

SMART CAPTURE

USB 2.0 BASED, AUDIO VIDEO CAPTURE,
H.264/AAC ENCODER

Manual v0.43b





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Manual

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This manual is organized by function & Operations of the SmartCapture device & is presented in order of probable use, but feel free to review the information in whatever manner you desire - even skip sections if the content is familiar. No part of this documentation may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or information storage and retrieval systems, for any purpose other than personal use, without the permission of FastVDO LLC. FastVDO LLC may update, change or remove parts of or the entire manual without warning or notice. Updated versions of the manual maybe obtained from FastVDO LLC, if there is valid proof of purchase of the product & upon request by the user.

SmartCapture Package

SmartCapture package is provided "as is" and any express or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. in no event shall FastVDO LLC be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of the contents of the SmartCapture package, even if advised of the possibility of such damage.

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Package Contents



- SmartCapture Device
- CD ROM (Containing Drivers, SmartPlayer and Manuals)
- RCA male cable

If any of the above mentioned contents are missing, please email us at support@fastvdo.com .

System Requirements

- Windows XP (Service Pack 2)
- Pentium 4 or higher
- 256 MB RAM or higher
- High speed USB port (USB 2.0 recommended)

Introduction

Congratulations on choosing SmartCapture for your video capture and encoding needs. SmartCapture is the world's smallest USB based Audio/Video capture and encoding device. It supports real-time, high quality Audio Video capture and compresses using the latest H.264/AVC video standard and AAC audio standard. Captured and compressed video/audio streams are delivered to PC through simple USB interface for storage. Content creation, content repurposing, field acquisition, surveillance, news gathering, and a host of applications are now available in a compact, cost-effective form. A user friendly SmartPlayer software provided can be used to capture and store encoded video from SmartCapture. SmartPlayer can also play back the media files encoded by SmartCapture and other media formats.

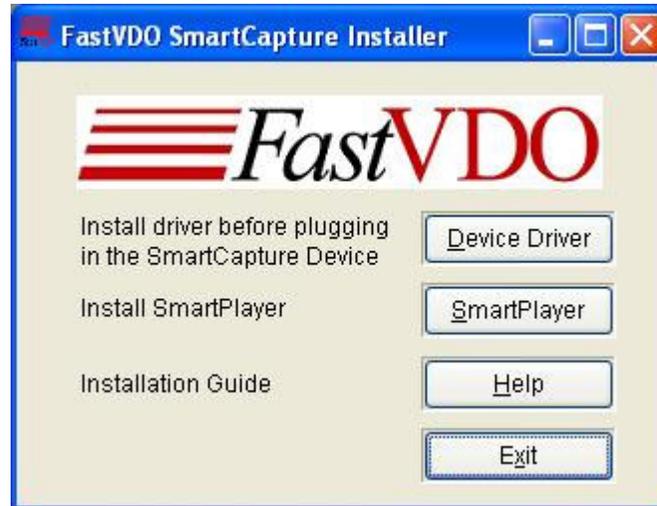


Features

- USB-powered, no external power source required.
- Low-power
- Low cost
- Light weight and compact form factor
- Real time audio/video coding
- Video encoding using the latest H.264 compression standard.
- Audio encoding using the AAC compression standard.
- Minimal processor usage as Capture and encoding done on the USB device.
- Configurable Bitrate range: 32 kb/s up to 4 Mb/s
- Configurable frame resolution (resize) : 160x120 up to 720x504
- Configurable frame rate.
- Supports full D1 resolution NTSC/PAL analog Input.
- Two channel Audio (stereo L/R).
- Encoded file formats: H.264 video and AAC audio, in MP4 file format
- Encoded files compatible to play on QuickTime®, Apple iPod® and Sony PSP®.

Installing SmartCapture Device drivers

Insert the CD into your CD-ROM drive to launch the FastVDO SmartCapture installer.
(If auto run is disabled, please browse to the CD-ROM drive and double click on setup.exe)



Click on Install Device Driver button and follow the installation wizard.

NOTE: Please install device drivers before plugging in the device



When prompted with the above dialog box, click Continue Anyway.



