

Troubleshooting Video Toaster [2]

Revised October 15, 2002

1. Hardware

1.1 Controllers

- **Adaptec 19160**

if using the internal connections don't use the SCSI160 port next to the old 50 pin connector, it is limited to the old speed. Hook up the SCSI cable to the other port that is by itself.

Further, the external connector on the back of this controller is NOT LVD capable, so if using an external drive case, hook the external ribbon up to the 19160's internal connector.

You can also buy an L-connector that connects to the card and provides for a slot connector using an empty PCI slot.

- **IDE RAIDs**

Contributed by Ryan McClure:

I just wanted to let you know that the RAID I built with four Western Digital HDDs works with Toaster successfully. The Western Digital drives are 120 GB in size with 8 MB data buffers. They are connected to a Promise Technologies SuperTRAK SX6000 RAID card. This gives me about 36.0 MB/sec.

1.2 Drives

- **3Ware Controller**

3Ware says It is very important to set the cluster size to 64k on the Escalade's video drives. Setting it to 1024 will cause heavy fragmentation and quickly choke the system.

- **Creating a Stripe Set**

To create a stripe set for Windows 2000

1 Double click on the following icons: **My Computer**, **Control Panel**, **Administrative Tools**, **Computer Management**, **Storage**, and **Disk Management**.

This will open the W2000, Disk Management window which list all of the removeable, CD-Rom, and hard drives on your system.

2 Scroll down the drive list to locate the drives you want to include in your striped set. At the left of each listing is a box that reads "**Disk #, Basic, XX.X GB, on line.**"

3 Right-click on this box for the first drive to be included in your striped set and select **Upgrade to Dynamic Disk**.

4 Repeat step **3** for all of the drives in your striped set.

5 Right-click on the unallocated space block of the first drive in the striped set and select **Create Volume**. The **Volume Wizard** will start up.

6 Select **Striped Volume** and the wizard will lead you through the steps to create a striped set.

7 Choose **NTFS** for the file system.

8 Select **Full Format** and the default settings and proceed to format the volume. **Do not** do a quick format for this volume.

- **Do 15,000 RPM drives work ok?**

When Seagate came out with the Cheetah X15 drives there was a small article on Seagate's web site telling video editors to use 10K drives for NLE applications because the 10K's offered better performance. I have seen some great benchmarks out of the new 15K drives lately and couldn't figure out why Seagate would even recommend 10K's over 15K's.

The answer is there are two generations of the Cheetah 15K drives, the "Cheetah X15" and the "Cheetah X15-36LP". The original Cheetah X15 has higher latency and larger diameter platters than the Cheetah X15-36LP. So when the Cheetah X15 was first released Cheetah 10K's were more efficient for video editing applications. With the release of the Cheetah X15-36LP the Cheetah 10K recommendation from Seagate no longer applies.

- **Indexing Service off**

Double click on My computer, and then right-click on your Video drive set, and select properties.

Be sure to uncheck 'allow indexing service to index this file' for your video stripe set to improve performance.

- **System, DVE's and Audio drive**

It is advised that you use the system drive for DVE's and place your audio-only files on the Video stripe set.

- **Drives not Fast enough**

If the hard drives should be fast enough (SCSI ultra-160) and the drives are *still* not performing as they should...

- what numbers do you get running disktest.exe on the video raid?

- Make sure the System page file is NOT on the video stripe

- Set page file size to 4MB less than physical RAM

- ensure you're running Windows 200 **Service Pack 2**

- **Disktest performance**

Q: Why does disktest.exe report such slower performance on my hard drives when I have winrtme running?

A: WinRTME is responsible for live video flow into and out of the computer. At any point while the Toaster is running, WinRTME will be using anywhere from 22 - 66 MB/sec on the PCI bus, depending on the number of live video streams that are entering or leaving the computer.

- **Hard drives can't start up**

Q: When I added an 8th video drive to my case, my system begins to power up, and then shuts down. Why?

A: Even at 475 watts, having all that circuitry trying to fire up at once is likely overwhelming your power supply. One thing to try is to jumper your video drives so they have different delayed spin-up times. This could lower max amperage to acceptable levels.

1.3 Audio

- **LynxOne Card not in sync**

look at your LynxOne mixer. Is the setting in the top right hand corner set to Header 27Mhz and 'Auto' ? If not, they will be out of sync.

Secondly, go to Control Panel/Sounds & Multimedia/ Hardware / Audio, then click on AAudio codecs. The Microsoft PCM convertor should be first in the list, with a priority of 1, and it should be enabled.

- **Antex Audio card sync**

Turn off SRP (simultaneous recording & playback) in the Antex card makes it more compatible.

1.4 Decks

- **UVW 1800**

If you are using the toaster composite output to sync your 1800 it is necessary to disconnect it when digitizing or you will get extra frames... The 1800 will display a NO SYNC warning, but it will play just fine....

- **DVD900**

Problem: When using the s-video output from the GVD900 portable player and connecting it to the toaster system, vertical lines appear in the video.

Cause: There is a small noise signal present on the luminance channel of the video.

Solution: In the advanced proc amp settings, set the "luma filter" control to "enabled". This should cause the vertical lines to disappear.

Adjustments to brightness and contrast may be needed. This is a good thing to try for anyone who has this complaint, not just gvd900 users.

- **Deck Control**

Deck Control via Toaster can be one of two ways:

1. Without an SX-8, you can run a 232-to-422 converter cable from the computer's serial port directly to the deck.
2. With an SX-8, you run a **standard** 9-pin cable from computer to the SX-8 'Serial' plug, and another **standard** 9-pin cable from the SX-8 'RS-422' plug to the deck.

DO NOT use a converter or null-modem cable in this instance, but a straight 9-pin serial cable.

1.5 SX-8

- **Bob doesn't see inputs**

Problem: all inputs except for the Y Column and the top U column are banged. no inputs, yet the outputs continue to work.

Solution: Uninstall Easy CD Creator! If Direct CD is also installed, you must format drive and start over without these apps installed.

- **Video out, but no LED's or Video in**

If you are getting video out of the BOB but no LED's lit and video inputs are not working, then the BOB power is probably ok but there may be a problem communicating with it. Communication with the BOB starts on the toaster card. The i2c signals travel over the expansion bus connector to the daughter card, through a buffer, over the 15 pin connector, and finally to BOB.

The BOB gets it's power and communications from the daughter card db15 connector. You can measure across pins 10 and 11 on the 15 pin cable that goes from the daughter card to the BOB. You should measure about 9 volts or 10 volts, depending on what regulator is installed on your daughter card (more on this later).

Software must be able to detect the presence of the daughter card, so check for bent pins on the expansion bus connector on top of the card. The bridge card should be firmly seated on the toaster and daughter cards for good contact. There should be 2 nylon standoffs that snap into the mounting holes (currently shipping version), which secures the daughter card to the toaster card. The earliest version of the daughter card did not have a keyed power connector like the shipping version does, and will not accommodate both standoffs.

Upon first use after power is applied to BOB, it must be initialized. This process takes about 10 seconds, and the #1 led on the BOB should light afterwards. If you run newtekrtime after power up, instead of running the t[2] software, you should be able to see the initialization in progress. If you quit newtekrtime and run it again, you should not see the init process happen again, since the software will detect that BOB has been initialized already since the last power up.

There have been some cases of the communications not working between the daughter card and BOB, even when everything is connected properly. There are a couple of things you can try.

1) Remove the VT3 cable at the toaster end, so the toaster card input is disconnected. Run newtekrtime and see if the BOB gets initialized. You may find that with the cable connected it will not init, but with it disconnected, it will init properly and led #1 will light. At this point you may re-connect the cable to the toaster and it should function properly. The explanation for this is that the same communications signals that go to the BOB on the daughter card connector (VT5) are also present on the VT3 cable. The extra load on the signals can sometimes make the difference between the init working and not working. Our solution, which has been applied to all toaster cards shipping since about a month ago, and all boards going through our repair department, is to remove 2 resistors from the toaster card that connect these signals to the VT3 cable. These resistors are R110 and R113 on rev E and later boards. If you have a rev B board, these resistors will not be present. Disconnecting VT3 at the toaster is a test to see if R110 and R113 need to be removed from your rev E or later toaster card. R110 and R113 are 0 ohm "resistors" that go to pins 12 and 15 of the VT3 connector on the toaster. It is recommended that you use the 15 pin cables shipped with your sx-8.

2) If option 1 did not work, you can try the following. Make sure all cables are connected. Search your computer for newtekrtime.cfl or newtekrtime.cfg. There should be one copy of each on your system. Make a backup copy of the file. Quit the toaster software or newtekrtime if it is running. Edit newtekrtime.cfl (newtekrtime.cfg if newtekrtime.cfl is not present). Look for a parameter called "i2cdelay", which should be set to at least 10. You can try increasing it to 30. When you start newtekrtime again, the new value will be used. I think newtekrtime reports this parameter value on screen when it starts, so you can verify it took. What this does is slow down the communications with BOB. If the BOB inits properly using the new i2c delay value, but did not before, please report this to NewTek. If you can narrow this down to a range that works vs. doesn't work, that would be helpful. For instance, it would be helpful for us to know that it worked when i2cdelay is set to 15, but not when i2cdelay=10.

Finally, about the voltage regulators and heat dissipation. The earliest version of the daughter card, which most of you have probably not seen, had a 9 volt regulator on board near the power connector. These boards got very very warm. There were not too many of those distributed. They operated just fine though they did get discoloration on the back of the board over time, due to excess heat. The current revision has 2 regulators near the power connector, one for BOB and one for on board power, and somewhat improved thermal conductivity to spread the heat out more evenly. There are 2 versions of this, one with a 9 volt regulator for BOB, and one with a 10 volt LDO regulator for BOB. They both work fine, and they do run warm. The 10 volt regulator type will run a little cooler. Neither one should be experiencing discoloration on the back of the board. You may notice a component on the daughter card that touches the

back side of the toaster card. That is a non-conductive surface touching those pins, even though it looks metallic.

You may find that either option 1 OR option 2 solves the problem. If changing the i2cdelay parameter also works for you, with the VT3 cable always connected, you don't necessarily need to have those resistors removed from the board. Just wanted to point that out as an alternative.

If you are going to do some experimenting, remember that the BOB must be in the un-initialized state each time you try it. Once the led comes on, the BOB is initialized and power will need to be removed from BOB to return it to the un-initialized state. (cycle power)

Your experiment results are no good if the BOB is already initialized when you begin.

Hope this helps -

Kevin Rouviere

NewTek

- **LED#1 lights, but no video out**

Make sure the floppy-drive power connector is hooked to the daughtercard (daughtercard should be warm [hot] to the touch)

The daughtercard is expecting 12 volts from that connector.

- **Tally/GPI Pin outs**

Author: [Kevin Rouviere](#) (NewTek-Engr-Firewall)

Date: 10-10-01 13:43

Here's the tally/gpi pinout:

Pin/Description

1 / LED 1
2 / LED 2
3 / LED 3
4 / LED 4
5 / LED 5
6 / LED 6
7 / LED 7
8 / LED 8
9 / GND
10 / GND
11 / No Connect
12 / GPI 0

13 / GPI 1
14 / 3.3 volt power
15 / No Connect

The led outputs are current sinking (goes low when active) and you should use at least a 200 ohm current limiting resistor in series with an external led. There is also a 200 ohm resistor in series with this signal inside bob. These LED signals are just copies of the tally LEDs on bob. The curcuits go logic low when activated. The GPI pins are connected thru 200 ohms series resistance to the Microchip PIC16F872 micro controller I/O pins. The data sheet for this micro controller lists 25 mA maximum current source/sink on any I/O pin.

The GPI can pins support a normally open switch between the gpi pin and ground.

There is 20 ohms of series resistance on the 3.3 volt power pin.

All of this is subject to change without notice since this is still beta force, but no known problems so far.

