

COMPUTING

SharpMedia™ 2U Platform

Installation and Use

P/N: 6806800T07B

June 2016

ARTESYN[™]
EMBEDDED TECHNOLOGIES

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About this Manual

Overview of Contents

This manual is divided into the following chapters and appendices.

- [Introduction on page 11](#) gives a brief overview of the product features, standard safety compliances and ordering information.
- [Hardware Preparation and Installation on page 15](#) includes a procedure for unpacking the product, environmental and power requirements, additional required equipment, installation, and removal instructions.
- [Software Initialization on page 19](#) describes how to access the server.
- [Advanced Settings on page 21](#) provides references to required information on how to perform any custom-specific settings.
- [Related Documentation on page 23](#) provides a list of related product documentation, manufacturer's documents and industry standard specifications.
- [Safety Notes on page 25](#) describes the safety information which has to be regarded.
- [Sicherheitshinweise on page 29](#) provides a German translation of the chapter "Safety Notes".

Abbreviations







This document uses the following abbreviations.

Abbreviation	Definition
DSP	Digital Signal Processor
NEBS	Network Equipment Building Standards
PCI	Peripheral Component Interconnect
PCI-E	Peripheral Component Interconnect Express

Conventions

The following table describes the conventions used throughout this manual.

Notation	Description
0x00000000	Typical notation for hexadecimal numbers (digits are 0 through F), for example used for addresses and offsets
0b0000	Same for binary numbers (digits are 0 and 1)
bold	Used to emphasize a word
Screen	Used for on-screen output and code related elements or commands in body text
Courier + Bold	Used to characterize user input and to separate it from system output
<i>Reference</i>	Used for references and for table and figure descriptions
File > Exit	Notation for selecting a submenu
<text>	Notation for variables and keys
[text]	Notation for software buttons to click on the screen and parameter description
...	Repeated item for example node 1, node 2,..., node 12
.	Omission of information from example/command that is not necessary at the time being
..	Ranges, for example: 0..4 means one of the integers 0,1,2,3, and 4 (used in registers)
	Logical OR

Notation	Description
  <p>XX</p> <p>XX</p>	<p>Indicates a hazardous situation which, if not avoided, could result in death or serious injury</p>
  <p>XX</p> <p>XX</p>	<p>Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury</p>
 <p>XX</p> <p>XX</p>	<p>Indicates a property damage message</p>
 <p>XX</p> <p>XX</p>	<p>No danger encountered. Pay attention to important information</p>

Summary of Changes

This manual has been revised and replaces all prior editions.

Part Number	Publication Date	Description
6806800T07B	June 2016	Re-branded to new Artesyn template.
6806800T07A	December 2015	Initial version

The SharpMedia™ Platform is an integrated solution that consists of a Carrier grade 2U server and SharpMedia™ PCIE-8120 acceleration cards. The SharpMedia platform server is installed with CentOS 7.x 64-bit Operating System.

SharpMedia™PCIE-8120 acceleration cards are PCI Express based and are designed using the Octasic OCT2224M multi-core Digital Signal Processors (DSPs) along with Vocallo Media Gateway firmware (MGW). The DSP array performs the media processing acceleration for host server, supporting both voice and video conferencing and transcoding applications. The OCT2224M DSP supports high-density media processing at a fraction of the power of competing devices. With a nominal power consumption of 4 Watts, the OCT2224M can transcode hundreds of audio streams or multiple HD video streams.

For more information about the functional description of SharpMedia™ PCIE-8120, refer to SharpMedia™ *PCIE-8120 Installation and Use* manual.

1.1 Features

The following are the main features of SharpMedia™ Platform:

- Configurable for up to four single slot full-length full-height PCI Express cards with x4 interface.
- High performance media processing core based on power-efficient DSPs.
- Support for 720p and 1080p video conferencing.
- Designed to comply with NEBS, GR63-CORE, and GR-1089-CORE.

