



- 20"x 8" High resolution Large Area Display
- NVIS Class B compatibility
- Fully redundant design
- Sunlight readable, high brightness
- Resistive multi-touch panel supporting gestures
- Configurable design for common video interfaces on demand
- Rugged design to operate in harsh environment

General Features

STG VSCF-LAD 208 Large Area Display is a high resolution display with unique color performance, furnished with high brightness LED backlight and resistive multi-touch panel, superior optical performances in a rugged and flexible design architecture to exceptionally fulfill the solid requirements of avionics platforms.

20"x8" display has a distinctive fault-tolerant AMLCD design to eliminate single point of failure on the display. LED backlight, particularly designed for VSCF-LAD 208 supports both day and NVIS modes for diverse ambient light conditions without compromising temperature range of the product. Resistive multi-touch ensures glove operation and seamlessly interprets basic gestures like taping and zooming. The product has fully redundant architecture in LCD, backlight, touch panel and driver board modules internally. STG VSCF-LAD 208 is a rugged, highly reliable, and cost effective solution for virtually every avionics platforms.

PRODUCT SPECIFICATIONS

Panel Type	Active matrix LCD (normally black)
Panel Active Area	20" x 8"
Panel Resolution	2560 X 1024
Color Depth	8-bit – 16,777,216 colors and 256 grayscales
Viewing Angle	NH: +/-45° EH: +/-85° NH: +/-45° EH: +/-85°
Backlight	High efficiency low heat dissipation
Luminance	2 fL up to 300fL (day) 0.01fL up to 25fL (night)
Sunlight Readability	High performance under 100.000 lux
NVG Compatibility	NVIS class B, Type I/II per MIL-STD-3009
Heater	Heater for display startup at cold temperatures
Software	RTCA/DO-178 up to Design Assurance Level (DAL) A
Hardware	RTCA/DO-254 up to Design Assurance Level (DAL) A

INPUTS / OUTPUTS

Main Inputs	4x video input
Reversion Mode Additional I/O: (optional)	2x video input
Recording Output Additional I/O: (optional)	2x video output
Default Video Interface	ARINC 818-2 (DVI; HD-SDI are offered as alternatives)
Power Supply	28VDC, MIL-STD-704F

CONTROLS

Brightness Control	Via RS-422 (Analog, Discrete optional)
Touch Screen	Multi-Touch capability

DIMENSIONS

Dimensions	282,25 mm (L) x 580.2 mm (W) x 95mm(H)
Weight	< 10.5 Kg

MILITARY STANDARDS

MIL-STD-704F*	MIL-STD-810G 506.5 Rain*
MIL-STD-461G Applicable CE/CS/RE/RS*	MIL-STD-810G 508.6 Fungus*
MIL-STD-810G 500.5 Low Pressure*	MIL-STD-810G 510.5 Sand and Dust*
MIL-STD-810G 500.6 Explosive/Rapid Decompression*	MIL-STD-810G 511.5 Explosive Atmosphere*
MIL-STD-810G 503.5 Temperature Shock*	MIL-STD 810G 504.1 Contamination by Fluid*
MIL-STD-810G 503.5 Temperature *	MIL-STD 810G 505.5 Solar Radiation*
MIL-STD-810G 507.5 Humidity*	MIL-STD 810G 513.6 Acceleration*
MIL-STD-810G 509.5 Salt Fog*	MIL-STD 810G 519.7 Gunfire Shock*
MIL-STD-810G 516.6 Mechanical Shock*	MIL-STD-810G 524 Freeze/Thaw*
MIL-STD-810G 514.6 Vibration*	DO-160 G Fire-Flammability*

Optional*



- **Processor**
Intel Core i7 1185GRE

- **Memory/Storage**
32 GB / 64 GB (DDR4, 3200MHz)

- **USB Interface**
4 x USB2.0
1 x USB3.0

General Features

Panel Computer; It is a durable product with a 15.6", 1920x1080 resolution touch screen, with 11th or higher generation i-core Intel-based CPUs that support both Windows and Linux Ubuntu Operating Systems with various storage and memory options. It is resistant to harsh environmental conditions such as extreme hot or freezing temperatures, dust, rain, vibration, low pressure and shock that the product may be exposed to during its life cycle. Panel Computer can be customized for use on land, sea or air platforms.



