

MagicInfo™ Lite Software for Samsung Large Format Displays

Built-in digital signage software that provides an all-in-one display solution



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Samsung LFDs have Internal Linux[®]-based PC Functionality

Executive summary

To provide an all-in-one digital signage solution for corporate and commercial use, Samsung offers LED large format displays (LFDs) (ME Series, UE Series, DE Series, and MD Series) with embedded MagicInfo™ Lite software that includes an internal media player.

MagicInfo™ Lite digital signage software offers

- Automatic content playing:
 - Through LFD internal storage
 - Through external Universal Serial Bus (USB) 2.0 memory
- Local scheduling with remote controller
- Network scheduling by MagicInfo™ server on a LAN connection
- Content management
- Instant USB auto play

When users or administrators need to manage, organize or schedule content, or control multiple displays, MagicInfo™ Lite software can connect to MagicInfo™ Lite Edition Server (MagicInfo™ Lite Server) through a web-based interface. Because the MagicInfo™ Lite Server can control the display's functions, a Multiple Display Control (MDC) program is not required.

With its intuitive user interface (UI), MagicInfo™ Lite is designed for ease of use so that even non-professionals can operate it. Any user, even one with very little knowledge, can create a schedule using only a remote control device.

For added convenience, the USB auto play function helps users to easily play videos by simply plugging a USB device into a display device with MagicInfo™ Lite.

Overview

As part of its digital signage solution portfolio, Samsung offers several LFDs that include embedded software and features that make scheduling, playing and updating display content easy.

Samsung LED displays are more than just simple displays; they are displays that have a PC inside them. Samsung LED displays provide ease of use through an internal player installed with Linux-based PC functionality. Hardware and software, such as a CPU, Flash disk memory (FDM) storage, a graphic engine, and double data rate (DDR) memory are implemented within the Samsung System-on-Chip (SoC) platform and Linux-based OS. MagicInfo™ Lite signage software is embedded based on this technology. Samsung LED displays do not require client player devices.

All of the Samsung LED LFD elements support playing 1080p video files, JPEG images, Microsoft® PowerPoint® (2007) files, and .flv files using Adobe® Flash® (10.1). MP3 files are supported as background music for images and PowerPoint files. External media player capabilities are also available through an external USB 2.0 memory.

Samsung MagicInfo™ Lite software also provides the following capabilities:

- Automatic content playing through internal storage, external USB 2.0 memory
- Local scheduling with a remote controller
- Network scheduling by MagicInfo™ Lite server on a LAN connection
- Content management
- Instant USB auto play

MagicInfo™ Lite software can connect to MagicInfo™ Lite Server through a network for centralized management of multiple displays, and to organize, schedule and publish content. With MagicInfo™ Lite Server, administrators can remotely access servers through a user-friendly, web-based interface. This capability eliminates the need to dedicate a PC to individual displays, which streamlines the display environment and reduces overall operating costs.

This white paper explains how the internal PC-based functionality, and the features and functions of MagicInfo™ Lite and MagicInfo™ Lite Server provide automatic content playing, local and network scheduling, content management and instant USB auto play for Samsung LED LFDs (ME Series, UE Series, DE Series, and MD Series).

Play Content Locally, on a Network and Through Internal or USB Memory

MagicInfo™ Lite provides easy-to-use, intuitive digital signage

Samsung LED LFDs (ME Series, UE Series, DE Series, and MD Series) provide businesses with a user-friendly, built-in solution for scheduling and displaying video files, images, PowerPoint files and Flash files for corporate or commercial use. Samsung LED LFDs contain embedded MagicInfo™ Lite software and an internal multimedia player to provide a complete digital signage solution.

With MagicInfo™ Lite, content can be played in four ways:

1. Locally
2. On a network
3. Through internal LFD memory
4. Through USB 2.0 memory

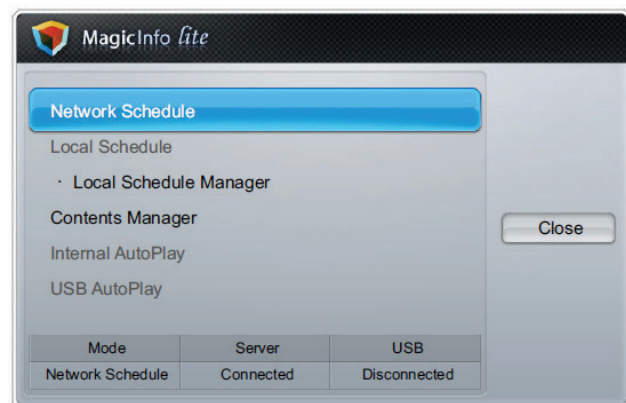


Figure 1. MagicInfo™ Lite software interface on OSD (on screen display)

