

PANEL COMPUTERS SERIES X G2 (GENERATION 2)

The innovative second generation Series X Panel Computers portfolio integrates powerful Intel® Skylake processor-based computers, high quality display technology and advanced video processing, the second generation Series X G2 Panel Computers are the most powerful all-in-one computer/display solution available for maritime technology manufacturers and systems integrators available today.

The integrated nature of the second generation Series X Panel Computers also enables tangible cost savings for equipment manufacturers and systems integrators. The new Panel Computers provide the same power and picture quality as a standard

display and separate PC configuration, but with lower capital expenditure (relative to purchase of separate displays and computers) and installation costs, they can be used as the basis of cost reduction programs. This makes it possible for technology integrators to continue improving vital bridge applications while still retaining focus on cost for their partners and end-customers.

The expansion of the second generation Series X portfolio to include larger Panel Computer models provides more flexibility for equipment manufacturers to utilise the most powerful computers and highest quality displays in a wider range of vessel technology, especially on the bridge.



- INTEL® QUAD CORE I5-6500TE 2.3GHZ/3.3GHZ
OR 1 X INTEL® QUAD CORE™ I7-7700T, 2.9/3.8GHZ
OR 1 X INTEL® DUAL CORE CELERON™ G3900TE, 2.3/2.3GHZ
- INTEL® GL82Q170 PCH SYSTEM CHIPSET
- INTEL® HD GRAPHICS CHIPSET (510/530/630)
- DIRECTX 12, OPENGL 4.4, OPENCL 2.0
- DUAL CHANNEL DDR4 RAM - MAX 32GB
- 5 X ETHERNET GBLAN PORTS
- 9 X COM ISOLATED PORTS
- 1 X DISPLAYPORT OUT (MAX 4096 X 2304@60HZ)





19 INCH

HD 19T22 MMC

TFT Technology

LED Backlight Technology, TFT Active-matrix liquid crystal panel, MVA (Multi-domain Vertical Alignment) Technology

Viewable Size and Active Area

19.0 inch - 376.32 [14.82"] (H) x 301.056 [11.85"] (V) mm [inch]

Native Resolution and Pixel Pitch

1280 x 1024 (SXGA) - 0.294 (H) x 0.294 (V) mm

Aspect Ratio and Response Time

5:4 - 35ms (typ)

Light Intensity and Contrast Ratio

350 cd/m² (typ) - 1500:1 (typ)

View Angle / Max Colors

85 deg. (up/down/left/right) - 16.7 million

Optimal Resolution and Hz

1280 x 1024 @ 60 Hz (If resolution is above/below 1:1, desktop scrolling mode will be used)

Detectable Resolutions

640 x 480 to 4096 x 2304

Power Specifications and Consumption

Multipower 100-240V AC - 50/60Hz+ 24VDC
78.4W (typ) - 93W (max+max additional load)

Product Features

Dimmable 0-100%, Buzzer, Multi-power AC & DC, GPIO, LAN Wakeup, USB Boot & Wakeup

Installed Operating System (OS)

None or Standard OS/Customized image, review datasheet for list.

Storage Options

Internal Storage: 1 x SSD MLC SATA, Type m.2
[240GB (599TBW), 480GB (945TBW), 960GB (1750TBW)]
and/or
2 x 2.5" Removable Tray. Option: 1 or 2 can be installed of:
SSD SATA (Multi Level)
[240GB (599TBW), 480GB (945TBW), 960GB (1750TBW)]

CPU / Processor Options

1 x Intel® Quad Core™ i5-6500TE, 2.3/3.3GHz, 6MB Cache
or 1 x Intel® Quad Core™ i7-7700T*, 2.9/3.8GHz, 8MB Cache
or 1 x Intel® Dual Core Celeron™ G3900TE, 2.3/2.3GHz, 2MB Cache
*Supported only by Windows® 10 IoT Enterprise

