



User Guide

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KeySmith Locker - User Guide

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What is KeySmith Locker

KeySmith Locker is a free, simple, easy to use encryption tool for Digital Cinema Packages.

For users who already own a Digital Cinema Mastering application without the encryption option, it offers a cost-free, easy way to encrypt their unencrypted DCPs.

Encryption of DCPs in KeySmith Locker is closely integrated with **www.keysmith.com** and you will require a KeySmith user account to use this option (registration on www.keysmith.com is free).

www.keysmith.com is a powerful online key (KDM) management and reporting service for digital cinema. It allows filmmakers to generate KDMs for their DCPs, by accessing a comprehensive online theatre database that is continuously updated through strategic regional partners and crowdsourcing.

The close integration between KeySmith Locker and KeySmith allows Distribution KDMs (or DKDMs) to be automatically uploaded to your KeySmith account. Any required theatre KDMs can then be quickly and easily generated by logging into your account at www.keysmith.com.

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KeySmith accesses an extensive, constantly updated theatre database to generate the required KDMs that will unlock the DCP for each selected theatre. Each KDM is tied to the unique identity of the digital cinema equipment in the theatre database. KeySmith can directly deliver the KDMs to theaters via email and will also support the Theatre Key Retrieval protocol (TKR) now recommended by the ISDCF. KeySmith also has comprehensive reporting capabilities that allow the user to keep track of all their KDM orders.

The KeySmith service is protected by FIPS 140-2 certified hardware security modules and verifies the certificate chain so only devices from authorized manufactures can be added to the public theatre database.

KeySmith Locker and the KeySmith service together offer the independent filmmaker, who previously would not have encrypted their DCPs, an easy to use, 3-step process for encrypting their DCPs and protecting their intellectual property, while still having convenient and fast access to the required KDMs for screenings and worldwide distribution.

Installation Procedure

KeySmith Locker can be installed on any Apple Mac or Microsoft Windows pc with a minimum system configuration as below:

Microsoft Windows PC:

- Intel dual-core processor (or better)
- 4GB RAM (minimum)
- Windows 7 Professional/Ultimate (32 or 64 bit)
or Windows 8.1 Enterprise/Pro

Apple Mac Book Pro or Mac Pro running OS versions

- Mavericks (10.9.x)
or Yosemite (10.10)

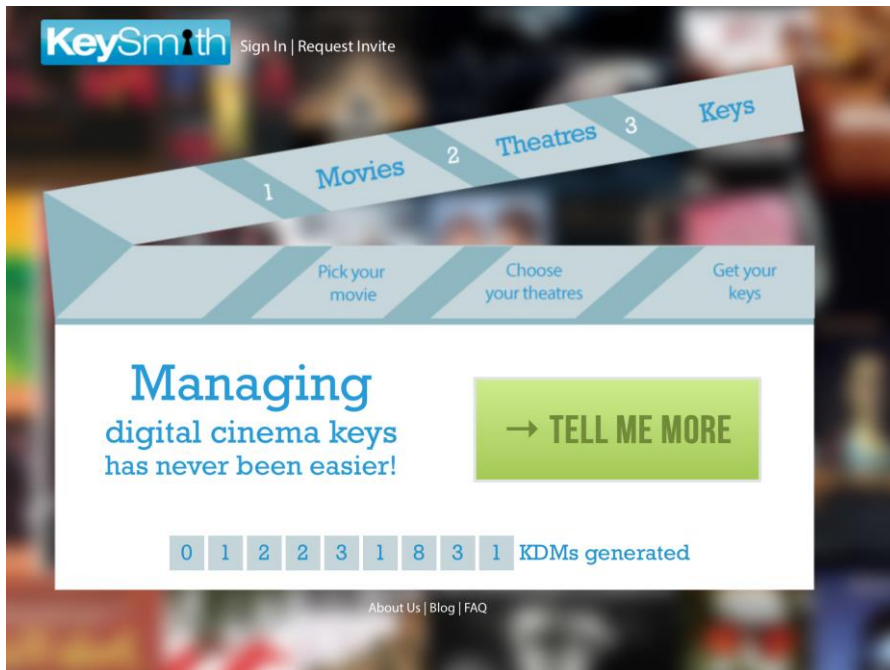
- ▶ Right-click on **KeySmith Locker.zip** and select “Extract All” to extract the contents to a folder anywhere on the local system drive
- ▶ Double-click **“KeySmith Locker.1.0.1.1.exe”** (Windows) or **“KeySmith Locker.1.0.1.1.dmg”** (Mac).
- ▶ Select “Next” when prompted and complete the installation.

