

3DVDVE



3D Day & LWIR Stereoscopic Vision System

3DV is a 3D stereoscopic vision system for driver vision enhancement. It integrates both LWIR and Day sensors for 3D depth perception.

The system give binocular disparity due to the position of each camera that provides horizontal disparity vision. The video from each day or LWIR sensor is projected on each eye separately in real time.

Depth Perception: The processes of these disparate images give perceive depth and distance.

Applications: Stereoscopic vision is crucial for tasks such as judging distances, navigating through space, and interacting with objects in the environment. It is also important in fields such as photography, cinematography, virtual reality, and robotics.

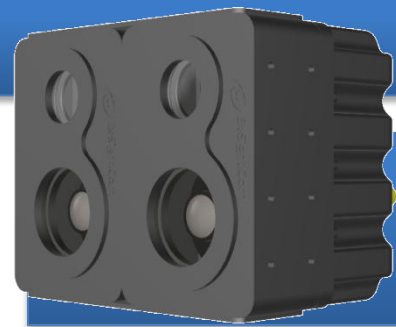
Working in a similar way to 3D sensing in human vision, the system enables to extract depth information of a scene for precise risks evaluation during day or night blind driving

External AI Interface capability (Non Neural network AI)

SYSTEM INSTALLATION OPTIONS

OPTION 1:

The Stereo Day and Lwir Sensors (1) installed on the UGV (2) connected to the UGV Computer, and the operator use the head Display (3) and the tablet (4) for driving the UGV.



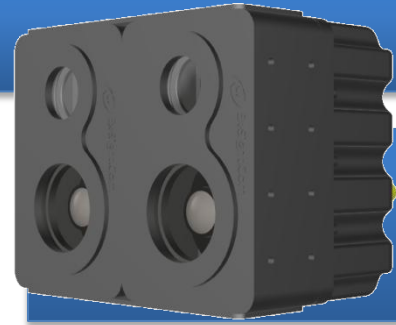
3DV DVE

OPTION 2:

The Stereo Day and Lwir Sensors (1) installed on the vehicle (2), and the operator inside the vehicle use the head Display (3) for driving the vehicle.



3D DAY & LWIR STEREOSCOPIC VISION SYSTEM



3DV DVE

THERMAL SENSOR X2

UNCOOLED LWIR 12 μm, RESOLUTION (PIXELS) 640x512/1280x1024, LENS (640) 5.8mm / (1280) 13mm, FOV 67° (69.4° x57.3°) / 61° x50°, PITCH 12μm, SPECTRAL BAND 8-14 μm / 7.5-13.5μm , FRAME RATE 50 FPS, SENSITIVITY (NEDT) <50mK at F/1.0, GERMANIUM WINDOW

DAY SENSOR (VIS) X2

SONY IMX327 1920x1080/2MP FULL HD, H.265/H.264/MJPEG, Video Frame Main stream 1920*1080(30fps), Sub stream: 1280*720/704*576 640*480 352*288(30fps), Video Bit rate 16kbps~20Mbps, CBR/VBR, S/N Ratio ≥60dB, Min Illumination 0.001Lux@F1.2 , Ethernet Interface 1PCS RJ45 10M/100M TCP/IP, UDP, RTP, RTSP, RTCP, RTMP, HTTP, DNS, DDNS, DHCP, NTP, PPPOE, SMTP, UPNP SAPPHERE WINDOW 3mm

FOV DAY SENSOR

LENS 4mm DC DRIVE M12, FOV (H) 84.6° (V) 45.9° (D) 100.0°

INTERFACES

ANALOG OUT FORMAT:2 OUTPUTS X PAL (DAY + LWIR) , ETHERNET SINGLE CONNECTION, INTERNAL EMBEDDED SWITCH, SDK WEB INTERFACE , VIDEO COMPRESSION RTSP H.264 / H.265 STREAMING, CAMERA CONTROL - SDK (CODE EXAMPLES INCLUDED) , VIDEO STREAM : 2 SEPARATE DIGITAL VIDEO CHANNELS FROM EACH CAMERA WITH DIFFERENT SETUPS, HERMETIC D38999/23YC35PN CONNECTOR

PSU (POWER SUPPLY UNIT)

9-36VDC, NOMINAL 5.6W, (MAX on LOAD 12W)