MagicInfo™ Lite client functions include:

- Local scheduling
 - Network scheduling (requires a MagicInfo™ Lite Server connection)
 - Content management
 - Automatic content playing
 - Instant USB content playing
-

Companies that use Samsung LED LFDs MagicInfo™ Lite have a simple, built-in solution for scheduling and displaying content.

MagicInfo™ Lite Provides Advanced Functions for Professional Use

MagicInfo™ Lite client functions

Function	Description
Local schedule	<ul style="list-style-type: none"> • Defines when content is played in the local schedule (no network connection is required) • Provides options to create, edit and delete content saved locally in the internal memory and in the USB memory • Includes options to create, execute, delete and edit the local schedule
Network schedule	<ul style="list-style-type: none"> • Requires user approval for the device to be connected to the server through MagicInfo™ Lite Server • Plays downloaded content according to the schedule in the LFD containing MagicInfo™ Lite software • Includes options to create, execute, delete and edit the schedule on the server • Plays basic videos when a network schedule is not created
Content management	<ul style="list-style-type: none"> • Provides copying and deleting options for content located in the internal memory and in the USB memory • Checks how much memory is available for use in each memory type
Automatic content play	<ul style="list-style-type: none"> • Internal AutoPlay feature plays content that is copied in internal memory in alphabetical order. • USB AutoPlay feature requires a folder named MagicInfoSlide to be created on the USB device. This feature plays folder content in alphabetical order. Note: If the USB device does not contain a MagicInfoSlide folder, then the USB AutoPlay menu is disabled.
Instant USB auto play	<ul style="list-style-type: none"> • Simply plugging in a USB device activates MagicInfo™ Lite so that it automatically plays the video content on the USB. When a user wants to play specific video files, the user must create a folder named MagicInfoSlide and then transfer the files into the MagicInfoSlide folder. • The instant, automatic playing of the USB content is performed even when MagicInfo™ Lite is playing another video file or performing other functions because Instant USB AutoPlay has priority over other functions. • Instant USB AutoPlay is very helpful for <ul style="list-style-type: none"> o Urgent video playing. Automatically plays video content stored on a USB device when the device is plugged into MagicInfo™ Lite. o Instant playing of emailed files. After supported files have been transferred from email onto a USB device, instant USB AutoPlay automatically plays content when the device is plugged into MagicInfo™ Lite, without requiring any additional steps.

MagicInfo™ Lite Server Offers Remote Device Monitoring and Display Control

The remote control function provides a way to remotely control display features, including Volume, Source, Panel Status, and Panel Lock. The remote control function is executed through MagicInfo™ Lite Server.

Beyond the basic, easy-to-use digital signage software features, MagicInfo™ Lite offers more advanced functions for more professional use; for example, MagicInfo™ Lite offers MagicInfo™ Premium for users who want to work on various types of sources and need scheduling functions that can schedule by seconds (instead of by hours or minutes). MagicInfo™ VideoWall supports the control of content on video walls and offers instant console and live streaming functions.

MagicInfo™ Lite Server offers a solution for controlling content on multiple screens

MagicInfo™ Lite Server is a web-based tool that administrators use to manage display content and devices, and to process content scheduling and deployment; for example, setting start and finish times for content display. With the user-friendly MagicInfo™ Lite Server interface, administrators can remotely access servers and manage multiple screens using only one networked PC.

Following are MagicInfo™ Lite Server functions and their associated descriptions.