- **Video cables**

Q: Are any of the SX-8 cables different than an ordinary triple-shielded SVGA cable?

A: Yes. But it is a modification easily made by the user. To create the correct pin-out for the VT3 and VT4 cables, break pins 12 and 15 off both the VT3 and VT4 cables. The pin numbers are embossed in the plastic inside the connector shell.

1.6 ToasterCard

- **onboard RAM**

The onboard RAM used by the Video Toaster card is an off-the-shelf 32MB PC100 SIMM, which can be replaced by the user if they wish.

There is no benefit to replacing that with a larger SIMM, since the Video Toaster must keep buffer sizes as small as possible (less than 8MB) in order to keep latency down.

- **Winrtme failures**

Q: Why is it that winrtme causes a general failure from time to time?

A: Some possible reasons include software conflicts. Ensure you only have one graphics driver installed on the computer; ensure you have the chipset drivers installed for your motherboard; make sure you are running the latest BIOS issued from your motherboard's manufacturer.

1.7 Daughter card

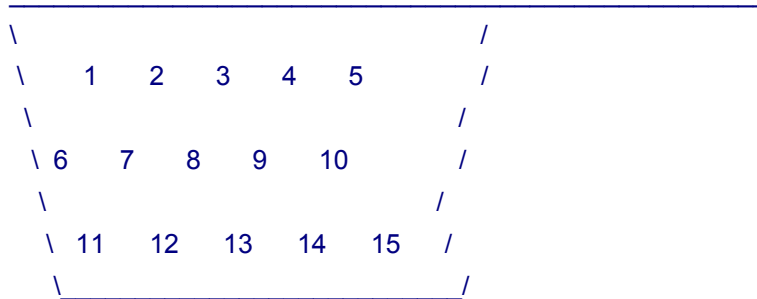
- Pin outs
- Standard VGA

What is the pinout for a standard VGA/PGA/EGA/CGA connector?

Are the acronyms confusing? try the

[Glossary of computer terms](#) For chipset information, go [Here](#)

Standard 15 pin D-Sub VGA connector pinout



Pin # Description

1	Red Video
2	Green Video
3	Blue Video
4	Sense 2 (Monitor ID bit 2)
5	Self Test (TTL Ground)
6	Red Ground
7	Green Ground
8	Blue Ground
9	Key - reserved, no pin
10	Logic Ground (Sync Ground)
11	Sense 0 (Monitor ID bit 0)
12	Sense 1 (Monitor ID bit 1)
13	Horizontal Sync
14	Vertical Sync
15	Sense 3 - often not used

- **Daughtercard not detected**

Q: Why does my daughtercard not show up?

A: It could be result of a bad pigtail. Even after disconnecting the bad pigtail, a warm boot may not work. Power down the computer and then try running without the pigtail attached.

1.8 Graphics Cards

- **Suggested**

- **nVidia**

Generally, any nVidia card will do the trick:

GeForce2

GeForce3

GeForce4

Quadro...etc

The baddest card on the market now (Spring 2002) is the 128MB GeForce4 TI chipset.

Some key manufacturers implenting cards with the nVidia chipset include

[Leadtek](#)

[Visiontek](#)

[Elsa](#)

...and several others.

- **Not Suggested**

- **ATI Radeon cards**

ATI makes the Radeon, and awesome graphics card that is the only one in the business to offer DirectX hardware support, which would be very fast for Toaster.

Unfortunately, they have a problem in their DirectDraw support. The basic problem is that you cannot bit-blit from an off-screen YUV surface onto any other location than (0,0) (top-left of the screen) which means that the only place you can actually put TVision is on the top left of the display! Once ATI fixes this bug, it should work splendidly.

- **Sluggish modules**

Q: Why are my Toaster modules now sluggish? They now take much longer to open - especially Preferences.

A: Using the latest nVidia reference drivers, it is necessary to disable NView from the Windows graphics preferences. This does not affect the dual-monitor capabilities, as it allows users to retain window positioning on-screen, and have transparent windows as well. Nice, but not necessary for operation. The default behavior is to install Nview unless the cautious customer de-selects it during setup.

1.9 Motherboards

- **ABIT KG7**

Abit KG7 - AMD Socket A - DDR - VIA Chipset

If this is the motherboard, older Toaster cards had problems working on AMD systems, the newer 118 core and REV E Board fixed this, Also there were issues with VIA chipsets, although the 12d,12b,14b,14d cores for the toaster should have resolved these issues.

Try to update the core on another system and then see if the Toaster will show up.

Also try to disable Advanced Power Management and legacy USB support in the BIOS

- **Tyan 2466 AMD mainboard**

Q: Are there any known issues with Tyan motherboards?

A: We have found some problems with the Tyan/AMD board. It seems that the 32 bit PCI of TYAN M/B has a poor design.

The performance of 32 bit PCI was never able to run at full speed. A test of the 32 bit PCI slot with one 29160 board and showed only have 15MB/sec disk throughput.

The field engineer of TYAN said he will try to modify the bios and see if it can be improved or not. But he said if it is due to bad design of south bridge chipset, it might need to wait until AMD can fix the problem. The 64-bit PCI slots work fine. The apparent workaround for the TYAN 2466 M/B is to insert both the Toaster card and the SCSI controller into 64-bit PCI slots (the 2466 only have two 64-bit PCI).

SDI can not be installed on this motherboard since there is no additional 32-bit slot the right of VT2 in this configuration.

- **Supermicro**

This is how to make Prestonia's run on Supermicro motherboards:

1. Install Prestonia CPU #1 by itself
2. Flash your bios from here:

<http://www.supermicro.com/TECHSUPPORT/BIOS/bios.htm>

3. Then install your Prestonia #2 CPU

Finally after spending all day on it with tech people, this was figured out. Do not install the 2nd CPU until your bios is updated with latest Prestonia version.

1.10 Cameras

- **DV Cam lockups**

Q: Why does my DV camera lock up?

I have had the camera off—plug in firewire—turn on camera --- lockup.

Camera on—plugin firewire—lockup

A: While it could easily be something else, it is usually a bad DV cable. Replace the DV cable and try again.

1.11 Misc.

- **CD-ROM**

- **Copying files from CD**

Q: Why does DDR audio stop or stutter while copying files from a CD to a system drive? The meters on the DDR indicate audio is being generated, but the output is missing.

A: Copying files from a CD causes a large amount of system interrupts affecting all windows programs, including Video Toaster. This is therefore not advised during live or critical moments.

2. Performance

Generally, the most likely cause of a crash when starting Video Toaster [2] is either conflicting DLLs, or not being able to see the Hardware.

2.1 Direct CD Causes Problems!

Direct CD, which is packet-writing software (which ships bundled with EZ CD software) ***is to be avoided on video editing systems.***

Our users report that EZ CD 4.0 works fine (as long as you DON'T install Direct CD) but EZ CD 5 "causes more problems than a virus".

Direct CD causes problems for Video Toaster, Speed Razor, and even messes with Windows!

It can be a culprit behind any (or all) of the following problems:

- Drive not fast enough
- Dropping frames during capture
- Stuttered playback
- Aborted capture of video
- Random software crashes
- Audio out of sync
- BSOD (Blue screen of death)
- "SpeedRazorSinkCallback" - "Unknown Internal Error"

Cause

After checking that these errors aren't caused by other software setup / hardware setup issues, you may want to check whether you have any packet writing software such as Direct CD (that comes with EZ CD software) installed on your computer.

DirectCD is packet writing software. Packet writing is a term for software that lets you record data onto a CD-R or CD-RW disk directly from Windows Explorer, My Computer, or from the File/Save As section of any computer program.

Why do people use packet writing software? Packet writing makes it possible to drag and drop files onto a recordable CD ROM.

What, exactly, does the term "packet writing" mean? Packet writing allows you to build a disk little by little, piece by piece, easily. Each time you record some data onto a disk from Windows Explorer, My Computer, or a program's File/Save As box, you're writing a "packet" of data onto the disk. Hence, the term "packet writing."

DirectCD is without a doubt the most popular and best-known packet writing software. Almost all major CD-RW drives come with DirectCD. There's also packet writing programs called PacketCD, Nova Instant Write, and abCD, but they are not as widely used as DirectCD. DirectCD is virtually synonymous with the term "packet writing software." There is more information about this technology at <http://www.roxio.com/en/products/ecdc/dcdfaq.html>

Information

Unfortunately, packet writing software severely alters your Windows configuration and significantly reduces system performance. It is not recommended for use on a video editing system because it will dramatically affect your system's resources. CD ROMs written using Direct CD and other packet writing programs can ONLY be read by systems with this same software installed. If you have burnt a number of these types of CD ROMs then we advise you to install this software onto another machine in order to read them.

Suggestion

Direct CD and other packet writing applications can not be easily removed from Windows NT / Windows 2000. Although individual files that make up Direct CD can be removed, some of the files are embedded into the OS and can not be uninstalled. We recommend installing a fresh version of Windows NT or Windows 2000 and then reinstalling your applications in order to restore normal operating performance to your system. You might wish to try repairing Windows NT using a Windows NT CD ROM. This MAY resolve this issue.

(this info courtesy of in-sync and Safe Harbor)

2.2 Video

• Can't play AVI files

Is Direct X 8.1 installed? What about the DV enhancement for Direct X (may be bundled under 8.1...need someone to check this).

• AVI Files play but they are choppy

Are they uncompressed RGB files? If so, you're probably choking your computer, since it's going to need close to 40MB/sec per stream, plus a panneload of CPU processes to then convert the RGB colorspace over to YUV.

- **Video from my Hi-8 deck Jitters when played back**

There are a couple items in the advanced procamp panel that affect horizontal locking. Look for AGC Gain Steady State Tracking and turn the value up. Occasionally messing with the agc settings will help lock onto a vcr.

- **Video Quality is horrible**

Problem: Video quality is not good

Solution: Use the triple-shielded SVGA cables that were supplied when you purchased the SX-8. Use of standard VGA cables is not recommended.

- **ASF file locks up ToasterEdit**

Problem: When I drop an ASF file into ToasterEdit, it locks up.

Solution: You *must* use indexed ASF files. Those versions allow seeks and therefore can be edited. non-indexed files won't work.

- **Y/C intermittently is in Black & White**

Problem: sometimes Y/C inputs or my Y/C output from the SX-8 loses all color.

Solution: It seems that the s-video connectors on the SX-8 are wider than usual and the cables can come loose, just enough to lose the chroma. You may want to get some needle-nose pliers and spread the crown on the Y/C cable just a bit, to ensure a snug fit.

- **Black edges on video frames**

Open the ProcAmp Advance Panel Setting and adjust HAV, to adjust so the black edge is gone.

If there is a black edge along the top, then the "VS Alignment Control" can be changed from "base on the field" to "nas on serration pulse"

- **My switcher froze**

Q: My switcher froze, then the loaded DVE was replaced with a fade. What happened?

A: If you overwhelm CPU, and your mouse freezes in a T-bar, a second later it'll reset the switcher in fade mode. This is done by Toaster if your system has been overwhelmed, and is designed to keep your system from locking up tight while you're switching.

- **Vertical lines in output**

Problem: Vertical lines appear in the Toaster's output.

Cause: There is a small noise signal present on the luminance channel of the video (which may be an artifact of the machine's Y/C circuitry).

Solution: In the advanced proc amp settings, set the "luma filter" control to "enabled". This should cause the vertical lines to disappear.

Adjustments to brightness and contrast may be needed. This is a something to try for anyone who has this complaint but says it "plays back fine bypassing the Toaster".

- **Windows Media WMV files**

In the Render panel, if you set the codec options to a different bandwidth and say OK - and then go back and change anything else, such as :framerate, size, etc, you'll have to go back and **re-set** the bandwidth (from "c" button) otherwise it returns to its default setting.

- **Can only record RTV format**

Q: It appears that the only thing I can record is rtv's ... I've tried selecting codecs to record something other than rtvs but in the file properties it says it's an rtv ...