MILITARY STANDARDS

MIL-STD-810G Methot 500.5, Low Pressure

MIL-STD-810G Methot 501.5, High Temperature

MIL-STD-810G Methot 502.5, Low Temperature

MIL-STD-810G Methot 506.5, Rain

MIL-STD-810G Methot 507.5, Humidity

MIL-STD-810G Methot 509.5 Corrosion

MIL-STD-810G Methot 510.5, Sand And Dust

MIL-STD-810G Methot 514.6, Vibration

MIL-STD-810G Methot 516.6, Mechanical Shock

MIL-STD-461F (Ce102-Cs101-Cs114-Cs115-Cs116-Re102- Rs103)

MIL-STD-1275E (Surge, Spike)

SYSTEM FEATURES	
Processor	Intel Core i7 1185GRE
Memory/Storage	32 GB / 64 GB (DDR4, 3200MHz)
Ethernet Interface	4 x GbE
Serial Port	2 x RS422
USB Interface	4 x USB2.0 / 1 x USB3.0
SDI Interface	1 x SDI Out , 2 x SDI In
Power Input / Consumption	9-45 VDC 50W
Operating System	Windows / Ubuntu
Connector Interface	D38999 (Power Input, Communication, Signal), TNC
Cooling	Fanless
Brightness	700 cd/m2
DIMENSIONS / WEIGHT	
Dimensions	400 mm (L) x 253 mm (W) x 86.5 mm (H)
Weight	~8 Kg
ENVIRONMENT SPECIFICATIONS	
Operating Temperature	-30°C ~ +55°C
Storage Temperature	-40°C ~ + 85°C
Humidity	%5 ~ %90
EMI/EMC	MIL-STD-461F (CE102-CS101-CS114-CS115-CS116-RE102- RS103)
Environmental Testing Qualification	MIL-STD-810G; Shock, Vibration, Temperature, Humidity, Low Pressure, Sand and Dust, Rain, Acceleration, Salt Fog, Fungus



- Advance settings over on-screen display (soft keys)
- Field upgradable over ethernet interface
- Several multiview options (including PIP)
- Configuration and control over RS-422
- Touchscreen over USB (drivers supported for both windows and linux OS)
- Hard bezel Keys

General Features

STG's rugged displays offer mission equipments that can be customized according to the field of use. Dimensions, Resolution, Bezel Keys, Brightness, touch screen type (resistive or capacitive), software features, interfaces can be customized according to your needs.



MILITARY STANDARDS

MIL-STD-810G Methot 500.5 Procedure 2 Low Pressure

MIL-STD-810G Methot 501.5 Procedure 2 High Temperature

MIL-STD-810G Methot 502.5 Procedure 2 Low Temperature

MIL-STD-810G Methot 503.5 Procedure 1-C Temperature Shock

MIL-STD-810G Methot 507.5 Procedure 2 Humidity

MIL-STD-810G Methot 509.5 Salt Fog

MIL-STD-810G Methot 510.5 Procedure 1,2 (Dust And Sand)

MIL-STD-810G Methot 514.6 Procedure 1 (Vibration)

MIL-STD-810G Methot 516.6 Procedure 1,4 (Mechanical Shock)

SYSTEM SPECIFICATION

Screen Resolution/ Frame Rate	1920 x 1080 / 60 fps
Aspect Ratio / Screen Size	16:9 / 15.6"
Touch Screen Type	Resistive / Capacitive (optional)
Number of Colors	16.7 M
Brightness	700 cd/m2
Input Interfaces	2 x HD/3G SDI
Output Interfaces	3 x HD/3G SDI (2 x SDI loopback of inputs, 1x configurable output)
Supply Input/Consumption	12-32 VDC / 30W
Connector Interface	D38999 (Power, Communication), BNC
Cooling	Fanless

DIMENSIONS / WEIGHT

Dimensions	390mm (L) x 280mm(W) x 45mm (H)
Weight	~5,5 kg

ENVIRONMENT SPECIFICATIONS

Operating Temperature	-30°C / +55°C
Storage Temperature	-40°C / +85°C
EMI/EMC	MIL-STD-461F (CE102-CS101-CS114-CS115-CS116-RE102- RS103)
Power Protection Qualification	MIL-STD-1275E (Surge, Spike)



- Advance settings over on-screen display (soft keys)
- Field upgradable over ethernet interface
- Several multiview options (including PIP)
- Hard bezel Keys
- Replay recorded videos on built-in media player
- Configuration and control over RS-422
- Touchscreen over USB (drivers supported for both windows and linux OS)
- Video recording to removable storage devices (SD card, USB flash drive)
- H.264 Video Encoding/Decoding

