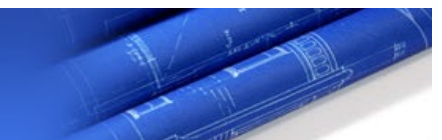


Model: CSP-10SVR64

Architectural and Engineering Specifications

Version 1.0



PART 1: PLEASE REFER TO ATTACHED DOCUMENTS - OVERVIEW & FORMAT SAMPLES

PART 2: PRODUCTS

Division 28 – Electric Safety and Security

Section 28 23 29 – Video Surveillance Remote Devices and Sensors

2.1.0 Manufacturer

1. Costar Video Systems
101 Wrangler Drive, Suite 201
Coppell, Texas 75019
Tel: 469-635-6800
Fax: 469-635-6822

2.2.0 General

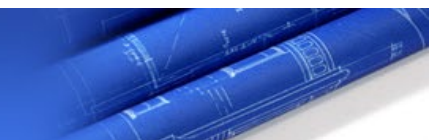
2.2.1 Product Description

CSP-10SVR64 is a Network Video Recorder (NVR) designed and manufactured by Costar Video Systems. The NVR is a 64 Channel unit and supports up to 1920ips (images per second) with H.264/H.265 compression. The NVR is equipped with 2 Giga Lan ports, 8 internal HDD ports, 3 eSATA ports and internal HDD Raid 1, 5, 10 supported.

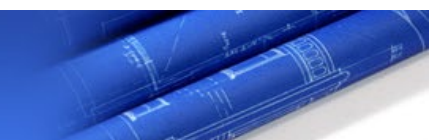
The NVR is an integrated security system, capable of time division multiplexing and real time recording of multiple cameras and storing their digitized and compressed images on embedded hard disk drives for fast search and retrieval either locally at the unit, or from a remote workstation using a Graphical User Interface (GUI). The NVR is equipped with technology that allows connected cameras to be discovered and configured automatically. The NVR is fully compatible with Costar Video products across different platforms such as TVI solution and Video Management System.

2.2.2 General Specification

1. This NVR is for “StarNET Pro” only.
 - You can also refer to “[StarNET Pro A&E Specification](#)”.
2. The NVR shall be a Windows8 embedded 64bit unit with 64 Channel IP network video recording capability.
3. The NVR shall be equipped with 2 Gigabit Lan ports.
4. The NVR shall be equipped with 240GB SSD for operating system (M.2 type)
5. The NVR shall have Intel i7-7700 3.6GHz, DDR4 PC-17000 16GB (8GBx2).
6. The NVR shall have 8 internal SATA ports and 3 eSATA ports.
7. The NVR shall have 1 HDMI, 1 DP and 1 VGA output.
8. The NVR shall have 2U rack mount chassis.



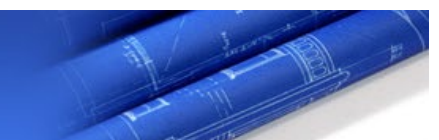
9. The NVR shall have dual power (Redundant SMPS)
10. The NVR shall have 1 Line input, 1 Line output (3.5mm), 1 HDMI audio output.
11. The NVR shall have 6 USB ports (2 Front USB 2.0 + 2 Back USB 3.0 + 2 Back USB 2.0)
12. The NVR shall support raid 1, 5, 10.
13. The NVR shall support up to live 1920ips (Image per Second).
14. The NVR shall support simultaneous live view, record, play back, data transmission in real time.
15. The NVR shall support recording throughput up to 400Mbps, 1920ips and recording resolution up to 12MP
16. The NVR shall support H.264, and H.265 compression and Intelligent Codec.
17. The NVR shall provide Graphical User Interface (GUI) with multi lingual support.
18. The NVR shall provide time lapse, event, time lapse + event, pre / post-event, panic recording schedule.
19. The NVR shall support recording bitrate control mode: CBR and VBR.
20. The NVR shall support alarm, audio, motion, trip zone, video loss, text-in, system event triggering, face detection, record failure, storage related alerts and so on.
21. The NVR shall support email, remote notification (call back) to remote work stations and mobile device push notification.
22. The NVR shall provide Time-lapse, Event log, Motion, Thumbnail, Text-in search options.
23. The NVR shall be equipped with Chained-Fingerprint™, SSL, Password encryption options.
24. The NVR shall support FEN service (A name resolution service equivalent to DDNS).
25. The NVR shall support Bonjour service when registering the camera.
26. The NVR shall be equipped with dynamic remote streaming option mode for enhanced remote access experience.
27. The NVR shall be compatible with StarNET Pro, StarNET Pro + Mobile and Web Live Client.
28. The NVR shall be compatible with network accessory: analog encoder, decoder, network keyboard, network switch, media converter, EoC converter, etc.
29. The NVR shall be controlled by network keyboard with USB mouse support and remote control.
30. The NVR shall provide up to 90% savings on storage and bandwidth, providing faster, better searching of clearer images by providing compatibility with Costar Intelligent Codec and MAT functions.



