

Digitale Cinema projectie opleiding

D2 Benelux

16 11 2011



the power of digital

Digitale Cinema projectie opleiding

2

Agenda

12:00	Ontvangst koffie-broodjes
13:00	DCI projectie systeem Overzicht 2D, 3D technologie Projectie DCP, blu-ray, PC Theatre Management System Bediening/ onderhoud Projector - Server Hoe creëer je een eigen DCP
Break	
15:30	Demo screening 2D, 3D (actief, passief 3D systeem)
16:30	Vragen en antwoorden



the power of digital

Who is d2 ?

Founded in 2000

Office in Antwerp, Milaan, Teramo

Activities

Point of Sale

Point of Information / Kiosks

Digital Signage / Multimedia

Digital Projection & sound technology

ICT

VPN, LAN/WAN connectivity

Hotspot connectivity

Backup and disaster recovery

Webhosting

Software Development

Internet sales platform

POS Software

Oracle Value Chain partner

Payment Solutions

Certification ATOS (Banksys)

Interpay (NL), Cetrel (LU)

Isabel installation partner (BE)

Service

After Sales service – 24/7 service desk

Single Point of Contact

Network Operations Center

Network analysis

Distance Monitoring



the power of digital

Digitale Cinema projectie opleiding

4

Agenda

12:00 Ontvangst koffie-broodjes

13:00 DCI projectie systeem

Overzicht 2D, 3D technologie

Projectie DCP, blu-ray, PC

Theatre Management System

Bediening/ onderhoud Projector - Server

Hoe creëer je een eigen DCP

Break

15:30 Demo screening 2D, 3D (actief, passief 3D systeem)

16:30 Vragen en antwoorden

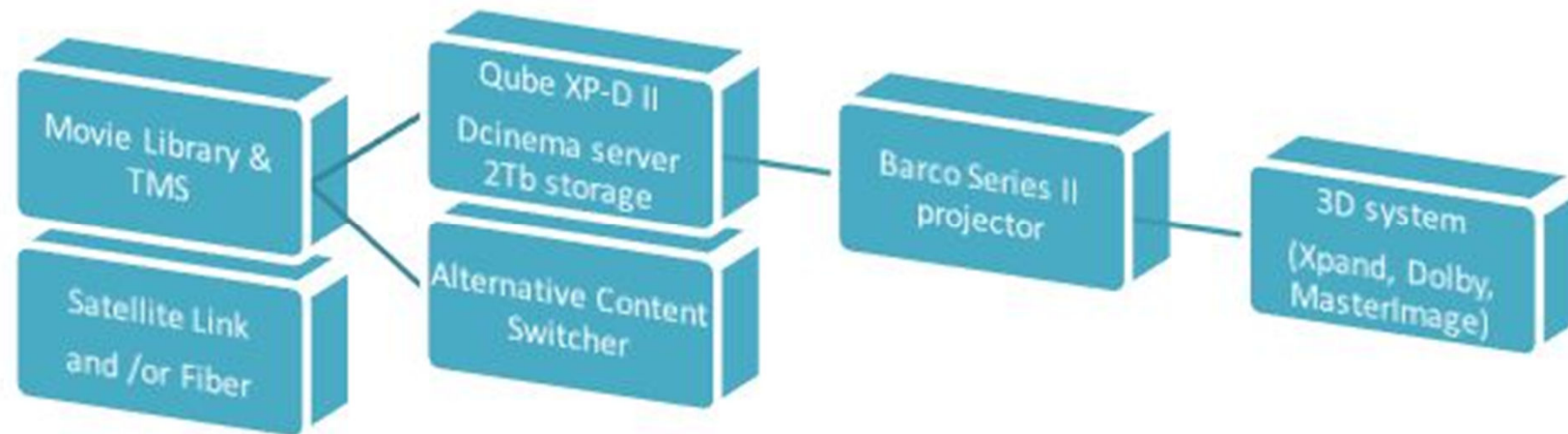


the power of digital

Digitale Cinema projectie opleiding

5

DCI projectie systeem

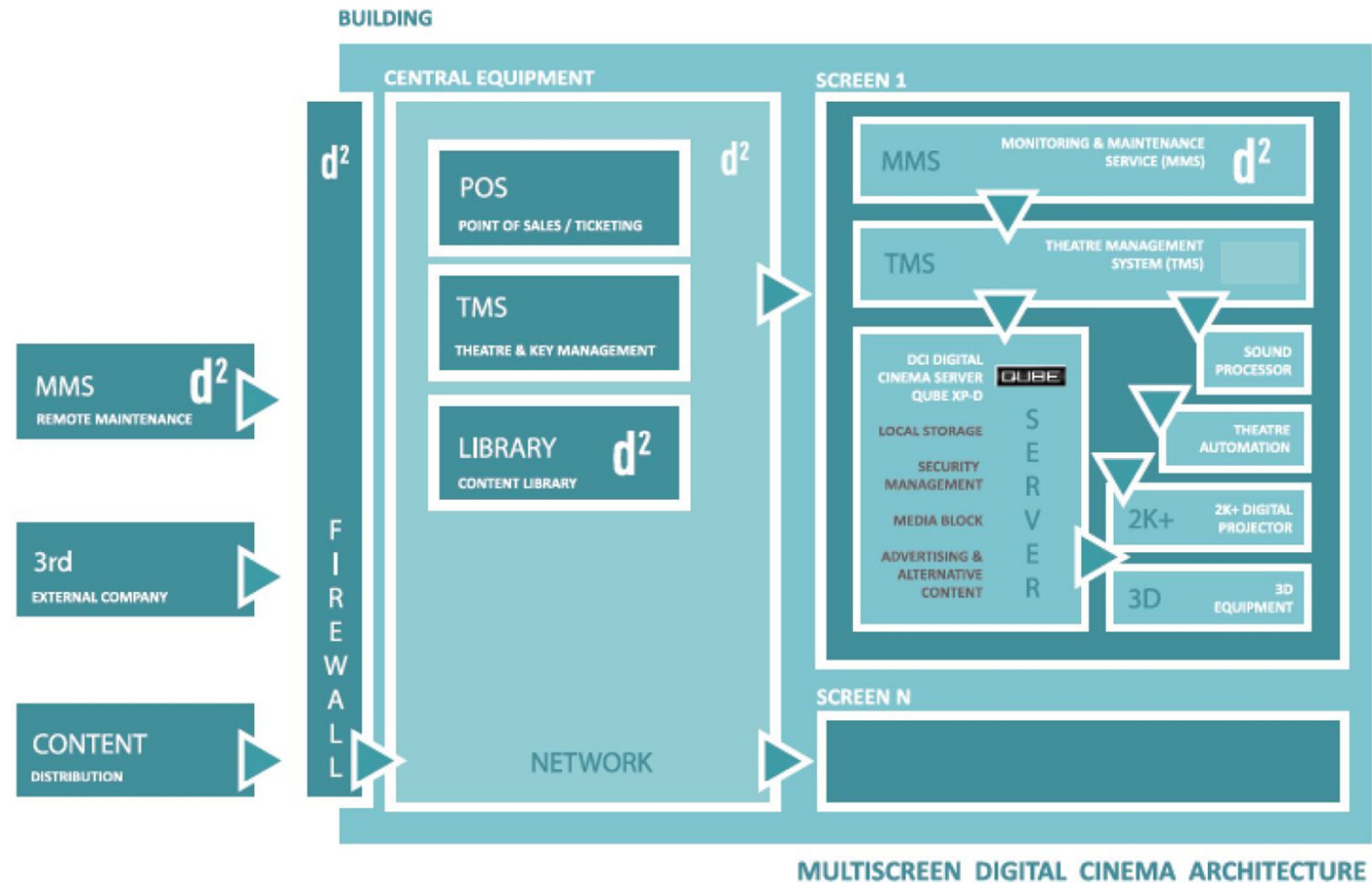


the power of digital

Digitale Cinema projectie opleiding

6

Digital Technology : overview



d2

the power of digital

Digitale Cinema projectie opleiding

7

Digital Technology : DCI

Digital Cinema Initiatives, LLC (DCI) was created in 2002.

Joint venture of Disney, Fox, Paramount, Sony Pictures Entertainment, Universal and Warner Bros Studios.

Specifications for an open architecture for digital cinema.

Uniform and high level of technical performance, reliability and quality control.

Server- and projector manufacturers have to be compliant with the standards set forth by DCI.

<http://www.dcinovies.com>



the power of digital

Digitale Cinema projectie opleiding

8

Digital Technology : Projectors

Sony



4K 2D
2K 3D

SXRD

Christie



2K 2D
4K 2D
4K 3D

DLP

Barco



2K 2D
4K 2D
4K 3D

DLP

NEC



2K 2D
4K 2D
4K 3D

DLP



the power of digital

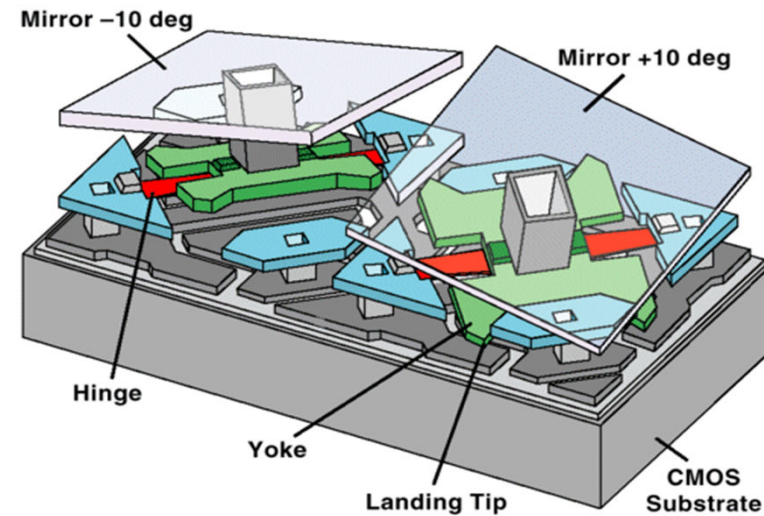
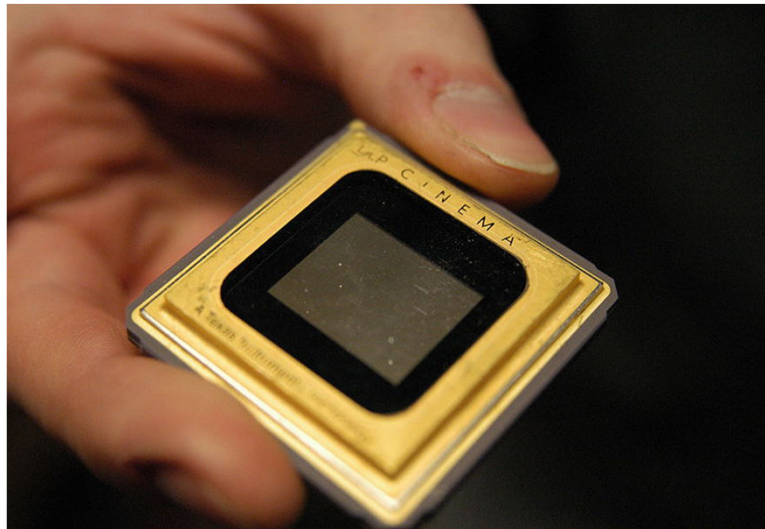
Digitale Cinema projectie opleiding

