# **BeneVision**

# **Central Monitoring System**

**Service Manual** 

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#### WARNING

• Federal Law (USA) restricts this device to sale by or on the order of a physician or other practitioner licensed by U.S. state law to use or order the use of this device.

#### NOTE

• This manual describes all features and options. The equipment may not have all of them. Contact Mindray service department for any questions.

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- All installation operations, expansions, changes, modifications and repairs of this product are conducted by Mindray authorized personnel; and
- The electrical installation of the relevant room complies with the applicable national and local requirements; and
- This product is operated under strict observance of this manual.

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The customer is responsible for freight charges when this product is shipped to Mindray for service (including any relevant customs fees or other freight related charges).

#### 3. Return address

Please send the part(s) or equipment to the address offered by Customer Service Department.

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# Preface

# **Manual Purpose**

This manual provides detailed information about the installation, maintenance, cleaning, and troubleshooting of the BeneVision Central Monitoring System to support effective troubleshooting. It is not intended to be a comprehensive, in-depth explanation of the product architecture or technical implementation. Use of the manual is necessary for proper equipment maintenance and will help to eliminate equipment damage and personal injury.

This manual is based on the maximum configuration; therefore, some contents may not apply to your monitor. If you have any question, please contact our Customer Service Department.

# **Intended Audience**

This manual is geared for clinical professionals who are expected to have a working knowledge of medical procedures, practices and terminology as required for monitoring of critically ill patients.

Contact your local Mindray Service Organization for information on product courses which address service and support for this product.

It is recommended that the user should change the passwords for user maintenance once they take ownership of the equipment.

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# **1.1 Safety Information**

#### DANGER

• Indicates an imminent hazard situation that, if not avoided, will result in death or serious injury.

#### WARNING

• Indicates a potential hazard situation or unsafe practice that, if not avoided, could result in death or serious injury.

### CAUTION

• Indicates a potential hazard or unsafe practice that, if not avoided, could result in minor personal injury or product/property damage.

#### NOTE

• Provides application tips or other useful information to ensure that you get the most from your product.

## 1.1.1 Dangers

There are no dangers that refer to the product in general. Specific "Danger" statements may be given in the respective sections of this operation manual

## 1.1.2 Warnings

working correctly.

W	ARNING
•	The device is intended for use only by clinical professionals or under their guidance. It must only be used by persons who have received adequate training in its use. Anyone unauthorized or untrained must not perform any operation on it.
•	The CMS is a clinical information device. Except for using such components as the mouse and keyboard to perform normal operations, do not touch or disassemble any other component, especially the power component; otherwise, it may result in personnel injury.
•	Do not connect this system to outlets with the same circuit breakers and fuses that control current to devices such as life-support systems. If this system malfunctions and generates an overcurrent, or when there is an instantaneous current at power ON, the circuit breakers and fuses of the building's supply circuit may be tripped.
•	Failure on the part of the responsible hospital or institution employing the use of the CMS to implement a satisfactory maintenance schedule may cause undue equipment failure and possible health hazard.
•	Be sure to keep the packaging materials from children's reach. Disposal of the packaging materials shall comply with your local requirements.
•	If any value displayed on the screen of the CMS is abnormal or questionable, first determine the patient's vital signs by alternative means and then verify that the CMS or monitor is

• The physiolgical waveforms, parameters and alarms displayed on the CMS are tarnsmitted from the monitor through the network. If there is a network failure, the data loss or delay may occur. Pay close attention to the patients during a network failure.

#### 1.1.3 Cautions

#### CAUTION

- Hospitals without stable power source should use an Uninterruptible Power Supply (UPS) to power the CMS. When there is a power failure, the system should be shut down by following the specified shutdown procedure before the UPS is turned off. If the system has a sudden power failure, system failure may occur and consequently the system will not work correctly next time or even have a serious result.
- The host of the CMS should be installed with the original Microsoft Windows's system and standard upgrade program, such as the service package. Illegal software may lead to abnormal or incorrect system operating.
- Restart the CMS every three months. Long time opeartion of the system may lead to a failure of the operating system.Protect the device from damage caused by drop, impact, strong vibration or other mechanical force during servicing.

#### 1.1.4 Notes NOTE

• Refer to the Operator's manual for more information.

# **1.2 Equipment Symbols**

See **BeneVision Central Monitoring System Operator's Manual** for information about the symbols used on this product and its packaging.

#### FOR YOUR NOTES

# 2.1 Overview

The BeneVision Central Monitoring System (hereinafter called CMS), including CentralStation, WorkStation and ViewStation, is intended for professional physicians or paramedics to conduct centralized monitoring over patients monitored by Mindray individual monitors and/or telemetry systems in hospitals or medical institutions.

The central monitoring system comprises powerful system software and high-performance computer. It constructs a central network by connecting monitors and/or telemetry. By collecting, processing, analysing and outputting the information coming from monitors and/or telemetry, the central monitoring system can achieve centralized monitoring over multiple patients so as to greatly promote the efficiency and quality of the monitoring work.

# 2.2 Intellectual Property Protection

The BeneVision Central Monitoring System uses a license for intellectual property protection. You must use the license before starting the system. Otherwise, the system cannot start.

## NOTE

- When reinstalling the system software, try not to remove the old database so as to keep the old monitoring data.
- If your license is lost, please contact Mindray service personnel.

# 2.3 Versions

The CMS system software, dongle and service manual versions correspond to each other as below.

CMS System Software	Dongle driver	Service Manual
03.01.00	04.0.16.2	1.0
03.01.00 or 03.02.00	04.0.16.2	2.0
03.03.00	04.0.16.5	3.0
03.04.00	04.0.16.5	4.0
04.00.00	04.0.16.5	5.0

# **3.1 Pre-installation Preparations**

#### 3.1.1 Environmental Requirements

The CMS should be installed in an environment where the system can be easily viewed, operated and maintained.

The environment where the CMS is installed should be reasonably free from noises, vibration, dust, and corrosive, flammable and explosive substances.

If the CMS is installed in a cabinet, sufficient space in front and behind should be left for convenient operation, maintenance and repair. Moreover, to maintain good ventilation, the CMS should be at least 2 inches (5cm) away from around the cabinet.

When the CMS is moved from one place to another, condensation may occur as a result of temperature or humidity difference. In this case, never start the system before the condensation disappears.

#### **3.1.2 Power Requirements**

Each component of the CMS must be powered by the specified power source.

To protect the hospital personnel from electric shock, the CMS (including the host and displays) and its recorder must have their casings properly grounded. The host of the CMS is provided with a 3-wire power cable, which must be plugged into a properly grounded 3-wire receptacle. If a 3-wire, grounded receptacle is not available, consult the hospital electrician.

#### WARNING

- Make sure that the operating environment and power source of the CMS meet the specific requirements; otherwise, unexpected consequences, e.g. damage to the equipment, may result.
- Appropriate power supply must be selected according to the setup of the system power voltage; otherwise, serious damage may be caused to the system.
- Never use a 3-wire to 2-wire adapter with any unit of the CMS.
- The CMS host cannot be installed with any other software besides the Windows system, necessary drivers, and drivers/software listed in this manual. Otherwise, normal operation of CMS may be affected and unexpected consequences may result.

## NOTE

- When the CMS software runs as normal service, it supports Windows<sup>®</sup> 7 and Windows<sup>®</sup> 10 operating systems.
- When the CMS software runs as application, it supports Windows Server 2016 operating system.
- Before performing the operations described below, make sure that the main unit is not installed with any application software except the accompanying software of Windows.

### **3.1.3 Power and Heat Requirements**

The following table lists the power and heat requirements.

