DreamBox

All in One CCTV Security Solution

12 applications in one box eliminates complicated cable installation

User-friendly software

Modular & simple maintenance and service

Complete backup redundancy to any DreamBox connected to the network

No central server

Linux operating system

Smart Bandwidth Reduction Algorithm and Smart Archiving Algorithm

Built-in infrastructure components and protocols

The DreamBox is a state-of-the-art embedded hardware and software product that integrates a number of CCTV related applications into one box. The system is economical, compact and eliminates complicated cable installations and network protocols integration.

DreamBox contains twelve different applications, including Digital Video and Audio Recording, Video & Audio Matrix Switcher, Outdoor and Indoor Video Motion Detection System (VMD), Security Management System (SMS) and Transmission system.

The DreamBox is substantially lower in price than the sum of its technologies. Its target markets include governmental, institutional and other sensitive facilities, such as: airports, train stations, seaports, prisons, casinos and hospitals.

DreamBox is able to share resources, data and storage between units. This distributed topology, which does not require any central server, results in high data redundancy and maximum system uptime.

Senstar Stellar®

DreamBox All in One CCTV Security Solution

DREAMBOX (DB) SHORT DESCRIPTION

DreamBox (DB) is a real time multimedia surveillance system for CCTV applications. DreamBox, with its built-in ETX Pentium® and 11 DSP's, processes information such as video, audio and data. This allows multiple users to view, analyze in real-time, transmit, respond, record, playback, smart-search, manage, debrief and archive simultaneously. Each DB performs a number of independent processes which include video compression, audio/video transmission, digital recording, content analysis algorithms (such as outdoor and indoor video motion detection), digital/analog acquisition, data transfer over multiple network types, synchronized playback of video and audio, digital switching between cameras, videophone and security management software integration to external computerized systems. All these functions are included inside one 2Ux19" box.

DREAMBOX (DB) OBJECTIVES

1. Include all the components of a CCTV system in a single box
2. Reduce integration time
3. Reduce the CCTV system, network and infrastructure cost
4. Minimize installation efforts
5. Enable complete data and network redundancy
6. Allow sharing of resources between DB's within a distributed topology

DREAMBOX BUILT-IN DIGITAL VIDEO RECORDER (DVR)

DreamBox, the smart digital video and audio recording solution for security applications, uses MPEG4 or H263 video compression technology. Each DreamBox can record up to 30/25 (NTSC/PAL) Frames Per Second (fps) on each of its 8 video inputs - providing full D1 (4 CIF) video resolution while requiring far less storage space.

DreamBox is designed for real-time recording. Full control over the bit-rate, frame rate and resolution, gives the users a highly customizable solution. The variable frame rate for different zones in the same camera field-of-view means a cost-effective solution for recording and storage of high frame rate with high resolution. Smart archiving and smart bandwidth reduction algorithms reduce storage requirements in high demand applications.

OTHER BUILT-IN DVR FEATURES

- MPEG4 or H263 video compression technology
  - full D1 (4 CIF), 30/25fps (NTSC/PAL) per input
- Synchronized playback of audio and video
- Local and/or centralized archiving possibilities
- Connecting hundreds of distributed DB units, recording thousands of channels simultaneously
- Configurable pre and post alarm per channel
- Storage reduction via variable frame rate for different zones in the same camera field-of-view
- Built in 500GB hard disc/storage
- Removable hard disc
- Built-in Raid 1 redundancy
- Post Search algorithm for fast investigation

DREAMBOX BUILT-IN OUTDOOR VIDEO MOTION DETECTION (VMD)

DreamBox's advanced embedded detection capabilities and high-speed video processing ensure detection under various weather conditions while dramatically reducing the false alarm rate associated with outdoor VMD.

With up to 30 frames per second VMD processing per channel (total of 120fps per unit), DreamBox can detect very fast movement. Its 27,000 detection cells enable the detection of very small objects, and when combined with a programmable 3D topographic map, can easily distinguish between small objects and partially concealed targets.