9

Digital Technology : DLP (TI)

- DLP: the technology choice in Digital Cinema

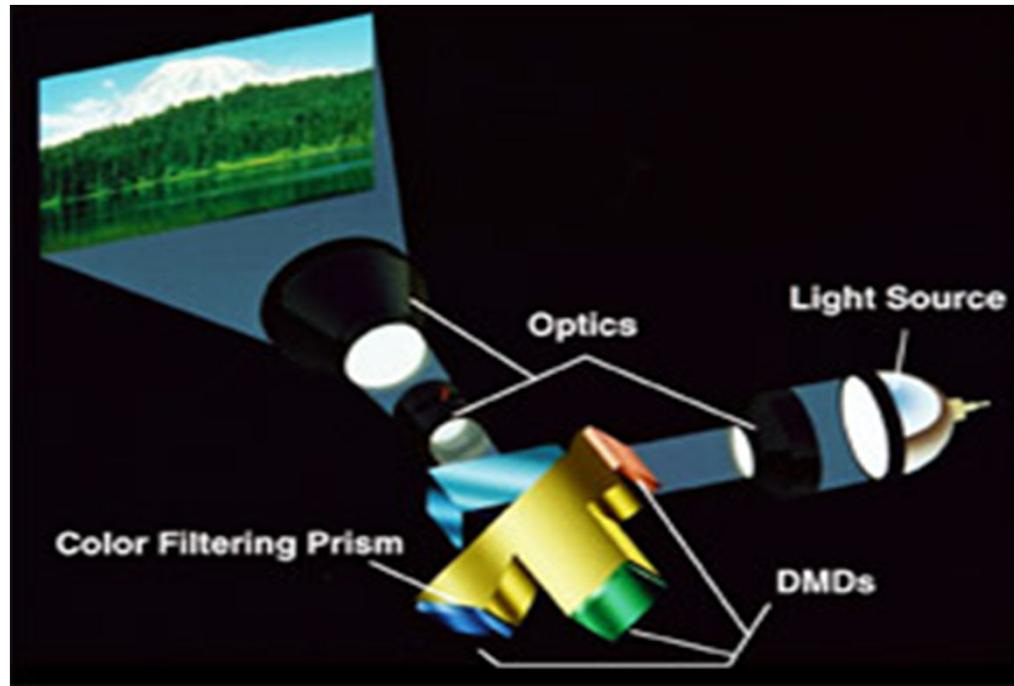
Average life time : 100.000 hours ; minimum life time : 60.000 hours
(15 years with an average daily use)



the power of digital

Digitale Cinema projectie opleiding

Digital Technology : DLP (TI)



In a 3 chip system, the white light generated by the lamp passes through a prism that divides it into red, green and blue. Each DLP chip is identified for each of these three colors; the colored light that the micromirrors reflect is then combined and passed through the projection lens to form an image.

d²

the power of digital

Digitale Cinema projectie opleiding

Digital Technology : server

11

Doremi



Dolby



GDC



Qube



d2

the power of digital

Digitale Cinema projectie opleiding

Digital Technology : maintenance projector

Barco DP2K-XXC series



d2

the power of digital

Digitale Cinema projectie opleiding

Digital Technology : maintenance projector

Barco DP2K-XXB series

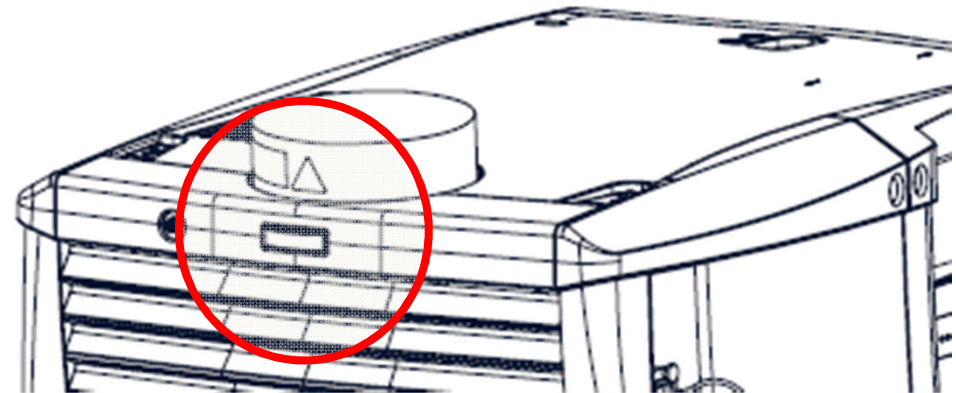
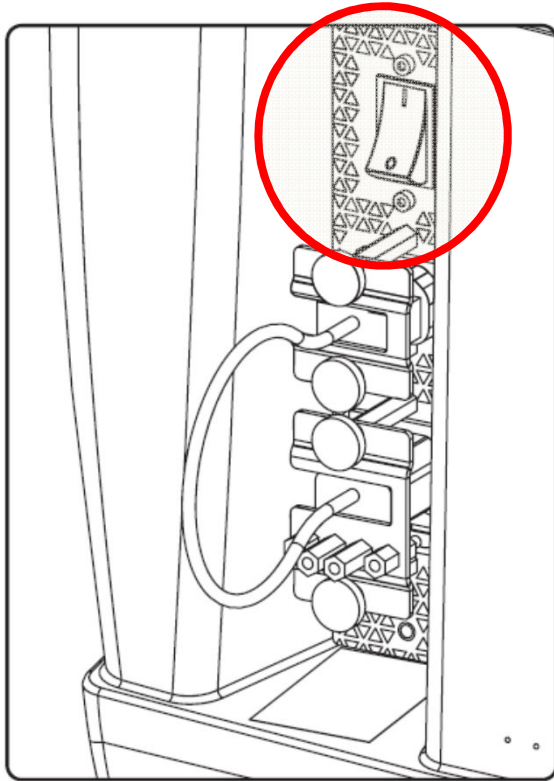


d2

the power of digital

Digitale Cinema projectie opleiding

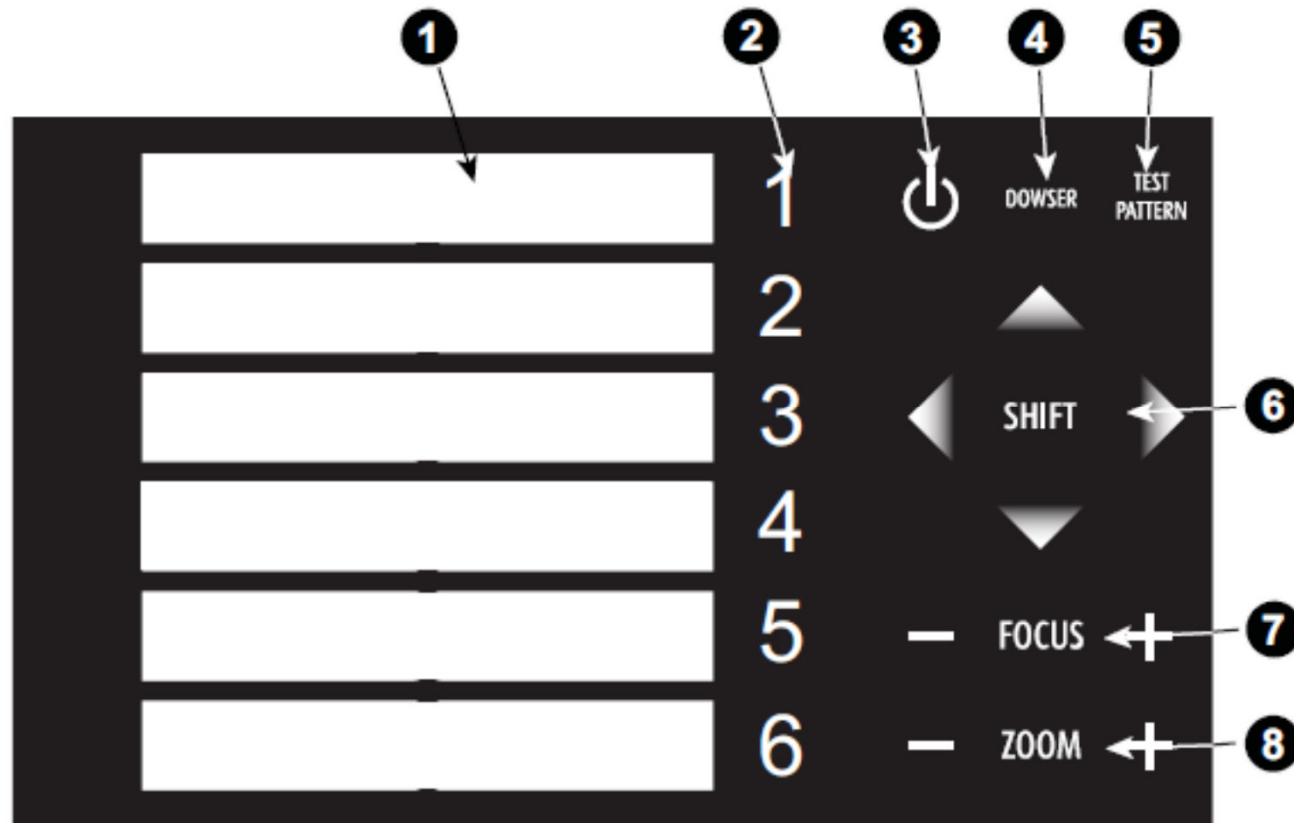
Digital Technology : maintenance projector