The SharpMedia Platform and its SharpMedia PCIE-8120 acceleration cards are used for the following applications:

- Session border controllers (adding voice or video transcode)
- Media gateways
- Media servers/media resource function
- Video/content optimization (transcode and transrating)
- WebRTC voice applications
- Interactive voice and video response systems

1.2 Hardware Components

The following are the main hardware components of the SharpMedia Platform:

- Dell™ PowerEdge™ R730 Carrier Grade server
- SharpMedia™ PCIE-8120 Accelerator cards

For more information about Carrier Grade Server, refer to *Dell PowerEdge R730 Owner's Manual*.

1.3 Software Components

The following software components are installed on the SharpMedia 2U Platform:

- CentOS 7.x 64-bit Operating System
- SharpMedia drivers and utilities
- Octasic DSP support packages

1.4 Standard Compliances

The SharpMedia 2U Platform meets the following standards, when installed in an appropriate system environment.

Table 1-1 Standard and Regulatory Compliances

Standard	Description
EN 55024	European standard for Immunity EN55024 (EU) Information Technology Equipment - Immunity Characteristics - Limits and Methods of Measurements
FCC47 Part 15 Class A (ANSI C63.4)	American standard for Radiated and conducted emission
EN 55022 Class A (EU)	European standard for Radiated and conductive emission Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurements
UL/CSA No. 60950-1	Safety of Information Technology Equipment
EN 60950-1	Safety of Information Technology Equipment

Table 1-1 Standard and Regulatory Compliances (continued)

Standard	Description
ETSI EN 300 386 Class A	Electromagnetic compatibility and Radio spectrum Matters (ERM); Telecommunication network equipment; Electro-Magnetic Compatibility (EMC) requirements, Class A.

1.5 Ordering/Support Information

The following table lists the product variants and accessories that were available as of the time of writing this manual. Consult your local Artesyn sales representative for the availability of further variants.

Table 1-2 Ordering Numbers

Order Number	Description
SMSRV01-71AC-1V12	SharpMedia Server, 1X PCIE-8120-V12, Single Processor, 32GB, AC
SMSRV02-72AC-2V12	SharpMedia Server, 2X PCIE-8120-V12, Dual Processor, 64GB, AC

Hardware Preparation and Installation

This chapter provides a brief description about how to unpack and inspect SharpMedia 2U Platform. It also provides environmental, thermal, and power requirements information.

2.1 Unpacking and Inspecting the Server Platform

NOTICE

Damage of Circuits

Electrostatic discharge and incorrect installation and removal of the platform can damage SharpMedia PCIe-8120 accelerator cards installed in it.

Before touching card or electronic components, make sure that you are working in an ESD-safe environment.

Shipment Inspection

To inspect the shipment, perform the following steps:

1. Verify that you have received all items of your shipment:
 - One SharpMedia™ 2U Platform
 - One printed copy of *Quick Start Guide*
 - Any optional items ordered
2. Check your shipment and report any damage or differences to the contact center at RMAsupport.ec@artesy.com.

3. Remove the desiccant bag shipped with the platform and dispose it according to your country's legislation.



The platform is thoroughly inspected before shipment. If any damage has occurred during transportation, contact our Contact Center immediately.

2.2 Environmental, Thermal, and Power Requirements



Operating temperatures refer to the temperature of the air circulating around the server platform and not to the component temperature.

Server fans are set to run at 100% by default to meet maximum environmental conditions.

	CAUTION
	<p>Card Damage High humidity and condensation on the card surface causes short circuits. Do not operate the card outside the specified environmental limits. Make sure that the card is completely dry and there is no moisture on its surface before applying power.</p>

For more information about environmental, thermal, and power requirements of SharpMedia 2U Platform, refer to *Dell PowerEdge R730 Owner's Manual*.

For more information about environmental, thermal, and power requirements of SharpMedia PCIE-8120 card, refer to Artesyn's *SharpMedia PCIE-8120 Installation and Use* guide.

2.3 Installation of SharpMedia 2U Platform

For more information on how to install or setup a SharpMedia 2U Platform, refer to [Dell PowerEdge R730 Documentation](#).