HOUSING

BLACK HARD ANODIZED ALUMINUM, STAINLESS STEEL N316 SCREWS, NITROGEN VALVE IN, SEALED OUTPUT SCREW , IP-67, NITROGEN PURGED, "O" RINGS

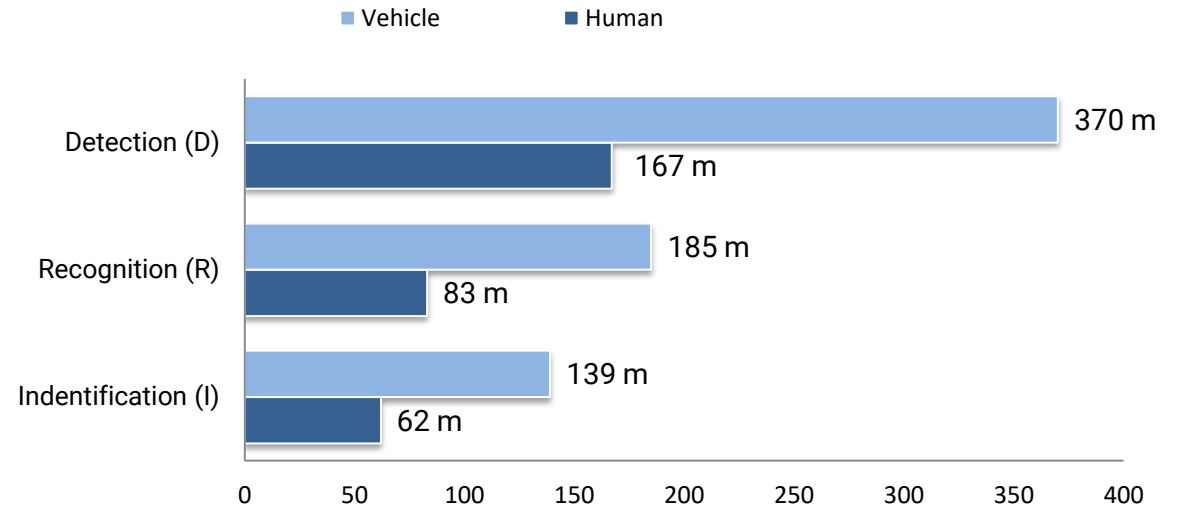
ENVIRONMENTAL

OPERATING TEMP -20°C to +80°C

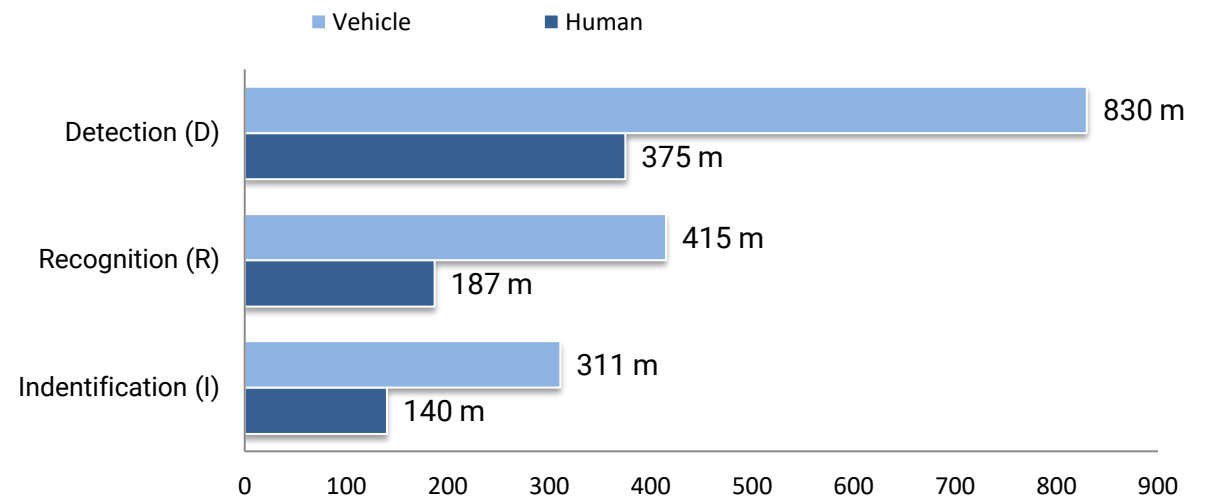