DreamBox's embedded VMD algorithm is specifically designed for outdoor applications and is capable of simultaneously detecting and tracking several targets per camera. Intruders are displayed and tracked using a colored path.

A state-of-the-art unattended object detection algorithm is an optional feature which allows for baggage detection, vehicle detection, intrusion detection and other content analysis scenarios.

DREAMBOX BUILT-IN DIGITAL CCTV MATRIX SWITCHER

DreamBox employs virtual audio and video connection capabilities for unlimited connection combinations. The built-in Matrix Switcher offers PTZ control over the network with limited delays (80-250 ms), programmable tours for switching between cameras and color overlay over Analog and VGA displays (full or quad).

The DB generates alarms when there is a video fail or covered camera. The built-in alarm-tour enables the simultaneous presentation of alarm pictures and video clips of multiple events.

DREAMBOX BUILT-IN SECURITY MANAGEMENT SYSTEM

The security management system is a real-time control and display system that integrates a wide array of security components using a distributed SQL database.

The graphical user interface supports multiple operators in multiple languages.

An active scheduler exists for automated response to a wide combination of security scenarios.

Each DreamBox can serve as a user workstation, and setting up the system can be done from any Dreambox on the network via authorized protected password.

DREAMBOX BUILT-IN TRANSMISSION SYSTEM

DreamBox uses MPEG4/H263 video and audio compression for fast, efficient and cost-effective operation. The DB contains all of the required transmission elements, including: Encoding, Switching, Routing, Fiber Optic Transceivers, Decoding and transforming to Analog and VGA Monitors in the control center(s).

Simplified Integration

CABLE REDUCTION

DreamBox integrates all CCTV components into one box, greatly reducing the amount of cabling required.

PHYSICAL INTEGRATION

DreamBox user-friendly software replaces the physical connections required between cameras, players, recorders, matrixes and management systems.

SOFTWARE INTEGRATION

DreamBox frees users from the integration of non-standard protocols, compatibility with older versions, and compatibility issues between vendors.

MODULAR & SIMPLE MAINTENANCE AND SERVICE

DreamBox's scalable, modular and all-inclusive design, ensures simple and cost-effective stock management and reduced maintenance costs.

REDUNDANCY

The built-in Raid 1 storage allows for complete backup redundancy to any DreamBox connected to the network.

NO CENTRAL SERVER

DreamBox's distributed closed loop design can detect cut cables and automatically create alternative data paths. Parallel processing and resource sharing means DreamBox can easily complete complex security tasks and share information between other DB's.

LINUX OPERATING SYSTEM

Linux, DreamBox's operating system, enables true multitasking operation, significantly reducing computer downtime.

SMART ALGORITHMS

The Smart Bandwidth Reduction Algorithm and Smart Archiving Algorithm greatly reduce storage requirements.

INFRASTRUCTURE SERVICES

DreamBox includes built-in infrastructure components and protocols, which eliminate the requirement for dedicated infrastructure components. These services include RS232, TTL (in and out), and analog (in and out).

HIGHER MTBF

Reducing the number of components and combining them all in one box results in a higher MTBF (Mean Time Between Failure), fewer spare parts, less training, less maintenance and less warehouse space.

ADDITIONAL APPLICATIONS

Other embedded security applications include: intercom, public address, voice evacuation, videophone and alarm help points.

DreamBox units connect via LAN and offer infinite expansion capabilities. The ring topology allows for directional communications resulting in added redundancy. Each DreamBox can serve both as a CCTV field unit and as a user workstation, thus there is no need for a dedicated viewing station.

The DB distributed SQL database can initiate parallel database query processing with individual DB's mining their own databases - the combined results are displayed immediately.

FLEXIBLE TRANSMISSION

Multicast/Unicast/Broadcast - Multiple video transmission options allow for optimal exploitation of network bandwidth.

BUILT-IN NETWORK COMPONENTS

Each DreamBox includes a built in Ethernet switch, router, fiber optic transceivers and video server. Traditionally these components come as external add-ons to a CCTV system. The built in network components offer secure and efficient control of data processing.