MagicInfo™ Lite server functions

Function	Description
Media content management	<ul style="list-style-type: none"> • Certain media files saved on PCs can be registered and managed. • Registered content can be scheduled and deployed to devices. • Registered content can be downloaded to a user's PC. • Content information can be modified and deleted. • Content items can be registered and managed in different categories (for example, view by group and view by type); content items can be searched using a variety of keywords. • Groups can be created so that content can be managed by group. • Content logs can be searched to view all content events (such as add, delete and edit) that have occurred on the server. • Content information can be converted into Microsoft Excel files or Adobe PDF files and saved on a user's PC. • A content item can be selected from a content list for previewing as a thumbnail image or video.
Playlist creation	<ul style="list-style-type: none"> • Content registered on the server can be organized into a single playlist for standard or random playback. • Multiple content items can be managed as a single content item. • Screen transition effects can be specified when playing image content. • Playlist groups can be created for easy management.
Remote device monitoring	<ul style="list-style-type: none"> • Device information (device name, on-air content and current schedule) and on/off status can be viewed in real time. • Registered devices can be deleted. • Different device images are displayed for default content play, scheduled content play, panel off and server disconnection so that device status can be checked in real time.
Remote display control	<ul style="list-style-type: none"> • General settings, system settings and display settings can be configured. • Network and system information about an LFD device can be viewed.

Display Content at Specific Times on Daily, Weekly or Monthly Schedules

MagicInfo™ Lite server functions, continued

Function	Description
Faulty device management	<ul style="list-style-type: none"> Notification of alarms or faults is provided on the server; the rules to be applied in processing the alarms and faults can be registered. Devices experiencing alarms and faults can be processed after the alarm or fault type is checked. A device communicates alarms and faults to the server when certain conditions are identified. The definition of the conditions can be registered.
Remote software update	<ul style="list-style-type: none"> Applications installed on devices are updated remotely. Alarm occurrence rule files that notify the server of alarms and faults are automatically updated. Software registered on the server can be deployed to devices through scheduling. Software update files can be processed automatically or through scheduling. Software is automatically downloaded to perform an update when a device is connected to the server or at a set time.
Content schedule creation and management	<ul style="list-style-type: none"> Content can be scheduled to play at a specified time. Daily, weekly and monthly schedules can be created. Playlists containing various types of content can be played like a single content item. Background music can be set for various scheduled data. Operation of scheduled data can be viewed and managed. Deployment status of a selected schedule can be viewed, and deployment can be cancelled. Schedules can be deployed to selected devices and device groups. Groups can be created to manage content schedules in groups. All content schedule events (add, delete, edit) that have occurred on the server can be viewed in the Contents Schedule Log.
Message scheduling	<ul style="list-style-type: none"> Created messages can be played on a selected device or a device group immediately or at a scheduled time. The font size and colour of a message can be specified. Message background image, position, scrolling, and moving speed can be set. Groups can be created to manage message schedules in groups. Messages can be previewed before they are played.
User management and role setting	<ul style="list-style-type: none"> All server users can be searched and managed. User groups can be created and then managed on a group basis. Administrators can create roles for users of server menus and assign them to different users.

MagicInfo™ Lite and Samsung LED LFDs Offer a Complete Signage Solution

Conclusion

Samsung LED LFDs (ME Series, UE Series, DE Series, and MD Series) offer embedded MagicInfo™ Lite software with a built-in multimedia player for an all-in-one, easy-to-operate digital signage solution. Samsung MagicInfo™ Lite solution simplifies the tasks of scheduling, playing and updating content. An instant USB auto play feature provides another way to display content quickly and easily.

MagicInfo™ Lite software with the embedded multimedia player supports a range of multimedia files, including images, videos, Microsoft PowerPoint presentations and Adobe Flash files. MP3 files are supported as background music for images and PowerPoint files.

External media player capabilities are also available through an optional set-back box (SBB-A). The SBB-A is also used for more professional applications. Operating MagicInfo™ Premium through the SBB-A provides more detailed digital signage.

MagicInfo™ Lite software can connect to MagicInfo™ Lite Server through a network so that administrators can remotely manage multiple devices and content displays. MagicInfo™ Lite Server offers an easy way for administrators to organize, schedule and publish content using a web-based interface. The MDC feature enables users to control the displays without an MDC program.

Samsung MagicInfo™ Lite solution provides users and administrators with an intuitive, easy-to-use digital signage solution that offers advanced media play and control functionality.