General Features

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MILITARY STANDARDS

MIL-STD-810G Methot 500.5 Procedure 2 Low Pressure

MIL-STD-810G Methot 501.5 Procedure 2 High Temperature

MIL-STD-810G Methot 502.5 Procedure 2 Low Temperature

MIL-STD-810G Methot 503.5 Procedure 1-C Temperature Shock

MIL-STD-810G Methot 507.5 Procedure 2 Humidity

MIL-STD-810G Methot 509.5 Salt Fog

MIL-STD-810G Methot 510.5 Procedure 1,2 (Dust And Sand)

MIL-STD-810G Methot 514.6 Procedure 1 (Vibration)

MIL-STD-810G Methot 516.6 Procedure 1,4 (Mechanical Shock)

SYSTEM FEATURES	
Screen Resolution/ Frame Rate	1920 x 1080 / 60 fps
Panel Treatment	Anti-Reflective and Anti-Glare Treatment
Aspect Ratio / Screen Size	16:9 / 18.5"
Touch Screen Type	Resistive / Capacitive (optional)
Number of Colors	16.7 M
Brightness	1000 cd/m2
Input Interfaces	2 x HD/3G SDI
Output Interfaces	3 x HD/3G SDI (2 x SDI loopback of inputs, 1x configurable output)
Supply Input/Consumption	12-32 VDC / 40W
Connector Interface	D38999 (Power, Communication), BNC
Cooling	Fanless
Recording Interface	USB 2.0 Type A / SD Card
DIMENSIONS / WEIGHT	
Dimensions	460mm (L) x 315mm(W) x 45mm (H)
Weight	~7 kg
ENVIRONMENT SPECIFICATIONS	
Operating Temperature	-30°C / +55°C
Storage Temperature	-40°C / +85°C
EMI/EMC	MIL-STD-461F (CE102-CS101-CS114-CS115-CS116-RE102- RS103)
Power Protection Qualification	MIL-STD-1275E (Surge, Spike)



- Advance Settings over On Screen Display (Soft Keys)
- Field Upgradable over Ethernet Interface
- Several multiview Option (including PIP)
- Messaging and Control over RS422
- Touchscreen over USB
- Hard Bezel Keys

General Features

STG's rugged displays offer mission equipments that can be customized according to the field of use. Dimensions, Resolution, Bezel Keys, Brightness, touch screen type (resistive or capacitive), software features, interfaces can be customized according to your needs.



MILITARY STANDARDS

MIL-STD-810G Methot 500.5 Procedure 2 Low Pressure

MIL-STD-810G Methot 501.5 Procedure 2 High Temperature

MIL-STD-810G Methot 502.5 Procedure 2 Low Temperature

MIL-STD-810G Methot 503.5 Procedure 1-C Temperature Shock

MIL-STD-810G Methot 507.5 Procedure 2 Humidity

MIL-STD-810G Methot 509.5 Salt Fog

MIL-STD-810G Methot 510.5 Procedure 1,2 (Dust And Sand)

MIL-STD-810G Methot 514.6 Procedure 1 (Vibration)

MIL-STD-810G Methot 516.6 Procedure 1,4 (Mechanical Shock)

SYSTEM FEATURES

Screen Resolution/ Frame Rate	1920 x 1080 / 60 fps
Aspect Ratio / Screen Size	16:9 / 24"
Touch Screen Type	Resistive / Capacitive (optional)
Number of Colors	16.7 M
Brightness	700 cd/m2
Input Interfaces	2 x HD/3G SDI
Output Interfaces	3 x HD/3G SDI (2 x SDI loopback of inputs, 1x configurable output)
Supply Input/Consumption	12-32 VDC / 55W
Connector Interface	D38999 (Power, Communication), BNC
Cooling	Fanless

DIMENSIONS / WEIGHT

Dimensions	600mm (L) x 400mm(W) x 65mm (H)
Weight	~14 kg

ENVIRONMENT SPECIFICATIONS

Operating Temperature	-30°C / +55°C
Storage Temperature	-40°C / +85°C
EMI/EMC	MIL-STD-461F (CE102-CS101-CS114-CS115-CS116-RE102- RS103)
Power Protection Qualification	MIL-STD-1275E (Surge, Spike)



General Features

The Hand Control Unit (HCU) has an important role and is used as the right-hand fixed control unit. Additionally, it provides optimum user comfort with its ergonomic design and meets military-scale control capabilities. The HCU has up to 14 independent switches. Additionally, the HCU contains a microprocessor that reads/monitors the Button and switch controls and transmits the control message packet of the endpoint equipment. HCU has an isolated RS422 communication interface. In addition, the internal/spare poles (poles) of some switches can be removed to the external interface according to customer requests. Additionally, the HCU's Interfaces provide ESD protection.