Memory Options

2 x 4GB, 8GB, 16GB [260-pin, DDR4-2133, Dual Channel]
Max 32GB (2x16GB)

System Chipset / Graphics Chipset

Intel® GL82Q170 PCH /
i5-6500TE CPU: Intel® HD Graphics 530
G3900TE CPU: Intel® HD Graphics 510
i7-7700T CPU: Intel® HD Graphics 630

BIOS / Speaker / Buzzer

EFI, ACPI Support. Preconfigured by factory / Buzzer: 3500Hz
Onboard PC-Beeper

Power Manager and Monitoring

AT, ACPI (S3/S4) - TPM2.0, Temperature, Fan and voltages status
256 Segments, 0, 1, 2...255 sec/min

User Controls and Activity

Glass Display Control™ (GDC) IP66 with: Power On/Off, Brightness Control (-/+), Power LED, Mode Status Indicators (ECDIS, HDD, Service), Buzzer (through glass), Light Sensor (behind glass)

Connectors

- Ethernet GB LAN: 5 x RJ-45
- COM RS-232 & 422/485: 1 x DB9M non-isolated (RS mode in BIOS)
- USB2.0 (<5m): 2 x USB Type A (4-pin)
- USB3.0 (<3m): 2 x USB Type A (9-pin)
- DP++ 1.2 OUT: 1 x DisplayPort Female (Dual-Mode DP++)
- AC Power IN: 1 x Std IEC inlet
- Power IN: 1 x 2-pin Terminal Block 5.08
- If SSD Trays option: 2 x 2.5" Sized Tray/Bay (Factory option)

Product Dimensions and Weight

W:429.00 [16.89"] x H:382.00 [15.04"] x D:83.00 [3.27"] mm [inch]
Approx. 8.5kg / 18.7lbs

Product Carton Size and Weight

L:510.00 [20.08"] x W:195.00 [7.68"] x H:525.00 [20.67"] mm [inch]
Approx. TBDkg / TBDlbs

Factory Options

- Projected Capacitive Touch Screen (Multitouch, USB, Pen/Glove support)
 - Optical Bonding Technology
 - Color Calibrated models (ECDIS)
 - Variations of SSD Storage, RAM Memory, Operating System, CPU
 - 1 x PCA100293-1: 4xCOM RS-422/485 isolated NMEA 4 channel*
 - 1 x ZIA0001310-B: CAN isolated 2 channel or 2 x 4 channel*
 - 1 x PCA100297-1: Isolated Digital IO module, 4 x Output/4 x Input*
 - 1 x PCA100298-1: LAN 10/100Mbps, 2 ports RJ45*
 - 1 x PCA100309-1: Dual Isolated RS-232, 2xDB9 module*
 - 1 x Q170 IO: 1xNMEA RS422/485 isol.+2xDig. In&Out(Low Side switch)*
 - 1 x VSD203134-1: 2W Amplified Audio out via 1 x DB9F
- *Only one Option can be factory installed at the same time.

Accessories

- JH C01MF A-A: 1 x USB Cable 1m, TypeA-Chassis mount receptacle
- HD CMB SX2-N1: 1 x Console Mount Kit. EN60945 Tested
- HD TMB SX2-A1: 1 x Table Mount Bracket. EN60945 Tested
- HD VED SX2-C1: 1 x VESA Adapter Kit (75/75, 100/100 & 200/100mm)
- JH 19TAP STD-C1: 1 x Frame Adapter (19" Series 1 to Series X) retrofit
- HD 19TAP SX2-C2: 1 x Frame Adapter (19" Series X to Series 2) retrofit
- HD 19COV SX1-A1: 1 x UV Sun Cover
- P007031-1: 1 x IP66 Mount Gasket (EPDM), for Flush/Console mount
- HT 00262 OPT-A1: 4 x RS-422/RS-485 isolated, USB ext. module
- HT 00263 OPT-A1: 4 x RS-232 COM non-isolated, USB ext. module
- HT 00264 OPT-A1: 1 x CAN isolated, 2 channel, USB ext. module
- HT 00273 OPT-A1: 4 x Digital IN/OUT isolated, USB ext. module
- HT 00274 OPT-A1: 2 x LAN 10/100Mbps, RJ45, USB ext. module
- HT 00300 MSOS: OS options -> <http://www.hatteland-display.com/os>
- HD 000TR SX2-A2: 1 x Removable Front Tray 2.5" Empty
- HD xxxxy SX1-z1: 1 x Removable Front Tray 2.5" w/Storage Device

