Mini Specification

Project name	DM-163GN-MPXR03 2RU UReady™ Control Surface– X86	
Document type	Mini spec	
Customer	Standard	
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Internal Approvals		
Product Mgr	Doc. Control	Electr. Eng.
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Revision Record

Rev.	Date	Page	Chapt.	Comment	ECR no.
A	15/10/2020	--	--	Initial Release	
B	15/4/2021			MP version	

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1.0 General Descriptions

1.1 Introduction

Densitron's modular design of HMI control surface is suitable for applications in Broadcast, Telecommunications, and other networked control and monitoring systems.

This universal touchscreen control surface is 2RU rack mountable, with an embedded X86 platform and Ethernet connectivity.

The display has 1920 x 285 pixels and an optically bonded capacitive touchscreen providing optimum optical quality. The display features wide-angle symmetric viewing making it easier to be used in many operational applications.

The embedded X86 platform is Densitron's single board computer based on Intel Apollo N4200 utilising Quad core 1.1GHz. Along with the four CPU cores, the chip integrates a reworked Intel HD Graphics 505 (Apollo Lake) GPU based on Intel's Gen9 architecture supporting DirectX 12.

Densitron has developed the X86 architecture to allow our customers to use their existing windows-based application to run on our hardware solution.

Intel® Pentium® Processor N Series (N4200) Quad processor with 1.10 GHz with 4GB RAM
Windows 10 OS (Enterprise edition)
Video decode hardware acceleration including support for HEVC (H.265), H.264, MVC, VP8, VP9, MPEG2, VC-1, WMV9, JPEG/MJPEG.
Video encode hardware acceleration including support for HEVC (H.265), H.264, MVC, VP8, VP9, JPEG/MJPEG.
Integrated gpu base frequency: 200 MHz Max 750 MHz
This MPU incorporates Intel's HD Graphics 505 GPU operating at 200 MHz with a burst frequency of 750 MHz

Alternatively, the SBC can operate as a stand-alone Linux or windows system running an HTML engine on the preinstalled chrome browsers. This enables a rapid port of pre-existing solutions to modernise the aesthetic of product.

Example application for the DM-16GN-MPXR03 include:
- Hardware control surface
- Video and Audio router
- Router Control surface
- Multiview control
- X and Y router matrix panel
- Routing panel for Video hub

