Digital Cinema Terms

Composition   A single element used for a DCinema presentation – ex: a feature or a trailer or an advertisement.   A composition contains everything required for a successful screening of the content. This usually includes image, audio, subtitles, and a Composition Playlist (see picture on cover)

Composition Playlist (CPL) A text file that contains all of the information on how the files for a specific Composition should be played back, including how the audio and subtitles are synchronized with the picture.   The CPL could contain one reel or many reels, and there are different CPLs for each soundtrack or version that would play back. The CPL is created by the Digital Cinema Packaging Facility

Digital Cinema Distribution Master (DCDM) The *uncompressed* master files for picture, sound, and subtitling.   The image DCDM is color-corrected for Digital Cinema projection and will be used to create the compressed files for Digital Cinema distribution.

Digital Cinema Package (DCP) A generic term for a container/collection of Digital Cinema files (compressed image files, uncompressed audio files, subtitle files) and its associated Packing List (see picture on this page). More specific types of DCPs include the Feature DCP (contains all of the files for a feature), a Trailer DCP (contains all of the files for a trailer) and a Distribution DCP (see next item)

Distribution DCP (Distribution Package)   A DCP delivered by the distributor to the exhibitor. A Distribution DCP usually contains several compositions for exhibition of a show. A distribution package may contain pieces of a Composition, or one complete Composition, or replacement/update files. The Distribution DCP would always contain a Packing List for all the elements in its distribution package.

Key Delivery Message (KDM) Contains all of the keys necessary to allow the playback of a composition on a specific server during a certain time period. The KDM is ordered by a specific CPL ID#. The KDM is delivered separately from the DCP shipment that it is associated with

Link Decryption (LD) Decrypts the content that has been encrypted by the Link Encryptor

Link Encryption (LE) Encrypts the transmission of the content over links between physical devices in exhibition

Media Block (MB) The hardware device(s) that convert(s) the packaged content into the streaming data that ultimately turns into pictures and sound in the theater. The MB is a secure entity that is not field serviceable

Packing List Like a packing list for deliveries, the Packing List contains the identification of each individual file included in a DCP.   This list also includes information about each file that allows the receiver to verify that they have every file in its entirety

Projector Configuration File (PCF) A file that is put into the TI DCinema projectors in order to configure the projector to a standardized set-up

Screen Management System (SMS) The user interface that a theater manager would use to control a single screen's system including start, stop, the creation or selection of a Show Playlist and editing of a Show Playlist. It is required that each auditorium has one SMS.

Security Manager (SM) The controlling device of a security system in either the encoding system, distribution system or the theater playback process
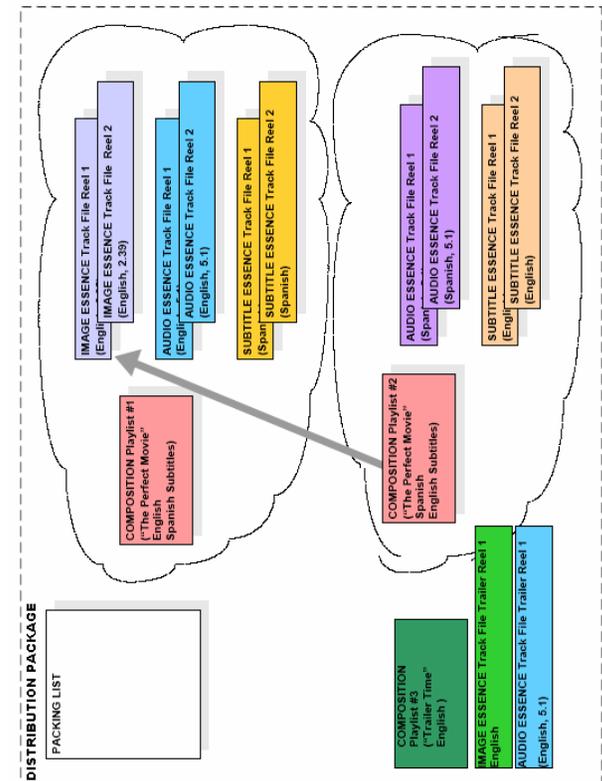
Show Playlist A playlist that describes the order of how the Compositions should play back and is typically created by exhibition and transferred to the equipment controlling a particular screen.   The exhibitor could have multiple Show Playlists (see picture on cover)

