

ATG 2022 Introduction to Digital Video Editing



May 2002

Wake Forest University

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1 Tasks

- You have 4 video clips (1:00,0:30, 0:30, 0:15).
Make a one minutes video out of them.
- You will need to trim some of them
- Adjust the video one of them
(Filter – e.g. Color Balance, Monochrome, or Cropping)
 - Adjust the audio for another (optional)
- Fade in/out (Effect)
 - Overlay another video on top aka PiP (optional)
- Add scrolling title
- Add music
 - Narration (optional)
- Create a MPEG-1/2 file ready to make VCD or DVD in next workshop

2 Installation

2.1 Courseware CD

Pick one of the 4 class material CDs

CD1 - East Asian Studies/Health & Exercise

CD2 - Foreign Studies/Astronomy

CD3 - Science

CD4 - Atmospheric Studies/Geography

2.2 System Requirement

- You may need to update your DirectX (a system component of Windows) for you ThinkPad in order to install Video Studio.

Version 8.1 (8 Nov 2001) is on the courseware CD under \directx

- You need about 420MB disk space to copy the starting point files, and ~40MB for the finished project. It is highly recommended that you clean up about 1GB of free space before begin.

2.3 Video Studio

Install ULead Video Studio 6.0 if you do not have one installed already.

(* It is OK if you have version 4.0/5.0 (various SE, VE, retail, DVD edition), the features added in the latest version are not very important for this workshop.)

(* Culpeper participants would have a copy of it on yours CD)

(* for the others, there is a 30-day trial version on the CD if you don't have version 4/5/6)

Insert the class CD into your Thinkpad

Double click My computer

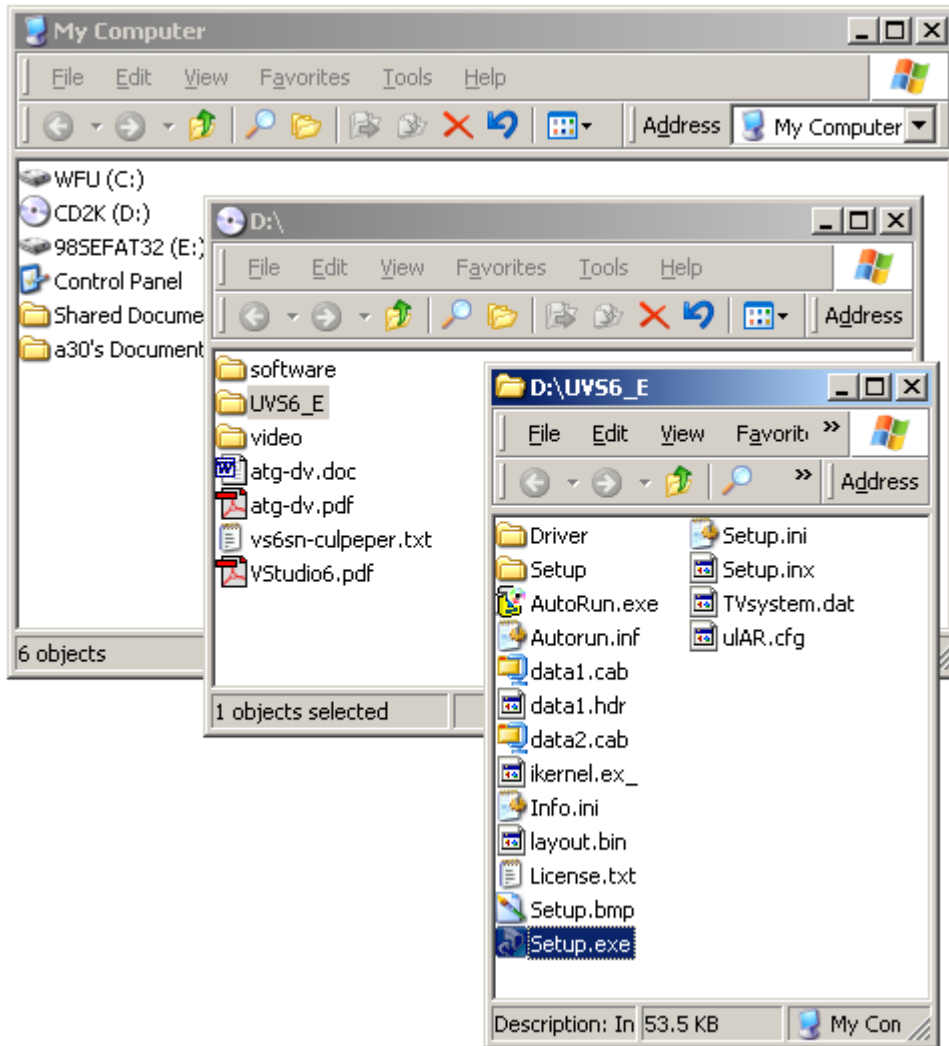
Double click D:

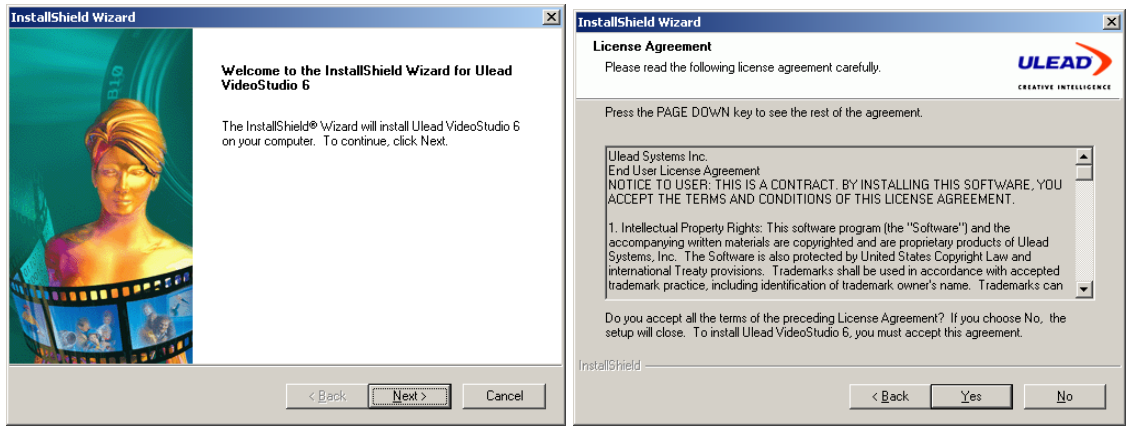
Double click the folder UVS6_E

Double click Setup.exe

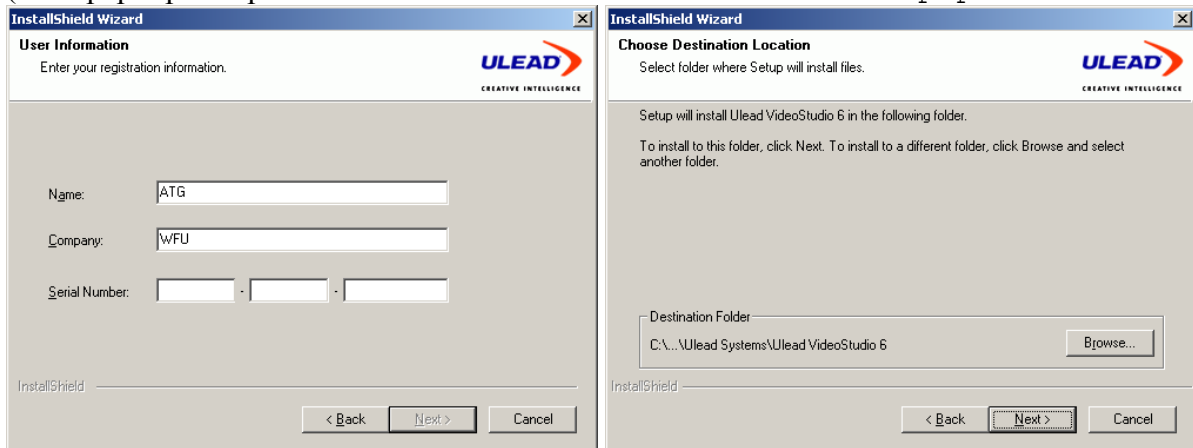
The manual is in Adobe Acrobat PDF format on the CD also.

