# GNXshield

Software development

GNXshield is a software program that applies special interlacing coding over the video file frame by frame using special algorithm based on Moiré effect. Inputs are uncompressed QuickTime feature length movie files with 2k, 4k or 6k resolution . Later we will add other types of the digital video formats (e.g. high-definition video: Cineon / DPX / TIFF / TARGA / SGI). Output will be the same file format with additionally applied Moiré pattern. Later, this file will be used for printing a 35mm film through a Lasergraphic Premiere Pro film printer. Distorted image will contain lines that interfere with the camcorder or camera chip and create visual transformation of original image while the image will be clear and crisp if observed by the necked eye.

Functionality structure of the program:
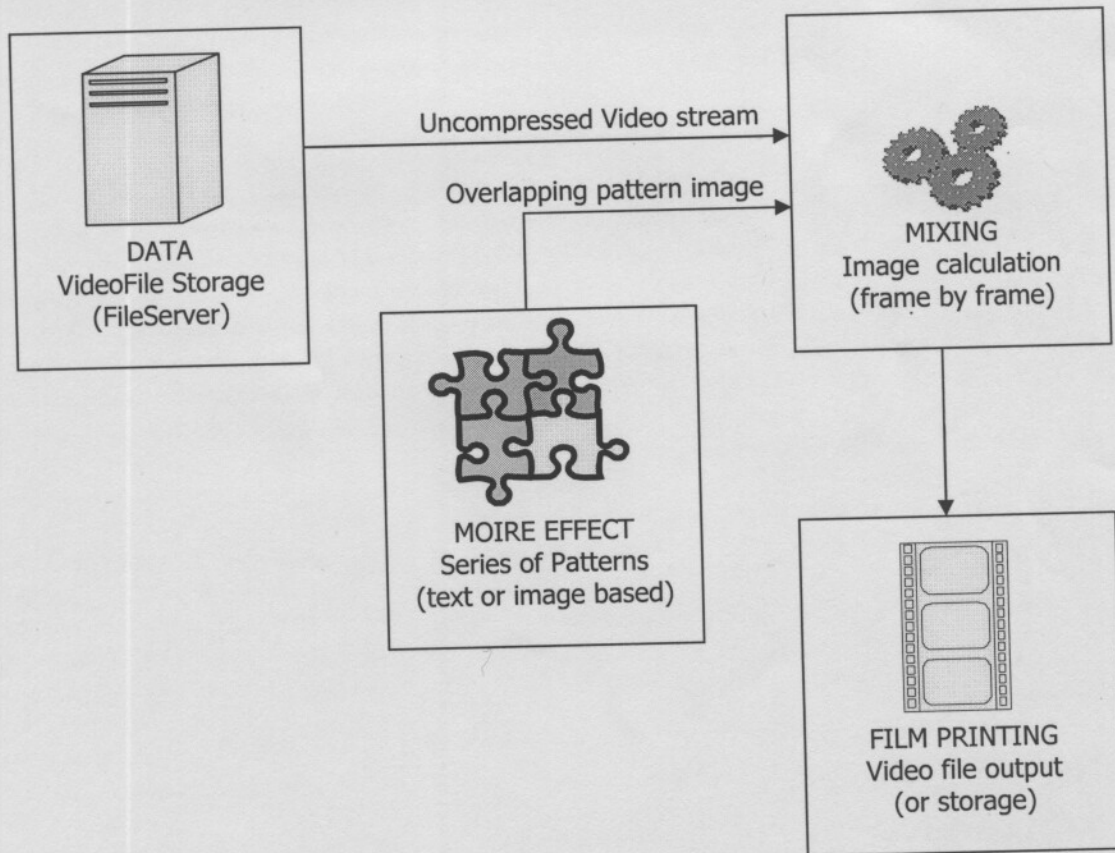
DATA: File server or computer hard drive that stores original video file. It also could receive data through remote network (remote server) or file could be obtained from type reader of the DTS catridge.
MOIRE EFFECT: This is a pattern created from a pre-defined image (text) and distorts it in such way that could be visible only through camcorder or camera.
MIXING: This is a process of distorting an image applying Moiré patterns.
FILM PRINTING: This is an output file that could be stored on a computer (server, remote storage), could be recorded directly onto DTS type or will be sent to Lasergraphic film printer.

GNXshield Inc.

Revenue Structure

<u>Movie Distribution Chain</u>

Studios authorize distributors to duplicate, distribute and to collect revenue. To eliminate this overhead, some Studios have created their own "in house" distribution networks. The distributor, after reimbursing his expenses for film reproduction, distribution to theatres, advertising, etc, sends the revenue balance to the studios.

