



Title

***LMKR Volume Attributes™ 2014.2
Release Notes***

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Introduction

LMKR is pleased to announce the release of LMKR Volume Attributes™ 2014.2.

This document provides important information regarding system requirements, main application features, and known issues.

LMKR Volume Attributes is standalone software, compatible with SeisVision™, which operates on seismic files to extract attribute volumes. LMKR Volume Attributes gives you the capability of generating the following attributes:

- Time-Based Attributes
- Spectral Decomposition using CAPS (Continuous – Time Amplitude Phase Spectra)
- Frequency-Based Attributes
- Expression-Based Attributes

System Requirements

LMKR Volume Attributes is available for Windows® 7 64-bit. Before you run the LMKR Volume Attributes installer on your system, ensure the following requirements are met. The following system requirements are provided as general guidelines. In case of any issue, contact your technical sales representative or technical support.

Processor	Pentium 4 class or better Intel® Core™ i3 or better
Operating System	Windows® 7 Professional x64 Windows® 7 Enterprise x64 Windows® 7 Ultimate x64
RAM	2 GB Minimum 8 GB Recommended
Internet Explorer	You must obtain and install the appropriate language version of Internet Explorer 6.0 or higher prior to installing LMKR Volume Attributes.



We recommend using the latest Microsoft service packs and security patches.

Additional Requirements and Recommendations

- Microsoft .NET 4.5.1 runtime required.

Important Notes

- LMKR Volume Attributes 2014.2 is compatible with GeoGraphix 2015.0.
- The LMKR Volume Attributes 2014.2 release requires the latest License Management Tool (LMT). There are mandatory LMT upgrades so that users can configure licensing for this release. This upgrade can occur before or after installation of the Volume Attributes software. See the 'LMKR Licensing' section of the Installation Guide for Volume Attributes 2014.2 for more information.



Main Features

This section contains a brief description of LMKR Volume Attributes.

LMKR Volume Attributes is standalone software, compatible with SeisVision™, which operates on seismic files to extract attribute volumes. These attributes provide the seismic interpreter with new images that enhance the physical and geometric descriptions of the subsurface. Geometric attributes facilitate the definition of both the structural and stratigraphic framework of the seismic interpretation, while physical attributes are often used as direct hydrocarbon indicators.

LMKR Volume Attributes enables the user to generate the following attributes:

- **Time-Based Attributes:** The Time-Based Attributes facilitates structural and stratigraphic interpretation by offering clues to lithology type and fluid content estimation with a potential benefit of detailed reservoir characterization.
- **Spectral Decomposition using CAPS (Continuous – Time Amplitude Phase Spectra):** The Spectral Decomposition method replaces the single input trace with a gather of traces corresponding to the Spectral Decomposition of the input attribute. The input to spectral decomposition is a seismic volume. The output is several volumes, each one representing a different frequency band.
- **Frequency-Based Attributes:** Frequency-Based Attributes provide information about the geometry of the survey by incorporating both temporal and spatial information. Discontinuities, channels, fractures and other significant features are best determined by using one or more of these attributes.
- **Expression-Based Attributes:** The Expression-Based feature of LMKR Volume Attributes merge the information of multiple seismic attributes.



Known Issues

Following are known issues in this release and are work in progress.

ID	Issue	Workaround
26736	Integer byte formats are not supported for SEG Y volumes.	None
26737	ASCII textural header does not display correctly for SEG Y volumes.	None
26740	Incremented SeisVision brick volumes display wrong extents information if they were already used in SeisVision (Application may crash).	Use Segy Volume to generate 3dx or 3ds file by using LoadSegy in SeisVision. Then without adding this file to SeisVision interpretation, use it in Volume Attributes.
26481	Generation of timeslice Volumes (3dh) as output requires a lot of memory. Generating timeslice volumes for all attributes may result in low performance due to greater memory requirements.	None
26593	For 3dx/3ds files, application takes some time for processing (in minutes for larger datasets) in the beginning for building of output files during which no progress status is shown.	None
80792	Installation process fails if Cancelled in an In-progress state	Open the Windows Task Manager and manually close Volume Attributes installer and re-run the installer.



