V for 120V
Secondary circuit:
For 10 V:
1 x T 1.25 A H/250V (5 x 20 mm)
(For USA and Canada: 1 x 1.25 A slow blow/250V)
For 24 V:
1 x T 2.0 A H/250V (5 x 20 mm)
(For USA and Canada: 1 x T 2.0 A slow blow/250V)

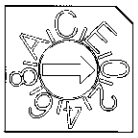
Supply Voltage for External Units:
Provision of 12V/50 mA (DC) direct voltage on the 8-pin remote control socket.
Provision of 24V/750 mA direct voltage or 34V/750 mA (AC) alternating voltage on the slot for external control modules.

Control system

External:
P-Bus-In:
9-pin Sub-D female connector (V.24/V.28 standard interface)
P-Bus-Out:
9-pin Sub D male connector (V.24/V.28 standard interface).
Slot for modules (with integrated Interface a 2-wire-Bus from PHILIPS with a maximum data transmission rate of 100kbits/s)

8-pin remote socket (MiniDIN)

ADDRESS Switch (EKTAPRO 7000 and 9000 Slide Projectors):
Rotary switch to set projector address 1-16 (hex.-code 0-9 and A-H).



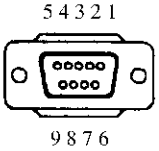
Slide Change Time:
0.8 sec (independent of mains voltage and frequency)

Slide Access Times:
<3 sec for the longest search run.

Connectors and Interfaces

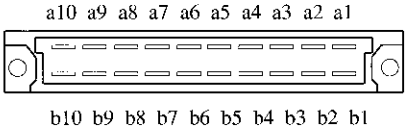
P-Bus-In and P-Bus-Out
The following pin connections are used for data transmission:

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

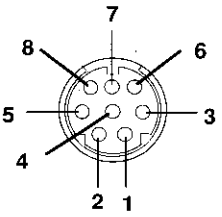


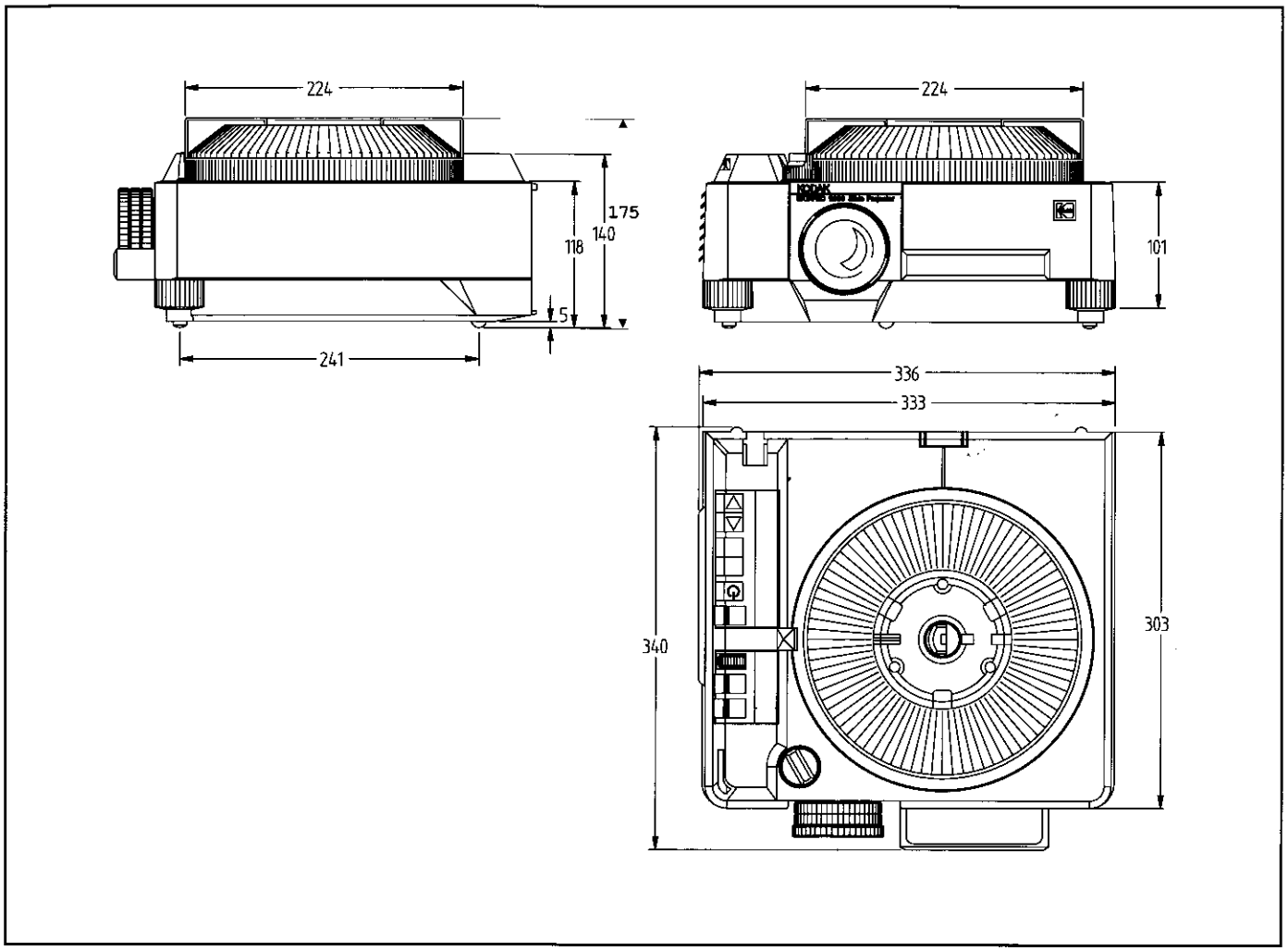
Slot for Module:

Pin a1: SDA	Pin b1: SCL
Pin a2: I^2C_INT	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



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



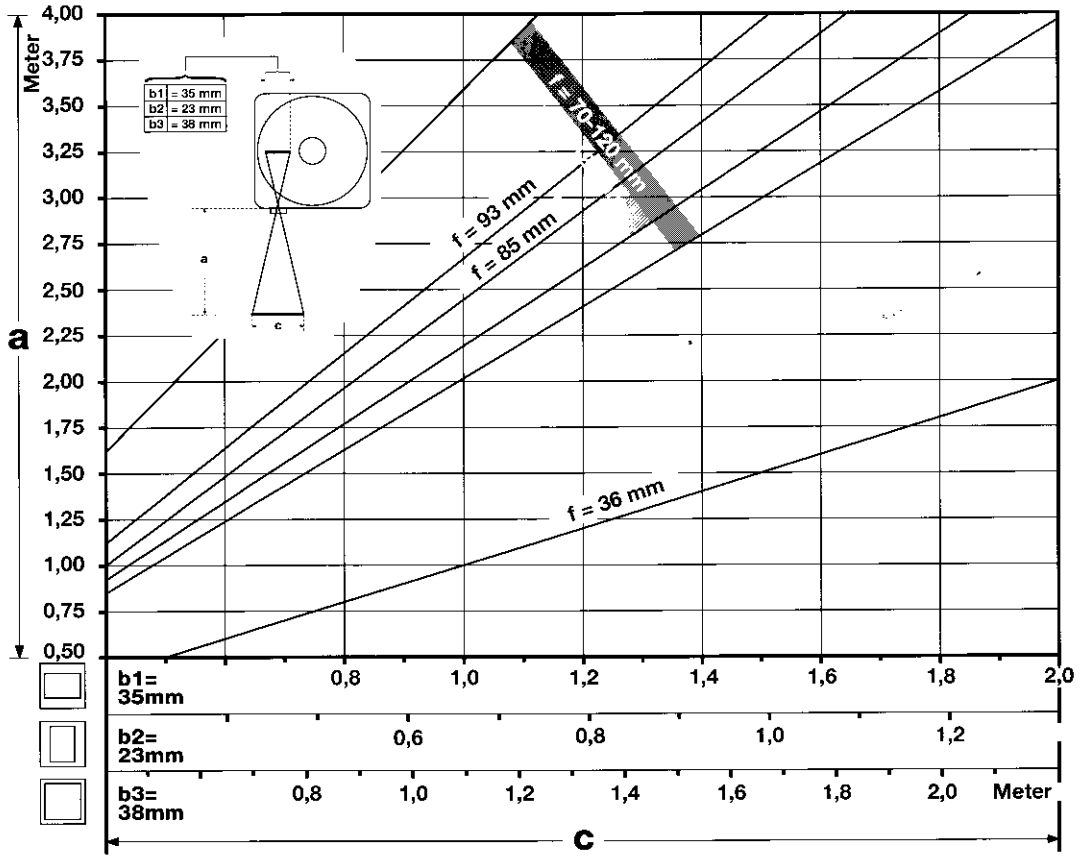

224
175
140
118
5
241
224
101
336
333
340
303

KODAK EKTAPRO Objektive
KODAK EKTAPRO Projection Lenses

Objectifs KODAK EKTAPRO
Objetivos KODAK EKTAPRO

KODAK EKTAPRO Projection FF Lenses		**75 - 120 mm Zoom**	**100 - 150 mm Zoom**	**100 - 200 mm Zoom**	**85 mm**	**100 mm**	**180 mm**
Vergütung Coating	Couche Revestimiento	C	C	C	C	C	C
Länge Length	Longueur Longitud	117 mm	153 mm	185 mm	125 mm	125 mm	190 mm
Front Ø Fronttube-Ø	Tube Ø devant Tubo delantero Ø	69 mm	65 mm	73 mm	73 mm	73 mm	63 mm
Gewicht Weight	Poids Peso	210 g	310 g	450 g	108 g	108 g	205 g
Lichtstärke Aperture	Overture Abertura	f/3.5	f/3.5	f/3.5	f/2.8	f/2.8	f/3.5
Anzahl Linsen Elements	Elements Número de lentes	7	7	9	3	3	3
Bildwinkel Field angle	Champ Angulo de proyección	16° - 10°	12° - 8°	24°-12°	27°	23°	13°
KODAK EKTAPRO SELECT Projection FF Lenses		**75 - 120 mm Zoom**	**87 - 200 mm Zoom**	**200 - 300 mm Zoom**	**36 mm** (35,4 ± 0.3)	**93 mm** (92.8 ± 0.5)	**150 mm** (149.8 ± 0.7)
Vergütung Coating	Couche Revestimiento	MC	MC	MC	MC	MC	MC
Länge Length	Longueur Longitud	150 mm	177 mm	226 mm	125 mm	125 mm	146 mm
Front Ø Fronttube-Ø	Tube Ø devant Tubo delantero Ø	61mm	70 mm	87,5 mm	78 mm	78 mm	73 mm
Gewicht Weight	Poids Peso	580 g	700 g	910 g	457 g	320 g	605 g
Lichtstärke Aperture	Overture Abertura	f/2.8	f/3.5	f/3.0	f/2.8	f/2.5	f/2.8
Anzahl Linsen Elements	Elements Número de lentes	8	9	9	7	5	5
Bildwinkel Field angle	Champ Angulo de proyección	32°-20°	28° - 12°	12°-8°	62°	25°	15°

Projektionsbildweiten • Dimensions des vues projétées
Projected picture sizes • Anchura de la imagen proyectada



Projektionsbildweiten • Dimensions des vues projétées
Projected picture sizes • Anchura de la imagen proyectada