



BARCO

9



D e a r H o m e T h e a t e r E n t h u s i a s t ,

Thank you for your interest in BARCO's dedicated Home Theater products and more particular in our top-model, the CINE9.

Just like you, we always strive for the best without any compromise. This is the reason why we developed the CINE9. Our team of highly skilled engineers – with more than 20 years of experience in professional and industrial CRT video projection technology – has spent more than ten-thousand man-hours developing a completely new concept that brings you the ultimate Home Theater projector, both in terms of image quality and prestige.

For the CINE9, we designed an entirely new optical system, critical components were carefully selected and state of the art RGB amplifiers and all digital control circuits were designed from scratch. The result is a stunning image quality: absolute pure blacks, brilliant colors, high peak whites and the highest resolution in the projection world, bringing you a Home Theater experience that wasn't possible before.

In our factory in the heart of Europe, our specialized manufacturing team carefully makes all the individual sub units, assembles and tests the projectors piece by piece, and finally tunes and measures each individual unit to guarantee maximum performance (did you know that each CINE9 comes with its own technical passport?).

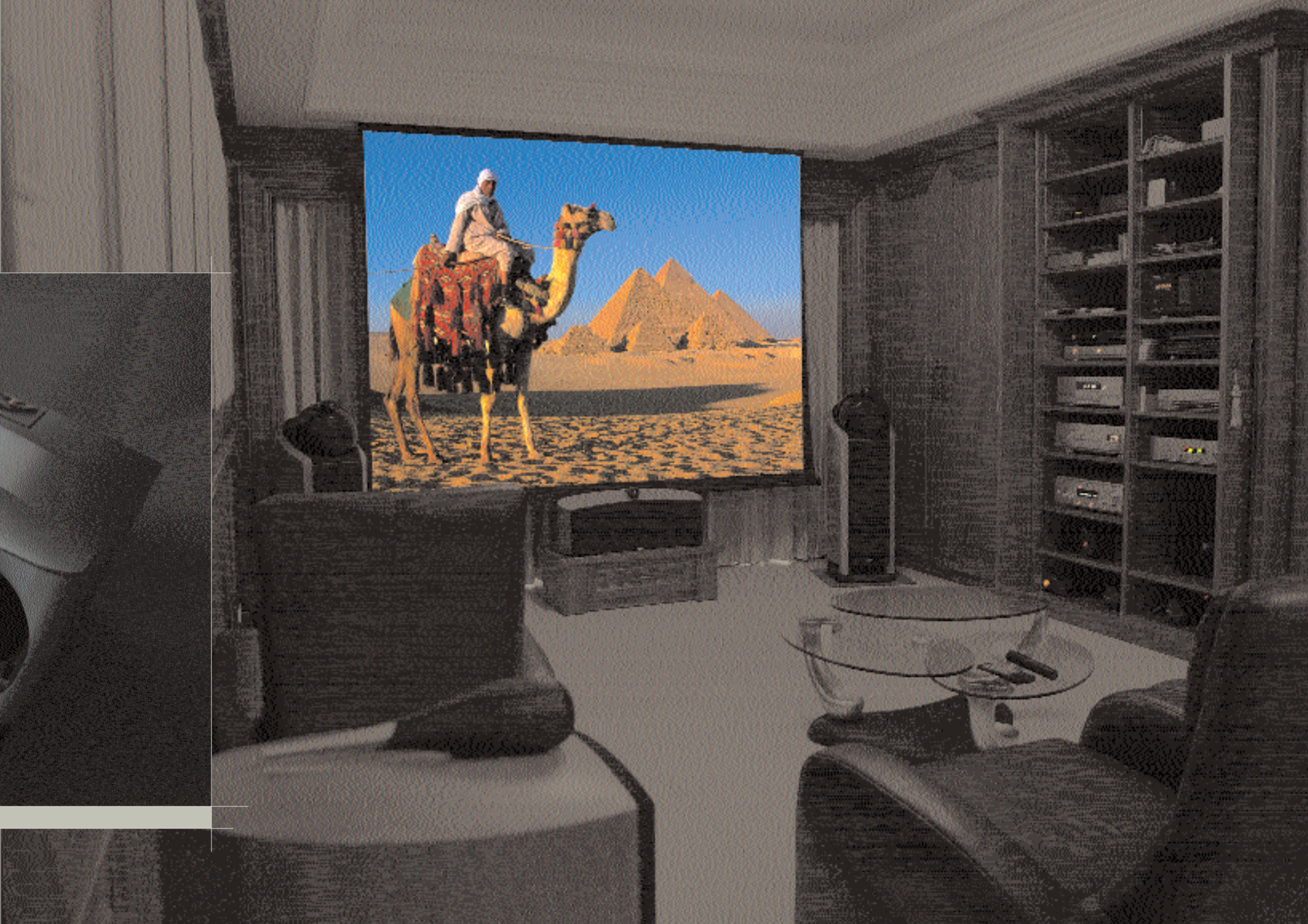
We invite you to go through the following pages to learn more about the CINE9, and to discover the real thing during a demonstration by one of our specialized dealers worldwide. We hope that ultimately, also you will join the select club of happy owners of the Ultimate Home Theater projector: the CINE9.