Click Finish to complete the Driver installation and plug in the device.



After plugging the device in, windows will pop-up the Found New Hardware Wizard. Select “Install the software automatically” option and click next.



When prompted with the above dialog box, click Continue Anyway and complete the driver installation.

Installing the SmartPlayer

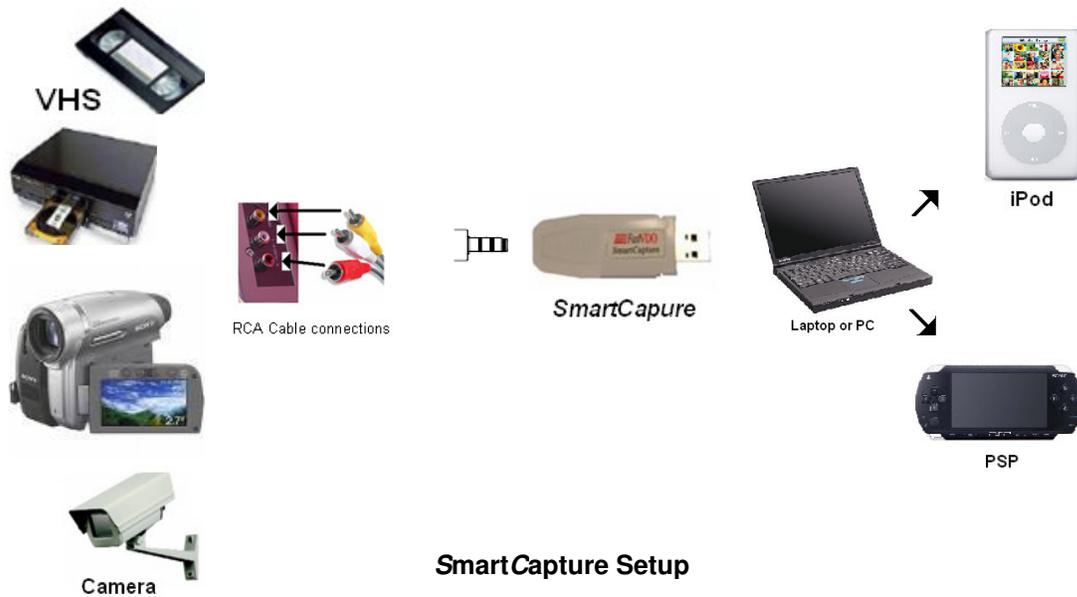
Click the SmartPlayer button on the FastVDO SmartCapture installer and follow the wizard to install the Player.



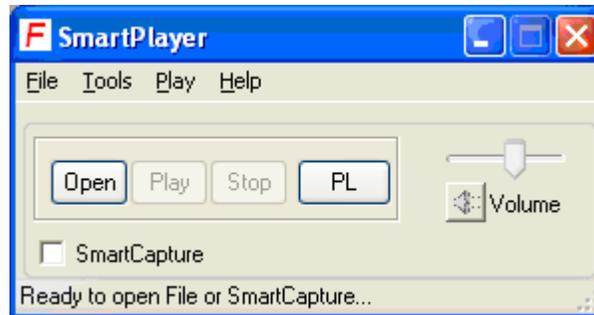
SmartCapture Setup

To capture and encode from any analog source like camera, DVD player or TV using the SmartCapture, connect the RCA plugs of the cable (Yellow (video), Red and White) to “**A/V-OUT**” of the source. Connect the 3.5mm jack of the cable to the “**A/V-IN**” of the SmartCapture. Plug the SmartCapture device to the USB port of your computer or laptop.

NOTE: Install the drivers from the CD before plugging in the device.



