



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Solicitation

NUMBER
DPS1337

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
TARA LYLE 304-558-2544

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE
 Federal Signal Corporation
 2645 Federal Signal Drive
 University Park, IL 60484

SHIP TO

WEST VIRGINIA STATE POLICE
 4124 KANAWHA TURNPIKE
 SOUTH CHARLESTON, WV
 25309 304-746-2141

DATE PRINTED
05/28/2013

BID OPENING DATE: 06/12/2013

BID OPENING TIME 1:30PM

06/11/13 09:55:33 AM
 West Virginia Purchasing Division

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
				ADDENDUM NO. 1		
				SEE ATTACHED PAGES.		
				END OF ADDENDUM NO. 1		
0001	100	LS	840-70	DIGITAL SYSTEM AND COMPONENTS DTX-SYSTEM-2 (or DTX-KIT-LAW1)	\$3,845.00	\$384,500.00
					For Kit Details see Addendum A	
0002	15	LS	840-70	CAMERA DTX-FC	\$699.00	\$10,485.00
0003	15	LS	840-70	INTERNAL AUXILLIARY CAMERA DTX-RC	\$199.00	\$2,985.00
0004	15	LS	803-40	REMOTE MICROPHONE TRANSMITTER (RMT) DTX-WM	\$499.00	\$7,485.00

SIGNATURE <i>Jason Annes</i>	Jason Annes	TELEPHONE 708-534-4779	DATE 6/3/2013
TITLE Product Manager	FEIN 36-1063330	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



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LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0005	50	LS	287-12	RMT BATTERIES	N/A	N/A
0006	15	LS	725-49	GPS RECEIVERS	N/A	N/A
0007	200	LS	205-32	MEDIA/VIDEO STORAGE (CF CARDS) SPARE DRIVES Z8605204A	64gb SSD Included with DVR Spare drives typically not needed \$600.00	
0008	100	LS	939-21	EXTENDED MAINTENANCE AGREEMENTS DTX-M1-VEH 1 Yr Warranty Included 2nd yr extended quoted. Other warranties available per addendum A	\$245	\$24,500
***** THIS IS THE END OF RFQ DPS1337 *****						TOTAL: \$429,955.00
Federal Signal highly recommends on-site commissioning and training. For details please see addendum A						

SIGNATURE	JASON ANNES	TELEPHONE 708-534-4779	DATE 6/3/2013
TITLE Product Manager	FEIN 36-1063330	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

SOLICITATION NUMBER: DPS1337
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as DPS1337 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- [X] Modify bid opening date and time
- [] Modify specifications of product or service being sought
- [] Attachment of vendor questions and responses
- [] Attachment of pre-bid sign-in sheet
- [] Correction of error
- [] Other

Description of Modification to Solicitation: The bid opening date has moved from May 29, 2013 to June 12, 2013. The responses to vendor questions will be issued under separate addendum.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DPS1337

000004

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:


(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Federal Signal Corporation

Company



Jason Annes

Authorized Signature

6/3/2013

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

DPS 1337 Pricing Page

DPS 1337 Digital Mobile Video Systems				
Item #	Description	*Estimated Annual Quantity	Unit Price	Extended Price
3.1	Digital System and Components	100	\$ 3,845	\$ 38,450
3.3	Main Camera	15	\$ 699	\$ 10,485
3.4	Internal Auxillary Cameras	15	\$ 199	\$ 2,985
3.6	Additional Remote Microphone Transmitter (RMT)	15	\$ 499	\$ 6,990
3.6.1.1	RMT Batteries	50	\$ n/a	\$
3.7	Additional GPS Receiver	15	\$ n/a	\$
3.8	Media/Video Storage (CF Cards)	200	\$ n/a	\$
3.14	Extended Maintenance Agreements	100	\$ 245	\$ 24,500
Failure to use this form may result in disqualification.			Total Cost:	\$ 429,955
Bidder / Vendor Information:				
Name:		Federal Signal Corporation		
Address:		2645 Federal Signal Drive		
		University Park, IL 60484		
Phone #:		(708) 534-4779		
Email Address:		jannes@federalsignal.com		
Authorized Signature:				
Contact Coordinator Information:				
Name:		John Siener		
Address:		5871 Cadillac Dr		
		Indianapolis, IN 46224		
Phone #:		(317) 722-1111		
Email Address:		johnsiener@gmail.com		
*Quantities are estimated annual usage for bidding purposes and bidder's information.				

CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Federal Signal Corporation

(Company)

(Authorized Signature)

Jason Annes / Product Manager

(Representative Name, Title)

(708) 534-4779

(708) 587-3320

(Phone Number)

(Fax Number)

6/3/2013

(Date)

RFQ No. _____

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Federal Signal Corporation

Authorized Signature: *Jason Annes* Date: 6/3/2013
Jason Annes

State of Illinois

County of Will, to-wit:

Taken, subscribed, and sworn to before me this 3rd day of June, 2013.

My Commission expires 8/30/2015, 20 .

AFFIX SEAL HERE

NOTARY PUBLIC *Connie Thatch*



Addendum A



FEDERAL SIGNAL

PROPOSAL FOR DTX In-Car Video

West Virginia Stgate Police
 Tara Lyle
 4124 Kanawha Turnpike
 South Charleston, WV 25309
 6/3/2013

Distributor
 Tribbles Supply
 Harry Lemur
 (444) 555-6677

Sales: **Bruszewski, Kevin**
 Sales Phone: **(631) 678-3878**

FS Model #		Qty	Sell Price	ExtSell
1. DTX System Components				
DTX-SYSTEM-2	Includes DVR with 64GB SSD including GPS positioning, WiFi 802.11g; 10X Zoom pivoting low-light front cam; Wide angle IR rear cam; 1500ft body mic; 4.5" color monitor with DVR Controls, 1 license of DTX-ADS, 1 year warranty.	100	\$ 3,845	\$ 384,500
DTX-IS	Inertia Sensor	100	\$ -	\$ -
DTX-FC	Front Camera and mounting kit	15	\$ 699	\$ 10,485
DTX-RC	Rear camera and mounting kit	15	\$ 199	\$ 2,985
Z8605204A	64GB solid-state hard drive	1	\$ 600	\$ 600
DTX-WM	Wireless Mic system w/ rechargeable base, antenna mic, lapel mic	15	\$ 499	\$ 7,485
2. Vehicle Installation and Shipping				
DTX-FREIGHT	Shipping each system, to install location (FedEx ground or freight)	100	\$ 20	\$ 2,000
3. Back-office Software Components				
DTX-ADS	License, Auto Download Software (1 license key required/10 vehicles)	10	\$ -	\$ -
DTX-COMMAND	Licenses, COMMAND software, block of three license keys	100	\$ -	\$ -
4. Implementation Services				
DTX-TRNG	Onsite commissioning/training per day (reductions given for 3+days)	0	\$ 1,600	\$ -
5. Annual Extended Maintenance Program				
DTX-M1-VEH	Extended hardware maintenance for 2nd year	100	\$ 245	\$ 24,500
DTX-M2-VEH	Extended hardware maintenance for 3rd year	0	\$ 295	\$ -
DTX-M3-VEH	Extended hardware maintenance for 4th year	0	\$ 370	\$ -
DTX-M4-VEH	Extended hardware maintenance for 5th year	0	\$ 470	\$ -
DTX-M1-OFC	Extended server software maintenance for 2nd year	1	\$ 400	\$ 400
DTX-M2-OFC	Extended server software maintenance for 3rd year	0	\$ 400	\$ -
DTX-M3-OFC	Extended server software maintenance for 4th year	0	\$ 400	\$ -
DTX-M4-OFC	Extended server software maintenance for 5th year	0	\$ 400	\$ -
6. Optional Server / Network Components				
GRAND TOTAL				\$ 432,955