Capabilities / Prepared for

See Factory Options

Operating Temperature

-15.0°C / 5.0°F to 55.0°C / 131.0°F, Humidity up to 95%

Storage Temperature

-20.0°C / -4.0°F to 60.0°C / 140.0°F, Humidity up to 95%

IP Rating

Protection: IP66 front - IP20 rear (EN60529). IP22=option

Compass Safe Distance

Standard: 85.00 [33.46"] - Steering: 55.00 [21.65"] cm [inch]

Type Approval, Testing and Certificates

IEC 60945 4th (EN 60945:2002), IACS E10, IP66,
EU-RO-MR - Mutual Recognition



24 INCH

HD 24T22 MMC

TFT Technology

LED Backlight Technology, Widescreen, RGB vertical stripe, MVA [Multi-domain Vertical Alignment] Technology, TFT Active-matrix

Viewable Size and Active Area

24.0 inch - 531.36 [20.92"] (H) x 298.89 [11.77"] (V) mm [inch]

Native Resolution and Pixel Pitch

1920 x 1080 (FHD) - 0.276 (H) x 0.276 (V) mm

Aspect Ratio and Response Time

16:9 - 25ms (typ)

Light Intensity and Contrast Ratio

300 cd/m² (typ) - 3000:1 (typ)

View Angle / Max Colors

89 deg. (up/down/left/right) - 16.7 million

Optimal Resolution and Hz

1920 x 1080 @ 60 Hz (If resolution is above/below 1:1, desktop scrolling mode will be used)

Detectable Resolutions

640 x 480 to 4096 x 2304

Power Specifications and Consumption

115&230VAC - 50/60Hz
or Multipower: 115&230VAC - 50/60Hz + 24VDC
88W (typ) - 106W (max)

Product Features

Dimmable 0-100%, Buzzer, Multi-power AC & DC, GPIO, LAN Wakeup, USB Boot & Wakeup

Installed Operating System (OS)

None or Standard OS/Customized image, review datasheet for list.

Storage Options

Internal Storage: 1 x SSD MLC SATA, Type m.2
[240GB (599TBW), 480GB (945TBW), 960GB (1750TBW)]
and/or
2 x 2.5" Removable Tray. Option: 1 or 2 can be installed of:
SSD SATA (Multi Level)
[240GB (599TBW), 480GB (945TBW), 960GB (1750TBW)]

CPU / Processor Options

1 x Intel® Quad Core™ i5-6500TE, 2.3/3.3GHz, 6MB Cache
or 1 x Intel® Quad Core™ i7-7700T*, 2.9/3.8GHz, 8MB Cache
or 1 x Intel® Dual Core Celeron™ G3900TE, 2.3/2.3GHz, 2MB Cache
*Supported only by Windows® 10 IoT Enterprise

Memory Options

2 x 4GB, 8GB, 16GB (260-pin, DDR4-2133, Dual Channel)
Max 32GB (2x16GB)

System Chipset / Graphics Chipset

Intel® GL82Q170 PCH /
i5-6500TE CPU: Intel® HD Graphics 530
G3900TE CPU: Intel® HD Graphics 510
i7-7700T CPU: Intel® HD Graphics 630

BIOS / Speaker / Buzzer

EFI, ACPI Support. Preconfigured by factory / Buzzer: 3500Hz
Onboard PC-Beeper

Power Manager and Monitoring

AT, ACPI (S3/S4) - TPM2.0, Temperature, Fan and voltages status
256 Segments, 0, 1, 2...255 sec/min