2.3.1 Full version

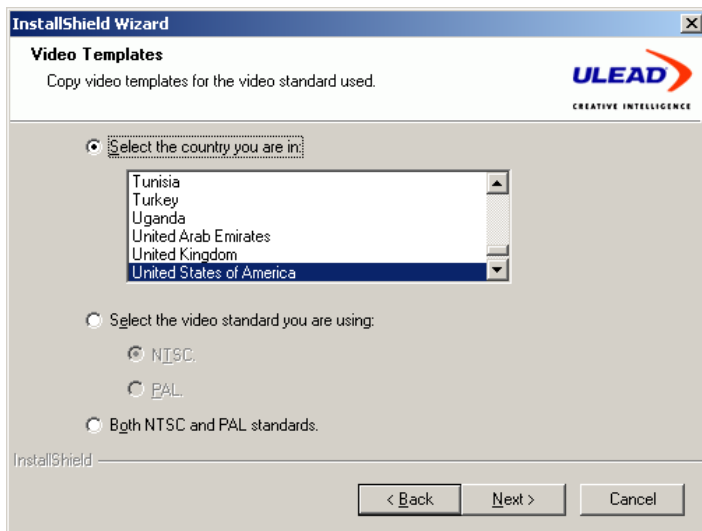




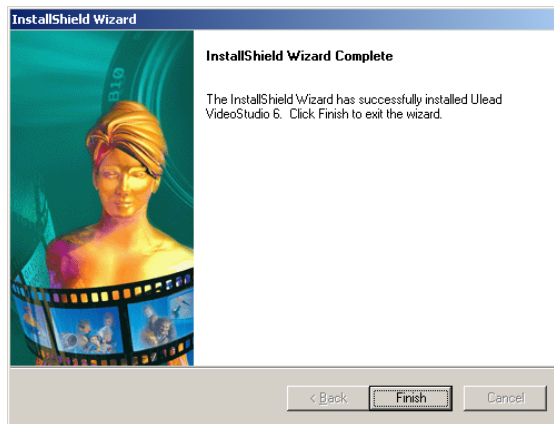
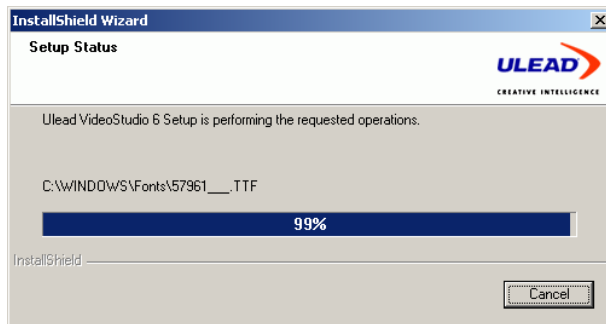
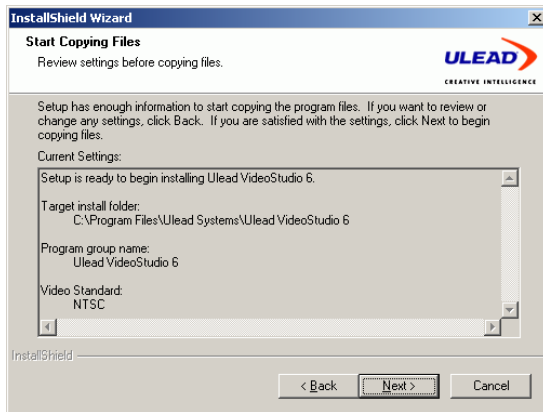
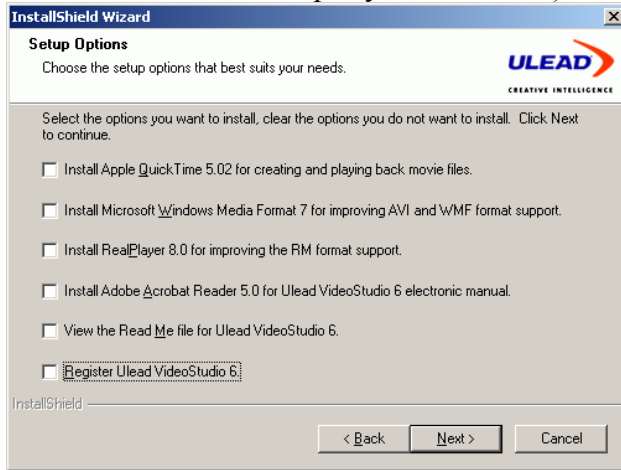
(* Culpeper participants – Your SN is in a text file called vs6sn-culpeper.txt on the CD)



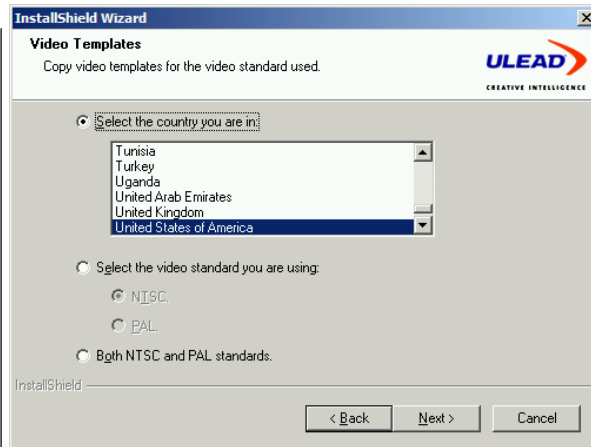
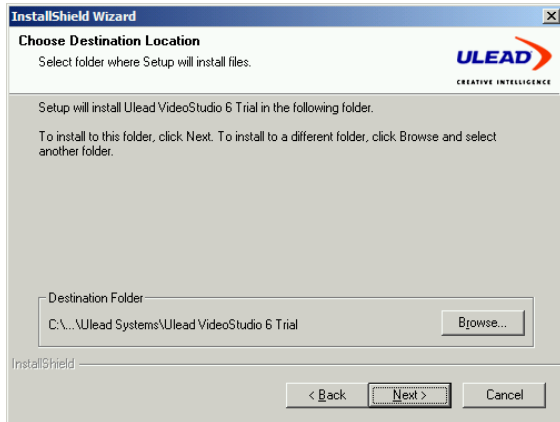
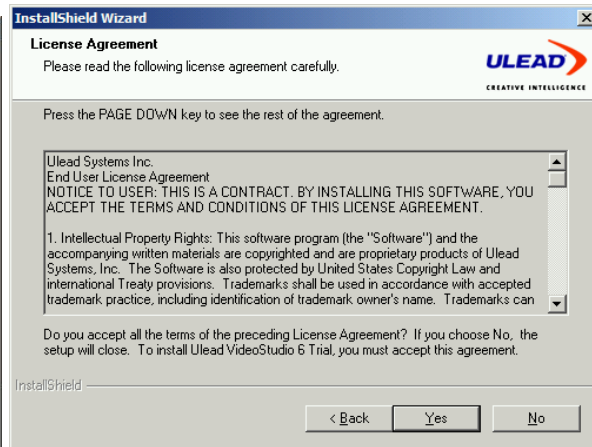
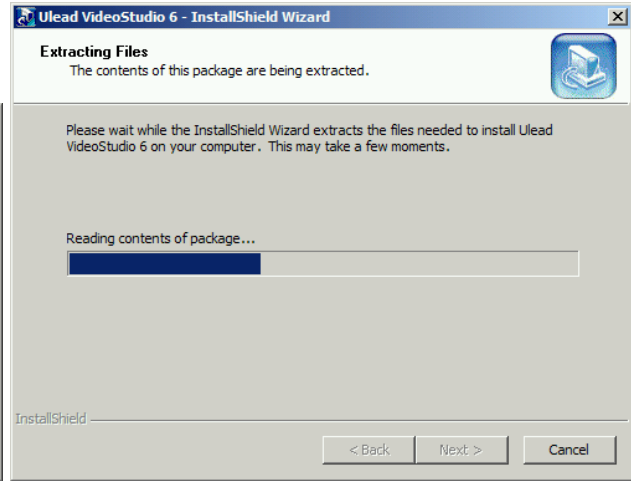
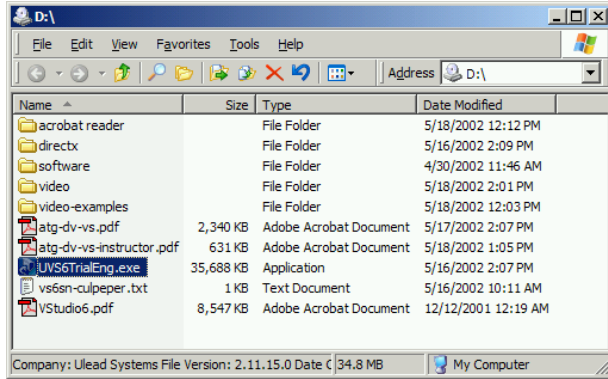
* Choose Both NTSC and PAL standards if you will be dealing with videos from Europe/Hong Kong etc.