Subtitle using Subpictures One of the two ways of subtitling in DCinema – would be used for the display of special characters like certain Asian characters.   Graphics are prerendered for display and are called up on-screen by a script

Subtitle using Timed Text One of the two ways of subtitling in DCinema – subtitles are rendered out during play out at the theater

Comparison of Digital Cinema Mastering and Compression Stages

	DI	DCDM for JPEG2000	DCDM for MPEG-2 MXF	JPEG2000 MXF Files	MPEG-2 MXF Files
Format	Files	Files	D5 Tape	Files	Files
Compression Type	No Compression	No Compression	No Compression	Compressed w/ JPEG2000	Compressed w/ MPEG-2
File Type	DPX	TIF	Not file-based	MXF	MXF
Bit Depth	10-bit log	12-bit packed into 16-bit	10-bit	12-bit	8-bit
Color Space	RGB	X'Y'Z'	RGB	X'Y'Z'	RGB
Color Sampling	4:4:4	4:4:4	4:2:2	4:4:4	4:2:0
Image Sizes	8K/6K/4K/2K	4K/2K	HD	4K/2K	HD
Image Size for Scope	one size for 4K 4096 x 3112	4096 x 1714 2048 x 858	1920 x 1080 (active 803)	4096 x 1714 2048 x 858	1920 x 803
Image Size for Flat	one size for 2K 2048 x 1556	3996 x 2160 1998 x 1080	1920 x 1080 (active 1038)	3996 x 2160 1998 x 1080	1920 x 1038
Audio Capability	Image Only	Image Only	Up to 8 audio channels	Audio included in MXF DCP	Audio included in MXF DCP
Other Terms You May Hear	Cap XYZ Files TIF Files		RGB P3		MXF

DISTRIBUTION PACKAGE

PACKING LIST

COMPOSITION Playlist #1 ("The Perfect Movie" English Spanish Subtitles)

IMAGE ESSENCE Track File Reel 1 (English)
IMAGE ESSENCE Track File Reel 2 (English, 2.39)
AUDIO ESSENCE Track File Reel 1 (English)
AUDIO ESSENCE Track File Reel 2 (English, 5.1)
SUBTITLE ESSENCE Track File Reel 1 (Span)
SUBTITLE ESSENCE Track File Reel 2 (Spanish)

COMPOSITION Playlist #2 ("The Perfect Movie" Spanish English Subtitles)

AUDIO ESSENCE Track File Reel 1 (Span)
AUDIO ESSENCE Track File Reel 2 (Spanish, 5.1)
SUBTITLE ESSENCE Track File Reel 1 (Engl)
SUBTITLE ESSENCE Track File Reel 2 (English)

COMPOSITION Playlist #3 ("Trailer Time" English)

IMAGE ESSENCE Track File Trailer Reel 1 English
AUDIO ESSENCE Track File Trailer Reel 1 (English, 5.1)

General Technology Terms

2K Abbreviation for 2048. 2K normally refers to a count of 2048 horizontal and 1556 vertical pixels in the DI world, but for DCinema, 2K means a scope picture represented by 2048 x 858 pixels and a flat picture represented by 1998 x 1080 pixels

4K Abbreviation for 4096. 4K normally refers to the count of 4096 horizontal and 3112 vertical pixels in the DI world, but for DCinema, 4K means a scope picture represented by 4096 x 1714 pixels and a flat picture represented by 3996 x 2160 pixels

Bitrate The amount of data (bits) per second that passes through a digital system. Normally expressed in kilobits per second (kb/s), Megabits per second (Mb/s) or Gigabits per second (Gb/s)

Constant Bitrate (CBR) A type of encoding where the same number of bits is used per second regardless of the complexity of the content

Compression The process of reducing the amount of data by removing redundant or imperceptible information. Most compressed files need a device or software to decompress the file in order to play it back