A: you need to select uncompressed PCM audio under the audio options in the 'capture' panel instead of just leaving it 'microsoft WAV file'... in other words changing the option for the video codec doesn't happen unless you change the audio option also.

- **Video inputs not seen**

On occasion, your external video inputs connected to the SX-8 breakout-box aren't seen by the Toaster.

You'll know because know of your cameras or decks can be fed into the Toaster and the red LED indicators on the SX-8 won't glow.

Close the Toaster software. Hold down Control Alt Delete and select Task Manager. Select Processes.

Go through the list and highlight WinRTME. At the bottom right corner select End Process and close the window.

Relaunch the Toaster software and your video inputs will be seen by the Toaster.

- **DVD Playback popping & stuttering**

Q: What causes play back of DVD's on your Toaster system through the nVidia graphics card to have audio pops and stutters in the video playback?

A: Your IDE bus may be set to PIO instead of Ultra DMA. To change this, right click on My Computer, then select:

Properties | Hardware Tab | Device Manager | IDE ATA/ATAPI controllers | Primary IDE Channel | (right click and select properties) |

Advanced Tab and make sure that transfer mode is set for 'DMA if available' for all devices on that bus.

- **Input Sync Glitch**

This can be caused by time-base errors. If you are capturing on Toaster's Main In, then you are bypassing the Toaster's software TBC. Recording Program Out, utilizes Toaster's software TBC and may help eliminate this warning.

- **LW output only in B&W**

Q: When I use LightWave 7x to render to the Toaster's frame-buffer, the imagery is black & white. Why?

A: For the framebuffer to work properly, it must be activated fully. To accomplish this, simply launch Video Toaster [2] and then shut down. Your LightWave output will now be in living color.

- **Poor quality VHS captures**

Q: My composite captures look bad, with herringbone lines across the video; what can I do?

A: If changing your brand of toothpaste doesn't help, then try the following:

In advanced proc amp settings, try:

AGC Freeze - Not Frozen

Chroma Trap - Enabled

Horizontal Tracking Loop Frequency Select - VCR or TV (Chroma trap will have the largest effect when capturing from VHS.)

- **Luminance beating**

Q: I get interference patterns or 'luminance beating' in the video. This shows as a 1/2 to 1 second cycle bouncing up and down in luminance beating about 5 IRE showing up on the T2 waveform monitor and on a waveform monitor seeing the output of the T2. What can I do to correct this?

A: select the advanced panel, AGC gain calculation. It is probably on 68 ADC....

Change it to 54 ADC & see if that helps. It fixes about 80-90% of the IRE shift from 3 units to 1 or less.

- **Excessive file fragmentation**

Q: When digitizing clips in Toaster, Norton reports that the file is heavily fragmented; why?

A: The Toaster is writing two files at the same time (audio and video) so they will be "fragmented" as they are written because windows will write a block of one file followed by a block of the other etc. With modern drives this poses no problem.

- **"No Video Signal Present"**

Q: Why does my Video Toaster sometimes report "No Video Signal Present"

A: Ensure your Video Toaster capture card is installed in a 32-bit PCI slot, and not in a 64-bit slot.

- **looping animations in DDR**

Q: Why can't I loop my graphics or animations in DDR or TEd without jerking at the end?

A: For clips to loop cleanly back to the first frame, make sure you have captured in interlaced and not in progressive.

- **Playback Engine Failure Error**

Playback engine fail error

(Time line freezes but audio plays on fine)

When uninstalling the build 3481i and reinstalling the toaster software to go back to an earlier build.

you must modify your registry files before reinstalling the older builds.

1 go to start menu

2 go to run

3 Enter "regedit"

4 select hkey local machine

5 select software

6 delete any entries for newtek or toaster

do not delete or modify any other files

This could make your machine in operable

close all windows reboot and reinstall your software

the playback engine will now work fine

2.3 Audio

- **Why don't I hear computer audio?**

The PA mix can do this, but is not the default setting. You must go into the mixer panel to make that change.

- **I cannot record audio with Firewire footage**

Main in, Prev in, and MS DV cam in ALL record with NO audio.

Audio AND video from the firewire **only** work with Program out.

- **Audio Troubleshooting**

1. Is Toaster card audio good?

First, try plugging stereo mini audio directly into Toaster Audio IN (first jack), i.e. skip the Bob. Do you now see stereo audio on your Toaster IN on mixer? If so Toaster card is fine.

2. Is Bob handling stereo?

We will use PA mix to test and skip the Toaster. a. Patch you amp & speakers into the Bob's PA Mix Output connections.

- b. On the mixer, turn up mics.
- c. Turn ON the PA Mix "SX-8 Live" button (this sends Bob audio direct to PA mix output)
- d. Turn up PA Mix knob

You should hear both mic in stereo if Bob is working correctly

3. Bad Cable to Audio In of Toaster

Most likely it is the cable. I guess you need another one unless you are a wizard with a ohm meter and testing the cable. Problem might be in the mini connector.

- **Audio Sync explanation**

If a drive system is too slow, By default recording simply stops with a dropped frame warning.

If you specifically say that you do not want recording to stop on a dropped frame, then audio and video are dropped together. This is handled by assigning time-stamps to the audio and video "frames" as they are digitized and they are then synced up on capture, if either the audio or video portions are not available this counts as a dropped frame which would normally case (1) to happen.

- **Intermittent Audio Glitching**

If you are hearing intermittant audio glitches, try disconnecting your network connection.
(not a joke)

- **Popping and crackling**

Q: What is causing my Toaster audio to pop an crackle?

A: One known cause is old Sentinel drivers. Remove them and it will go away.

- **My signal is clipped or 'squashed'**

Q: Why is my audio clipped in ToasterEdit? (the waveform doesn't round at the top, but instead is 'flattened')

A: It is due to the way that audio is internally routed on the mixer. To alleviate this, **turn Toaster In & Out to max and not touch them.... lower the individual**

channel only. This should solve your squashing and clipping problems.

If capturing through the Toaster (regardless of owning a BOB), users SHOULD turn all of our main audio levels to MAX or they get less than optimal audio quality. Otherwise, it captures that way and can also add pops. Users may safely turn down the individual Bob inputs, but the main Toaster IN (and possibly Toaster OUT and Capture) will hurt the signal if less than full volume.

We are investigating whether this is a hardware or software issue.

- **Audio out even when levels are zero**

Q: Why am I hearing audio on channel x even when that slider is down to zero?

A: Ensure that the mixer's Preview button is not checked, as this will automatically pass all audio inputs

- **Unintended audio crossfades**

Q: Why do crossfades in ToasterEdit affect my audio times as well as my video...is there any way around this??

A: Yes. Deactivate the "auto" button on the fade in and fade out in the audio section of the edit properties panel.

- **Audio starts at random places**

Q: I've noticed that when using two or more audio tracks on the storyboard, as the project begins playing the second audio track, it randomly picks a spot in the audio clip to play. Even though it is set to begin at a particular point, toaster still begins the audio clip at a random point. Why is this?

A: This can happen when your audio source is a Windows Media audio file. The workaround is to convert the audio file to a standard 48Khz .wav file, and it will work correctly. This problem is partly caused by the way that Windows audio is accessed by the Operating system.

- **SDI audio**

There are certain restrictions when using SDI audio, including:

- External sync of incoming audio and video timing from their respective sources
- Only analog or SDI audio sources may be input at one time
- Both may be output at same time

- **Delaying audio for live feeds**

Q: On a live switch, is there any way to externally synchronize the live audio with the video being fed through the Toaster?

A: Yes. The simplest solution is to feed audio through the SX-8, which will be synched with video before going to the outs. However, you can also purchase external third-party hardware allowing a variable delay rate, such as Rane's AVA 22D: www.rane.com/ava22.html

- **Audio echos on playback**

Q: Why does my audio seem to echo?

A: If you have a Firewire connection, unless you select DV on the audio mixer and mute that input, you'll get an echo from the delayed audio coming in on the Firewire, which is mixing with the analog audio also coming in.

- **Audio runs ahead of Video**

If you notice that the audio begins running AHEAD of the video, then you need to see if you are capturing via Program Out instead of Main In. The difference is that Program Out sends the video signal through the Toaster's internal Time Base Corrector, and may need to occasionally toss frames of video to keep the stream going. If this happens enough, you'll have your audio beginning to creep ahead of the video.

- **Why are mic levels low?**

Q: When I plug a microphone into the Toaster's audio inputs, I barely get any signal at all; why?

A: Video Toaster has LINE level ins and outs; you must find an audio mixer, pad, transformer or some other means of boosting the mic-level signal to line level.

- **Aux Send bug**

(reported in Build 3718)

Aux 1 is affecting all Aux outputs. So no Aux Send output from Aux 2-8. Set Aux 1 up, then touch any other Aux knob to suddenly get level. The higher Aux 1 is set, the louder the other Aux's will work

2.4 Recording

Q: Why is my audio waveform clipped (not reaching the top, but 'flattening out' about halfway up) or squashed?

A: This is because of the internal routing of the Audio Mixer...

turn Toaster In & Out to max and not touch them.... lower the individual channel only.

This should solve your squashing and clipping problems.

- **Record is dropping frames/stopping**

- Disabling Norton Anti-Virus 2000 may help, if that doesn't work, you may want to uninstall Anti-Virus 2000 entirely.
- You may have the Timed Capture checked. When it is, it will stop after that duration.
- There may be a hardware conflict if you cannot capture at all. You should try to put your Toaster card in a non-shared PCI slot. You may also want to try:
 - Disabling your USB ports
 - Disable your onboard LAN
 - Disable your SCSI or IDE disk controllers one at a time, and then see if you

- **"Delayed Write failed, Windows unable to save all data"**

Q: When I am capturing RTV, about 25% of the time I get an error "Windows - Delayed write failed, Windows was unable to save all the data..."

A: Windows 2000 defaults to index data on drives, which is a very bad thing. We don't want Windows seeking while we are trying to record or play back.

The solution: Double-click on My Computer...right click on the video drive, select Properties, and uncheck "Allow Indexing Service to index this disk for fast file searching".

choose to apply this change to all subfolders and files, and click OK.

- **Long-form record sessions**

If you are doing long-format recording (minutes +) You will likely want to record from Main In or Preview In. This will "tie" the audio and video hardware together to keep them sprocketed during the entire recording session, so you get no audio drift.

When recording from Main/Prev In. It helps the software sync correctly if the tape is rolling when you press REC. Also, dropouts on the tape (like you get on consumer camcorders) can cause the audio to slip out of sync. If you wish to record over a bunch of short "clips" done on a consumer camcorder, for now you should probably record Program Out.

- **Drive Fragmentation**

There are times when video drives seem to become quickly fragmented. One known cause can be a bad integrated SCSI controller. If dual-channel capable, try swapping SCSI channels on the motherboard.

- **Sync Glitch Error**

A NewTek engineer writes:

Sync Glitch errors are usually also caused by the slower seek times available on IDE drives. In some cases, disconnecting the power connector to the firewire/USB2 card can resolve this problem.

"The Toaster uses Windows High-Speed I/O functions which most of your other applications may not be using.

Adaptec can sometimes forget about the "B" channel on their scsi controllers when they first ship a new driver, resulting in Sync Glitch Errors on the B channel."

- **MainConcept DV codec artifacts**

Q: When I record footage using Main Concept's DV codec, it is full of motion artifacts; can I resolve this?

A: Yes. In the codec properties, you must de-select the "Fastest" checkbox. This is still pretty fast, but gives highest priority to image quality.

- **Can only record RTV**

If you can only record in RTV format, note the audio type you have selected during setup. Try changing the audio type from RTV before selecting your video codec.

