



Making Security Easier.

Fire Security Systems

GKB Video Fire Detection System (VFDS™)



An Innovative Video Surveillance Solution for the Prevention of Fire-Related Disasters

The GKB Video Fire Detection System (VFDS™) preempts fire-related disasters through the detection of fire and smoke using standard analog video signals over existing video surveillance systems. Once the VFDS™ system detects fire or smoke, the server auto-initiates actions which include automated alarms, SMS alerts, and video recording.

Over the last century, losses caused by fire, such as deaths, permanent injuries, property and environment damages have increased rapidly, despite advances in traditional fire alarm technology.

According to the statistic provided by the National Fire Protection Association (NFPA), there were 1,557,500 fires reported in the U.S. alone in 2007; causing 3,430 civilian deaths, 17,000 civilian injuries and property damage worth \$14.6 billion.

Further analysis reveals that 34% of reported fire incidents can be classified as structure fires (building) and another 49% are categorized as open-space fires in outdoor areas such as parks, parkland, and forests. While the causes for these fires vary, most damage is the result of an inability to respond before the fire gets out of control.

In a different survey completed by the NFPA from 2000 to 2004, 22% of the deaths resulting from structure fires were due to the failure of smoke or fire alarms to operate. Although the causes of device failure varied, the high percentage of smoke and fire alarms failures demonstrates the limitations of traditional fire detection technology.

The lack of adequate means to achieve early detection of fire and smoke has remained one of the major reasons fires have caused such significant damage to person and property.

Responding to these challenges, GKB has developed a solution to reduce fire-related loss of life and property damage by making early stage fire and smoke detection more reliable and more ubiquitous.

Applications:

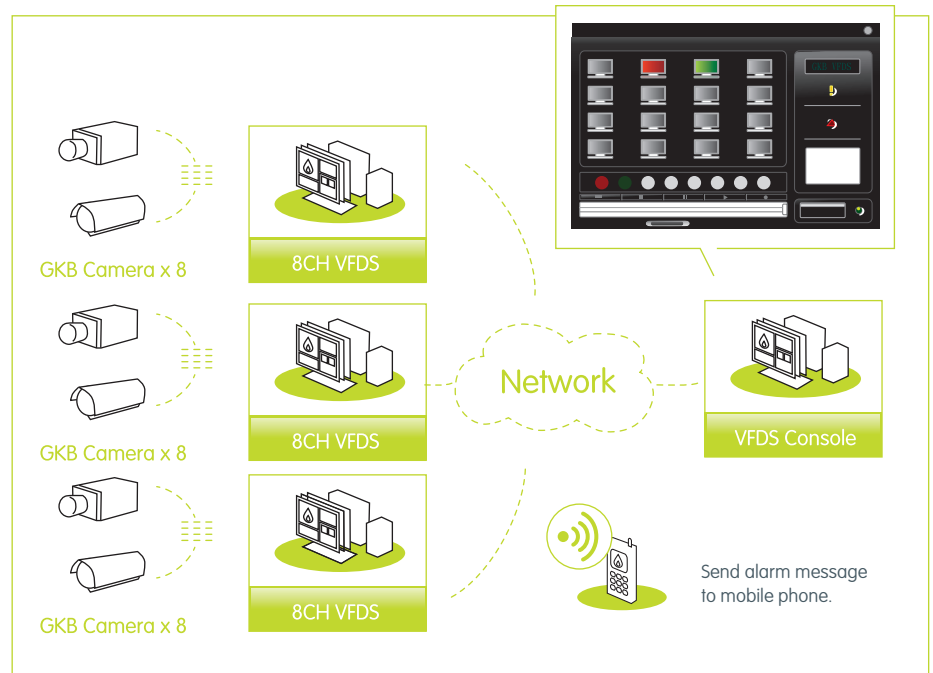
The GKB VFDS™ system is an ideal solution for the preemption of fire disaster in outdoor areas, spacious indoor areas, areas with extreme temperatures, and in structures with ceiling heights over 30 meters. VFDS™ works in combination with GKB High Resolution surveillance cameras and integrates and operates with equal effectiveness during both day and night.

Locations that are well-suited to video fire surveillance and the GKB VFDS™ system include:

- Storage Facilities
- Warehouses
- Gas Stations
- Railway Stations
- Public Parks
- Factories
- Forests
- Tunnels
- Mining Sites
- Arsenals
- Military Bases
- Museums

System Diagram:

A VFDS™ server can support up to 8 video cameras. In a larger application, a VFDS™ console server will be controlling up to 16 VFDS™ server and up to 128 video cameras.



Solution Choices:

VFDS™ fire security solutions are available in basic and customized solutions. The basic solution, featuring server and 8 surveillance cameras, is already available for purchase through GKB distributors and agents. For larger and more complex applications, customized solutions can be developed that include the possibility of up to 128 cameras. Consult GKB today for more information on a customized solution.

Basic Solution	Customized Solution
<ul style="list-style-type: none"> • VFDS™ 8-channel server x 1 • GKB surveillance cameras x 8 • Relay box x 1 • Video amplifier x 1 • SMS Message Box 	<ul style="list-style-type: none"> • VFDS™ console server (manage up to 16 VFDS™ servers and 128 video channels) x 1 • GKB surveillance cameras (any combination of indoor/outdoor cameras up to 128 cameras) • Optional equipment solutions available as required

Software Management Interface:

Main Screen Display

The VFDS™ Main Screen Display provides important information on the status of the system, and access to other system functions. The Main Screen Display provides simultaneous display of up to 8 video feeds from different camera locations.