the power of digital

Digitale Cinema projectie opleiding

Digital Technology : maintenance projector

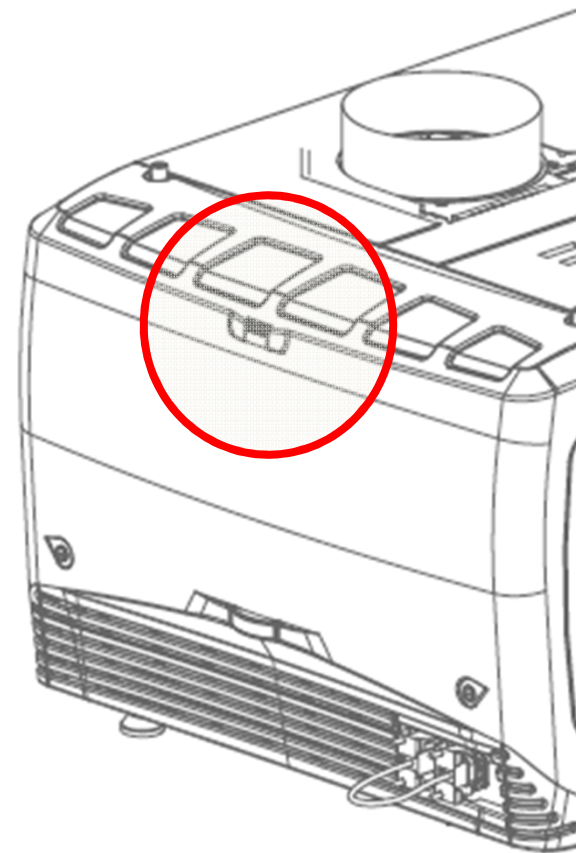
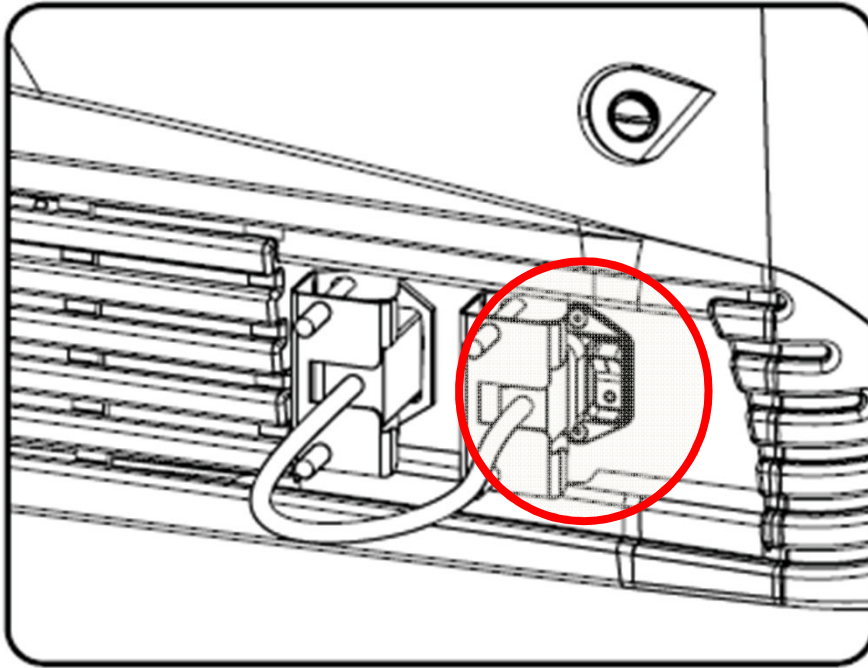