NOTES:

Estimated Total \$ 432,955

- 1) Inertia sensors included at no-charge.
- 2) An interview-room solution and extended warranties are available. Please ask your sales person.
- 3) Use of 12V vehicle timers is recommended.
- 4) Extended maintenance plans listed for reference purposes.
- 4) This is an estimate for DTX hardware, software and DTX services. Actual costs may require a more thorough analysis of the agency's needs, which will clearly define all vehicle & back office installation and configuration details.

Completed by: Jason Annes

Wednesday, June 05, 2013

Tara Lyle
West Virginia State Police
4124 Kanawha Turnpike
South Charleston, WV 25309

Tara:

Thank you very much for the opportunity to bid on your request for in-car video systems. We are pleased to offer our DTX System for your review.

The DTX In-Car Video System is a very capable, fully integrated system at an incredible value. Built right into every DVR is a 64GB SSD storage drive, WiFi, GPS and the ability to simultaneously record and live-stream up to four video and 5 audio channels. The DVR is an advanced, rugged device designed to accommodate all needs today and in the future, including advanced technologies like HD video.

Our DTX-SYSTEM-2 kit contains this DVR and every other component and piece of software you'll need to get up and running, including a low-light 10X zoom front cam, a wide angle IR rear cam & microphone, a wireless microphone and a monitor with DVR control buttons. We believe in giving you everything you'll need for one price, unlike our competitors and their "extras".

Our software solutions are robust and fully featured while being easy to use. You'll receive free software updates with an up-to-date warranty status. The entire system ships with a one-year "bumper-to-bumper" warranty. However, you may not need it as all components are tested and designed to work in the rugged law enforcement environment.

Finally, as with any complicated product, you'll want to feel assured that your back is covered with a solid support team. Our DTX support team is second to none; they are trained, degreed IT professionals who won't leave until you're satisfied, and will check in once in a while to make sure it stays that way.

If you have any questions about anything in this packet do not hesitate to contact John Siener (your sales rep) or myself. Thank you again for the opportunity to introduce you to DTX.



Jason Annes
Product Manager – Mobile Camera Systems
Ph: (708) 534-4779 e-mail: jannes@fedsig.com

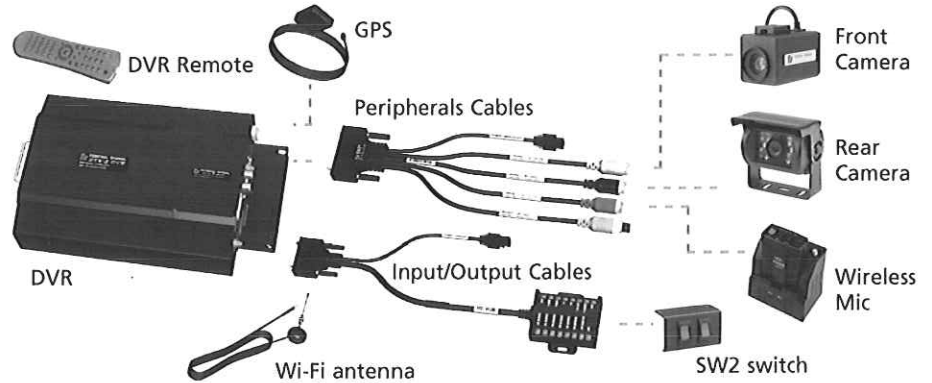
John Siener
Account Manager / Sales Representative
Ph: (317) 727-1111 e-mail: johnsiener@ymail.com

DTX
IN-CAR VIDEO SYSTEM

System Overview

Features

- Digital Mobile DVR
- 64GB Solid state drive
- Stand alone non-PC embedded operating system
- H.264 Video compression technology
- Supports 4-channel real-time D1 @ 30 FPS
- Up to 4 camera system with wireless microphone
- 802.11G Wi-Fi for automatic video download
- Built-in GPS
- Optional 3G Interface for streaming video
- Supports remote live view and auto download
- Watermark and time/date stamp on exported images
- Mirror recording in SD card
- Video file classification
- Available with DVR health monitoring and wireless configuration updates
- Available with AVL real-time tracking



DTX-SYSTEM-1



System 1 includes all of the components shown above plus the DTX-CLIENT software.

DTX-SYSTEM-2



System 2 includes all of the components shown above plus a 4" color monitor.

The DTX In-Car Video System offers digital recording and wireless transfer of your videos plus intuitive software to manage them efficiently. To simplify your installation, there are standard hardware configurations.

DTX-SYSTEM-1 is provided with the equipment shown in the illustration above and it provides the most features, but does not include the 4" monitor. This system is provided with the DTX-CLIENT Software that enables you to view and search for video files and to review history trails via the vehicles MDT. Also data such as GPS (location), time/date, DVR temperature, speed, Google maps and sensor triggers can be monitored when using this system configuration with the vehicles MDT. The DTX-CLIENT Software does not overburden the MDT since all of the video processing is performed within the system's DVR.

DTX-SYSTEM-2 is provided with the same equipment; however the 4" color monitor is included. This system would be used if there is not an MDT in the vehicle. The 4" color monitor would enable you to only view live video. The monitor will also allow you to see meta-data and pre-recorded video by using the IR remote with the DVR.

Each preselect system includes standard equipment such as mounting brackets, IR remote control, GPS antenna, Wi-Fi antenna and various cable assemblies such as the DTX-CC4 (peripheral cable harness) and the DTX-I/O (cable harness with input hub). Each of the cable assemblies are color-coded to provide simple installation to all of the peripheral equipment.