Researching the market, GNXshield discovered that movie theaters are not in any position to accommodate anti-piracy expenses. Movie theaters, self identified "glorified candy stores", generate their profit from the sale of popcorn and soda. Studios are dependent on Distributors. Even though, in some rare cases, when after expenses, studios receive no revenue from the distributors, and resign themselves to cover their expenses from the sales of DVD's and cable revenues. Anti-piracy technology interests distributors whose goal is to maximize the revenue from theatre releases and the protection of the movie content.

GNXshield technology enters the movie distribution system at the moment when the final cut copy of the movie is ready for duplication onto the 35mm film or conversion into digital projection file. In both cases, the movie studio presents a digital file (2k-6k sequence of frames in CIN, TARGA, TIFF, DPX or other formats) to the distributor. Onto each frame, the laboratory or independent agent, will apply GNXshield patterns, creating a new sequence of digital files. Next, a protected copy of the film will be printed onto the intermediate negative, 35mm film. For digital projection, the protected file will be distributed directly to movie theaters. From the intermediate negative film, the laboratory prints a final positive 35 mm film which is distributed to movie theaters.

<u>Revenue Streams</u>

GNXshield fees for different stages of production:

1. <u>Development fee.</u> For the creation of the protected digital file (applying GNXshield pattern onto the original file) the development fee is **$0.10** per frame. That will generate **$12,960.00** per movie title. We excluded the process of applying GNXshield patterns from other processes to bring flexibility to the industry by certifying other independent companies and laboratories to perform this stage separately. The development fee could be increased, it is not dependent on market expectations or competitors' pricing.

2. <u>Processing fee.</u> To print a 35 mm film, from the protected digital copy, the processing fee is **$0.35** per frame with total revenue per each copy of the movie title of **$45,360.00.** This fee is based on the industry's average pricing of film printing from $0.50-$0.70. Film printing process could be performed in the laboratory or by the independent companies.

3. <u>Service fee.</u> To make a positive 35mm film from the intermediate negative, there is a fee of **$0.20** per foot, with additional costs of up to **$0.80** per foot for materials and service. The laboratories charge and average of **$0.05** per frame to develop a copy of a film. GNXshield will add an additional **$0.0125** per frame for the anti-piracy protection. Total GNXshield revenue will accumulate **$1,620.00** per copy per film.

4. <u>Licensing fee.</u> For larger industry players, such as, studios, laboratories and certified developers, GNXshield established an additional licensing fee payable on different terms, such as: annual unlimited fee, fee per movie title, per region fee, percentage from box office revenue. Each licensing case should be approached individually according to the company revenue and volume of movie titles. During our preliminary meeting with the Director of Post Production from Sony Pictures, he expressed his view that it may be reasonable to charge **$350 million** annually for unlimited movie titles made by Sony Pictures globally.

According to MPAA statistics, distributors handle approximately 500 movie titles annually. Only 10% of the movie titles are considered blockbusters, being shown on 2500 screens. 90% of the other movie titles are shown on approximately 100 screens. The following GNXshield revenue projection is based on only 35% of all movies to be processed with the anti-piracy technology. This information is based on the MPAA annual statistics for 2004.

Movie type	Titles per year		Film copies per year	
	all	GNXshield	all	GNXshield
Blockbuster movie (premiere release)	89	31	222,500	77,875
Low budget movie	465	163	46,500	16,275
TOTAL:	554	**194**	269,000	**94,150**

The projected GNXshield revenue

Fee description	Fee per item	Annually
Development fee (per movie title)	$12,960	$2,512,944
Processing fee (per movie title)	$45,360	$8,795,304
Service fee (per copy)	$1,620	$152,523,000
TOTAL:		**$163,831,248**

Conversion table of the 35mm film

1 frame	=	9/10 inch		
16 frames	=	12 inch	=	1 foot

24 frames per second
5400 second per average 90 min movie
129,600 frames per average 90 min movie
1225 feet per average 90 min movie

Sources, links and statistics:
  www.imdb.com
  www.natoonline.org
  www.mpaa.org
  www.the-numbers.com

GNXshield revenue projection

Editable area shown in yellow background

Conversion table of the 35mm film

1 frame	=	24/32 inch		
16 frames	=	12 inch	=	1 foot

frames per second =	24	
second per average	90 min movie =	5,400
frames per average movie =		129,600
foot per average movie =		8,100

Statistical information form MPAA 2004

Movie production (titles) USA	554
e.g blockbuster movies	89
Box Office revenue USA (billions)	$ 9.53
Movie theaters	6,031
Screens (indoors)	36,012
Outdoor screens	640

Volume assumptions

Assumption of GNX market share is (%)	35%
Blockbuster movie screens (per title)	2,500
Low budget movie screens (per title)	100

Movie type	Titles per year		Film copies per year	
	market	GNX	market	GNX
Blockbuster movie (premiere release) - 10%	89	31	222,500	77,875
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Revenue Projections

	per frame	per item	annualy	
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