Getting Started with KeySmith Locker

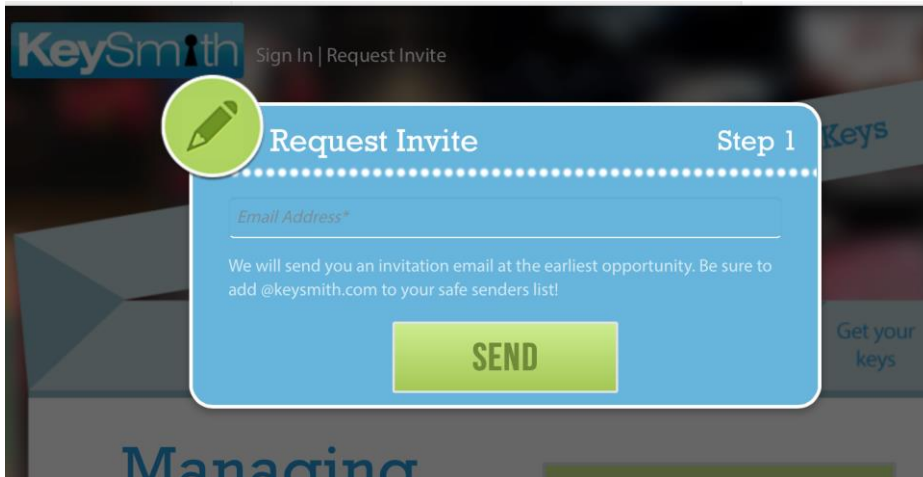
Encryption of DCPs in KeySmith Locker is closely integrated with www.keysmith.com and, as described earlier in this document, you will require a valid KeySmith.com user account to use launch KeySmith Locker (registration on www.keysmith.com is free).

Before beginning to use KeySmith Locker, the first step is to create an account on www.keysmith.com.

- Click on “request Invite”



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The screenshot shows the KeySmith Locker website interface. At the top, there is a navigation bar with the KeySmith logo and links for 'Sign In' and 'Request Invite'. Below this, a blue modal window titled 'Request Invite' is displayed, labeled 'Step 1'. Inside the modal, there is a text input field for 'Email Address*'. Below the input field, a message states: 'We will send you an invitation email at the earliest opportunity. Be sure to add @keysmith.com to your safe senders list!'. A green 'SEND' button is positioned at the bottom of the modal. In the background, parts of other website elements are visible, including a 'Get your keys' button and the word 'Managing'.

- A confirmation/verification link will be sent to your email address.

Welcome to Keysmith.biz. Please click on the link below to verify your signup process.

This link is valid for the next 60 minutes.

<https://www.keysmith.biz/authenticateEmail?key=ebd86c1a7a4d69e703245ee2be715395f0cb4eb3&email=asza>

If you didn't sign-up at Keysmith.biz, you can simply ignore this email.

The Keysmith.biz team!

- Click on the verification link and complete the account creation process.

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- ▶ Launch KeySmith Locker and click on the option to “Sign in to KeySmith.”



- ▶ www.keysmith.com will be opened in your default browser. Sign in to keysmith.com.

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- The text at the bottom will now reflect your signed-in credentials and company name.