2.5 DDR

- **DDR is dropping frames**

A user plays a RTV in one DDR and a WAV file in a second. The second he pressed play in the second DDR the first DDR started dropping frames. Since the disk speed required for the WAV is only very small, this is clearly not the problem. Rather the problem turned out to be because he had the DDR resource usage set to high. In this mode, when you press play in either DDR it will try to run as far ahead of output as it can. The result is that one of the DDRs (probably the WAV one) allocates all the buffers possibly available to it (because it can render simply the audio extremely quickly) and queues them up for output. Now, when the first DDR (the RTV one) asks to allocate a frame it will find that it has no frames ready ...

In other words, the DDR that can render the faster ends up taking all the buffers away from the other DDR. The result is that the second DDR cannot get enough frames to play back smoothly.

Solution: is to not run the DDRs in high resource usage unless you specifically need to play back very complex projects where you need to allow the playback to render as far ahead as possible. Note that it should be extremely rare that you ever need to use High resource usage because we now support BG rendering in the DDR.

- **ToasterEdit affects DDR Playback**

If you put ToasterEdit into Pause mode, what it will immediately do is start buffering as many frames as possible ready for output. This means that it will run just as far ahead of the current position as it possible can to ensure that when you want to play it can play smoothly with the best possible chance of real-time performance. On the other

hand, DDRs try to be *friendly* with their resource usage (you can actually change this behavior in the prefs.) So ... when you put TEdit in pause, it will eat up all buffers and then when you press play in a DDR, it will not play correctly. The solution is STOP TEd instead of putting it in Pause, or just avoid mixing TEd with any other modules whenever possible.

2.6 Stills

- **'Fielding problems' with stills**

There is the ability to have a FIELDDED still image (by using RTV) that sort of breaks the expected 'rule' of still images, is that stills are not fielded.

Thus, a single-frame RTV can be stretched to any length you want. If it's fielded, though, it'll look bad on output.

The solution is to use the HOLD STILL filter within ToasterEdit. This does beautifully with freezing the sampled frame data (sampled from two separate points in time) or freezing each field.

2.7 General

- **"Procedure Entry Point..."**

Upon booting, you see an error message reading, "The Procedure entry point [?ReleaseVideoBuffer@WMLIB_DVInput@@QAEXPAX@Z](#) could not be located in the dynamic link library WindowsMediaLib.dll.". Take note of the dll file mentioned at the end of this string.

This can be caused by an older dll file in another folder somewhere. Perform a search for this file, and rename or remove the version that does NOT reside in the \\VideoToaster2\\Plugins\\Toaster folder.

Another possible cause of this is that you have installed the Toaster in a different location. Make note in which partition and folder VideoToaster2 has been installed before installing an upgrade.

- **Random Crashes**

reinstalling/updating Nvidia display drivers and 3ware Escalade drivers may eliminate random crashing of Video Toaster [2].

- **"Couldn't read value 1 of field"**

When you encounter an error message such as,

"Warning: Couldn't read value 1 of field", the best solution is to delete your configuration file (found in /VideoToaster2/Skins/Preferences/ directory).

Look for a file named "Config for Administrator [Preferences].User Config File" and delete it.

- **System lock-ups**

Q: My computer will start up just fine no error messages or beeps, then in just a few moments it will freeze up.

A: One possibility is that your CPU's are overheating once they're running; double-check or replace heat-sinks.

- **Problems w/ DVD Creation**

...from Toaster user Bob Bradley:

"one of the computer settings that was giving me a load of problems was "video hardware acceleration". I've always had it set to full, but found that whenever it came time to use the DVD creation software, I could avoid all of the past problems by setting "hardware acceleration" back to half."

- **Manually re-installing Toaster**

Delete the VideoToaster2 installation folder if it exists. Make sure your project files are backed up.

Go to START/PROGRAMS/SEARCH and type in newtekrme.sys in the search string field. Delete the one that is in winnt/system32.

Open Regedit, by going to START/RUN and typing in REGEDIT

Make sure you click on My Computer IN THE LEFT HAND PANE

Go to EDIT/FIND

Type in the build number, or the display name as it appears in the ADD/REMOVE programs screen

Keep hitting the F3 key (find next) until you see a folder in the left pane that has a bunch of numbers and letters. The highlighted file in the right hand pane should contain the field "Display Name", and that should say the build number in it somewhere. Look it over, its the info that shows up in ADD/REMOVE prgrams. Make sure the folder in the left is open, then delete it by right clicking on that folder that is open in the left pane and selecting delete.

Remember, just delete the folder in the left pane, with all the numbers and letters in it.

Once this is done, you can reinstall the patch.

- **Is is safe to delete cache files?**

Yes. Cache files created by Video Toaster [2], and written to the location determined in your Preferences folder, can be deleted without any problem.

They should be automatically deleted when you close down ToasterEdit or DDR, but may not if Toaster closes unexpectedly.

3. Systems

3.1 Intel

- **Dual Pentium 4 Xeon**

We Also Tested dual Xeon Turnkey systems With Ultra IDE 7200 RPM Hard Drives Connected to 3-Ware's 7810 Raid Controller

Heavy Duty DVE's Such as alien Hand, Hart Locket, Space Ship, Has Played in Real Time No Problem

...

I Think The Best Solution is for Now is SCSI Video Drives.

- *Varto Keshishian*
Varto Technologies

- **Xeon - 6 real-time layers!**

Brian Jansen says his dual XEON can perform :

1 Base RTV layer

4 DV overlays with color correction, scaling and positioning

1 CG overlay (TGA)

all in real-time ...

That's 6 layers in real-time, no rendering :)

That beats the Targa3000, etc...

- **Safe Harbor suggests Xeon**

"We're running it on a Dual Xeon machine and the performance is fantastic. It's been remarkably stable. We're recommending to all of our new leads that they explore this type of workstation."

-Jeffrey Hoffman

- **Eric's Xeon**

I have the Supermicro P4DC6 which works nicely.

2 processors

2 onboard SCSI controllers

4 RDRAM slots

2 64bit PCI

4 32bit PCI

My video drives are connected to the onboard SCSI controller and I get two streams of playback and one record.

Eric Pratt

- **Dual Pentium III**

For Customers Who Owns a Dual PIII Systems

By Upgrading the CPU's to Dual PIII 1GHZ and Thanks to Newtek Background Rendering The System almost Performing in a Real Time with Scsi hard Drives.

In Case of Ultra IDE Hard Drive, By Replacing the Promise ATA 100 to 3-Ware 6400 Raid Controller System Running Very Smoothly, Again Thanks to Background Rendering.

- Varto Keshishian

Varto Technologies

- **Would you believe dual P II's?**

" Our system is a dual PII 450's with 512 meg of ram, with a 72 gig stripe set that is being controlled by an Escalade 6410 - we are getting about 50-60 mbs. I am having a problem with chroma loss on my BOB channels - I can switch okay - is the chroma loss due to the PII 450's just not having the horsepower to process my inputs/ Believe it or not almost everything else is functioning pretty darn good. We just downloaded the current build 2306 and have not had the opportunity to test further.

James Connor

KTBU Channel 55, Houston

3.2 AMD

- **Dual AMD Systems**

NewTek has been happily using a dual AMD computer system for Video Toaster [2].

This is the Tyan motherboard with dual SCSI u-160 controllers and 512MB of RAM and two 1.2Ghz Athlon MP processors.

- **4 Streams from TED & 3 DDR's**

I can now report that my Thunder K7 dual Athlon will support 4 streams from TED and 3DDR's when used with FOUR 10K RPM SCSI's in RAID-0 using the onboard dual channel 160 Controller. With the Escalade I can do two DDR's or two streams from TED without stutter/and or need for background render. So the CPU power, memory bandwidth, sharing the PCI bus with the VT2 etc. on a dual AMD are not the primary performance limiters. The first bottleneck is the Escalade and the inherent limits of IDE drives. It does appear the dual P4 Xeons with 66MHz 64 bit PCI bus and the fast RDRAM memory do outperform the current dual AMDs even when using SCSI.

-johnq

- **ASUS MPX motherboards**

(This from John Quinn in March 2002)

My ASUS A7M266D MPX and VT2 are now working happily together!

This week ASUS released an updated BIOS. There was also a beta version of the next release. I never tried the new final ver 1005, but instead went to BetaBIOS 1005.02E. This fixed the "strobbing" video problems.

- **64-bit bus behavior**

Once the Toaster is installed in an Athlon, the 64 bit bus goes to 32 bit

- **Tyan 2640**

There seem to be problems surfacing with Tyan's 2640 MP motherboard. It seems the power supply connector on the motherboard is not properly built, and there have been repeated cases of the +5v connectors burning out.

3.3 SGI

- **SGI 540**

I have it installed in a Silicon Graphics 540, which is a 4 CPU P3 Zeon machine
SGI's unified memory architecture,
1GB of RAM
120GB (12way stripe) of on-line fiber storage. ...pretty cool! ;-)

- Jeffrey Speegle

3.4 Tyan thunderi860

Just played with this this morning works very well, SCSI can easily be maxed out (beyond PCI limit) without interfering with T2 video flow.

-Pat

» See document: <http://www.tyan.com/products/html/thunderi860.html>

3.5 Dell

- **Power Supplies**

It has been recently discovered that the ATX power supply and Intel motherboard that Dell uses in their desktops is actually a proprietary design; the connector is physically a standard ATX, but the pinout is different. Apparently, Intel has designed custom boards for Dell to accommodate this.

The net result is that if you want to upgrade the motherboard in your Dell PC, you'll need to upgrade the power supply at the same time. Also, you'll need to buy your replacement board directly from Dell.

Here is the link to the article:

http://165.193.123.52/articles/upgrade3_01_01.asp

4. Setup

4.1 Computer Won't boot

This could be because your SX-8 is missing or not recognized by your computer.

If the red LED by Y/C in #1 is not lit, then the daughtercard is not talking to the SX-8.

couple of options:

- ensure the daughtercard has
- go into safe mode and uninstall toaster if you do not possess the SX-8 available.

Problem: computer won't boot...no POST, no beep, nothing when Toaster is put in.

Solution: check the jumper settings on the system drive, this can happen if it's jumpered to Cable Select (CS) instead of Master (DS)

Here's some additional steps to take:

- Uninstall Toaster
- Remove Toaster2 folder
- Reboot machine
- Fire up RegEdit and go to:
 - HKEY_LOCAL_MACHINE
 - System
 - Current Control Set
 - Services
 - NewTekRTME (delete the folder)
 - Video Toaster RTME (delete the folder)
- Close RegEdit

Go into My Computer | Properties | Advanced |
Environment Variables (System variable) Path |
Edit (ensure Variable Value is now clear of the any Toaster paths; 3 are installed)

Once met, this new condition should allow a successful install.

4.2 "Toaster not found"

You probably have checked these things already, but here's a list of potential problems.

Check to make sure that there are no bent pins on the toaster and daughter card expansion connectors. These are the connectors that link the 2 together using the bridge card. The bridge card connectors are keyed so it should go on only one way, and it should firmly seat into position for good contact.

The small power connector on the daughter card is easy to overlook. Make sure it is plugged in.

The light(s) on the BOB will light up only if it has power AND the toaster software has initialized the BOB. The init procedure must be done each time power is applied to BOB in order for any of the lights to come on and for BOB to work. The BOB will be able to output video with only power applied, but the lights will not come on and video will not input without BOB being initialized first.

In order for BOB to init, the software must first detect the presence of the toaster card and daughter card. Initializing the BOB is the last major step of hardware initialization, and it normally takes about 10 seconds from the time the t[2] software is started for the first time after power up.

Once the system recognizes the toaster card and daughter card, there is one known hardware issue which can affect the BOB init process. It has been known to happen on a few systems. Here's a test you can perform. Unplug the VT3 cable at the toaster card end. Power up the system and start the t[2] software. If the BOB light comes on, you can plug the VT3 cable back in and use the toaster normally. If this turns out to be the problem, contact customer service and ask for new VT3 and VT4 cables to be sent to you. Rev B toaster cards will not have this problem. Newer toaster cards can simply have 2 resistors removed to fix this problem. All toasters shipped or repaired from Newtek in the last couple of months have had this done. Using the replacement cables, which have pins 12 and 15 removed, accomplishes the same thing as the hardware mods. If you received cables with your BOB that are marked VT3 and VT4, you already have these cables, which are currently being shipped with new units.