d2

the power of digital

Digitale Cinema projectie opleiding

Digital Technology : maintenance projector

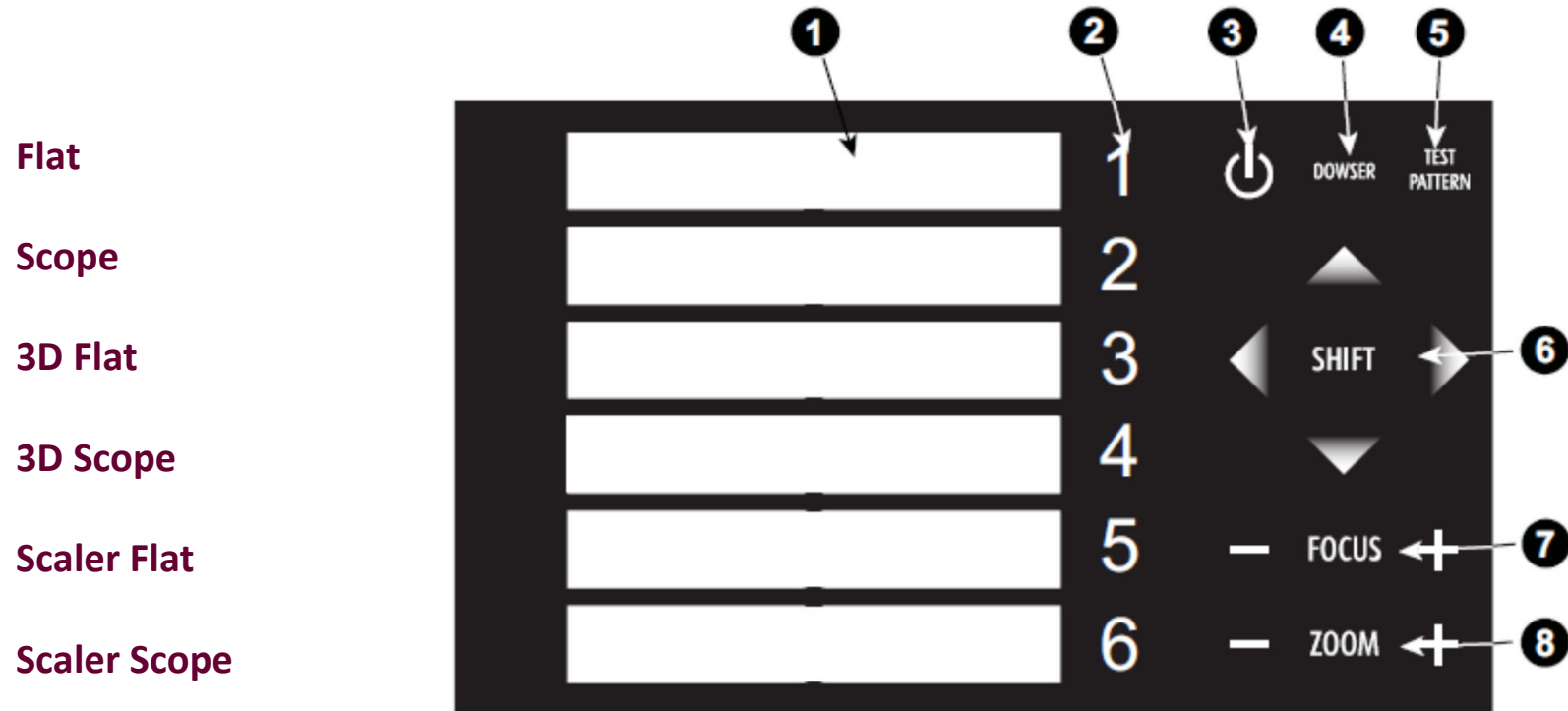


d2

the power of digital

Digitale Cinema projectie opleiding

Digital Technology : maintenance projector



the power of digital

Digitale Cinema projectie opleiding

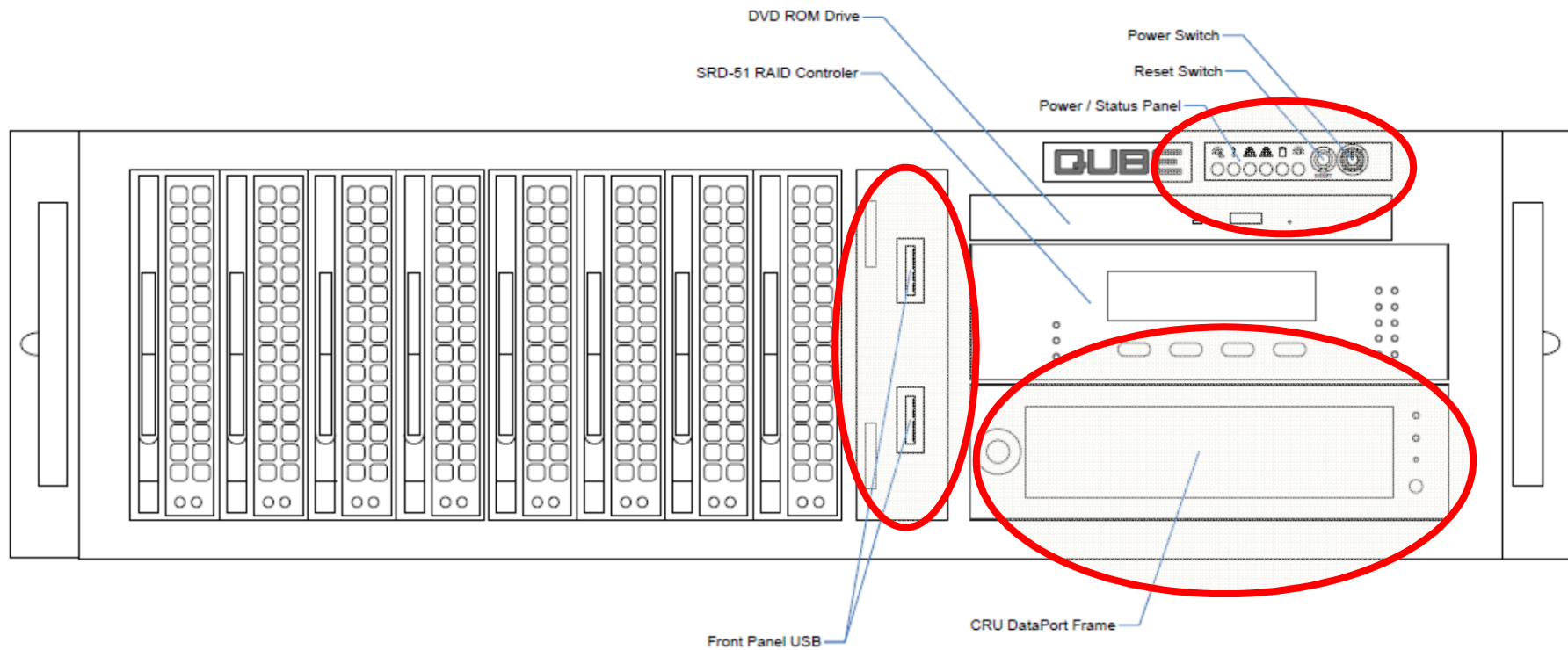
Digital Technology : maintenance server



the power of digital

Digitale Cinema projectie opleiding

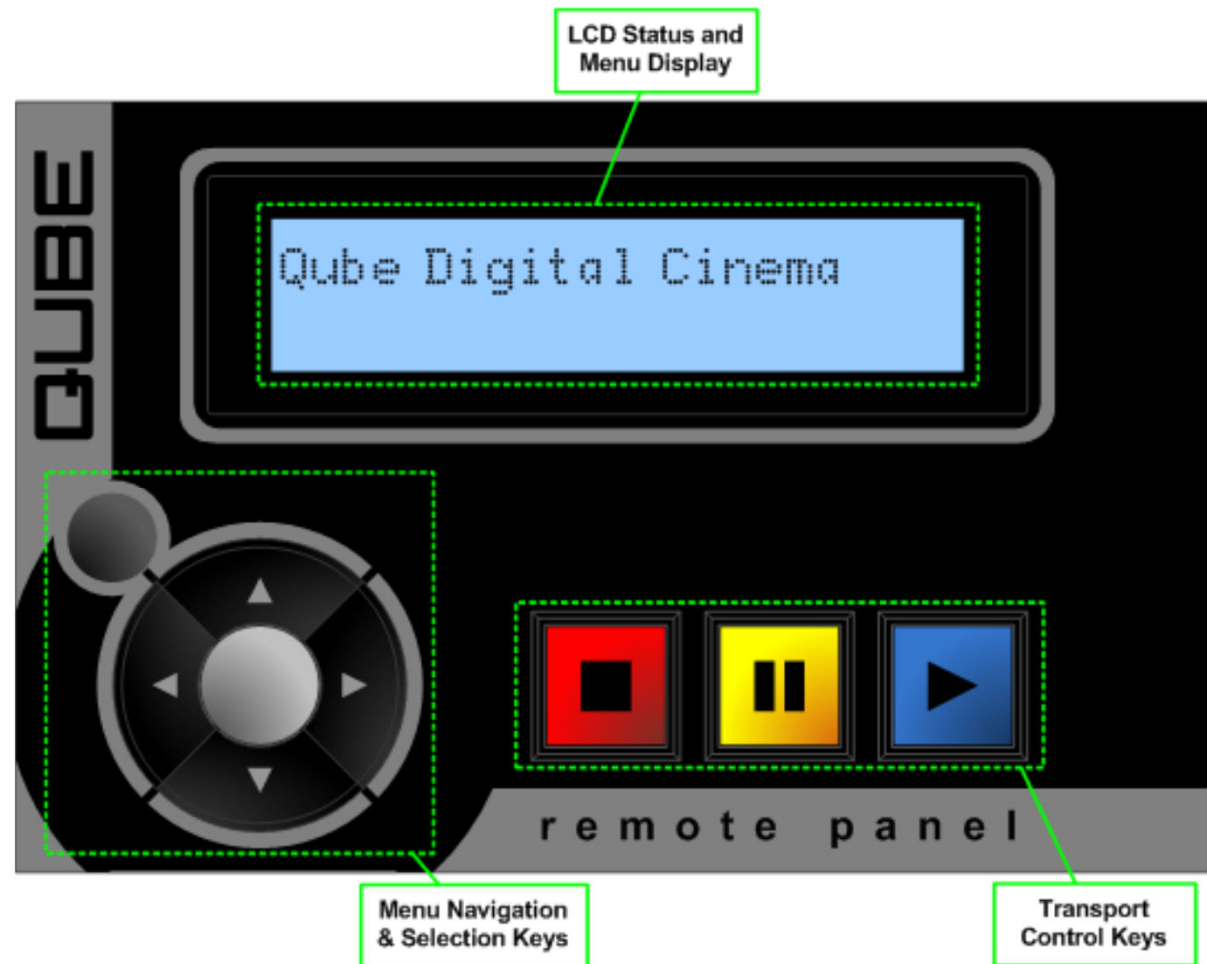
Digital Technology : maintenance server



the power of digital

Digitale Cinema projectie opleiding

Digital Technology : maintenance server



d2

the power of digital

Digitale Cinema projectie opleiding

Digital Technology : maintenance server



the power of digital

Digitale Cinema projectie opleiding

22

Agenda

12:00 Ontvangst koffie-broodjes

13:00 DCI projectie systeem

Overzicht 2D, 3D technologie

Projectie DCP, blu-ray, PC

Theatre Management System

Bediening/ onderhoud Projector - Server

Hoe creëer je een eigen DCP

Break

15:30 Demo screening 2D, 3D (actief, passief 3D systeem)

16:30 Vragen en antwoorden



the power of digital

Digitale Cinema projectie opleiding

23

3D

	Master Image	Xpand	Dolby	Panavision
Glasses	Passive	Active	Passive	Passive
Silverscreen needed	yes	no	no	no
White screen	no	yes	yes	yes
Light efficiency	15%	18%	12%	15%



d2

the power of digital

Digitale Cinema projectie opleiding

3D

24

1. Master Image

1. Silverscreen needed / too much light for 2D
2. Passive system glasses
3. single use polarized glasses : cheaper, less operational costs
4. Simple installation with no projector modifications.



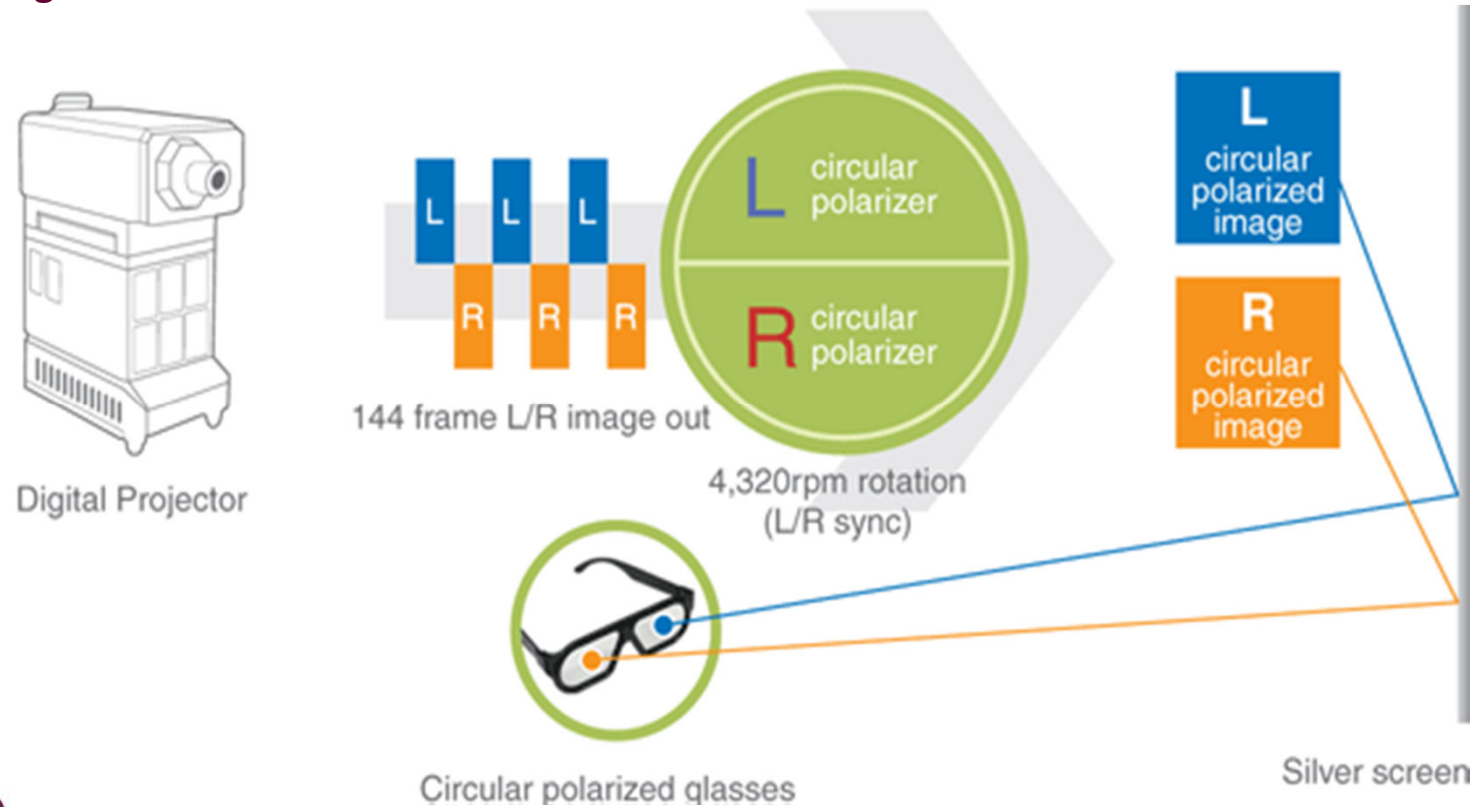
the power of digital

Digitale Cinema projectie opleiding

3D

25

1. Master Image



d2

the power of digital

Digitale Cinema projectie opleiding

26

3D

2. Xpand

1. No Silverscreen needed
2. Active glasses : more expensive and more operational cost but reusable
3. Cheaper system
4. Easy to move from one screen



