Rollei
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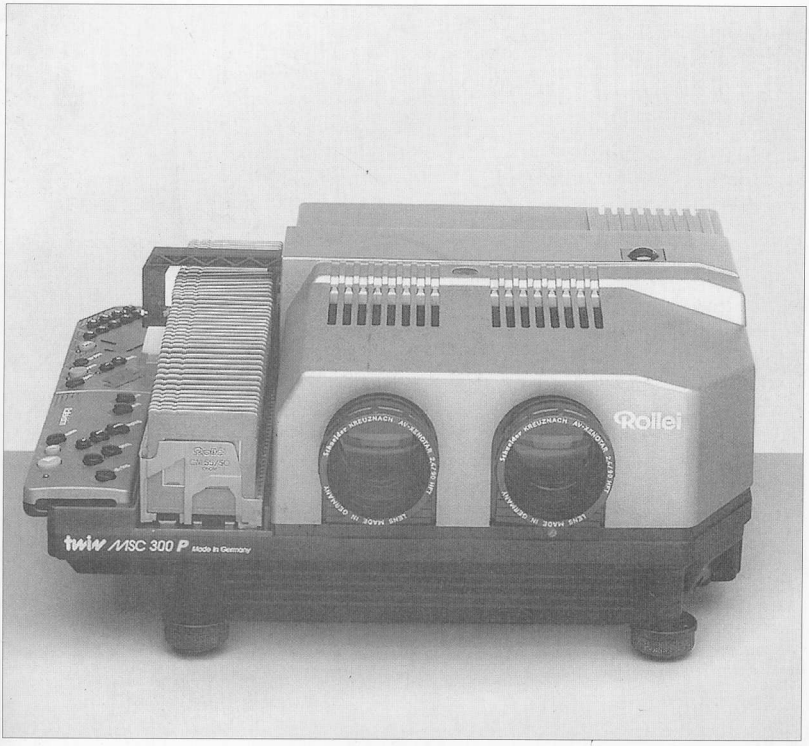
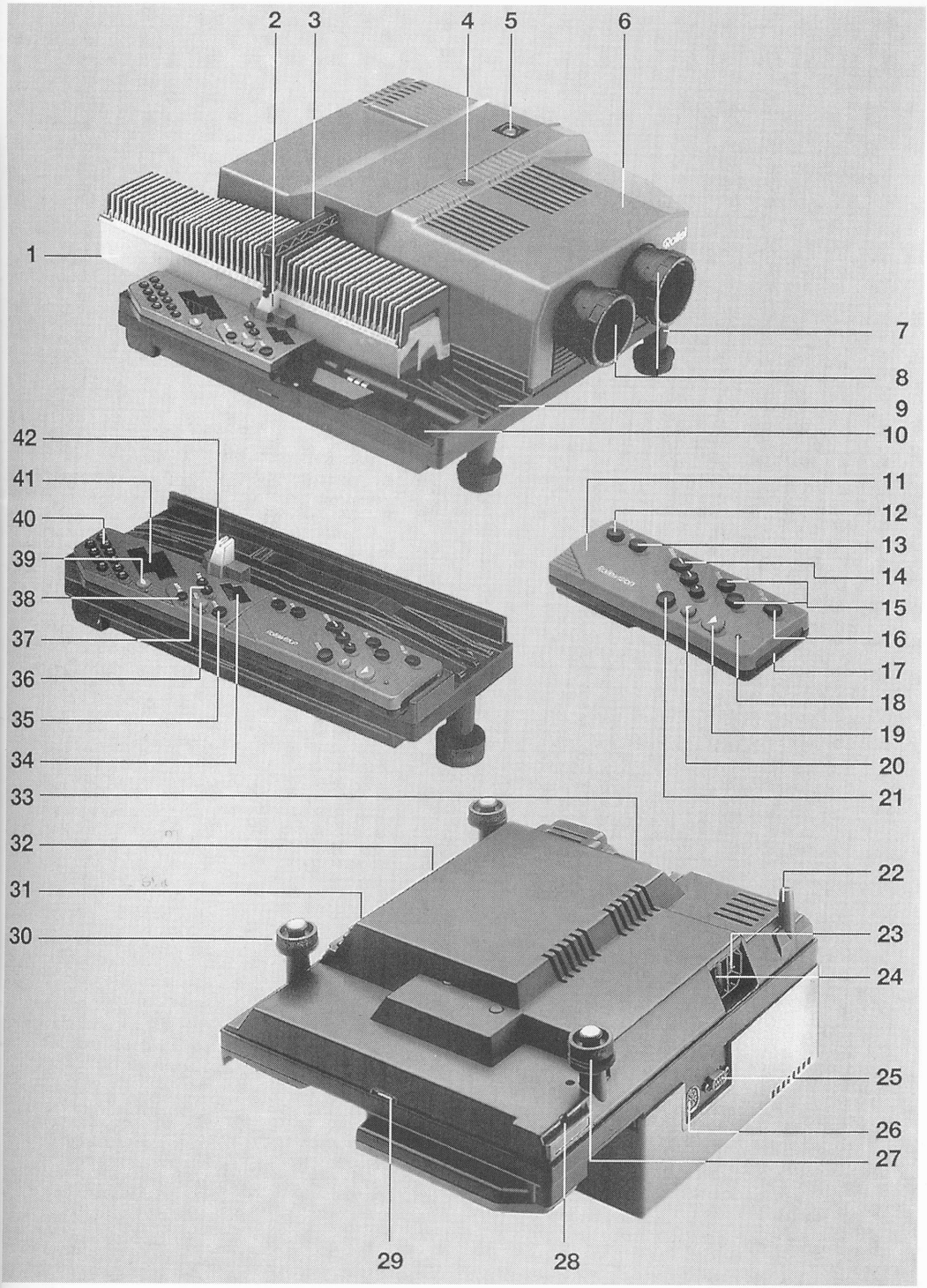
Rolleivision twin MSC 300 P

User's manual



Contents



Components and controls

Components and controls of the Rolleivision twin MSC 300 P

1 Slide magazine
2 Feed heel on slide changer; adjustable for different magazine types
3 Slide changer arm
4 Retaining screw of cover
5 IR-receiver sensor
6 Cover
7 Left support foot with height adjustment
8 Interchangeable lenses
9 Magazine track
10 Compartment for remote control unit
11 Infrared remote control
12 "End" button
13 "Timer" button
14 "Dissolve" duration buttons
15 Manual focusing and magazine transport buttons
16 "Stop/go" button
17 Transmitter diodes
18 Red LED to show signal input, also battery check
19 Green button for forward slide change
20 Red button for reverse slide change
21 "Memo" button
22 Rear left support foot
23 Socket for mains supply lead
24 Mains switch
25 PC control socket
26 Socket for magnetic tape control/remote control lead
27 Rear right support foot, adjustable
28 Compartment for memory module
29 Emergency release lever to disengage magazine drive
30 Front right support foot, adjustable
31 Dial for adjusting lateral image superimposition
32 Screw for adjusting horizontal image superimposition
33 Lamp unit, replaceable
34 Mode display
35 Mode selection button
36 Red "Module" button with LED function
37 "+/-" buttons for timer with LED function
38 "Autofocus off" button with LED function
39 Red "Enter" button with LED function
40 Numeric keypad for programming on the projector
41 Display for screen time/dissolve duration, slide/program No., special function and projector parameter
42 Interval lighting
43[1]) Battery connector
44 Module
45 Projection lamps, 24 V/150 W
46 Fuse (MT 2 A/250 V), already fitted, for magazine transport system and electronics
47/48 Fuse (MT 8 A/250 V), already fitted, for lamps
49 Lamp unit release

[1]) Items 43 to 49 appear only in detail illustrations.

Introduction

The Rolleivision twin MSC 300 P is an opto-electronic high-precision system with all of the features required for fully automatic dissolve projection.

Microprocessor technology controls image sharpness, magazine transport, slide changing, and projection and dissolve times. The infrared remote control unit with built-in timer and dissolve rate control delivers the very latest in user convenience. Intelligently designed displays keep you informed of functions and status. The range of interchangeable lenses provides focal lengths for most projection distances.

The projection programming facilities are particularly ingenious. They enable you to put together creative slide presentations with striking dissolves, which can be run fully automatically. The Rolleivision twin MSC 300 P takes standard European, LKM and CS slide magazines, as well as Rollei's own interconnectable CM 55/50 magazine. You don't need any special magazines which involve rearranging regular slide magazines.

"Black-outs" and abrupt image changes are a thing of the past too. The dissolve system opens up a whole new world of opportunities for designing truly creative slide shows.

We have produced this detailed instruction manual to help you to get the most out of this unique projection system. An introduction to the components and controls is followed with all of the information you need to get started. The next section contains a detailed description of the operation and features of the projector. The last section of the manual contains practical hints and notes, together with a troubleshooting guide to help you identify and fix operating errors and minor problems. Projection distances and screen sizes are conveniently listed in a table.

Whether you'll be using the projector for professional purposes or for personal pleasures, we wish you every success – and a lot of fun!

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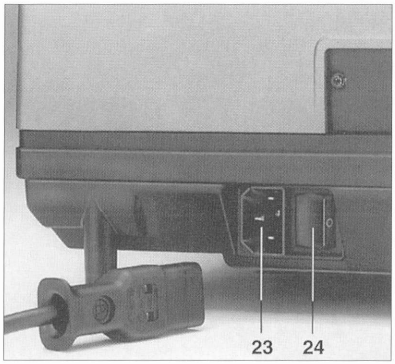
Getting started

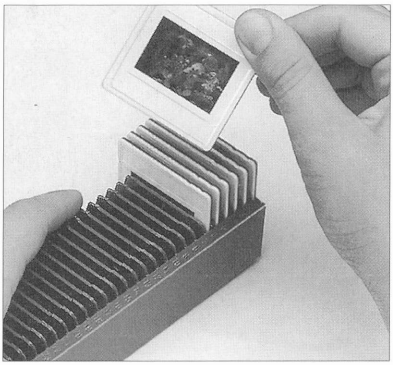
This section is intended for the user in a hurry! It gives you everything you need to know to start using the projector immediately.



Connecting the mains lead
The projector is designed for a mains voltage of 220–240 V and has an automatic frequency converter.

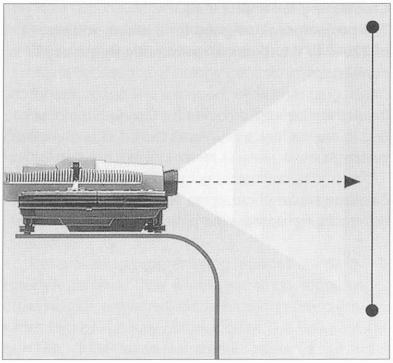
Insert the mains lead socket 23. Connect the other end to the mains supply. Press the "–" side of mains switch 24.

Caution: Never obstruct the ventilation slits or air outlets. Never operate the projector without its cover!



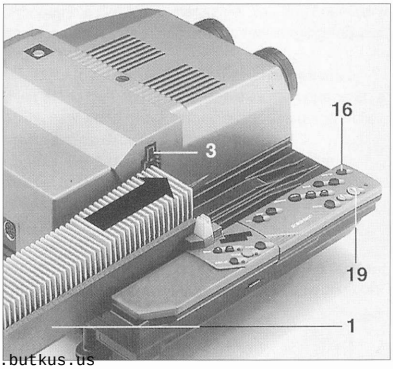
Filling the magazine
(standard or Rollei CM 55/50 magazine)
Use uniform slide mounts, preferably all plastic or all cardboard mounts. Slide frames made by gepe are highly recommended. *Sharp-edged metal mounts or glass-mounted transparencies are not suitable!* Insert the slides upside down, with the emulsion side facing the screen, in the required sequence, starting with magazine compartment No. 1.

Note: All the steps described below refer to projection with standard magazines (German standard DIN 108) or the Rollei CM 55/50 magazine supplied with the projector.



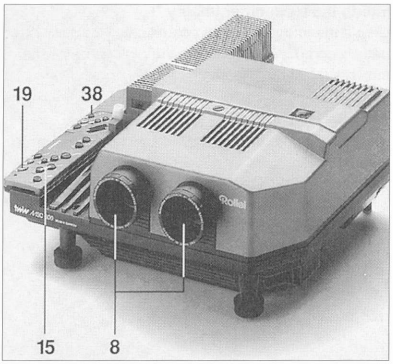
Fitting the lenses
Screw in both lenses. Do not touch the glass surfaces.