How to Order

Pre-select Systems

DTX-SYSTEM-1	DVR, 2-camera system with client software
DTX-SYSTEM-2	DVR, 2-camera system with 4" color monitor









Options sold separately

DTX-IS	Inertia Sensor
DTX-UNI	Gimbal mount kit for Rear camera
DTX-LED	LED Status Indicator
DTX-UNICB	Mount Kit w/ cage bracket for rear

DTX-RG-30/W	camera
DTX-TEC	Radius Gateway
DTX-CSM	Trunk-mount Ethernet cable assembly Suction-mount kit for front camera

Back-office system components

DTX-ADS	Auto Download Software, license for department
DTX-COMMAND	Software, block of 3 user/workstation licenses
DTX-SRV-SPEC	Custom Workstation/Server/Storage solution

		DTX-SYSTEM-1	DTX-SYSTEM-2
	DTX CLIENT software Search and review recorded files Live view of each camera Display map interface and system data	✓	✗
	4" LCD Color monitor with mount 4" TFT-LCD color monitor Adjusts to ambient light Includes color-coded wire harness	✗	✓
	DVR System with GPS and Wi-Fi 64GB Solid State Drive Supports up to 4 channels real-time D1 @ 30 FPS Built-in wireless 802.11G Wi-Fi	✓	✓
	Front Camera 10X Optical zoom and 12X Digital zoom Instant Auto-Zoom Includes color-coded wire harness and mounting hardware	✓	✓
	Rear Camera Built-in microphone Infrared LEDs provide night-time viewing Includes color-coded wire harness and mounting hardware	✓	✓
	I/O Expander Hub with On/Off Switch Control Provides inputs for various system triggers Provides input for manual system trigger Provide input for manual system shut-down	✓	✓
	Color-coded cable Color coded connector simplify installation Secure connectors increase system integrity Assures consistent installation	✓	✓
	Wireless Mic System 95 channels (2.400-2.483 MHz) Remotely activate system recording Audible and LED status indicators	✓	✓

DTX | IN-CAR VIDEO SYSTEM | Digital Video Recorder

Features

- H.264 video compression technology
- Supports 4 channels real-time D1 @ (30 FPS/Channel)
- Dual streaming transfer for each channel provides excellent recording
- Supports remote live view auto download and remote playback
- Built-in, 802.11G Wi-Fi and optional 3G for wireless transmission
- Built-in GPS allows for vehicle tracking
- Watermark and time/date stamp in exported videos
- Mirror recording with SD card
- Can be mounted vertically or horizontally

Model DTX-2-DVR also includes:

- Mounting brackets and hardware
- DVR lock keys
- IR remote control
- GPS antenna
- Wi-Fi antenna



How to Order

Model Number	Description
DTX-2-DVR	DVR, 64GB SSD, 4 channel real-time D1 @ (30 FPS/ Channel), built-in Wi-Fi and GPS

Specifications

System	OS	Linux 2.6 (providing standalone stable operation system)
	Operation Interface	Hand-held, IR controller with on-screen display (OSD) for all operations of the DVR
	Storage	64 GB Solid state hard drive
	Signal System	NTSC/PAL
Video	Input voltage	8V-36V, DC
	Camera Input	Up to 4 cameras
	Display	2 images
	Image Quality	8 – level adjustable
	Fwd/Playback speed	x2, x4, x1/2, x1/4
	Stream Standard	ISO-14496-10
	Record Resolution	CIF (352x288 pixels for PAL, 360x240 pixels for NTSC), 1/2D1 (704x288 pixels for PAL), 720x240 pixels for NTSC, D1 (720x576 pixels for PAL, 720x480 pixels for NTSC)
	Image Compression	H.264
	Max FPS	Up to 4 Channels real-time D1 @ 30 FPS
	Display Res.	TV Monitor 704x576 pixels for PAL at D1 / 720x480 pixels for NTSC at D1, 720x576 pixels for PAL at D1 / 704x480 pixels for PAL at D1
Audio	Audio Input	2 (mono)
	Audio Output	2 (mono)
	Audio Compression	ADPCM+G.726 (8 kbps)
I/O Interface	TV-OUT	2 Composite outputs with BNC connectors
	LAN	1 (RJ-45) 10M/100M Ethernet connector
	USB	2, support USB OTG Technology (USB 2.0)
	Serial	RS-485x1, RS-232x1
Network	Protocol	TCP/IP

continue on page 4



The following tables describes the connectors and LEDs found on the front and rear of the DVR.

Item	Name	Description
A/V Output	Audio-Out	Audio Output
	Video-Out	Video Out
LED	HTR	Heater LED, designed to monitor the heater status, it will operate when the temperature around the HDD is under or equal to 5°C, LED will be on. As soon as the temperature rises 20° the heater will go off and the LED will turn off.
	SD	Flashes when the internal SD Card reader is performing Read/Write activities.
	REC	Flashes when the DVR is recording.
	GPS	Flashing when the DVR is getting GPS signal.
	NET	On when the Ethernet cable is plugged in and such cable is connected to a router, indicating the port is active.
	POWER	Indicates whether the DVR has power or not. On when power is supplied.
	HDD	To indicate the Read/Write activity of the installed HDD.
	ERR	If the-DVR has errors such as no HDD, the LED will flash.
	ALARM	The alarm LED goes on when any pre-configured alarm is triggered.
	VIDEO LOSS	Will flash if video loss happens
IR Receiver	IR	To receive the signal from Handheld IR remote controller.
System Information	DEBUG	To perform advanced testing at factory
USB Interface	USB2.0	Used for firmware upgrade and data backup purposes.
Network Connector	Ethernet	10/100 Network port
Lock	LOCK	Mechanic-electronic switch to lock and keep the HDD tray in place, sending the signal to the DTX-2-DVR to turn-on when in Lock position.

Item	Name	Description
Wi-Fi ANT connector	Wi-Fi	To connect the WIFI antenna (when applies)
GPS ANT connector	GPS	To connect the GPS antenna (when applies)
3G ANT connector	3G	To connect the 3G Network antenna (when applies)
Power input	POWER	To connect the power plug.
MCU upgrade port	MCU	To upgrade the MCU board (at factory)
Network port	NET	10/100 Ethernet port (sharing the connection with front-panel's RJ45)
Integrated input	DB26	RS-232, RS-485 and alarm input
Input and Output	DB44	A/V input and output and alarm output Power supply for camera
USB port	USB	Professional 6PIN cable to USB port (used at factory only)

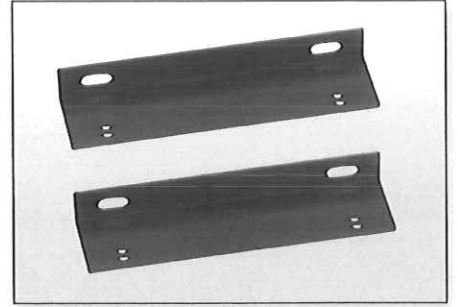
DTX In-Car Video Digital Recorder System Contents