d2

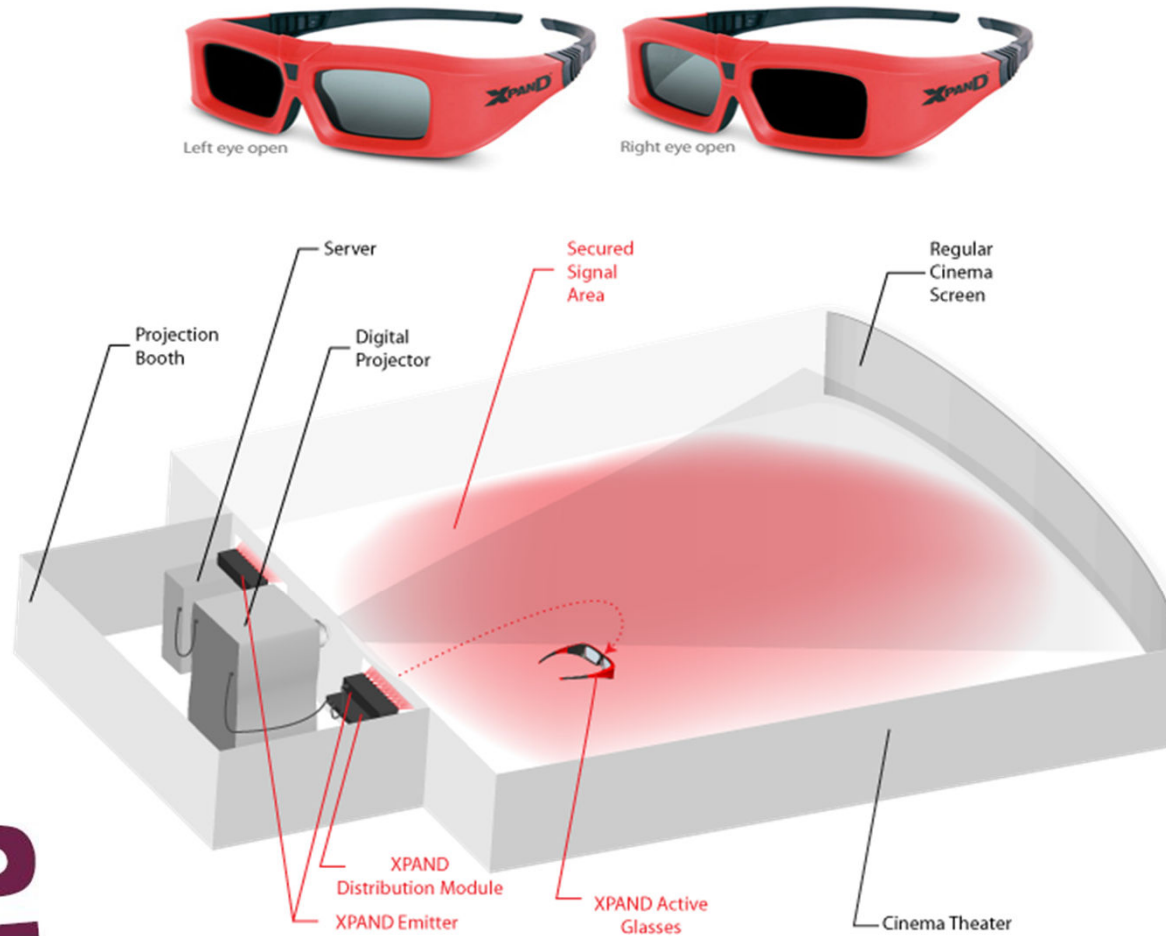
the power of digital

Digitale Cinema projectie opleiding

3D

27

2. Xpand



d2

the power of digital

Digitale Cinema projectie opleiding

3D

28

3. Dolby 3D

1. No Silverscreen needed
2. Passive glasses, reusable but more expensive than Master Image
3. Build in in projector



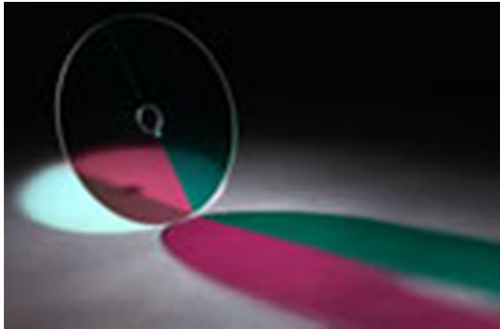
the power of digital

Digitale Cinema projectie opleiding

29

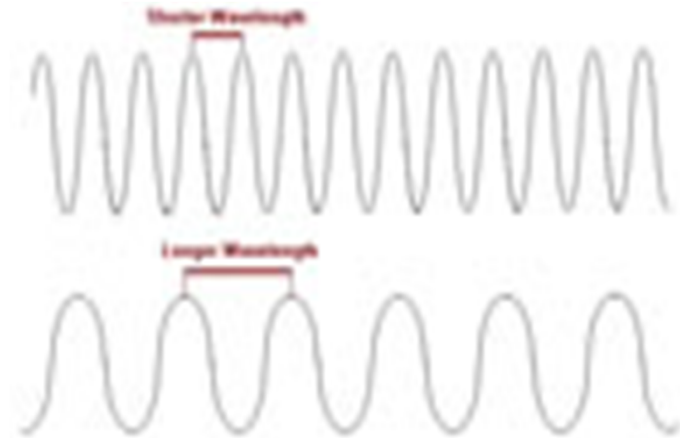
3D

3. Dolby 3D



Each half of the Dolby color wheel has a different filter to separate the left and right images in a stereo pair.

Light travels in waves and the distance between the crests or valleys is called the wavelength and can be specified in nanometers (nm). Filters can be designed to pass or block any specific wavelengths and that's what Dolby 3D glasses do.



d²

the power of digital

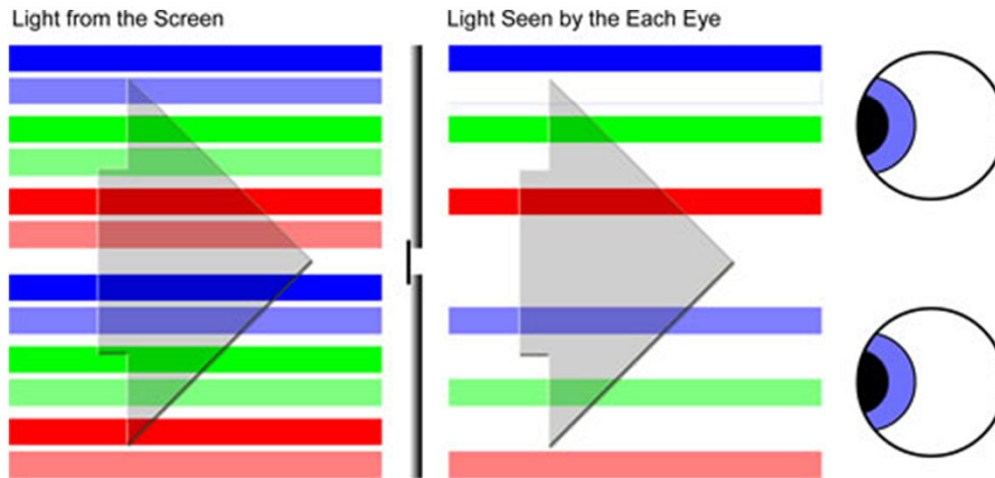
Digitale Cinema projectie opleiding

30

3D

3. Dolby 3D

Dolby glasses have a red/cyan tinge to them but allow different parts of the red, green and blue spectrum to pass to each eye. The lenses are curved to reduce ghosting.



A color wheel in front of a Dolby 3D projector lets through selected wavelengths in the red, green and blue channels and blocks the rest. Although both eyes see red, green and blue, the wavelengths for each eye are different so a viewer's left eye sees the left image and the other eye see the right.

d2

the power of digital

Digitale Cinema projectie opleiding

3D

31

4. Panavision

1. White or silver screen
2. A spinning filter wheel in the transmits images to each eye, automatically.
3. Re-usable passive glasses
4. Washing / Sanitizing System.



the power of digital

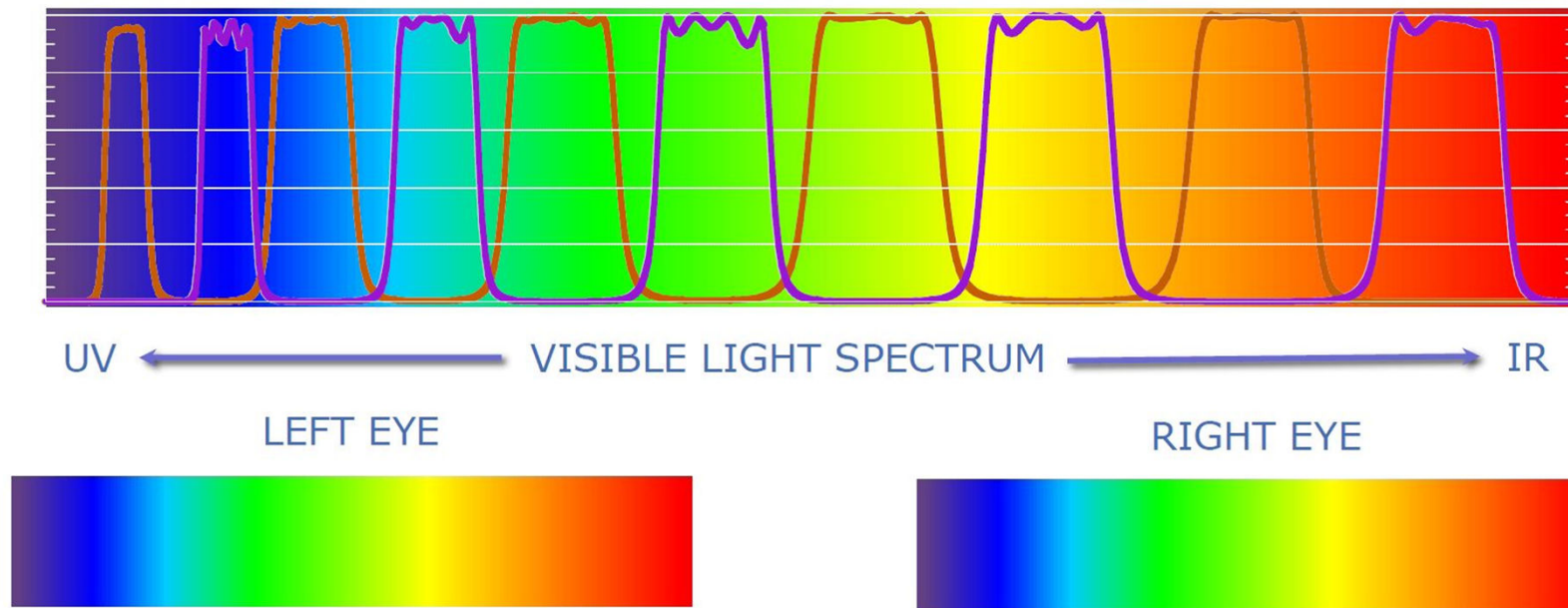
Digitale Cinema projectie opleiding

3D

32

Panavision 3D System

SPECTRAL COMB FILTER TECHNOLOGY



d²

the power of digital

Digitale Cinema projectie opleiding

33

Agenda

12:00 **Ontvangst koffie-broodjes**

13:00 **DCI projectie systeem**

Overzicht 2D, 3D technologie

Projectie DCP, blu-ray, PC

Theatre Management System

Bediening/ onderhoud Projector - Server

Hoe creëer je een eigen DCP

Break

15:30 **Demo screening 2D, 3D (actief, passief 3D systeem)**

16:30 **Vragen en antwoorden**



the power of digital

Digitale Cinema projectie opleiding

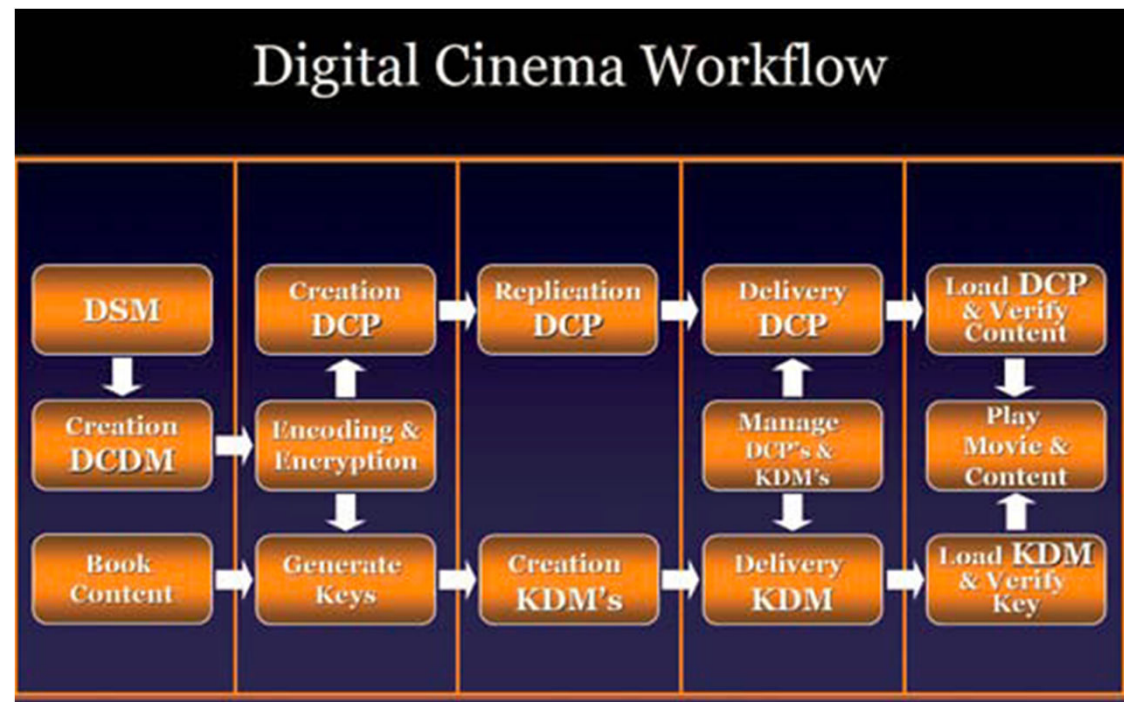
34

DCP

DCP creation is the final step in Film Production for the delivery of a digital master for distribution to Digital Cinema screens.