2.0 TECHNICAL SPECIFICATIONS
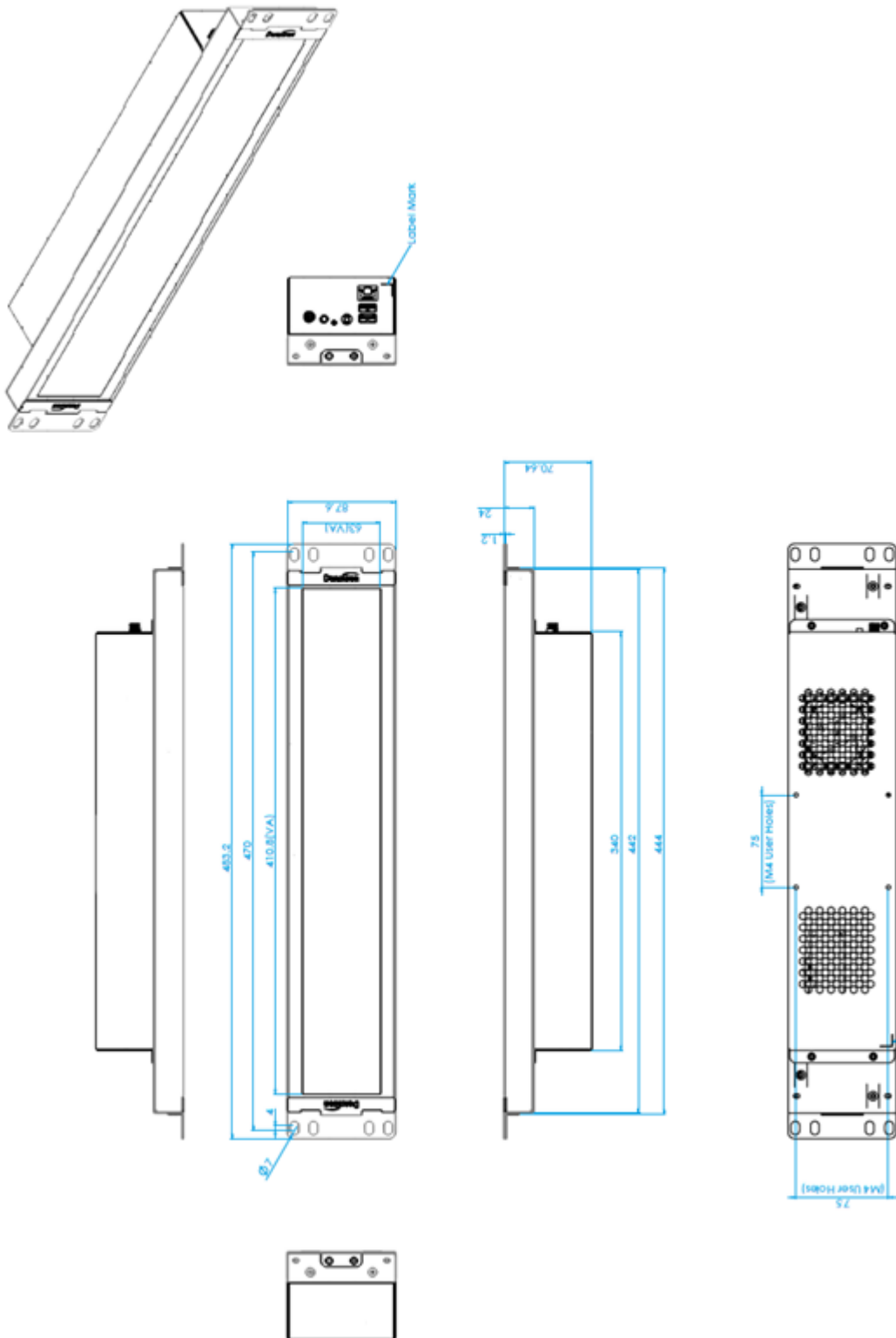
2.1 Product features:

Item	Contents
Display Type	2RU 19" Rack mount
Rack type	19" 2RU
Main interfaces	2 x USB
	1 x Ethernet port
Operating System	Windows 10 or Linux (on request)
Processor (APU)	Intel® Apollo Late N4200
Screen Size	16.3" Diagonal
Display Format	1920 x 285 pixels
No. of Colour	16.7M (Ture 8-bit)
Overall Dimensions	483 x 87.6 x TBD mm
Active Area	408.96 (W) x 60.71 (H) mm
Viewing Angle	L/R: 178° (Typ.) U/D: 178° (Typ.)
Contrast Ratio	1000: 1 (Typ.)
Brightness	700 cd/m^2 (Typ.)
Plug & Play	Rack mount and VESA 75 x 75 mm
Touch Technology	PCT
Bonding Type	Optical Bonding
ROHS	Compliant to RoHS 2.0

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2.2 Hardware Details

Single Board computer

Item	Contents
Processor (APU)	Intel® Pentium® Processor N Series (N4200) Quad processor with 1.10 GHz
Memory	Quad: 4GB DDR3 RAM
Hard drive	64 GB SSD M2
Operating System	Windows 10 enterprise or Linux (on demand)
Main interfaces	2x USB3.2
	1x Ethernet port 10/100/1000 Mbps x 1. IEEE 802.3af
Graphics processor (GPU)	Intel® HD Graphics 505
	Graphics Base Frequency 200 MHz
	DirectX*, OpenGL*, Intel® Quick Sync Video
Audio	1x Audio Line-Out (Stereo left / right channels)
Power Supply Voltage	12V DC
General Dimensions	483.2 x 87.6 x 70.64 (mm)

Display

Item	Contents
Screen Size	16.3" Diagonal
Display Format	1920 x 285 pixels
No. of Colour	16.7M (True24-bit)
Overall Dimensions	TBD
Active Area	408.96 (W) x 60.71 (H) mm
Viewing Angle	L/R: 178° (Typ.) U/D: 178° (Typ.)
Contrast Ratio	1000: 1 (Typ.)
Brightness	700 cd/m^2 (Typ.)
Pixels per Inch (PPI)	*119*

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2.3 Mechanical drawing

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2.4 Environmental Specification

Item	Contents
Operating Temperature	0 ~ 45 ° C
Storage Temperature	-10 ~ 70 ° C
Relative Humidity	95%@40 degree centigrade, non-condensing
Operating Vibration	1Grms/5~500Hz, IEC 60068-2-64
Non-Operating Shock	30Grms, 11ms, IEC 60068-2-27
ESD Protection	8kV contact/15kV air
EMI	Pass FCC class A testing
CE Standard	EN 55032, EN 55035
FCC Standard	Part 15 B, Class B

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3.0 Ordering and product

3.1 Ordering part number

Size	Part Number	Description
16.3"	DM-163GN-MPXR03	2RU UReady™ Control Surface– X86

3.2 Alternative items

Size	Part Number	Description
16.3"	DM-163GN-MPYR01	2RU UReady™ Control Surface– ARM

Size	Part Number	Description
16.3"	DM-163GN-MBXR01	2RU UReady Control Surface 1-Row Buttons – X86

Size	Part Number	Description
16.3"	DM-163GN-MBYR02	2RU UReady Control Surface 3-Row Buttons – X86

Size	Part Number	Description
16.3"	TBD	2RU UReady™ Control Surface– X86 Redundancy power supply and Ethernet (Q4, 2021)

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