QTY	Host	ltem	Watt/per	Watt/Total	Max BTU
1	Kontron KISS 2U	CS	400	400	1364
1	HPE DL360 Gen10	CS	1000	1000	3413
1	HP EliteDesk 800 G4SFF	CS	250	250	853
1	HP ProDesk 600 G4	CS	65	65	222
	Desklop Mini				
4	ELO 1929LM	LED	28	112	381.92
4	HP E220T	LED	35	140	477.4
4	HP E230T	LED	57	228	194.51
1	HP 1920S-48G-POE	Switch	481	481	1641.4
1	HP 1920S-48G	Switch	32.2	32.2	105.98
1	Cisco Air-ct2504-5-k9	AP	12.95	12.95	44.1595
4	ATEN CE750	KVM	7.2	28.8	98.208
1	Tripp Lite - SMART 1500	UPS	1350	1350	4603.5
	RM2U				
1	Tripp Lite - SMART 3000	UPS	2250	2250	7672.5
	RM 2U				
1	Tripp Lite -	UPS	2400	2400	8184
	SU3000RTXL3U				
Total				9634.95	32274.5

# 3.2 CMS Host

Kontron KISS 2U, HPE DL360 Gen9, HP800G1, HP EliteDesk 800G2, HP EliteDesk 800G3 SFF and HP EliteDesk 800G4 SFF are compatible with the BeneVision CMS software (version 03.XX or later).

# 3.2.1 Kontron KISS 2U (023-001020-00)

**Connectors-Front Panel** 



#### **Connectors-Rear Panel**



#### **Description of the Connectors**

- COM 1: Used for multiple purposes, Programming Transmitters and Recorder.
- COM 2: Designated for Paging.
- USB 3.0: Used for multiple purposes, Touchscreen, Mouse/Keyboard.
- USB 2.0: Used for multiple purposes, Touchscreen, Mouse/Keyboard.
- Central network: Assigned to the Central Monitoring (Central Monitoring) Network.
- Patient network: Assigned to the Bedside (Patient) Monitoring Network.

## 3.2.2 HPE DL360 Gen9 (023-001671-00)/HPE DL360 Gen10(023-001839-00)

**Connectors-Rear Panel** 



- Access Panel
   Serial Labe Pull Tab
   HPE Universal Media Bay
- NOTE: Shown w/VGA, USB 2.0 and DVD-ROM or DVD-RW option. Alternative options 2 SFF HDDs or VGA and USB 2.0.
- 4. Power On/Standby button and system power LED button
- 5. Health LED
- 6. NIC Status LED
- USB 3.0 Connector
   Unit Identification Button & LED
- 9. SAS/SATA/SSD Drive Bays

#### **Connectors-Rear Panel**



#### Rear view

Overview

- PCle 3.0 Slots 1-3 NOTE: Slot 1 and 2 Riser Ships Standard, only certified with standard riser
- 2. HPE Flexible Slot Power Supply Bay 2
- 3. Power Supply 2 Status LED
- 4. Power Supply 2 C13 Connection
- 5. HPE Flexible Slot Power Supply Bay 1
- 6. Power Supply 1 Status LED
- 7. Power Supply 1 C13 Connection
- 8. Video Connector
- 9. Embedded 4x1GbE Network Adapter
- 10. Dedicated iLO 4 connector
- 11. Serial Port Connector (Optional)
- 12. USB 3.0 Connectors (2)
- 13. Unit Identification LED
- FlexibleLOM bay (Optional) NOTE: Shown: 4x1Gbe.

## 3.2.3 HP EliteDesk 800 G1 SFF (023-000969-00)

**Connectors-Front Panel** 



#### **Connectors-Rear Panel**



Please be noted that a USB to RS-232 adapter (PN 023-000739-00) and a RS-232 cable (PN 300A-10-f08997) are required to connect a paging to 800G1 computer.

#### **Description of the Connectors**

- COM 1: Used for multiple purposes, *Programming Transmitters* and *Recorder*.
- COM 2: Designated for *Paging* (Using USB to Serial adapter).
- USB 3.0: Used for multiple purposes, *Paging*, *Display 4*, *Touchscreen*, *and Mouse/Keyboard*.
- USB 2.0: Used for multiple purposes, *Paging, Touchscreen, Display 4, and Mouse/Keyboard*.
- Central network: Assigned to the Central Monitoring (Central Monitoring) Network.
- Patient network: Assigned to the Bedside (Patient) Monitoring Network.

## 3.2.4 HP EliteDesk 800 G2 SFF (023-001325-00)

#### **Connectors-Front Panel**



Please be noted that a USB to RS-232 adapter (PN 023-000739-00) and a RS-232 cable (PN 300A-10-f08997) are required to connect a paging to 800G2 computer.

#### **Connectors-Rear Panel**



Description of the connectors:

- COM 1: Used for multiple purposes, *Programming Transmitters* and *Recorder*.
- COM 2: Designated for *Paging* (Using USB to Serial adapter).
- USB 3.0 : Used for multiple purposes, *Paging*, *Display 4*, *Touchscreen*, *and Mouse/Keyboard*.
- USB 2.0 : Used for multiple purposes, *Paging*, *Touchscreen*, *Display 4*, and *Mouse/Keyboard*.
- Central network : Assigned to the Central Monitoring (Central Monitoring) Network.
- Patient network : Assigned to the Bedside (Patient) Monitoring Network.

## 3.2.5 HP EliteDesk 800 G3 SFF (023-001544-00) /HP EliteDesk 800G4 SEF(023-001777-00)Connectors-Front Panel



Please be noted that a USB to RS-232 adapter (PN 023-000739-00) and a RS-232 cable (PN 300A-10-f08997) are required to connect a paging to 800G3/800G4 computer.

#### **Connectors-Rear Panel**



#### Description of the connectors:

- COM 1: Used for multiple purposes, *Programming Transmitters* and *Recorder*.
- COM 2: Designated for *Paging* (Using USB to Serial adapter).
- USB 3.0 : Used for multiple purposes, Paging, Display 4, Touchscreen, and Mouse/Keyboard.
- Central network : Assigned to the Central Monitoring (Central Monitoring) Network.
- Patient network : Assigned to the Bedside (Patient) Monitoring Network.

# 3.2.6 HP ProDesk 600 G3 Desktop Mini (023-001581-00)/HP ProDesk 600 G4 Desktop Mini (023-001779-00)

#### Connectors-Front Panel



- 1. USB Type-C<sup>™</sup> charging port
- 2. USB 3.1 Gen 1 port (5 Gbit/s data speed)
- 3. USB 3.1 Gen 1 charging port (5 Gbit/s data speed)
- 4. Headphone connector

- 5. Universal Audio Jack with CTIA headset support
- 6. Hard drive activity light
- 7. Dual-state power button
- ??

#### **Connectors-Rear Panel**



- 1. Antenna cover
- 2. Cover lock switch
- Cable lock slot
- 4. External antenna connector
- 5. Padlock loop
- 6. (2) Dual-Mode DisplayPort<sup>™</sup> 1.2 (DP++)

- Choice of port (DisplayPort<sup>™</sup> 1.2, HDMI, VGA, Serial or USB-C<sup>™</sup>) (USB-C<sup>™</sup> option has alt mode DisplayPort<sup>™</sup> 1.2 or 15W output)
- 8. (2) USB 3.1 Gen 1 (5 Gbit/s data speed) (black)
- (2) USB 3.1 Gen 1 (5 Gbit/s data speed) (black), allows for wake from S4/S5 with keyboard/mouse when connected and enabled in BIOS
- 10. RJ-45 Network connector
- 11. Power connector

## 3.2.7 Configuring Paging COM Port Settings

To configure Paging COM port settings, follow this procedure:

- 1. Open the ConfigDir folder in the directory where the CMS software is installed: C:\Program Files\Mindray CMS\CS\_MultiBackend\ConfigDir.
- 2. Open the configuration file named as Paging.ini.
- 3. Configure the following settings:
  - ◆ Comport=2; // COM Port
  - ♦ baudrate=9600; // Bits per second
  - ♦ databit=8; //Data bits
  - stopbit=1; //Spot bits
  - ♦ parity=N; //Parity

#### NOTE

• The paging system needs to be physically attatched to the master CentralStation.

# 3.3 Display Installation

From this section on, the following sections in this chapter describe how to set up all the devices (such as displays, printer, and recorder) that are going to be used with this system and how to connect them to the Central Station.

### NOTE

• If KVM extenders connected to the system, please refer to Chapter 6 Connection Diagrams for Host, Remote Display, and KVM.

## 3.3.1 Implementing Double Screen Display by DP-to-VGA Adapter

The double screen display in the CMS can be achieved by DP-to-VGA adapter:

- 1. Shut down the computer first.
- 2. Then connect two screens by DP-to-VGA adapter:



#### NOTE

• When unplugging the DP-to-VGA adapter, press the spring button on the DP plug and then unplug it downward. Failure to do so may damage the DP plug. The label beside DP port is

### 3.3.2 Configuring Main Display (Windows 7)

#### NOTE

- Windows settings will affect CMS settings.
- For 19-inch or above display with 4:3 or 5:4 aspect ratio, set its resolution to 1280×1024.
- For 21-inch or above widescreen display with 16:9 aspect ratio, set its resolution to 1920×1080.
- Use the display in the left most side or in the upper left corner as the main display.