User Controls and Activity

Glass Display Control™ (GDC) IP66 with: Power On/Off, Brightness Control (-/+), Power LED, Mode Status Indicators (ECDIS, HDD, Service), Buzzer (through glass), Light Sensor (behind glass)

Connectors

- Ethernet GBLan: 5 x RJ-45
- COM RS-232 & 422/485: 1 x DB9M non-isolated (RS mode in BIOS)
- USB2.0 (<5m): 2 x USB Type A (4-pin)
- USB3.0 (<3m): 2 x USB Type A (9-pin)
- DP++ 1.2 OUT: 1 x DisplayPort Female (Dual-Mode DP++)
- AC Power IN: 1 x Std IEC inlet
- If DC Power IN option: 1 x 2-pin Terminal Block 5.08 (Factory option)
- If SSD Trays option: 2 x 2.5" Sized Tray/Bay (Factory option)

Product Dimensions and Weight

W:593.00 [23.35"] x H:384.00 [15.12"] x D:73.50 [2.89"] mm [inch]
Approx. 10.0kg / 22.0lbs

Product Carton Size and Weight

L:700.00 [27.56"] x W:180.00 [7.09"] x H:565.00 [22.24"] mm [inch]
Approx. 11.5kg / 25.3lbs

Factory Options

- Projected Capacitive Touch Screen (Multitouch, USB, Pen/Glove support)
- Optical Bonding Technology
- Color Calibrated models (ECDIS)
- Multipower (AC+DC) or AC only model
- Model with 2 x physical 2.5" removable Disk Bay/Tray
- Variations of SSD Storage, RAM Memory, Operating System, CPU
- 1 or 2 x PCA100293-1: 4xCOM RS-422/485 isolated NMEA 4 channel
- 1 x ZIA0001310-B: CAN isolated 2 channel or 2 x 4 channel
- 1 x VSD101121-1: 2W Amplified Audio out via 1xDB9F+3x3.5mm Jack
- 1 x PCA100297-1: Isolated Digital IO module, 4 x Output/4 x Input
- 1 x PCA100298-1: LAN 10/100Mbps, 2 ports RJ45
- 1, or 2 x PCA100309-1: Dual Isolated RS-232, 2xDB9 module
- 1 x Q170 IO: 1xNMEA RS422/485 isol.+2xDig. In&Out (Low Side switch)

Accessories

- JH C01MF A-A: 1 x USB Cable 1m, TypeA-Chassis mount receptacle
- HD VED SX2-I1: 1 x VESA Adapter (100/100 & 200/100mm) (not EN60945 Tested)
- HD TMB SX1-C1: 1 x Table Mount Bracket. EN60945 Tested
- HD CMB SX2-E1: 1 x Console Mount Kit. EN60945 Tested
- HD 24COV SX1-A1: 1 x UV Sun Cover
- P022211: 1 x IP66 Mount Gasket (EPDM), for Flush/Console mount
- HD CAK SX2-A1: 1 x Front Console Mounting/Adapter Kit
- HT 00262 OPT-A1: 4 x RS-422/RS-485 isolated, USB ext. module
- HT 00263 OPT-A1: 4 x RS-232 COM non-isolated, USB ext. module
- HT 00264 OPT-A1: 1 x CAN isolated, 2 channel, USB ext. module
- HT 00273 OPT-A1: 4 x Digital IN/OUT isolated, USB ext. module
- HT 00274 OPT-A1: 2 x LAN 10/100Mbps, RJ45, USB ext. module
- HT 00300 MSOS: OS options -> <http://www.hatteland-display.com/os>
- HD 000TR SX2-A2: 1 x Removable Front Tray 2.5" Empty
- HD xxxxy SX1-z1: 1 x Removable Front Tray 2.5" w/Storage Device

