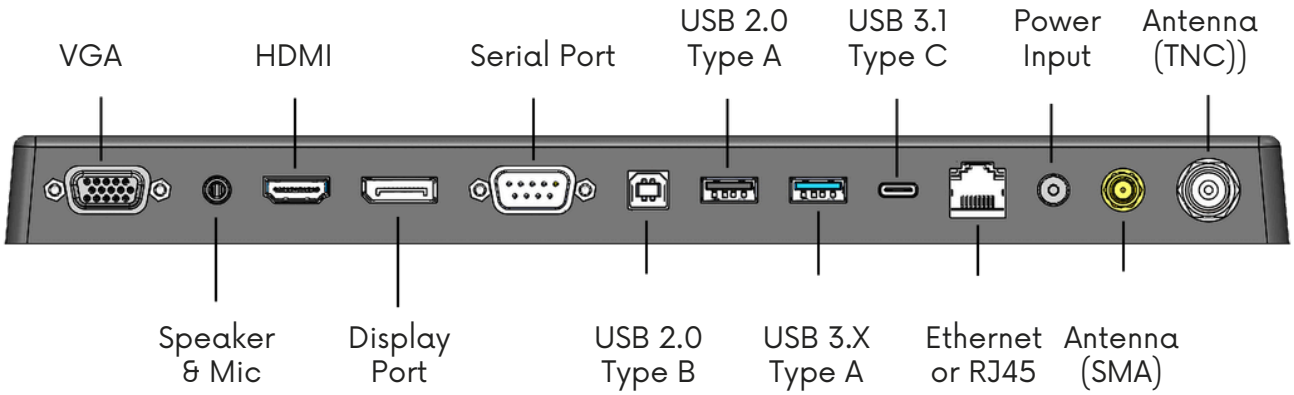
HAVIS

Panasonic CONNECT

PANASONIC SPEEDS & FEEDS



THE INS & OUTS OF DOCKING STATIONS



VGA	Video Graphics Array(VGA) port: analog signal for video
Speaker & Mic	Audio ports: analog signal for audio: green-audio out; pink=microphone in
HDMI	High Definition Multimedia Interface: digital signal for audio & video
Display Port	Digital signal for audio & video
Serial Port	RS232 port, analog signal to connect peripherals
IUSB 2.0 Type B	Digital signal, transmission rate of 480 Mbps; B type rectangle connector
USB 2.0 Type A	Digital signal, transmission rate of 480 Mbps; A type rectangle connector
USB 3.X Type A	Digital signal, transmission rate of 5 Gbps; A type of rectangle connector
USB 3.1 Type C	Digital signal, transmission rate of 5 Gbps; C type of rectangle connector
Ethernet	RJ45 port: analog & digital signals, transmission rate of 100 Mbps to Gbps
Power Input	Barrel connector: transfer 10-12v electrical current
Antenna (SWA)	Coaxial RF 1/4" female connector with external threads: mobile & Wifi
Antenna (TNC)	Coaxial RF 7/16" female connector with external threads: mobile & Wifi

Havis Docking Station
TOUGHBOOK 54, 55 & 56
DS-PAN-430

Panasonic CONNECT



TOUGHBOOK Laptop Solution

- Low profile, lightweight and flexible design
- Port replication with integrated strain relieving
- Retractable connector cover protects pins
- Backwards compatible for existing fleets
- Dual Pass-Thru Antenna Connections (Optional)
- External Power Supply (Optional)
- Bundles available for convenient solutions

PART NUMBER	ETHERNET	USB 3.0	HDMI	VGA	SERIAL	POWER INPUT	PASS-THRU ANT	ANT TYPE	EXT POWER
DS-PAN-431	1	2 REAR	1	1	1	15.6 V*			
DS-PAN-431-2	1	2 REAR	1	1	1	15.6 V*	DUAL	TNC	
DS-PAN-432N	1	2 REAR	1	1	1	15.6 V			120N-B01-S03-1
DS-PAN-432N-2	1	2 REAR	1	1	1	15.6 V	DUAL	TNC	120N-B01-S03-1
DS-PAN-433									
DS-PAN-434	1	2 REAR			1	15.6 V*			
DS-PAN-434-2	1	2 REAR			1	15.6 V*	DUAL	TNC	
DS-PAN-435N	1	2 REAR			1	15.6 V			120N-B01-S03-1
DS-PAN-435N-2	1	2 REAR			1	15.6 V	DUAL	TNC	120N-B01-S03-1
DS-PAN-436N						15.6 V			120N-B01-R03-1