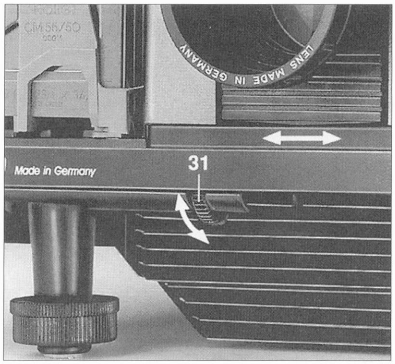
Setting up the projector and screen
Set up the screen parallel to the front of the projector. Make sure that the lenses are at the same height as the centre of the screen.
Recommended screen size: 1.5 x 1.5 m.
Projection distance (with 85 or 90 mm focal length): from 1.5 metres → see pages 44/45 for table.



Inserting the standard magazine
Check the position of the feed heel on the slide changer arm. Press the "Stop/go" button 16, and then the green button 19 to move out the slide changer arm. Turn the knurled screw to bring the feed heel into the horizontal position. Press the green button 19 again to move back the changer arm.

Push in the magazine 1, from the rear, to stop – with the number strip facing outwards – and press the green button 19. The slide changer 3 feeds the first pair of slides into the projector. The projection lamps come on automatically and slide No. 1 appears on the screen.





Focusing

Focus the first slide from the projection first lens 8. Press the green button 19 and focus the second slide from the other lens. All subsequent slides will now be focused automatically, but the "Focus" buttons 15 can still be used for manual override.

For manual focusing press the "Autofocus off" button 38; the red LED then comes on. Focus each slide using the focusing buttons 15.

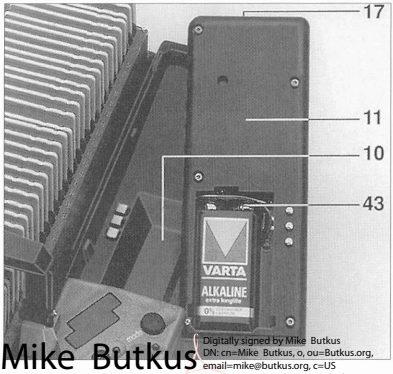
Adjusting the image on the screen

Adjust the image on the screen. Turn the support feet to adjust the height of the screen image and the horizontal position. If the image does not properly fit the sides of the screen, make sure that the projector and the screen are parallel.

Adjusting superimposition on the screen

The screen must be at least 1.5 metres away from the projector. Press the green button 19, watch the dissolve and check the lateral superimposition of the images. The best time to make this adjustment is during the slow dissolve or after freezing the dissolve by pressing the "Stop/go"–button 16. When making this adjustment, it is preferable to use slides in matching mounts.

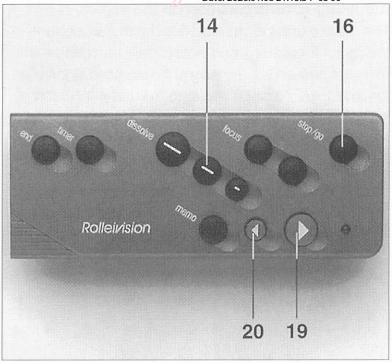
Turn the adjusting dial 31 to make any lateral adjustment needed. Horizontal superimposition is factory–set but can be adjusted if necessary (see page 16).



Fitting the transmitter battery *)

Lift out the integral remote control unit 11. Push the battery compartment cover in the direction of the arrow. A 9 V battery is needed for the transmitter. Press the battery connector 43 onto the battery terminals. Insert the battery and replace the cover, if you are going to use the remote control, make sure that the transmitter diodes 17 point towards the receiver sensor. You need a minimum distance of 1 metre between the transmitter and the receiver. To refit the hand–held remote control unit in the projector, push it back into compartment 10.

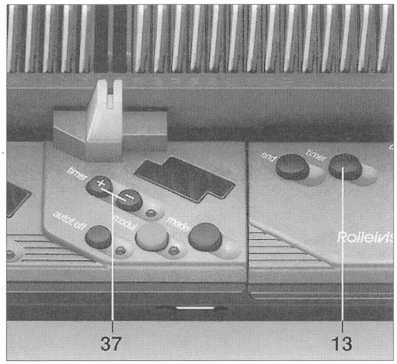
If you do not have a battery, you can operate the projector at any time with the remote control in position in this compartment.



Setting the dissolve duration

The default dissolve duration of the projector is 2 seconds. For different dissolve durations, press one of the three "Dissolve" buttons 14. You can select dissolve durations of 0.1, 3 or 6 seconds. The selected length of the dissolve is indicated in display 41. With the "Stop/go" button 16, you can freeze the dissolve → see page 18.

The standard dissolve duration of 2 seconds is no longer available once the duration has been changed.



Slide changes

Forward: press the green button 19. Reverse: press the red button 20.

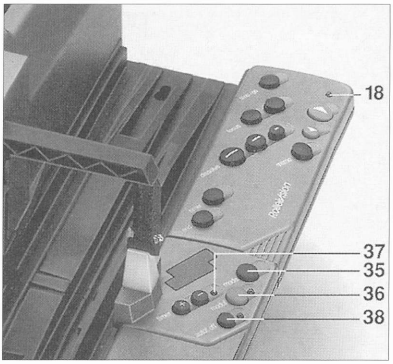
With the timer: Push in the magazine and activate the default screen time using the "Timer" button 13. You can alter this time using the "+/–" buttons 37. The default screen time is 8 seconds. When you press the "+" button it is changed to 12 seconds, and pressing the "–" button sets it to 4 seconds. If you press the "+" and "–" buttons at the same time you set the screen time back to 8 seconds.

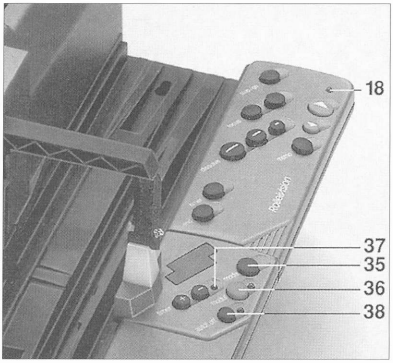
The screen time and the No. of the slide being projected are indicated in display 41.

The red "Timer" LED 37 blinks when you enter the screen time. Start the timer cycle by pressing the green button 19 for forward slide change. The "Timer" LED is now steady. The "Stop/go" button 16 can also be used to interrupt the timer cycle.

To switch off timer, press the "Timer" button 13.

*) Transmitter battery not included with projector.





Note the monitoring signals

The red LED 18 on the remote control unit lights up each time a command is input. The timer LED 37 signals the status of the timer-controlled automatic slide change:

Blinking LED = Screen time entered, or timer sequence or dissolve interrupted;

Steady LED = Timer running

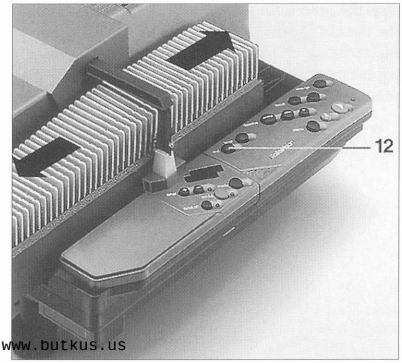
The LED next to the "Autofocus off" button 38 lights up to show that the autofocus system has been switched off.

The LED next to the "Module" button 36 signals operations in "Auto" and "Record" modes (→pages 21/22 of this manual).

The LED next to the "Enter" key 39 lights during programming inputs.

The LED display 34 indicates the operating modes. It displays "Manual" for standard operation (as described here). Use the "Mode" button 35 to select alternative modes (→ page 19 of this manual).

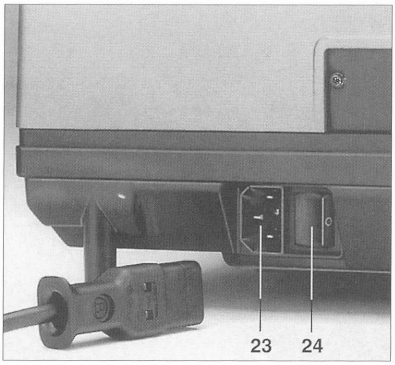
During standard operation, display 41 indicate slide No., dissolve duration and screen time (seconds countdown).



Removing the magazine

At the end of the magazine run: Remove it in the direction in which it has run.

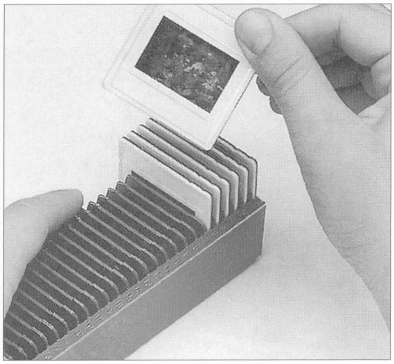
Before the end of the magazine run: Press the "End" button 12. The projector completes the last command input and the slide changer puts the slides back into their magazine compartments. The magazine automatically runs back to the starting point where it can be removed.

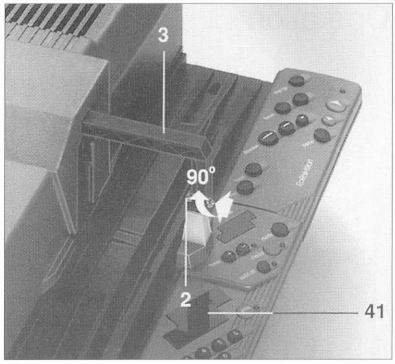


Connecting the mains lead
The projector has been designed for a 220 – 240 V mains voltage and has an automatic 50/60 Hz frequency converter.

Insert the mains lead in the projector power socket 23 and plug the other end into your AC mains supply. Press the "–" side of the mains switch 24. Only operate the projector from an AC power supply.

Caution: Never obstruct the ventilation slits or air outlets. Never operate the projector without its cover!





Filling the magazine

Standard Rollei CM 55/50 magazine

Preferably use slides in smooth plastic mounts with rounded corners, not thicker than 3.2 mm. These are perfectly safe for automatic operation. Cardboard-mounted slides can also be used. We recommend the use of gepe slide mounts. This manufacturer offers a comprehensive range of types and sizes. *Do not use bowed cardboard-mounted transparencies, metal frames or all-glass mounted slides with sharp edges or corners; these are liable to cause problems.* The best way to ensure optimum superimposition during dissolves is to use slides with the same types of mount.

Only use slide magazines made from an opaque material. The use of other types of material could result in operating faults.

Rollei CM 55/50 magazines are ideally suited to the Rolleivision twin MSC 300 P. These 50-slide magazines are easily coupled together before or during projection, and permit uninterrupted projection of a number of magazines in sequence. If you intend to project several magazines, we recommend the use of the magazine track extension (supplied as an accessory), which is easily attached to the projector.

Rollei CM 55/50 magazines can also be used with most other commercially available projectors.

The above illustration shows you how to fill the magazine. Position the magazine with the number strip on the right. Insert the slides in the desired order, beginning with magazine compartment No. 1. Make sure that the slides are upside down with the emulsion side facing the screen.

LKM magazine

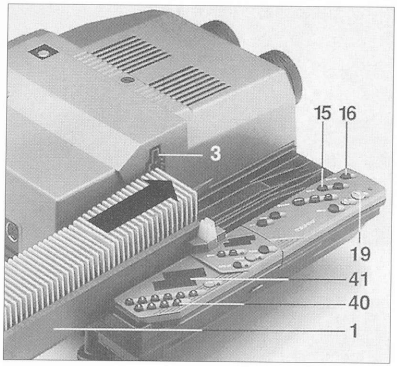
LKM magazines can be used for all slide mounts up to a thickness of 2 mm. To ensure optimum reliability, we recommend the use of slide mounts with a thickness of 1.5 – 2 mm if you're using an LKM magazine. Slide mounts thinner than 1.5 mm should only be used in the standard magazine. Even with this magazine, you will need to keep to the same kind of slide mount if you want to achieve optimum superimposition. Magazines designed to take 60 or 80 slides are available (but not in the Rollei range).