For more information on how to install or remove a PCIe card into or from a SharpMedia 2U Platform, refer to [Dell PowerEdge R730 Owner's Manual](#).

Software Initialization

This chapter explains the various modes of accessing a SharpMedia 2U server. The SharpMedia 2U server comes with pre-configured settings. You can access the SharpMedia 2U either through Ethernet mode or through Serial Console mode.

Ethernet - 1G on-board server management port (*eno1*) labeled as *1* on the server, which is pre-configured with Static IP address, *192.168.0.100*.

Serial Console - Serial Console with the following port settings:

- Set Serial Port Address: *COM1, Serial*
- Baud Rate: *115200*
- Terminal Type: *VT100/VT220*
- Data bits: *8*
- Stop bits: *1*
- Parity: *None*
- Flow control: *None*

If you want to access the server, the default login is **root** with **Artesyn** as password.

Advanced Settings

To know more information about SharpMedia 2U Platform server configuration, refer to [Dell PowerEdge R730 Documentation](#).

For more information about SharpMedia PCIE-8120 card, refer to Artesyn's *SharpMedia PCIE-8120 Installation and Use* guide.

Related Documentation

A.1 Artesyn Embedded Technologies - Embedded Computing Documentation

The publications listed below are referenced in this manual. You can obtain electronic copies of Artesyn Embedded Technologies - Embedded Computing publications by contacting your local Artesyn sales office. For released products, you can also visit our Web site for the latest copies of our product documentation.

1. Go to www.artesyn.com/computing/support/product/technical-documentation.php.
2. Under FILTER OPTIONS, click the Document types drop-down list box to select the type of document you are looking for.
3. In the **Search** text box, type the product name and click GO.

Table A-1 Artesyn Embedded Technologies - Embedded Computing Publications

Document Title	Publication Number
SharpMedia™ 2U Platform Quick Start Guide	6806800T08
SharpMedia™ PCIE-8120 Installation and Use Guide	6806800R89

This section provides warnings that precede potentially dangerous procedures throughout this manual. Instructions contained in the warnings must be followed during all phases of operation, service, and repair of this equipment. You should also employ all other safety precautions necessary for the operation of the equipment in your operating environment. Failure to comply with these precautions or with specific warnings elsewhere in this manual could result in personal injury or damage to the equipment.

Artesyn Embedded Technologies intends to provide all necessary information to install and handle the product in this manual. Because of the complexity of this product and its various uses, we do not guarantee that the given information is complete. If you need additional information, ask your Artesyn Embedded Technologies representative.

The product has been designed to meet the standard industrial safety requirements. It must not be used except in its specific area of office telecommunication industry and industrial control.

Only personnel trained by Artesyn Embedded Technologies or persons qualified in electronics or electrical engineering are authorized to install, remove or maintain the product.

The information given in this manual is meant to complete the knowledge of a specialist and must not be used as replacement for qualified personnel.

Keep away from live circuits inside the equipment. Operating personnel must not remove equipment covers. Only factory authorized service personnel or other qualified service personnel may remove equipment covers for internal subassembly or component replacement or any internal adjustment.

Do not install substitute parts or perform any unauthorized modification of the equipment or the warranty may be voided. Contact your local Artesyn Embedded Technologies representative for service and repair to make sure that all safety features are maintained.

EMC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by Artesyn Embedded Technologies Embedded Communications Computing could void the user's authority to operate the equipment. Board products are tested in a representative system to show compliance with the above mentioned requirements. A proper installation in a compliant system will maintain the required performance. Use only shielded cables when connecting peripherals to assure that appropriate radio frequency emissions compliance is maintained.

Operation

Product Damage

Surface of the Product

High humidity and condensation on the product surface causes short circuits.

Do not operate the product outside the specified environmental limits. Make sure the product is completely dry and there is no moisture on any surface before applying power.

Overheating and Product Damage

Operating the product without forced air cooling may lead to overheating and thus damage of the product.

When operating the product, make sure that forced air cooling is available in the enclosure.