SmartPlayer



The SmartPlayer provides both recording and playback functionalities. The audio video data being captured and encoded can be previewed or saved using the SmartPlayer. Following multimedia formats are supported by SmartPlayer

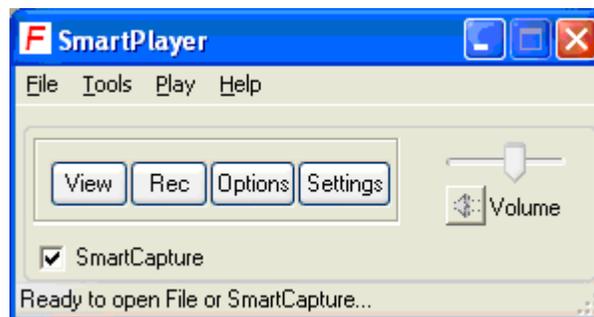
Video: H.264

Audio: MP3, AAC

File formats: MPEG-2 TS (.mpg), MP4 (.mp4), QBox (.qbx) – proprietary file format

Recording from SmartCapture

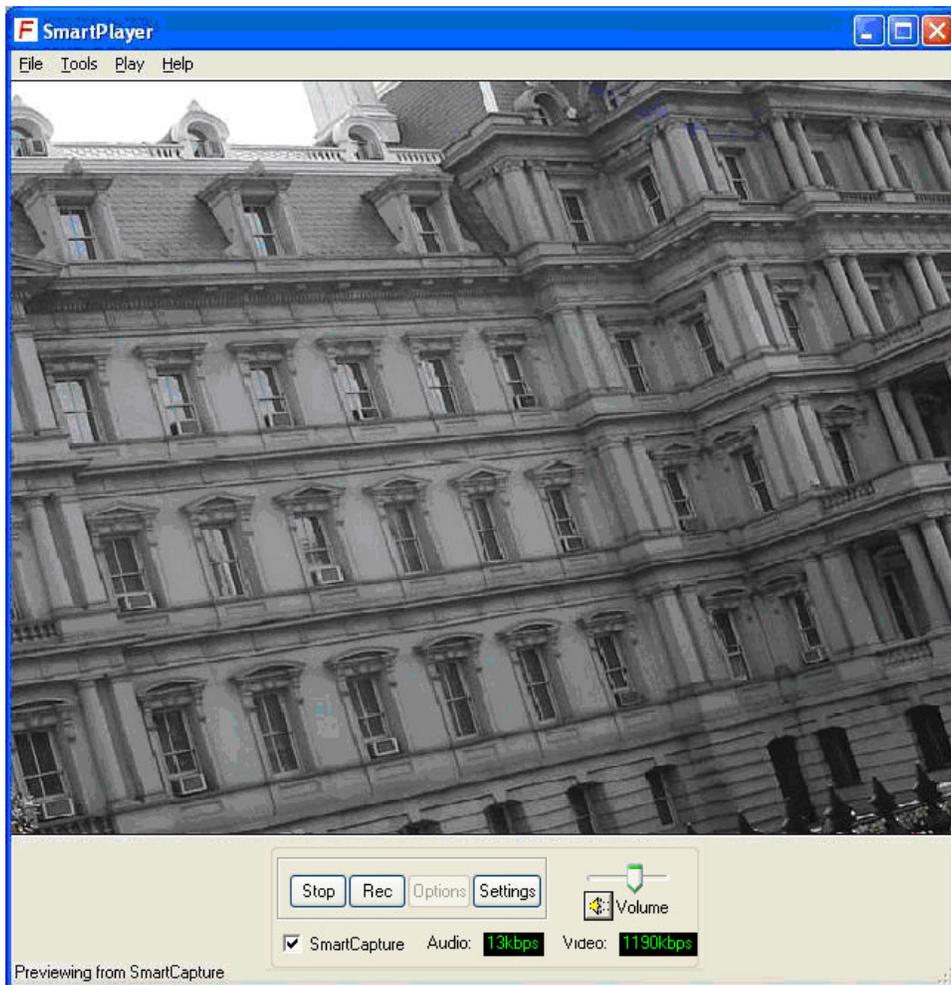
Launch the Player. Check the SmartCapture check box to enable the SmartCapture device options. These options can also be enabled through the menu bar (File→Read SmartCapture).



- View – Preview the video/audio data encoded by SmartCapture.
- Rec – Recording/Saving the SmartCapture encoded data.
- Options – Customize device & recorder settings.
- Settings – Change Brightness & Color saturation on the video data encoded.