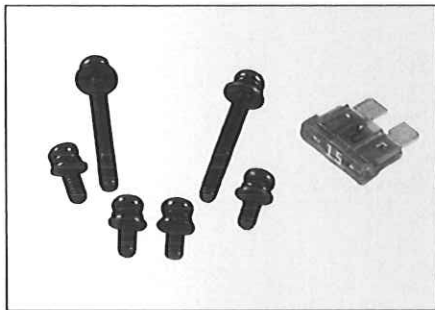
64GB Solid State HDD



DVR Power Input Cable Assembly



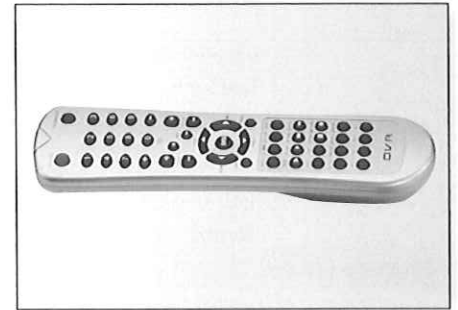
Two DVR Mounting Brackets



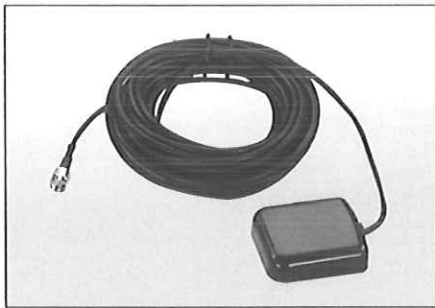
DVR Hardware Mounting Kit



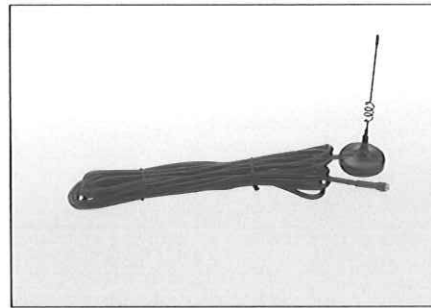
Two DVR/HDD Lock Keys



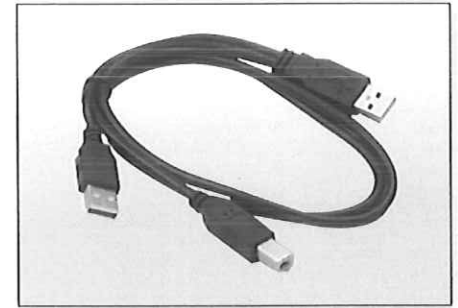
DVR Remote Control



GPS Antenna



Wi-Fi Antenna



USB 2.0 Cable



64GB Solid State HDD with removable hard drive



DTX In-Car Video - Digital Video Recorder

Alarm	Input	7 Total inputs (all of them can be customized)
	Multi-mode	Triggered by "video loss", "over-speed", "over temperature" and other events
	Ignition Switch	Device operate once ignition power on/auto shutdown delay after ignition power off
	Power Consumption	Average 10W (with HDD)
	Power Adapter	8-55V DC, Typical 12V DC @ 5A, 24V @ 3A
Value-added Function	Record Mode	Manual, event, pre-event and post recording
Others	HDD	HDD Bay – 1, NVRFS format
	Time Clock	Built-in clock, perpetual calendar
	GPS function	Built-in module with GPS antenna
	Wireless Communication	3G/EDGE/GPRS/CDMA wireless transmission with external option
	Data R/W mode	FIFO
	Time Synch	GPS time synch/NTP (network time protocol) time synch via network connection
Environment	Operating Temperature	0° to 55° C (32° to 131° F) built-in heater included
	Relative Humidity	5%-95%
	Vibration Resistance	<2 Grms

Shipping Weight

5.5 lb (2.5 kg)

Physical Dimensions

Height	2.3 in (5.9 cm)
Width	9.7 in (24.7 cm)
Depth	6.9 in (17.3 cm)

DTX

IN-CAR VIDEO SYSTEM | Front Camera

Features

- Small and lightweight
- 12x digital zoom and 12x optical zoom
- Angle of view: 53.6-degrees (wide end) to 4.6-degrees (tele end)
- Minimum illumination: 1.01x (typical) (F1.6, 50 IRE)
- E-Flip (screen is inverted up or down)
- Picture freeze
- Electronic shutter/slow shutter
- Large back-light buttons
- Aluminum body
- One-touch, smart zoom-in/zoom-out button
- Red LED for recording status



How to Order

Model Number **Description**
DTX-FC Front camera and windshield mounting kit

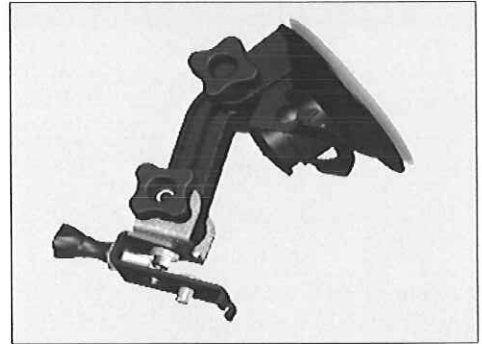
Optional Mount
DTX-CSM Suction-cup mount kit

Specifications

Image sensor	1/4-type EXview HAD CCD (PS)
Effective number of pixels	NTSC: 380,000 pixels PAL: 440,000 pixels
Lens	12x optical zoom lens f=3.7 mm (wide) to 44.4 mm (tele), F1.6 to F2.5
Digital zoom	12x (144x with optical zoom)
Horizontal resolution	550 TV lines
Angle of view (H)	53.6° (wide end) to 4.6° (tele end)
Minimum working distance	10 mm* (wide) ~ 800 mm (tele) *Default: 290 mm
Sync system	Internal / External (V-lock)
Minimum illumination	Approx. 1.0 lx (F1.6, 50 IRE) *Tentative
S/N ratio	More than 50 dB
Video output - Analog	VBS: 1.0 Vp-p (sync negative)
Video output - Digital	Y/Cb/Cr 4:2:2 (comparable to ITU-R BT656) (via LVDS)
Camera control interface	VISCA protocol (CMOS 5V) 9.6 Kbps, 19.2 Kbps, 38.4 Kbps Stop bit, 1 bit
Electronic shutter	1/1 to 1/10,000 s, total 22 steps
White balance	Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto), One-push, Manual
Gain	Auto/Manual/Max. Gain Limit (-3 to +28 dB, +2 dB step/total 16 steps)
AE control	Auto, Manual, Priority mode (shutter priority & iris priority), bright

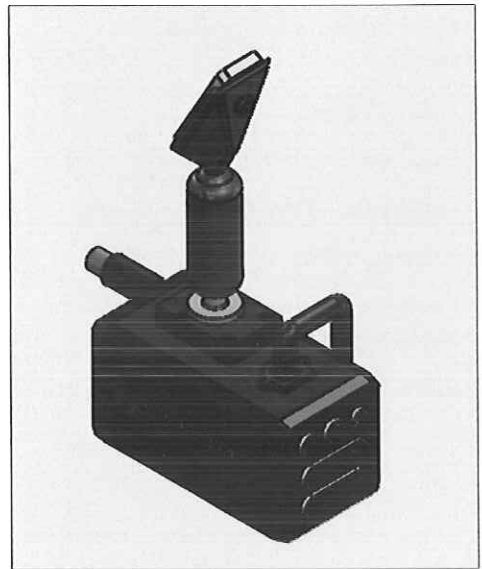
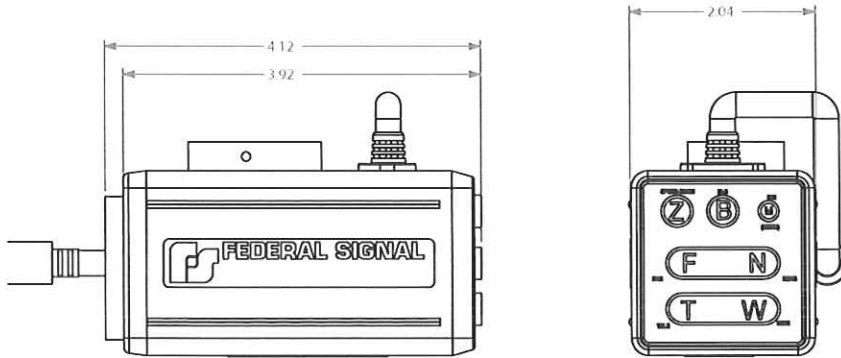
DTX In-Car Video - Digital Video Recorder continued