To make the desired screen as main display, follow this procedure:

1. Right click the mouse on the desktop, and then select **Screen Resolution** from the pop-up menu to display the window, as shown in the following figure.

and the second s	And Distances in the		
🔾 🖉 🖉 « Display 🕨 Screen f	Resolution	👻 🍫 Search Control Panel	٩
Change the ap	pearance of your displays		1
2	1 2	Detect Identify	
Display:	1. DELL E1705 🔹		
Resolution:	1280 × 1024 (recommended)		
Orientation:	Landscape 👻		
Multiple displays:	Extend these displays		
3 Make this my m	ain display	Advanced setting	s
Make text and othe What display settin	er items larger or smaller 195 should I choose?		
		OK Cancel Apply	]

- 2. In the screens displaying list box, select the desired screen.
- 3. Select the Make this my main display option.
- 4. Click the **OK** button to save the setting and close the window.

### 3.3.3 Aligning the Double Screens (Windows 7)

When the alignment between the screens is ragged, you can align the screens at the same horizontal line or at the same vertical line. You can refer the steps below to adjust the multi-screens alignment.

1. Right click the mouse on the desktop, and then select **Screen Resolution** from the pop-up menu to display the window, as shown in the following figure.

🕞 🕒 📮 🗸 Control Panel 🗸 All Control Panel Items 🔹 Displ	ay 🔻 Screen Resolution	
	Change the appearance of your displays	
	1 2	Detect Identify
	Digplay:     1. LCD170WX I       Besolution:     1280 × 1024 (recommended) I       Orientation:     Landscape I       Multiple displays:     Extend these displays I	
	This is currently your main display.	Advanced settings
	Make text and other items larger or smaller What display settings should I choose?	
	OK Cano	el <u>A</u> pply

- 2. Click the screen signed with number 1 to select it, and then drag the screen down until the screen signed with number 1 aligns with the screen signed with number 2.
  - Align double screens at the same horizontal line :

Change the appearance of your displays	
.0 2	Detect įdentify
Displays 2. LCD17090: Besolution: 1280 x 1024 (recommended) Qrientation: Londocape	
Multiple displays: Exitend these displays	Advanced setting
Make text and other items larger or smaller What display settings should I choose?	

3. Click the **OK** button to save the setting and close the window.

### **3.3.4 Configuring Main Display (Windows 10)**

#### NOTE

- Windows settings will affect CMS settings.
- For 19-inch or above display with 4:3 or 5:4 aspect ratio, set its resolution to 1280×1024.
- For 21-inch or above widescreen display with 16:9 aspect ratio, set its resolution to 1920×1080.
- Use the display in the left most side or in the upper left corner as the main display.

To make the desired screen as main display, follow this procedure:

1. Right click the mouse on the desktop, and then select **Display settings** from the pop-up menu to display the window, as shown in the following figure.

Settings							
ŝ	Home	Display					
1	ind a setting $\wp$						
Sy	stem						
	Display		I				
$\Box$	Notifications & actions						
Ċ	Power & sleep	Identify Detect					
_	Storage	Color					
ĿĿ	Tablet mode	Night light					
	Multitasking	Off Night light sattings					
£	Projecting to this PC						
ж	Shared experien	Change the size of text and adder items					
><	Remote Desktop	100% (Recommended)					
i	About	Custom scaling					
		Resolution					
		1280 $\times$ 1024 (Recommended) $\vee$					
		Orientation					
		Landscape $\checkmark$					
		Multiple displays					
		Multiple displays					
		Extend desktop to this display $\lor$					
		Make this my main display					

- 2. In the screens displaying list box, select the desired screen.
- 3. Select the Make this my main display option.
- 4. Click the **OK** button to save the setting and close the window.

### 3.3.5 Aligning the Four Screens (Windows 10)

When the alignment between the screens is ragged, you can align the screens at the same horizontal line or at the same vertical line. You can refer the steps below to adjust the multi-screens alignment.

1. Right click the mouse on the desktop, and then select **Display settings** from the pop-up menu to display the window, as shown in the following figure.

## Display

Select and rearrange displays

Select a display below to change its settings. Some settings are applied to all displays.

Have a question? Get help

1	4	2						
Apply Cancel		Identify	Detect					
Color								
Night light Off								
Night light settings								

Make Windows better Give us feedback

Scale and layout

Channed all a stand and and all stands

- 2. Click the screen signed with number 3 to select it, and then drag the screen down until the screen signed with number 1 aligns with the screen signed with number 3.
  - Align Four screens at the same horizontal line :

## Display

Select and rearrange displays

Select a display below to change its settings. Some settings are applied to all displays.

	1	3	4	2						
Apply	Cancel			Identify	Detect					
Color Night light Off										
Night light settings Scale and layout										
Change the size of text, apps, and other items										
100% (Recommended) V										
Custom scaling										
Resolution										
1280 $\times$ 1024 (Recommended) $\vee$										

3. Click the **OK** button to save the setting and close the window.

## 3.3.6 Disabling Audio Enhancement (Windows 7)

- 1. Open the Control Panel, and then select Hardware and Sound.
- 2. Select **Sound**. The **Sound** window will display.
- 3. In the **Playback** tab, select the operating system speaker and then right click the mouse.
- 4. In the pop-up menu, select **Properties**.
- 5. In the pop-up **Speaker Properties** window, select the **Enhancements** tab.
- 6. Select **Disable all enhancements**, shown as below.

Have a question? Get help

Make Windows better Give us feedback
Speakers Properties	23
General Levels Enhancements Advanced	
Select the enhancements to apply for your current speaker configuration. Changes may not take effect until the next time you playback.	start
☑ Disable all enhancements	
Bass Boost Virtual Surround Room Correction Loudness Equalization	
Enhancement Properties	
Description:	
Provider:	
Status: Settings	•
Restore Defaults	, <b> </b> ▼
OK Cancel Ap	ply

7. Click **OK**.

## 3.3.7 Disabling Audio Enhancement (Windows 10)

- 3. Open **Control Panel**, and then select **Sound**.
- 4. In the **Playback** tab, select the operating system speaker and then right click the mouse.
- 5. In the pop-up menu, select **Properties**.
- 6. In the pop-up **Speaker Properties** window, select the **Enhancements** tab.
- 7. Select **Disable all effects**, shown as below.

Speakers Pro	perties			$\times$
General Levels	Enhancements	Advanced	Spatial sound	
✓ Disable all so	ound effects			
		-		
		OK	Cancel	Apply

7. Click **OK**.

## 3.3.8 Disabling Hot Keys

To avoid the misoperation, you can disable hot keys. There are two ways to disable the hot keys.

## 3.3.8.1 Disabling All Hot Keys

Follow this procedure to disable all hot keys.

- 1. Right click on the **Desktop**.
- 2. Select Graphics Options.
- 3. Select Hot Keys.
- 4. Select Disable.

#### 3.3.8.2 Disabling Desired Hot Keys

Follow this procedure to disable desired hot keys:

- 1. Right click on the **Desktop**.
- 2. Select Graphics Properties.
- 3. Enter the Intel \* HD Graphics Control Panel window, and then click the Options button to display the Hot Key Manager window, as shown in the following figure.

Intel® HD Graphics	Control Panel				- 🗆 ×
Options 🗸			Hot Key N	Aanager 🛛	intel
Enable Hot Keys	Customize Hot Keys				
On	Open Hot Key Panel <ctrl><alt>F6</alt></ctrl>		Rotate To 0 <ctrl><alt< td=""><td>Degrees • Up</td><td></td></alt<></ctrl>	Degrees • Up	
v off 2	Open Display Panel <ctrl><alt>F1</alt></ctrl>		Rotate To 9	0 Degrees	
	Open Scaling Panel		Rotate To 1	80 Degrees	
	Open Intel® HD Graphics Control Panel <ctrl><alt>F12</alt></ctrl>		Rotate To 2 <ctrl><alt< td=""><td>70 Degrees •Right</td><td></td></alt<></ctrl>	70 Degrees •Right	
	Restore Graphics Defaults	0			
	<ctrl><alt>F8</alt></ctrl>				
00					
		•	aulte.	×	
		Restore Dela	iuns	Cancer	Арріу

- 3. In the **Enable Hot Keys** field, select the **Off** option.
- 4. Select the **Apply** option to apply the setting. The message "The new settings have been applied. Do you want to keep these settings?" displays.
- 5. Select the **Yes** button to apply the setting.
- 6. Click the × icon to close the window.