A complete Digital Cinema Package (DCP) is the collection of all files necessary for a digital cinema work
This will include

- an ASSETMAP,
- a VOLINDEX,
- a Packing List (PKL),
- one or more Composition Playlist(s) and
- all sound, picture and subtitle track files.



the power of digital

Digitale Cinema projectie opleiding

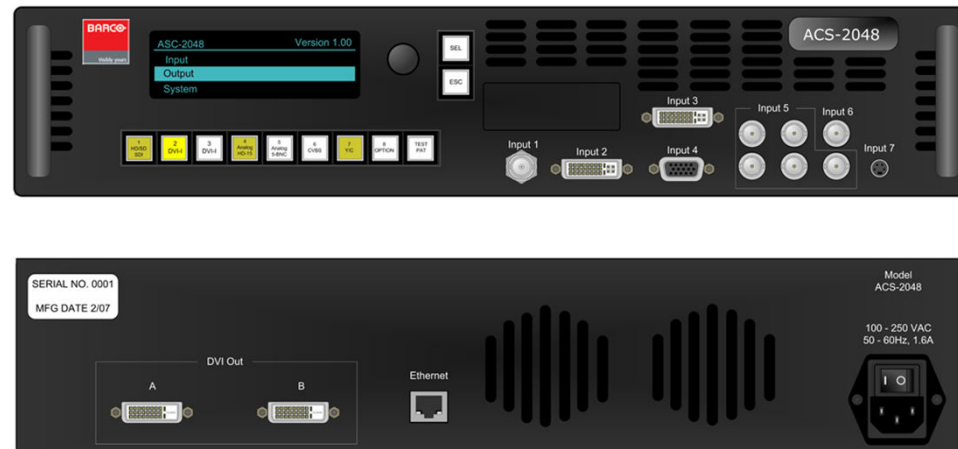
Bluray – PC -Other Media

35

Media Scaler : translates media files to a format the projector can screen.

Bluray or DVD can be connected to this machine which will transform the files in a correct format for the projector.

Also a PC , for presentation, or other media can be connected to this scaler.



d2

the power of digital

Digitale Cinema projectie opleiding

36

Agenda

12:00 **Ontvangst koffie-broodjes**

13:00 **DCI projectie systeem**

Overzicht 2D, 3D technologie

Projectie DCP, blu-ray, PC

Theatre Management System

Bediening/ onderhoud Projector - Server

Hoe creëer je een eigen DCP

Break

15:30 **Demo screening 2D, 3D (actief, passief 3D systeem)**

16:30 **Vragen en antwoorden**



the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

37

- **Management of content, inserted in server**
- **Management of KEYS**
- **Buiding and planning of shows in a week schedule**
- **Control automatisisation**