Capabilities / Prepared for

See Factory Options

Operating Temperature

-15.0°C / 5.0°F to 55.0°C / 131.0°F, Humidity up to 95%

Storage Temperature

-20.0°C / -4.0°F to 60.0°C / 140.0°F, Humidity up to 95%

IP Rating

Protection: IP66 front - IP20 rear (EN60529). IP22=option

Compass Safe Distance

Standard: 140.00 [55.12"] - Steering: 85.00 [33.46"] cm [inch]

Type Approval, Testing and Certificates

IEC 60945 4th [EN 60945:2002], IACS E10, IP66,
EU-RO-MR - Mutual Recognition



27 INCH

HD 27T22 MMC

TFT Technology

LED Backlight Technology, Color Active Matrix, Widescreen, a-Si (amorphous silicon) Thin Film Transistor (TFT)

Viewable Size and Active Area

27.0 inch - 597.60 [23.53"] (H) x 336.15 [13.23"] (V) mm [inch]

Native Resolution and Pixel Pitch

1920 x 1080 (FHD) - 0.31125 (H) x 0.31125 (V) mm

Aspect Ratio and Response Time

16:9 - 12ms (typ, on/off)

Light Intensity and Contrast Ratio

300 cd/m² (typ) - 3000:1 (typ)

View Angle / Max Colors

89 deg. (up/down/left/right) - 16.7 million

Optimal Resolution and Hz

1920 x 1080 @ 60 Hz (If resolution is above/below 1:1, desktop scrolling mode will be used)

Detectable Resolutions

640 x 480 to 4096 x 2304

Power Specifications and Consumption

115&230VAC - 50/60Hz
or Multipower: 115&230VAC - 50/60Hz + 24VDC
72W (typ) - 84W (max)

Product Features

Dimmable 0-100%, Buzzer, Multi-power AC & DC, GPIO, LAN Wakeup, USB Boot & Wakeup

Installed Operating System (OS)

None or Standard OS/Customized image, review datasheet for list.

Storage Options

Internal Storage: 1 x SSD MLC SATA, Type m.2
[240GB (599TBW), 480GB (945TBW), 960GB (1750TBW)]
and/or
2 x 2.5" Removable Tray. Option: 1 or 2 can be installed of:
SSD SATA (Multi Level)
[240GB (599TBW), 480GB (945TBW), 960GB (1750TBW)]

CPU / Processor Options

1 x Intel® Quad Core™ i5-6500TE, 2.3/3.3GHz, 6MB Cache
or 1 x Intel® Quad Core™ i7-7700T*, 2.9/3.8GHz, 8MB Cache
or 1 x Intel® Dual Core Celeron™ G3900TE, 2.3/2.3GHz, 2MB Cache
*Supported only by Windows® 10 IoT Enterprise

Memory Options

2 x 4GB, 8GB, 16GB [260-pin, DDR4-2133, Dual Channel]
Max 32GB [2x16GB]

System Chipset / Graphics Chipset

Intel® GL82Q170 PCH /
i5-6500TE CPU: Intel® HD Graphics 530
G3900TE CPU: Intel® HD Graphics 510
i7-7700T CPU: Intel® HD Graphics 630

BIOS / Speaker / Buzzer

EFI, ACPI Support. Preconfigured by factory / Buzzer: 3500Hz
Onboard PC-Beeper

Power Manager and Monitoring

AT, ACPI (S3/S4) - TPM2.0, Temperature, Fan and voltages status
256 Segments, 0, 1, 2...255 sec/min

User Controls and Activity

Glass Display Control™ (GDC) IP66 with: Power On/Off, Brightness Control (-/+), Power LED, Mode Status Indicators (ECDIS, HDD, Service), Buzzer (through glass), Light Sensor (behind glass)