MILITARY STANDARDS

MIL-STD-704F*

MIL-STD-1275E

MIL-STD-810G Method 500.5 Low Pressure

MIL-STD-810G Method 501.5 High Temperature

MIL-STD-810G Method 502.5 Low Temperature

MIL-STD-810G Method 503.5 Temperature Shock

MIL-STD-810G Method 507.5 Humidity

MIL-STD-810G Method 509.5 Corrosion

MIL-STD-810G Method 516.6 Mechanical Shock

MIL-STD-810G Method 506.5 Rain, Procedure-3 (Drip)

MIL-STD-810G Method 514.6 Vibration

MIL-STD-461F Applicable (CE102, CS101, CS114, CS115, CS116, RS103, RE102)

Optional*

DEVICE FEATURES

ARM CORTEX-M4 32 BIT CPU with 72MHz FPU

Right hand fixed control

14pcs Multi-Functional Switches

Connector Interface

D38999 (Power, Data)

Power

9VDC-32VDC , 10W

Operating Temperature

-40°C / +71°C

Humidity

5%-95(Non Condensing)

Electrical Power Standart

MIL-STD-704F

MIL-STD-1275E

DIMENSIONS / WEIGHT

Dimensions

185mm (D) x 175mm (W) x 225mm (H)

Weight

~3500gr



- **Connectors**
MIL-D38999

- **Port Type**
8 port x (10/100 /1000 Mbps)

- **Layer 2 Switching**
IPv4/IPv6 multicash

- **Inductor LEDs**
Power LED, Status LED, Port Status LED

General Features

RLES Ethernet Switch is a network switch with 8 Ports operating at 10Mbps / 100Mbps / 1000Mbps speeds. The hardware also has features such as WEB GUI accessible via Ethernet ports and CLI interface accessible via USB and Serial Channel. There are 8 port status LEDs, activity status LEDs and power status LEDs to monitor the status of each Ethernet port and hardware. RLES also resistant to harsh environmental conditions such as extremely high or freezing cold temperatures, dust, water, vibration, vibration, shock that the product may be exposed to during its lifetime.



MILITARY STANDARDS

MIL-STD-704*

MIL-STD-1275E

MIL-STD-810G Method 510.5 Sand and Dust

MIL-STD-810G Method 500.5 Low Pressure

MIL-STD-810G Method 507.5 High Temperature

MIL-STD-810G Method 502.5 Low Temperature

MIL-STD-810G Method 503.5 Temperature Shock

MIL-STD-810G Method 506.5 Rain

MIL-STD-810G Method 507.5 Humidity

MIL-STD-810G Method 509.5 Corrosion

MIL-STD-810G Method 576.6 Mechanical Shock

MIL-STD-810G Method 574.6 Vibration

MIL-STD-461F Applicable (CE102, CS101, CS114, CS115, CS116, RE102, RS103, ESD)

Optional*

DEVICE SPECIFICATIONS	
Connectors	MIL-D38999
Port	8 port x (10/ 100 / 1000 Mbps)
Layer 2 Switching	IPv4/IPv6 multicash
	Jumbo frame support
	Link aggregation (IEE 802.3ad)
	Hardware and software-based learning
	Independent and shared VLAN learning (IVL,SVL)
Management Access	Web Interface
	RS-232 Serial Interface (CLI) & USB Interface (CLI)
Indicator LEDs	Power LED
Power Input	Wide input rage: +12V TO +32 VDc with
	Reverse Polarity Protection
Power Consumption	Max: 0.80A,10W (with +12V input)
Operating Temperature	-40°C ~ + 71°C
Storage Temperature	-40°C ~ + 71°C
Wide Input Power Range	12 V ~ 32 VDc
Humidity	5% to 95% (Non condensing)
DIMENSIONS / WEIGHT	
Dimensions	152.4mm (L) x 279.4mm (W) x 62.2mm (H)
Weight	~ 2000 gr



- **Connectors**

MIL-D38999

- **Port Type**

24 port x (10/ 100 / 1000 Mbps)

- **Layer 2 Switching**

IPv4/IPv6 multicash

- **Memories**

1Gb DDR2 SDRAM
128Mb Serial NOR Flash

- **Indicator LEDs**

Power LED

General Features

RMES Ethernet Switch is a network switch with 8 Ports operating at 10Mbps / 100Mbps / 1000Mbps speeds. The hardware also has features such as WEB GUI accessible via Ethernet ports and CLI interface accessible via Serial Channel. There are power status LED. RMES also resistant to harsh environmental conditions such as extremely high or freezing cold temperatures, dust, water, vibration, vibration, shock that the product may be exposed to during its lifetime.