Yours Truly,

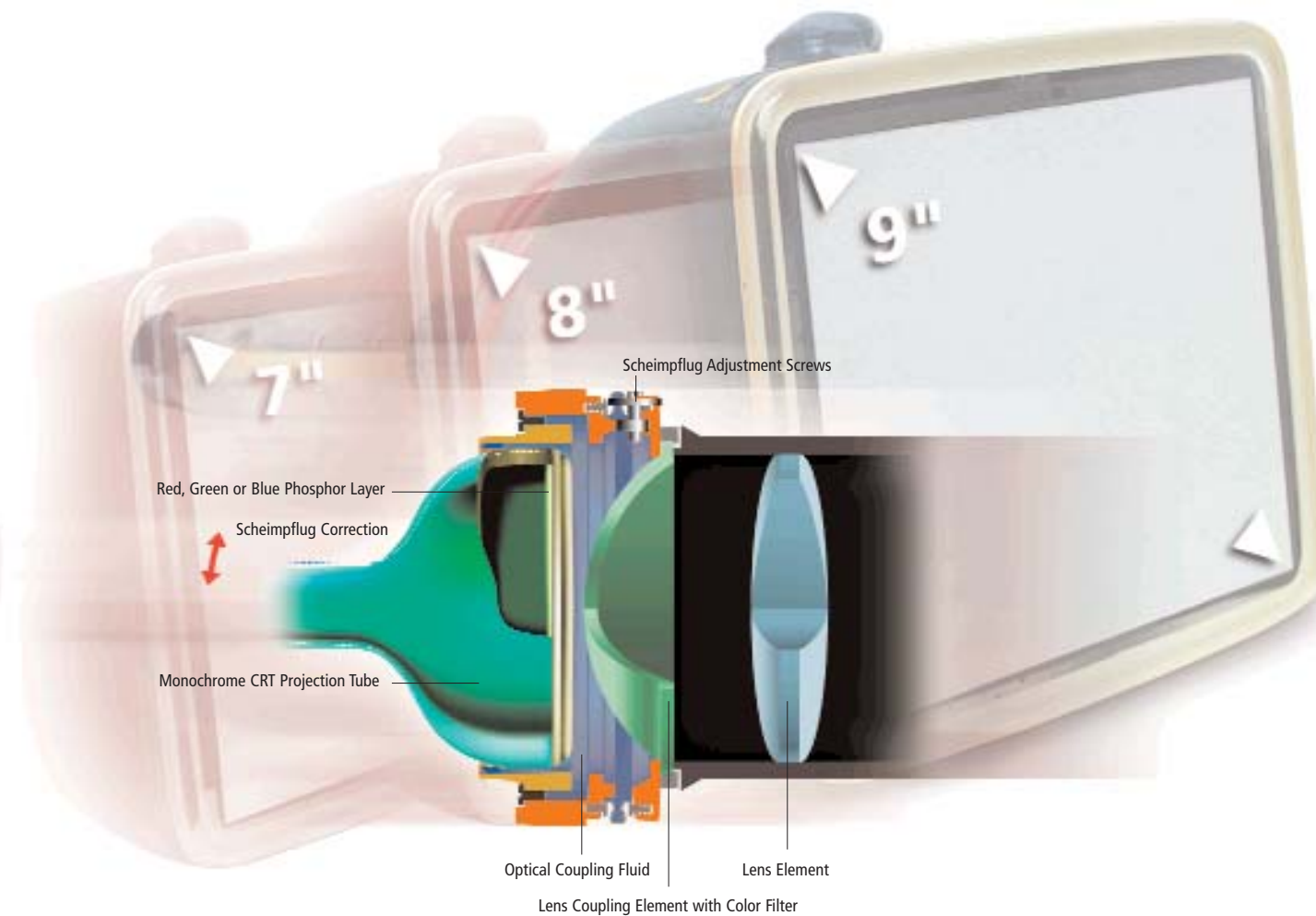
Camiel Derijcke

*CRT Technology R&D Manager
BARCO Projection Systems
Kuurne, Belgium*





EXTREME TECHNOLOGY FOR THE PERFECT IMAGE

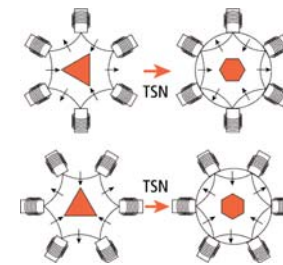


State-of-the-Art Optical System

The combination of 9-inch CRTs and super high definition lenses offers unsurpassed picture detail and realism. The assembly features liquid optical cooling and coupling, reducing halo effects (light spill) around bright objects on dark backgrounds.

The stepless optical Scheimpflug correction guarantees optimal focus from left to right and top to bottom for different screen sizes or for projection under non-standard angles.

Superb Electromagnetic Focus through Triangular Spot Nullifying™ (TSN) Technology