## 3.3.9 Configuring System Windows Region and Language (Windows 7)

If the language used by the current operating system is the same language the user wants to display on the CMS, it is unnecessary to set the region and language for the operating system. In this case, skip this step.

If the language of the operating system is English but the user requires a non-English interface for the CMS, it is necessary to set the region and language of the operating system.

To set the region and language, follow this procedure:

- Enter the Windows desktop and select Start → Control Panel → Clock, Language, and Region to enter the Clock, Language, and Region window.
- 2. Select the Region and Language option to display the Region and Language window.
- 3. Select the **Format** tab, and then select the desired language (locale) from the **Format** drop-down list.
- 4. Select the **Location** tab, and then select the desired language (locale) from the **Current location** drop-down list.
- 5. Select the **Administrative** tab, and then click the **Change system locale...** button to display the **Region and Language Settings** window.
- 6. Select the desired language (locale) from the **Current system locale** drop-down list.
- 7. Restart the computer to apply the setting.

# 3.3.10 Configuring System Windows Region and Language (Windows 10/Windows server 2016)

If the language used by the current operating system is the same language the user wants to display on the CMS, it is unnecessary to set the region and language for the operating system. In this case, skip this step.

If the language of the operating system is English but the user requires a non-English interface for the CMS, it is necessary to set the region and language of the operating system.

To set the region and language, follow this procedure:

- 1. Enter the Windows desktop and select **Control Panel**  $\rightarrow$  **Region** to enter the **Region** window.
- 2. Select the **Formats** tab, and then select the desired language (locale) from the **Format** drop-down list.
- 3. Select the **Location** tab, and then select the desired language (locale) from the **Home location** drop-down list.
- 4. Select the **Administrative** tab, and then click the **Change system locale...** button to display the **Region Settings** window.
- 5. Select the desired language (locale) from the **Current system locale** drop-down list.
- 6. Restart the computer to apply the setting.

## 3.3.11 Configuring Windows System Operating Time

Enter the Windows desktop and select Control Panel → Date and Time to display the Date and Time window.

The current tab displays the **Date and Time** tab.

- 2. Click the **Change time zone...** button to display the **Time Zone Settings** window.
- 3. Select the Automatically adjust clock for Daylight Saving Time option.
- 4. Click the **Internet Time** tab.
- 5. Click the **Change settings...** button to display the **Internet Time Settings** window.
- 6. Unselect the Synchronize with an Internet time server option.
- 7. Restart the computer to apply the setting.

## 3.3.12 USB Dongle Compatibility

The upgraded BeneVision CMS software is compatible with the BeneVision dongle. However, some newly added functions may be disabled.

#### 3.3.13 Installing the Micro Dog Driver

1. Click and open the folder titled "USB Dog Driver". Open the subfolders and double click on the "MicroDogInstdrv" application. The application installs the driver for the license dongle.

	bacemouncu	1960	CHLC.
\min MicroDog Driver Installer 4.0.16.5 ReadM	11/30/2015 8:37 AM	PDF File	1
😹 MicroDogInstdrv.exe	11/23/2015 10:02	Application	1
RCMicroDogSetup.dll	11/23/2015 10:07	Application extens	2,9

- 2. When the Micro Dog Driver installation window opens, select **USB Dog Driver** under Driver Installation. Finally click the **Install Driver** button on the lower left hand side of the window.
- 3. When installation is complete, look for the message in red "The driver has been installed successfully". Click **Exit** to exit from installation of the Micro Dog Driver.

MicroDog and NetDog Wind	ows Driver	<u> </u>	$\times$
	Current Operating System		
	System Platform:	lindows 8 v64	
		1100003 0 204	
	System Path:	C:\Windows\system32	
	Driver Statue		
			_
	The driver has been installed	al as services for the d	
	The unvertias been installe	d successfully!	
	Driver Installation	Driver Uninstallation	
		Driver Offiniscaliduori	
COV	🔽 USB Dog Driver	🔽 USB Dog Driver	
	Parallel Dog Driver	Parallel Dog Driver	
Dog Driver	Date of drivers' package:	2015.11.23	
🕢 Install Driver 🛛 谷	Uninstall Driver Q	Check Driver 🗶 Ex	it
· · ·	PILE	· · · · · · · · · · · · · · · · · · ·	

## 3.3.14 Installing/Updating OS Patches(Windows 7)

You need to install the OS patches after installing the Operating System or when you find that the operating system needs to be updated.

To install or update OS patches:

- 1. Insert the BeneVision CMS OS Patches CD (PN: 115-034050-00) into your computer and copy the "WIN7 English hotfix" folder to the desktop.
- 2. Open the "WIN7 English hotfix" folder on the desktop and run the "install all.bat" file.

The OS patches will be installed automatically. Upon completion of installation, the installation window will be closed automatically.

- 3. Delete the "WIN7 English hotfix" folder from the desktop.
- 4. Eject the BeneVision CMS OS Patches CD and keep it properly.

#### NOTE

• Do not shut down your computer until the installation window is closed.

## 3.3.15 Installing/Updating OS Patches (Windows 10/Windows Server 2016)

You need to install the OS patches after installing the Operating System or when you find that the operating system needs to be updated.

To install or update OS patches:

- 1. Insert the BeneVision USB stick into your computer.
- 2. Copy the OS patches (PN: 110-006072-00 or 110-006073-00) into your computer and copy the "WIN10 hotfix" or "WIN2016 hotfix" folder to the desktop.
- 3. Run the "windows10-kbxxxxxxxxcx64.msu" or "windows 2016-kbxxxxxxxxx64.msu"
- 4. In the pop-up Windows Update Standalone Installer dialog, select **Yes**.

Windo	ws Update Standalone Installer
1	Windows Update Standalone Installer
	Do you want to install the following Windows software update?
	Security Update for Windows (KB4093112)
	<u>Y</u> es <u>N</u> o

The OS patches will be installed automatically.

Download and Install Updates	
The undates are being installed	
15 The updates are being instance	
Installation status:	
Initializing installation done! Installing Security Update for Windows (KB4093112) (update 1 of 1)	^
	~
Installing:	
	Cancel

5. Upon completion of installation, select **Restart Now**.



## NOTE

• Do not shut down your computer until the installation window is closed.

## 3.3.16 Installing the CMS System Software (Running As Application) NOTE

- The software version of the License and USB dongle must match the version of CMS.
- Connect the network cable. The independent network adapter needs to connect to network. Refer to 3.4 IP Address Setup and Network Connection.
- for additional information of independent network adapter.
- 1. In the CMS software CD, double click "Setup.exe" under the "Setup" directory to enter the following window.



#### NOTE

- The language selected as shown in the figure above is the one for display on the screen during the process of installation but not the default one when the CMS is operating. The language used when the CMS is operating is to be set up in the following steps.
- Set OS language to English before installing CMS system software in English or other language operating system. Change to the desired OS language after the installation.
- 2. When the welcome screen displays, click Next.



