Pyromania! Pro

Introduction

Thank you for purchasing Pyromania! PRO, The latest in the series of Pyromania products. VCE, creators of the Pyromania! series, is celebrating its 20th anniversary in the visual effects business. Peter Kuran, founder of VCE, started his career in 1977 on "Star Wars." Kuran began VCE after finishing work on "Empire Strikes Back." Since then, VCE has created visual effects for over 200 major Hollywood productions including most recently "Men in Black" and "Starship Troopers."

From the sale of the first two Pyromania! volumes, VCE received many comments and suggestions from users around the world. From these suggestions, VCE has tried to tailor this CD-ROM to meet the needs of the Pyromania! user. It is difficult to meet every concievable need of every user, but VCE tries hard to make these CDs as easy as possible for you to get quality results.

Pyromania! PRO contains 30 high quality, royalty free, pyrotechnic effects.

For the PC format, we include the image files as a series of Targa (.TGA) sequences, except for 3 sequences which are in JPEG (.JPG) format: Rolling Fire, Daylight Explosion, and Mushroom Close-Up. All of the mattes are in JPEG format.

The effects on Pyromania! PRO are moving sequences, originally photographed by VCE on 35mm motion picture film, then scanned at 2K resolution (2048x1536).

None of the images were photographed in 16mm or transferred to files from a tape format. None of the files have been "field rendered." Most of the resulting 2K sequences have been cropped. In other words, the black areas have been minimized to cut down the size of the file. This is the reason some of the files have strange dimensions. Generally, files which fill the frame or go off frame are sampled down to 720x540.

What is 720x540? This size was determined to be the best compromise between the two most popular sizes: 640x480 and 720x486. Unfortunately, these two sizes have different aspect ratios, because 720x486 is used for video work and packs more more pixels in horizontally (720) than vertically (486) for the standard 4:3 size rectangle of a video monitor. Therefore, 640x480 has square pixels, while 720x486 has rectangular pixels. 720x540 allows for plenty of resolution, has square pixels (allowing animators to easily apply images as texture maps) and can be sampled down effectively for either format.

An order form is provided in the back of the book in case you would like to order the files in their original 2K format. Some of the files were originally scanned in the Kodak Cineon™ format and can be purchased as such. Cineon files are 10 bit which cover more range and color depth than standard 8 bit files.

The Quick Reference card provided on the inside of the CD cover provides a handy thumbnail image of each sequence. A large and a small AVI file is included in each directory for quick preview, and full size 30 fps previews are available on the included VHS tape.

The VHS video tape previews list the Shot number, as well as a running count of the frame numbers on the tape.

The files on this CD-ROM are best used by copying the sequences you need to use from the CD-ROM onto your hard disk.

Requirements:

Many of the files are high resolution and can open up to as much as 9 Mb in size. In programs like Adobe Photoshop™, one image may occupy 3 times the size of the file in RAM. Make sure there is enough RAM on your machine to work with these large files.

Contents of Pyromania PRO!

Mushroom Explosions

Mushroom explosions are also known as ground explosions or "gravity challenged" explosions. They are set off on the ground and form a rising plume, hence the mushroom appearance.

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Shot #          Description                        # of frms      Image size