DIMENSIONS

(LxWxH, mm) 192x1140x152mm, WEIGHT 4,600 gm

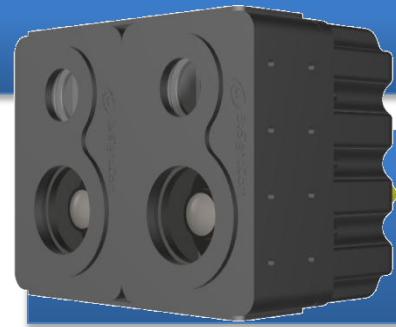
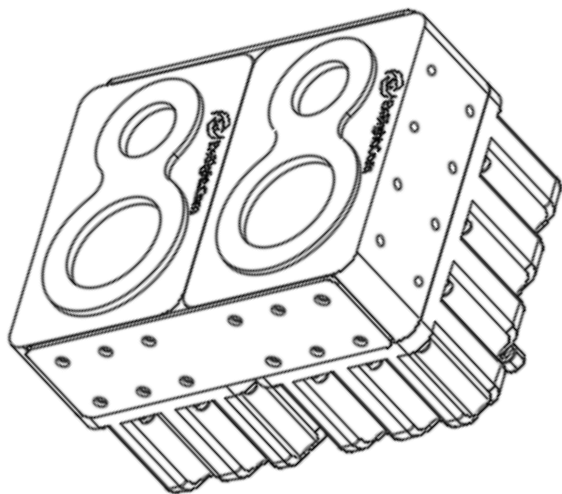
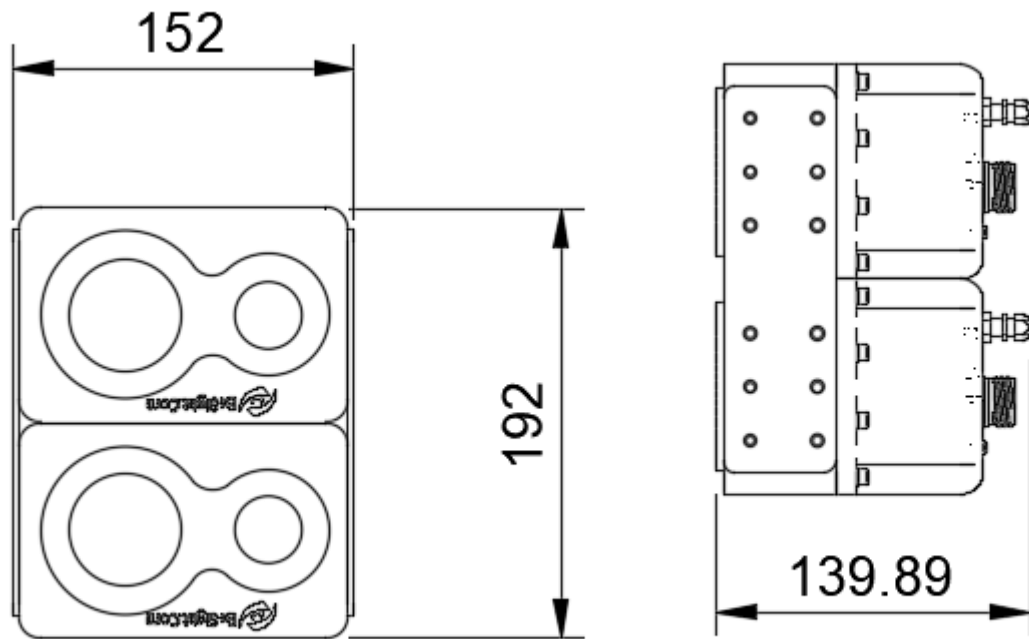
3DV DVE 640 DRI LWIR (m)



3DV DVE 1280 DRI LWIR (m)