Data Corruption

If power to the unit is removed while a firmware update is in progress to the flash memory, the changes will not be saved, and worse, the flash memory may be corrupted. In such case the is likely to remain in non-operable state and will require reconditioning by qualified repair services.

Installation

Damage of Circuits

Electrostatic discharge and incorrect installation and removal of the product can damage circuits or shorten their life.

Before touching the product or electronic components, make sure that you are working in an ESD-safe environment.

Product Damage

Incorrect installation of the product can cause damage of the product.

Only use appropriate tools when installing/removing the product to avoid damage/deformation to the and/or PCB.

Cabling and Connectors

Product Damage

The RJ-45 connector(s) located on the product are twisted-pair Ethernet (TPE) or interfaces. Connecting an E1/T1/J1 line to an Ethernet connector may damage the product.

- Make sure that TPE connectors near your working area are clearly marked as network connectors.
- Verify that the length of an electric cable connected to a TPE bushing does not exceed 100 m.
- Make sure the TPE bushing of the product is connected only to safety extra low voltage circuits (SELV circuits).

If in doubt, ask your system administrator.

Environment

Always dispose equipment that is finally taken out of operation according to your country's legislation and manufacturer's instructions.

Dieses Kapitel enthält Hinweise, die potentiell gefährlichen Prozeduren innerhalb dieses Handbuchs vorrangestellt sind. Beachten Sie unbedingt in allen Phasen des Betriebs, der Wartung und der Reparatur des Systems die Anweisungen, die diesen Hinweisen enthalten sind. Sie sollten außerdem alle anderen Vorsichtsmaßnahmen treffen, die für den Betrieb des Produktes innerhalb Ihrer Betriebsumgebung notwendig sind. Wenn Sie diese Vorsichtsmaßnahmen oder Sicherheitshinweise, die an anderer Stelle dieses Handbuchs enthalten sind, nicht beachten, kann das Verletzungen oder Schäden am Produkt zur Folge haben.

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Das System erfüllt die für die Industrie geforderten Sicherheitsvorschriften und darf ausschließlich für Anwendungen in der Telekommunikationsindustrie und im Zusammenhang mit Industriesteuerungen verwendet werden.

Einbau, Wartung und Betrieb dürfen nur von durch Artesyn Embedded Technologies ausgebildetem oder im Bereich Elektronik oder Elektrotechnik qualifiziertem Personal durchgeführt werden. Die in diesem Handbuch enthaltenen Informationen dienen ausschließlich dazu, das Wissen von Fachpersonal zu ergänzen, können dieses jedoch nicht ersetzen.

Halten Sie sich von stromführenden Leitungen innerhalb des Produktes fern. Entfernen Sie auf keinen Fall Abdeckungen am Produkt. Nur werksseitig zugelassenes Wartungspersonal oder anderweitig qualifiziertes Wartungspersonal darf Abdeckungen entfernen, um Komponenten zu ersetzen oder andere Anpassungen vorzunehmen.

Installieren Sie keine Ersatzteile oder führen Sie keine unerlaubten Veränderungen am Produkt durch, sonst verfällt die Garantie. Wenden Sie sich für Wartung oder Reparatur bitte an die für Sie zuständige Geschäftsstelle von Artesyn Embedded Technologies. So stellen Sie sicher, dass alle sicherheitsrelevanten Aspekte beachtet werden.

EMV

Das Produkt wurde in einem Artesyn Embedded Technologies Standardsystem getestet. Es erfüllt die für digitale Geräte der Klasse A gültigen Grenzwerte in einem solchen System gemäß den FCC-Richtlinien Abschnitt 15 bzw. EN 55022 Klasse A. Diese Grenzwerte sollen einen angemessenen Schutz vor Störstrahlung beim Betrieb des Produktes in Gewerbe- sowie Industriegebieten gewährleisten.

Das Produkt arbeitet im Hochfrequenzbereich und erzeugt Störstrahlung. Bei unsachgemäßem Einbau und anderem als in diesem Handbuch beschriebenen Betrieb können Störungen im Hochfrequenzbereich auftreten.