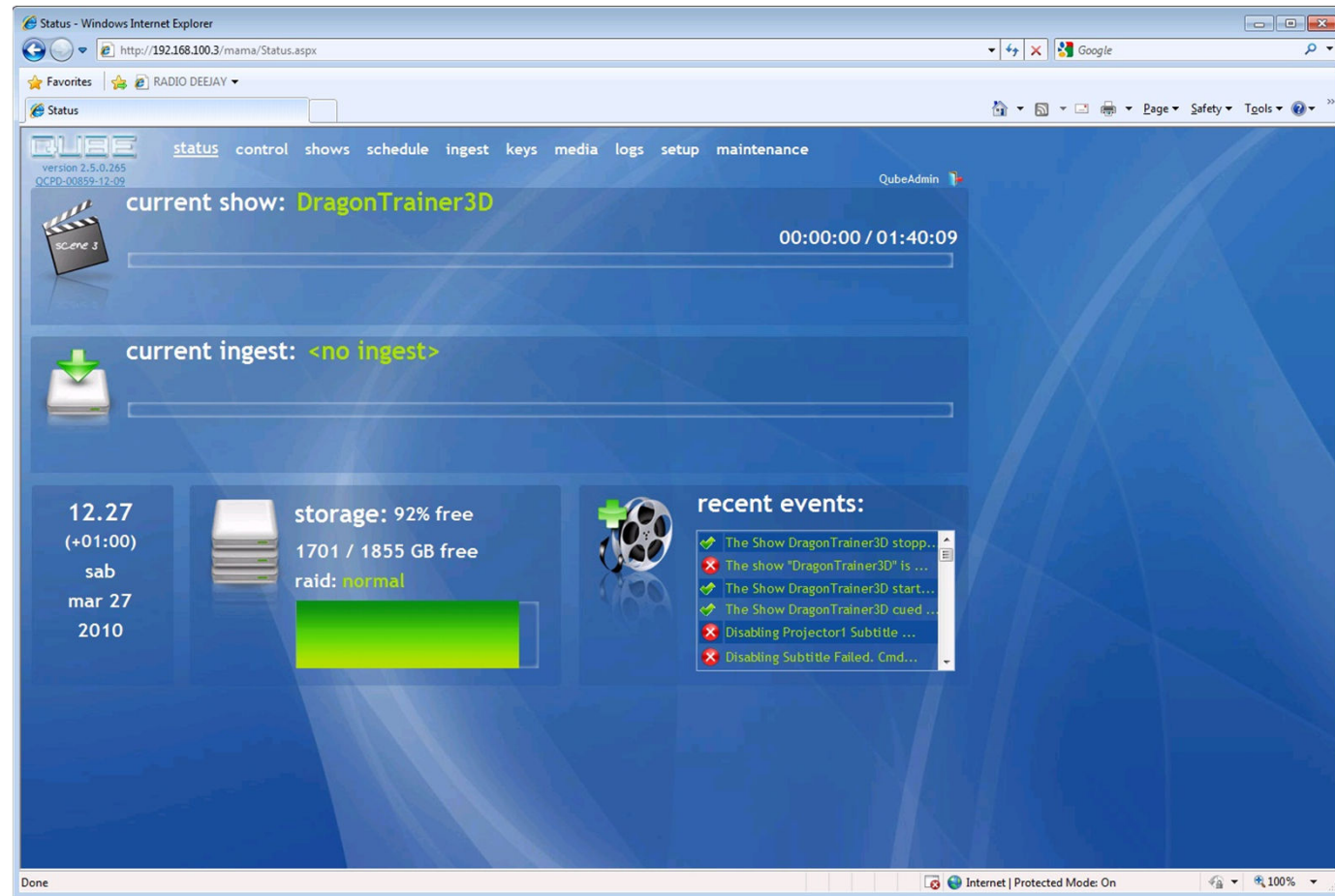


the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

38



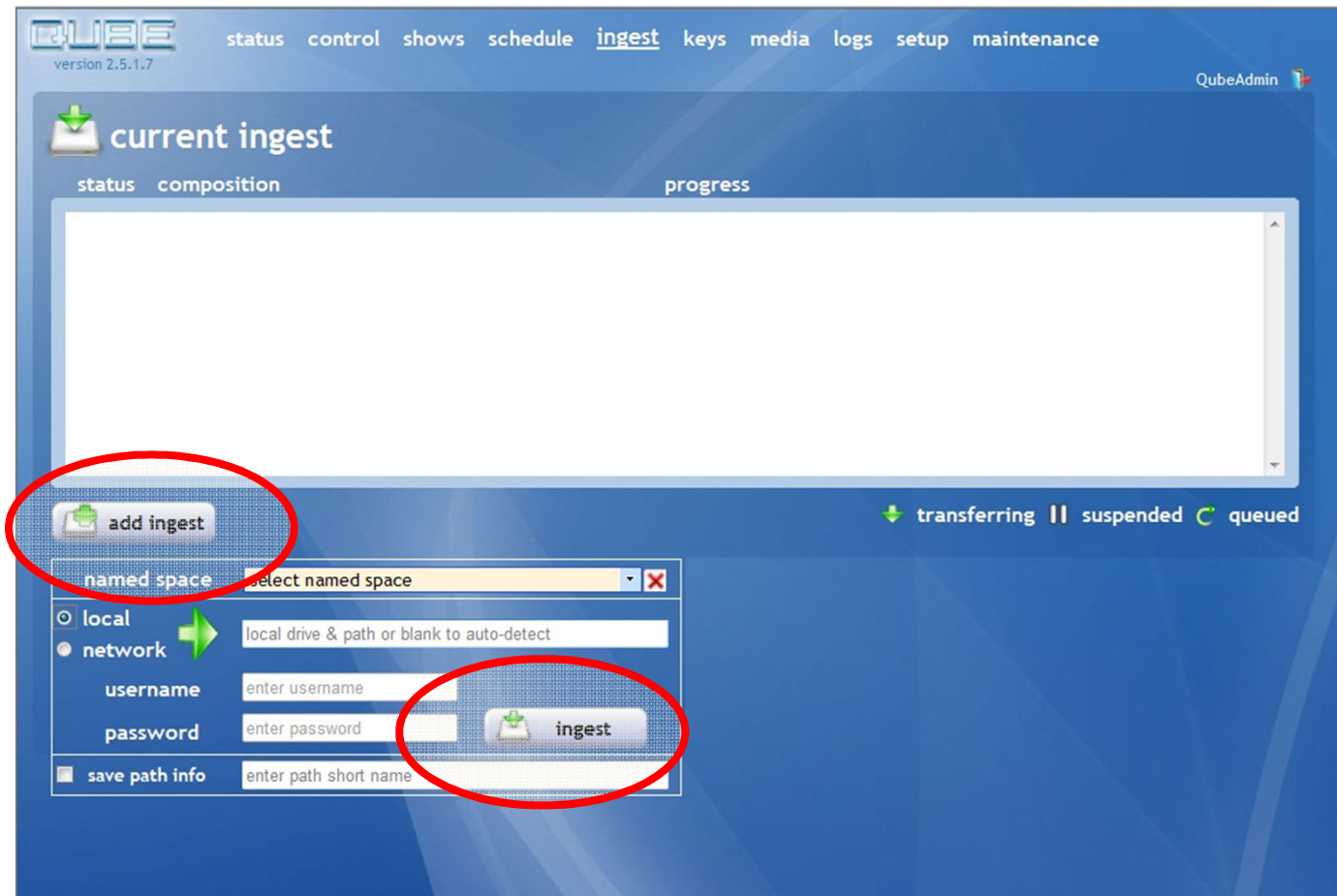
d2

the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

39



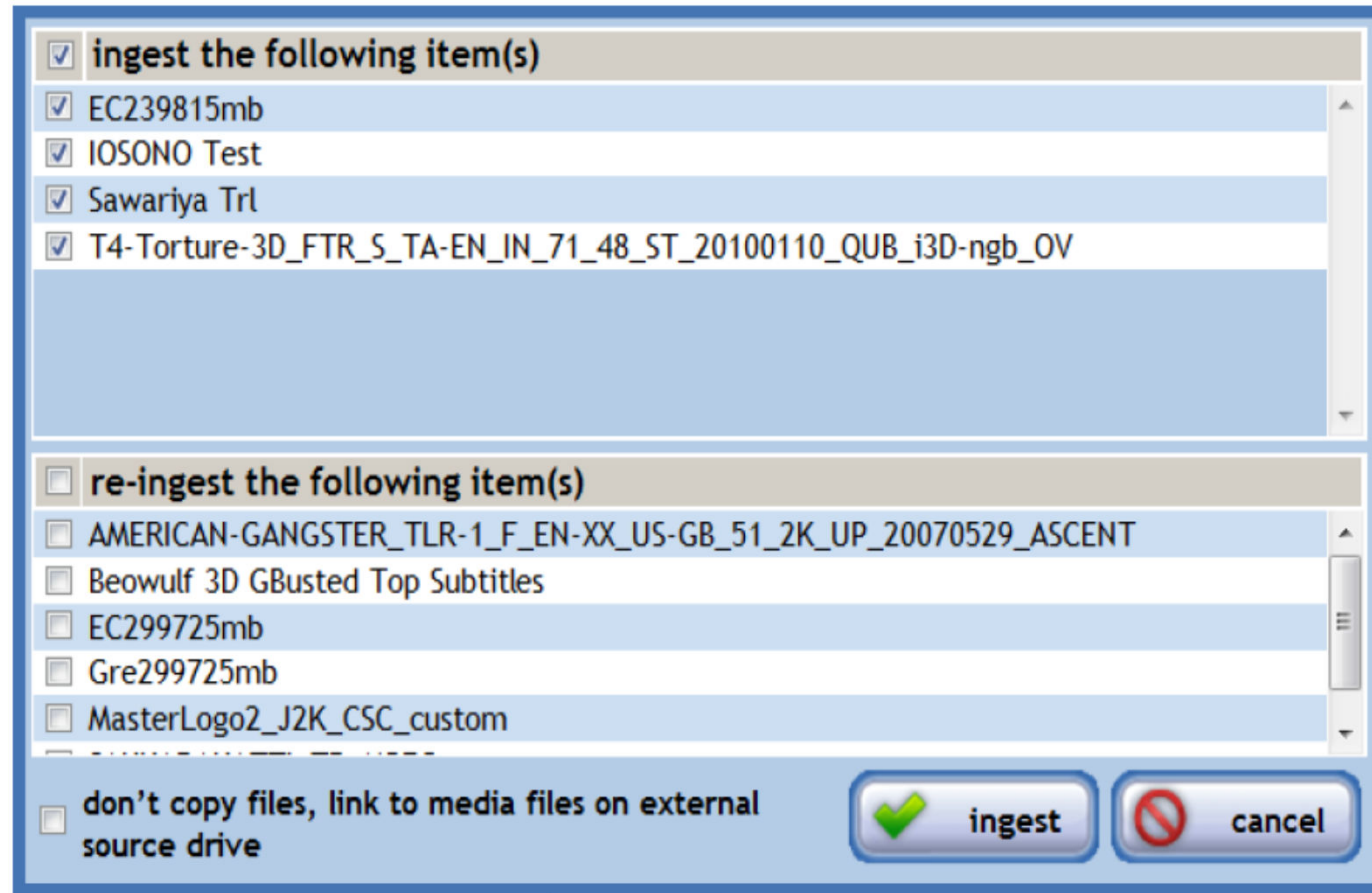
d2

the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

40



The screenshot shows a software dialog box with a blue border. It contains two main sections for selecting items to ingest. The first section, titled 'ingest the following item(s)', has a checked checkbox and lists five items: 'EC239815mb', 'IOSONO Test', 'Sawariya Trl', and 'T4-Torture-3D_FTR_S_TA-EN_IN_71_48_ST_20100110_QUB_i3D-ngb_OV'. The second section, titled 're-ingest the following item(s)', has an unchecked checkbox and lists five items: 'AMERICAN-GANGSTER_TLR-1_F_EN-XX_US-GB_51_2K_UP_20070529_ASCENT', 'Beowulf 3D GBusted Top Subtitles', 'EC299725mb', 'Gre299725mb', and 'MasterLogo2_J2K_CSC_custom'. At the bottom left, there is an unchecked checkbox labeled 'don't copy files, link to media files on external source drive'. At the bottom right, there are two buttons: 'ingest' with a green checkmark icon and 'cancel' with a red prohibition icon.

☒ ingest the following item(s)

- ☒ EC239815mb
- ☒ IOSONO Test
- ☒ Sawariya Trl
- ☒ T4-Torture-3D_FTR_S_TA-EN_IN_71_48_ST_20100110_QUB_i3D-ngb_OV

☐ re-ingest the following item(s)

- ☐ AMERICAN-GANGSTER_TLR-1_F_EN-XX_US-GB_51_2K_UP_20070529_ASCENT
- ☐ Beowulf 3D GBusted Top Subtitles
- ☐ EC299725mb
- ☐ Gre299725mb
- ☐ MasterLogo2_J2K_CSC_custom