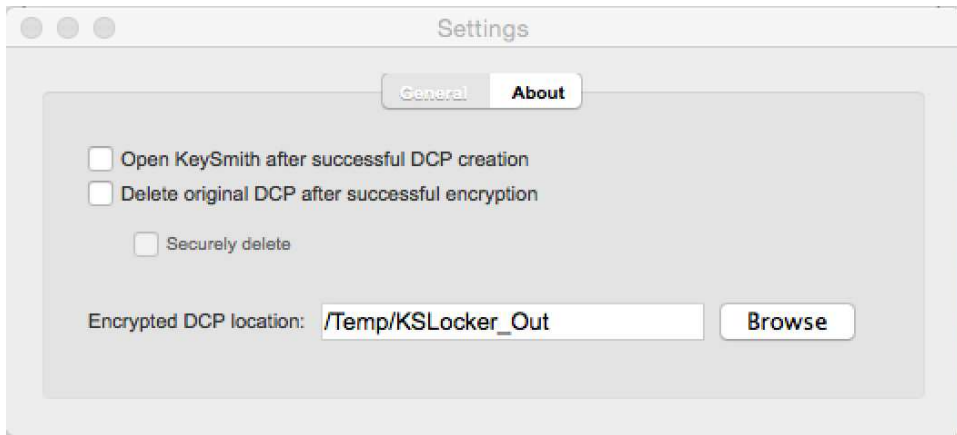


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Settings

Click on the gearwheel icon to customize some settings in KeySmith Locker.

- 1) To be guided to the www.Keysmith.com website on the completion of an encryption job, you may select the option here
- 2) Select the option to delete the original unencrypted DCP after successfully encrypting it if you do not wish to have both versions occupying space on the hard-drive.
- 3) Browse and select a folder to which all encrypted DCPs will be saved. This minimizes the need to select an output folder each time.



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Encrypting a DCP in KeySmith Locker

- After signing-in to www.keysmith.com, simply drag-and-drop your unencrypted DCP into KeySmith Locker or use the “+” button on the top-right corner of the UI to navigate to a folder containing the unencrypted DCP.

Be sure to drag-and-drop (or navigate to) the actual folder containing the DCP files – there should be no sub-folders within this folder.



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Once a DCP is encrypted, it is “locked” and can be “unlocked” for playback only on servers that have the “keys” to unlock it. These keys are sent to each server that has been authorized to play it by means of a KDM (Key Delivery Message). These KDMS are generated from www.keysmith.com.

Compatible Source Files for KeySmith Locker

You can encrypt any DCP in KeySmith Locker provided it meets the following requirements:

- The DCP is according to DCI specifications for SMPTE or INTEROP digital cinema package
- The DCP is NOT already encrypted
- The folder contains all the files of the original DCP
- The DCP is not a “partial” or “supplemental” package. It must contain the media assets
- DCP files have not been modified or altered after the original package was created

KeySmith Locker cannot accept any other file formats other than valid unencrypted DCPs

KDM Generation for Encrypted DCPs

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The encryption and KDM generation features are especially important now, with film festivals requiring DCPs. KeySmith Locker and www.keysmith.com will keep content secure and easily accessible even during the chaos of a festival.

DCP Distribution to Cinemas

DCP Distribution Drives

The ISDCF specifies that distribution drives should be formatted as EXT2 or EXT3 volumes (with an *inode* size of 128). While many servers will accept FAT32 formatted drives as well, it is best to follow the specification to ensure compatibility with all server types. Drives can be USB (will result in slower ingestions) or CRU drive carriers – which will be the fastest. Copy all the files created by KeySmith Locker, without any changes, to the distribution drive. EXT2 and EXT3 formatted drives may be created using a Linux machine or using EXT management applications.

Logs

KeySmith Locker records application logs and errors to “KeySmith Locker.log” file. Often, it is necessary to view or retrieve these logs for support purposes.