Codec An abbreviation for enCoder/Decoder - a generic term to describe types of compression devices. Ex: JPEG2000 and MPEG-2 are two different types of codecs

Essence Picture, sound or subtitle information contained in a file; contrast with *Metadata*

Encoding The process of transforming from one format/type to another (such as compression) Normally, after something is encoded, the piece needs to be decoded for play back

Encryption The process of changing easily-read data into something that can only be read by the intended recipient of the data

Frames per Second (FPS) The rate at which images are displayed (Typically 24 FPS for Cinema)

Joint Photographic Experts Group (JPEG) Pronounced, "JAY PEG" – the group responsible for the developing standards for JPEG compression schemes for images only (examples include JPEG, JPEG2000)

JPEG2000 (JPEG2K) A type of image compression used to reduce the file size. Currently, JPEG2000 is used for 2k and 4k Digital Cinema presentations

Moving Pictures Experts Group (MPEG) Pronounced, "EM PEG" – the group responsible for the developing standards for MPEG compression schemes for digital audio and video (examples include MPEG-1, MPEG-2, MPEG-4, MP3)

MPEG-2 A type of image compression used to reduce the file size. Currently, MPEG-2 is used for HD (1920x1080) Digital Cinema presentations, digital broadcasts and DVD

Material eXchange Format (MXF) A file format that holds essence combined with metadata that describes the essence. MXF is intended to be a standardized way to move video and audio files between systems regardless of operating system and/or hardware

Metadata Data that describes/gives more information about other data

Portable Network Graphics (PNG) Pronounced, "ping" or "P-N-G" - A type of graphic file that is compressed in a lossless fashion. Used in *Subtitles using Subpictures*

Variable Bitrate (VBR) A type of encoding where the number of bits per second varies depending on the complexity of the content

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Disney Terms

Distribution Channel Forensic Mark (DCFM) A unique visible identifier in the feature that marks specific distribution channels (Film, JPEG DCinema, DVD, etc.) for Anti-Piracy
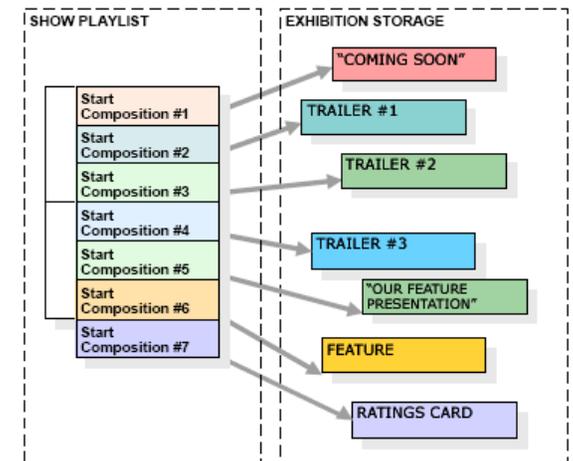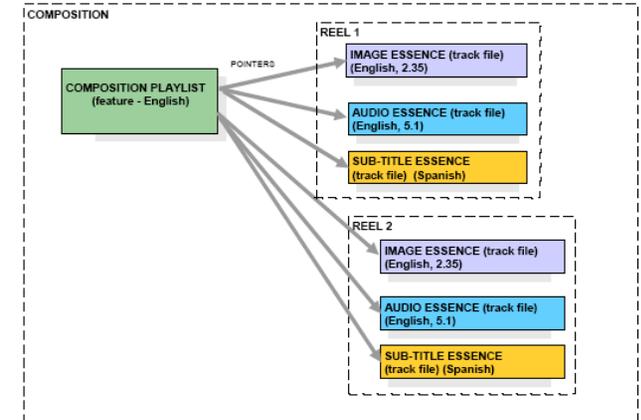
Play Out Mark (POM) Unique visible identifier in the feature that marks which projector is being used to display the DCinema presentation

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Walt Disney Studios

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Worldwide Post Production & Operations
Worldwide Technical Services
Buena Vista Pictures Distribution
Buena Vista International Theatrical

Graphics borrowed from *Digital Cinema System Specification 1.0* by Digital Cinema Initiatives, LLC
Original artwork by Michael Karagosian