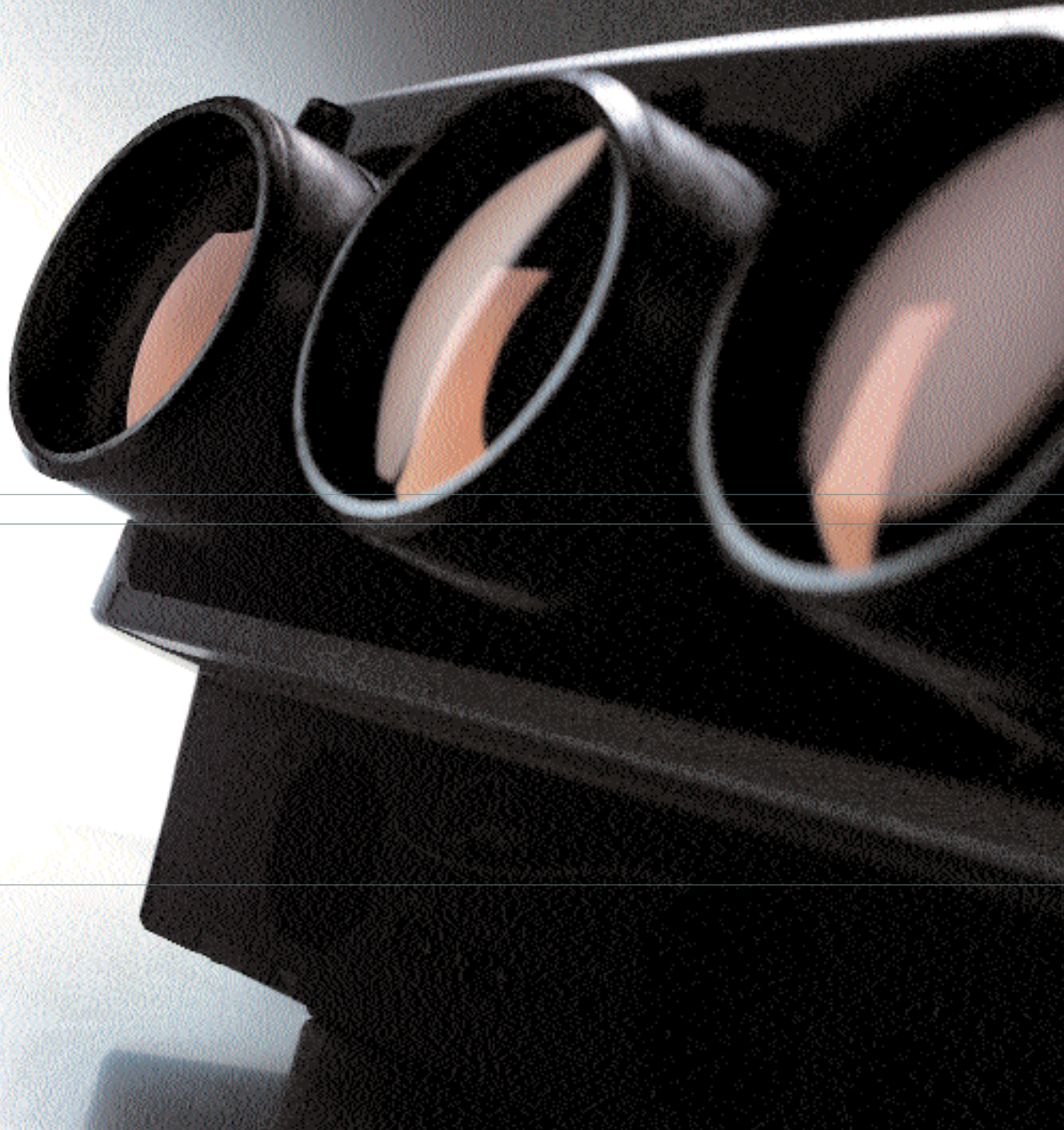
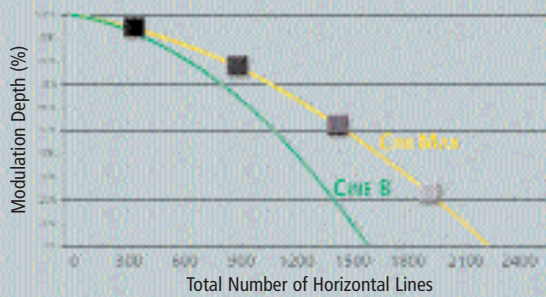
Triangular beam spot (often occurring in the screen corners) turns into a perfectly round spot through TSN.

Digitally controlled 6-pole magnets offer precise electron beam correction (perfect round shape of the beam) from corner to corner, resulting in ultra sharp images across the entire screen.

Ultra-high Picture Resolution

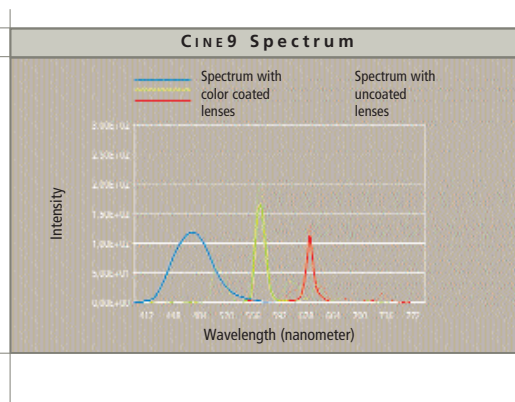
The extreme RGB Bandwidth of 180MHz in combination with the superb optical system, results in an unrivaled display resolution of more than 2,000 lines. This enables the CINE9 to display individual lines of the highest resolution sources, even the most demanding High Definition signals.