2.3.0 Technical Specification

2.3.1 Video Specification

1. Network Video Inputs: up to 64 IP cameras
 - A. The NVR can connect the cameras up to 64 by adjusting the network bandwidth for each camera even though the camera has a high video resolution such as 8MP or 12MP.
2. Supported Camera protocol: AXIS, PANASONIC, ONVIF™, Basler, Mobotix, Pelco, Sony, 360 Vision, RTP/RTSP
 - A. The NVR supports integrated third-party cameras with AXIS, PANASONIC, ONVIF™, Basler, Mobotix, Pelco, Sony, 360 Vision and RTP/RTSP protocol as well as Costar cameras.
 - B. Analog Encoder can be attached via network to work with analog cameras.
 - C. Some third-party cameras may not be compatible with the NVR even though the cameras support AXIS, PANASONIC, ONVIF™, Basler, Mobotix, Pelco, Sony, 360 Vision, RTP/RTSP protocol.
3. Video Outputs: 1 HDMI, 1DP, 1 VGA Output
 - A. The NVR shows live video through HDMI, DP and VGA monitor.
 - B. The NVR supports dynamic streaming feature. High resolution video (Live 1) is used for full or 2x2 screen layout, and low-resolution video (Live 2) is used for 3x3 or more screen layout.
4. PTZ Control and Setup
 - A. The NVR shall allow control of PTZ cameras to authorized users and be used to maneuver a PTZ camera using Built-in GUI PTZ control; Pan, Tilt and Zoom, Focus Near / Far, Set / Move to Preset, Advanced PTZ capabilities. When PTZ capable camera is connected, this function shall be enabled automatically.
 - B. Network Keyboard shall be supported with USB mouse.
5. Image Authentication: Chained Finger Print
6. Additional Information
 - A. The NVR shall support the following features: Sequence Monitoring, Screen Freeze, Covert cameras, Privacy Mask, Color Control (Brightness, Contrast, Saturation, Hue), event monitoring.
 - B. The NVR shall display camera ID, recording status and recording mode information on the screen.
 - C. The NVR shall display advance information such as information port such as port number, re



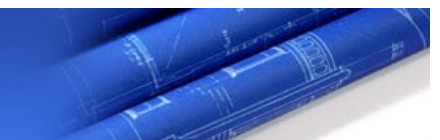
solution, codec, and IP camera connection number.

2.3.2 Audio Specifications

1. Audio Input
 - A. NVR: Line-In x 1, Mic x 1
2. Audio Output
 - A. NVR: Line-Out x 1 + HDMI x 1

2.3.3 Recording Specifications

1. Maximum Recording throughput
 - A. The NVR shall support up to 1920ips recording with 400 Mbps recording throughput
2. Recording Resolution: Up to 12MP
3. Video Compression: H.264, H.265
4. Recording Schedule
 - A. The NVR shall allow camera-by-camera configuration of the following recording modes:
 - i. Time Lapse Recording (Continuous), Event-Based Recording, Time Lapse with Event-based Recording, Panic Recording, Pre / Post Event Recording
 - B. The NVR shall support the configuration of the following video parameters for each available stream on connected cameras.
 - i. Frame Rate, Resolution, Quality
 - C. The NVR shall allow the user to create and edit video recording schedules for each connected camera
 - i. Basic Schedule
 - ii. Advanced Schedule which includes different profiles and dwell timer per each occurred event
 - D. The NVR shall include the ability for Pre-Event recording, which records video for a specified time before an event or alarm has occurred. The allowed time Pre-Event recording is from 5 seconds to 30 minutes.
5. Bitrate Control Mode: CBR (Constant Bit Rate) / VBR (Variable Bit Rate)
6. Additional Information
 - A. The NVR shall support individual camera Recording profile Setup.
 - B. The NVR shall be able to configure the camera's live and recording resolution, compression method, picture quality, transfer speed, frame rate settings in Stream setup. In recording mode, the factory default resolution is set at the maximum of the camera's capability. This is adjustable parameter according to custom configuration.
 - C. NVR shall record up to 64 audio inputs if the connected cameras and devices support audio



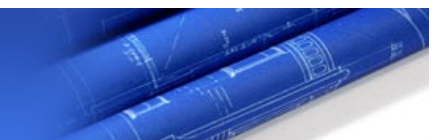
feature.