* Requires an external Panasonic authorized DC power supply

SPECIFICATIONS

Height: 3.0-in (7.6 cm)
Width: 14.1-in (35.8 cm)
Depth: 13.7-in (34.8 cm)
Weight: 5.4 lbs (2.5 kg)
Mounting: Bracket fits most motion devices

CERTIFICATIONS & TESTING

TOUGHBOOK, CE, C-Tick Certified; RoHS Compliant
Vibration Testing: MIL-STD-810H 514.8
Impact Test: Crash Simulation per SAE J1455
Cycle Test: Latch Tested 30,000 cycles
Environmental Testing: Hot/Cold Operation & Storage

Havis Docking Station
TOUGHBOOK 55 & 56
DS-PAN-440

Panasonic CONNECT



TOUGHBOOK Laptop Solution

- Optional port replication with Advanced or Standard content
- Optional Dual pass-through antenna connection
- Intuitive docking & undocking with new push/pull latching feature; widely preferred among users
- Compatible with DS-DA-427 Screen Support, designed to support the laptop screen and reduce vibration
- Spring-loaded, floating connector head
- Includes 120W Havis Power Supply (select models)

PART NUMBER	ETHERNET	USB-A	USB-C	USB-C DP ALT MODE 2K	POWERED SERIAL	PASS-THRU ANT	ANT TYPE	EXT POWER
DS-PAN-441	1	1 REAR (3.2)	1 FRONT (2.0) 1 REAR (3.2)	1 REAR (3.2)	1			
DS-PAN-441-2	1	1 REAR (3.2)	1 FRONT (2.0) 1 REAR (3.2)	1 REAR (3.2)	1	2	SMA	
DS-PAN-442N	1	1 REAR (3.2)	1 FRONT (2.0) 1 REAR (3.2)	1 REAR (3.2)	1			120N-B01-S03-1
DS-PAN-442N-2	1	1 REAR (3.2)	1 FRONT (2.0) 1 REAR (3.2)	1 REAR (3.2)	1	2	SMA	120N-B01-S03-1
DS-PAN-443								
DS-PAN-444	1	1 REAR (3.2)	1 FRONT (2.0) 2 REAR (3.2)					
DS-PAN-444-2	1	1 REAR (3.2)	1 FRONT (2.0) 2 REAR (3.2)			2	SMA	
DS-PAN-445N	1	1 REAR (3.2)	1 FRONT (2.0) 2 REAR (3.2)					120N-B01-S03-1
DS-PAN-445N-2	1	1 REAR (3.2)	1 FRONT (2.0) 2 REAR (3.2)			2	SMA	120N-B01-S03-1
DS-PAN-446N								120N-B01-R03-1

SPECIFICATIONS

Height: 2.5" (6.35 mm)
Width: 12.2” (30.98 mm)
Depth: 14.2” (36.07 mm)
Weight: 3.5 lbs (1.59 kg)
Mounting: Bracket fits most motion devices

CERTIFICATIONS & TESTING

Vibration Testing: MIL-STD 810H 514.8
Crash Testing: SAE J1455 30mph
Bump Testing: IEC-68-2006-27
Cycle Testing: Dock/undock 30K cycles
Environmental Testing: Hot/Cold operational -10° C to 50° C (14° F to 122° F);
Hot/Cold storage -40° C to 85° C (-40° F to 185° F)
Thermal Shock: MIL-STD 810H, Method 503.7
FCC, CE, CAN ICES (B), RoHS
EMC Testing: EN 55032, EN 50498
ESD: IEC 10605

Havis Docking Station
TOUGHBOOK G2
DS-PAN-720

Panasonic CONNECT



TOUGHBOOK Tablet Solution

- Low profile, lightweight and flexible design
- Port replication with integrated strain relieving
- Dual Pass-Thru Antenna Connections (Optional)
- External Power Supply (Optional)
- Bundles available for convenient solutions