MTF Curve of CINE9 vs. CINE 8





PERFECTLY NATURAL COLOR REPRODUCTION

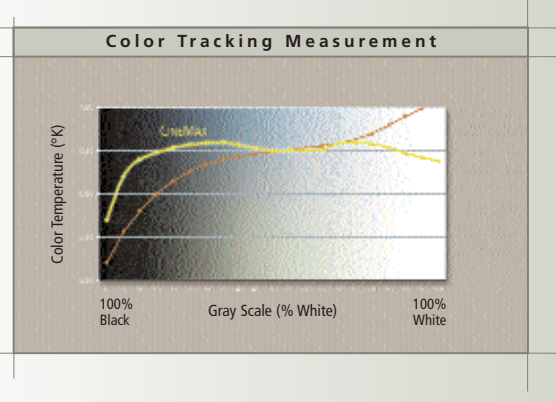


Accurate Color Primaries through Color Filtered and Corrected Lenses

Color Correction and Color Filtering are combined on the optical components of the CINE9 to guarantee the most accurate color reproduction.

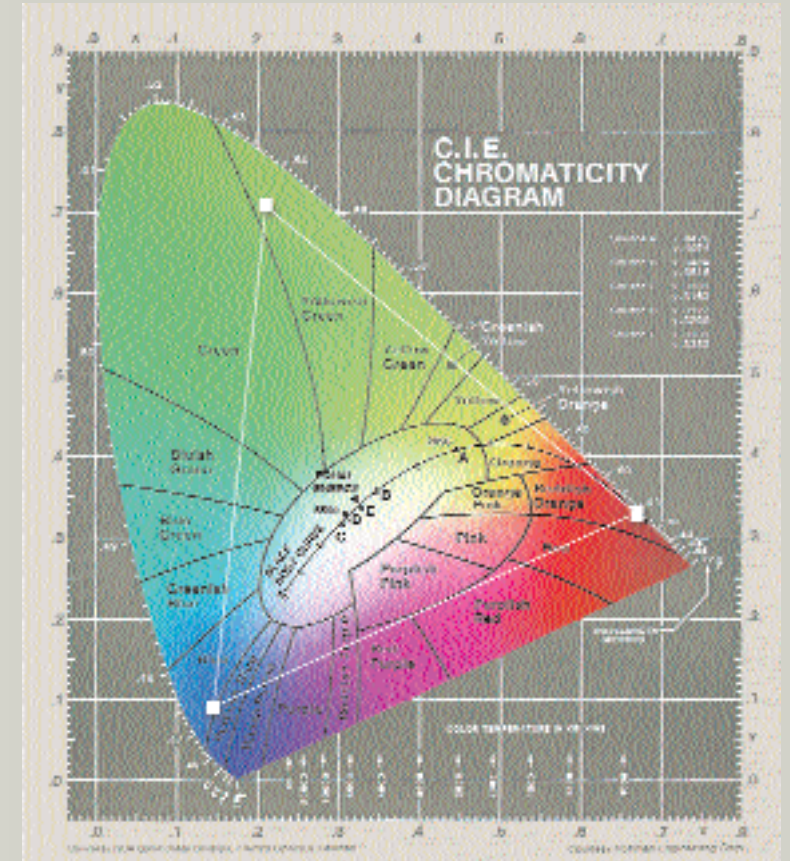
Non-Color Corrected lenses have a different magnification factor for light with different wavelengths. As the primary colors of the CRT's consist of a range of light with different wavelengths, this results in unsharp images (Color Astigmatism). The Color Corrected lenses of the CINE9 overcome this problem and assure a closer converged projection result.

Color Filtered lenses improve the color purity and saturation of the projected image. They have a special coating that filters the light from the CRT and brings the color coordinates of the primary colors closer to the standard as prescribed by the major broadcast associations.