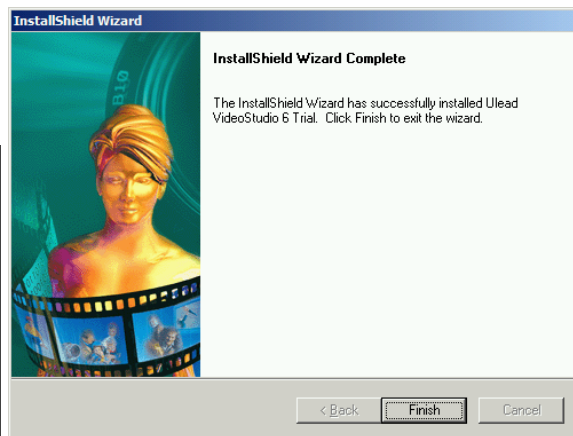
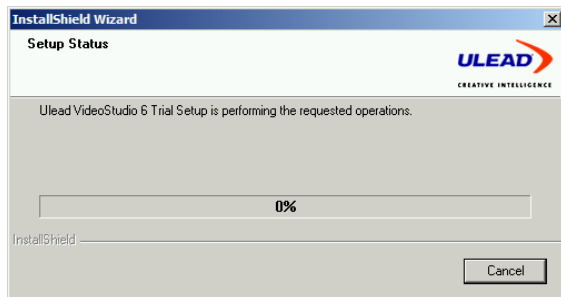
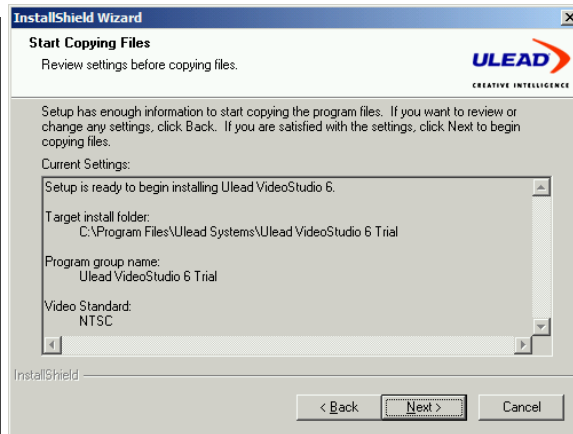
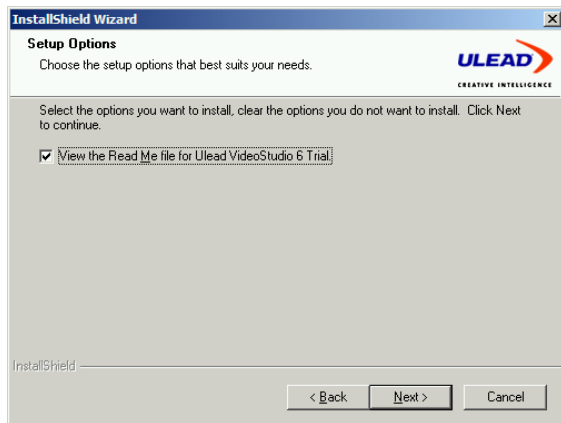


* uncheck all the options, not all the options are on the class CD. (they don't fit. Ask your instructor after workshop if you need them)



2.3.2 Video Studio Trial





2.4 Class material

If you have enough disk space, it is best if you copy all the 4 files in the video folder onto your hard drive.

The materials have not been fully tested to run directly off CD-ROM. It runs extremely slow if you use the video clips that way.

3 Introduction

This is not really a class about Video Studio, you can do the same thing in other video editors.

3.1 5 steps of video

Acquire/Create	Capture/Transfer	Edit	Store/Make	Deliver
Analog <ul style="list-style-type: none"> antenna TV cable VHS SVHS VHS-C 8mm film!! Digital <ul style="list-style-type: none"> CGI DV DVD Video (copy-protected with CSS, Macrovision, HD2-etc. etc.) microMV DVD-??? recorder satellite 	Analog <ul style="list-style-type: none"> Camcorder A->D box Capture card Digital <ul style="list-style-type: none"> Firewire add-in card (desktop or laptop) IEEE1394 built-in 	<ul style="list-style-type: none"> ULead VideoStudio Adobe Premiere Pinnacle Roxio Sonic Foundry Media 100 Insync Discreet SONY ES Avid 	Analog <ul style="list-style-type: none"> VHS S-VHS 8mm Digital <ul style="list-style-type: none"> DV (AVI or tape) HD CD-R CD-RW (CD-ROM) DVD-R DVD+R DVD-RW DVD+RW DVD-RAM (DVD-Video) (DVD-ROM) 	Disc <ul style="list-style-type: none"> VCD SVCD DVD (miniDVD) Streaming <ul style="list-style-type: none"> MPEG-1/2 Real QuickTime Microsoft WMV MPEG-4

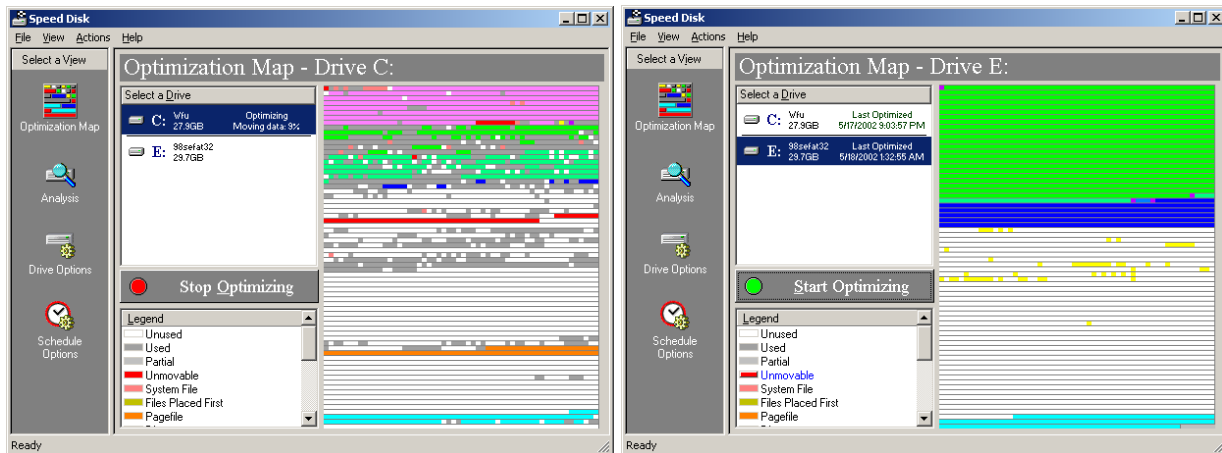
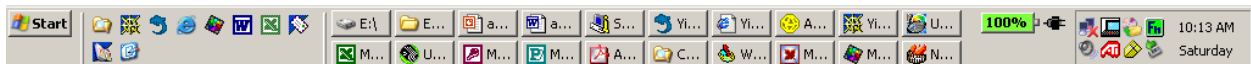
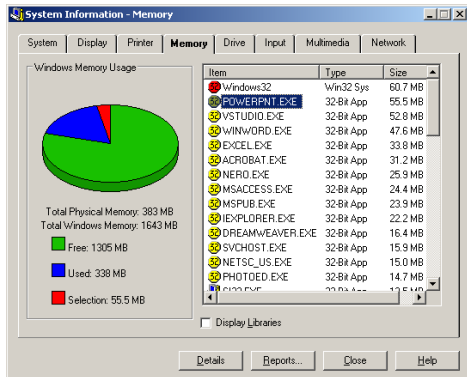
(* PDF file of ATG 2021 can be downloaded from <http://atg.wfu.edu/technotes/>)

3.2 Gotchas

- One of the most demanding tasks – along with video composition, visual effects, CGI, 3D modeling, rendering, scientific computation, simulation, and visualization
- Similar to burning CD-R in the old days - Not optimized system → \$ 20 toaster
- Now -10 minutes into a capture, out of disk space or dropped 14 frames, arrrrrrrrrrrrrrrrrrrr!!! You want ropped frames <> 0
- Uses Safe color to avoid outside gamut, bleed etc.