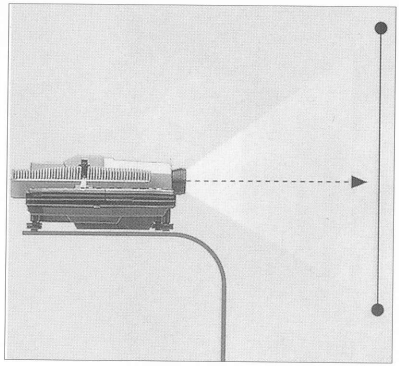
CS magazine

This magazine takes specially designed CS slide mounts with a shaped edge that engages into guide strips in the slide compartments. The magazine cannot be used with any other slide mounts. CS magazines for 40 or 100 slides are available (but not from Rollei).

Fitting the lenses

Screw both lenses into their mounts. Be careful not to leave any fingerprints on the lens surfaces.





Inserting the magazine

When you are using a standard magazine or a Rollei CM 55/50 magazine, you must always put the orange feed heel 2 in the horizontal position. To do this, switch on the projector, press the "Stop/go" button 16 and then the green forward-transport button. This extends the slide changer 3. Press in the tiny knurled screw on the slide changer, turn it 90° and let it spring back. Press the green forward-transport button 19. The slide changer returns to its original position.

If you are using LKM or CS magazines, turn the horizontal slide changer heel 2 to the vertical position.

Push the loaded magazine into the track (in the direction of the screen) as far as it will go. The number strip must be on the outside, except with CS magazines when it should face inwards.

Press the green forward-transport button 19. The slide changer 3 now loads the first and second slides into the projector. The lamp comes on automatically and projection begins.

Selecting a specific slide

If you want to start your presentation with any slide other than the first one in the magazine, you can advance the magazine to the slide you want. Press the front "Focus" button 15 until the magazine is in the required position. You can advance the magazine compartment by compartment by releasing and briefly pressing this button. If you go past the slide you want, run the magazine back in the same way with the rear "Focus" button 15. This special function only works immediately after the insertion of the magazine until the first slide change command (given by pressing the forward-transport button 19 or from a magnetic tape control pulse).

Direct slide selection

Another way of advancing directly to a specific slide is to enter the slide compartment No. on the numeric keypad 40.

After input, which is indicated in display 41, press the forward-transport button 19. Projection starts with the selected slide.

You can project any sequence of slides by entering the slide (compartment) numbers via the numeric keypad during projection. On the next forward slide change command, the selected slide dissolves into and replaces the slide already ready for screening.

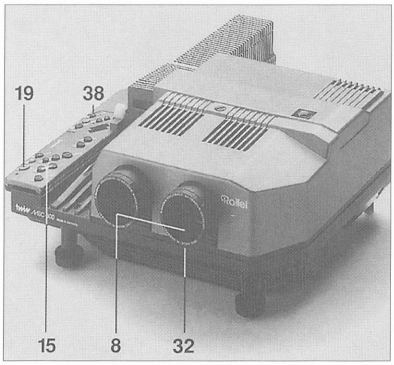
Setting up the projector and screen

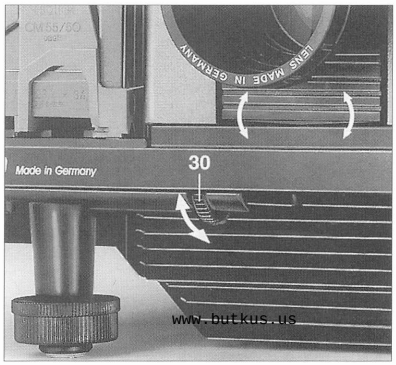
Set up the projector on a firm, level surface, preferably on a solid projection table. Make sure that the front of the projector is parallel with the screen and the lenses are at roughly the same height as the centre of the screen. Allow adequate space for the cables and for magazine clearance at the front and back. Do not obstruct the ventilation slits.

Aligning the image

Line up the projected image with the centre of the screen. Turn the support feet to adjust the height and horizontal position of the image. If you need to align the image sideways, move the projector or the screen until they are parallel.

If there are major differences in level between the projector and screen, you will have to raise the projector or the projection table, keeping them perfectly parallel, otherwise keystone distortion of the image will occur. Make sure you do not tilt the projector too much. e.g. by raising the front edge of the projector beyond the adjustment range of the support feet.





Focusing

Turn the lens 8 projecting the first slide and get the image on the screen in focus. Press the green button 19 and focus the second image from the second lens. This manual adjustment is only made at the beginning of a show. After that the AF system automatically focuses each lens for each slide.

Repeat the initial manual adjustment after changing the lenses or the projection distance, or when you alter the focal length of Vario zoom lenses.

If the magazine is loaded with glassless slide mounts, the heat may cause the transparencies to bow. If this happens the AF system automatically refocuses the image.

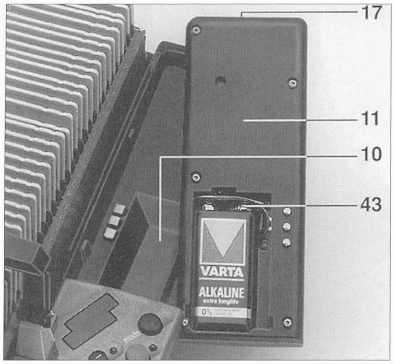
The two "Focus" buttons, that are used for manual operation, remain active even with the AF system switched on. Pressing one of these buttons overrides the autofocus action. Exceptions are during sandwich projection as well as fade-in and freeze phases, where manual focusing is switched off automatically. The LED next to the button 38 blinks to indicate that the AF system is switched off for the slide currently being projected. AF is reactivated when button 38 is pressed again or the next slide change command is given. The LED will then go out.

To disengage the AF system completely, press the "Autofocus off" button 38. The LED will then come on.

Image superimposition

Press the green forward-transport button 19. Watch the dissolve and check that one image is completely on top of the other without any lateral displacement. Ideally you should make this adjustment during a long dissolve. Where possible, use matching slide mounts for this test. Adjust the superimposition by turning the adjusting dial 31. The projector must be at least 1.5 metres from the screen.

The projector is factory set for correct horizontal superimposition. However, if image levels do not quite match although you are using the same slide mounts, take a suitable screwdriver and turn the adjusting screw 32 until the images are level with each other.

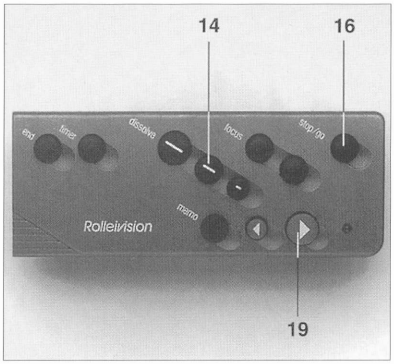


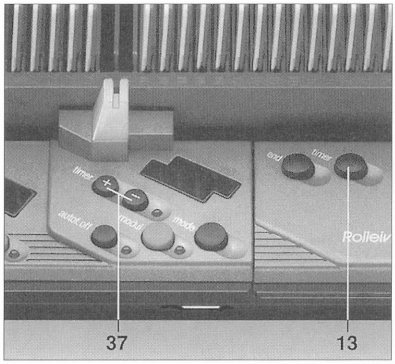
Remote control
If you want to control your show directly from the projector, leave the IR control unit 11 inserted in the projector. If you prefer to use the remote control facility, lift the unit from its compartment. Open the hinged cover, take out the battery connector 43 and attach it to a 9 V battery *). Insert the battery in the compartment and close the cover. Point the transmitting diodes at the receiver sensor on the projector. To use the remote control, there needs to be at least 1 metre between the transmitter and the receiver. After the show replace the remote control unit (with the transmitting diodes facing the rear) in the compartment 10. Make sure you push it right in.

Caution: Do not expose the IR receiver sensor 5 to intense extraneous light (such as direct light from a lamp or bright sunlight) as this could prevent the unit from working properly.

Remove the IR control unit from its compartment if you connect a cable remote control to socket 26.

*) Not supplied with projector.





Setting the dissolve duration

The default dissolve time on the projector is 2 seconds, i.e. the projector is set to that time when you switch it on. If you want to alter the dissolve duration, press one of the three "Dissolve" buttons 14. Alternative dissolve durations are 0.1, 3 and 6 seconds. The display 41 indicates the duration entered. See page 30 on how to record other dissolve durations on the buttons. By pressing the "Stop/go" button 16, you can extend (freeze) the dissolve and restart it by pressing the button a second time. The standard dissolve time can now no longer be activated.

Slide changes

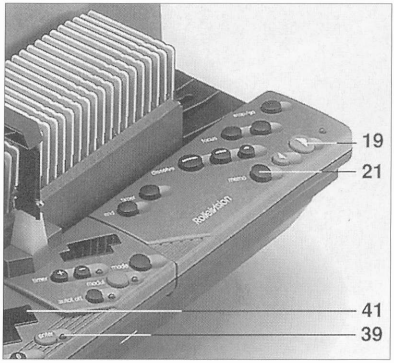
For a forward slide change, briefly press the green button ▷ once to show the next slide in the magazine.

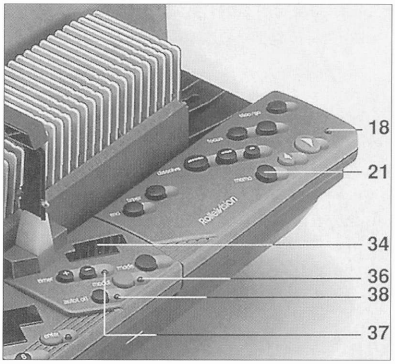
For a reverse slide change briefly press the red button ◁ each time to show a slide which you have already projected. Single slides can only be projected when the magazine is inserted. If you re-sort or temporarily remove slides from the magazine during a show, keep the two empty compartments free – that is where the projector must return the slides actually being projected!

Timer-controlled slide changes

Activate the automatic screen time by briefly pressing the Timer" button 13. Start the cycle by pressing the green forward-transport button 19.
Change the screen time as follows:
When you press the "Timer" button 13, the default screen time is 8 seconds. Press the "+" button to change the screen time to 12 seconds, and press the "–" button to set it to 4 seconds. If you press the "+" button and the "–" button at the same time, the timer is reset to 8 seconds. Press the "Timer" button 13 to switch off the timer. When you enter a screen time by one of the "+/–" buttons 37, the read timer LED blinks; it becomes steady once you initiate the cycle by pressing the green forward-transport button. The display 41 indicates the screen time entered as well as the No. of the projected slide.

At any time, you can interrupt automatic timing and advance the next slide manually by pressing the forward-transport button 19. The screen time of the new slide is again controlled by the timer. Press the red reverse-transport button 20 to clear the timer and load the previous slide back into the projector. To go back to automatic timing after such a reverse slide change, enter the timer setting again. The timer function only works with forward slide projection.





Selecting the memo function

With the "Memo" button 21 you can electronically flag up to any 16 slides in a magazine for repetition after the run. To do this, briefly press the "Memo" button each time a slide to be flagged appears on the screen. Once the magazine has completed its run, the projector automatically shows the first selected slide. Press the green button 19 each time to recall each of the flagged slides in turn.

You cannot recall the slides automatically using the timer. While the flagged slides are being projected, the LED panel 34 displays "Test".

Monitoring signals

The red LED 18 on the remote control unit lights up for each input command. The timer LED 37 signals the state of the timer-controlled automatic slide change:

Blinking LED = Screen time entered, or time sequence or dissolve interrupted, or the first slides are inserted and about to be faded in (ready for screening/standby position)

Steady LED = Timer in operation

The display 34 indicates the operating modes.

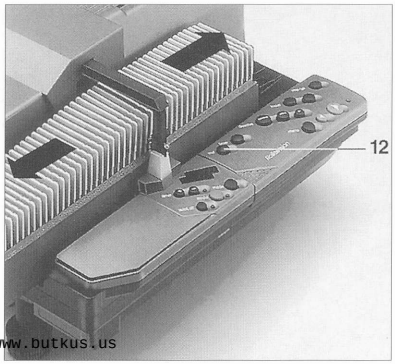
"Manual"= Standard operation
"Test"= Input commands executed automatically via the working memory
"Auto" = Automatic operation, controlled by the program stored in the module
"Record" = Recording mode. The program in the working memory can be saved to the module.