PART NUMBER	ETHERNET	USB 3.0	HDMI	VGA	SERIAL	POWER INPUT	PASS-THRU ANT	ANT TYPE	EXT POWER
DS-PAN-721	1	2 REAR	1	1	1	16 V*			
DS-PAN-721-2	1	2 REAR	1	1	1	16 V*	DUAL	TNC	
DS-PAN-722N	1	2 REAR	1	1	1	16 V			120N-B01-S03-1
DS-PAN-722N-2	1	2 REAR	1	1	1	16 V	DUAL	TNC	120N-B01-S03-1
DS-PAN-723									
DS-PAN-725N	1	2 REAR			1	16 V			120N-B01-S03-1
DS-PAN-725N-2	1	2 REAR			1	16 V	DUAL	TNC	120N-B01-S03-1

* Requires an external Panasonic authorized DC power supply

SPECIFICATIONS

Height: 10.0-in (25.5 cm)
Width: 11.4-in (28.9 cm)
Depth: 4.4-in (11.1 cm)
Weight: 2.6 lbs (1.2 kg)
Mounting: VESA 75

CERTIFICATIONS & TESTING

TOUGHBOOK, CE, C-Tick, E-Mark Certified; RoHS Compliant; UL Listed
Vibration Testing: MIL-STD 810G 514.5
Impact Test: Crash Simulation per SAE J1455
Cycle Test: Latch Tested 30,000 cycles
Environmental Testing: Hot/Cold Operation & Storage

Havis Docking Station
TOUGHBOOK G2
DS-PAN-1010

Panasonic CONNECT



TOUGHBOOK Laptop Solution

- Low profile, lightweight and flexible design
- Port replication with integrated strain relieving
- Retractable connector cover protects pins
- Dual Pass-Thru Antenna Connections (Optional)
- External Power Supply (Optional)
- Bundles available for convenient solutions

PART NUMBER	ETHERNET	USB 3.0	HDMI	VGA	SERIAL	POWER INPUT	PASS-THRU ANT	ANT TYPE	EXT POWER
DS-PAN-1011	1	2 REAR	1	1	1	16 V*			
DS-PAN-1011-2	1	2 REAR	1	1	1	16 V*	DUAL	TNC	
DS-PAN-1012N	1	2 REAR	1	1	1	16 V			120N-B01-R03-1
DS-PAN-1012N-2	1	2 REAR	1	1	1	16 V	DUAL	TNC	120N-B01-R03-1
DS-PAN-1013									
DS-PAN-1015N	1	2 REAR			1	16 V			120N-B01-R03-1
DS-PAN-1015N-2	1	2 REAR			1	16 V	DUAL	TNC	120N-B01-R03-1

* Requires an external Panasonic authorized DC power supply

SPECIFICATIONS

Height: 2.5-in (6.3 cm)
Width: 11.1-in (28.1 cm)
Depth: 9.6-in (24.4 cm)
Weight: 4.3 lbs (1.9 kg)
Mounting: Bracket fits most motion devices

CERTIFICATIONS & TESTING

TOUGHBOOK, CE, C-Tick Certified; RoHS Compliant; UL Listed
Vibration Testing: MIL-STD 810G 514.5
Impact Test: Crash Simulation per SAE J1455
Cycle Test: Latch Tested 30,000 cycles
Environmental Testing: Hot/Cold Operation & Storage

Havis Docking Station

TOUGHBOOK 33 & TOUGHBOOK 34

DS-PAN-1110

Panasonic CONNECT



TOUGHBOOK Tablet Solution

- Low profile, lightweight and flexible design
- Port replication with integrated strain relieving
- Retractable connector cover protects pins
- Dual Pass-Thru Antenna Connections (Optional)
- External Power Supply (Optional)
- Bundles available for convenient solutions

PART NUMBER	ETHERNET	USB 2.0	USB 3.0	HDMI	VGA	SERIAL	POWER INPUT	PASS-THRU ANT	ANT TYPE	EXT POWER
DS-PAN-1111	2	2 REAR 2 FRONT	2 REAR	1	1	1	15.6 V*			
DS-PAN-1111-2	2	2 REAR 2 FRONT	2 REAR	1	1	1	15.6 V*	DUAL	TNC	
DS-PAN-1112N	2	2 REAR 2 FRONT	2 REAR	1	1	1	15.6 V			120N-B01-R03-1
DS-PAN-1112N-2	2	2 REAR 2 FRONT	2 REAR	1	1	1	15.6 V*	DUAL	TNC	120N-B01-R03-1
DS-PAN-1113										
DS-PAN-1114	2	2 REAR 2 FRONT	2 REAR			1	15.6 V*			
DS-PAN-1114-2	2	2 REAR 2 FRONT	2 REAR			1	15.6 V*	DUAL	TNC	
DS-PAN-1115N	2	2 REAR 2 FRONT	2 REAR			1	15.6 V			120N-B01-R03-1
DS-PAN-1115N-2	2	2 REAR 2 FRONT	2 REAR			1	15.6 V	DUAL	TNC	120N-B01-R03-1