The logs can be accessed from:

- ▶ On a Windows system:
 - logs are saved at: C:\ProgramData\QubeCinema\KeySmith Locker
 - Open KeySmith Locker.log
- ▶ On the Mac OS X
 - Logs are saved in the CONSOLE.
 - Open on ~/Library/Logs
 - Open QubeCinema>KeySmith Locker
 - Click KeySmith Locker.log

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The screenshot displays the KeySmith Locker application window. The interface includes a top toolbar with icons for Hide Log List, Clear Display, Reload, Ignore Sender, Insert Marker, Inspector, and a Search bar. The main content area is divided into two panes. The left pane, titled 'SYSTEM LOG QUERIES', contains a tree view with categories: All Messages, DIAGNOSTIC AND USAGE INFORMATION (Diagnostic and Usage Messages, User Diagnostic Reports, System Diagnostic Reports), FILES (system.log, ~/Library/Logs), and a list of applications including Aspera, Avid, com.apple.NotesMigratorService, com.avid.AMCUninstaller.log, com.avid.AvidUninstaller.log, Compressor, DiagnosticReports, Digidesign, DiskUtility.log, FaceTime, FlashPlayerInstallManager.log, fsck_hfs.log, Handoff, parallels.log, ProtectedCloudStorage-201411031..., Qube Cinema, KeySmith Locker (selected), SMSMigrator, SparkleUpdateLog.log, talagent.log, TeamViewer, Ubiquity, and ~/Library/Logs (with sub-items Avid, CrashReporter, and DiagnosticReports). The right pane shows a detailed log of events, including system messages, diagnostic reports, and file operations, with timestamps and log IDs. The log entries are as follows:

```
03/17/15 18:35:30 [DcpEncryptor 0x11023d0000] - B-W_Test_XYZ- reel-1-pcm.mxf encrypted successfully.
03/17/15 18:35:50 [DcpEncryptor 0x11023d0000] - Sending CPL_BWTestXYZ_ADV-2D_F_EN-
XX_20_2K_ST_20141223_0TH_IOP_OV.cpl.xml of DCP at Black_White_Test to KeySmith for signing
03/17/15 18:35:54 [DcpEncryptor 0x11023d0000] - BWTestXYZ_ADV-2D_F_EN-
XX_20_2K_ST_20141223_0TH_IOP_OV.cpl.xml CPL of DCP at Black_White_Test signed in 4.00 seconds
03/17/15 18:35:54 [DcpEncryptor 0x11023d0000] - KDM for BWTestXYZ_ADV-2D_F_EN-
XX_20_2K_ST_20141223_0TH_IOP_OV.cpl.xml CPL generated successfully
03/17/15 18:35:56 [DcpEncryptor 0x11023d0000] - Sending PKL_B_W_Test_XYZ.pkl.xml of DCP at
Black_White_Test to KeySmith for signing
03/17/15 18:36:00 [DcpEncryptor 0x11023d0000] - B_W_Test_XYZ.pkl.xml PKL of DCP at Black_White_Test
signed in 4.00 seconds
03/17/15 18:36:00 [DcpEncryptor 0x11023d0000] - VolIndex of DCP at Black_White_Test saved successfully
03/17/15 18:36:00 [DcpEncryptor 0x11023d0000] - AssetMap of DCP at Black_White_Test saved successfully
03/17/15 18:36:00 [DcpEncryptor 0x11023d0000] - Black_White_Test encrypted successfully at
2015-03-17T18:36:00+05:30
03/17/15 18:36:00 [Locker 0x11023d0000] - Encrypted all DCPs in Locker queue
03/17/15 18:36:23 [KeySmith Locker 0x10625e3000] - Destroying KeySmith Locker!