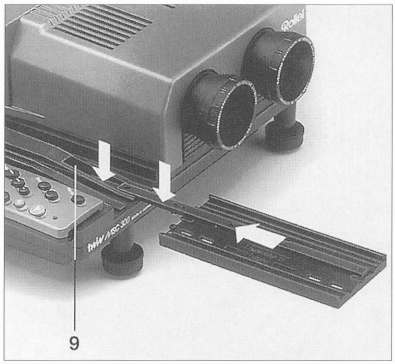
During standard operation, the LED display 41 indicates the slide No., dissolve duration and screen time. The timer cycle can be monitored via the countdown in seconds. In enter modes 1 and 2 (programmed operation), the display also indicates the program No. as well as the special function (SF) and projector parameter (PP) codes (→see page 30 of this manual).

The "Autofocus off" LED 38 lights up or blinks when the AF system is switched off.

In "Auto" mode and "Record" mode, the "Module" LED 36 indicates the execution of a command entered by pressing the "Module" button.

The "Enter" LED 39 indicates that the projector is ready for programming in enter modes 1 and 2 via the numeric keypad (→ see pages 22 and 30 of this manual).





Changing the magazine

When the magazine has completed its forward or reverse run, pull it out from the front or rear of the projector as the case may be. Insert the new magazine and continue the show by pressing the green forward-transport button.

To change a magazine before the end of its run, press the "End" button 12. The projector executes the last input command and the slide changer returns the slides actually in the projector to their magazine compartments. The magazine automatically runs back to its starting position and can then be removed. This procedure also clears all function commands.

Caution: When using different types of magazine (standard, LKM, CS) check that the feed heel is in the correct position.

Using Rollei CM 55/50 magazines

To ensure that the coupling and uncoupling of Rollei CM 55/50 magazines during projection is successful, observe the following points:

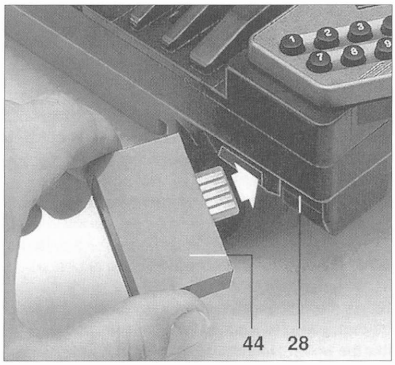
Push the fist magazine forward as far as it will go and start forward transport. Link up the second magazine not later than the projection of slide No. 45 of the first magazine. You can uncouple the first magazine after slide No. 6 of the second magazine and not later than slide No. 12. To uncouple the first magazine, slightly raise it and then lift it out. If the magazine track extension is fitted, you can uncouple the first magazine at a later stage.

Magazine track extensions fit into the specially machined holes in the magazine track 9 by means of integral studs.

Caution: Even with the magazine track extensions in place, never have more than two magazines on the track at any time.

The Rollei CM 55/50 can also be used on its own as a standard magazine on all projectors designed to take this type of magazine.

1. Programming basics



1.1 Storing a manually created slide show

Unnoticed by the user, the projector stores the data for each slide in its working memory during a manual slide show. It stores the slide (compartment) No., dissolve duration and slide screen time information that are entered under the same program step No. If you modify a dissolve duration by pressing one of the three "Dissolve" buttons, the new duration applies to the next dissolve. Recorded screen times (timer) always correspond to the period during which a slide remains on the screen, i.e. after the fade-in sequence and before the fade-out sequence.

During timer operation, it is possible to stop and resume the slide show via the "Stop/go" button. The projector will then store the resulting (longer) slide screen time. A dissolve sequence can likewise be stopped via the "Stop/go" button. However, this information is not retained by the projector.

All stored data will be lost if the projector is switched off.

1.2 Test mode

You can let a manually created slide show run through again automatically for test purposes. After completing your show, press the "Mode" button to switch to test mode. Start projection by pressing the green forward-transport button. You can stop and resume a dissolve or a screen time with the "Stop/go" button. The show can be terminated any time using the "End" button. The "Memo" button is activated in the same way as in manual mode.

Modifications in test mode

You may need to correct the dissolve duration or the screen time for a particular slide. This can be done by pressing the "Stop/go" button during projection in test mode. Then press the timer correction button or one of the three dissolve buttons to alter the previously stored screen time for the slide being projected or the dissolve phase from the current slide to the next slide. If, however, you wish to modify the dissolve duration for the slide you are viewing, you must press the red reverse-transport button prior to modification. The projector will not, however, accept continuous reverse slide change commands in the test mode. Continue projection via the green forward-transport button or the "Stop/go" button.

1.3 Modules

A slide show that has been stored in the projector's working memory can be saved to a removable memory chip or module 44 which is inserted into compartment 28 beneath the control panel. There are two types of module: type 100 takes about 100 slides and type 300 takes about 300 slides. Module capacity can, however, vary depending on the amount of information stored for each slide. You can read from or overwrite all modules as often as you like. During a reading operation, the entire module content is loaded into the projector's working memory; when writing to the module, the entire content (if possible) of the projector's memory is saved to the type 100 or type 300 module.

1.3.1 Saving to the module

When it saves a show to the module, the projector transfers all the stored data from its working memory to the module. To perform this operation, select the "Record" mode using the "Mode" button. This causes the LED next to the "Module" button to blink. Press the "Module" button. The word "Record" now blinks to warn you that any data already in the module will be deleted completely if you press the "Module" button again. After pressing the "Module" button a second time, the stored data are transferred to the module. During this phase, the LED stays on continuously and only goes out when the data are saved. The projector now auto-

matically switches back to "Test" mode. The slide show data are still available in the working memory of the projector.

If there is no module in the compartment, the LED continues to blink. The "Module" LED also continues to blink if module capacity is insufficient. However, as much as possible of the show will be saved. Exit "Record" mode via the "Mode" button.

Caution: Do not switch off the projector while recording a show.

1.3.2 Playing back a recorded show from the module

Before projecting a slide show which is stored in a module, you must load the data from the module into the working memory of the projector. Select "Auto" mode using the "Mode" button. The LED next to the "Module" button blinks. Press this button to load the module's content into the working memory; the data in the module remain unchanged. You can start the show immediately by pressing the green forward-transport button. A dissolve sequence or screen time can be halted and resumed using the "Stop/go" button. The "Memo" button can be activated in the same way as for manual mode. You can terminate the show any time with the "End" button.

1.3.3 Other points to note

The "Test" and "Auto" modes are similar in operation. They only differ in that the "Test" mode allows modifications to be made and the "Auto" mode allows data to be loaded from the module.

1.3.4 Demonstration module

The projector is supplied with a type 100 memory module containing a short slide show for demonstration purposes. It is the same program as that given in section 2.1.9.3, including the special effects.

1.4 Random access to any slides in the "Auto" and "Test" modes

Like in the "Manual" mode, random access to any of the slides in the working memory is likewise possible in "Test" and "Auto" modes.

You can start this operation in three different ways:

1. By pressing the green forward-transport button.
2. By advancing to the slide compartment with the focusing buttons and then pressing the green forward-transport button.
3. By entering the slide compartment No. via the numeric keypad and then pressing the green forward-transport button.

The projector searches for the program step No. against which the selected slide No. has been entered. The selected slide, and the slide entered for the next step of the program, are fed into the projector.

Random access is possible any time during a slide show via the numeric keypad and subsequent pressing of the green forward-transport button. This causes the slide in standby position to be replaced by, and then dissolved into, the selected slide.

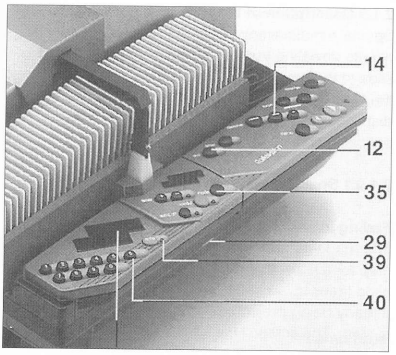
Note: Random access in the "Auto" and "Test" modes is only possible if the selected slide exists in the working memory.

Continuous shows of more than 100 slides must always be projected in Rollei CM 55/50 interconnectable magazines. If you intend to start one of these shows at, say, slide (compartment) No. 175, enter the digits 175 via the numeric keypad and press the green forward-transport button. The magazine will not advance 175 compartments, but only 25 instead. The projector assumes that the magazine containing slides 151 to 200 has been attached. The projector acts in this way from slide (compartment) No. 101 on.

2. Extended programming features

2.1 Programming a slide show via "Enter Mode 1"

You have a lot more possibilities if you are creating a slide presentation via the numeric keypad. You do not even need to let the show run at the same time as described in section 1.1. Special functions can also be programmed. A great help in planning a program is a programming table, as illustrated on page 27. With that you can then set up the program step by step.



To program a slide show on the projector, you must first call up "Enter Mode 1". To do so, switch to "Test" mode using the "Mode" button, and then press the "Enter" button. You can now create your slide show with all the desired effects.

2.1.1 Program step number
The "Program" prompt blinks in the display 41 to indicate that the projector is ready to accept input of the program step No. via the numeric keypad 40. You should start the program with step No. 1. After input, press the "Enter" button to store that program step No. in the working memory. The highest step No. is 999, hence a show can contain up to 999 images.

2.1.2 Slide number
Once you have entered the step No., the display 41 prompts with "Position". The slide (compartment) No. which is stored in the working memory for that particular program step No. appears in the digit display. Press the "Enter" button 39 to confirm, or key in a new slide No. (i.e. compartment No. of the slide magazine) via the numeric keypad and store it by pressing the "Enter" button. The highest slide No. is 999.

2.1.3 Dissolve duration
Next, the "Dissolve" prompt appears in display 41. The dissolve duration previously entered for that particular program step No. appears in the digit display. If you are creating a new slide show, the standard dissolve duration of 2.5 seconds will appear. Press the "Enter" button to confirm, or key in a new dissolve duration via the numeric keypad and store it by pressing the "Enter" button. Dissolves can be selected between 0.1 (cut) and 25 seconds.

2.1.4 Screen time (timer)
Next, "Timer" appears in the display 41. The screen time previously entered for that particular program step No. appears in the digit display. If you are creating a new slide show, the standard screen time of 0 seconds appears, i.e. the timer is switched off. Press the "Enter" button to confirm, or key in a new screen time via the numeric keypad and store it by pressing the "Enter" button. Screen times can only be entered in steps of one second.

With the timer switched off, control of the forward slide change is transferred either to the green forward-transport button or to external control via a synchronizer or a PC. The screen time can be set to anything from 4 to 600 seconds in steps of one second. Make sure, however, that the screen time is not shorter than the time needed to change the slides (it should be longer still if the slides are far apart in the magazine).

Note: Timer settings are always displayed in whole seconds, i.e. a timer setting of 7.8 seconds stored previously in a different mode will be displayed as 7 seconds. However, if you press the "Enter" button, the working memory will store the displayed time, or 7.0 seconds in our case. To prevent the previous timer setting from being modified, do not press the "Enter" button, but the "Timer (+) correction" button instead in order to exit the timer display (→ Useful information about "Enter Mode 1").

2.1.5 Special functions
Once you have entered the screen time, the display 41 prompts with "SF". The special function previously entered for that particular program step No. appears in the digit display. If you are creating a new slide show, "0.0.0" appears, i.e. no special function. Press the "Enter" button to confirm, or key in a new special function via the numeric keypad and store it by pressing the "Enter" button. Various ways of defining special effects for each slide are described in section 2.1.9.

2.1.6 Next program step
Once all the parameters for a slide (slide compartment No., dissolve duration, screen time and special function) have been entered, the display prompts again with "Position" while the previous program step No. is automatically incremented by 1. Now you can proceed with programming the

next slide (next program step). To amend the slide parameters at any point in the program, simply overwrite the program step No. that appears in the display using the numeric keypad and confirm with "Enter". Refer to section 2.1.1 for details on how to proceed.

2.1.7 Useful information about "Enter Mode 1"

The program can be checked by moving up or down with the aid of the timer correction buttons or moving through the columns using the green forward-transport and red reverse-transport buttons.

Errors can be corrected any time by simply overwriting them prior to pressing the "Enter" button.

If you do not notice the error until after you have confirmed with "Enter", you must press the "Timer (–) correction" button until the same display blinks again. Then you can enter the information again. Modifications and new inputs must always be confirmed with the "Enter" key. If you make an input via the numeric keypad and then just press the "End" or "Mode" key, that input will not be stored.

You can exit "Enter Mode 1" any time with the "End" or "Mode" keys.