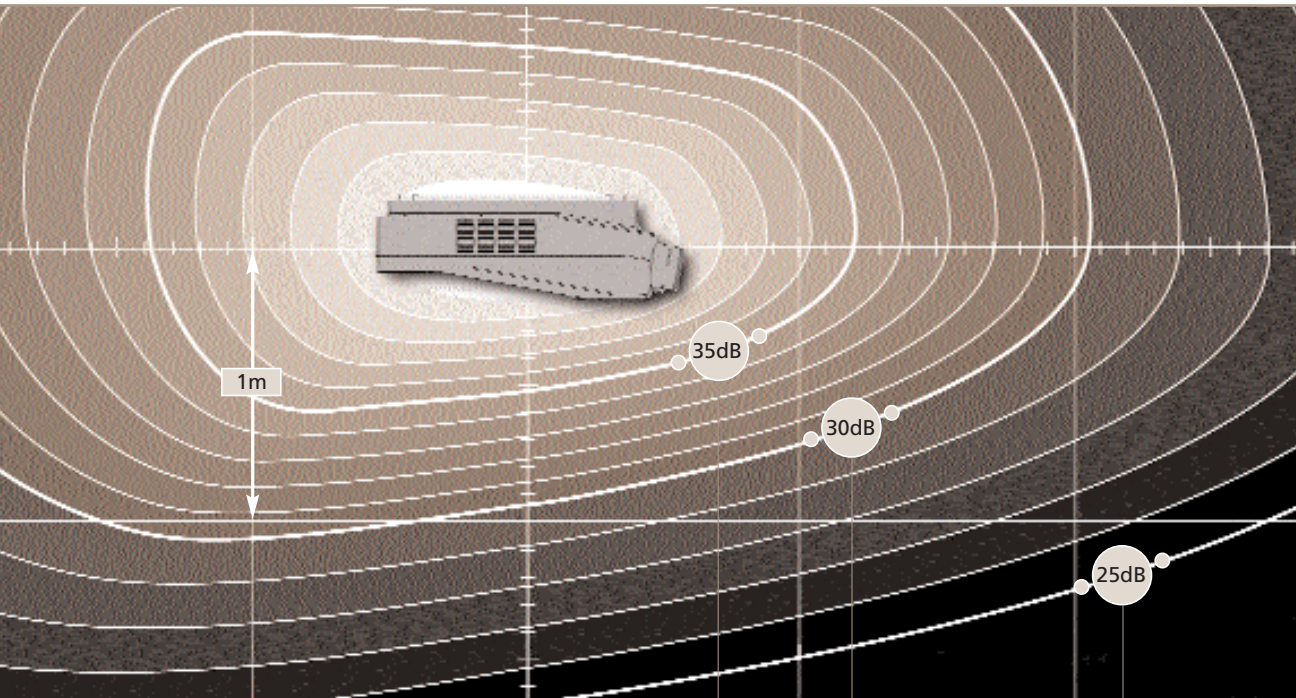
Perfect Colors through Unique Greyscale Tracking

To guarantee perfect color reproduction both in dark and bright scenes, the RGB amplifiers are precisely tuned to give the same result over the entire range from 100% Black up to 100% White. This results into unique gray scale uniformity.



The primary colors (red, green, blue), projected by the CINE9, closely match the standards as described in the CIE chromaticity diagram by world leading broadcast associations.

THE ULTRA-QUIET, LARGE SCREEN REFERENCE



comparative sound level examples:

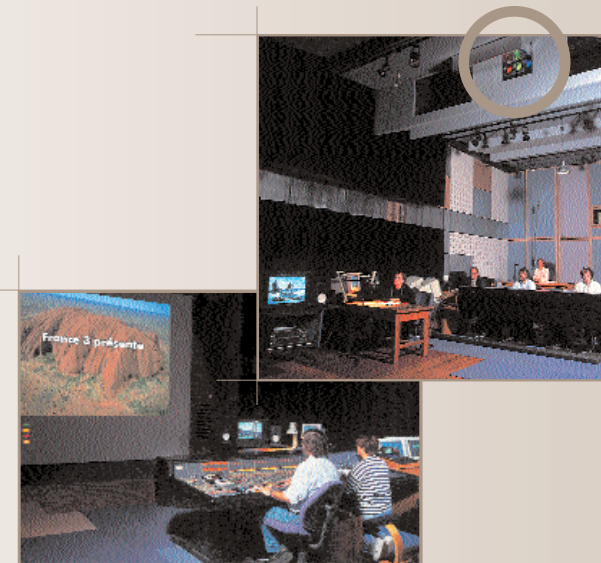
quiet home

quiet whisper at 1m/3ft

rustling leaves

Ultra Low Noise Level Brings Out Every Soundtrack Detail

Through dedicated research & development on the CINE9, fan noise has been kept to a minimum (< 30dB in typical installation at viewer's position). Electronical compensations to reduce overall heat production have been combined with internal mechanical adaptations for laminar airflow, which results in an exceptionally low noise level. Even the quietest soundtrack details remain perfectly audible.



