



# NAVY



RUGGED DISPLAY

## A3RD SERIES

# 20" A3RD 5820 UX



### Key Features

- > IP68/NEMA 6P waterproof
- > Full MIL specs qualified
- > NVIS capability
- > Flexible positioning of the connectors
- > Optional USB front connector from computer via back connector
- > ROHS compliant

**IRTS 5820UX** is a rugged display of the A3RD Family, a comprehensive range of 17" to 24" rugged and ultra rugged displays.

Its specific design, graphic display and video capabilities meet the evolving and operational needs of modern Armed Forces and cope with the toughest environments.

**A3RD Technology** allows selecting 6 screen sizes (17", 19", 20", 21"W, 24" & 24"W), brightness level as well as military specs ruggedization according to random vibrations levels: level I up to 3 G RMS (SK1 serie) and level II up to 6 G RMS (SK2 serie).

Direct interface with client system, versatile configuration capabilities and easy mounting make it the choice of prime system integrators as a reliable, configurable, best cost and lead time MOTS (Military Off The Shelf) equipment in operational use today.

See also the displays in the A3RD series specifically designed for your Airborne, Army or Industry applications.

[www.irts.fr](http://www.irts.fr)

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## PRODUCT SPECIFICATIONS

Display Module	
Size	20"
Resolution	1600 x 1200 (UXGA)
Brightness	250 Cd/m <sup>2</sup>
Pixel pitch	0.294 (H) x 0.294 (V) mm
Viewing angles	85°-85° (H) / 85°-85° (V)
Response Time	30 ms (Tr+Tf) White to Black
Contrast Ratio	1400 : 1
Display Color	16.7 M (Dithering)
Backlight	LED Technology
Dimming ratio	up to 10 Cd/m <sup>2</sup>
Controls	
Remote control	Backlight, blackout and On/Off control in front
Integrated Video Controller	
Graphic controller	IRTS Embedded Video Controller
Analog Video	1 x input VGA
Digital Video	1 x input DVI
Serial Ports (RS232/RS422)	1 x Serial touch controller / 1x Serial for remote control
USB 2.0	1 x Touch controller / 1 x Remote control
BITE	Unit Management software
Electrical Features	
Power supply DC	Power 18/36 VDC with galvanic isolation
PLD-DC	Power Line Disturbance optional module for Power 18/36 VDC
Power supply AC	Power 90-264 VAC with galvanic isolation
Power consumption	50 W normal environment cond. 80 W max in cold environment
Physical Features	
Dimensions	480.5 x 379 x 84.2 mm
Weight	12 Kg
Mechanical fixing	462,5 x 361
Packaging / color	Aluminum / GAM C BLACK 36X3 (Other colors available)
Connectors Type & Position	
Connectors position / orientation	DOWN / HORIZONTAL (Other configurations available - see below)
Connectors type	MIL-DTL-38999 III (Black Zinc Nickel) size 11 & 13
Options	
Composite Video	1 x Coaxial composite PAL/NTSC (BNC)
Front USB Connector	1 x Fischer serie 102 for connection transfer from CPU (key board, pointing devices, etc.)
Optical bonding	LCD panel bonding
Touch screen	Resistive or Capacitive multitouch
Connecteur Caps	Standard on front, optional on the others connectors
Fastening	See configurator below
Warranty	
Two-year limited warranty (parts and labor).	
Additional coverage and customized service plans available on request.	

## CONFIGURATOR FOR FINAL PRODUCT

Various combinations are available according to fastening and to orientation and positioning of connectors.

Commercial reference	5820UX	.....	.....	.....
Fastening	F (Front) R (Rear)			
Orientation of connectors	H (Horizontal) V (Vertical)			
Position of connectors	U (Up) D (Down)			



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## RANGE OF DISPLAYS

A3RD offers a wide range of displays whose 6 monitor's screen sizes and 2 brightness levels will meet your needs for your indoor and outdoor applications. (Contact us for more information).