Previewing from SmartCapture

Plug RCA cable into the audio/video source, plug the 3.5 mm jack into the SmartCapture A/V in. Plug the device into an USB port on your PC. Click the “View” button, to view the captured sequence.



Recording/Saving the encoded data

Click the “Rec” button to start saving/recording the encoded sequence. SmartPlayer automatically generates the file name when the Rec button is clicked, the file name given is based on the time at which the Rec operation was started. For example if the recording was started on May 16th 2007 at 7:26:18 P.M. then the file name will be May1607-072618PM.mp4.

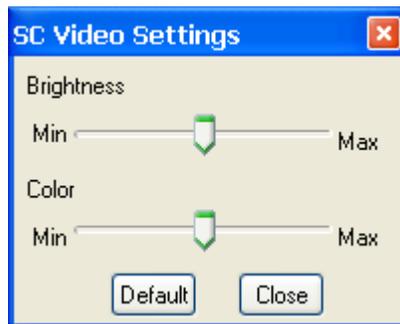
NOTE: With default settings encoded file will be saved at the location C:\Temp. You may choose to save the files at a different location through Options or Record settings (Tools→ Record Settings).

Stop Preview/Recording

Click the “Stop” button to stop preview/recording.

Brightness / Color settings

The brightness and color saturation settings maybe changed for the video being encoded or previewed, by clicking on the settings button.



The brightness / color saturation may be varied while previewing or recording.

NOTE: The recorded video will have the brightness / color saturation settings as adjusted by the user.

Full Screen and Volume Control

The sequence being previewed may be viewed in full screen mode by pressing Alt+Enter. To exit from full screen, press Alt+Enter or Esc.

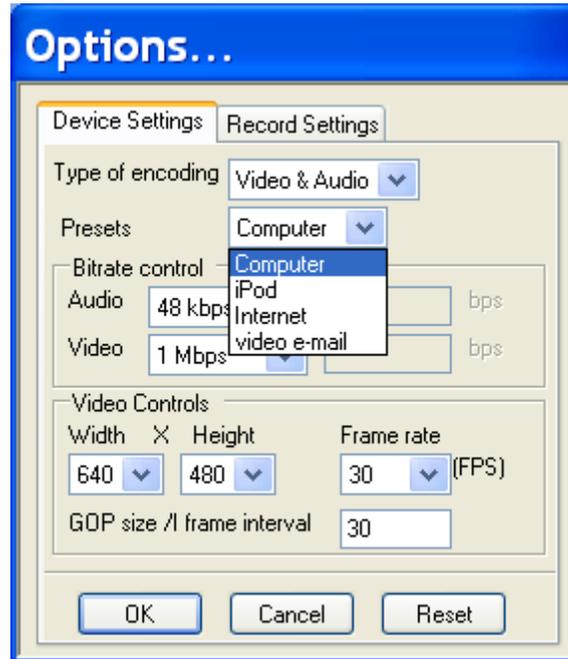
The Volume scroll bar increases or decreases the volume of the sequence being previewed. The Volume Mute button will mute or un-mute the volume of the sequence being previewed.

NOTE: Controlling the Volume on the player does not control the volume of the recorded sequence. The recorded sequence will have the same volume as of the source.

Options and Settings

Click the “Options” button to change the Device Settings or Record Settings.

Device Settings



Device settings can also be accessed from the menu bar (Tools→Device settings).

- Type of encoding - This option allows the user to select the source type for encoding.
 - Video only
 - Audio only
 - Both Video and Audio

- Presets – This option allows the user to select the presets for encoding a sequence for:
 - Computer/Laptop
 - iPod®
 - Internet
 - Video e-mail

The table below describes the default presets for each of the targets.

