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■ What conversion alternatives are available?

Manufacturer	Optical Sound Reading Device	Ways of Conversion	Order Numbers
Kinoton Philips Norelco	FP 5, FP 6, FP 56	LED	0040 170 000010
	FP 20, 23, 25, 28	reverse scan sound devices	3000 250 1----- (analog, upgradable) 3000 250 2----- (analog / digital) 3000 250 3----- (analog, not upgradable)
		halogen lamp	3000 260 000100
		reverse scan sound devices	3000 250 1----- (analog, upgradable) 3000 250 2----- (analog / digital) 3000 250 3----- (analog, not upgradable)
	halogen lamp	3000 260 000100	
	FP 40	halogen lamp	3000 260 000100
	FP 50	halogen lamp	3000 260 000100
	DP 70 (AAll)	reverse scan sound devices	3000 250 7----- (analog, not upgradable) 3000 250 8----- (analog / digital)
LED		0040 170 000010	
DP 75	reverse scan sound devices	3000 250 5----- (analog, not upgradable) 3000 250 6----- (analog / digital)	
	halogen lamp	3000 260 000200	
Klangfilm-Europa	left	laser unit	0040 171 000051
	right	laser unit	0040 171 000052
Bauer	B6, B8B	laser unit	0040 171 000080
	U4	laser unit	0040 171 000100
	U2 + B14, U3 + U4	laser unit	0040 171 000090
	B12	laser unit	0040 171 000110
MEOPTA	with macro-optics	laser unit	0040 171 000070
	with micro-optics	laser unit	0040 171 000060
Ernemann	8, 9, 10, 12S, 12B	laser unit	0040 171 000040



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Red Light Sound Devices and Conversion Kits

Specifications subject to change. 500/10.2004

- CINEMA
- STUDIO
- LARGE FORMAT
- SPECIAL VENUE
- DIGITAL SYSTEMS
- DISPLAY SYSTEMS

## Conversion Has Started...

It is well-known that film distributors are changing over to silverless analog sound tracks for cost reduction and environmental benefits.

Many film distributors deliver their films with silverless cyan-dye tracks exclusively since 2005, so film exhibitors should change over to red light sound reading — otherwise their projectors' analog sound level will drop by about half and become very noisy.

### ■ The Low-Cost Solution: Red Light Conversion Kits

For many Kinoton projectors as well as for several other brands we offer reasonably priced red light conversion kits. Depending on the principle of construction of the sound device, different light sources are available:

- **Halogen lamps with special filter** are the cheapest solution with a long-life halogen lamp which can be changed fast and easily.
- **Special red LED's** provide perfect illumination of the slit. They are slightly more expensive, but very durable, and can only be exchanged by a qualified technician.
- **Aligned laser units** are extremely durable but should be exchanged by qualified technicians only. In many cases pre-amplifiers are not necessary.

**Important:** Most red light conversion kits demand additional signal preamplifiers. If shielding or grounding is not sufficient, interference (e.g. from the house light dimmers or other control systems)

If a silver-free track is read by an incandescent bulb, the sound output will decrease considerably, and dust or scratches on the film can actually be heard.

Kinoton provides two principles of conversion to professional red light sound reading: top-quality reverse scan sound devices or low-priced conversion kits with red LED's, special halogen lamps or red laser LED's.



Special Halogen Lamp for Red Light Conversion

might occur. Therefore we recommend optimising the grounding and wiring of the whole system before installing any red light conversion kit.

Additionally all supports and rollers as well as the sound lenses and solar cells should be in excellent condition to ensure flawless sound quality.

### ■ The High-Quality Solution: Reverse Scan Sound Devices

For a truly superior sound experience we recommend our reverse scan sound devices:

No matter what sound format is used — silver-applcated, high magenta or cyan dye —, reverse scan sound devices always provide perfect sound quality as reading the sound tracks from the emulsion side audibly improves channel separation and high frequency response.

Reverse scan sound devices are extremely fail-safe as their 24 high-performance LED's guarantee impeccable optical sound reading even if one diode should fail. The position of the LED set makes sure the diodes cannot be damaged or torn off by the film. The unique design reliably prevents trouble with contamination or misalignment. What is more, reverse scan sound devices can be installed quickly and easily without additional costs incurred from the replacement of worn-out components, as it is often the case with red light conversion kits. You are installing a completely new pre-tested soundhead.

For the Kinoton FP 20, FP 30, FP 40 and FP 50 projector ranges, reverse scan sound devices are available in three versions:

- for analog and Dolby Digital sound
- for analog sound only, not upgradable
- for analog sound with optional upgrade to Dolby Digital

For DP 70 and DP 75 projectors, reverse scan sound devices are available in two versions:

- for analog and Dolby Digital sound
- for analog sound, not upgradable



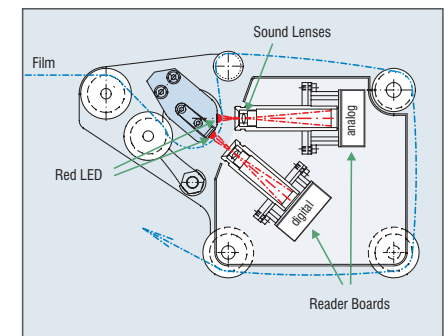
Reverse Scan Sound Device for FP 20 and FP 30



Reverse Scan Sound Device for DP 70



Reverse Scan Sound Device for DP 75



**The Reverse Scan Principle:** Scanning on the emulsion side of the film produces a far better optical sound quality than traditional reading methods.