2.1.8 Extended modification options in test mode

When in "Test" mode, "Enter Mode 1" allows you to break into a running slide show with the aid of the numeric keypad. You can modify slide data as required – the slide No., dissolve duration, screen time or the special functions. All modifications are stored in the working memory. While the show is running in "Test" mode, just press the "Stop/go" button and then the "Enter" button to activate "Enter Mode 1". Now select the program step No. you wish to modify. To help you, the display will show the program step No. which is active at that moment. Confirm the (newly selected) program step No. with "Enter". The slide (compartment) No. already entered under that program step No. will appear and can be altered as required. Once this is confirmed with "Enter", the dissolve duration appears, and so on. At the end of you modifications, press the "End" button, and continue the show either with the "Stop/go" button or the green forward-transport button.

2.1.9 Description of the special functions

Special functions are anything in the way of special effects deviating from a straight dissolve from one slide to the next. Each special function applies to the slide against which it is entered. We make a distinction between special lamp functions and special mechanical functions.

2.1.9.1 Special lamp functions

Fading in/sandwiching

The "Fade-in" feature is keyed into the program step for a slide. In the "Test" or "Auto" mode, the slide fades in – with full lamp output – over a slide already being projected through the other projection system. The screen time for the slide being faded in is variable from 1 to 9 seconds. Fade-in/out time depends on the dissolve duration entered for the slide being faded in. The timer setting specifies the screen time for the slide in the other projection system after completion of the fade-in sequence.

Freezing

The "Freeze" feature is keyed into the program step for a slide. In the "Test" or "Auto" mode, the slide dissolve is halted (frozen). Freeze duration is variable between 1 and 9 seconds.

Blinking

The "Blink" feature is keyed into the program step for a slide. In the "Test" or "Auto" mode, the slide is rhythmically superimposed – with full lamp output – over a slide already being projected through the other projection system. The number of blinks is variable from 1 to 9. Fade-in/out time depends on the dissolve duration entered for the blinking slide; it should, however, be brief to create a genuine blinking effect. The timer setting specifies the screen time for the slide in the other projection system after completion of the blinking sequence.

Mechanical function

0 Normal slide change
1 Autoreverse
2 Slave function at the beginning of a dissolve
4 Slave function at about the middle of a dissolve

Function 1 can be combined this function 2 or 4. To do this, enter the sum of the two.

Lamp function

***0** Normal dissolve
1 Fade-in/sandwich
2 Freeze
3 Blinking
4 Flashing
5 Alternating
***6** Fades out image in previous program step/ fades in image in this program step
***7** Fades out image in previous program step/ pause/continue with image in this program step by pressing the forward-transport button.

Number/duration

—
1 sec . . . . **9** sec
1 sec . . . . **9** sec
1 x . . . . . **9** x
1 x . . . . . **9** x
1 x . . . . . **9** x

* Only the lamp functions 0, 6 and 7 can be combined with the mechanical functions.

Flashing
Same as the "Blink" feature, but faster.

Alternating
The "Alternate" feature is keyed into the program step for a slide. In the "Test" or "Auto" mode, the slide changes over back and forth with a slide already being projected through the other projection system. The number of alternations is variable between 1 and 9. Alternation rate can be varied by means of the dissolve duration. The timer setting specifies the screen time for the slide in the other projection system after completion of the alternating sequence. Alternation always ends up with the slide in the other projection system.

Fading out and fading in again
The first slide fades out completely before the next slide fades in. This function is useful instead of a straight dissolve, for example to facilitate the switch from portrait to landscape format.

Fading out – standby – fading in
This special function is used, for example, when there are planned breaks in a slide presentation. The first slide fades out. The next slide fades in when the green forward-transport button is pressed to continue the presentation.

2.1.9.2 Special mechanical functions

Autoreverse
The "Autoreverse" feature is keyed into the program step for a slide. In the "Test" or "Auto" mode, the slide is automatically followed by the first slide in the program. The slide presentation starts again without any dark interval.

Master/slave projection
The relevant "Master" or "Slave" feature is keyed into the program step for a slide. In the "Test" or "Auto" mode, a pulse signal is transmitted to the PC outlet which is connected via a Rollei adaptor lead to the remote control (RC) socket of another MSC 300 or MSC 300 P. The first (master) projector sends a forward slide change command to the second (slave) projector. The pulse signal can be transmitted at the beginning or in the middle of a dissolve. If the slave projector is also an MSC 300 P model, it can likewise perform special functions and itself be used as a master for another slave projector. Dissolve durations and, where appropriate, special functions are performed by the slave projector in accordance with the mode to which it is switched. In the manual mode it takes the dissolve duration entered on its keypad; in the "Test" or "Auto" mode it takes the data stored in its working memory. If several projectors are connected up in series, a time lag between command execution is, however, unavoidable.

Note: To avoid problems during operation, always make sure that the slave projector has completed its dissolve or special function before each slave command is executed.

2.1.9.3 Entering the special functions
See the top section of page 25.

A typical program

Prog. No.	Slide No.	Dissolve	Timer	SF	Notes
1	5	5.0	09	000	No need to key in 000 if you press "Enter".
2	6	2.5	06	000	
3	7	0.5	10*	043	Slide 7 flashes three times into slide 6. 0.5 sec dissolve duration ensures short flash-in time. *Screen time of slide 6 after flash-in sequence.
4	9	3.0	08	000	
5	3	1.5	16**	018	Slide 3 fades into slide 9 in 1.5 sec, stays for 8 sec. ** Screen time of slide 9 after fade-in sequence.
6	6	1.0	20***	054	Slide 6 alternates four times with slide 9. *** Screen time of slide 9 after alternation sequence.
7	1	0.5	09	028	Dissolve from slide 9 to slide 1 frozen for 8 sec.
8	2	2.0	06	060	Slide 1 fades out, then slide 2 fades in.
9	3	1.0	04	100	Autoreverse: Slide 3 dissolves to slide 5 (start of program) with dissolve duration for slide 5.
If program step No. 9 concludes the show, key in "000" as special function code (i.e. no special function). Slide No. 3 then fades out automatically in 2 sec. If you want a different fade-out duration, for instance 5 sec, you need to add an extra step No. 10 containing the fade-out duration only.					
09	3	1.0	4	000	
10	0	5.0	0	000	Slide 3 fades out in 5 sec.

Entering the typical program

Using the "Mode" button, switch to "Test" mode, then

"Enter" **Program step No. 1 appears**
"Enter" ... confirmed, slide No. appears
5 overwrite with slide No. 5
"Enter" ... confirmed, dissolve duration appears
5-0 overwrite with 5.0 sec
"Enter" ... confirmed, timer setting appears
9 overwrite with 9 sec
"Enter" ... confirmed, special function appears
"Enter" ... unchanged, the previous value ("000" in this case) is confirmed

Program step No. 2 appears

"Enter" program step No. accepted, slide No. appears
6 overwrite with slide No. 6
"Enter" ... confirmed, dissolve duration appears
2-5 overwrite with 2.5 sec
"Enter" ... confirmed, timer setting appears
6 overwrite with 6 sec
"Enter" ... confirmed, special function appears
"Enter" ... unchanged, the previous value ("000" in this case) is confirmed

Program step No. 3 appears

"Enter" program step No. accepted, slide No. appears
7 overwrite with slide No. 7
"Enter" ... confirmed, dissolve duration appears
0–2 overwrite with 0.2 sec
"Enter" ... confirmed, timer setting appears
1–0 overwrite with 10 sec
"Enter" ... confirmed, special function appears
0–4–5 overwrite with the flash function (5 times)
"Enter" ... confirmed

Program step No. 4 appears

"Enter" program step No. accepted slide No. appears
9 overwrite with slide No. 9
"Enter" ... confirmed, dissolve duration appears
3–0 overwrite with 3.0 sec
"Enter" ... confirmed, timer setting appears
8 overwrite with 8 sec
"Enter" ... confirmed, special function appears
"Enter" ... unchanged, the previous value ("000" in this case) is confirmed

Program step No. 5 appears

"Enter" program step No. accepted slide No. appears
3 overwrite with slide No. 3
"Enter" ... confirmed, dissolve duration appears
1–5 overwrite with 1.5 sec
"Enter" ... confirmed, timer setting appears
16 overwrite with 16 sec
"Enter" ... confirmed, special function appears
0–1–8 overwrite with fade–in function (8 sec)
"Enter" ... confirmed

Program step No. 6 appears

"Enter" program step No. accepted, slide No. appears
6 overwrite with slide No. 6
"Enter" ... confirmed, dissolve duration appears
1–0 overwrite with 1.0 sec
"Enter" ... confirmed, timer setting appears
20 overwrite with 20 sec
"Enter" ... confirmed, special function appears
0–5–4 overwrite with alternating function (4 times)
"Enter" ... confirmed

Program step No. 7 appears

"Enter" program step No. accepted slide No. appears
1 overwrite with slide No. 1
"Enter" ... confirmed, dissolve duration appears
0–5 overwrite with 0.5 sec
"Enter" ... confirmed, timer setting appears
9 overwrite with 9 sec
"Enter" ... confirmed, special function appears
0–2–8 overwrite with freeze function (8 sec)
"Enter" ... confirmed

Program step No. 8 appears

"Enter" program step No. accepted, slide No. appears
2 overwrite with slide No. 2
"Enter" ... confirmed, dissolve duration appears
2–0 overwrite with 2.0 sec
"Enter" ... confirmed, timer setting appears
6 overwrite with 6 sec
"Enter" ... confirmed, special function appears
0–6–0 overwrite with fade–out/fade–in function
"Enter" ... confirmed

Program step No. 9 appears

"Enter" program step No. accepted, slide No. appears
3 overwrite with slide No. 3
"Enter" ... confirmed, dissolve duration appears
1–0 overwrite with 1.0 sec
"Enter" ... confirmed, timer setting appears
4 overwrite with 4 sec
"Enter" ... confirmed, special function appears
1–0–0 overwrite with autoreverse function
"Enter" ... confirmed

Program step No. 10 appears

"End" Program finished

Now start the programmed slide show with the green forward-transport button. To be on the safe side, copy the program from the projector's working memory to a module (see section on 'Modules').

Note: Always program lengthy shows in short sections and then save them to a module for safety. To do so, terminate programming by switching from "Test" to "Record" mode using the "Mode" button. Saving to the module is then carried out as already explained.

After that, switch back to "Test" mode and press the "Enter" button. Now you can continue programming the show by selecting the next program step No. All previous data are still available in the projector's working memory and remain unaffected by the saving operation. If you wish to switch off the projector during a programming operation, load the content of the module into the projector's working memory before continuing to program the show.

Slide shows programmed on the predecessor model Rolleivision 35 twin digital P can be played back and processed on the Rolleivision twin MSC 300 P. This is not possible the other way round.

	Prog. No.	Slide No.	
2nd show:	38	101	
	39	102	
	40	103	
	.	.	
	.	.	
	59	122	
	60	0	!!
3rd show:	(It is also possible to jump back and forth in the order of the slides)		
	61	151	
	62	162	
	63	195	
	64	155	
	.	.	
	.	.	
	114	205	
	115	0	!!
4th show:	116	251	
	117	255	
	.	.	
	.	.	
	293	442	
	294	0	!!

2.1.10 Several slide shows in one module

2.1.10.1 Slide shows in several magazines

If a slide show starts with the slide (compartment) No. 1, 101, 151, 201, 251, 301, 351, 401 ... 951, the show always commences with the first slide of the inserted magazine. This feature allows you to fit several slide shows onto one module. However, care must be taken to ensure that, in each case, the projector transfers the entire content of its working memory to the module. Consequently, if you wish to add data to a show, the old shows must first be loaded from the module into the working memory.

Below is a typical group of slide shows:

	Prog. No.	Slide No.	
1st show:	1	1	
	2	2	
	3	3	
	.	.	
	.	.	
	36	36	
	37	0	!!

You must make sure that each slide show finishes with "0" as the slide No. If you are changing the order of the slides, avoid using a slide No. below that of the first slide in the show.

Note: It is advisable to leave gaps in the consecutive program step Nos. in case you need to add slides at a later date. Such gaps should, however, be kept to a minimum since they take up memory capacity in the module.

	Prog. No.	Slide No.	
1st show:	.	.	
	.	.	
	36	36	
	37	0	!!
2nd show:	70	101	
	71	102	
	72	103	
	.	.	
	.	.	
	91	122	
	92	0	!!