If your BOB is still not coming up, try the following. After you power up your system, open a command prompt and run newtekrme.exe instead of the normal t[2] software. If the BOB does init (led #1 lights), please report your findings to Newtek. This possible problem is still under investigation, and feedback would be appreciated. If this worked for you, type "quit" to exit newtekrme and then start the t[2] software.

If you have upgraded from t[1] to t[2], please run the core updater as described in the documentation. The t[2] software will not perform properly unless the toaster card core logic version is correct. This only needs to be done once, and the new version is compatible with t[1] and t[2] software.

Finally, please check to make sure you have the latest t[2] software versions and patches available.

4.3 New Hardware Found

The Windows 2000 'New Hardware Found' wizard pops up when you first install a Toaster into a new machine.

It can be disabled by going to

Start | Settings | Control Panel | System | Hardware (tab) | Device Manager | Other Devices

Right click on the Question marked 'Multimedia Controller' and choose Disable.

4.4 'Ordinal not matched'

the ordinal not found msg i think happens when the vt drivers are mismatched.....causing things to not talk properly....

This is a problem with the installer on a few systems, and possibly means that there are Environment paths either invalid or duplicated.

Uninstall Toaster [2], delete everything in the Folder, and then, using Regedit, remove every instance of rtme and Video Toaster in the registry.

4.5 Windows

- **Is there a file limit?**

No. The file limit in Windows 2000 is into the Terabytes.

Is your drive formatted FAT 16, FAT 32, or NTFS?

(NTFS gives you the greatest flexibility with system files and the best system security.)

- **DirectX 8 installed?**

This is a moot point, since the Video Toaster [2] installer now installs DirectX 8.1 just before re-booting.

- **Registry**

- **"Ordinal 109 nt_tools"**

"The ordinal 109 could not be found in the dynamic link library nt_tools.dll".

If a customer encounters this error, they likely have multiple copies of nt_tools in their computer.

Have them search all drives for nt_tools and remove all except the one in

[\\VideoToaster2\drivers\](#)

(and if they have Aura standalone, the file should also reside the [\\Aura\datas\](#) folder).

- **"Cannot uninstall REgistry Key for..."**

Q: When I go to uninstall Video Toaster [2], I get the message "Cannot uninstall REgistry Key for (VTCAPAUD.dll, VTCAPVID.dll, MIXER1, WAVE1, MSVIDEO)"

A: Those messages should not affect Uninstall procedures....

This will happen if the user went to add/remove programs and did either a repair or a modify before they tried to do an uninstall....This message will appear for the following scenarios::

- a) uninstaller was unable to remove the VTcapVid and VTAud drivers from the registry because they were already removed
- b) uninstaller was unable to remove the VTcapVid and VTAud drivers from the registry because of an error.

The uninstall should complete without a hitch(even when displaying these messages) if the user does not cancel out of the uninstall procedure.

- **New Multimedia Device Found**

You must go into Start | Control Panel | System | Hardware | Device Manager and right click on 'Other devices' / Multimedia controller and disable it. This will stop the "Add New Hardware" wizard from popping up each time you power up the Toaster.

- **A LOT of Toaster warnings**

One of NewTek's engineers writes:

"This is very rare, but if a user has the DirectX SDK installed (i.e. the actual software-developers-kit and not the standard consumer DX release) they should not have it installed in debug mode or Toaster will cause a lot of warnings to be generated."

- **Win2k usernames with period**

Toaster [2] cannot properly work with Windows 2000 users that have a period in their name (such as "Paul.Lara"). This throws off Toaster's search for file types, based on the 'dot-extension'.

The workaround here is to change the username in Windows to one without a period.

- **disable Indexing Service**

Windows 2000 by default sets up an Indexing service on all local drives for faster file searches. This can create problems for video drives, since you do not want reads or seeks while you are capturing or playing back video.

Here's how to disable indexing:

- Double-click My Computer on your desktop
- right-click on the drives, and select properties.
- un-check the option 'Allow Indexing Service to index this disk for fast file searching' at the bottom of the page.
- confirm you wish to do this for the drive and all subdirectories, and click OK.

- **Fresh Windows Install**

Courtesy of www.toastersupport.com :

If you are doing the installs yourself then follow this installation order to avoid problems with the operating system:

1. Install Windows 2000 from CD and tell it to format the C: drive.
2. Install the Intel INF update software located on your motherboard installation disc or available as a download from Intel's website.
3. Install all of the Windows Update patches from Microsoft except for Internet Explorer 6. You will have to perform this step multiple times (with a reboot each time) until Windows Update can find no other patches to install.

4. Make sure that you install DirectX 8.0 or above. This is automatic if you perform the Windows Update step.
5. Install your graphics card driver. This is usually an nVidia driver located on an install CD or available as a download from nVidia. The version on nVidia's website is almost guaranteed to be better than what was shipped on your CD.
6. Install Video Toaster build 3480i. If you have the complete install version then use it in preference to any other versions. I have found the patch versions to not be as good.
7. Perform the backup step recommended by Richard Bartlett. We use Norton Ghost all the time and it is a lifesaver when it comes to crunch time. You can create an image file (or a backup disc) of your entire software installation. This can be recopied over a corrupted partition to completely restore it to a stable install. The backup procedure should be done before you use the software to do any editing to ensure that it is backed up in a "clean" state.

With any Pentium 4 class processor it is very important to update the Windows INF files since the ones on the Windows 2000 CD are out of date and do not support P4 chipsets properly. This step must be performed before adding any drivers or installing any software since the INF files describe how the drivers are supposed to allocate resources on the hardware. With the Toaster and any late model graphics cards you must update your version of DirectX to version 8 or above. Graphics card software should only be installed after DirectX has been updated to the latest version. Skipping any of these steps or performing them out of order is one way that the operating system can be corrupted to the point of causing the Toaster software and other programs to have strange problems.

4.6 registration of SR 4.8

From in-sync comes the simple registration instructions:

Auth code is proof of ownership. Auth code never changes.

Auth codes get registered on the in-sync website. Log onto in-sync website Log in and register them. Once registered they can be re-armed to accept license requests any time of day or night from our server.

- 1) log onto in-sync website with user name and password
- 2) scroll down to get a license
- 3) enter Auth code
- 4) enter locking code
- 5) server generates License which gets copy pasted into the Enter License prompt

Find your locking code:

- 1) go to buy now screen
- 2) last option is "enter License" open this
- 3) see your locking code? that's it

4.7 ServerWorks chipset

This chipset does NOT support DirectX and they apparently have no intention to do so.

4.8 Core Updater won't work

When T[2].exe is run it verifies your core number and updates it for you if an update is needed. It will even power down the machine for you.

If they have problems:

- make sure you're accessing it from the Programs menu
- **MAKE SURE** they only have *one* copy of newtekrme.dll in \\VideoToaster2\Drivers\ (some folks ran into trouble when they'd copied it to their System32 folder).
- Ensure you power your computer down after the core update, and not just reboot.
- If using an ASUS P4T motherboard, ensure your BIOS setting for Plug & Play O/S *must* be set to NO

4.9 Daughtercard not detected

Q: Why does my daughtercard not show up?

A: It could be result of a bad pigtail. Even after disconnecting the bad pigtail, a warm boot may not work. Power down the computer and then try running without the pigtail attached.

» See also: : Daughtercard not detected

4.10 SX-8 won't work

Problem: SX-8 is not communicating with the software

Solution: Use the triple-shielded SVGA cables that were supplied when you purchased the SX-8. Use of standard VGA cables is not recommended.

4.11 Display Issues

• No Display in LW Express

"There is nothing on the layout screen. All the menus seem to work fine. I can load a scene no problem. I can even render the scene or a frame and see it on the preview window. But there are no objects in the layout screen. Also Modeler locks up when I open it."

Solution - make sure that your display properties are set to 32-bit. If it's been dropped to 256-color, Express can't display properly.

• "could not create buffered UYVY..."

Q: Why do I get the error message : "Direct Draw: Could not create triple buffered UYVY backing surface probably caused by lack of video memory"

A: Your display resolution set too low (256 colors?) ToasterVision hates that; set it to either 24-bit or 32-bit.

- **GeForce4 MX**

Apparently, there can be some issues with Toaster when using the GeForce4 MX graphics card.

A Reseller reports that using two different dual-head cards (LeadTek & VisionTek) causes a jerky and lagging mouse whenever there's disk activity, and even white flashes on Video Toaster output.

If he replaces the card with his Elsa Synergy III, all runs smoothly.

Go figure.

4.12 Install Issues

- **Install appears to hang**

Q: Why does the Toaster [2] install hang up when it gets to installing the audio and video drivers?

A: At the point that the Toaster installs audio, video and media engine drivers, the black screen just sits there.

Do NOT reboot! Chances are it has somehow switched focus away from the requestor. The solution is to Alt-Tab to see if the requestor box has simply opened behind the Toaster Install screen (now black).

- **Uninstalling manually**

Q: Why do I have problems after an uninstall/reinstall of Toaster [2]? I keep getting "Reset all modules?" on startup.

A: The uninstall, for some reason, did not completely remove all registry components. Here's what to do: Uninstall Toaster [2] and reboot. Go into RegEdit, and search for and delete every instance of "videotoaster" "video toaster" "newtek" and "aura". It is ok if you cannot remove the "legacyRTV" entries. With that done, reboot, and then install the software again.

- **Patches vs. Builds**

There are two types of installations available for Video Toaster [2]: full installs and patches. These are designated by the file name, where a file beginning with "VTB" denotes a Video Toaster Build and "VTP" denotes a Video Toaster Patch. You have been provided a public release build with your Video Toaster purchase or upgrade, and it is on the Programs CD.

Video Toaster patches are released by NewTek for download on this page as subsequent builds are thoroughly tested. It is important to understand that a Video Toaster Patch is to be installed directly on top of the existing build. If you try to install a full build on top of another, you will be notified that there is an installed version of Video Toaster that must be uninstalled. Also, if you try to install a patch on a beta version, Video Toaster will notify you that it cannot find an upgradeable version. That is because patches will only install if the original build is one of the following publicly released versions:

2881
3266c
3352
3480i

Video Toaster patches can be installed directly on your system, and do not require uninstallation of any existing patch. To determine the build you are running, Launch Video Toaster, and on the menu, click the 'About' link to the right.

- **Fast Registry Tweak**

Courtesy Video Hardware Services...

Open Regedit, by going to START/RUN and typing in REGEDIT Make sure you click on My Computer IN THE LEFT HAND PANE Go to EDIT/FIND Type in the build number, or the display name as it appears in the ADD/REMOVE programs screen You only have to do this part if there is an entry in the ADD/REMOVE Programs screen for the previous build.

Keep hitting the F3 key (find next) until you see a folder in the left pane that has a bunch of numbers and letters. The highlighted file in the right hand pane should contain the field "Display Name", and that should say the build number in it somewhere. Look it over, its the info that shows up in ADD/REMOVE prgrams. Make sure the folder in the left is open, then delete it by right clicking on that folder that is open in the left pane and selecting delete.

Remember, just delete the folder in the left pane, with all the numbers and letters in it.

Once this is done, you can reinstall the patch.

5. Software

5.1 Toaster

- **Bob doesn't see inputs**

Problem: all inputs except for the Y Column and the top U column are banded. no inputs, yet the outputs continue to work.

Solution: Uninstall Easy CD Creator! If Direct CD is also installed, you must format drive and start over without these apps installed.

- **Aura**

- **Black & White video output**

Aura may be in NTSC mode when it needs to change to PAL:

Filters->Preview->VToaster->Config - Select PAL

and Filters->Video->Keytoaster - Select PAL

- **Photoshop filters**

In some circumstances, you must

FIRST point Aura to the location of the Photoshop filters, and

THEN create a new configuration in Aura before the External filters folder appears.