A3RD LCD DISPLAYS	17"	19"	20"	24" W	21"5 W	24" W
	SXGA		UXGA	WUXGA	Full HD	
A3RD Series	A3RD17 SX	A3RD19 SX	A3RD20 UX	A3RD24 WU	A3RD21 HD	A3RD24 HD
Screen Ratio	5/4		4/3	16/10	16/9	
Resolution	1280 x 1024		1600 x 1200	1920 X 1200	1920 x 1080	
A3RD Standard Luminance cd/m <sup>2</sup>	300	300	250	300	250	250
Viewing Angles	80°/80°/60°/80°	85°/85°/80°/80°	85°/85°/85°/85°	89°/89°/89°/89°	89°/89°/89°/89°	89°/89°/89°/89°
A3RD Outdoor Luminance cd/m <sup>2</sup> (option)	800	800	550	On customer request		
Viewing Angles	80°/80°/60°/80°	85°/85°/80°/80°	85°/85°/85°/85°	On customer request		
Sunlight readability (option)	IRTS bonding technology (applicable to standard & outdoor versions)		IRTS bonding technology (applicable to standard & outdoor versions)	IRTS bonding technology (applicable to standard & outdoor versions)		

## PRODUCT RANGE & ENVIRONMENTAL CONDITIONS

Depending on the application, our range offers products that will comply with your size, ruggedization and environmental conditions requirements.

A3RD for NAVY			A3RD Range	
Display Size		A3RD Series	SKU 1	SKU 2
			Rugged Model	Ultra Rugged Model
17"	17" SXGA (1280 x 1024)	A3RD17 SX	5817 SX SK1	5817 SX SK2
19"	19" SXGA (1280 x 1024)	A3RD19 SX	5819 SX SK1	5819 SX SK2
20"	20" UXGA (1600 x 1200)	A3RD20 UX	5820 UX SK1	On customer request
21"	21"5 FHD (1920 x 1080)	A3RD21 HD	5821 HD SK1	
24"	24" FHD (1920 x 1080)	A3RD24 HD	5824 HD SK1	
	24" WUXGA (1920 x 1200)	A3RD24 WU	5824 WU SK1	
Power Supply Characteristics			18-36 VDC	
DC Power Supply			85/265 VAC 50-400 Hz	
AC Power Supply			Operating Environmental Conditions	
2 Ruggedization Levels			Operating Environmental Conditions	
Temperature Range			Level I	Level II
Operating			-20°C to +55°C	-32°C to +60°C
Storage			-32°C to +70°C	
Humidity			T= +40°C, HR = 5 to 95%	T= +60°C, HR = 5 to 95%
Mechanical			Level I	Level II
Random vibrations			up to 1g RMS	up to 5,8g RMS
Sinus vibrations			up to 1.28g	up to 1.28g
Shocks			30g 11msec half sine X,Y,Z axis	37g 25msec half sine X,Y, Z axis
EMC/EMI			Level I	Level II
MIL-STD 461E			CE102, RE102 Submarine	CE102, RE102 Navy Fixed & Air Force



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## ENVIRONMENTAL CONDITIONS

The table below shows our benchmark for environmental standards.

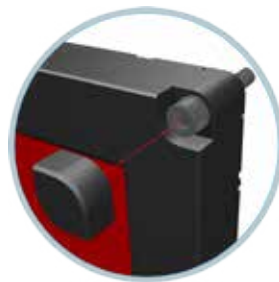
Qualification Standards		
A3RD	SK1	SK2
Vibrations	MIL STD 167 : Type 1	
	STANAG 4370 AECTP400: Method 401 Table E1	
	MIL-STD 810G : Method 514.6 Cat. 21 - Method 528	
	DEF STAN 0035 : Test M1 figure A28	DEF STAN 0035 : Test M1 figure A29
Shocks	DEF-STAN 0035 Part 3	
Emission	MIL-STD 461E: CE102 Basic Curve, RE102 Submarine application (internal to pressure hull) RE 102 Surface Ship application (below desk)	MIL-STD 461E: CE102 Basic Curve RE102 Navy Fixed & Airforce RE 102 Surface Ship application (top side)
Susceptibility	MIL-STD 461E: CS101, CS114, CS115, CS116, RS103	
Operating temperature	MIL-STD 810F, Method 501.4 et 502.4, Procedure II	
Humidity	MIL-STD 810F, Method 507.4	
Salt fog	MIL-STD 810F, Method 509.4, Procedur	
Waterproofness	IP 68, immersion 1 meter	

## PRODUCT MOUNTING

Basically, the back side of the A3R packaging offers threaded holes for four M8-screws, that can be operable or not. Note that this mounting is invariant whatever the size of display. Customer has to choose between front or rear mounting.