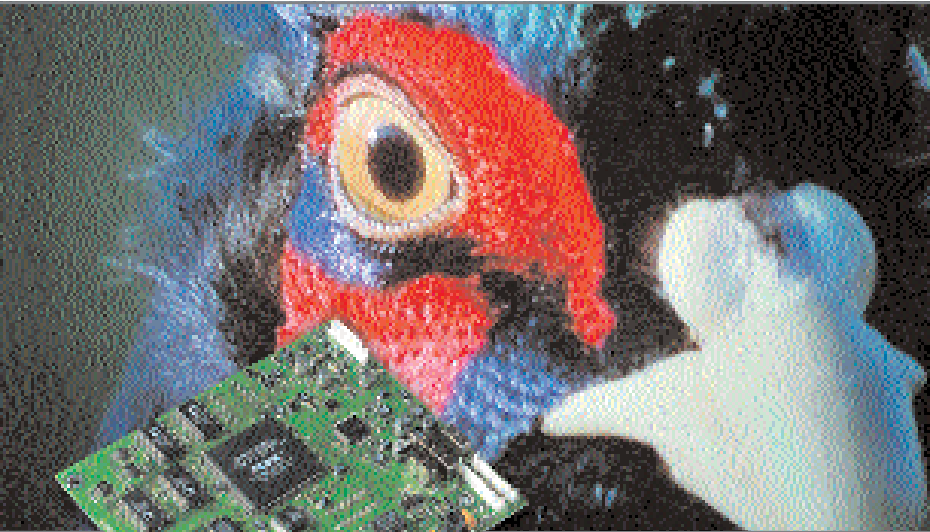
CRT Projection as Large Screen Reference Display in Video Editing & Recording Studios Worldwide.

CRT projectors in general and the CINE9 in particular are simply unbeatable in terms of color accuracy, pure black level, contrast ratio and image resolution. These and many other typical advantages make CRT the preferred technology for reference displays (monitor or projector) in professional video recording, editing and mastering studios all over the world. The display quality of the CINE9 allows video engineers to accurately evaluate the transfer and MPEG2 decoding quality of e.g. DVD sources.

ANCE DISPLAY FOR THE STUDIO



READY FOR HIGH BANDWIDTH SIGNALS



The LIMO Pro circuit board



Line-quadrupled
projected image
(non simulated)



Image Enhancement through Advanced Digital Processing

Due to the ultra-high CINE9 specifications, the video input source should be at least line doubled (32 kHz). This implies that a CINE9 needs to be combined with an external scanconverter/scaler or with BARCO's unique LIMO Pro image processing board, to be optionally built into the projector.

BARCO's LIMO Pro combines Line Doubling, Tripling or Quadrupling with Frame Doubling (100/120Hz) and offers many enhanced features:

- Film Mode Detection (combining both 2-2 Pull Down for PAL/SECAM and 3-2 Pull Down for NTSC for perfect interpolation)
- 3-Band Video Equalizer, bringing out every picture detail
- Digital Noise Reduction
- Digital Contrast Enhancement

Signal Integrity

The video inputs on the CINE9 - on goldplated BNC-connectors - have over-dimensioned bandwidth specifications to guarantee a complete distortion free signal transmission. Combined with the 180 MHz bandwidth of the internal electronics, this makes the projector absolutely 'transparent' for even the most advanced High Definition signals.