- **"can't find .loc file"**

Problem: While trying to load Aura, you get an error message reporting that Aura can not find it's ".loc file"

This problem is typically caused by installing Aura (or the entire Video Toaster NT suite of software) to a location that is not the default expected by NewTek.

Solution: During installation Aura creates an AuraVT.ini file in your /Winnt/ directory. Open this file and look at all of the paths that are contained within it. In each case, make sure that the line reflects the correct location of Aura on your hard drive.

- **Output flickers on Real Time preview**

When playing an Aura Real Time preview, the output on the Toaster flickers between Auras output and my video input.

This is a known issue, and is being fixed.

- **Aura VT playback drops frames**

You must ensure that your drive system is capable of sustaining 33MB/sec for proper Aura playback, since this has embedded Alpha Channel output.

- **Aura dongle not found**

If you can not see the LightWave or Aura dongles:

- ? Navigate to <http://www.rainbow.com/tech/files/SystemDrivers/> and download the latest driver for the dongle.
- ? Make sure you have set the parallel port to EPP.

- **BBlit errors**

Q: When attempting to preview a clip in Aura [2.5], I get "Blit Error DDER_UNSUPPORTED". What is causing this?

A: It is because of your graphics card's inability to display particular modes. To resolve this: go to Aura's Settings panel (shift-d) and select the display tab, and enable "Use RGB" in

DirectDraw section. If this does not remedy the problem, your graphics card simply does not support 24-bit depth.

- **playback jitters**

Q: When I play back my rendered rtv clip from Aura, it is jittery, unclear and just looks bad. Any clue what's happening?

A: If you are rendering to NTSC, you must set the rtv option to Odd fields first. Also make sure you render twice as many frames as you'll need, so full data can be used for each field when saving.

- **Aura DV & AVI**

There is an issue with AuraDV not bringing up the settings or config for saving out the video (sequence)...it does if you export as an image (still)... There are also issues with some AuraDV exported avi's not being able to be read by other apps such as WindowsMedia Player & QuickTime....

Aura2.5 & Aura VT both work fine...it seems to be an issue with AuraDV.

A possible work around for now would be to save out your sequence as a sequence of still images then save them out in the avi form you need thru QT or some other application.

- **Capture**

- **Extra Frames on UVW 1800 capture**

If you are using the toaster composite output to sync your 1800 it is necessary to disconnect it when digitizing or you will get extra frames... The 1800 will display a NO SYNC warning, but it will play just fine....

- **How do I capture separate L/R audio channels?**

Q: I have nat sound on one camera channel and narration on another. How do I bring that into the Toaster so they remain separate?

A: On the SX-8, left channel-only is the mono input, so you'd want to hook one channel to 3 Left and the other to 4 Left. After capture, you can activate Mono, which allows you to pan them both on playback.

Without the SX-8, you'll need a Y-cable to feed the left channel to both inputs of the Toaster.

- **ToasterCG**

- **Italics vs. Rotate**

Click on Modify

Hold down the shift key.

Moving the top corners will italicize

Moving the bottom corners with rotate about the center

- **I can't use CG pages**

Problem: Can't use the *.cg files in ToasterEdit or DDR.

Cause: Those files are for loading back into ToasterCG and for editing.

Scrolls & Crawls:

Render sequence out as an RTV file

Still images/lower thirds

Save As a *.tga (targa) file.

- **Scroll Stop behavior**

Stop Behavior - when the stop behavior completes it does not make it to the desired location. See Stop.jpg. the image appears to stop too early or too low on the screen than is intended. This also happens with crawls.

You have to make "Scroll End."

"Do Not Render" of a property is turned ON then.



- **CG Player Hangs**

Q: Why does ToasterCG hang when opening some pages in a project? It seems arbitrary which ones will cause it to hang.

A: You may need to increase the memory in your systems. The CG can be a bit of a memory hog and with 100 plus pages it is going to be even more so.

We are addressing this memory issue but for now I am afraid the solution is to throw more memory at it.

- **CG Jitters on playback**

in the speed control part of CG, choose Speed - not Time, and enter an even integer for the speed (2.0, 4.0, etc)

- **AVI Wrapper**

- **"104 nonordinal error in nttools.dll "**

Known issue. An older dll is installed with aviwrapper.
Simply copy the new one from the Toaster2 driver directory

- **AVI Wrapper won't wrap**

Ensure you've installed the wrapper into the SAME folder as your Video Toaster, as it will look for other dll files.

The default path doesn't search the registry for the Toaster's location, but defaults to C:\Video Toaster.

- **ToasterEdit**

- **MP3 files don't show waveforms**

With high bit-rate MP3 files, a bug in WMedia player is making it such that the peak level computations in TEd do not work and always recover 'zero' level.

This is only a display thing, when you play back the project it works fine.

This is a bug in the current version of DirectShow and Microsoft might fix it in future releases.

- **DVE's between stills are jerky**

When dropping a still (targa or even a single-frame RTV) into ToasterEdit, an inserted DVE plays back rather jerky.

- 1) Make sure the cache is going to their video drive
- 2) Make sure that their cache value is low enough ...

- **Ctrl Key doesn't stretch clips**

Problem: Holding down Ctrl and mousing over a crouton would make the crouton play backward, but doesn't anymore.

Solution: Use another key. We changed our minds. ... this is because the ALT key is now used. It was changed so that there was less of a clash with multiple selection in a file-bin.

- **DV files lock up T[2] or run poorly**

Symptom :

DV files cause VideoToaster to lock up.

DV files run with very poor performance within the user interface.
Specifically : DV files without audio lockup the Toaster.

Recommendation :

Do not use the VideoToaster on a machine that has the Matrox DV codecs installed.
Uninstall *any* Matrox codecs on a Toaster machine.

The Matrox DV codecs perform a modification to the default behavior of DirectShow that causes VideoToaster to function incorrectly. The source of this problem is based in the fact that the Matrox codecs replace the default asynchronous file reading filter with a custom filter that is used when single stream AVI files are used. The Matrox filter appears to have a bug that can cause it to lock up when seeks are performed in certain circumstances (which occur with the VideoToaster file readers.)

Matrox DV codecs allow applications that are unable to use the Microsoft DirectShow DV support to be able to read DV files. In other words, Matrox is providing legacy Video-for-windows support for DV provided by a number of different codecs. Since the VideoToaster uses the new "DirectShow" technology that supersedes *Video for Windows*, it does not require the Matrox codecs to play back. The Matrox DV codecs are not required to use the VideoToaster; T[2] will load files written by the Matrox DV solutions without the codecs installed.

- **Can't hear audio-only clips in Edit panel**

Q: Why can't I hear the audio when setting in/out points in audio-only clips in the Edit panel?

A: Because. (there's a technical reason at the moment). The workaround is to scrub your audio in Timeline and then snap the clip edge to the Time bar.

- **Trails across the screen in TEd**

Q: I noticed that the ToasterEdit Timeline leaves trails on my screen when I drag the timebar to the left. Why?

A: This problem is with the Matrox G450 dual-head graphics card because the drivers are assigning fonts that are larger than the Windows defaults. You should be able to disable this in the control panel for the Matrox drivers.

- **DV AVI rendered files**

Q: Why can't Toaster [2] DV-rendered files be read by my other software?

A: Welcome to the joys of Microsoft's DV implementation. Its not a problem with our writer, but with their readers. Microsoft DV does not use Video-for-Windows to read or write files, but instead uses DirectShow. Unfortunately most apps (not us) do not read DShow based AVI files and so will fail to read any DV files (unless you also have a VfW DV codec, which is not supplied as standard with Windows).

Workaround: Download the MainConcept DV video codec that provides a Video-for-Windows implementation of DV.

This can be found at: <http://www.mainconcept.com/archive/mcdv204.exe>

- **No periods in File Bins**

If a user has a period in a folder name, it could confuse Toaster when dealing with some extensions.

The major symptom of this happens in ToasterEdit, dealing with the Undo Redo stack.

- **Recovering from a crash in TEd**

Right click in TED to bring up a Context Menu and choose Redo all Operations. This is restore all icons to the state immediatly prior to the crash.

- **Space bar not working**

If the spacebar does not properly start/stop playback within ToasterEdit, it is likely because you have CAPS LOCK engaged.

This is a key command to give keyboard priority to the Switcher.

- **Fade to Black**

Q: How do I fade completely to black at the end of the project? It seems to stop with a hint of graphic or video present.

A: Extend some audio one second beyond the fade of video, and the fade will complete. Actually, the fact that it does not fade to exact black is correct, however counter-intuitive that is. The reason for this is that if you have a clip that is as follows :

Clip on TL : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Frames : 0 1 2 3 4 5 6 7 8 9 10

It is the convention within editing applications that the clip starts on the beginning of a frame, and ends on the exact end of the frame. I.e. a clip that is 10 frames long starts on frame 0 will end right on the line of frame 10. But is not actually visible on frame 10 (frame #10 of the clip is visible on frame 9 of the output.) Now, assuming that you are still with me. When you perform a cross fade you perform a linear ramp of the transparency over the 10 frames. So, let me start with the fade “up” example on a cross fade between clip “A” and clip “B” with “F” representing the cross-fade.

Clip A: AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Cross fade: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

[illegible]

Frames: 0 1 2 3 4 5 6 7 8 9 10 11 12

Percentage of A: 100%90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

Percentage of B: 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

i.e. note that on frame 10, the last full frame of the transition, the %age of A is still 10%, and NOT 0%.

Now, obviously this explains why the cross fade to black does not end on an exact black unless you place a black clip that follows clip A.

It is tempting to think that one should 'tweak' the cross fade so that at the start of frame 10, the %'age of A is 0%, thus yielding a clean fade to black with no proceeding clips. However in order to make this work, you would also have to change the %'age of B at frame 10 to be 0%, or the alphas would not sum to 100%. If you did this, then the first fully visible frame of clip B would be at frame 10 and not frame 11, which is what the project says to do.

- **Switicher**

- **Luminance differences in Component**

Problem: I'm noticing substantial luminance differences when digitizing composite on the second and third columns.

Solution: There is an important modification that needs to be made to your Toaster card (removing resistors R33 and R34).
This affects component video only.

- **What's with the delay in my live output?**

- We know that this is a serious issue and are going to work on fixing it.
- We have a good idea on how to fix it but do not want to risk making radical changes to the drivers that would effect the entire switicher real-time performance this close to shipping.
- If you genlock the cameras to the Toaster output and adjust them correctly you should be able to get 3 frames latency.

- **Tally/GPI Pin outs**

Here's the tally/gpi pinout configuration:

Pin/Description

1 / LED 1
2 / LED 2
3 / LED 3
4 / LED 4
5 / LED 5
6 / LED 6
7 / LED 7
8 / LED 8
9 / GND
10 / GND
11 / No Connect
12 / GPI 0
13 / GPI 1
14 / 3.3 volt power
15 / No Connect

The led outputs are current sinking (goes low when active) and you should use at least a 200 ohm current limiting resistor in series with an external led. There is also a 200 ohm resistor in series with this signal inside bob. These LED signals are just copies of the tally LEDs on bob.

The GPI can pins support a normally open switch between the gpi pin and ground.

There is 20 ohms of series resistance on the 3.3 volt power pin.

All of this is subject to change without notice since this is still beta force, but no known problems so far.

- **LightWave Express**

- **Illustrator Export?**

Q: Why can't Express export Illustrator? This would be HUGE for the print market.

A: This is already included in Express however the file in the plugins dir is improperly named so it won't work as it is.

Rename it from EPSExport.p to ExportEPS.p. The function can be found in File -> Export -> Export EPS.

- **Toaster Framebuffer support**

Q: How do I provide LightWave 7 framebuffer support through Video Toaster [2]?