Focusing system	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom Trigger AF, Focus Compensation in ICR On
Storage temperature	-20° ~ 60°
Operating temperature	-5° ~ 60°
Power requirements	6.0 V ~ 12.0 V DC
Power consumption	3.7 W (motors active) / 2.3 W (motors inactive)
Shipping Weight	0.85 lbs (0.39 kg)
Physical Dimensions	
W x D	2.04 in (5.2 cm) x 4.12 in (10.5 cm)



DTX-CSM - Windshield Suction-cup mount kit

CAMERA DIMENSIONS



Windshield Mount



- Z Speed Zoom
- BLC Back-light Compensation
- M Menu Operation
- F Focus Far
- N Focus Near
- TELE Tele Zoom
- Wide Wide Zoom

DTX

IN-CAR VIDEO SYSTEM | Rear Camera

Features

- Rear view camera
- Built-in microphone
- Automatic daylight sensor
- Infrared LEDs provide clear image in low light conditions
- Adjustable mounting bracket included



How to Order

Model Number	Description
DTX-RC	Rear Camera, built-in mic and mounting kit

Optional Mount

DTX-UNI	Universal gimbal mount
DTX-UNICB	Mount with cage bracket

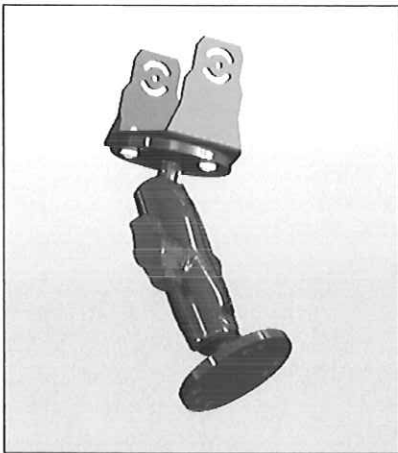
Specifications

Pick up Device	1/3" Color Sony 638
TV System	NTSC
Picture Elements	768Hx494
Horizontal Resolution	540 TVL
Sensitivity	0 Lux (LED On)
Scanning System	625TVL
	2:1 Interlace
Synchronization	Internal
Infrared Spectrum	N/A
S/N Ratio	More than 50 dB, (AGC Off)
Auto Gain Control (AGC)	Auto
White Balance	Auto
Electronic Shutter	Auto
Back Light Compensation	Auto
Infrared LED	18
Infrared LED Range	10m
Video Output	1 Vp-p, 4 ways Din jack x1
Audio Output	4 ways Din Jack
Gamma Ratio	0.45
Lens	f2.5mm Standard Lens
Lens Mount	M12XP0.5mm Thread

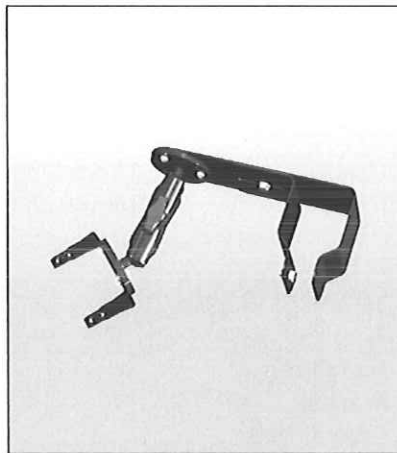
Specifications Cont.

Pan Adjusting	N/A
Tilt Adjusting	0-60°
Power Supply	12V DC ±10%
Power Consumption	230mA
Weatherproof/Water Proof	IP67
Operating Temperature	-20°C to +50°C

Physical Dimensions	
Length	3.1 in (78 mm)
Width	3.0 in (76 mm)
Depth	2.7 in (69 mm)
Shipping Weight (with mount)	
0.96 lbs (435g) (includes mounting bracket)	



DTX-UNI - Universal optional mount for rear camera



DTX-UNICB - Optional mount kit with cage bracket for rear camera

DTX

IN-CAR VIDEO SYSTEM

Wireless Microphone System

Features

- 95 Channels available in 2.400 - 2.483 Mhz range
- Up to 1500-ft from line of sight
- Audible and LED indicators for operation status
- Charger status indicator
- Audio MUTE on/off key on transmitter
- Auto link function
- System record button
- Low battery indicator on transmitter
- Link LED indicator (receiver and transmitter)
- Various mode indicator (beep>vibration>beep and vibration>no indicator)



How to Order

Model Number	Description
DTX-WM	Wireless mic system with rechargeable base, antenna, lapel mic, and carrying case.

Specifications

Frequency bandwidth	2.400-2.483MHz
Number of Channels	95
Speech Coder	0.880MHz (2.4GHz)
Type of Modulation	GFSK
Date Rate	32 kbps
Frame Time	10ms transmit/10ms receive
TX power levels	250mW
Receiver Sensitivity	-90dBm
Talking Time	12 hours typical
Batter quick charging time	3 hours
Batter capacity	Lithium-Ion-polymer 3.7V DC/ 1400mA

Shipping Weight

1.4 lbs (0.64 kg)

Physical Dimensions

Height	2.8 in (7.1 cm)
Width	2.0 in (5.1 cm)
Depth	1.1 in (2.7 cm)

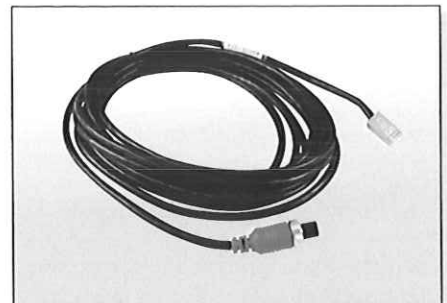
Wireless Microphone System Contents



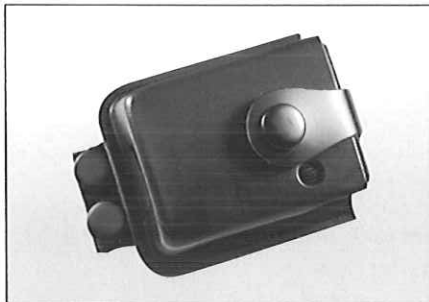
Wireless Transmitter



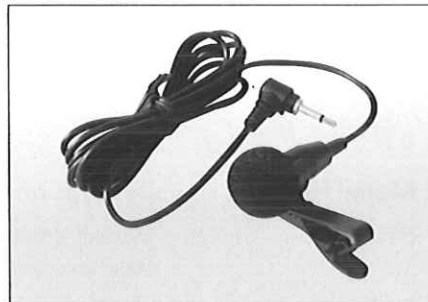
Rechargeable base with mounting bracket



Mic base with cable



Harness, transmitter



Lapel Mic



Mic base antenna

IN-CAR VIDEO SYSTEM

DTX-FLEET and DTX-LINK Software

Features

DTX-FLEET

- Sends SMS (text) and e-mail notifications to fleet and administrative staff
- Auto download server pushes real-time updates to DTX-FLEET Server
- Notifies if MDVR does not report within predetermined hours
- Notifies on MDVR health issues
- Notifies if auto download software does not report in within predetermined hours
- Notifies if disk space exceeds threshold on ADS Server
- Pushes configuration changes and firmware updates to the mobile DVRs
- Multi-level user logins (Fleet User, Distributor, Administrator)
- Multiple fleet monitoring capability
- Individual vehicle maintenance log
- Picture and file uploads per vehicle (Third party installation sign-off)
- Individual vehicle equipment database