3.2.1 PC Health

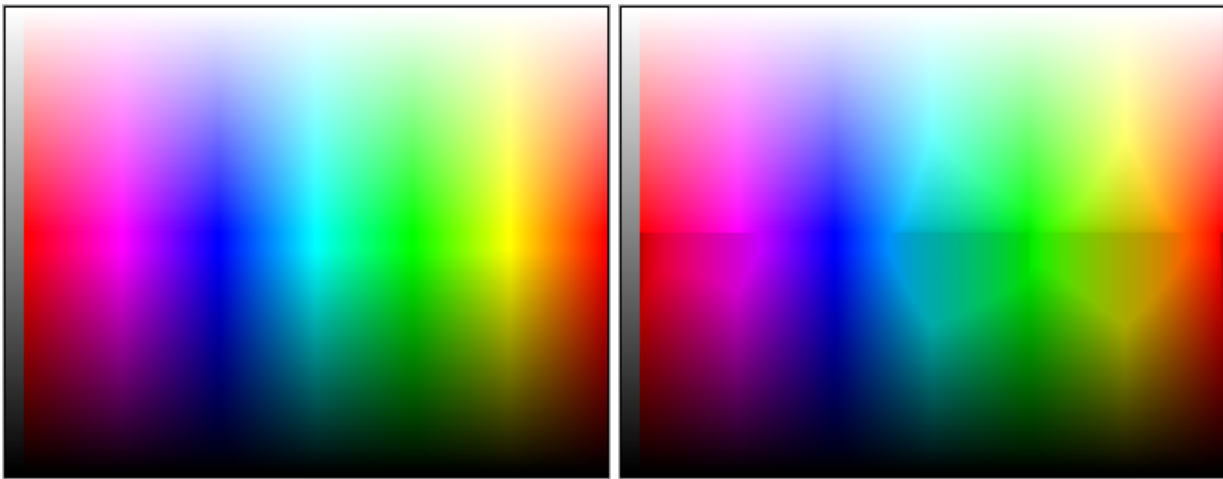
- Things you can do
 - Stop background tasks running -Godzilla, Kazaaz, AIM, YIM, MIM?
 - How many items in your system tray and task bar?
 - Space, a lot of space - Every minute of DV = 206 MB
 - Disk - Have you defragment your drive today (this month)?



- Things harder to change
 - Get secondary hard drive, can be external Firewire or internal Thinkpad Ultrabay. More expensive ones can be faster also (higher rpm)
 - Partition drive for dedicated section for video may help, faster to defragment/format/backup
 - A20m performance very marginal, A21 (well maintained) is ok most of time, A30 should be fine most of the time (with no unnecessary things running)

3.2.2 NTSC color

Never The Same Color



Demo



3.2.3 Interlace video

DV uses the more common known as “lower field first”

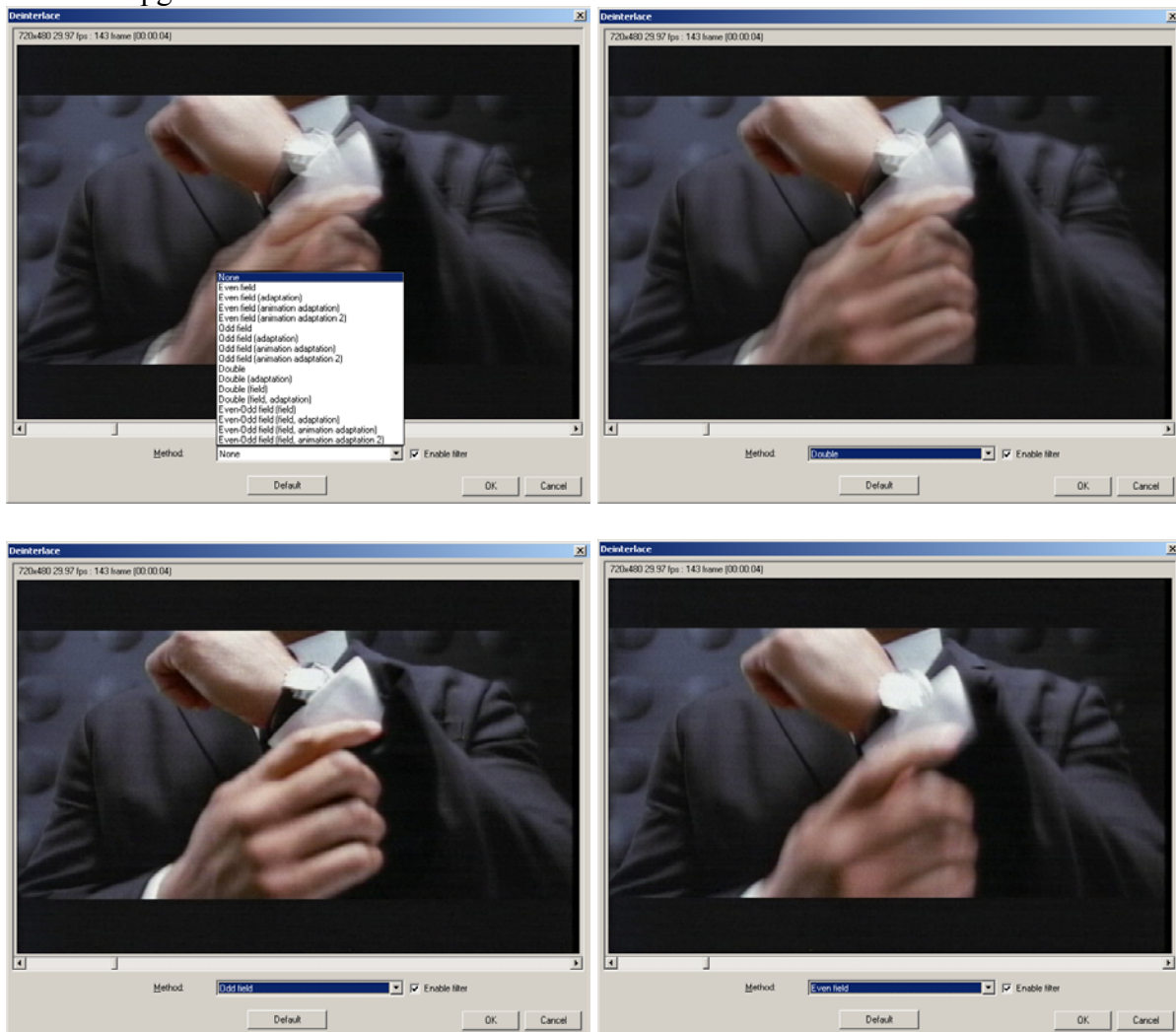
Computer display and some camcorder, and HDTV transmission is progressive.