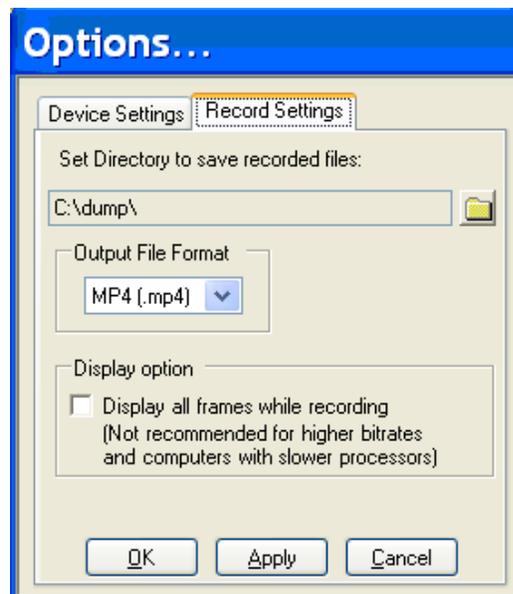
Target	Resolution (Width x Height)	Video bitrate (Kbps)	Audio bitrate (Kbps)	Frame rate (fps)
Computer	640 x 420	1000	48	30
iPod®	320 x 240	512	48	30
Internet	320 x 240	256	32	30
Video e-mail	320 x 240	128	24	15

- Bitrate control - The bit rates at which SmartCapture should encode the Audio/Video data can be preset using this option.
 - Audio Range – 48 kbps to 128 kbps
 - Video Range – 32 kbps to 4 Mbps
- Video Controls– These options can be used to modify video resolution, frame rate and I frame intervals in encoded video
 - Width x Height – Resizes the output video to specified width and height.
 - Frame Rate – Sets the number of frames that are encoded in one second. Default value is 30 fps. Using lower frame rates is recommended for lower bit rates.

NOTE: At Lower frame rates, video output might not be smooth.

 - I Frame Interval – Sets the refresh frame or intra-frame interval. I Frame at every 30 frames is recommended.

Record Settings



Record settings tab maybe used to chose a different location to store the recorded files. The file format drop down box allows the user to select MP4 or Qbox file format.

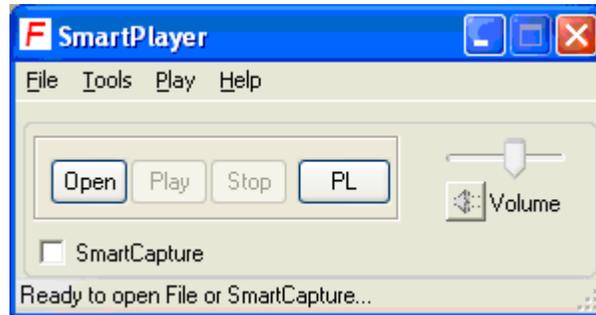
NOTE: These file formats may be played back using the SmartPlayer.

- .mp4 – multimedia format compatible for playing on IPod®
- .qbx – multimedia format with H.264 video and AAC audio.

Display Options check box maybe used to enable or disable displaying all frames while recording.

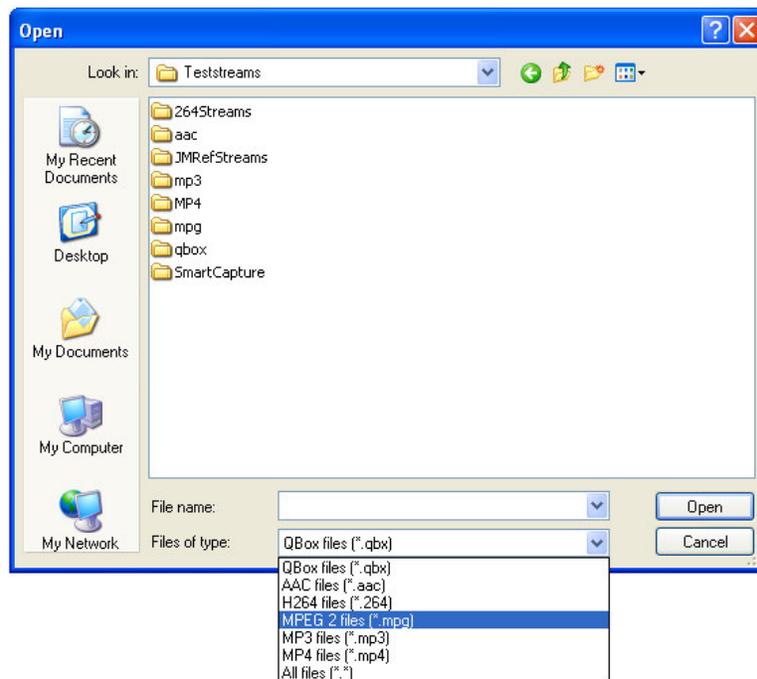
NOTE: Decoding H.264 Video requires lot of processing power, displaying all frames while recording is not recommended at higher bitrates and computers with slower processors.