A: You must take a few steps to make this happen:

- move the plugin "lw6_vt.p" from the

VideoToaster2/LightWave/Programs/Plugins/ folder into the LightWave/Programs folder for LightWave 7 (or wherever the LW.exe file is).

- Go into LightWave 7 to Layout | Plug-ins | Add Plug-ins | (navigate to "lw6_vt.p" and select it)

- Then go to Rendering | Render Options | Render Display | Video Toaster:

NTSC

- Set Output File Type for NewTek-RTV

You're ready to go!

- **Screamernet?**

Q: Is Screamernet (distributed) rendering available in LightWave Express?

A: No, you will need up upgrade to a full version of LightWave 3D to able to use several computers to render LightWave scenes.

Q: Does Screamer.net offer RTV render support?

A: Yes. You can actually use several computers to render directly to a single uncompressed animation file, with frames getting inserted when completed.

- **D1 & D2 settings**

The PAL camera settings in FXMonkey are incorrect. The D1 and D2 values are swapped around.

The FXmonkey Setup Render panel shows:

D1 PAL - 752x576

D2 PAL - 720x576

When it should be the other way around.

- **File Bin**

- **Folder Naming**

If a user has a period in a folder name, it could confuse Toaster when dealing with some extensions.

The major symptom of this happens in ToasterEdit, dealing with the Undo/Redo stack.

- **File Bin lockups**

Q: when I roll my mouse over one of the avi's my Toaster looks up and I have to go to task manager to get out. What causes that?

A: One possibility is that you have a corrupted preview in the file bin. To see if this is the cause, right-click on an empty space within File Bin and select 'Clean up Temporary files'.

- **Croutons not working**

If you'll delete the NewTek info folder in that directory, you force Toaster to rebuild the icons by right-clicking in that folder and choosing "Clean up Temporary Files".

Do not, however, delete folders within any DVE directories, as those are pre-generated avi's.

- **Preferences**

- **Prefs screen is scrambled**

Q: Why are some options missing in my Toaster Preferences?

A: No one really seems to know, but you can go in and delete your [\\Skins\\Preferences\\](#) user file and on the next startup of Toaster, it will back to normal.

5.2 Speed Razor

- **Software**

- **Getting your SR license**

Getting a license for your Speed Razor software

If you are a Toaster 1.0 owner, go to <http://www.in-sync.com> and register your 4.5 license (found on your 4.5 manual).

You may then request that in-sync provide you with a 4.8 key.

In order to use Speed Razor you will need to get a Speed Razor license. Start Speed Razor and follow these instructions:

You will see a dialog box headed "Activate License" with the message " No license was found for this application. Would you like to invoke the SentinelLM client Activator in order to obtain a license?". Press the YES button and then follow the instructions on getting a software license or click on the in-sync help button on the upper right hand side of the Speed Razor About screen in order to get more information on software licensing. You can also get this information by double clicking on the file called license.chm which you will find in the License subfolder of the Speed Razor folder.

- **How to back up your SR license**

From Bill Rahn, posted to NewTek Forums:

once you have the licensing, just save the iservrc file on your desktop. When you need to reinstall just copy it to your SR folder. Label the 2 different Lisc(1 for 4.8 and 1 for 2000)and you always have them conveniently. You can also save the long liscensing code # in a notepad on you desktop the same way. When it asks to buy you just click it in - No Problems!! This is a real quick way to access it.

- **Playback in full screen only**

Some VGA cards are unable to scale down video. This causes the Playback window to resize itself to full-size when video is played back.

- **Toaster Login**

You must be an Administrator to install and use Speed Razor 4.8 SE.

- **Video Glitches on A/V Capture or Playback**

Video/Audio capture problems on the Toaster. Certain combinations of capturing audio and video cause video glitches and spots where audio sync has drifted. Please check the NewTek website (<http://www.videotoaster.com>) for a list of approved audio cards.

- **Batch Capture drops frames**

Problem: During batch capture, the Video Toaster NT drops frames. Manual capture works just fine.

Solution: Be sure to send a sync signal back to your deck

- **Speed Razor freezes when Batch Capture stops**

Check for an open error message or dialog box under the Batch Capture window. Speed Razor is waiting for a response to the message before continuing. Once this message is closed, Speed Razor continues normally.

- **Audio or Video Drive Full Message**

When I attempt to playback, capture or perform other standard functions, I get the error message, "error: video drive full" or "error: audio drive full." There may be a disk listed in Preferences>Directories that is full. Check your settings within Preferences>Directories Audio Finals (media) or Video Finals (media). If there are any devices listed here that are not used for storage of audio or video, remove them. Also check the Percentage Allowed to Fill Each Drive setting. The default is 80% and in-sync does not recommend exceeding 85%. If any of the drives listed in Video Finals/Audio Finals exceeds the Percentage Allowed to Fill Each Drive, Speed Razor will not write to or read from those disks.

- **Diamond 550 VGA Card**

When using the 550 VGA card, if you switch the Project>editing settings>playback to VGA, then the system hangs completely when you press play or scrub the timeline. It is important to switch Direct Draw OFF when using the 550. If you do, then it will scrub and playback video.

- **Adjusting Overlay Tools**

When adjusting Speed Razor overlay tools (for example, defining transitions and effects), you must use the Speed Razor preview windows. By default, the Speed Razor preview windows are behind the Toaster Vision preview window.

- **Timecode Window Updates Every 5 Frames and not Every Frame**

Speed Razor does not update every frame so that it can use the extra processing power to do other things.

- **Audio/Video Sync**

What is audio video synchronization?

A common issue experienced by video editors at one time or another is audio and video synchronization. Audio video synchronization is very important when the video shows someone talking. You always want the sound to match the person's lips. But synchronization is also important when adding a sound effect that needs to tie into the video, or any time when the video experience is enhanced by the audio.

How can you tell whether your system has an audio video synchronization problem?

By running the following test you can determine if there is a synchronization issue:

1. Create a new project in Speed Razor.
2. Put a single image frame on the timeline at 0:00:00:00 and another at 0:10:00:00 (10 minutes).
3. Put a single frame's worth of audio (eg a 1k tone) at 0:00:00:00 and another at 0:10:00:00 (10 minutes).
4. Print the project to tape (manually or using the Print to tape function).
5. Capture or batch capture at least the 10 minutes you put on the tape back into Speed Razor so that you capture the first and the last frame of the 10 minutes.
6. Load the captured material onto the timeline.
7. Click on the audio waveform and choose Show Audio waveforms.
8. Go to the frame where the first video frame of the 10 minute project is and check to see whether the audio tone is on the same frame as the video. If it's not write down this number of frames (let's call this the initial offset).
9. Go to the frame where the last video frame of the 10 minute project is and check to see whether the audio tone is on the same frame as the video. If it's not write down this number of frames (let's call this the final offset).
10. Subtract the initial offset from the final offset.
11. This is the audio video synchronization offset after 10 minutes As synchronization is dependent on the tape deck that you are using, if you have two decks then each one will have to be calibrated separately.

Audio Video synchronization can be lost for a number of reasons:

1. The audio and video don't play back at the same rate because of computer system configuration problems.
2. Audio card clock and the video card clock are not synchronized - with a Video Toaster system, the Video Toaster and the Audio card may not be synchronized. If there is not a physical connection between the Video Toaster and the Audio Card then you don't have a synchronized audio card.
3. The speed of the clock in the tape deck is unknown to the computer.

How to resolve audio video synchronization issues:

1. **Optimal System Configuration** - it's important to ensure that your computer system configuration is optimal.
2. **Locked Audio** - purchase an audio card that locks its clock to the Video card's timing.
3. **Compensating Software** - you can compensate for the audio video synchronization offset of your system with special software.

Optimal system configuration

Synchronization will be lost if either your audio or video drive is not fast enough to keep up with the playback of the media

Check on the following:

- A. If Audio drive is IDE:
 - i) that you're using an Ultra DMA audio drive. If you're not then we can't guarantee that you will retain synchronization
 - ii) make sure that you only have Ultra DMA drives on that chain. There should be no CD-ROM drives or other types of devices on the IDE cable
 - iii) make sure that the primary / secondary jumpers on the IDE drive are set up correctly
- B. If Audio drive is SCSI:
 - i) that the audio drive is on a separate chain to the video
 - ii) that the audio drive(s) are at the end of the scsi cable and that there are no gaps in the scsi chain (ie if your scsi cable has six connectors, that the drive is on the sixth connector on the farthest end from the controller)
 - iii) that the audio drive(s) are terminated correctly
 - iv) if the audio drive is scsi there should be no device other than fast drives on the chain (scsi operates at the speed of the slowest device on the chain)
 - v) that your controller, cable and terminator are all LVD or all not LVD (you can't mix and match these)
- C. If Video drive is on a stripeset or raid system
 - i) that the system is capable of sustaining a read of around 30 Mb/sec
 - ii) that the system is on NewTek's approved list
 - iii) if the video drive is scsi there should be no device other than fast drives on the chain (scsi operates at the speed of the slowest device on the chain)
 - iv) that your controller, cable and terminator are all LVD or all not LVD (you cannot mix and match these)
- D. Defragment the audio and video drives once a month (or more often if you frequently fill your drives to capacity)

Synchronization will be lost if anything on the system interrupts the system's performance

- A. **IRQ conflict** Check that there are no IRQ conflicts on the system by going to **Start>Programs>Administrative tools>Windows NT diagnostics>Resources** tab If there are two devices with the same IRQ you have an IRQ conflict. Talk to your systems integrator on how to resolve this.
- B. **Accessing the swap file**
 - i) Set up the swap file according to the recommendations in in-sync's Speed Razor configuration manual. (The swap file needs to be 4 Mb smaller in size than the amount of RAM that you have)
 - ii) The swap file should reside on the fastest drive on your system (usually your video drive) - it should not be on your audio drive.

- C. **CD Roms** On some systems, keeping a CD-ROM in the CD-ROM drive will cause the system to check the CD ROM drive occasionally causing an interruption in the system's performance which can lead to a loss of synchronization.
- D. **Scanners** Some scanner's drivers cause the system to access the scanner occasionally causing a system slowdown. These should be removed. In particular scsi scanners should not be attached to video drive or audio drive scsi chains.
- E. **Plug and Play** Windows NT is not a plug and play OS. Make sure that Plug and Play is set to Off in the BIOS. Any ISA device needs to have an Interrupt assigned manually in the BIOS. AGP and PCI cards should be used wherever possible.

Locked Audio

The following audio cards can lock to the Video Toaster:

Antex Electronics

Products: Studio card 2000 and the SC 22

<http://www.antex.com>

Lynx Studio Technology, Inc

Products: Lynx One

<http://www.lynxstudio.com>

Miscellaneous problems

Memory is the overlooked problem child. Memory often goes bad or is bad. When using a video editing system, you're using more RAM than most other applications on your system. If there is any part of your memory chips which are bad, then problems may only show up when you're using your video editor. If you have strange blue screens, crashes or hangs which are unrepeatable, you may want to try swapping your memory chips. Blue screens, crashes and hangs are not normal! Resolving any of these issues may resolve any audio video synchronization issues that you have, but your tape deck and/or audio card's clock may still cause a problem, so read the following sections.

Compensating software

Compensating after capturing

To compensate for the offset after capturing use NewTek's Resync application:

NewTek's Resync application

After capturing an audio and video clip, you may notice that the audio and video are not synchronized when you play it back. On short clips you may not notice the synchronization is not exact because the clip is short and the offset is small. However on longer clips, you may see this problem more clearly. When you find this problem exists with a clip you can use NewTek's Resync application to fix this. Each audio clip that you have captured can be loaded with its synchronized video clip one at a time into the Resync application and the audio can be automatically resynchronized.