Do a search on google for interlace for tons of references.

e.g. \video-examples in your CD



demo – tmpgenc deinterlace filter



3.2.4 Video Noise

Noise at top and bottom (if source is from VHS) – can be crop over safely



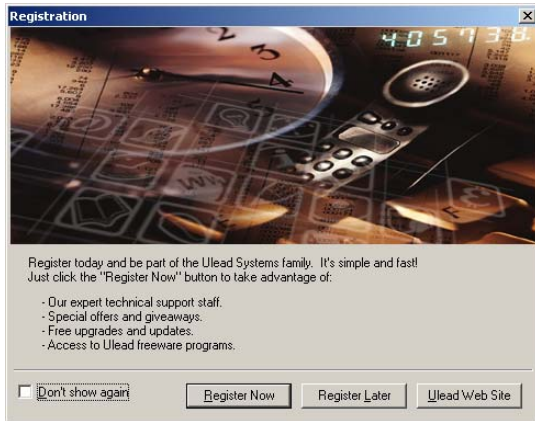
4 User experience

Double click the icon to launch

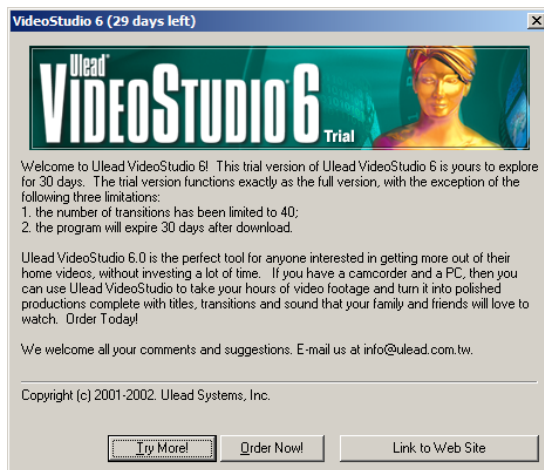


Ulead
VideoStudio 6

(*no choice not to add it to your desktop during install, bad bad design)



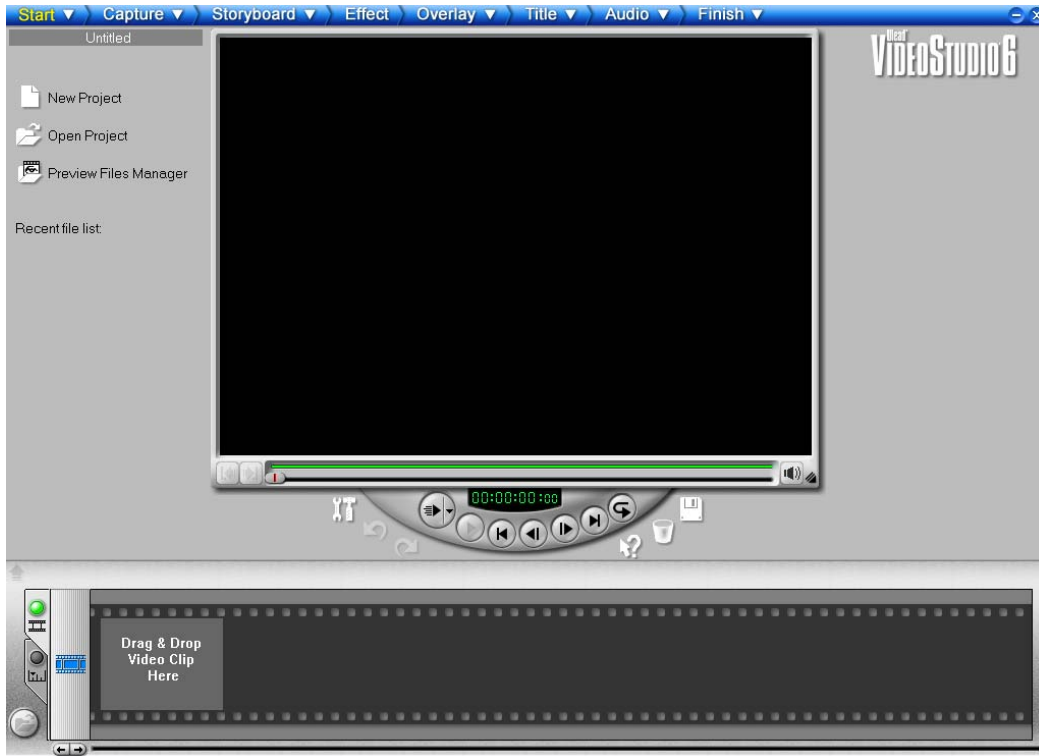
(* in version 5.0, whether you click don't bug me again or not, it doesn't matter, it will come back)



4.1 8 Tabs

unconventional user interface

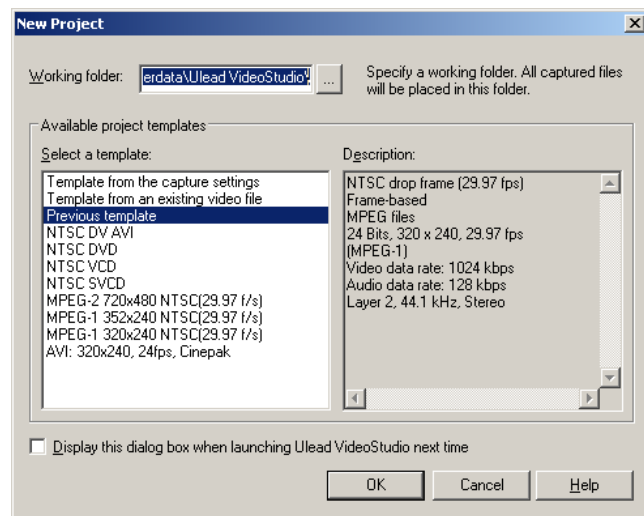
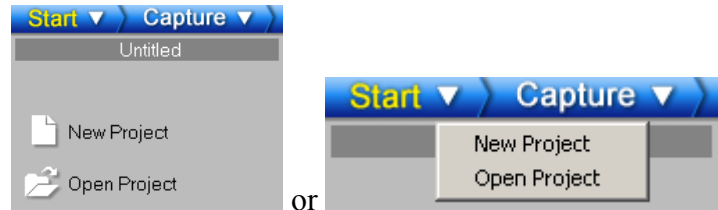
- no “standard” (Windows) menu bar
- cannot resize



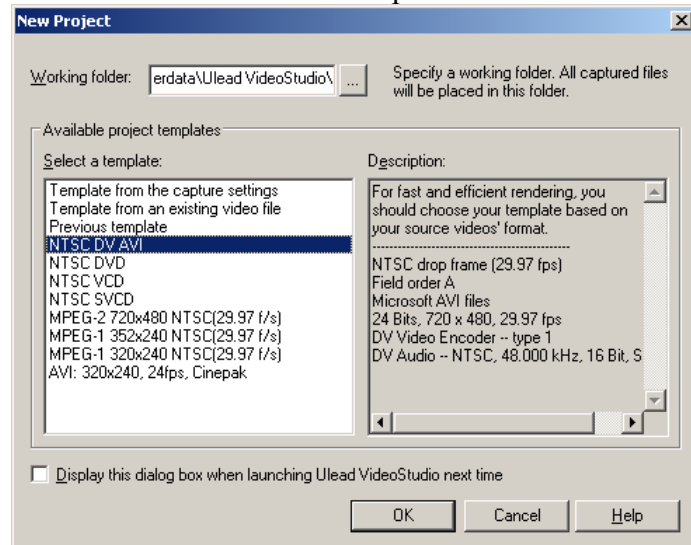
- Start
- Capture
- Storyboard
- Effect
- Overlay
- Title
- Audio
- Finish