2.1.10.2 Slide shows in one magazine

You can also use one magazine for several slide shows. During presentation, the first slide of each show is selected via the numeric keypad.

	Prog. No.	Slide No.	
1st show:	1	1	
	2	2	
	3	3	
	4	4	
	5	0	!!
2nd show:	6	16	
	7	17	
	8	18	
	9	19	
	10	20	
	11	0	!!
3rd show:	(It is also possible to jump back and forth in the order of the slides, and even to take slides from previous shows. However, you must not use slide Nos. that occur as the first slide in another show)		
	12	25	
	13	29	
	14	3	
	15	17	
	16	20	
	17	0	!!

2.2 "Enter Mode 2" (changing projector parameters)

It is possible, with the aid of "Enter Mode 2", to change the basic settings on the projector. These include the dissolve durations on two of the three dissolve buttons, the basic lamp output and switch-over to stereo mode. The modified parameters have to be stored and then reactivated whenever they are required because the factory-set parameters are reinstated each time the projector is switched on. Use the "Mode" button to switch to "Record" mode, then press "Enter" to activate "Enter Mode 2". The selected mode is indicated by PP (projector parameters) in display 41. Press the "Enter" button to store each modified parameter in the projector. When you do so, you automatically exit "Enter Mode 2". The mode display jumps from "Record" to "Manual". You can also exit "Enter Mode 2" using the "End" button, but in that case the modified value will not be stored.

2.2.1 Changing dissolve durations on the IR remote control unit

The medium and long dissolve durations can be set from 1 to 25 seconds in steps of one second. Enter the first digit on the numeric keypad to select the appropriate dissolve button. Key in the required dissolve duration as two digits, and then press the "Enter" button to confirm.

2 x x "medium"-dissolve button
3 x x "long"-dissolve button

2.2.2 Changing the basic lamp intensity

The basic lamp output can be reduced to 50% intensity. Enter the first digit on the numeric keypad to select the dimmer function. Key in the required brightness value as two digits, and then press the "Enter" button to confirm.

4 0 0 100% intensity
4 1 0 90%
4 2 0 80&
4 4 0 70%
4 8 0 50% intensitiy

2.2.3 Stereo projection

Key in the digits **5–0–1** and press the "Enter" button to switch the projector to stereo mode. Exit this mode by keying in **5–0–0** and pressing the "Enter" button. During stereo operation, the projector screens two slides at full lamp intensity. Screening time for each pair of slides is limited to a maximum of one minute so as to protect the linear polarizing filter from excessive heat build-up. You can project a new pair of slides any time by pressing the green forward-transport button. Using the "Memo" function, it is possible to flag up to any 8 pairs of slides in the magazine for repetition after the run. Special function commands (with the exception of master/slave pulse signals) cannot be executed in stereo mode.

2.2.4 Saving/reactivating projector parameters

If you wish to save the changed projector parameters for use after you have switched off the projector, key in the digits **0–0–2** and press the "Enter" button.

To reactivate these changed parameters after switching on the projector, select "Enter Mode 2", key in the digits **0–0–1** and press the "Enter" button.

3. Computer control

3.1 Interface

The Rolleivision twin MSC 300 P has a 9-pin Submin D socket (V24 or RS232 serial interface) for connection to a computer.

Pin signals of the socket:

Pin 2	Transmit serial data
Pin 3	Receive serial data
Pin 5	Signal ground

The following software settings have to be taken into account:

- 9600 baud
- 1 start bit
- 8 data bits (lsb last)
- no parity bit
- echo operation

Each character transmitted to the projector is returned with an echo. Do not transmit a new character to the projector until the echo has been received. Commands to the projector consist of a sequence of characters in ASCII coding. Conclude each command with the control character 0d (hex). Numeric parameters are made up of 3 digits and always include leading zeros. The TI command (see below) is followed by a 4-digit input for the screen time. Data sent by the projector are likewise ASCII coded and are concluded with the control characters 0D (hex) 0A (hex).

The only exception is the "β" command, which does not return an echo but transmits status information in response (1 character), this being followed by no other characters.

3.2 »DiaEdit 300«

Rollei's "DiaEdit 300" software is specially designed for IBM-compatible PCs and makes even complicated shows easy to program. All the key information, such as the program step No., slide (compartment) No., dissolve duration, slide screen time and special functions can be displayed in table form on the computer monitor. You can conveniently follow the entire show on the monitor and interrupt or end it whenever you want. The programs can be stored in the PC or transferred to a module, and loaded again any time. Other features of "DiaEdit 300" include printing out slide-show data as well as copying programs or individual program sections.

3.3 Direct control

The following commands enable direct control of the projector, not only for complete command sequences (e.g. change forward, i.e. dissolve, withdraw old slide, move new slide into standby position), but also for single commands (e.g. fade in right system or load left system with slide XXX). To start computer control, you must first switch the projector to computer mode via the "PE" (PC mode in) command. "PC" appears in the display. When you have finished, transmit the "PA" (PC mode out) or "RS" (reset) command so that the projector can be operated again from its control panel.

3.3.1 Commands without parameters

3.3.1.1 General commands

Command Function

PE — PC mode in (switched on)
Projector control panel is locked out and all described RS232 commands are activated. PC appears in projector display

PA — PC mode out (switched off)
Projector can be controlled via its control panel. Interface will only accept the PE command (see above).

RS — RESET function:
Communicates the end function (see below) and switches off PC mode.

3.3.1.2 Control button commands

These commands have the same function as pressing the corresponding buttons on the projector.

Command Function

BV — Change forward:
Equivalent to FORWARD slide change button

BR — Change reverse:
Equivalent to REVERSE slide change button

FV Focus forward:
Equivalent to FOCUS-FORWARD button

FR Focus reverse:
Equivalent to FOCUS-REVERSE button

AE Autofocus in (on)

AA Autofocus out (off)

ST Stop:
Stops projection sequence. Equivalent to pressing the STOP/GO button when projection is in process.

WE Go:
Starts or resumes projection sequence. Equivalent to pressing the STOP/GO button after stopping projection.

MOM Set "MANUAL" mode

MOT Set "TEST" mode

MO Memo function:
The slide being projected is stored in the memory and can be repeated at the end of the show.

ML Module-load:
Loads the contents of the module into the projector's working memory.

MS Module-save:
Saves the contents of the working memory in the module.

EN END function:
Equivalent to pressing the END button.

3.3.2 Commands for exchanging data between the PC and the projector

3.3.2.1 Writing to the program memory of the projector

Command Function

SZ: XXX Select program step:
Commands entered after this are assigned to program step No. XXX

BN: XXX Define slide No.:
Slide No. XXX is assigned in the program memory to the selected program step.

DI: XXX Define dissolve duration:
Dissolve duration XXX is assigned in the program memory to the selected program step. Input in $^1/_{10}$ sec units.

TI: XXXX Define timer setting (screen time):
Timer setting XXXX is assigned in the program memory to the selected program step. Input in $^1/_{10}$ sec units.

SF: XXX Define special function:
Special function code XXX is assigned in the program memory to the selected program step.

3.3.2.2 Reading from the program memory of the projector

Command Function

LZ: XXX Load program step:
Loads the contents of program step XXX. The projector sends data in the form:
"ZZZ BBB DDD TTTT SSS"
0D 0A (hex)
where
ZZZ is the program step No.
BBB is the slide No.
DDD is the dissolve time in $^1/_{10}$ sec
TTTT is the timer setting in $^1/_{10}$ sec
SSS is the special function code

3.3.2.3 Starting a slide show

Command Function

GB: XXX Go to (start program at) slide No. XXX.
In "TEST" mode (see MOT command):
A show start with the first program step containing slide No. XXX. Search procedure starts at program step 1 and continues in ascending order.
In "MANUAL" mode (see MOM command):
Slide No. XXX is projected until further commands are transmitted.

GZ: XXX Go to (start program at) program step No. XXX.
The slides in program steps XXX and XXX+1 are inserted and the show starts.

3.3.2.4 Monitoring a running slide show

Command Function

AZ Show current program step:
The projector communicates the current program step No. PPP.

AB Show current slide No.:
The projector communicates the No. BBB of the slide currently being projected.

3.3.2.5 General commands

Command Function

SL: XXX Set lamp to maximum output:
Code XXX determines lamp brightness for all slides in the following show.
XXX will accept the values 001..255, the brightness is proportionate to the value.

SU: XAU Selection of the dissolve table, used for fade–in and fade–out or for dissolve. Digit X has no affect and should always be zero. Digit A has to be replaced by values between 1 and 4 and determines the table used for fade–ins and fade–outs. Digit U determines which table is used for dissolve from one optical system to the other and also has to be replaced by values between 1 and 4. Default values are 2 for fade–ins/outs (A) and 3 for dissolves (U).

DZ: XXX Set dissolve duration
Basic setting from 0.5 sec to 25.5 sec.

3.3.3 Commands for direct control of the projector

3.3.3.1 Loading the condensers with slides

Command Function

B1: XXX Loads the slide in magazine compartment No. XXX into the left condenser system.

B2: XXX Loads the slide in magazine compart ment No. XXX into the right condenser system.

3.3.3.1 Executing fade–in, fade–out and dissolve functions

Command Function

LD1: XXX Code XXX sets current brightness (lamp dimmer) for the slide in the left optical system.
XXX will accept the values 001..255, the brightness is proportionate to the value.

LD2: XXX Code XXX sets current brightness (lamp dimmer) for the slide in the right optical system.
XXX will accept the values 001..255, the brightness is proportionate to the value.

SD: XXX Code XXX sets dissolve duration for the next lamp mode (fade–in, fade–out, dissolve). The duration is specified in $^1/_{10}$ sec.

LM: XXX Code XXX defines and starts the next lamp mode:
200 Fade in left optical system
201 Fade in right optical system
202 Fade out left optical system
203 Fade out right optical system
204 Dissolve from left to right optical system
205 Dissolve from right to left optical system
206 Fade in both optical systems
207 Fade out both optical systems

3.3.4 Status request

The projector responds to a status command by giving status information. In some cases, this information refers to the last–but–one command (e.g. an LZ command does not alter the status because it is merely a request for information).

Status command (beta command):
Alt 225 (ASCII–mode 225, ASC II–sign "β")

Possible status codes:

"R" Ready.

"B" Busy, the projector is currently executing a command.

"g" Command cannot be executed, e.g. because the projector is not in PC mode.

"i" Invalid command.

"e" Error during command execution, e.g. mechanical error, slide jammed, etc.

"p" Parameter transmitted as part of the command is not within the valid range.

"j" Command cannot be executed, e.g. because another command is just being processed.

"v" Command understood, usually followed by "B" (busy).

"w" Module load/save command completed successfully.

"x" Module defective or not availiable.

"y" Module capacity insufficient for show to be saved.

3.3.5 Terms used in this manual

Program memory: Memory to the projector in which data for a slide show (slide Nos., dissolve durations, screen times and special functions) are stored. The program memory is divided up into 999 steps, each of which contains the information relating to one program step (see below).

Program step: Individual steps in the projector's program memory (see above). Program steps are numbered consecutively from 1 to 999. The program step No. is the address reference for retrieving information relating to that program step.
Note: The program step No. and the No. of the slide (see below) entered in that step may be (but do not have to be) identical!

Slide: A framed slide.

Slide No.: The position of a slide in the magazine or a series of magazines. Corresponds to the slide compartment No.

Magnetic tape control

The projector has a special socket 25 for tape control signals. For simple sound-recording tasks, the following tape recorders are recommended:
- ITT NOKIA SL 837 AV stereo recorder
- KINDERMANN SL 837 AV stereo recorder

These are stereo recorders with a free-head track and an integral synchronizer for projector control. You need a Rollei 83881 adaptor cable to connect the recorder to the projector. Plug this into the tape control socket 25 on the projector and into the "projector" socket on the SL 837 recorder. You will need a 1.5 m adapter cable for this.

For more demanding sound-recording tasks, the following tape recorders are recommended:
- Yamaha NT 100 II
- Tascam 424 Portastudio
- Fostex X-26 AV

These machines take an external slide synchronizer, e.g. the Rollei RCP Slide Synchronizer **62656**. Operate the recorder as indicated in the appropriate manufacturer's instruction manual.