2.3.4 Playback Specifications

1. Performance
 - A. The NVR shall support 16 channels Full HD synchronous playback. (Recommended to use Client on another pc)
2. Display Format
 - A. The NVR shall offer multi-screen playback (single-screen, quad or multiple layouts), series display (displaying images from one camera image by image), and full-screen display.
3. Search Mode: Time-lapse, Event log, Motion, Text-in, Thumbnail
 - A. The NVR shall provide various search filters for fast retrieval; Calendar Search, Go to Search, Record table search, Search by Event, Motion, Text-in, Bookmark and Museum Search.

2.3.5 Storage Specifications

1. 240GB SSD for Operating System (M.2 type)
2. HDD: Internal SATA x8, eSATA x3(Up to 8TB capacity for each disk)
3. RAID 1, 5, 10 (Internal HDD only)
4. Total Capacity: 176TB = 8 Internal x 10TB + 3x4 eSATA x 8TB option, non-Raid
 - A. The NVR shall support increased recording storage capability if direct attached storage device such as eSATA storage unit is connected.
5. Supported HDD are continually updated.
5. Data Export
 - A. Device: USB Storage Device (USB HDD, USB Memory, etc.)
 - B. Data Export with Audio: Supported
 - C. Multichannel Data Export: Supported
 - D. The NVR shall have the ability to save the current images to Bitmap, JPEG and video clip as an ".exe" (Clip Player) file. The Clip Player is a self-executable file (Single / Multi Channel with compressed video and audio), which requires no additional program to play back on any compatible Windows PCs. The exported file can be saved using USB thumb drives.
6. Additional Information
 - A. The NVR shall be equipped with Self-Monitoring Analysis and Reporting Technology (S.M.A.R.T.), incorporating a suite of advanced diagnostics that monitor the internal operation of hard drives and provide early warning for many types of potential problems.



2.3.6 Network Specifications

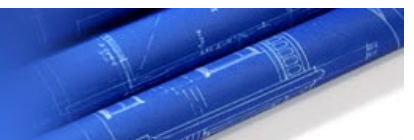
1. Network Connection:
 - A. 2 Gigabit Ethernet RJ45 ports (Intel + Realtek)
2. Remote Data Export: Clip Player, AVI, JPG
 - A. The still or moving images can be captured using remote client software as a JPG, AVI, CBF or EXE file format. (Dynamic remote application)
 - B. File Printer Interface: PDF file printer
3. Remote Client Viewer application: StarNET Pro, StarNET Mobile +, Webguard
 - A. StarNET Pro: Microsoft Windows OS
 - B. StarNET Mobile +: iOS, Android, and Windows Mobile platform
 - C. Webguard works with NVR's embedded web server using a Web Browser with ActiveX plug-in.
4. Maximum Client Connections
 - A. Remote connection: 64 (Search: 10)

2.3.7 Event Specifications

1. Trigger Events: Alarm in, Audio detection, Motion detection, Trip-zone, Tampering, Video loss, Text-in, Face detection and System events
 - A. The NVR shall support alarm sensor trigger in and relay out functions in such event of motion detection, video loss detection, video obscuring, tampering and abnormal system reboot.
2. Event Notification: Email, notification Remote S/W, Push notification (StarNET Mobile +)
 - A. The NVR shall support e-mail notification when events occur sensor, motion, video loss, camera obscuration, Text-in and / or stop recording
 - B. The NVR shall include a system log report support those records and displays information relating to alarm events, reboots, and other system information. The user shall receive event notification.

2.3.8 External Interface Specifications

1. Serial Interface: RS232 (DB9 Terminal Block)
2. User Control Interface: Front Buttons, Mouse, Network Remote Keyboard, RS232C Command Interface
3. USB Interface: USB 2.0 x 4, USB 3.0 x 2.



2.4.0 Mechanical Specifications

1. Operating System: Windows8 Embedded
2. Unit Dimensions (W x H x D): 482.6 mm x 88 mm x 523.5 mm (19" x 3.5" x 20.6")
3. Unit Weight: 10.5 kg (23.2lb)

2.5.0 Environmental Specifications

1. Working Temperature: 0°C to 40°C (32°F ~ 104°F)
2. Operating Humidity: 0% ~ 90%

2.6.0 Electrical Specifications

1. Power Input: AC 100-240V, 50 / 60Hz, 6.0 ~ 3.0A (Redundant)
2. Power Consumption: Max. 190W (8ea HDD)
3. Regulatory Approvals:
 - A. Electrical: FCC, CE, CB, UL, PSE

Version History

Version	Writer	Revision Date	Remarks
1.0	Tech Support	Apr.24.2020	Initial Release