4.1.1 Start

Start ▾ Capture ▾ Storyboard ▾ Effect Overlay ▾ Title ▾ Audio ▾ Finish ▾
click New Project button or use drop down arrow for menu



switch to NTSC DV AVI template

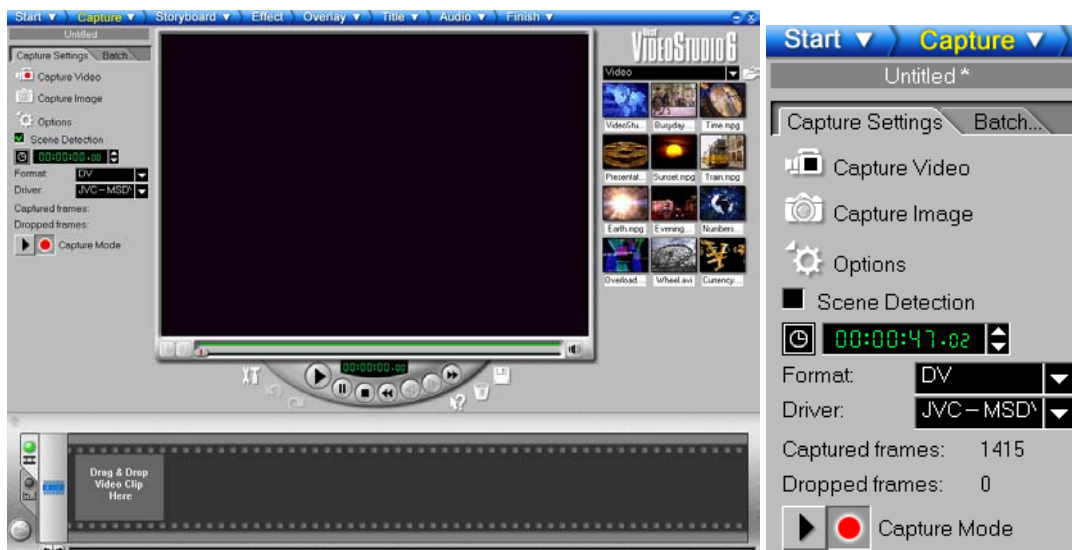
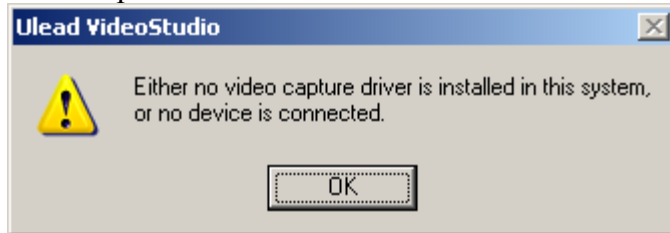


It is unclear whether Video Studio Field Order A is lower field or not. Supposedly, Ulead's higher end Media Studio uses the same terminology too.

4.1.2 Capture



Most likely you will get this message unless you have a IEEE1394 card in your laptop and connected to a camcorder. Simply click OK. We won't need to capture any video in this workshop. The instructor can do a demo.



4.1.2.1 VideoStudio 6.0 specific potential capture problems

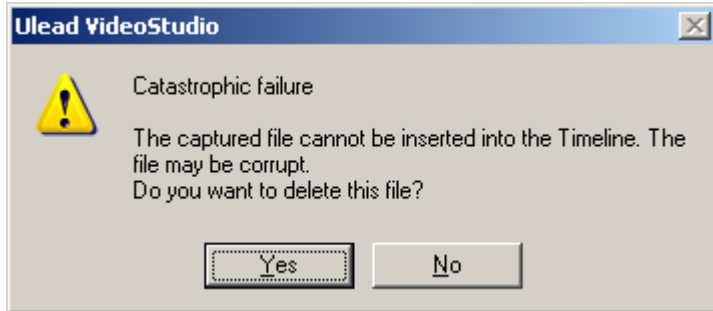
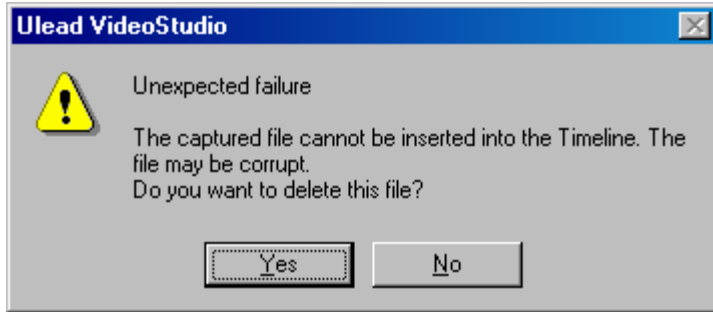
New errors seen in Video Studio 6 under Windows 98SE and Windows XP under A21m & A30. Not seen before in Version 4.0.x or 5.0.x. Mostly happen if you

- switch on/off scene detection
- switch on/off capture to library
- switch between DV(AVI) and MPEG capture

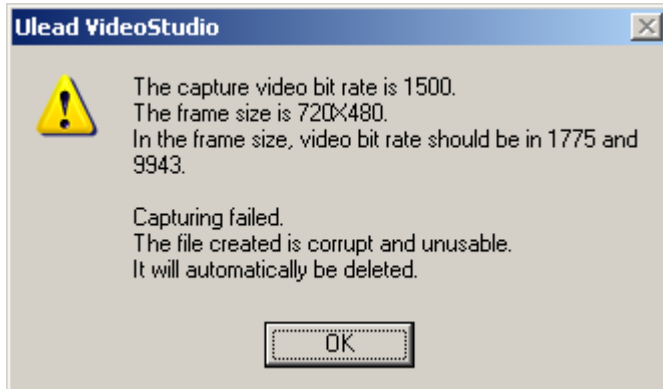
e.g.

- Unexpected failure
- Catastrophic failure
- Capturing failed

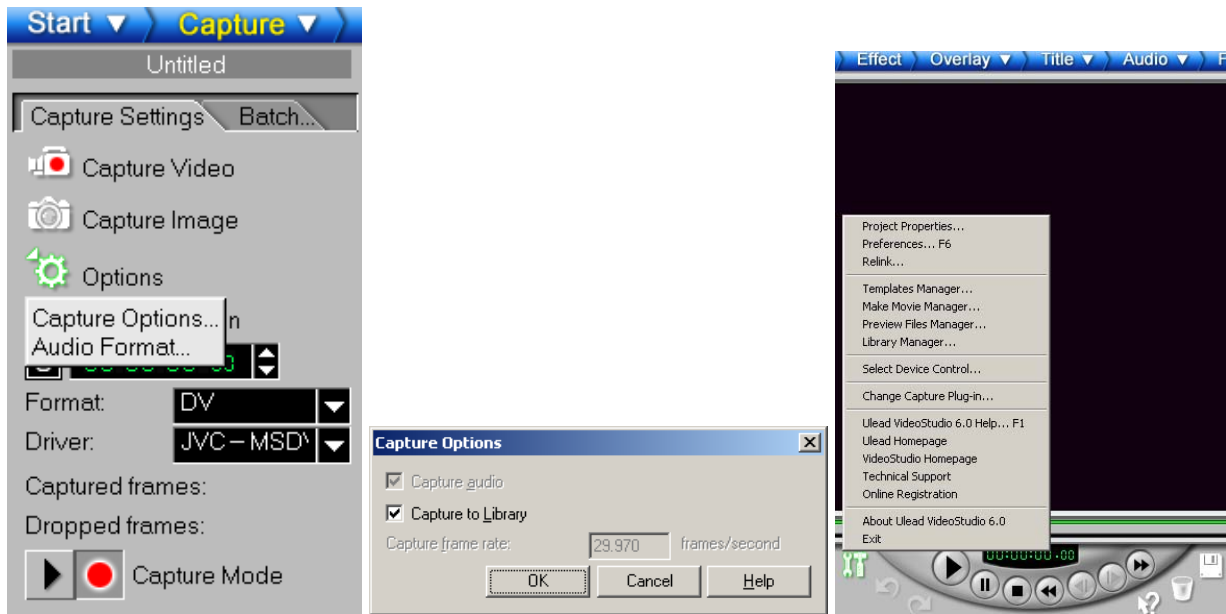
Be warned, uninstall and reinstall does not solve the problem once it starts.



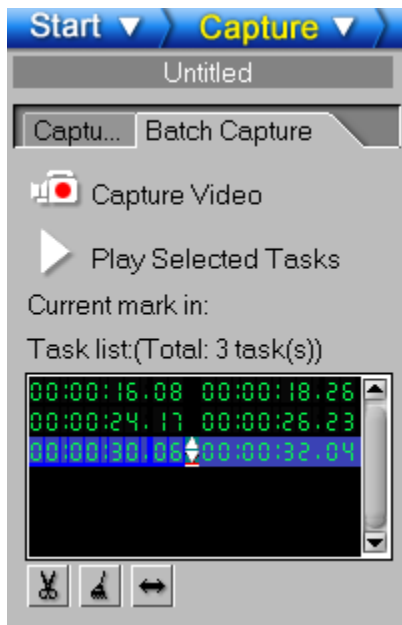
(New XP 3D ! icon!!!)