UNIQUE INDIVIDUAL MEASUREMENT PASSPORT



Each CINE9 is individually calibrated for top performance. All, parameter settings and unique characteristics of each CINE9 (such as the individual spectrum measurement passport) are kept in a separate Manufacturing Identification Certificate that comes with each projector. Accurately calibrated measurement equipment is used during both the manufacturing and alignment processes.

Light output

At 10 % peak white: 1,200 lumens ANSI:
 Boost mode: 300 ANSI⁽¹⁾ lumens
 Normal mode: 250 ANSI⁽¹⁾ lumens
 Economy mode: 195 ANSI⁽¹⁾ lumens

Contrast Ratio
 >1000:1

CRTs

High brightness, high definition liquid cooled 9" electromagnetic CRTs with a newly designed LC gun. Stepless scheinplug correction with maximum tilt angle of 15° (64 kHz)

Lenses

Super high definition, liquid coupled, and fully color corrected F1.15 lenses

Optical resolution

12 lp/mm at 50% MTF throughout the field

Screen diagonals

From 2 m / 7 ft. up to 8.8 m / 29 ft.

Scan frequencies

Horizontal: 32 - 132 kHz autolock (15 kHz with LIMOPro)
 Vertical: 37 - 210 Hz autolock

Minimal retrace time

Horizontal: < 1.8 µs
 Vertical: < 300 µs

Dimensions	inch	mm
L1	44.5	1,131
L2	37.8	961
L3	11.6	295
L4	11.4	290
H1	15.0	390
H2	11.4	290
W1	25.6	649

Max. addressable display resolution

2,500 x 2,000 Pixels

Max. video and HDTV resolution

2,500 TV lines

RGB bandwidth

180 MHz (-3dB)

Horizontal linearity

< ±0.25 % distortion @ 1280 x 1024
 < ±1 % distortion throughout the full horizontal frequency range

Inputs

- RGB or component (Y, R-Y, B-Y) input on 5 BNC-connectors, with automatic sync detection and sync polarity, with sync on green or separate sync
- RGB analog input on D9-connector, with automatic sync detection and polarity (optional D9-BNC adapter available)
- Video (PAL, SECAM, NTSC 3.58, NTSC 4.43), loop-through (2xBNC) with 75 Ohm termination switch⁽²⁾
- S-Video input (4-pin mini-DIN), loop through with 75 Ohm termination switch⁽²⁾

Remote control

A backlit user-friendly infrared remote control for control of:
 • Source switching
 • User settings per source (brightness, contrast, color, hue, sharpness, geometry, convergence)

⁽¹⁾ Measurement method conforms to ANSI IT7.215 standard. Measured with HQF 900 Lens

⁽²⁾ Only with LIMOPro

Special features

- On-screen menus selectable between English, French, German and Spanish
- 48 frequency-related memory banks
- Colour temperature adjustment (3200°K, 5400°K, 6500°K, 9300°K or custom)

AC power consumption

Max. 800 W [230VAC +15%/-10%]

Safety regulations

The CINE9 complies with UL1950 and EN60950.

Electromagnetic interference

The CINE9 complies with FCC Rules & Regulations, part 15 Class B and CE EN55022 Class B, as required for home use.

Min. airconditioning in enclosure

2,900 BTU/hour

Weight	lbs.	Kg
Net	187	85
Shipping	260	118

Order Information

CINE9	R9002400
CINE9 with LIMO Pro	R9002401

Projector Control Software Advanced Version	R9828690
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D9-BNC adapter	R9827840
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Ceiling mount:

- With pulley system R9827341
- Without pulley system R9827342

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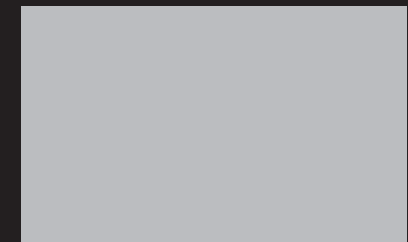
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www.barco.com/projection_systems



BARCO Projection Systems
is an ISO 9001 registered
company.

The information and data given are typical for
the equipment described. However any individual
item is subject to change without any notice.



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