Wird das Produkt in einem Wohngebiet betrieben, so kann dies mit grosser Wahrscheinlichkeit zu starken Störungen führen, welche dann auf Kosten des Produktanwenders beseitigt werden müssen. Änderungen oder Modifikationen am Produkt, welche ohne ausdrückliche Genehmigung von Artesyn Embedded Technologies durchgeführt werden, können dazu führen, dass der Anwender die Genehmigung zum Betrieb des Produktes verliert.

Boardprodukte werden in einem repräsentativen System getestet, um zu zeigen, dass das Board den oben aufgeführten EMV-Richtlinien entspricht. Eine ordnungsgemässe Installation in einem System, welches die EMV-Richtlinien erfüllt, stellt sicher, dass das Produkt gemäss den EMV-Richtlinien betrieben wird. Verwenden Sie nur abgeschirmte Kabel zum Anschluss von Zusatzmodulen. So ist sichergestellt, dass sich die Aussendung von Hochfrequenzstrahlung im Rahmen der erlaubten Grenzwerte bewegt.

Warnung! Dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen. In diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen.

Betrieb

Beschädigung des Produktes

Hohe Luftfeuchtigkeit und Kondensat auf der Oberfläche des Produktes können zu Kurzschlüssen führen.

Betreiben Sie das Produkt nur innerhalb der angegebenen Grenzwerte für die relative Luftfeuchtigkeit und Temperatur. Stellen Sie vor dem Einschalten des Stroms sicher, dass sich auf dem Produkt kein Kondensat befindet.

Überhitzung und Beschädigung des Produktes

Betreiben Sie das Produkt ohne Zwangsbelüftung, kann das Produkt überhitzt und schließlich beschädigt werden.

Bevor Sie das Produkt betreiben, müssen Sie sicher stellen, dass das Gerät über eine Zwangskühlung verfügt.

Fehlerhafter Datenbestand

Wenn sie die Spannungsversorgung des Produkts abschalten, während Programmdateien im Flashspeicher aktualisiert, werden, können diese Daten nicht korrekt gespeichert werden. In diesem Fall ist das Produkt mit hoher Wahrscheinlichkeit nicht mehr betriebsbereit und die Funktionsfähigkeit muß durch einen qualifizierten Reparaturdienst wieder hergestellt werden.

Installation

Beschädigung von Schaltkreisen
Elektrostatische Entladung und unsachgemäßer Ein- und Ausbau des Produktes kann Schaltkreise beschädigen oder ihre Lebensdauer verkürzen. Bevor Sie das Produkt oder elektronische Komponenten berühren, vergewissern Sie sich, daß Sie in einem ESD-geschützten Bereich arbeiten.

Beschädigung des Produktes
Fehlerhafte Installation des Produktes kann zu einer Beschädigung des Produktes führen. Verwenden Sie geeignetes Werkzeug, um das Produkt zu installieren/deinstallieren. Auf diese Weise vermeiden Sie, dass das oder die Platine deformiert oder zerstört wird

Kabel und Stecker

Beschädigung des Produktes
Bei den RJ-45 Steckern, die sich an dem Produkt befinden, handelt es sich um Twisted-Pair-Ethernet (TPE). Beachten Sie, dass ein versehentliches Anschließen einer E1/T1/J1-Leitung an einen TPE-Stecker das Produkt zerstören kann.

- Kennzeichnen Sie deshalb TPE-Anschlüsse in der Nähe Ihres Arbeitsplatzes deutlich als Netzwerkanschluss.
- Stellen Sie sicher, dass die Länge eines mit Ihrem Produkt verbundenen TPE-Kabels 100 m nicht überschreitet.
- Das Produkt darf über die TPE-Stecker nur mit einem Sicherheits-Kleinspannungs-Stromkreis (SELV) verbunden werden.

Umweltschutz

Entsorgen Sie alte elektronische Baugruppen stets gemäß der in Ihrem Land gültigen Gesetzgebung und den Empfehlungen des Herstellers.



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