3. Choose Install Location, and then click Next.

Choose Install Location		6
Choose the folder in which to install Mind	dray CMS.	
Setup will install Mindray CMS in the follo	wing folder. To install in a	different folder, click
browse and select another rolder. Click r	vext to continue.	
Destination Folder		
Destination Folder		Browse
Destination Folder Sharooram Ries)Mindray CMS Space required: 1.8GB		Browse
Destination Folder El Program Files/Mindray CMS Space required: 1.8GB Space available: 10.5GB		Browse

4. Choose **Data Location** and then click **Next**.

🕞 Mindray CMS Setup		_ 🗆 🗙
Choose Data Location Choose the folder in which to save Data For M	lindray CMS.	
Destination Folder           D:\ProgramData	Browse	
Space required: 1.0GB Space available: 140.4GB		
Mindray		
	< Back Next >	

5. In the Running Environment Setting screen, select Running As Application.

	~		~
🕞 Mindray CMS Setup			_ 🗆 🗙
Running Environment Setting			
Running As Application			
C Rupping As Epileuer Cluster Service	-		
C Running As Pailover Cluster Service	e		
Mindray			
	< <u>B</u> ack	<u>N</u> ext >	Cancel

6. When the welcome screen displays, click **Next**.



7. Select Automatically start the winpcap driver at boot time, and then click Next.

🕞 WinPcap 4.1.3 Setup				<u>_   ×</u>
WinPca	Installation op Please review th 4.1.3	tions he following optior	ns before installir	ig WinPcap
✓ Automatically sta	rt the WinPcap driver	at boot time		
Nullsoft Install System v2.	46			
		< <u>B</u> ack	Install	Cancel

8. Select **Finish**, and then restart the computer. The CMS will run automatically.



## 3.3.17 Installing the CMS System Software (Running As Normal Service)

- 1. Enter the Running Environment Setting screen. For how to enter this screen, see section **3.3.16 Installing** *the CMS System Software (Running As Application)*.
- 2. In the Running Environment Setting screen, select Running As Normal Service or Running As Failover Cluster Service. The following procedures take Running As Normal Service as an example.

🕞 Mindray CMS Setup	- ·		
Running Environment Setting			Nation 1
C Running As Application Running As Normal Service Running As Failover Cluster Service	3		
Mindray	< <u>B</u> ack	<u>N</u> ext >	Cancel

- 3. Select Next.
- 4. Select the proper privileges for services. The following figure serves as an example only.

🕞 Mindray CMS Setup	<u>_                                    </u>
Set account to run service	
<ul> <li>System</li> <li>Local Service</li> <li>Network Service</li> <li>User Defined</li> <li>Domain Name or Computer Name</li> <li>User Name</li> <li>Password</li> </ul>	zhanxi-PC
	< Back

The descending order of privileges is System, Local Service, Network Service, and User Defined.

If **User Defined** is selected, the system will automatically create a system user depending on the user name and password entered.

5. Import a license.

A valid license dongle or a license file is required for starting a service. If a license file is

available, click the icon (license tool PN: 110-005825-00). The **License** dialog is displayed. In this dialog, select **Import** and then select the path where the license file is located.

	License	×
		V01.00.00.01
MID	23URCQSB4EYK46YXIZ	
File Path:		Import

6. After importing the license successfully, restart the system.

#### 3.3.17.1 Configuring the Network Tab



- Click the desktop shortcut Setup . The configuration tool screen is displayed. 1.
- 2. Enter the login password. The default password is 888888.
- 3. Select the Network tab and the nconfigure network items. The items marked in red rectangle must be configured. IP addresses in the figure beloware for reference only.

Ý			
Recen	Telemetry	Network	Cm « >>
Central Monitoring Network Setup		Malicast Setup	
Naster Server Address	196.76.5.250 🖉	Nutlicast Address	225.0.0.8 🖋
Madei Servir B Address		Nuthered TTL	1.1
Connection Status	Connected	Encryption Connection Type	
Local IP address	196.76.5.150 +	Encryption Connection Type	Only Private Encryption +
Bechide Manitoring Network Setup		Note Peace restart the system after making a change	
Local IP address	196.76.5.150 *		
Remote Yow			
Support Monitor Remote View			
	60		
	Rinner Central Monthering Hetawick Serlag Marker Server Address Marker Server & Kolowys Connection Status Connection Status Local & Padress Reducts Monther Server Local & Padress Remote Yoor Support Monther Fernete Yoor Odf Sending Oracesser Ease	None         Tennetry           Central Monitoring Herman's Strage         195/76.520 //           Nader Server Address         195/76.520 //           Nader Server Address         195/76.520 //           Connection Status         000 ///           Connection Status         Connection Status           Local Pladeres         196/76.510 //           Reduct Monitoring Hermany Hermany         196/76.510 //           Restate Monitoring Hermany Hermany         196/76.510 //           Boddet Monitoring Hermany Hermany         196/76.510 //           Bendet Monitor Remete Year         000           Out Servery Energy Hermany Energy         000	Rinner     Termetry     Metures       Central Monthing Metural, Setup     Maticant Setup     Maticant Setup       Mater Server Address     195/76/5250 //     Maticant Address       Mater Server Address     195/76/5250 //     Maticant Address       Mater Server P Address     196/76/5250 //     Mater Address       Local P address     Connection Statis     Connection Type       Local P address     196/76/5150 //     Reich Rever retart Her volum offer mixing a charger       Mater T P address     196/76/5150 //     Reich Rever retart Her volum offer mixing a charger       Seport Monther Finnete Yare     Connection Type     Connection Type       Od Singling Reversor Easi     Connection Type     Connection Type

4. Restart the CMS.

:	≡⊓	iind <i>r</i> ay		
	Ċ	Shutdown		Review
		Restart		Setup
	(j	System Information		
	eGa	tewav Mactor Server	IP Address	

5. Admit monitoring devices as below: Select the **Device Management** tab. Select the "+" button besides the desired monitoring device.

Ala	rm	Р	atient Management	Device	e Management	Re	view	
Device Assignment								
Auto Admit	0							
Device		Device Name	Department	Room No	Bed No	States		÷
	0	Tel 19195	111					+
	0	M0001	ICU	room-7777	bed888	Online	<b>U</b>	-
	0				99999	Offline	6	-
	0	Bd22		7a06-1	ip120		6	÷
	()			bd	bd-234			
	(i)				in207		-	

6. Configure other items if needed.

#### NOTE

 Upon completion of successful network setup, you can access the configuration tool screen via the WorkStation connected to the CentralStation. At the WorkStation, select the system menu area in the upper left corner of the screen- select System Setup-select the Network tab-select the Central Station Connection tab-select the desired CentralStation-select the Setup button.

#### 3.3.18 Database Update (Optional)

#### 3.3.18.1 Preparation before Updating CentralStation Database

After the CMS is installed, the database needs to be updated.

## NOTE

- The MYSQL database in the CMS (Version 02.XX) can be imported into the newly installed CMS (Version 03.XX)..
- The CentralStation (Version 02.XX and lower) is named as the old CentralStation throughout this manual.
- The CentralStation (Version 03.XX and above is named as the new CentralStation throughout this manual.

Database and configurations of the new CentralStation are not compatible with that of the old CentralStation. Therefore, we provide a special conversion tool to convert the configurations and patient data of old CentralStation into the format which can be recognized by the new CentralStation. If the database of the old CentralStation is small, for example, less than 100G, or patient history data is not required any more, only configurations need to be converted. The conversion process can be completed in Disk D directly. Otherwise, a mobile hard disk drive (500GB or above) is required. To convert database and configurations, follow this procedure:

- 1. Uninstall the old CMS software.
- 2. Install the database conversion tool.
- 3. If the database to be converted is large, prepare a mobile hard disk drive and change the data storage path to the path where the hard disk drive is located. If the database to be converted is small, skip this step.
- 4. Run the database conversion tool to convert patient history data and configurations.
- 5. Uninstall MySQL application and back up data.
- 6. Copy the entire DB directory in the mobile hard disk drive to Disk D and delete the database path change configuration file. The configuration file after conversion will be copied to the path of configuration file.
- 7. Install the new CMS software and check that all the configurations are correct.

#### 3.3.18.2 Judging Disk Space and Preparing A Mobile Hard Disk Drive

Double disk space is required for database conversion. If the database of the old CMS has occupied more than 100G of Disk D, usually an extra mobile hard disk drive should be available for storing data that is converted. The remaining disk space of the mobile hard disk should be at least greater than the occupied space of current Disk D.

Please create the CMSConfig.ini file in the root directory of Disk C and add contents to the file as shown in the following command.



#### NOTE

• The command above is an example only. In the command above, N represents the actual disk of the mobile hard disk drive.

Under these conditions:

- The occupied space of Disk D is small.
- Although the occupied space of Disk D exceeds 100GB, customers do not need to convert all the patient history data. They only need to convert data of a few patient.

A mobile hard disk drive is not required and the CMSConfig.ini file does not need to be edited either.

#### 3.3.18.3 Running Conversion Application

Run the database conversion tool (PN: 110-005553-00) installation application and complete installation as prompted.