International Trade Compliance

This application is manufactured or designed using U.S. origin technology and is therefore subject to the export control laws of the United States. Any use or further disposition of such items is subject to U.S. law. Exports from the United States and any re-export thereafter may require a formal export license authorization from the government. If there are doubts about the requirements of the applicable law, it is recommended that the buyer obtain qualified legal advice. These items cannot be used in the design, production, use, or storage of chemical, biological, or nuclear weapons, or missiles of any kind.

The ECCN's provided in Release Notes represent LMKR's opinion of the correct classification for the product today (based on the original software and/or original hardware). Classifications are subject to change. If you have any questions or need assistance please contact us at:

FHOUEXP@halliburton.com

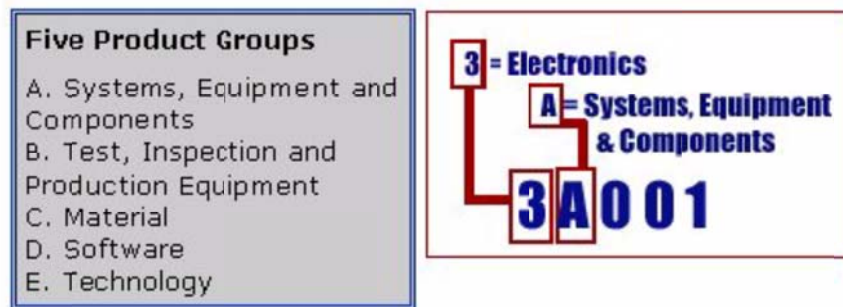
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The URL is: <http://www.bis.doc.gov>

Definitions

CCATS (Commodity Classification Automated Tracking System) - the tracking number assigned by the U.S. Bureau of Industry and Security (BIS) to products formally reviewed and classified by the government. The CCATS provides information concerning export/re-export authorizations, available exceptions, and conditions.

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The ECCN/CCL Number, License Type, and the CCATS Numbers for this product are included in the table below. Also included is the date the table was last updated.

Product/Component/R5000	ECCN/CCL Number	License	CCATS Number	Last Date Updated
Discovery	5D002	ENC	G063964	11/5/2009
LMKR License Manager	EAR99			10/1/2012
LMKR Volume Attributes	EAR99			3/11/2014



Contacting Technical Support

If you have questions or issues that cannot be answered by the LMKR Help Systems, you can contact LMKR Customer Support via web: support.LMKR.com , email: support@lmk.com or telephone at our various worldwide office locations:

The Americas	Europe, Middle East & Africa
8am-6pm CST [Monday – Friday] *Excluding bank holidays Toll Free (US/Canada): + 1 855 GGX LMKR Colombia: + 57 1381 4908 United States: + 1 303 295 0020 Canada: + 1 587 233 4004	UAE (Dubai GMT+4): 8am - 5pm [Sunday – Thursday] *Excluding bank holidays + 971 4 3727 999 UK: 8am - 5pm [Monday - Friday]*Excluding bank holidays + 44 20 3608 8042 Egypt: [Sunday – Thursday]*Excluding bank holidays + 0800 000 0635
Asia Pacific & Australian Continent	Southwest Asian countries
Malaysia (Kuala Lumpur GMT+8): 9am - 6pm [Monday – Friday] *Excluding bank holidays +60 32 300 8777	Pakistan (Islamabad GMT+5): 9am - 6pm [Monday – Friday] *Excluding bank holidays + 92 51 209 7400
E-mail	Website
Issues, Questions or comments support@lmk.com	General Information on products and services www.lmk.com Support Site including latest updates and technical bulletins Support.lmk.com

Helpful Internet Links

Name	Website Address
LMKR Home page	http://www.lmk.com
LMKR Support Portal	http://support.lmk.com