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SPECIFICATIONS

Processors
8x DSP's, 600MHz for video encoding
(One per channel)
2x DSP's, 600MHz for video decoding
(analog and VGA monitors)
1x DSP, 600MHz for 8 channels VMD and 8
channels audio
1x ETX PentiumIII, 700MHz, SODIMM
256MB PC-133

Network Hardware
6 ports Ethernet switch, 100Mbps full duplex:
• 2x FDDI fiber optic transceivers,
  multi\single mode
• 4x 100Base-T (RJ-45 Connector)
Fast Ethernet 10/100Base-T, full duplex,
RJ-45 connector
2x serial port (COM1, COM2)
External DSL/ADSL modem (option)
1x IrDA
2x USB-1

Network Services
Support closed ring network topology
Protocols: TCP/IP, UDP, RTP
Unicast, Multicast and Broadcast for Data,
Video and Audio streams
Dedicated Router (Video Server):
Multicast/unicast conversion, flow control.
Network security: Programmable ports,
Ethernet switch control, find cut position,
Manual and automatic MAC address control

Built In Host PC (ETX)
PS/2 mouse
PS/2 keyboard
Removable hard disc
2x 250 GB hard disc
VGA adapter

8 Video Inputs
1 Vp-p, 75Ohm
No need for camera synchronization
Video standards: PAL, NTSC, CCIR and
RS170
Video input, 30/25fps, D1 resolution (support
CIF and 2CIF as well)
Analog video output: 30/25fps, D1 resolution
(support CIF and 2CIF as well)
VGA video output: 30/25fps, 2CIF resolution
(support CIF as well)
Full motion quad display on analog and VGA
monitor:
Display of up to 8 video streams simultaneously.
2x colored graphic overlays (255x340x4) on
D1 display

Video Stream
MPEG4 D1 240fps – D1 30/25fps in up to
4 Mbps per channel
H.263 D1 240fps – D1 30/25fps in up to
4 Mbps per channel

Resolution:
• CIF (287x382 or 240x320) average frame
  size 2.5KB for 25fps
• 2CIF (574x382 or 480x320) average
  frame size 5KB for 25fps
• D1 (574x764 or 480x640) average frame
  size 20KB for 25fps
Frame rate: 1–30fps
Bit rate: 128Kbps – 4Mbps
Divide camera into sub zones with different
frame rate per zone.
Max. video stream throughput per DreamBox:
48Mbps
Stream latency over LAN: 80msec – 250msec

Video Connectors
8x NTSC/PAL – video inputs
(BNC or S-Video)
8x NTSC/PAL – loop-back video outputs
(BNC)
1x NTSC/PAL – video output
(BNC AV/S-Video)

8 Audio Inputs
Sample rate: 8KHz, 8 bits
Input impedance 15Kohm
Output impedance 620Ohm
Bandwidth 30Hz – 4KHz
Microphone gain 25dB
AC inputs

Audio Connectors
8x PLL microphone
inputs (Voice Over IP)
8x PLL line inputs
(Voice Over IP)
1x PLL PC microphone
(SoundBlaster)
1x PLL auxiliary input (SoundBlaster)
1x PLL speaker output (Mix between Voice
Over IP and SoundBlaster)

Peripheral Devices
Fences, sensors
(DTR, Yael, Barricade, Intelli–FLEX™ etc.)
PTZF cameras
Network storage
IR remote control

I/O
8x TTL inputs with built in pull up resistors
8x Dry contact outputs (N.O/N.C)
8x Analog inputs (-5V to 5V)
8x Analog outputs (-5V to 5V)

Ambient operating temperature
Operating temperature 5–50°C, 41-122°F
Operating humidity: 20% to 85%

Dimension
Width 480mm (19")
Depth 460mm (18.2")
Height 87mm (2U)
Weight 18 Kg (40 lb)

Power Source
115/230 VAC 50/60Hz

★ *Specifications subject to change without prior
notice.*

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