03/17/15 18:36:23 [KeySmith Locker 0x10625e3000] - Exited KeySmith Locker application successfully!
03/17/15 18:40:44 [KeySmith Locker 0x107c783000] - Signed in as aszach@gmail.com
03/17/15 18:40:44 [KeySmith Locker 0x107c783000] - Successfully enabled single instance for KeySmith
Locker
03/17/15 18:40:46 [KeySmith Locker 0x107c783000] - Signed out successfully!
03/17/15 18:45:51 [KeySmith Locker 0x107c783000] - Signed in as susan@qubecinema.com
03/17/15 18:47:52 [KeySmith Locker 0x107c783000] - Signed out successfully!
03/17/15 18:48:02 [KeySmith Locker 0x107c783000] - Destroying KeySmith Locker!
03/17/15 18:48:02 [KeySmith Locker 0x107c783000] - Exited KeySmith Locker application successfully!
03/26/15 12:51:34 [KeySmith Locker 0x107a743000] - Successfully enabled single instance for KeySmith
Locker
03/26/15 12:52:10 [KeySmith Locker 0x107a743000] - Signed in as susan@qubecinema.com
03/26/15 14:10:48 [Locker 0x107a743000] - Added DCP from /4DCPs/Easy_SMPTe to encryption queue
03/26/15 14:10:50 [DcpEncryptor 0x11eb930000] - Starting encryption of Easy_SMPTe at
2015-03-26T14:10:50+05:30
03/26/15 14:10:50 [DcpEncryptor 0x11eb930000] - Starting wrap of MXF
cd80f093-484d-4a26-81b3-1494dec49de2_pcm.mxf at Easy_SMPTe
03/26/15 14:10:50 [DcpEncryptor 0x11eb930000] - file:///cd80f093-484d-4a26-81b3-1494dec49de2_pcm.mxf
encrypted successfully.
03/26/15 14:10:50 [DcpEncryptor 0x11eb930000] - Starting wrap of MXF
62548b4d-4cf7-4b46-8aac-4c5da1b3c629_j2c.mxf at Easy_SMPTe
03/26/15 14:10:52 [DcpEncryptor 0x11eb930000] - file:///62548b4d-4cf7-4b46-8aac-4c5da1b3c629_j2c.mxf
encrypted successfully.
03/26/15 14:10:52 [DcpEncryptor 0x11eb930000] - Sending CPL cdfb546f-d7b4-4e0b-abfa-
b0f53e609c05_cpl.xml of DCP at Easy_SMPTe to KeySmith for signing
03/26/15 14:11:02 [DcpEncryptor 0x11eb930000] - cdfb546f-d7b4-4e0b-abfa-b0f53e609c05_cpl.xml CPL of DCP
at Easy_SMPTe signed in 10.00 seconds
03/26/15 14:11:02 [DcpEncryptor 0x11eb930000] - KDM for cdfb546f-d7b4-4e0b-abfa-b0f53e609c05_cpl.xml
CPL generated successfully
03/26/15 14:11:04 [DcpEncryptor 0x11eb930000] - Sending PKL 2dfec9a7-d3c6-43de-
a869-1c4858ffcef3_pkl.xml of DCP at Easy_SMPTe to KeySmith for signing
03/26/15 14:11:08 [DcpEncryptor 0x11eb930000] - 2dfec9a7-d3c6-43de-a869-1c4858ffcef3_pkl.xml PKL of DCP
at Easy_SMPTe signed in 4.00 seconds
03/26/15 14:11:08 [DcpEncryptor 0x11eb930000] - VolIndex of DCP at Easy_SMPTe saved successfully
03/26/15 14:11:08 [DcpEncryptor 0x11eb930000] - AssetMap of DCP at Easy_SMPTe saved successfully
03/26/15 14:11:08 [DcpEncryptor 0x11eb930000] - Easy_SMPTe encrypted successfully at
2015-03-26T14:11:08+05:30
03/26/15 14:11:08 [Locker 0x11eb930000] - Encrypted all DCPs in Locker queue
03/26/15 14:11:20 [KeySmith Locker 0x107a743000] - Signed out successfully!
```

The bottom of the window shows the file size as 15 KB and navigation buttons: Earlier, Later, and Now.