FX1871-b4       Small Explos/Small Sparks          100            720x720
FX1871-2        Big Rolling Ball                   105            720x707
FX1876-1        Mushroom Close Up                  112            720x842
FX1877-1        Small/Tall Mushroom                131            800x1400
FX1877-2        Big Mushroom stays in frame         97            1450x1536
FX1880-3        Daylight Explosion                 150            720x867
```

Notes about Mushroom Explosions

All Mushroom explosions are shot at approximately 100 frames per second with a 20mm or 28mm lens with angles between 0 degrees and 20 degrees.

The Daylight Explosion has a larger blue sky file which can be used to extend the peripheral sky around the explosion. A matte is included to use as a guide to drop the explosion into. Because of its size, this explosion has JPEG compression.

Zero-G Explosions

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Shot #          Description                        # of frms      Image size

FX1868-1        Windy Zero-G                       110            1300x1300
FX1868-3        Swirly Windy Zero-G                 70            1300x1300
FX1875-1        Fiery Zero-G A with Debris         155            2048x1536
FX1892-1        Fiery Zero-G B with Debris         103            2048x1536
FX1892-2        Fiery Zero-G C with Debris         140            2048x1536
Debris1         Sparks at Camera Debris A          163            2048x1536
Debris2         Sparks at Camera Debris B          134            2048x1536
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Notes about Zero-G Explosions

All Zero-G explosions are shot at approximately 100 frames per second with a 20mm lens and a 90 degree angle straight up. This gives the explosion the appearance that it is not affected by gravity.

The "windy" Zero-G explosions were shot with the wind blowing over camera. When exploded, they travel away and past camera, giving the appearance that the camera was actually moving by the explosion. This comes in handy, for example, if you are using an explosion in an action scene where you are chasing a space ship, you fire, it explodes and the debris flies away, giving it some dimensionality instead of appearing static in the frame.

The sparks and debris can be used to enhance the fiery Zero-G explosions in case you want some extra debris flying out.

FIRE

Shot #	Description	# of frms	Image size
FLRWV	Floorwave (Fire and Shockwave)	100	720x540
Square-1	Full Frame Rolling Fire	100	1300x800
FTrail-1	Fire Trail - Starting	57	1000x585
FTrail-2	Fire Trail - Loop	110	1000x450
FX1873	Looking Down Fireball	115	720x687

Notes about FIRE Elements

The dynamic Floorwave image was created by igniting "Roadburn" after the fumes have settled on the ground.

The Rolling Fire is good for use as a texture element such as inside text for logos and commercials. It can also be used as an explosion travelling down a hallway. For this reason, we have left the interactive lighting against the walls of the unit used to contain the explosion. If you use them as a guide, you can set up a hallway shot that the image of the explosion could be composited on top of.

Fire Trail is also created using "Roadburn" giving it that "Back To the Future" effect. The Starting Fire Trail should be used to start the effect, then dissolve into the Fire Trail Loop to extend it for as long as is needed.

The Looking Down Fireball is shot from a 40 degree angle looking down on the explosion.

MISCELLANEOUS

Shot #	Description	# of frms	Image size
ExplWipe	Explosion Wipe	104	1024x768
Fuse-1	Dynamite Fuse Loop	64	720x540
LaserHit	Laser Hit Loop	99	1024x768
SparkHit	Spark Hit	42	1024x1536
FB-1	Fire Banner1 (Rectangle)	135	1500x550
FB-4	Fire Banner4 (Rectangle)	163	1500x550
FB-5	Fire Banner 5 (Square)	200	1700x1400
FB-6	Fire Banner 6 (Square)	212	1700x1400
FB-7	Fire Banner 7 (Round)	194	1100x1180
Car	Exploding Car	100	1024x768
Shower	Spark Shower Loop	73	720x540
Match	Match	202	720x540

Notes about MISCELLANEOUS elements:

The Explosion Wipe has a rotoscoped alpha to use as a transition from one scene to another. First use the alpha to do the wipe, then add the Explosion Wipe on top using a "Screen" Effect.

The Dynamite Fuse has a "beauty pass" image of a fuse you can use as source for the fuse spark for that "Mission Impossible" look. The Fuse stays locked off in the middle of the frame. By placing key frames at opposite sides of the frame, you can create the effect of movement.

The Laser Hit and Spark Hit are good finales to any laser burst. Just draw a laser to your target, then place these "hits" at the end to add impact.

Fire Banners are good to highlight words, logos or even use sections of the banner as energy plasma or electricity. There are three shapes to the Fire Banners: Rectangle, Square and Round. The Rectangle and Square shapes each have two variations, one that starts from opposite corners and one that starts from opposite top and bottom middles. You'll wonder how you ever got anything done without them.

What Pyromania! disc would be complete without a Car Explosion! This sequence was inspired by an evening in front of the television, where there were *three* commercials in a row for motion pictures, *each* with a car explosion in it! VCE used a 1/4 scale Mercedes model painted black, since it was the most generic of all the 1/4 scale cars.

Use the line up guide to position the car you wish to explode. For best realism, shoot around "Magic Hour" or just before the sun sets for the best lighting on your original.

The Match comes with a "beauty pass" of a wooden match so you can comp it together with the match flame.

Notes about compression:

We have made every effort to avoid compression on these files. However, to keep the package on 2 CDs, we used high-quality JPEG compression to some files. These include all Mattes, the Daylight Explosion, the Rolling Explosion, and the Close-Up Explosion.

Tricks and Tips for using Pyromania PRO - by Peter Kuran

Compositing Fire and Explosions

This time around, we have provided separate Matte files for compositing explosions over bright backgrounds. Mattes were created using the Ultimatte process to separate the explosions from their black backgrounds. The mattes have midtones of gray to give the widest range for them to be altered. Depending on the background, a certain amount of choking will be necessary to make the matted image fit appropriately into the shot.

By their very nature, fires and explosions start from a bright source and radiate outwards continually getting darker. Most mattes, no matter how well done, will appear to have a certain amount of fringe over bright backgrounds. Adjusting Levels and darkening them on the matte will minimize the fringe but the following suggestions will help in flawless compositing:

Most pyrotechnicians will tell you that the best time of the day to get the most dramatic effects from your pyrotechnics will be magic hour through nighttime. Have you ever seen a dramatic fireworks event in the afternoon? At least, not as dramatic as ones staged at night.

Your best use of Pyromania! will always be against fairly dark backgrounds. In most of these cases, matting is practically unnecessary. In AfterEffects, first try using Screen to composite the fire or explosion over the background. This has usually proven to produce the most realistic effect. Sometimes Lighten works well but usually artifacts against the background in the lighter areas.

Explosions tend to go through a huge range of brightness. If you look at other fire and explosion clip art products, you will see that the explosions start dark and "clip" as they brighten. "Clipping" is where you lose detail in the lightest areas and form patches of the highest possible value. This limits the range from which you can adjust the image later and makes the image look ugly. Our explosions have been carefully scanned so as to maintain a good

level of brightness from beginning to end. We attempt to retain a full range of value, even in the lightest areas of the lightest frames.

To add an extra punch to the explosion, you may want to introduce a lens flare within the first 10 to 15 frames. Ramp the flare up quickly and reduce the intensity slowly. You may also wish to adjust the levels within the same first 10 to 15 frames similarly, introducing a brighter, enhanced image.

Add a slight Radial Blur to an explosion for more debris with trails. You may have to boost the exposure with Levels or Brightness/Contrast after radial blurring.

Note: Radial blurs can take a while to render, but the added stylizing can be worth it.

Matting images not provided with matte sequence files:
Mattes are included for most Mushrooms and Zero G explosions. To create mattes for other sequences, try using the Luma Matte function in your compositing software, preferably using the Red Channel as the source. The Red Channel usually provides the most complete image from which to create a matte.

Blue Fire

If you want to radically alter the color of the fires and explosions, using Levels isn't always the best approach with the most dramatic effects. In Adobe AfterEffects, there is an image control called Switch Channels. If you wish to change the color of the fire from Red-Orange-Yellow to a Blue Color, simply switch the Red Channel to the Blue Channel and the Blue Channel to the Red channel. This will give a colorful blue tone to the fire or explosion. From this point, you can adjust the color using Levels for subtle variations.

ShockWave Effect

You can use the Fire Trail Loop to create a Shockwave effect. In a program such as Adobe AfterEffects, bring the Fire Trail into a project 2000x2000 pixels and center it. Double click the element in the project and make a simple rectangular mask to mask out the reflection at the bottom of the element. Bring in the separate glow element supplied with the Fire Trail and use Screen to add it on top of the fire. In the composition window, flatten the fire element slightly so it is not so tall.

Bring this composition into a second composition and add a Polar Coordinates (Rectangle to Polar) with 100% Interpolation. This will give you the basic overview image to work with. To angle it and make it expand toward camera, use the Basic3D effect with a Tilt of -72 degrees and expand it using Scale under Geometrics. If you want to make it blue, just use Shift Channels and replace the red with the blue and the blue with the red as described above. It's easy!

Usage of Pyromania PRO! material

Contents of CD-ROM:

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The contents of Pyromania! PRO are simply image files. To utilize these files, you must use a compositing program which can accept these image files. Programs such as Adobe Photoshop™, Adobe AfterEffects™, Adobe Premiere™ and Macromedia Director™ can import these files for your use. Please check the manuals of these programs for further information on how to use them.

Credits:

Jeff Roe - Digital Supervisor
William Conner - VCE's resident Pyromaniac. He'll blow up anything.
Jo Martin - film control manager

Pam Vick - Digital Compositing, Cover art and layout
Brian Cooke - digital compositor and matte artist
Bob Hoehn - guy who did music for the video
Jim Lammers - PC version compilation and translation
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