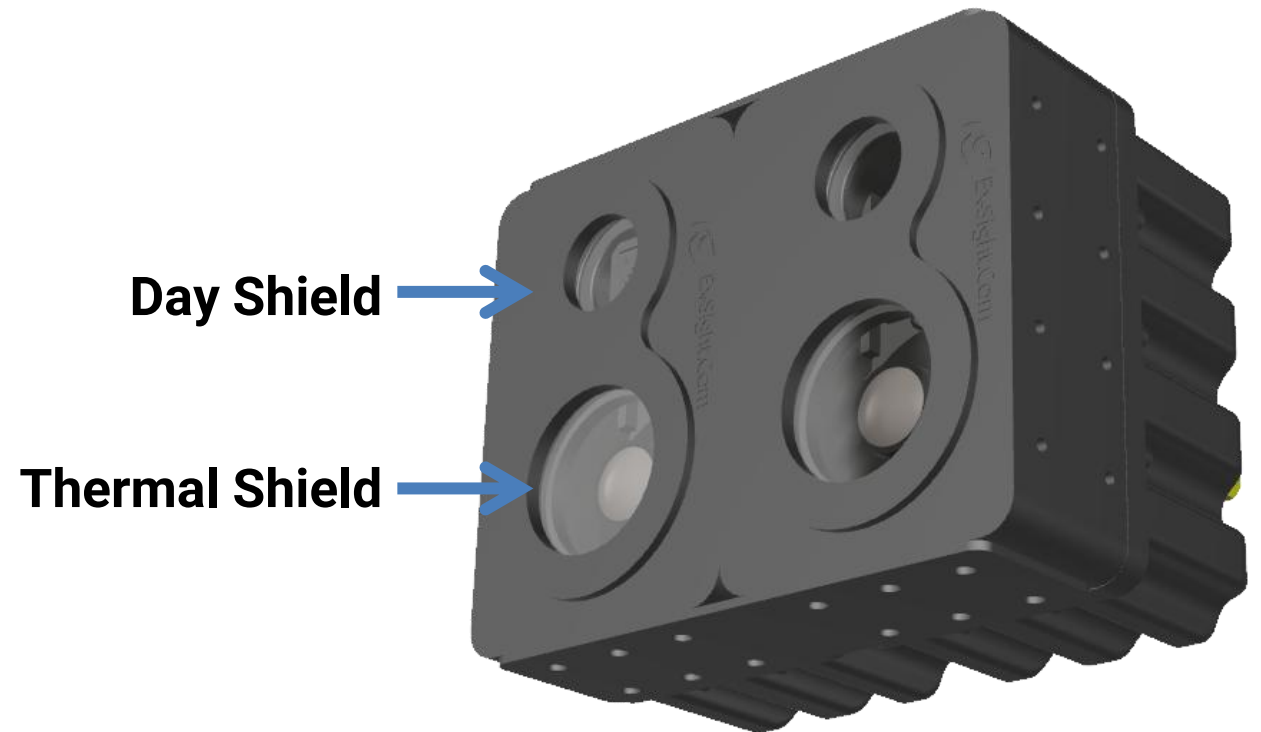


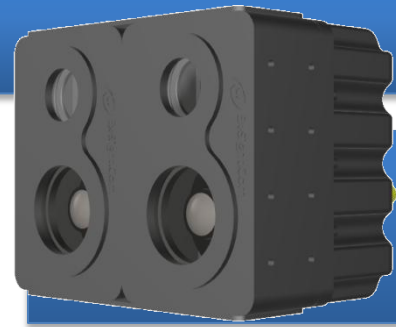
DIMENSIONS (mm)



3DV DVE

PART Numbering Index





3DV DVE

PANEL Pin Layout D38999/23YC35PN Stainless Steel Hermetic Connector

PIN#	DESCRIPTION
1	NC
2	NC
3	(+9 TO +36VDC) INPUT POWER
4	GND INPUT POWER
5	(+9 TO +36VDC) INPUT POWER
6	GND INPUT POWER
7	NC
8	NC
9	ETHERNET2 (1) TX+
10	ETHERNET2 (2) TX-
11	ETHERNET2 (3) RX+
12	ETHERNET2 (6) RX-
13	NC
14	NC
15	ETHERNET1 (1) TX+
16	ETHERNET1 (2) TX-
17	ETHERNET1 (3) RX+
18	ETHERNET1 (6) RX-
19	DAY VIDEO CVBS SIGNAL
20	DAY VIDEO CVBS GND
21	THERMAL VIDEO CVBS SIGNAL
22	THERMAL VIDEO CVBS GND

#	P/N	DESCRIPTION
1	D38999/23YC35PN	Mil. Std Stainless Steel connector
2	MS51377-2 MS51607-1 MS20813-1	Nitrogen Valve Core Nitrogen MS Valves Nitrogen Fitting