* Requires an external Panasonic authorized DC power supply

SPECIFICATIONS

Height: 2.7-in (6.6 cm)
Width: 12.5-in (31.7 cm)
Depth: 11.7-in (29.8 cm)
Weight: 5.4 lbs (2.4 kg)
Mounting: Bracket fits most motion devices

CERTIFICATIONS & TESTING

TOUGHBOOK, CE, C-Tick, E-Mark Certified; RoHS Compliant; UL Listed
Vibration Testing: MIL-STD-810H 514.8
Impact Test: Crash Simulation per SAE J1455
Cycle Test: Latch Tested 30,000 cycles
Environmental Testing: Hot/Cold Operation & Storage

Havis Docking Station

TOUGHBOOK 33, TOUGHBOOK 33 5G
TOUGHBOOK 34

DS-PAN-1210

Panasonic CONNECT



TOUGHBOOK Tablet Solution

- Compatible with both the TOUGHBOOK 33 and TOUGHBOOK 33 5G
- Low profile, lightweight and flexible design
- Port replication with integrated strain relieving
- Dual Pass-Thru Antenna Connections (Optional)
- External Power Supply (Optional)
- Bundles available for convenient solutions

PART NUMBER	ETHERNET	USB 2.0	USB 3.0	HDMI	VGA	SERIAL	POWER INPUT	PASS-THRU ANT	ANT TYPE	EXT POWER
DS-PAN-1211	2	4	2			1	15.6V*			
DS-PAN-1211-2	2	4	2			1	15.6V*	2	TNC	
DS-PAN-1212N	2	4	2			1	15.6V			120N-B01-R03-1
DS-PAN-1212N-2	2	4	2			1	15.6V	2	TNC	120N-B01-R03-1
DS-PAN-1213										
DS-PAN-1214	2	4	2	1	1	1	15.6V*			
DS-PAN-1214-2	2	4	2	1	1	1	15.6V*	2	TNC	
DS-PAN-1215N	2	4	2	1	1	1	15.6V			120N-B01-R03-1
DS-PAN-1215N-2	2	4	2	1	1	1	15.6V	2	TNC	120N-B01-R03-1

* Requires an external Panasonic authorized DC power supply

SPECIFICATIONS

Height: 11.8" (300mm)
Width: 12.9” (327 mm)
Depth: 3.5” (89 mm)
Weight: 3.3 lbs (1.49 kg)
Mounting: VESA 75 & RAM 2.25” Ball

CERTIFICATIONS & TESTING

Vibration Testing: MIL-STD 810H 514.8
Crash Testing: SAE J1455 30mph
Cycle Testing: Dock/undock 30K cycles
Environmental Testing: Hot/Cold operational -10° C to 50° C (14° F to 122° F); Hot/Cold storage -40° C to 85° C (-40° F to 185° F)
Thermal Shock: MIL-STD 810H, Method 503.7
FCC, CE, CAN ICES (B), RoHS
EMC Testing: EN 55032, EN 50498
ESD: IEC 10605

Havis Docking Station
TOUGHBOOK 40
DS-PAN-1500

Panasonic CONNECT



TOUGHBOOK Laptop Solution

- Compact and lightweight
- Port replication with integrated strain relieving
- Quad Pass-Thru Antenna Connections (Optional)
- External Power Supply (Optional)
- Bundles available for convenient solutions