Note: Since the transport commands are executed from the slide synchronizer or AV recorder with magnetic tape control, all timer settings for a programmed show should be cleared from the working memory. To do so, press the "Timer" button in the "Record" mode. Clear the timer settings before saving the module.

Hints on slide projection

General points

Rollei CM 55/50 interconnectable magazines are used when projecting very long slide sequences. Other magazines cannot be coupled together.

Standby operation

When starting a slide show, the first two slide have to be drawn out of the magazine and into the projector prior to the first fade–in sequence. The resulting time lag can only be avoided by bringing the slides into position beforehand. To do so, press the "Stop/go" button and then the green forward-transport button. The first two slides are then fed into the projector. Fade–in takes place on the next forward-transport command. The "Timer" LED blinks while the projector is waiting. Forward slide change commands can also be triggered from the slide synchronizer or the computer. You can also use this standby operation for a random access command when the show is to start at a certain point in the magazine.

The slide show can be interrupted during projection in manual mode (timer inactive). To do so, press the "Stop/go" button and then the green forward-transport button. The current slide fades out, and interval lighting comes on. To continue the slide show, press the forward-transport button.

The screen

The quality of your slide show is partly dependent on your screen. We recommend the use of a tensioning device to ensure that it is free of creases.

Larger screens mean greater image impact – so choose a large enough screen. About 1.5 x 1.5 m is right for a normal living room. A screen between 1.8 x 1.8 m and 3 x 3 m is needed for larger rooms and halls.

Set up the screen vertically, making sure that it is square to the projector front. Check that the centre of the screen is at the same height as the projection lenses and about 25 cm above the audience's eye level. In very large rooms alignment is easier if you tilt the top of screen towards the projector through about 5–10%. In a small room, it is often more convenient to set up the projector in an adjacent room and project through the open door.

The table on pages 44–45 indicates screen sizes and projection distances with different lenses.

Changing the lenses

Remove the lenses by turning them anticlockwise. Clean the outer surfaces of the two lenses of matching focal lengths and screw them into the projector. Repeat the basic focus setting.

70–120 mm zoom lenses are useful for projection in both larger and smaller rooms and make it easier to match the transparency format to the screen size.

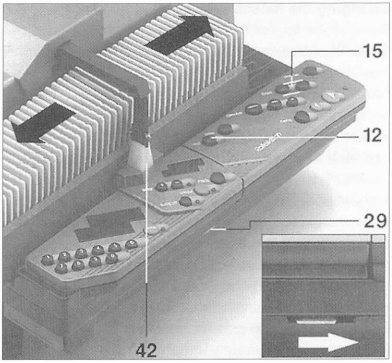
The Schneider AV–Xenotar lenses meet the very highest specifications in terms of image sharpness, even illumination and colour fidelity. These top–class slide projection lenses deliver the super imaging performance guaranteed by modern camera lens technology. The 90 mm AV–Xenotar CF f/2.4 is recommended for use with card–mounted slides. Projection in halls is possible with the 250 mm Heidosmat f/4.3 lens.

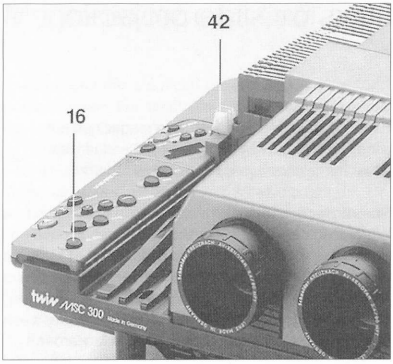
Prepare your slide show thoroughly

Select your slides carefully. Do not use slides which are not sharp or which have been badly exposed, and do not switch too often between daylight and flash exposures, or portrait and landscape formats. Avoid random batches of purely personal memories. The best slide shows usually consist of a well-planned sequence of images, with a matching colour mood. A series of pictures with a dramatic build–up or a series of snapshots will also help to keep your audience interested. Adjust the focus and image superimposition beforehand. Always keep a spare lamp handy. A light pointer is often useful.

Keep the number of slides in your show within reason. A halftime break is always welcome. Finish your show with an impressive "mood" image. Use subdued room lighting before the show and for a while after the show.

Matching background music improves any slide show. For today's audience, accustomed to TV, it is almost essential, particularly if there is no commentary. The best AV slide presentations are automatically controlled by a synchronizer and a tape recorder. This setup allows you to synchronize commentary, music and sound effects with the images on the screen to provide a fully automatic AV presentation.





Hints on stereo projection

— Accurately framed slides are vital to smooth stereo projection.
— Use a metal-coated screen because its surface does not change the polarization state. As far as possible, set the screen square to the projector front, as otherwise there will be a loss of light.
— Adjust the polarizing filter to the type of glasses used. The polarizing filters are available from photographic dealers as push–on filter, e.g. from Heliopan Ø 54 mm for 60 mm f/2.8, 90 mm f/2.4, 90 mm f/2.4 CF and 150 mm f/2.8 lenses.
— Detailed literature on stereo photography and projection is obtainable from your local dealer.

If the images do not quite match, for example due to slide frame tolerances, you can correct lateral and horizontal misalignment with the dial 31 or screw 32.

In case of difficulty

When a fault occurs, the projector automatically switches off the lamps and the interval lighting 42 flashes.

Do not switch off the projector! Press the "End" button. The projector will try to rectify the fault and advance the magazine to the end of its run. Any slides still in the projector will be ejected. The end of the magazine run is indicated by the constant operation of the interval lighting. The projector is now ready for use again.

If this does not cure the problem, proceed as follows:

Switch off the projector, disconnect from the mains(!) and remove the cover.

If the slide changer arm 3 is still jammed in the magazine or in the slide stage, pull out or push back the arm in whichever direction it can move, and then guide the slide back into the magazine or into the slide stage.

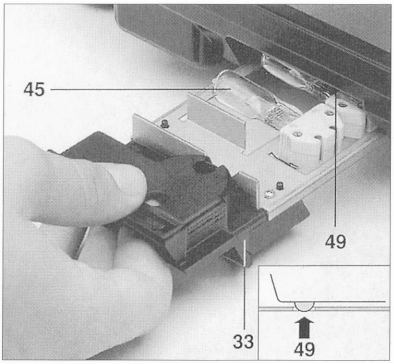
If the slide changer arm or a jammed slide is clear of the magazine, you can remove the emergency release lever 29 on the side of the projector.

When you switch the projector on again after a fault, the projector automatically takes the magazine back to its starting point and ejects the slides. To resume projection from the point where you left off, push in the magazine as far as it will go and press the focusing button 15 to advance to the required slide compartment, or enter the slide compartment No. via the numeric keypad.

In the case of a fault during programmed projection, rectify the problem as described. If the projector has been switched off, load the program again from the module. With the "Focus" button 15 advance the magazine to the last slide shown and resume the program by pressing the green button ▷ .

Note: If a slide show is to be resumed starting with a high slide No., for example 321, attach the magazine containing slide Nos. 301–350 and enter the slide No. 321. When you press the green forward-transport button, the magazine advances 21 compartments and starts projection at that point. The correct slide No. 321 appears in the display.

Care and maintenance



To avoid accidents, always take the following precautions:

Before all maintenance work
Remove the magazine and let the fan run on for a few minutes to cool the inside of the projector. Switch off and unplug the projector at the mains(!). Only then remove the cover.

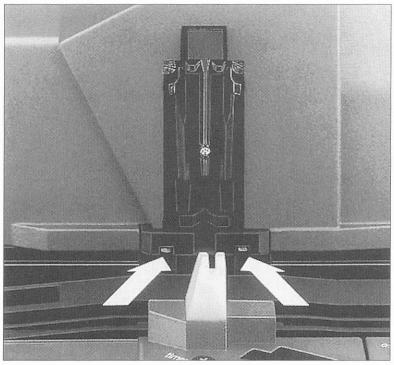
After all maintenance work
Replace the cover and screw it down. Only then reconnect the projector to the mains supply and check that it works properly.

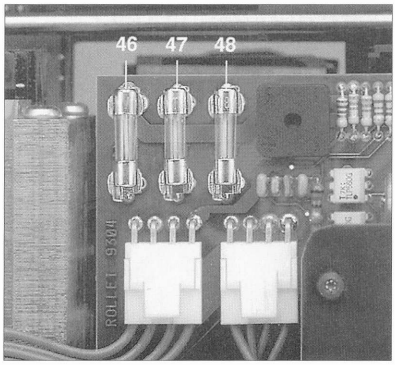
Changing the lamps
Lamp unit 33 is equipped with 4 lamps as standard. If a lamp fails, press the release button 49 and, at the same time, pull out the lamp unit slightly by its special grip until it locks to give you access to the spare lamps.

To change a lamp, press the release button 49 and withdraw the lamp unit entirely. Take the faulty lamp 45 from the base and replace it.

Warning: Never touch a lamp after removing it from the projector. You may get seriously burnt!
Push the new lamp 45, *in its protective sleeve*, all the way into the lamp fitting. Only then pull off the sleeve. Never touch the bulb with your bare fingers. A spare unit for four lamps is available as an accessory with the item No. **66 393.**

Only 24 V/150 W halogen lamps may be used in this projector! These are available from Rollei with the item No. 84 588.





The magazine track

Regularly remove dust and other particles with a soft brush. Pay special attention to the optical magazine scanning aperture (see illustration).

Optical system

Use a soft camel hair brush (with a long handle) to remove dust from all the glass components in the two slide stages. Unscrew the lenses and clean the outer glass surfaces with lens cleaning tissues. Such cleaning is required only now and then. When the projector is running, the cooling air carries away most of the dust. It is much more important to keep your slides clean and free from dust!

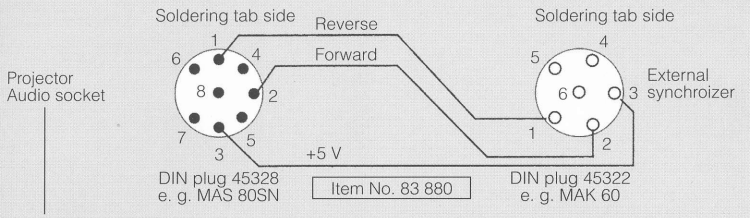
Changing fuses

The above illustration shows the location of the three fuses. Remove the blown fuse 46 (T2A/250 V) or 47, 48 (T8A/250 V) from its holder and replace it.

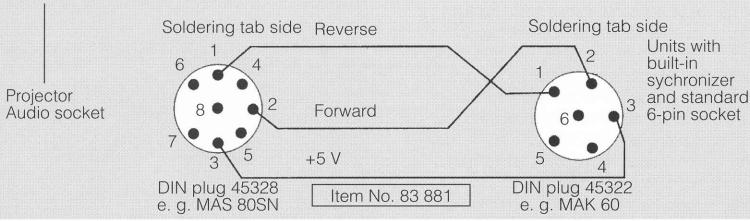
If the fuse immediately blows again, do not attempt any DIY repairs (which would invalidate the guarantee). Get your local authorized Rollei repair service to repair the unit. Spare fuses can be obtained from photographic or electronics dealers.