MagicInfo™ Lite Video and Audio Specifications

Specifications

File extension	Container	Video codec	Resolution	Frame rate (frames per second)	Bit rate (Mbps)	Audio codec
*.avi *.mkv	AVI MKV	Divx 3.11/4.x/5.1/6.0	1,920 x 1,080	6 – 30	8	MP3 AC3 LPCM ADPCM DTS Core
		XVID	1,920 x 1,080	6 – 30	8	
		H.264 BP/MP/HP	1,920 x 1,080	6 – 30	25	
		MPEG4 SP/ASP	1,920 x 1,080	6 – 30	8	
		Motion JPEG	1,920 x 1,080	6 – 30	8	
*.asf	ASF	Divx 3.11/4.x /5.1/6.0	1,920 x 1,080	6 – 30	8	MP3 AC3 LPCM ADPCM WMA
		XVID	1,920 x 1,080	6 – 30	8	
		H.264 BP/MP/HP	1,920 x 1,080	6 – 30	25	
		MPEG4 SP/ASP	1,920 x 1,080	6 – 30	8	
		Motion JPEG	1,920 x 1,080	6 – 30	8	
*.wmv	ASF	Windows® Media Video v9	1,920 x 1,080	6 – 30	25	WMA
*.mp4	MP4	H.264 BP/MP/HP	1,920 x 1,080	6 – 30	25	MP3 ADPCM AAC
		MPEG4 SP/ASP	1,920 x 1,080	6 – 30	8	
		XVID	1,920 x 1,080	6 – 30	8	
*.vob	VOB	MPEG1	352 x 288	24/25/30	30	AC3 MPEG LPCM
*.mpg	PS	MPEG1	352 x 288	24/25/30	30	AC3 MPEG LPCM AAC
		MPEG2	1,920 x 1,080	24/25/30	30	
		H.264	1,920 x 1,080	6 – 30	25	
*.ts *.tp *.trp	TS	MPEG2	1,920 x 1,080	24/25/30	30	AC3 AA MP3 DD+ HE-AAC
		H.264	1,920 x 1,080	6 – 30	25	
		VC1	1,920 x 1,080	6 – 30	25	

MagicInfo™ Lite Video and Audio Notes

Video notes

- Video content without audio is not supported.
- 3D video is not supported.
- Video content with a bit rate or frame rate higher than the rate specified can cause choppy video during playback.
- H.264 level 4.1 or lower is supported.
- H.264 FMO/ASO/RS, VC1 SP/MP/AP L4, AVCHD are not supported.
- XVID, MPEG4 SP/ASP:
 - Resolution of 1,280 x 720 or smaller – maximum 60 frames
 - Larger than 1,280 x 720 – maximum 30 frames
- GMC 2 or higher is not supported.

Audio notes

- Audio content without video is not supported.
- Only MP3 files are supported as background music for images and Microsoft PowerPoint files. This feature is available only when using the network schedule menu.
- Audio content with a bit rate or frame rate larger than the rate specified can cause choppy audio during playback.
- WMA 7, 8, 9 STD or lower is supported.
- WMA 9 PRO does not support lossless audio and multi-channel audio higher than two channels.
- WMA sampling rate 22,050 Hz mono is not supported.

Magicinfo™ Lite Compatibility and Support Information

Compatibility and support

General information

- Supported USB device file systems include File Allocation Table (FAT) 16 and FAT 32. New Technology File System (NTFS) is not supported.
- Content with a vertical and horizontal resolution larger than the maximum resolution is not supported.

Image information

- Compatible image file format: JPEG
- Supported maximum resolution: 15,360 x 8,640
- Supported image effects: Fade1, Fade2, Blind, Spiral, Checker, Linear, Stairs, and Wipe

Adobe Flash information

- Compatible with Flash 10.1
- Compatible Flash animation file format: SWF
- Supported resolution: 1,280 x 720
 - Performance comparable to Flash Player on a Windows operating system cannot be guaranteed.
 - Optimization is required during content creation.
- Flash video
 - Compatible file format: FLV
 - Video
 - Codec: H.264 BP
 - Resolution: 1,920 x 1,080
 - Audio
 - Codec: AAC-LC
 - F4V file format is not supported.
 - Screen video is not supported.

Microsoft PowerPoint information

- Compatible document file formats
 - Extensions: PPT, PPTX
 - Versions: Microsoft PowerPoint 1997 – 2007
- Functions not supported
 - Animation
 - 3D shapes (However, 3D shapes are displayed in 2D.)
 - Header and footer (Some sub items are not supported.)
 - WordArt
 - Align (A group alignment error might occur.)
 - Microsoft Office 2007 (SmartArt is not fully supported. However, 97 out of 115 sub items are supported.)
 - Object insertion
 - Encrypted document opening
 - Vertical text (Some sub items are not supported.)
 - Slide notes and handouts

Legal and Additional Information

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