DTX-LINK

- Easy-to-use web based interface
- Real-time GPS tracking and history look-up
- Updates every 5 seconds
- GeoFence alarms and notifications
- Reverse Geocoding
- Live streaming video
- Monitor thousands of vehicles
- Multiple user levels
- E-mail and SMS event notifications
- Built on SQL 2008 database
- Driver and vehicle reports



DTX-FLEET

DTX-LINK

How to Order

Model Number

Description

DTX-FLEET

Provides status/health monitoring of all DVR Systems in your fleet, as well as the capability to update DVR configuration settings wirelessly

DTX-LINK

Provides the capabilities of DTX-FLEET, plus GPS and video monitoring of your fleet

Specifications

DTX-FLEET

Pentium® 4 or above

1GB of RAM

Java Updates

Windows® XP or above (32 or 64 Bit)

Compatible with Windows® 7 (32 or 64 Bit)

High-Speed Internet Connection

DTX-LINK

Pentium 4 or above

1GB of RAM

Java Updates

Windows® XP or above (32 or 64 Bit)

Compatible with Windows® 7 (32 or 64 Bit)

High-Speed Internet Connection

Internet Explorer® 7 or higher

Microsoft® Silverlight

DTX-FLEET Software Overview

With the help of the mobile DVR and the DTX-FLEET software, you will be alerted to any problems that may occur. The following items are reported to DTX-FLEET system automatically:

- Hard drive capacity
- GPS Coordinates
- Video Loss
- HDD Failure
- GPS Failure
- Audio Loss
- Vehicle Name
- IP Address
- Serial Number
- Temperature
- Voltage
- MDVR Clock Skew
- Firmware Version
- Hardware Type
- Configuration Settings
- Oldest Video

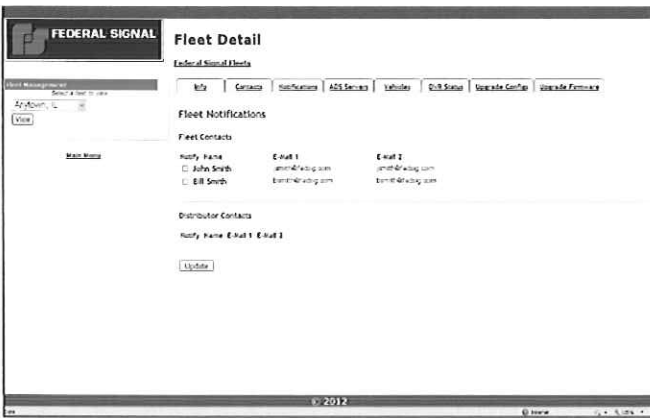
Manage Contacts

Manage your staff's contact information, such as phone numbers and e-mail addresses, with the DTX-FLEET Contact Page.



DVR Status/Health

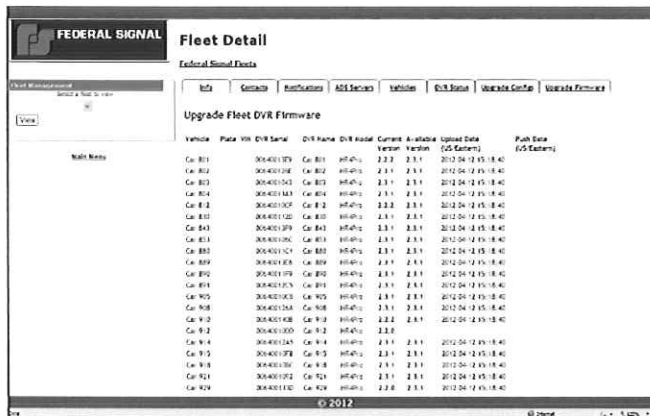
DVR status page reports the health of your fleet. Instantly obtain status reporting of each vehicle to quickly identify any concerns with the vehicle's DTX system.



Send Notifications

Unique to Federal Signal's DTX In-Car Video system, DTX-FLEET gathers the health status from the fleet's units in the field and sends status updates to specified people in your contact list.

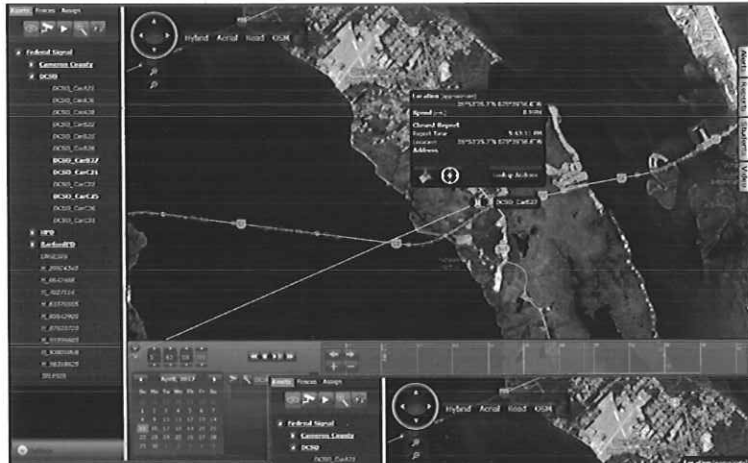
Examples of health reporting include the current operation of DTX system, such as GPS, Wi-Fi access, hardware operation plus available capacity, 3G, SIM card, crash sensor, DVR video off-loading errors and ADS health.



Wirelessly change configuration settings

Know what version of software you are currently running and have the ability to send firmware and configuration updates automatically.

DTX-LINK Software Overview



Playback GPS location history

DTX-LINK - Playback the GPS history of a DTX unit. The playback is adjustable, and can be sped-up or slowed down depending on how the administrator wants to view the video. During playback, the DTX unit will show on the map along with the visible history trail. Selecting the unit on the map also gives the speed, latitude, longitude and time.



GPS history

DTX-LINK provides the ability to review GPS history for alerts of single or multiple units in the field. Examples of alerts include lightbar activation, crash sensor or GPS threshold.



Real-time GPS tracking

In 'real-time', track DTX units and map vehicles in the field. Notifications for sensor activations can also be set-up for individual units or for the entire fleet.



View real-time video streaming

DTX-LINK gives the capability to connect multiple units in order to view live-streaming video.