CABLE PIN LAYOUT

CABLE PIN LAYOUT

D38999/26KC35SN

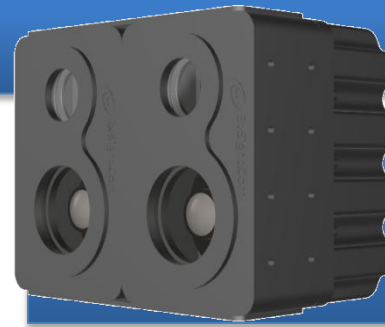
Stainless Steel Hermetic Connector

PIN	DESCRIPTION
1	NC
2	NC
3	(+9 TO +36VDC) INPUT POWER
4	GND INPUT POWER
5	(+9 TO +36VDC) INPUT POWER
6	GND INPUT POWER
7	NC
8	NC
9	ETHERNET2 (1) TX+
10	ETHERNET2 (2) TX-
11	ETHERNET2 (3) RX+

PIN	DESCRIPTION
12	ETHERNET2 (6) RX-
13	NC
14	NC
15	NC
16	NC
17	NC
18	NC
19	NC
20	NC
21	NC
22	NC

CABLE PART NUMBERING INDEX

#	P/N	DESCRIPTION
1	[LEN1]	Total Cable length (meters)
2	D38999/26KC35SN	Mil. Std Stainless Steel connector (200°C, firewall capability, 500 hour salt spray resistance)
3	RQND-40S2-S-1307	Stainless Steel Backshell
4	202K121-25-0	Boot
5	[LEN2]	Chained Cable Length (meter) from split
6	Cable RQT1601875	6*20AWG + SPEC55 (RAYCHEM DR-25)
7	Cable RQT1601875	6*20AWG + SPEC55 (1m) (RAYCHEM DR-25)
8	RJ45 Ethernet	Main Ethernet connector
9	Power Wires	20AWG For 9V-36V input



3DV DVE

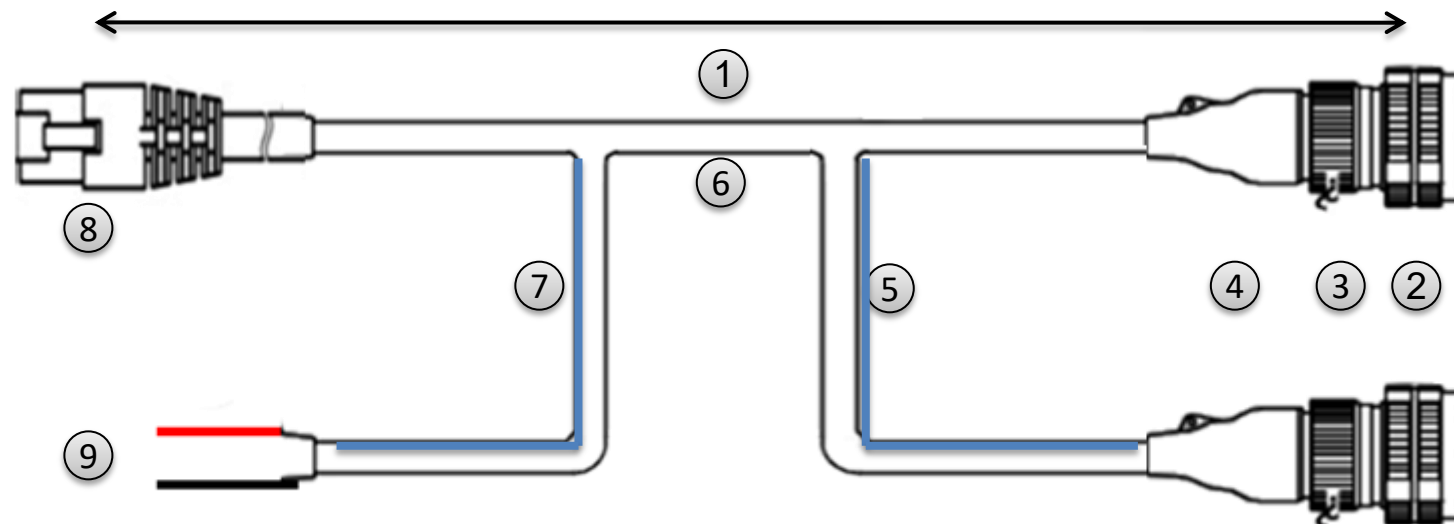
3DV DVE-CABLE

3DV-CABLE is RQT1601875 Cable (6*20AWG + SPEC 55) with specified length and Additional Chained sensor connector.