4.1.2.2 Additional Settings



4.1.2.3 Batch mode



4.1.3 Storyboard



- layout
- trimming (F3 for mark-in and F4 for mark-out are your friends like in batch capture)
- library manager for images, color chips/clips (useful for fade in/out to black/white)



(* SMPTE time code is a Drop-Frame time code [nothing to do with dropped frames during capture.]

0;00;59;29 -> 0;01;00;02 (every minute, except every 10th minutes)

because of 29.97 fps. In 30 fps NDF, every hour get 1:00:03:18

4.1.3.1 Preview



choose between Instant Preview or High Quality Preview (requires rendering, can be a long time and takes up space. Use Preview Files Manager to clean those files up)

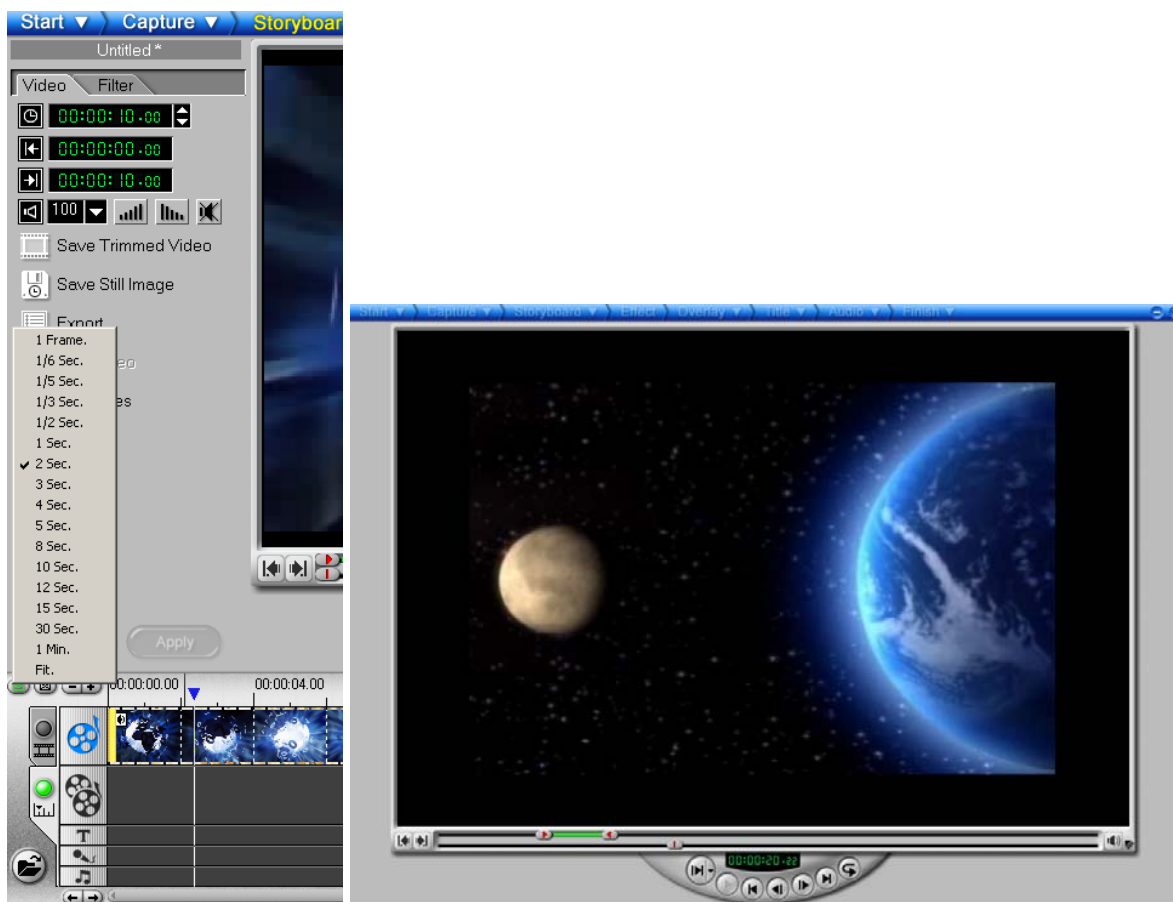
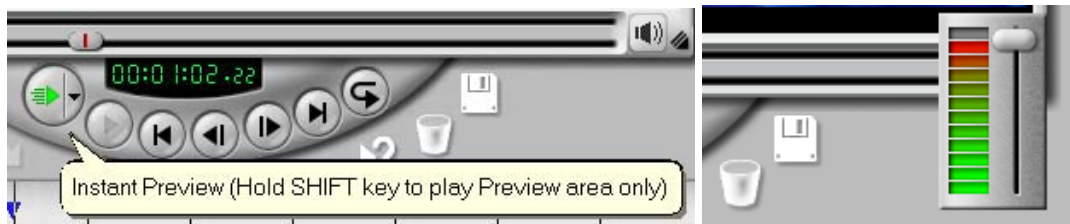


Use Shift-Play for just the selection (red bar on time ruler)

Use SE arrow (enlarge) to get bigger preview

Use speaker icon for volume

Use zoom to button for timeline control



4.1.3.2 Video Studio 6.0 specific potential Trimmed Video problems

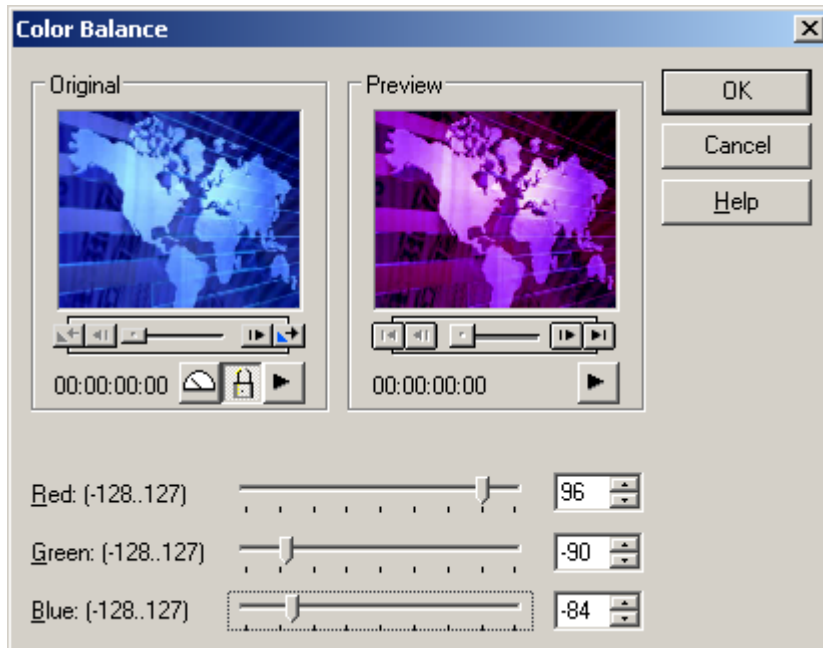
Be careful of using "Save Trimmed Video", especially MPEG-2 files (potentially AVI DV files also). Windows media player 8.0 and TMPGenc 2.5.4 may not play trimmed files.