INTUITIVE SOFTWARE

Live streaming, remote viewing. DTX-COMMAND software makes search and review of recorded files faster and simpler. When teamed with a 3G network, it also supports live video streaming, enabling computers at the station to monitor officers' cameras in real-time. The software permits DVR settings to be remotely controlled by supervisors at the station, allowing for setting changes and viewing or off-loading of video files. **DTX-CLIENT software facilitates search and review of all recorded video, while providing "live" views of all cameras within the vehicle.**

DTX-FLEET and DTX-LINK. Unique to the DTX system, DTX-FLEET manages the Health of your Fleet's DVR and sends out notifications via text or e-mail while DTX-LINK has the ability to monitor your fleet via **GPS tracking.**

Auto download software. DTX-ADS (Auto Download Software) automatically downloads video from the mobile DVR via wireless or a wired network connection. **Emergency response and law enforcement vehicles can all benefit from the software's ability to automatically download video to a central location** enabling multiple users to view stored video files.

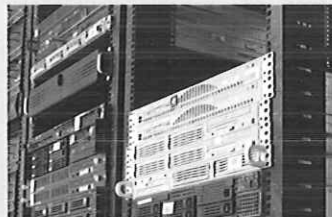
DTX. The Digital In-Car Video system you can depend on – from the company you trust



When time is critical and manual activation is not an option, the DTX is equipped for up to 60 minutes of pre-event recording.



Automatic uploading of video files begins once the vehicle comes within wireless range of the station (approximately 300-ft).



DTX-ADS (auto download software) can automatically download recordings from the DVR which adds a layer of protection and preserves the integrity of the video.



DTX-COMMAND software allows for live video streaming, enabling computers at the station to monitor officers' cameras in the field giving an extra eye on the scene when needed.

DTX IN-CAR VIDEO SYSTEM | Auto Download Software

Features

- DVRs automatically connect to the server and begin download
- Runs as a Windows® Service
- Downloads via wireless or wired network (Wifi suggested)
- Download resumes if interrupted
- Video database management
- 10 simultaneous download connections (bandwidth upgradable)
- Unlimited number of mobile DVRs can be added to the database
- Playback via DTX-COMMAND software
- Store events and alarm video from being overwritten
- Download specific events or all video
- Schedule downloading of video
- Manual download to video database



Federal Signal's ADS software automatically downloads video from the mobile DVR via wireless or a wired network connection. The process is as simple as configuring the Mobile DVR firmware to distribute the video to a specific IP address. Auto Download is perfect for applications where time is in short supply. Emergency response and law enforcement vehicles can all benefit from the software's ability to automatically download video to a central location.

How to Order

Model Number	Description
DTX-ADS	Auto Download Software

Specifications

Minimum computer requirements	Pentium 4 or higher 50 MB of space for server software 1 TB of storage space* 2 GB RAM OS – Windows® XP, Windows® Vista, Windows® Server 2003, Windows® Server 2003
Video Transfer Times	1 hour of D1 Video (1 camera 30 FPS), via 802.11G=8 min. 4 hour of D1 Video (1 camera 30 FPS), via 802.11G=32 min.

*Storage space depends on fleet size.

DTX

IN-CAR VIDEO SYSTEM

CLIENT/COMMAND Software

Features

Client Software

- Search and review recorded video
- Live camera view
- Provides Google® Map Interface
- Review bread crumb history trail
- Display inertia data, GPS data, time and date, and sensor (trigger) data

Command Software

- Search and review recorded files
- Convert video files to AVI files
- Live camera view
- Ability to plot (one) vehicle on Google Maps
- Review bread crumb history trail
- Remotely manage DVR settings
- Live video streaming (Up to 9 cameras simultaneously)
- Remotely control camera zoom
- Remotely download individual videos
- Display inertia data, GPS data, time and date, and sensor (trigger) data



Client Software



Command Software

The DTX-Client and DTX-Command software were created to provide the mobile user and administrators with the ability to view critical information and to manage each video file.

The DTX-Client is used on the mobile MDT and provides the officer the ability to review any file and to monitor the systems operation.

The DTX-Command provides the administrator with the ability to manage and control the video files while also allowing users to manage the operation and programming of each DVR and to view its video content.

How to Order

Model Number	Description
DTX-Client	Client software for operating DTX system on an "in-vehicle" MDT. Also includes a 25-ft RJ45 cable for connecting the MDT to the DVR.
DTX-Command	Back-Office, administrative software that enables a variety of camera and video management capabilities for the DTX system.

Specifications

Minimum computer requirements	Pentium 4 or higher
	1 GB of RAM
	2 GB of HDD free
	OS – Windows XP or above (32 or 64 bit)
	Compatible with Windows® 7 (32 or 64 bit)

DTX

IN-CAR VIDEO SYSTEM | Wireless System Configurations

Diagram 1 - Model DTX-SYSTEM-2 with WiFi wireless download to back-office

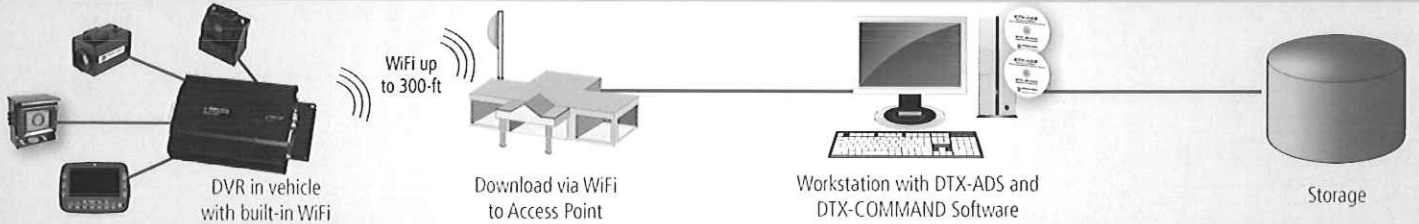


Diagram 2 - Model DTX-SYSTEM-1 with WiFi wireless download to back-office

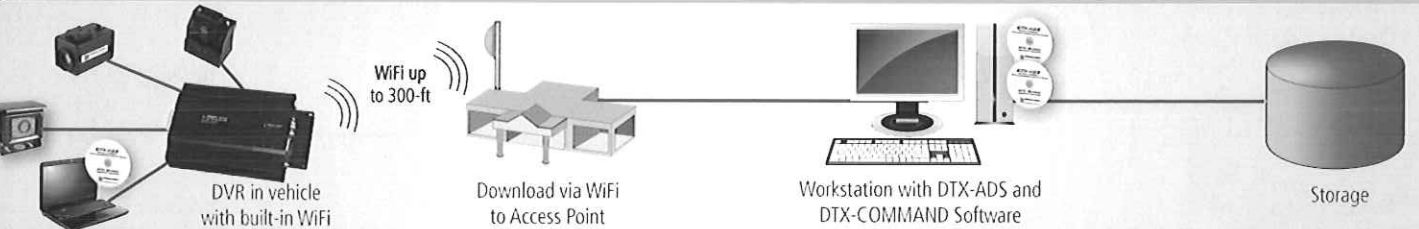


Diagram 3 - Model DTX-SYSTEM-1 with greater than 300-ft wireless WiFi download to back-office



Diagram 4 - Model DTX-SYSTEM-1 with wireless WiFi download to back-office and wireless 3G internet for video streaming