☐ don't copy files, link to media files on external source drive

 ingest  cancel

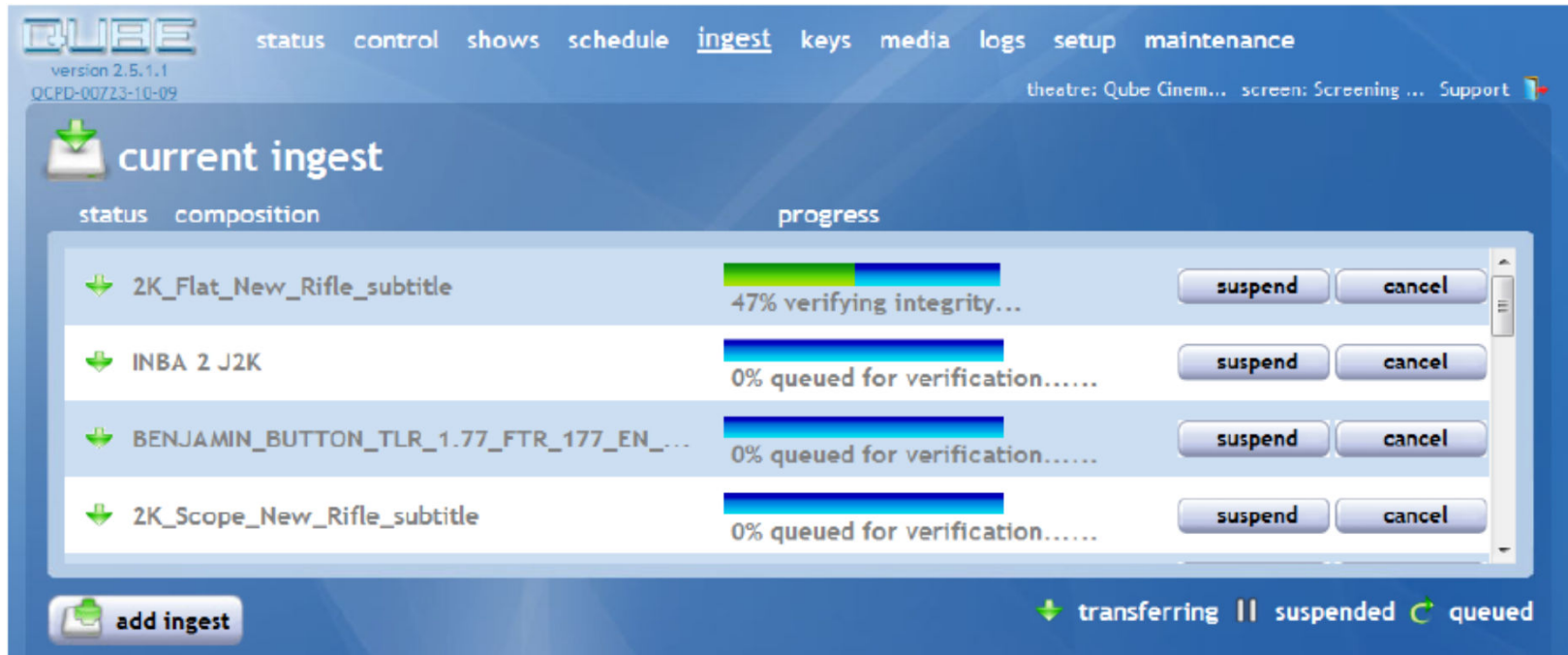
d2

the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

41



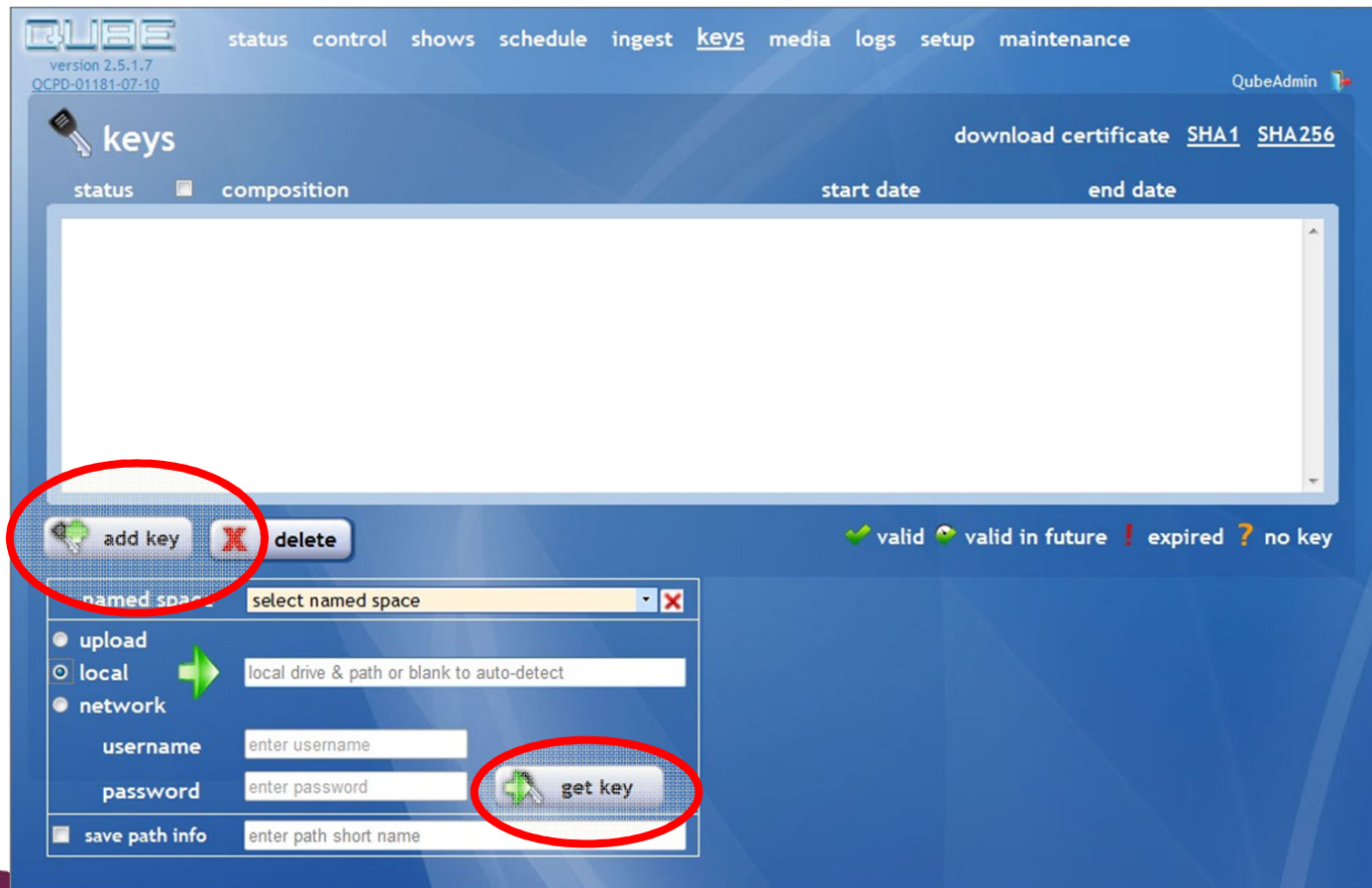
d2

the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

42



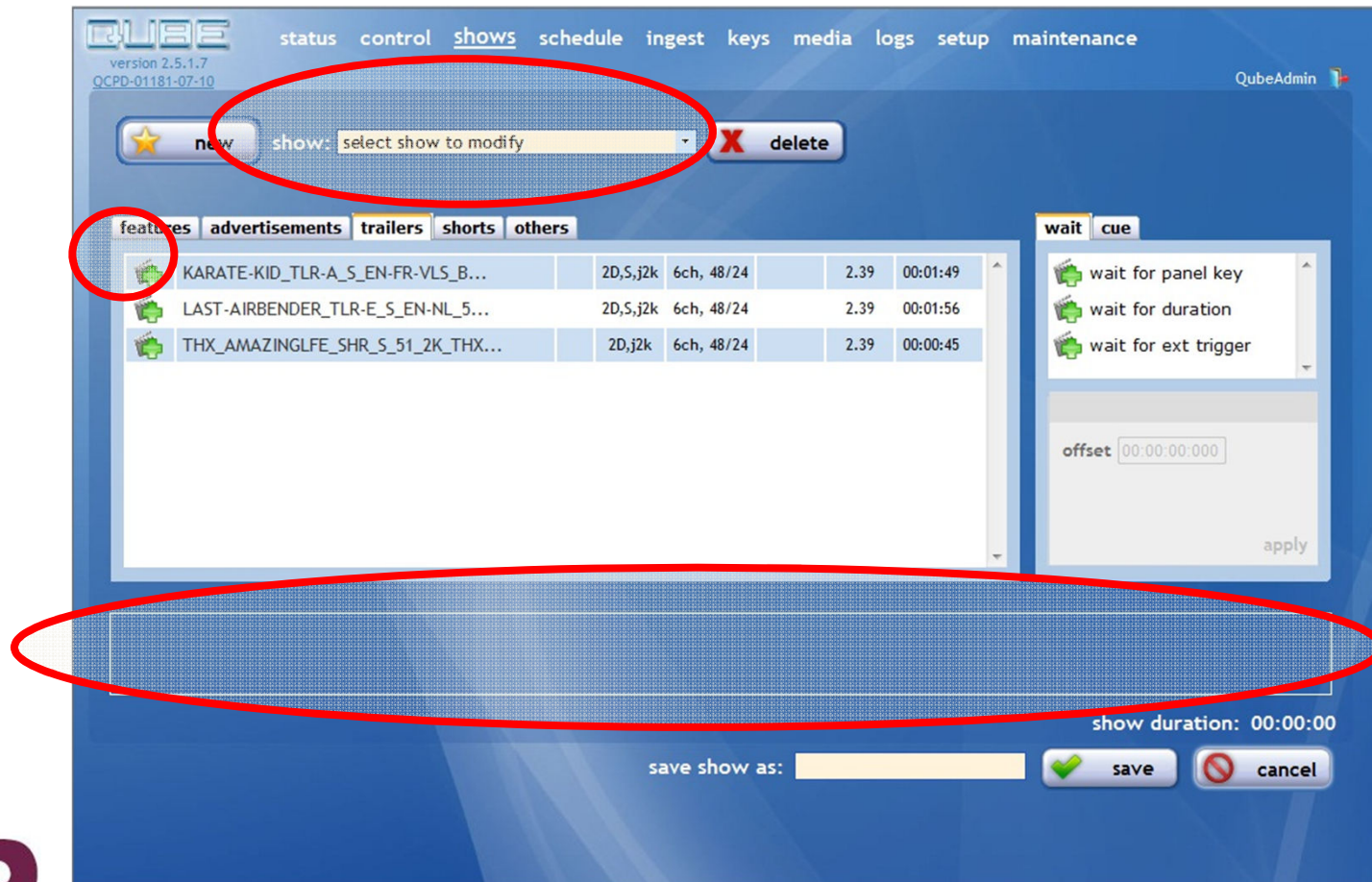
d2

the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

43



d2

the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

44

The screenshot shows the QUBE Theatre Management System interface. The top navigation bar includes links for status, control, shows, schedule, ingest, keys, media, logs, setup, and maintenance. The main content area is divided into several sections:

- Top Section:** A "new" button (circled in red) and a "show:" dropdown menu set to "test_d2". A "delete" button is also present.
- Features Table:** A table with columns for features, advertisements, trailers, shorts, and others. The "features" tab is active, showing a list of items with their durations and offsets. The table is circled in red.
- Wait/Cue Section:** A panel on the right with a "wait/cue" dropdown menu. The menu is open, showing options like "wait for panel key", "wait for duration", and "wait for ext trigger". The "offset" field is set to "00:00:00.00". The "apply" button is circled in red.
- Transitions Section:** A row of buttons labeled "transitional" and "trailer" (circled in red). Below these buttons, a timeline shows the sequence of content: "BLACK05_XSN_S_XX-XX_INT", "BLACK05_XSN_S_XX-XX_INT", "THX_AMAZINGLFE_SHR_S_51", "LAST-AIRBENDER_TLR-E_S", and "KARATE-KID_TLR-A_S".
- Bottom Section:** A "save show as:" field set to "test_d2" (circled in red), with "save" and "cancel" buttons.

d2

the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

45



d2

the power of digital

Digitale Cinema projectie opleiding

Theatre Management System

46



d2

the power of digital

Digitale Cinema projectie opleiding

Sound

47

35MM + Digitaal

Digitaal



Dolby CP650



QSC C100



Dolby CP750

d2

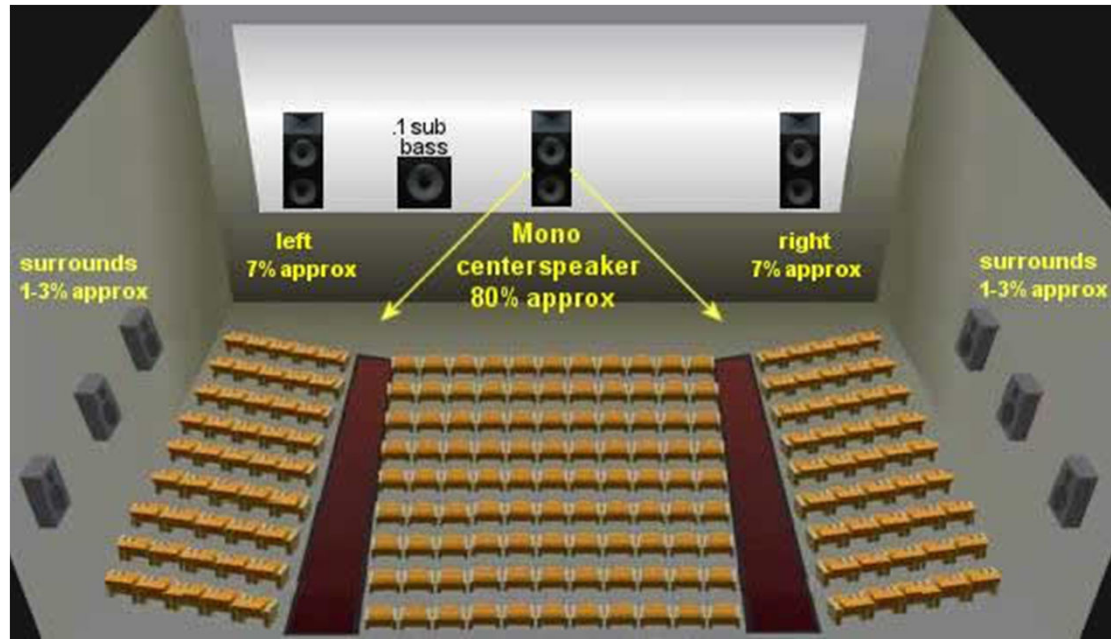
the power of digital

Digitale Cinema projectie opleiding

48

Sound

5.1 versus 7.1 sound



the power of digital

Digitale Cinema projectie opleiding

49

Agenda

- 12:00** Ontvangst koffie-broodjes
- 13:00** DCI projectie systeem
 - Overzicht 2D, 3D technologie
 - Projectie DCP, blu-ray, PC
 - Theatre Management System
 - Bediening/ onderhoud Projector - Server

Hoe creëer je een eigen DCP

Break

- 15:30** Demo screening 2D, 3D (actief, passief 3D systeem)
- 16:30** Vragen en antwoorden



the power of digital

Digitale Cinema projectie opleiding

50

DCP maken



d2

the power of digital

Digitale Cinema projectie opleiding

DCP maken

51



2D

the power of digital

Digitale Cinema projectie opleiding

DCP maken

52

Version 1.0

QUBE MASTER Xpress

Name: video_test

Type: Feature

Country: United States

Rating: G

Language: English

☒ Pad silence to make 8 channels

Output Type: ☒ Flat 1.85 video_test_FTR_F_EN-XX_US-G_51_2K_20081211
☒ Scope 2.39 video_test_FTR_S_EN-XX_US-G_51_2K_20081211

Output Directory: D:\

1 2 3

d2

the power of digital

Digitale Cinema projectie opleiding

53

Agenda

12:00 **Ontvangst koffie-broodjes**

13:00 **DCI projectie systeem**

Overzicht 2D, 3D technologie

Projectie DCP, blu-ray, PC

Theatre Management System

Bediening/ onderhoud Projector - Server

Hoe creëer je een eigen DCP

Break

15:30 **Demo screening 2D, 3D (actief, passief 3D systeem)**

16:30 **Vragen en antwoorden**



the power of digital

Digital Cinema and Ichnos

54

Demo 2D / 3D

1. Demo projection room

1. Projector : DP2K-20C (Dolby 3D) en DP4K-23B (Xpand 3D)
2. Cinema server
3. Sound processor
4. Sound ampli's

2. Demo Screening room

1. Picture quality
2. 3D Xpand
3. 3D Dolby
4. Cinema sound 7.1



the power of digital

www.d2.eu



Contact:

d2 Benelux
Boomsesteenweg 440
2610 Wilrijk

T +32 3 297 77 74