PART NUMBER	ETHERNET	USB 2.0 TYPE A	USB 3.0 TYPE A	USB 2.0 TYPE C	USB 3.0 TYPE C	HDMI	SERIAL	POWER INPUT	PASS-THRU ANT	ANT TYPE	EXT POWER
DS-PAN-1501	2	2	1	1 FRONT*	2*		1	15.6V***			
DS-PAN-1501-4	2	2	1	1 FRONT*	2*		1	15.6V***	QUAD	SMA	
DS-PAN-1502N	2	2	1	1 FRONT*	2*		1	15.6V			120N-B01-R03-1
DS-PAN-1502N-4	2	2	1	1 FRONT*	2*		1	15.6V	QUAD	SMA	120N-B01-R03-1
DS-PAN-1503											
DS-PAN-1504	2	2	1	1 FRONT*	2**	1	1	15.6V***			
DS-PAN-1504-4	2	2	1	1 FRONT*	2**	1	1	15.6V***	QUAD	SMA	
DS-PAN-1505N	2	2	1	1 FRONT*	2**	1	1	15.6V			120N-B01-R03-1
DS-PAN-1505N-4	2	2	1	1 FRONT*	2**	1	1	15.6V	QUAD	SMA	120N-B01-R03-1

Note: All ports are rear-facing unless otherwise noted.
* Does not support external video
** External video supported; consult Owner's Manual for additional details
*** Requires an external Panasonic authorized DC power supply

SPECIFICATIONS

Height: 2.63" (6.7 cm)
Width: 14.4" (36.6 cm)
Depth: 12.3" (31.3 cm)
Weight: 6.25 lbs (2.5 kg)
Mounting: Bracket fits most motion devices

CERTIFICATIONS & TESTING

TOUGHBOOK, CE, C-Tick (pending); RoHS Compliant; UL Listed
Vibration Testing: MIL-STD-810H 514.8
Impact Test: Crash Simulation per SAE J1455
Cycle Test: Latch Tested 30,000 cycles
Environmental Testing: Hot/Cold Operation & Storage

Havis Docking Station
TOUGHBOOK G3
DS-PAN-740

Panasonic CONNECT



TOUGHBOOK Tablet Solution

- Supports legacy TOUGHBOOK G2 tablet devices
- Accepts all Panasonic accessories such as larger battery & handstrap
- Advanced port replication includes video capability as well as standard options
- Integrated VESA 75 mounting pattern & cable management system
- Bundle includes docking station and Havis power supply (120N-B01-S03-1)

PART NUMBER	ETHERNET (RJ45)	USB-C 2.0 (0.5A)	USB-A 3.2 (1.5A)	USB-C 3.2 (0.9A)	USB-C 3.2 (1.5A)	POWERED SERIAL DB9	ANTENNA TYPE	POWER SUPPLY
DS-PAN-741	1	1 FRONT	1	1	1	1		
DS-PAN-741-2	1	1 FRONT	1	1	1	1	SMA	
DS-PAN-742N	1	1 FRONT	1	1	1	1		120N-B01-S03-1
DS-PAN-742N-2	1	1 FRONT	1	1	1	1	SMA	120N-B01-S03-1
DS-PAN-743								
DS-PAN-744	1	1 FRONT	1	1	1			
DS-PAN-744-2	1	1 FRONT	1	1	1		SMA	
DS-PAN-745N	1	1 FRONT	1	1	1			120N-B01-S03-1
DS-PAN-745N-2	1	1 FRONT	1	1	1		SMA	120N-B01-S03-1

SPECIFICATIONS

Height: 9.9" (25.1 cm)
Width: 11.9" (30.2 cm)
Depth: 4" (10.2 cm)
Weight: 2.75 lbs
Mounting: VESA 75

CERTIFICATIONS & TESTING

Vibration Testing: MIL-STD 810H 514.8
Crash Testing: Crash Simulation per SAE J1455 30mph
Bump Testing: IEC-68-2006-27
Cycle Testing: Dock/Undock 30k cycles
Environmental Testing:
Hot/Cold Operational -10° C to 50° C (14° F to 122° F)
Hot/Cold Storage -40° C to 85° C (-40° F to 185° F)
Thermal Shock: MIL-STD 810H, Method 503.7
EMC Testing: EN 55032, EN 50498
ESD: IEC 10605

Havis Slim Docking Station

TOUGHBOOK G3

DS-PAN-750

Panasonic CONNECT



TOUGHBOOK Tablet Solution

- Supports legacy TOUGHBOOK G2 tablet devices
- Sleek to accomodate the slim feature set of the Panasonic tablets
- Advanced port replication includes video capability as well as standard options
- Integrated VESA 75 mounting pattern & cable management system
- Bundle includes docking station and Havis power supply (120N-B01-S03-1)