Pin layout diagrams (adaptor leads)

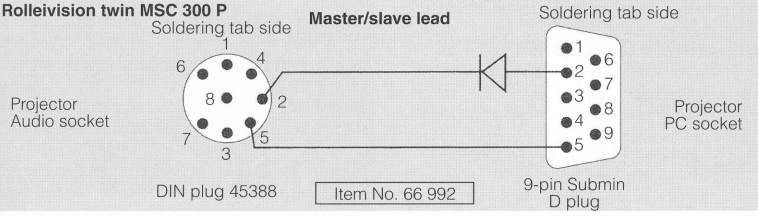
Rolleivision twin MSC 300 / MSC 300 P



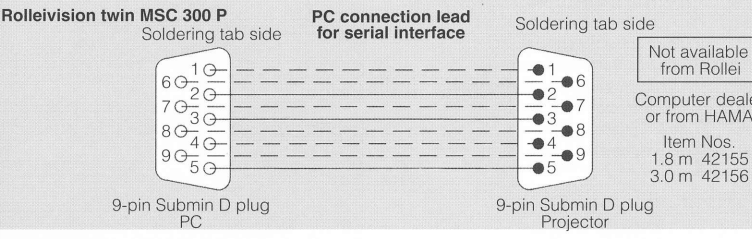
Function	Connection
Forward	PIN 2 – PIN 3
Reverse	PIN 1 – PIN 3



Rolleivision twin MSC 300 P



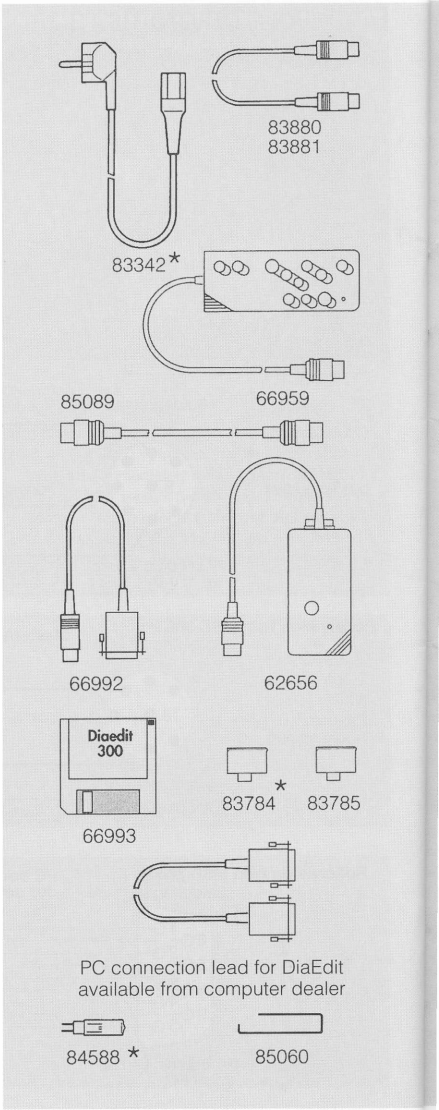
Rolleivision twin MSC 300 P



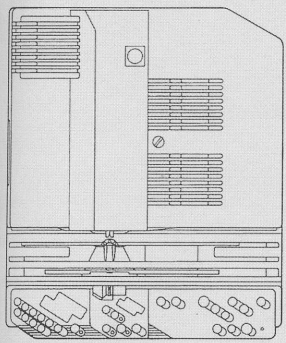
Note: Only connect accessories to the interfaces which are specifically stated as being suitable for this unit.

The Rolleivision twin MSC 300 P system

64 501	Rolleivision twin MSC 300 P housing
83 891	AV-Xenotar 60 mm f/2.8 HFT lens
83 887	Rollei S-Heidosmat 85 mm f/2.8 MC lens
85 147	AV-Xenotar 90 mm f/2.4 HFT lens
83 893	AV-Xenotar CF 90 mm f/2.4 HFT lens (for Kodak cardboard-mounted transparencies)
62 094	AV-Xenotar 90 mm f/2.4–8 HFT lens (can be stopped down)
85 149	Vario-Xenotar 70–120 mm f/3.5 lens
83 889	AV-Xenotar 150 mm f/2.8 HFT lens
85 137	Rollei AV-Heidosmat 250 mm f/4.3 lens
66 383	Carrying case
63 401	Rollei CM 55/50 magazine, in stackable box
83 342	Mains lead
83 880	8/6-pin adaptor lead for control via slide synchronizer
83 881	8/6-pin adaptor lead for control from AV stereo recorders
62 656	Rollei slide synchronizer RCP
66 992	Master/slave adaptor lead
83 784	Type 100 module (black housing)
83 785	Type 300 module (red housing)
66 993	DiaEdit 300 software
83 855	Magazine Track extension set
84 588	24 V/150 W tungsten-halogen lamp
85 060	Lamp extractor
66 959	Cable remote control
66 393	Spare lamp unit



*Supplied with the projector



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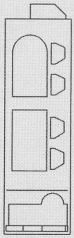

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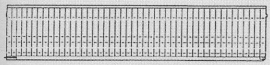

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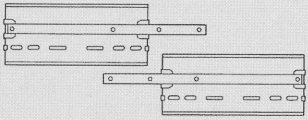

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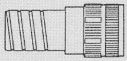

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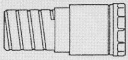

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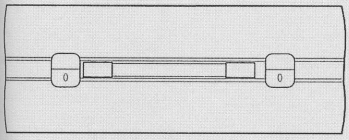

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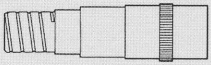

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Troubleshooting

Problem
Screen image not sharp
Keystone distortion of image
Imperfect image superimposition
Rainbow fringes in bright image areas
Uneven image brightness
No display
Slide changer jammed
IR receiver does not respond to remote control
Projector does not carry out input commands or carries them out incorrectly
"Module" LED continues to blink after saving program
Projector blocked
Transport gear continues to run after removal of magazine

Cause	Remedy
Dirty or steamed-up lens	Clean the lens; let any condensation evaporate
Slide wrong way round	Emulsion side of slide must face screen
Wrong initial focus setting after lens change	Refocus the lenses
Autofocus switched off	Switch on autofocus or focus manually
Projector or screen mounted too high, too low or not squared up	Set up the screen vertically and parallel to the front of the projector. Make sure the lens is level with the centre of the screen.
Incorrect image superimposition	Reset the superimposition
Non-matching or poorly made slide mounts	Use matching mounts of better quality
Newton's ring (interference fringes between bowed rear of film and slide glass)	Dry the film under pressure before mounting; if necessary, try rinsing and redrying the film. Best remedy: use glassless mounts.
Halogen lamp not straight in fitting	Re-align halogen lamp in fitting
Projector switched on too quickly after being switched off	The projector must remain switched off for at least 3 seconds before it is switched on again.
All metal or all glass mount with sharp edges wedged in slide changer	Unplug mains lead, remove cover and carefully free jammed slide
Magazine compartment not left free for return of slide after projection	
Remote control used from too far away	Do not exceed the maximum range of approximately 10 metres
Exhausted transmitter battery	Replace battery. You can project without the battery if the transmitter is in its place in the projector.
Direct stray light falling on IR receiver sensor	Screen the sensor against direct light sources
Module storage capacity insufficient for show	Use type 300 module
No module fitted	Fit a module
Feed heel in wrong position	Switch off the projector and remove the jammed slide. Correctly position the slide changer heel
Dust or other particles on optical magazine scanning aperture (below slide feed)	Clean the optical magazine scanning aperture with a fine brush

Format	Lens
24 x 36 mm	60 mm
	70 mm
	85 mm
	90 mm
	120 mm
	150 mm
	250 mm
28 x 28 mm	60 mm
	70 mm
	85 mm
	90 mm
	120 mm
	150 mm
	250 mm

Screen sizes

1 x 1 m	1.25 x 1.25 m	1.5 x 1.5 m	1.8 x 1.8 m	2 x 2 m	2.4 x 2.4 m	3 x 3 m
Projection distance						
1.7 m	2.1 m	2.5 m	3.1 m	3.4 m	4.2 m	5.1 m
2.0 m	2.5 m	3.0 m	3.6 m	4.0 m	5.0 m	6.0 m
2.4 m	3.0 m	3.6 m	4.3 m	4.8 m	6.0 m	7.2 m
2.6 m	3.2 m	3.9 m	4.6 m	5.2 m	6.4 m	7.8 m
3.4 m	4.3 m	5.1 m	6.2 m	6.8 m	8.6 m	10.2 m
4.3 m	5.3 m	6.4 m	7.7 m	8.6 m	10.6 m	12.9 m
7.1 m	8.9 m	10.7 m	12.9 m	14.2 m	17.8 m	21.3 m
2.1 m	2.7 m	3.2 m	3.9 m	4.2 m	5.2 m	6.3 m
2.5 m	3.1 m	3.8 m	4.5 m	5.0 m	6.0 m	7.5 m
3.0 m	3.8 m	4.5 m	5.4 m	6.0 m	7.2 m	9.0 m
3.2 m	4.0 m	4.8 m	5.8 m	6.4 m	7.7 m	9.6 m
4.2 m	5.4 m	6.4 m	7.8 m	8.4 m	10.4 m	12.6 m
5.4 m	6.7 m	8.1 m	9.6 m	10.8 m	12.9 m	16.2 m
8.9 m	11.2 m	13.4 m	16.1 m	17.8 m	21.4 m	26.7 m

Technical data

Type
Compact dissolve projector for 24 x 36 mm slides with two complete projection systems and one magazine, microprocessor control, MSC technology, interchangeable programmable memory modules, automatic dissolve and timer system, double autofocus system and IR remote control.

Construction
Flat, compact housing with open magazine track. Diecast aluminium chassis. Five motors for slide change, magazine transport, focusing and fan.

Magazine
Standard magazine (DIN 108) for 36 or 50 5 x 5 cm slides, LKM, CS and interconnectable Rollei CM 55/50 magazines for continuous projection.

Slide change
Forward/reverse by push-button; automatically forward by timer, program or slide synchronizer with magnetic tape control. Forward and reverse also via program.

Dissolve system
Standard time 2 seconds. Dissolves of 0.1, 3 or 6 seconds can be selected from the hand-held remote control unit. Dissolves can be interrupted using the stop function (freeze). In programmed operation, dissolves can be set between 0.1 and 25 seconds in tenths of a second.

Sharpness control
Double autofocus with override function and manual adjustment. Operates separately for each of the two channels.

Image superimposition
Horizontally and vertically adjustable.

Timer
Fixed slide screen times of 4, 8 or 12 seconds for automatic slide presentation. Stepless range via program from 4 to 600 seconds.

Internal memory (working memory)
Stores all manually selected screen times and dissolve times for each slide change. Also directly retrieves up to 16 slides.

External memory
Programmable memory chips (modules) store programmed data on up to 120 slides (Module 100) or 400 slides (Module 300).

Remote control
Remote control using multi-channel IR technology via a detachable handpiece: forward/reverse slide change, dissolve and screen times, stop and memory functions, AF-override, end of projection. Works externally with a 9 V battery (extra).

Special programming
Random sequence slide programming with variable dissolve durations and screen times, adjustable image brightness, fades, flash projection and image alternation. Numerical programming input from control panel. Rollei "DiaEdit 300" software (in preparation) available as an accessory on 3 ½ inch diskette for programming complete slide shows via PC. Stereo projection.

Displays
Clearly visible LEDs for manual, test, record and auto modes, for AF override, for memory input and output, and for timer operation. Additional green 7-segment LEDs for timer, dissolve durations, slide Nos. and numerical programming.

Lighting system
Four 24 V/150 W halogen lamps (G 6,35 base) in pre-adjusted socket supplied as replaceable lamp unit. Two coated aspherical condenser systems, two mirrors and two heat filters. Facility for switching to interval lighting before a slide show and at the end of a magazine run. Stepless adjustment of the basic lamp brightness between 50% and 100%.

Cooling system
Highly effective, extremely quiet cross-flow fan with separate motor. Warm air drawn off from the front. Cooling also operative when the lamps are switched off. Protection against mechanical and thermal overload.

Lenses
Schneider AV-Xenotar 60 mm f/2.8 HFT
Rollei S-Heidosmat 85 mm f/2.8 MC
Schneider AV-Xenotar 90 mm f/2.4 HFT
Schneider AV-Xenotar CF 90 mm f/2.4 HFT
Schneider AV-Xenotar 90 mm f/2.4-8 HFT
(can be stopped down)
Schneider AV-Xenotar 150 mm f/2.8 HFT
Rollei AV-Heidosmat 250 mm f/4.3
Vario-Xenotar 70-120 mm f/3.5

Control sockets
8-pin socket for cable remote control, external units (via adaptor cable) and magnetic tape control via synchronizer.

PC connection
9-pin Submin D socket.

Power supply
From 220-240 VAC, 50/60 Hz. 1.5 m mains lead.

Dimensions
344 x 149 x 290 mm (W x H x D).

Weight
Approx. 9.5 kg.

Accessories
Interchangeable lenses, carrying case, two adaptor cables for audio control, memory module, magazine, magazine track extension, spare lamp unit, Rollei RCP synchronizer, cable remote control and extension lead (10 m) for cable remote control, master/slave adaptor lead (9-pin Submin D/8-pin socket).

Rollei
fototechnic

Rollei Fototechnic GmbH
Salzdahlumer Straße 196
D-38126 Braunschweig

High-performance equipment made in Germany

- Professional photographic technology
- Digital photography
- Industrial measurement systems and close range photogrammetry

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