Compensating during capture

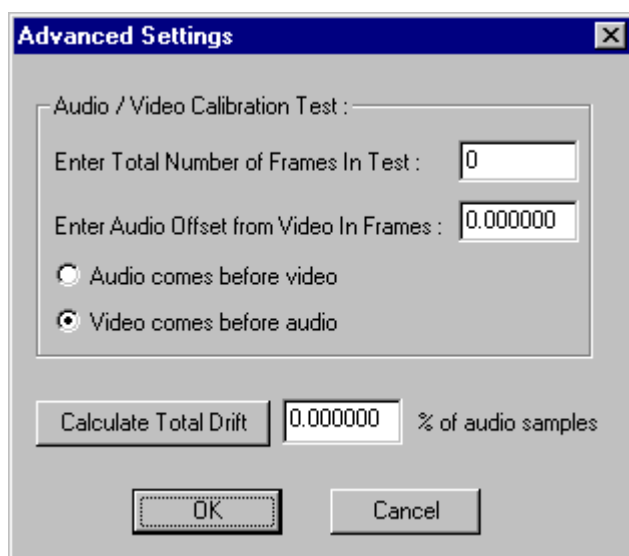
To compensate for the offset during capturing use Speed Razor 4.8 SE:

Speed Razor 4.8 SE

in-sync's new version of Speed Razor, version 4.8 SE, for the Video Toaster contains a mechanism to adjust for the offset between the audio and video at record time. Once you have calibrated your system by following the steps on how to tell if you have a synchronization problem. Then type this information into the new audio record advanced settings.

To access the new audio record advanced settings:

- 1 From the **Project** menu, select **Editing Settings**.
The Editing Devices and Settings dialog box appears.
- 2 From the Editing Devices and Settings dialog box, select the **Setup** button for Audio - Input (Recording) Device.
The Audio Device Settings dialog box appears.
- 3 From the Audio Device Settings dialog box, select the Advanced Features **Settings** button.
The Advanced Settings dialog box appears.



Minutes and Frames 10 minutes of NTSC drop frame equals 29.97 fps x 60 (for one minute) x 10 (minutes) = 17982 frames. 10 minutes of NTSC non drop frame equals 30 fps x 60 (for one minute) x 10 (minutes) = 18000 frames. 10 minutes of PAL equals 25 fps x 60 (for one minute) x 10 (minutes) = 15000 frames.

- 4 Press the **Calculate Total Drift** button to calculate the drift as a percentage. From then on, all future captures of audio and video clips will be synchronized.

- **Toaster Preview is Black & White**

1. The s-video out of your Video Toaster NT is black & white. Clips are captured in color, ToasterVision shows that clips from the harddrive are in color and the Speed Razor logo is in color.

2.Or, your preview is in black and white.

Solution: Chances are pretty good that you are trying to go from BNC to S-Video / Composite and need either the correct Y/C (BNC to S) adapter, or have an incorrect adapter.

Also make sure that are not using an ethernet T-connector.

Also be sure to verify that the output settings in Speedrazor are set to Y/C and not Component.

- **Getting your 4.8 License**

- **Getting a license for your Speed Razor software**

- In order to use Speed Razor you will need to get a Speed Razor license. Start Speed Razor and follow these instructions:

- You will see a dialog box headed "Activate License" with the message " No license was found for this application. Would you like to invoke the SentinelLM client Activator in order to obtain a license?". Press the YES button and then follow the instructions on getting a software license or click on the in-sync help button on the upper right hand side of the Speed Razor About screen in order to get more information on software licensing. You can also get this information by double clicking on the file called license.chm which you will find in the License subfolder of the Speed Razor folder.

- **The system Clock has malfunctioned**

- **Problem:** "Playback Engine--The system Clock has malfunctioned, you should reboot the computer." Video freezes, but audio still plays.

- **Cause:** bad motherboard

- **Hardware**

- **System Unable to sustain Data Rate**

- When attempting to playback on the timeline, an error message appears stating that the system is unable to sustain the data rate or that the system is unable to keep up with video or audio output. For lossless or uncompressed quality video output, it is important that you have a video striped set of at least three drives. At current hard disk speeds, this is the only way to keep up with the output. If, however, you are digitizing at low data rates or resolutions, and you get this message, you may need to defragment and optimize your video array. Do not store both audio and video to the same array. It is helpful to have a dedicated audio disk separate from both system, data or other disks on the system.

- **Drive not Fast Enough**

Please note that if you are using the Medea VideoRaid SCSI (four drives) solution that you may see this message from time to time. If you see this message, please contact Media by e-mail at support@medeacorp.com or by phone at 818-597-7645. You should not see this issue if you are using the Medea VideoRaid RT (six drives) or the VideoRack RT (six drives). Please check NewTek's website for the latest information on recommended drives for the VideoToaster. Also note that significant performance improvements can be gained from using the latest Ultra 160 SCSI drives.

See: <http://www.storage.ibm.com/hardsoft/diskdrdl/prod/us36lzx72zx.htm>

- **Switching between NTSC & PAL**

When switching output format from NTSC to PAL, you must select **Settings>Video Resolution (1:1)** in the Toaster Vision Out to get a PAL-sized window. This procedure only needs to be done once, since the change is saved with the project settings.

- **Graphics Cards**

To playback clips on a VGA screen, you need a graphics card that supports DirectX. Using the latest NT service pack will give you the latest version of Direct X available for Windows NT. (See <http://www.microsoft.com> for the latest NT service pack.)

The following VGA cards are recommended:

- NVidia GeForce 2, GeForce3
- Matrox G450, G550
- ATI Radeon

The following cards are strongly NOT recommended:

- Matrox Millennium
- S3 Trio
- #9 Revolution 3
- Appian Geronimo
- Diamond Viper 550, 770

Selecting the right graphics card depends on many factors. A more complete list may be found on the in-sync website (<http://www.in-sync.com>). To optimize the use of your graphics card, note the following items:

- Download the latest drivers for your graphics card. Up-to-date drivers may fix problems.
- Most VGA cards less than a year old should work fine. For cards older than a year, please consult the in-sync website.

- Use a VGA card with at least 8MB. This allows you to run the desktop at a high resolution and color depth. Most newer cards come with at least 16MB. Some older cards work "acceptably" with only 4MB. For Toaster Vision, NewTek recommends 16 MB or more.
- Use at least 70 HZ to be easy on your eyes. But do not get carried away. Increasing the refresh rate using more VGA memory bandwidth. This could cause the overlay to not function and otherwise consume VGA card resources that might be better used elsewhere. For proper playback using Toaster Vision or Toaster Scope NewTek recommends 60 HZ refresh.
- Use a VGA card that directly supports YUV overlay or blts.

- **Switching a deck standard**

When switching a deck's standard from PAL to NTSC or vice versa, (by selecting **Options>General** on the Batch Capture or Print to Tape dialog boxes), you must select the **Setup Deck** button or close the Batch Capture/Print to Tape dialog boxes for the change to be applied.

- **Direct Draw and Dual Monitor Setups**

I have a dual monitor setup and I want to use direct draw. When I go to **Project>Editing Settings** and change the playback device to VGA screen, the setup option for direct draw is grayed out. Unfortunately NT has a limitation with Direct Draw and dual monitor setups. It is still possible to use the VGA playback without Direct Draw however the performance will be reduced.

- **Deck Control**

For the deck control to work with the numeric keypad, the NUM LOCK must be on. In Batch Capture, the CAPS LOCK button toggles on/off control of the deck.

- **IDE Drive recording**

When using audio on an IDE drive, the DMA device must be enabled using the DMA check utility located on your Window NT Service Pack CD-ROM or from the Microsoft website. If you're using Windows 2000 then we recommend that you install service pack 2.

Video Toaster [2] (either with or without the SX8) will work fine with IDE systems. The reason that we do not recommend them is simply because we need to provide advice on our web site that we can be certain has a very high degree of certainty of working irrespective of the machine configuration. Unfortunately IDE drives tend to take quite a bit more tweaking than SCSI drives to make work efficiently. The issues that I feel are a concern with optimizing IDE drive performance are :

- DMA-ing must be enabled. Not having DMA mode enabled requires very high CPU usages while transferring from the drives.

- PCI usage should be efficient. It seems that some IDE controllers are very inefficient with their PCI usage that will impact the Toaster dramatically (see my explanation below)
- CPU usage by the IDE drivers should be as low as possible.

Now, to answer some of your more specific questions as to performance, I should first explain why you are seeing speed differences between when the Toaster is running, and when it is not. Each uncompressed stream of video requires ~20Mb/s across the PCI bus. Now, when the Toaster is running in "switcher mode" it requires at all times that two streams come in and one stream is sent back out to the output. In other words, at all times we need to DMA ~60Mb/s. Without the SX8, we only typically need to bring one stream in and one out, so the constant DMA usage is ~40Mb/s. Bear in mind that the maximum PCI bus speed is in practice about 95-100Mb/s once IRQ negotiations (etc...) are accounted for.

The reason that you see disk speed performance differences when the Toaster running is quite simply because the Toaster and the IDE drives need to share the PCI bandwidth available. If an IDE drive is sustaining 30Mb/s and doing efficient PCI DMA transfers (i.e. it bursts transfers) then you should see almost no drop in speed when the Toaster is running because $60\text{Mb/s} + 30\text{Mb/s} < 100\text{Mb/s}$. If you are seeing significant drops in performance it is likely that the IDE controller is not efficiently using the bus.

5.3 Adobe

• Photoshop 7 Alpha layers

This is from Adobe's Knowledge Base:

Alpha Channel Is Missing from Targa File Saved from Photoshop 7.0

Issue: The alpha channel is missing after you save an image as a Targa (*.tga) file in Adobe Photoshop 7.0.

Solution: Recapture the alpha channel in the Targa file by pressing Option+Shift (Mac) or Alt+Shift (Windows) when you open the file in Photoshop. Then do one of the following:

- ? Save the file to a different format that supports alpha channels.
- ? If Photoshop 6.x is installed, replace the Photoshop 7.0 Targa plug-in with the Photoshop 6.x Targa plug-in, and if you use Mac OS X, restart Photoshop 7.0 in Classic mode:

Additional Information

The Targa file format specification reserves the fourth channel of Targa files for transparency. The Photoshop 6.x Targa plug-in, however, uses the fourth channel for an alpha channel.

The Photoshop 7.0 Targa plug-in conforms to the Targa file format specification, reserving the fourth channel for transparency. Consequently, the Photoshop 7.0 Targa plug-in doesn't let you save an alpha channel with Targa files.

In Windows, the version of the Photoshop 6.x Targa plug-in is 6.0.128.0, and the version of the Photoshop 7.0 Targa plug-in is 7.0.0.0. In Mac OS, the version of the Photoshop 6.x Targa plug-in is 6.0, and the version of the Photoshop 7.0 Targa plug-in is 7.0.

6. Testing

- 1) **What kind of clips and transitions where you working with.** For instance, RTV, AVI, WMV, etc...
 - a. Did these clips have audio?
 - b. Did these clips have video?
 - c. Which effects where you using in the In/Out panel.
 - d. If you use the same clip again, do you have the same problem ?
 - e. If you use a different clip of the same type
- 2) **What are your cache settings,** what other modules do you have open?
- 3) **What category was the bug :**
 - a. A lockup: The UI remained open, however it stopped responding to input.
 - b. A crash: An error dialog box came up and let you know there is an error. From this point things went downhill.
 - c. There are video artifacts on output.
 - d. There is some UI error, or false behavior.
- 4) **What set of steps can be taken to reproduce it ?**
- 5) **It is very useful for us to see a screenshot of any project** where you had problems. If you do this, please put the upper pane in the storyboard view, and the lower pane in a timeline view. If it is possible, including the in/out panel in the shot is very helpful.
- 6) **More Information.** Simply put the more information we have the quicker and more effectively we can resolve the issue. Please spent time investigating an issue; the general idea is to broaden your knowledge of the bug just as far as is possible and provide us with all the information you can.

Please take your duty of reporting bugs as diligently as possible; this is how we make the difference between a good product and a great product, in return you have our firm commitment to investigate and fix any issue that is a bug.