### STANDARD FRONT MOUNTING

Standard front mounting is realized by fastening of 4 x M8-captive screws positioned at each front corner of the product, finished with trim screws (example for 5821SX-FHD).



FRONT MOUNTING

### OPTIONNAL REAR MOUNTING

Optionnal rear mounting can be realized by using the 4 threaded holes for M8-screws positioned at each rear corner of the product (example for 5821SX-RHD).



REAR MOUNTING



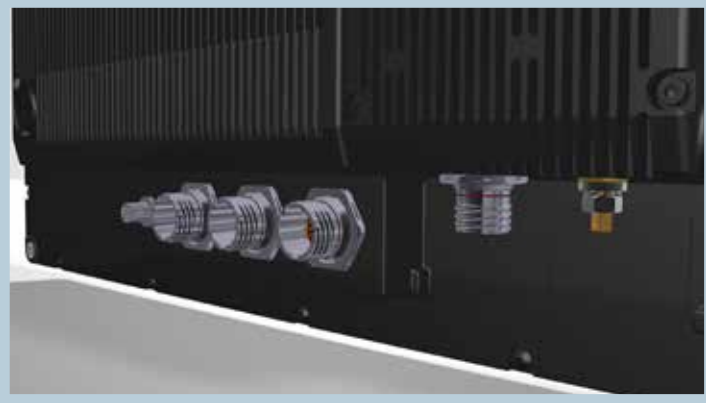
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## CONNECTORS POSITIONS AND ORIENTATIONS

## DOWN POSITIONING

Standard orientation : Horizontal  
(5817SX-RHD or 5817SX-FHD)



Optional orientation : Vertical (with Minimum Order Quantity)  
(5817SX-RVD or 5817SX-FVD)



## UP POSITIONING

Standard orientation : Horizontal  
(5817SX-RHU or 5817SX-FHU)



Optional orientation : Vertical (with Minimum Order Quantity)  
(5817SX-RVU or 5817SX-FVU)



## COLOR PRODUCT

Standard color is black (GAM C Black 36X3).  
Other colors can be proposed on request with Minimum Order Quantity.