Setting and Configuration Page

The VFDS™ Setting and Configuration Page provides access to configuration of account, camera, detection, alarm message and digital I/O functions. This panel gives flexibility in control and management of the system and includes features such as assigning specific areas for the system to detect, setting recording format, and entering contact information for notifications sent when fire or smoke are detected.

Record Playback Page

The VFDS™ Record Playback Page provides file organization and playback for recorded events. The VFDS™ automatically initiates recording when the system detects fire and smoke, and stores video for later reference on the Record Playback Page.



Main Screen Display



Setting and Configuration Page



Record Playback Page

Camera Options:

The GKB VFDS™ system configures effortlessly with three GKB surveillance cameras. Cameras can be mixed and matched to meet the needs of each application. For more details, please refer the data sheets for each individual camera.

GKB 1702	GKB 8602	GKB 3902
Weatherproof IR Bullet Camera with Varifocal lens	HQ-1 High Resolution Box Camera	Vandalproof IR Dome Camera with Varifocal lens
		
<ul style="list-style-type: none"> • Outdoor application • Preventing reflection of light with protective glass (optional) • Allowing operation at temperature between -40°C ~ +60°C with embedded heater (optional) 	<ul style="list-style-type: none"> • Indoor application • Basic surveillance needs 	<ul style="list-style-type: none"> • Indoor/Outdoor application • Area with highly risk of vandalism

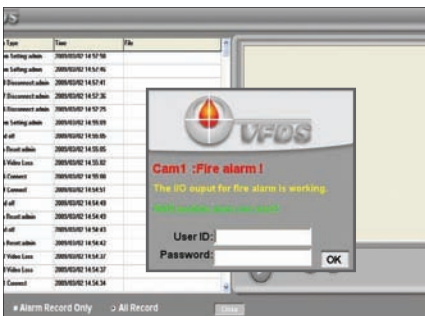
Advantages of VFDS™ in fire security:

- **Rapid Fire and Smoke Detection for Open Spaces**



The VFDS™ system detects weak smoke and flame within 20 seconds through highly sensitive, proprietary image inspection. Relying on visual detection of smoke, flame and fire means the VFDS™ is well-suited to detection in large open-space areas and over longer distances, where traditional smoke and fire alarms systems are incapable of detection.

- **Active Notification on Fire and Smoke Detection**



Once smoke or fire is detected, the VFDS™ system signals detection via an on-screen display notification, triggers networked sound alarms, and sends out short-message-service (SMS) to mobile phones. In order to prevent alarm failures, VFDS™ also sends notification if a loss of video signal is detected. In such cases, the notification remains active as long as the problem is still present.

- **Compatible with Traditional Fire Panel Systems**



The VFDS™ server can connect to traditional fire panels — such as FM-200 — through a relay box to extend the range of fire detection. The VFDS™ system complements traditional fire and smoke detector systems, which can only detect heat and smoke in immediate surroundings or in closed-spaces.

Specification:

VFDS™ Console Server		
Console system		Support up to 16 VFDS™ server and 128 channels video
VFDS™ Server		
Management Setting		Administrator / General User
Detection	Event	Fire, Smoke and Video Loss
	Speed	Within 20 seconds
	Area	Max. 10 detect or non-detect areas selection each location
Video	Input	8-channel (NTSC/PAL)
	Compression	MPEG 4/JPEG
	Resolution	320 * 240 pixels
Alarm	Output	24-channel (8-channel for fire, 8-channel for smoke and 8-channel for video loss).
	Setup	Sound alarm, Digital alarm (option), SMS alarm (option)
Cooling System	Fan	47 CFM each (* 2) ; 47 CFM each (* 2) + 28 CFM (* 1)
I/O Interface	USB	6 ports (2 front ports; 4 back ports)
	PS/2	2 ports for keyboard; 1 port for mouse
	Audio out	1 port for audio line
	VGA	1 port for monitor output
	RS - 232	1 port for message box
	Alarm Digital Signal Output	50-pin male ribbon-cable connector
	Min. Resolution	1280 * 1024 pixels
	Miscellaneous	9-pin D-sub openings reserved (x 1)
Operations	Temperature	0 ~ 40°C (32 ~ 104°F)
	Humidity	0 ~ 85% @ 40°C
	Vibration (5 ~ 500Hz)	1G
	Shock	10G (w/ 11 ms duration, half sine wave)
Power	Source	110V ~ 240V AC
	Consumption	150 W
Storage		220GB - 3.5" SAS/SATA HDD * 1
Internet Transmission		10M/100M, support RTP/IP, UDP/IP, TCP/IP
Cabinet		2U case
Dimension		482(W) * 88(H) * 480(D) mm
Weight		10.7 kg (23.5 lb)

GKB Security Corporation (GKB) is a global security solutions provider with a full range of user-friendly products, security solutions and support services designed to meet the needs of small and medium-sized system integrators and security installers.

For more information about this solution, please visit us at www.gkbsecurity.com or email to sales@gkbsecurity.com for customize solution enquiries.