4.1.3.3 Filter tab

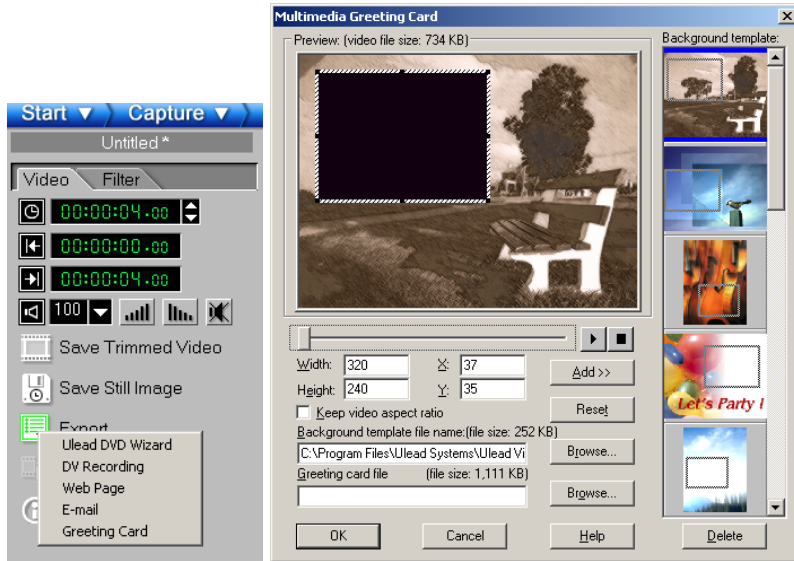
Maximum 5 filters per clip



Options (apply to first or last frame only)



4.1.3.4 Export Options



DVD Wizard – topics of next class

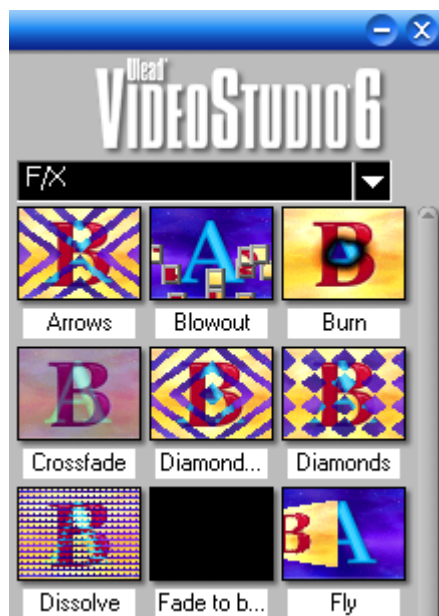


4.1.4 Effect



How many effects in one video is too much?

Few don't use any but one of the fades (under F/X group), Crossfade probably is most common



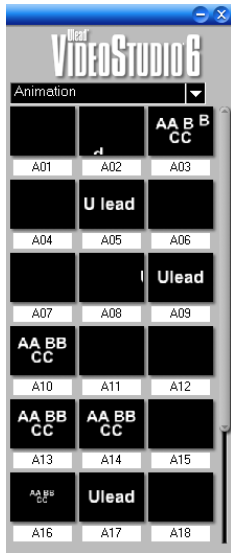
4.1.5 Overlay



4.1.6 Title



with 2nd animation option tab and library of presets



4.1.6.1 Safe Zones

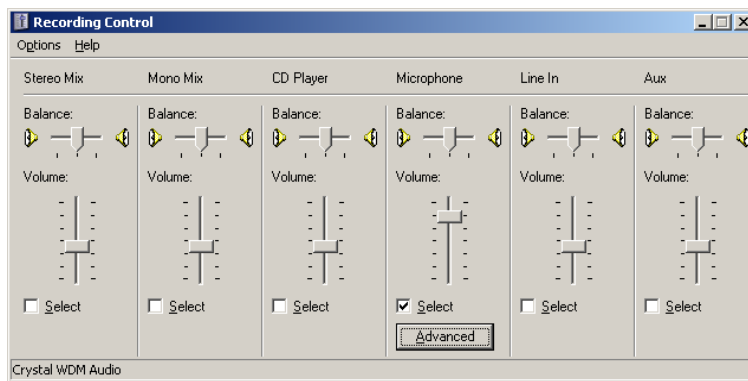
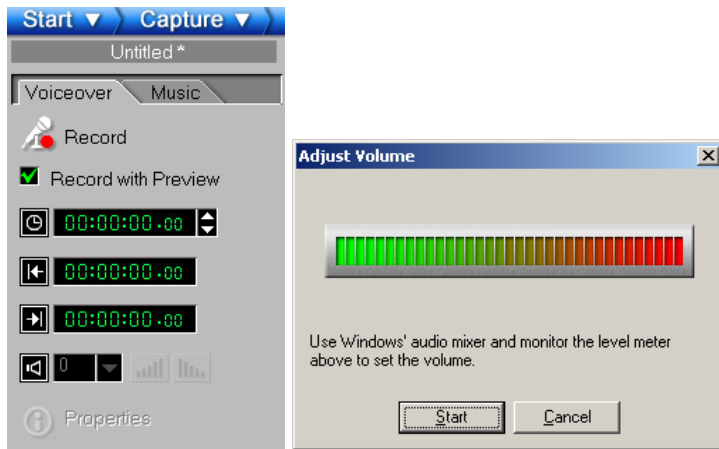
inner 90% action-safe
 inner 80% title-safe
 for TV overscan

4.1.7 Audio



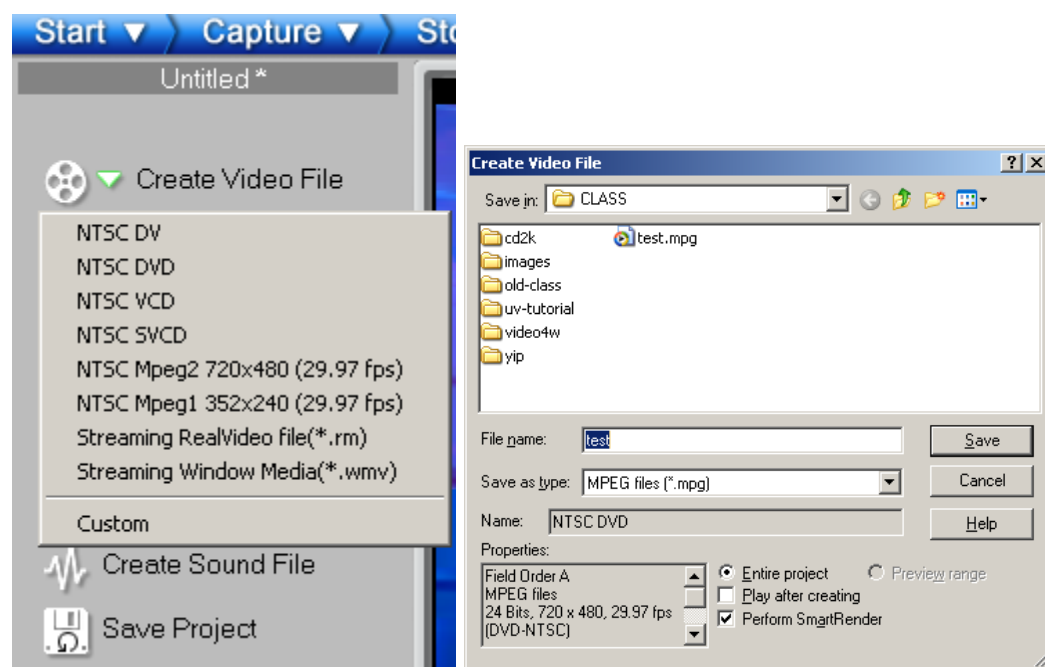
with 2nd Music tab





(* A30 does not have a built-in microphone as the A21 and A20 [and all the previous one we had before), you need to add an external one if you want to use narration feature)

4.1.8 Finish



Uncheck the play after creation, we will view the files in external viewer instead.

(* Export doesn't work in finish for some reason, use it in storyboard step)

5 References

Ulead Video Studio

<http://www.ulead.com/vs/>

Misc. IEEE1394/Firewire gear (card, hard drives)

<http://www.adstech.com/>

<http://www.orangemicro.com/>

<http://www.adaptec.com/>

<http://www.westerndigital.com/>

<http://www.maxtor.com/>

Adobe Digital Video products

<http://www.adobe.com/motion/>

Interlace, progressive, field dominance, upper/lower, A/B, 1/2, odd/even mess

http://www.adobe.com/support/techguides/premiere/prmr_interlace/main.html

Alternate MPEG encoder - TMPGenc

http://www.tmpgenc.net/e_main.html

http://www.pegasys-inc.com/e_main.html (Plus version with MPEG-2 \$48)