Playback Options in SmartPlayer



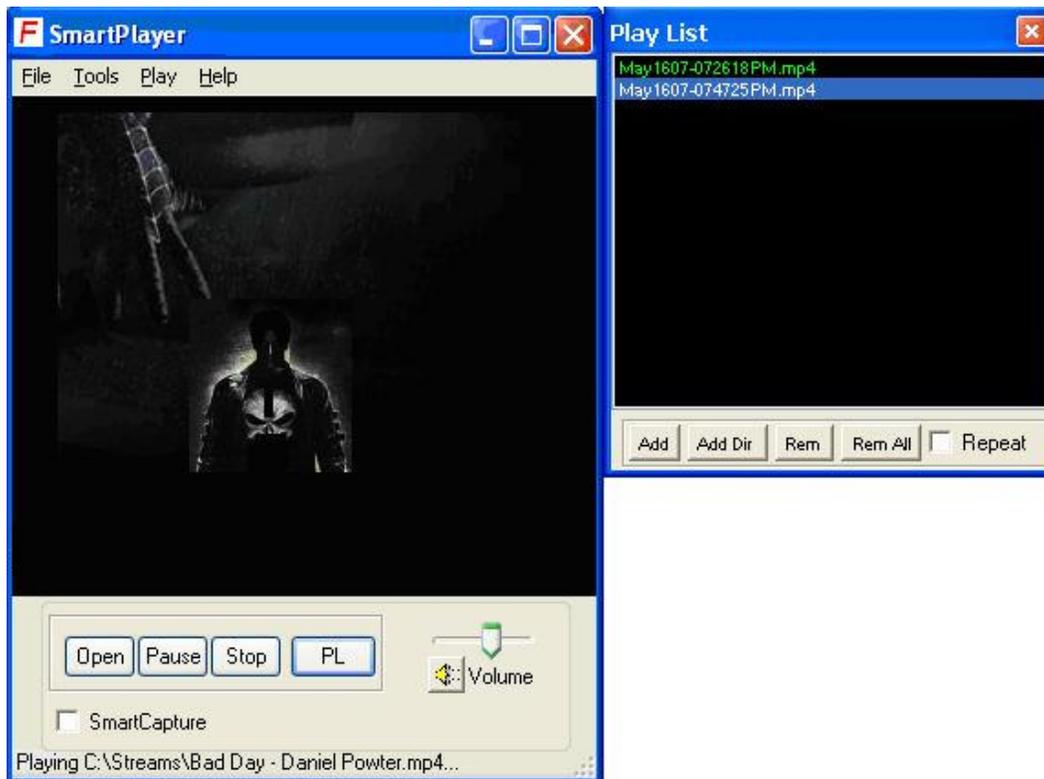
Opening a Recorded/Saved file

Click "Open" and browse the folder containing supported multimedia files. All supported file formats will be shown. You can also select a desired file format, or choose "All files (*.*)" to view all the files. Select the desired file and click open.



Player options

Click “Play” to play the selected file. Currently playing file maybe paused or stopped using the respective buttons.



Play list

The play list window maybe used to create a play list of the encoded files for play back on the SmartPlayer. The play list window can be shown / hidden by clicking the PL button.
(Tools → Show /Hide Playlist)

Always on Top

This feature maybe used to retain the SmartPlayer always on top of all the windows.
(Tools → Always on Top).

Using Help Option in the Player

Go to “Help” menu on the menu bar and select “Help” (Help→Help) to get help on the Device and Player functionalities. This may also be accessed by pressing F1 on the keyboard.