Connectors

- Ethernet GBLan: 5 x RJ-45
- COM RS-232 & 422/485: 1 x DB9M non-isolated (RS mode in BIOS)
- USB2.0 (<5m): 2 x USB Type A (4-pin)
- USB3.0 (<3m): 2 x USB Type A (9-pin)
- DP++ 1.2 OUT: 1 x DisplayPort Female (Dual-Mode DP++)
- AC Power IN: 1 x Std IEC inlet
- If DC Power IN option: 1 x 2-pin Terminal Block 5.08 (Factory option)
- If SSD Trays option: 2 x 2.5" Sized Tray/Bay (Factory option)

Product Dimensions and Weight

W:650.00 [25.59"] x H:437.00 [17.20"] x D:73.00 [2.87"] mm [inch]
Approx. 12.1kg / 26.6lbs

Product Carton Size and Weight

L:765.00 [30.12"] x W:190.00 [7.48"] x H:615.00 [24.21"] mm [inch]
Approx. 13.9kg / 30.6lbs

Factory Options

- Projected Capacitive Touch Screen (Multitouch, USB, Pen/Glove support)
- Optical Bonding Technology
- Color Calibrated models (ECDIS)
- Multipower (AC+DC) or AC only model
- Model with 2 x physical 2.5" removable Disk Bay/Tray
- Variations of SSD Storage, RAM Memory, Operating System, CPU
- 1 or 2 x PCA100293-1: 4xCOM RS-422/485 isolated NMEA 4 channel
- 1 x ZIA0001310-B: CAN isolated 2 channel or 2 x 4 channel
- 1 x VSD101121-1: 2W Amplified Audio out via 1xDB9F+3x3.5mm Jack
- 1 x PCA100297-1: Isolated Digital IO module, 4 x Output/4 x Input
- 1 x PCA100298-1: LAN 10/100Mbps, 2 ports RJ45
- 1, or 2 x PCA100309-1: Dual Isolated RS-232, 2xDB9 module
- 1 x Q170 IO: 1xNMEA RS422/485 isol.+2xDig. In&Out (Low Side switch)

Accessories

- JH C01MF A-A: 1 x USB Cable 1m, TypeA-Chassis mount receptacle
- HD VED SX2-K1: 1 x VESA Adapter (100/100 & 200/100mm) (not EN60945 Tested)
- HD TMB SX1-C1: 1 x Table Mount Bracket. EN60945 Tested
- HD CMB SX2-E1: 1 x Console Mount Kit. EN60945 Tested
- HD 27COV SX1-A1: 1 x UV Sun Cover
- P018743: 1 x IP66 Mount Gasket (EPDM), for Flush/Console mount
- HD CAK SX2-B1: 1 x Front Console Mounting/Adapter Kit
- HT 00262 OPT-A1: 4 x RS-422/RS-485 isolated, USB ext. module
- HT 00263 OPT-A1: 4 x RS-232 COM non-isolated, USB ext. module
- HT 00264 OPT-A1: 1 x CAN isolated, 2 channel, USB ext. module
- HT 00273 OPT-A1: 4 x Digital IN/OUT isolated, USB ext. module
- HT 00274 OPT-A1: 2 x LAN 10/100Mbps, RJ45, USB ext. module
- HT 00300 MSOS: OS options -> <http://www.hatteland-display.com/os>
- HD 000TR SX2-A2: 1 x Removable Front Tray 2.5" Empty
- HD xxxxy SX1-z1: 1 x Removable Front Tray 2.5" w/Storage Device

Capabilities / Prepared for

See Factory Options

Operating Temperature

-15.0°C / 5.0°F to 55.0°C / 131.0°F, Humidity up to 95%

Storage Temperature

-20.0°C / -4.0°F to 60.0°C / 140.0°F, Humidity up to 95%

IP Rating

Protection: IP66 front - IP20 rear (EN60529). IP22=option

Compass Safe Distance

Standard: 85.00 [33.46"] - Steering: 50.00 [19.69"] cm [inch]

Type Approval, Testing and Certificates

IEC 60945 4th [EN 60945:2002], IACS E10, IP66,
EU-RO-MR - Mutual Recognition