Select	State	BedNo	Name	MedicalNO	Online	DischargeTime	ID	Transform Infomation	
V	Complete				0	2017-1-17 6:2	1	Bed NO: 3300r PatientInfo OK	Bed NO: ip-72 PatientInfo OK
2	Complete				0	2017-1-16 2:4	2	Event: 37/160 (23%)	Event: 20/42 (47%)
<b>V</b>	Complete	bv	hlilala	bv-oldcs123	0	2017-1-16 6:1	3		
<b>V</b>	Transforming	zx1-t8	liulili2	pd-bv-t8123	0	2017-1-19 2:2	5		
5 🗸	Complete	55	ABC	ABCDE	1		6		
5	Complete	zx1-t8	LIULILI3	BV-t8	0	2017-11-15 1	7	Bed NO: ip-72	Bed NO: zxl-t8
<b>V</b>	Transforming	3300r	liulei		0	2017-8-18 1:5	8	PatientInfo OK Event OK	PatientInfo OK Event OK
3	Transforming	ip-72	x ielihua	pat987654321	0	2017-11-15 1	9	ECG12 OK	ECG12 OK
	Transforming	ip-72			0	2017-8-18 1:5	10	Irend 15: 0/1 (0%)	Trend: 1/2 (50%)
0 🔽	Ready				1		11		
1 🗸	Ready	ip-72	chenkun	jojgewojijq	0	2017-8-18 8:4	12		
2 🔽	Ready	3300r	wangxuyun	jjlweaojfiwe	0	2017-8-18 10:	13	Data Tana Carr	
3 🔽	Ready	ip-72	XIE11LIHU		1		14	PatientInfo	
4 🔽	Ready	3300r	WANG11X		1		15	Event ECG12	
5 🗸	Ready		liulili	BD	0	2017-1-19 1:1	63	Trend	
								Data Tr Config Transform Config	ransforming
								Disk Information C: size=102406MB ,free D: size=124935MB ,free E: size=124935MB ,free G: size=31078MB ,free	=43050MB =33426MB =33376MB 6340MB

After running the database conversion tool, the following screen is displayed.

The menu items in the figure above are described below:

- 1. Items under Patient List:
  - In the **Select** column: select the discharged patient whose data needs to be converted. The conversion speed improves when a fewer patients are selected.
  - In the **State** column: **Ready** indicates that conversion is not started. **Transforming** indicates that data conversion is in progress. **Complete** indicates that data conversion is completed.
  - In the ID column: database ID is displayed and is for reference only.
  - In the **BedNo** column: the bed number corresponding to patients being monitored is displayed.
  - In the **Name** column: patient name is displayed.
  - In the **MedicalNo** column: patient ID is displayed.
  - In the **Online** column:1 indicates that the patient is not discharged yet.0 indicates that the patient is discharged.
  - In the **Discharged Time** column: patient discharge time is displayed.

- 2. Patient information being converted and the progress of data conversion are displayed under **Transform** Information.
- 3. Selecting **Config Transform** starts converting configurations such as network setup and telemetry setup.
- 4. In the **Data Transform** box, select the data to be converted. If you select **Wave**, it may take several hours to complete conversion.
- 5. Selecting **Data Transform** starts converting patient history data.

After opening the database and configuration conversion tool, follow this procedure:

- 1. Select the data of patients to be converted against the patient info under **Patient List**.
- 2. In the **Data Transform** box, select the data to be converted.
- 3. Select **Config Transform** to convert configurations
- 4. Select **Data Transform** to convert patient history data. Depending on the number of patients and the data size, this step may take a relatively long time. You can see the conversion progress in the **Transform Information** box.

## 3.3.19 Confirming Configurations and Data

Upon completion of conversion, close the conversion application. Uninstall the database conversion tool and delete the C:\ CMSConfig.ini file. Then install the new version of CMS software. After completion of installation, add contents to D:\ProgramData\Mindray\CMS\CMSConfig.ini by running the following commands.



#### NOTE

• The command above is an example only. In the command above, N represents the actual disk of the mobile hard disk drive.

- 1. Copy configuration files after conversion to the storage path (D:\ProgramData\Mindray\CMS\) where configuration files of the new CMS software are located.
- Replace the existing configuration files. The path of configuration files after conversion is DBUpdate software installation directory\ConfigServer\Release. The files are named as "current.cfg" and "current\_backup.cfg".
- 3. Start the new CMS software and verify that all the configuration items are converted properly, especially telemetry-related configurations such as alarm limits, alarm on/off, and alarm priority and CMS alarm-related settings.
- 4. Access the discharged patients screen to check that all the patient history data are converted properly. If all the pieces of information are correct, select **Next**. Otherwise, re-convert.

## 3.3.20 Operations after Conversion

If both configurations and data have been converted and are verified to be correct, select **Exit to Windows** from the **Factory Maintenance** menu of the CMS. Then delete the C:\ CMSConfig.ini" file and edit the D:\ProgramData\Mindray\CMS\CMSConfig.ini file by running the following command.

[DataServer]	
StorePath=N:\\	

Follow this procedure:

- 1. Open Control Panel select Programs- select Uninstall select Mindray CMS DataBase.
- 2. Delete the MySQLData file folder under the root directory of DiskD. Please be noted that it cannot be just moved into the recycle bin. It should be deleted completely. To ensure data security, you can back up MySQLData to a mobile hard disk drive and then delete the MySQLData file folder.
- 3. Copy the entire DB directory in the mobile hard disk drive to Disk D.
- 4. Restart the CMS.

## 3.3.21 Touchscreen Driver Installation (Optional)

#### 3.3.21.1 Installing Elo Touchscreen Drivers (Via Serial)

#### NOTE

- All video/touchscreen cables need to be connected to the CMS before continuing to next step.
- Serial touchscreen drivers are only installed using the ATEN CE750 and using the USB to Serial adapters (023-000739-00).
- 1. Run the file "SW602540\_EloMouseTouch\_5.8.0 ".
- 2. Select Unzip.

WinZip Self-Extractor - SW602540_EloMouseTouc	h_5.8.0 ×
To unzip all files in this self-extractor file to the specified folder press the Unzip button.	Unzip
Unzip to folder:	Run WinZip
rs\800G3\AppData\Local\Temp Browse	Close
✓ Overwrite files without prompting	About
✓ When done unzipping open: .\SW602540_EloMouseTouch_5.8.0\Setup.exe	Help

3. Select the desired language, and then click **Next** >.

Elo Touchscreen Setup (5.8.0)	$\times$
<b>CONTINUCH</b>	
Pick the default language for the Elo Touchscreen Driver package. All Elo Touchscreen applications will be displayed in the language selected below.	
English 🗸	
Next > Cancel	

4. Select the desired option. The following figure and steps take installing serial touchscreen drivers as an example.

Elo Touchscreen Setup (5.8.0)	$\times$
<b>CONTINUCH</b>	
Welcome to Elo Touchscreen Setup.	
☐ Install Serial Touchscreen Drivers	
Install USB Touchscreen Drivers	
Install PulseTouch Touchscreen Driver	
< Back Next > Cancel	

- 5. In the License Agreement screen, select Yes.
- 6. Select **Auto-detect Elo Touchscreens**, and then click *Next*>.
- 7. Select the proper COM ports, shown in the following screen, and then click **Next>**.

## NOTE

- The COM3 is not intended for touchscreen connection for the Kontron KISS 2U and HP 800G1/800G2/800G3/800G4 computers.
- By default, the COM1 port is for recorder connection and programming telemetry devices, and the COM2 port for paging system. Never configure touchscreen devices to COM1, COM2, and COM3.

Elo Touchscreen Setup (5.5.3 )	x
Choose the COM ports from the list below to use with your Touchscreens. All COM ports reported by your system are listed.	
<ul> <li>✓ COM6</li> <li>✓ COM7</li> <li>✓ COM4</li> <li>✓ COM5</li> <li>⊂ COM1</li> <li>□ COM2</li> <li>□ COM3</li> </ul>	
Once you have selected a COM port, click Next to continue the installation.	
<back next=""> Cance</back>	4

7. The COM ports list displays, shown in the following screen. Click **Next>.** 

Elo Touchscree	n Setup (5.5.3 )
	You have selected the COM ports listed below to use with your Touchscreen.
	COM6 COM7 COM4 COM5
	Click Next to complete the installation or click Back to change your selections.
	<back next=""> Cancel</back>

- 8. Select Calibrate Elo Touchscreen monitors, and then click Finish.
- 9. Calibrate the touchscreen according to the screen prompts.