PART NUMBER	ETHERNET (RJ45)	USB-C 2.0 (0.5A)	USB-A 3.2 (1.5A)	USB-C 3.2 (0.9A)	USB-C 3.2 (1.5A)	POWERED SERIAL DB9	ANTENNA TYPE	POWER SUPPLY
DS-PAN-751	1	1 FRONT	1	1	1	1		
DS-PAN-751-2	1	1 FRONT	1	1	1	1	SMA	
DS-PAN-752N	1	1 FRONT	1	1	1	1		120N-B01-S03-1
DS-PAN-752N-2	1	1 FRONT	1	1	1	1	SMA	120N-B01-S03-1
DS-PAN-753								
DS-PAN-754	1	1 FRONT	1	1	1			
DS-PAN-754-2	1	1 FRONT	1	1	1		SMA	
DS-PAN-755N	1	1 FRONT	1	1	1			120N-B01-S03-1
DS-PAN-755N-2	1	1 FRONT	1	1	1		SMA	120N-B01-S03-1

SPECIFICATIONS

Height: 9.9" (25.1 cm)
Width: 11.9" (30.2 cm)
Depth: 3.2" (10.2 cm)
Weight: 2.71 lbs
Mounting: VESA 75

CERTIFICATIONS & TESTING

Vibration Testing: MIL-STD 810H 514.8
Crash Testing: Crash Simulation per SAE J1455 30mph
Bump Testing: IEC-68-2006-27
Cycle Testing: Dock/Undock 30k cycles
Environmental Testing:
Hot/Cold Operational -10° C to 50° C (14° F to 122° F)
Hot/Cold Storage -40° C to 85° C (-40° F to 185° F)
Thermal Shock: MIL-STD 810H, Method 503.7
EMC Testing: EN 55032, EN 50498
ESD: IEC 10605

WHICH I/O DO I NEED FOR MY DOCKING STATIONS?

Port	Connector	Type	Audio	Video	Periph	Network	Camera	Power	Cell	GPS	WiFi
VGA	VGA	A/V		X							
Speaker & Mic	3.5 mm	A/V	X								
HDMI	HDMI	A/V	X	X							
Display Port	DisplayPort	A/V	X	X							
Serial	DB9	Data			X						
USB 2.0	Type B	Data			X						
USB 2.0	Type A	Data			X						
USB 3.X	Type A	Data			X						
USB 3.1	Type C	Data/Power			X			X			
Ethernet	RJ45	Network				X	X				
Power	Varies	Power						X			
Antenna SMA	SMA	Signal							X	X	X
Antenna TNC	TNC	Signal							X	X	X

WHAT IS PASS THROUGH ANTENNA? WHICH ONE DO I NEED?

"Pass through antenna" offers connectivity through the docking station instead of external devices. Pass through antennas are used to connect devices via cellular data, WiFi, SMC connector for radio, or GPS.

WHAT IS THE DIFFERENCE BETWEEN USB 2.0, 3.0 AND 3.1? WHAT IS CONNECTOR TYPE?

USB 3.1 is capable of 10Gbps, 3USB 3.0 5Gbps and USB 2.0 480 Mbps. The connector type refers to the shape. Connector A is rectangular, B type is square and C type is micro with bi-directional power.

WHAT IS THE DIFFERENCE BETWEEN SERIAL AND POWERED SERIAL PORTS?

Serial ports use a 9 pin connector to connect to peripherals like Bar Code Readers where data transfer is low. Powered serial ports assign 1 of the 9 pins to power the peripheral device.

WHAT IS THE DIFFERENCE BETWEEN VGA AND HDMI?

VGA connection offers display but requires a separate audio port for a full audio/video experience. HDMI integrates audio with a high definition video signal, thus fewer connections.

DO I NEED ETHERNET IN A MOBILE APPLICATION? IS ETHERNET STILL A VIABLE I/O?

Ethernet ports enable in-vehicle networking with other computers and external vehicle networking when paired with a mobile modem. Peripherals like video camera systems use Ethernet to transmit data.

WHAT IS THE DIFFERENCE BETWEEN A DOCKING STATION AND A CRADLE?

Docking stations offer port replication for a majority of the input/output connections on the device. A cradle does not offer electronics for connectivity, nor port replication.

WHAT IS THE DIFFERENCE BETWEEN BASIC AND ADVANCED PORT REPLICATION OPTIONS?

"Advanced" port replication will offer the fullest set of input/output for a given platform. "Basic" versions offer a reduced set for less demanding applications.

COMPLETE SOLUTIONS

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