MILITARY STANDARDS

MIL-STD-704F*

MIL-STD-1275E

MIL-STD-810G Method 500.5 Low Pressure

MIL-STD-810G Method 501.5 High Temperature

MIL-STD-810G Method 502.5 Low Temperature

MIL-STD-810G Method 503.5 Temperature Shock

MIL-STD-810G Method 507.5 Humidity

MIL-STD-810G Method 509.5 Corrosion

MIL-STD-810G Method 516.6 Mechanical Shock

MIL-STD-810G Method 512.5 Immersion IP67

MIL-STD-810G Method 514.6 Vibration

MIL-STD-461F Applicable (CE102, CS101, CS114, CS115, CS116, RS103,RE102)

Optional*

DEVICE SPECIFICATIONS	
Connectors	MIL-D38999
Memories	1Gb DDR2 SDRAM
	128Mb Serial NOR Flash
Port	24 port x (10/100 / 1000 Mbps)
Layer 2 Switching	IPv4/IPv6 multicash
	Jumbo frame support
	Link aggregation (IEEE 802.3ad)
	Hardware and software-based learning
	Independent and shared VLAN learning (IVL,SVL)
Management Access	Web Interface
	RS-232 Serial Interface (CLI)
Indicator LEDs	Power LED
Power Input	Wide input range: +12V TO +32 VDC with
	Reverse Polarity Protection
Power Consumption	Idle: 0.7A, 8.4W Typical: 0.85A, 10W
	Max: 1.15A, 14W (with +12V input)
Operating Temperature	-40°C ~ + 71°C
Storage Temperature	-40°C ~ + 71°C
Wide Input Power Range	12 V ~ 32 VDC
Humidity	5% to 95% (Non condensing)
DIMENSIONS / WEIGHT	
Dimensions	320mm (L) x 210mm (W) x 70 mm (H)
Weight	~ 3000 gr



- **Operating System**
MAC address support: 8,000
- **24 Port Switch**
- **Ethernet Channel****
*up to 24x1000 Base-T
*2 x 10GBase-sr optical ports
- **System Features**
CISCO IOS-XE
- **Connector****
MIL-DTL-D38999 type military connectors
- **Layer 2 and Layer 3 switching**

General Features

Cisco Ethernet Switch is a network switch with 24 Ports operating at 10Mbps / 100Mbps / 1000Mbps speeds. Also, supports optional 2 Ports SFP+ Interfaces (Copper/Optical). The hardware includes the Cisco Ethernet Switch Modules. The hardware also has features such as WEB GUI accessible via Ethernet ports and CLI interface accessible via USB and Serial Channel. There is power status LED. Equipment also resistant to harsh environmental conditions such as extremely high or freezing cold temperatures, dust, water, vibration, vibration, shock that the product may be exposed to during its lifetime.

MILITARY STANDARDS



MIL-STD-461F

MIL-STD-1275E

MIL-STD-704F

MIL-STD-810H Method 514.8 Vibration

MIL-STD-810H Method 516.8 Mechanical Shock

MIL-STD-810H Method 501.7 High Temperature

MIL-STD-810H Method 502.7 Low Temperature

MIL-STD-810H Method 506.6 Rain

MIL-STD-810H Method 507.6 Humidity

MIL-STD-810H Method 509.7 Corrosion

MIL-STD-810H Method 510.7 Sand and Dust

MIL-STD-810H Method 513.8 Acceleration

MIL-STD-810H Method 500.6 Low Pressure

DEVICE FEATURES

Operating System: CISCO IOS-XE with Network Advantage and Net. Essential License	
MAC address support:8,000	
VLAN IDs:256	
IGMP Groups:1,000	
Switch Virtual Interfaces (SVIs):8	
IPv4 Unicast Routes:7680	
IPv6 Unicast Routes:1024	
Active Class-maps (ingress):26	
Active Class-maps (egress):8	
Layer 2 and layer 3 switching	
IPv4 / IPv6 Multicast	
Configuration	Web GUI or CLI Management
Connector**	MIL-DTL-D38999 type military connectors
Ethernet Channel**	24 port Gigabit Ethernet
Thermal Managment	Conduction Cooled (Fanless)
Operating Temperature**	-40°C ~ +71°C
Storage Temperature	-40°C ~ +71°C
Wide Input Power Range**	12-32 VD C

MODELS (PART NUMBER)

Model-1 (24 Port)	STG RCS24
Model-2 (24 Port 2SFP+)	STG RCS24+
Model-3 (8 Port)	STG RCS8

DIMENSIONS / WEIGHT

Dimensions	220mm (L) x 190mm (W) x 101mm (H)
Weight	~3500 gr