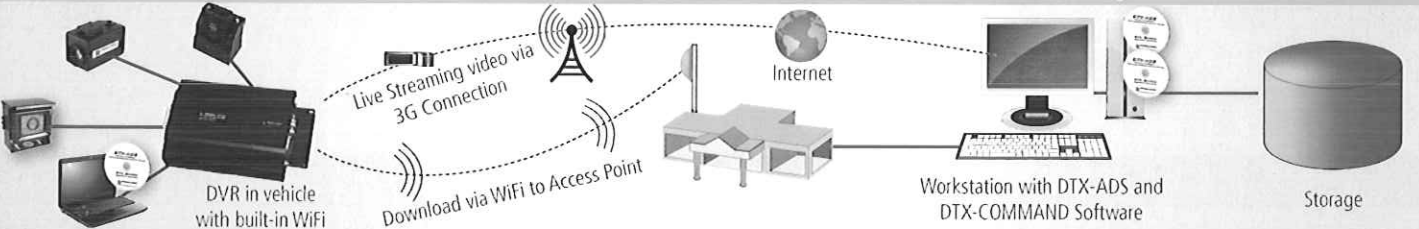
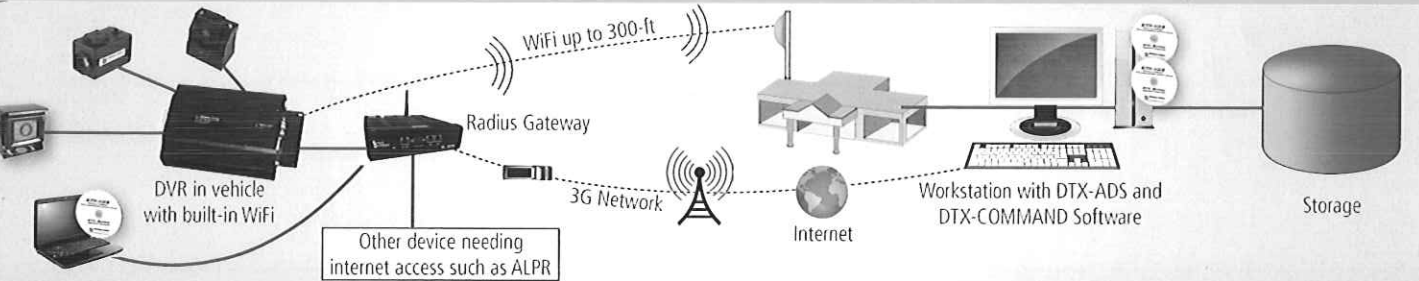


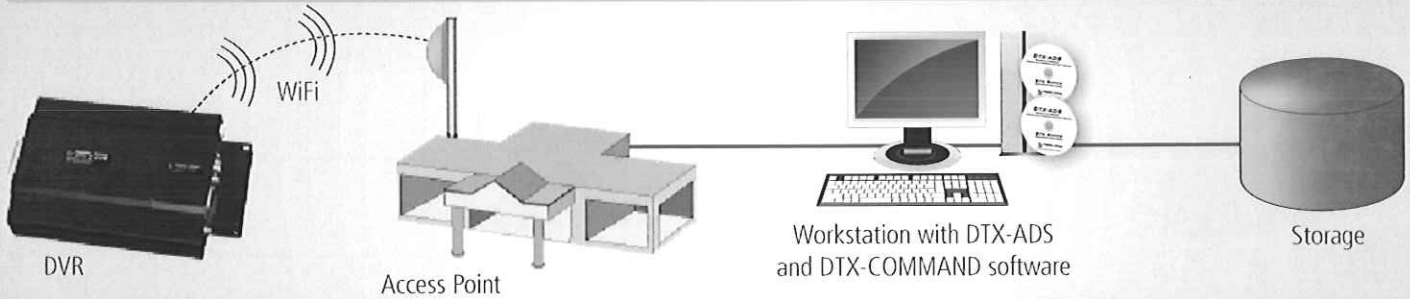
Diagram 5 - Model DTX-SYSTEM-1 with wireless WiFi download to back-office and shared wireless 3G internet for video streaming



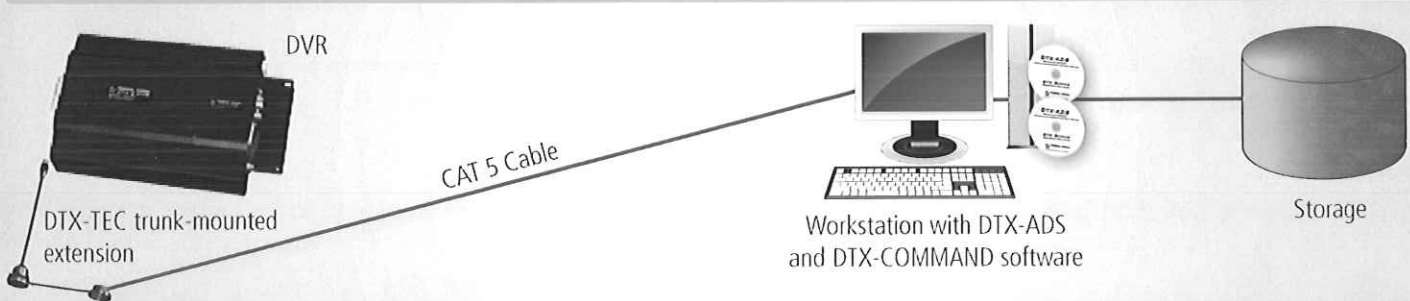
DTX

IN-CAR VIDEO SYSTEM | Methods of Data Retrieval

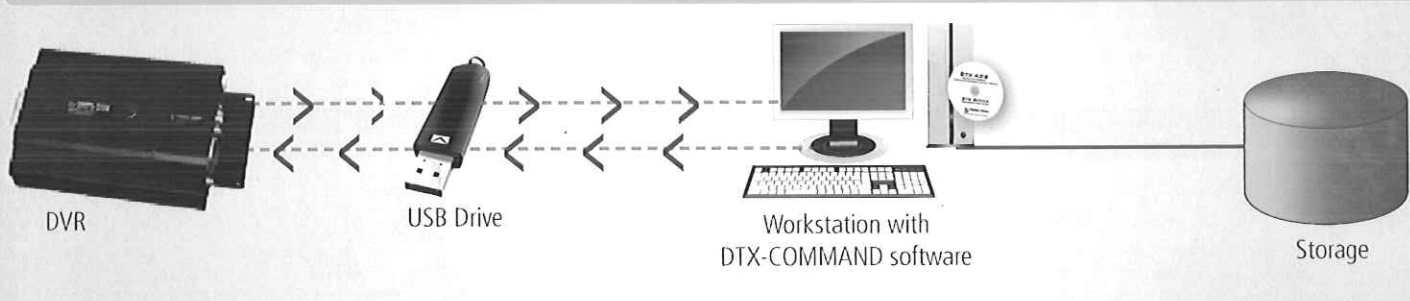
1. Wireless download via WiFi network



2. Wired download via CAT 5 cable



3. Data transfer via USB flash drive



4. Data transfer via removable hard drive