#### 3.3.21.2 Installing EloTouchscreen Driver via USB Port

## NOTE

- All video/touchscreen cables need to be connected to the CMS before continuing to next step.
- 1. Insert the Elo touchscreen driver CD and run the file "Setup.exe".
- 2. Select the desired language, and then click **Next** >.
- 3. Select the desired option. The following figure and steps take installing USB touchscreen drivers as an example.

Elo Touchscreen Setup (5.5.3 )	X
<b>CO</b> TOUCH SOLUTIONS	
Welcome to Elo Touchscreen Setup.	
Install Serial Touchscreen Drivers	
✓ Install USB Touchscreen Drivers	
Install PulseTouch Touchscreen Driver	
< Back Next > Cancel	

- 4. In the License Agreement screen, select Yes.
- 5. Select Calibrate Elo Touchscreen monitors, and then click Finish.
- 6. Calibrate the touchscreen according to the screen prompts.

#### 3.3.21.3 Installing HP Touchscreen Driver via USBPort

No USB touchscreen driver is needed. Touchscreen can function directly after system is installed. To calibrate the touchscreen, follow this procedure:

- Enter the Windows desktop and select Start → Control Panel → Tablet PC settings to enter the Tablet PC settings window.
- 2. Select Setup.
- 3. Calibrate the touchscreen according to the screen prompts.

🧃 Tablet PC S	ettings	×
Display Othe	r ]	
Configure Configure displays.	your pen and touch 💿 Setup	
Display op	tions	
Display:	1. KVM Monitor	
Details:	Touch Input Available	
Choose the <u>Go to Orier</u>	Image: Second	
	OK Cancel Apply	

#### NOTE

• Touchscreen via usb port of the CMS host,.

## 3.3.22 Disabling Display Menus (Optional)

#### 3.3.22.1 Locking Display and Power Buttons on Elo Display

To lock the display buttons: press and hold the Up arrow & Menu button simulatenously for 10 seconds.

To lock the power button: press and hold the Up arrow & power button for 10 seconds.

#### 3.3.22.2 Locking Display and Power Buttons on HP Display

To lock the display buttons: press and hold the Menu button for 10 seconds.

To lock the power button: press and hold the power button for 10 seconds.

## 3.4 IP Address Setup and Network Connection

The PC will be equipped with two network adapters to isolate the monitor LAN and the external network to ensure network bandwidth and data safety for the monitors.

## NOTE

- If two network adapters are used, be sure to identify which is for monitor network and which is for external network connecting multiple CMS or other information systems. Correctly set IP address for each network adapter.
- If two network adapters are used, connect them to corresponding networks as desired.
- Do not connect both network adapters to the same network segment, e.g., do not connect them to the monitor network at same time.

#### 3.4.1 Network Connection Using Multiple Network Adapters

The figure below shows the network connection using multiple network adapter.s



As shown in the figure, the two network adapters are respectively connected to the monitor LAN and the external network. A printer can be connected to any monitor network. Connecting a printer to Monitor Network Subnet 2 is for illustration only.

- Each Wired Subnet should meet the following network requirements:
  - 96 Broadcast devices per subnet
  - 400 Multicast devices per subnet
  - Broadcast and Multicast devices cannot co-exist in the same Patient Monitoring subnet.
  - One TMS receiver is equivalent to 1 Broadcast device and can co-exist in the same subnet as Multicast devices.
  - Up to 96 Broadcast and Multicast devices can co-exist in the Central Monitoring subnet.
  - Up to 400 devices can co-exist in the same subnet as Broadcast or Multicast devices

Communication Mode	Device
Broadcast Only	DPM 3/4/5/6/7, Passport V,TMS-6016
Multicast or Broadcast	Passport 8/12, Passport 8/12, Accutorr 7, T1,
	DPM6+, DPM7+, TMS-6016
ELAN	Passport 2, Spectrum, Spectrum OR, V-Series,
	Telepack-608

#### ■ Wireless Network Requirements:

A separate antenna array can support at most 188 TD60 and TEL-100/200

#### 3.4.1.1 Supported Monitoring Device

#### **Bedside Monitors**

Passport 12m/17m	Passport 8/12	Accutorr 7
T1	DPM 3/4/5/6/7	V 12/21
Spectrum	Spectrum OR	Passport 2
Passport V		
BeneVision N12/N17/N19/N22/N1		

#### Telemetry

TMS-6016 (Tel-100/200)	TMS60 (TD 60)	Telepack-608
TM80 (2.4gGHz/5.0GHz)		

## 3.4.2 Patient Network

Patient network is required for:

- Patient monitors
- Receiver cabinets
- Printers

#### NOTE

- If two network adapters are used, the one (hereinafter called integrated network adapter) integrated on the PC main board is normally connected to the monitor network and the one (hereinafter called independent network adapter) installed in the PCI slot is connected to the external network.
- The default network adapter is the integrated network adapter, which is used for the patient network using CMS+ protocol only.
- For CMS+ protocol, use IP address scheme 172.16.0.X and subnet mask 255.255.0.0.
- Every IP Address on each individual network has to be unique. Duplicate IP Addresses will cause network connection failures.
- The hospitals can set their own desired DHCP or IP addresses. However, the CMS IP address must not be changed.

To set the IP addresses of the integrated network adapter:

1. Select the icon at the bottom of the screen to enter the following screen. Then click **Open Network** 

#### and Sharing Center.



2. In the pop-up screen, select **Change adapter settings**.



- 3. After accessing the Network Connection screen, right click Local Area Connection.
- 4. In the Local Area Connection Properties screen, double click Internet Protocol version 4 (TCN/IPv4) and then select Properties.

onnect using:	
Mintel(R) Ethem	et Connection 1217-LM
his connection uses	Configure
Client for Mic	crosoft Networks
QoS Packet	Scheduler
File and Prin	ter Sharing for Microsoft Networks
Internet Prot	ocol Version 6 (TCP/IPV6)
Internet Prot	ocol Version 4 (TCP/IPv4)
<ul> <li>Internet Prot</li> <li>Link-Layer 1</li> </ul>	ocol Version 4 (TCP/IPv4) opology Discovery Mapper I/O Driver
Internet Prot     Link-Layer T     Link-Layer T	ocol Version 4 (TCP/IPv4) opology Discovery Mapper I/O Driver opology Discovery Responder
Internet Prot     Active     Active	ocol Version 4 (TCP/IPv4) opology Discovery Mapper I/O Driver opology Discovery Responder Uninstall Properties
A Internet Prot     A Link-Layer T     A Link-Layer T     Install  Description	oool Version 4 (TCP/IPv4) opology Discovery Mapper I/O Driver opology Discovery Responder Uninstall Properties
	ocol Version 4 (TCP/IPv4) opology Discovery Mapper I/O Driver opology Discovery Responder Uninstall Properties Tol Protocol/Internet Protocol. The default protocol that provides communication roonnected networks.

5. In the **Internet Protocol Version 4 (TCP/IPv4) Properties** screen, enter the patient network IP address 172.16.0.X and the subnet mask of 255.255.0.0. Then click **OK**. The following figure is for reference only.

r the appropriate IP settings.	need to ask your network administrator
C Obtain an IP address auto	omatically
Use the following IP addre	ess:
IP address:	172 . 16 . 0 . 119
S <u>u</u> bnet mask:	255.255.0.0
Default gateway:	· · · · ·
Obtain DNS server addres	ss automatically
Use the following DNS ser	rver addresses:
Preferred DNS server:	
<u>A</u> lternate DNS server:	

9. Click **OK** to finish setting IP address.

#### 3.4.3 Central Network

The independent network adapter is used to connect the external network. Its IP address should be configured according to actual use.