The cable includes two connectors D38999/26KC35SN Mil. Std Stainless Steel that connects to the connectors D38999/23YC35PN on the 3DV DVE.

On the other side of the cable there is a connection to Power 9-36V (open black wire + open red wire) and RJ45 Giga Ethernet connection.

MECHANICAL DRAWING



HMD

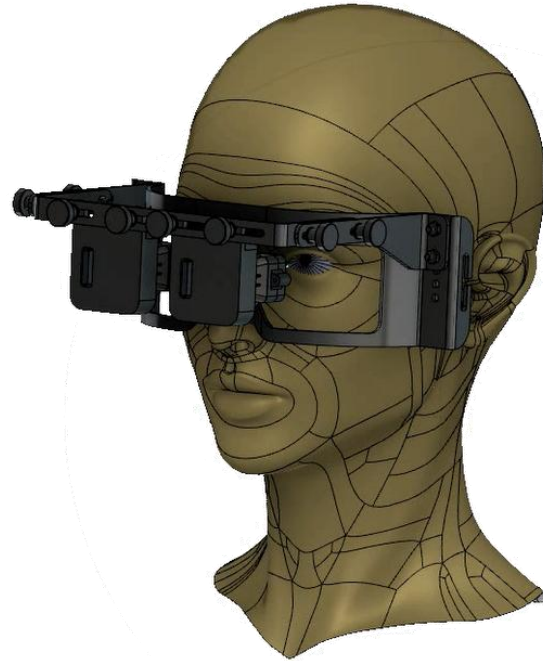
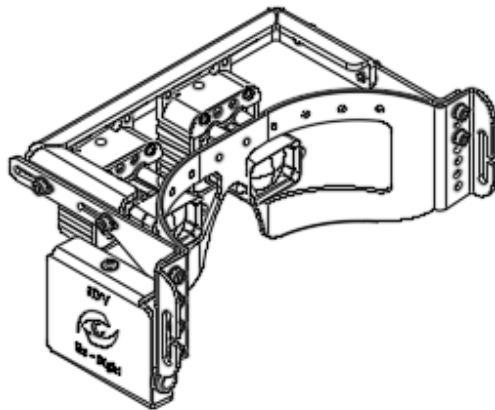
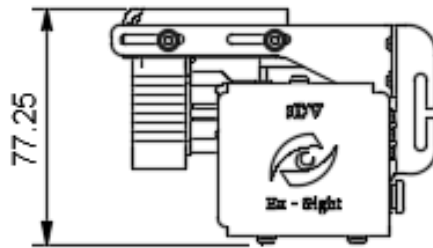
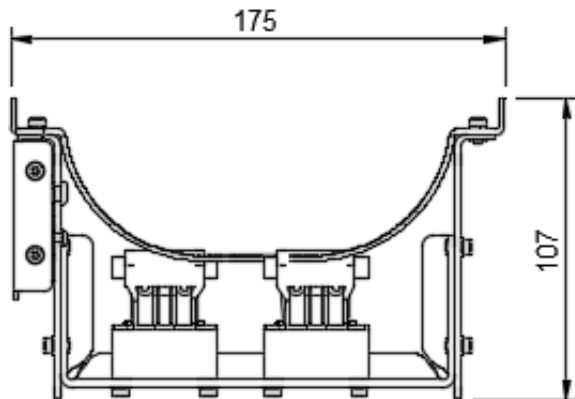
HEAD MOUNTED DISPLAY

CHARACTERISTICS

- LIGHT WEIGHT
- REAL TIME STEREOSCOPIC VISION
- 3D DAY / LWIR DEPTH PERCEPTION
- TWO AXIS EYE ADJUSTMENT
- 2 X SVGA SUPER HIGH QUALITY MICRO DISPLAY
- EMBEDDED OSD MARKUPS
- GYRO

DIMENSIONS (LxWxH, mm)

107x175x77mm, WEIGHT 200 gm



3DV DVE