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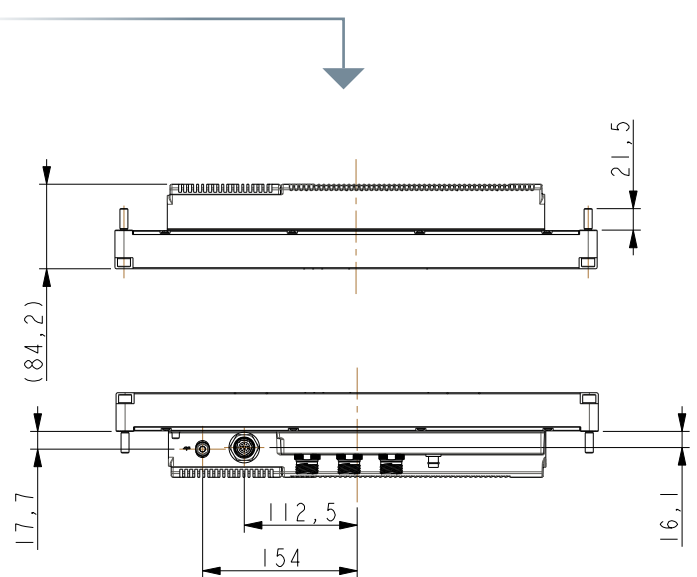
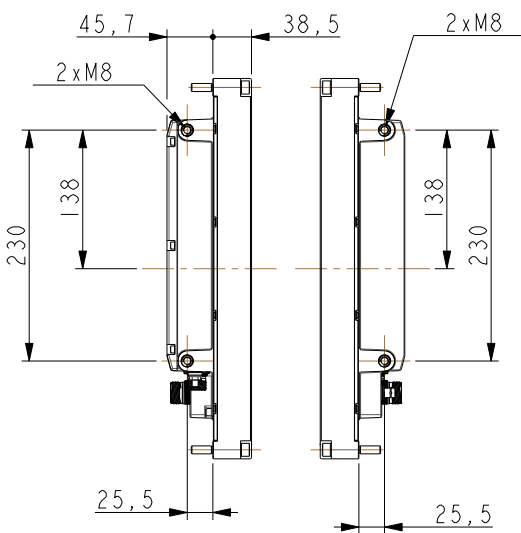
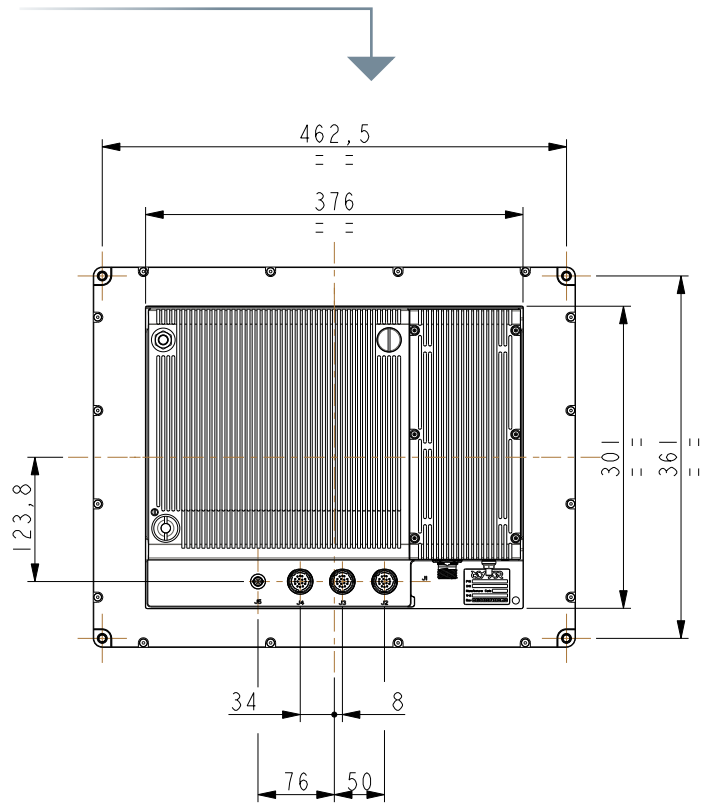
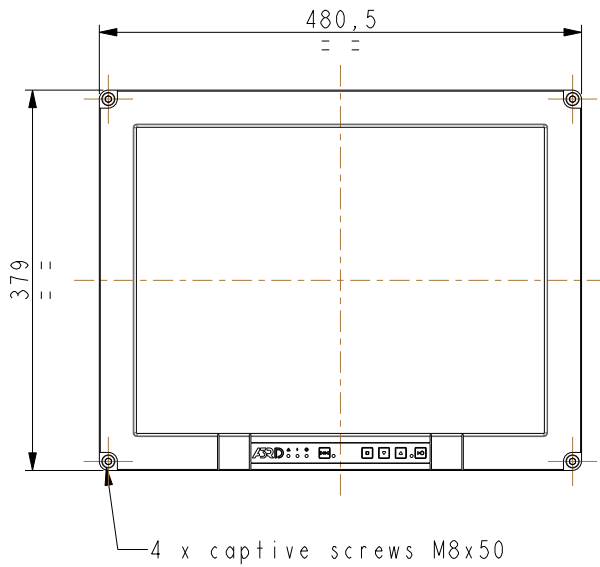
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# TECHNICAL LAYOUT

Dimensions are in millimeters (mm).



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