Central network is required for:

- WorkStation/ViewStationCommunication
- CMS Viewer
- Remote View
- Mobile Viewer
- eGateway

#### **IP Address Setup**

To implement Remote View function between CMS, each CMS needs to be equipped with at least two network adapters, one of which is for internal communication within the current CMS and the other for inter-communication between the CMS. The typical configuration is shown below:

Current CMS A		Target CMS B		Target CMS C	
Network adapter	Network	Network	Network	Network	Network
A1	adapter A2	adapter B1	adapter B2	adapter C1	adapter C2
172.16.0.X1	192.168.0.X2	172.16.0.Y1	192.168.0Y2	172.16.0.Z1	192.168.0Z2

As shown in the table above, network adapter A1, B1 and C1 are used for the communication between the CMS and the monitors. Their IP addresses are in the same network segment with the IP addresses of respective monitors. Network adapter A2, B2 and C2 are used for the inter-communication between the CMS. Their IP addresses belong to the same network segment and X2, Y2 and Z2 shall be different.

See Steps 1 to 5 in **3.4.2 Patient Network** to configure the IP address and the subnet mask for Local Area Connection 2. Please be noted that the IP address of Local Area Connection 2 should be set to 192.168.0.X and the subnet mask should be set to 255.255.0.0.

## NOTE

• If a CMS needs to implement the Remote View function between CMS, other CMS has to connect to thecentral network. Please refer to CMS operator's manual for details.

# **3.5 Synergy Software Installation (Optional)**

Synergy is a software application for sharing a keyboard and mouse between multiple computers.

The installation process includes server and client installation.

#### 3.5.1.1 Installing and Configuring a Server

- 1. Insert the BeneVision CMS Tool SW CD (P/N 115-047955-00) into the computer CD drive, and find the Synergy software application (P/N 110-003997-00) in the CD.
- 2. Run "synergy1.6.3.exe".
- 3. In the welcome screen, click Next.
- 4. In the End-User License Agreement screen, select I accept the terms in the License Agreement and then click Next.
- 5. Always click **Next** until the installation is complete. The Synergy application automatically starts after the installation is complete.
- 6. In the following screen, select the proper language and then click **Next**.



7. Select Server (share this computer's mouse and keyboard), and then click Finish.



- 8. In the following screen, when the window prompting "Do you want to enable auto config and install Bonjour? This feature helps you establish the connection" is displayed, select **No**.
- 9. Select **Configure Server...**By default, server (share this computer's mouse and keyboard) and Configure interactively are selected.

🗸 Synergy
<u>File Edit Window M</u> elp
Server (share this computer's mouse and keyboard):
IP addresses: 196.76.5.77, 7.6.6.253
• Configure interactively:
Configure Server
O Use existing configuration:
Configuration file: C:/Documents and Settings/gw_user/synargy.sgc Browse
🗌 Client (us 📀 Synergy
Screen name: Do you want to enable auto config and install Bonjour?
Server IP:
Auto confi:
Log
NOTE: connecting to service NOTE: connection established INFO: watchdog status: error
Ready Apply Start

10. In the **Screens and links** tab of Server Configuration, drag the computer icon on the upper left corner of screen to a proper position in the grid. Then an unnamed icon appears in the grid, as shown below.



#### NOTE

- The actual computers should be placed in accordance with the position in the grid.
- 11. Double click the computer icon, the **Screen Settings** screen displays. Enter the computer name in the field of **Screen name** according to the client computer name, and then click **OK**.

ADE-PC				System and secondy y System	a and a second as
Alases	Add	Modifier keys Shift: Shift V Ctrl: Ctrl V Alt: Alt V Meta: Meta V Super: Super V	Control Panel Home Control Panel Home Contro	Get more features with a n edition of Windows 7 System Rating: Processor: Installed memory (RAM): System type:	Windows Experience Index 0 3.10 GHz 3.10 GHz 4.00 GB (3.17 GB usable) 32-bit Operating System
Vead corners Top-left Top-right Bottom-right Corner Size: 0	Fixes Fix CAPS L Fix NUM LC Fix SCROL Fix XTest f	OCK key DCK key L L OCK key or Xinerama OK Cancel	See also Action Center Windows Update Performance Information and Tools	Pen and Touch: Computer name, domain, and Computer name: Full computer name: Computer description: Workgroup:	No Pen or Touch Input is available for this Display I workgroup settings XUE-PC CCAnge settings XUE-PF WORKG

## NOTE

#### • Each computer needs to have a unique name.

12. In the following screen, click **Start.** 

🔾 Synergy	
File Edit Window Help	
<ul> <li>Server (share this computer's mouse and keyboard):</li> <li>IP addresses: 196.76.5.77</li> <li>Configure interactively:</li> </ul>	
Configure Server	
<ul> <li>Use existing configuration:</li> <li>Configuration file: C:/Users/CMS/synergy.sgc</li> </ul>	Browse
Client (use another computer's mouse and keyboard): Screen name: CMS-PC Server IP: Auto config	
Log INFO: CONVERT Image from: depen-32 comp-3 INFO: switch from "MR50212477PC4" to "CMS-PC" at 1275,506 INFO: entering screen INFO: service command updated INFO: process started but command is empty, shutting down	•
INFO: got ipc shutdown message NOTE: disconnecting client "MR50212477PC4" NOTE: client "MR50212477PC4" has disconnected NOTE: stopped server INFO: process 2624 was shutdown gracefully	•
Synergy is not running. Apply	Start

#### 3.5.1.2 Installing a Client

- 1. Follow Steps 1 to 6 in the section **3.5.1.1** Installing and Configuring a Server.
- 2. Select Client (share this computer's mouse and keyboard), and then click Finish.



- 3. In the following screen, when the window prompting "Do you want to enable auto config and install Bonjour? This feature helps you establish the connection" is displayed, select **No**.
- 4. Select **Configure Server....**By default, Client (use another computer's mouse and keyboard) is selected.
- 5. Enter the server IP.
- 6. Click **Apply**.
| 🔿 Synergy  |
|--|
| File Edit Window Help  |
| <ul> <li>Server (share this computer's mouse and keyboard):</li> <li>IP addresses: 196.76.5.251, 202.114.4.119</li> <li>© Configure interactively:</li> <li>Configure Server</li> <li>© Use existing configuration:</li> <li>Configuration file: C:/Users/cms/synergy.sgc</li> </ul>   |
| Client (use another computer's mouse and keyboard):         Screen name:       XUE-PC         Server IP:       196.76.5.77         Auto config   |
| Log<br>NOTE: connecting to service<br>NOTE: connection established<br>INFO: using last known command: "C:/Program Files/Synergy/synergyc.exe" -f<br>INFO: service command updated<br>INFO: starting new process<br>activeDesktop:Winlogon<br>INFO: starting new process<br>INFO: drag and drop enabled<br>TNFO: fills to starting the process<br>INFO: drag and drop enabled<br>TNFO: fills to starting the process<br>NFO: fills to starting the process<br>N |
| Synergy is running. Apply Stop   |

# **3.6 Installing Printers**

## **3.6.1 Supported Printers**

The CMS supports the following printers:

- HP LaserJet M401n
- HP LaserJet M602
- HP LaserJet M605n
- HP LaserJet M608

#### **3.6.2 Printer Installation Procedures**

The installation of HP LaserJet M602 is used as an example.

## NOTE

• Connect a printer to the network before performing the following operations.

#### Verifying the Printer IP:

- 1. Load the printer with paper and connect with the computer (Set the printer IP address to 172.16.0.X).
- 2. Power on the printer. The printer IP address information will be shown on the screen of the control panel as below:



3. Verify this IP address is in the same network segment as the patient network. If not, add a new computer TCP/IP address so that it is in the same network segment with the printer IP address.

#### Adding TCP/IP

For how to add TCP/IP, refer to section **3.4.2** Patient Network.

#### Installing the network printer

- 1. Insert the printer driver CD into the CD-ROM.
- 2. Open Control Panel.
- 3. Select Devices and Printers.
- 4. Right click on anywhere on the **Devices and Printers** page and then select **Add a Printer**.
- 5. Select Add a network, wireless or Bluetooth printer and then click Next.



6. Select the desired printer, and then click **Next**.

Add Printer		
Printer Name HP LaserJet 600 M602 (Hewlett-Packard) LJ2250N (Lenovo)	Address 196.76.5.245 196.76.5.253	
		Stop
The printer that I want isn't listed		Next Cancel

7. Click **Have Disk**... to select the printer driver which is located in the CD ROM. The following figure is for reference only.

🕝 🖶 Add Printer	
Install the printer driver Choose your printer from the To install the driver from an i	: list. Click Windows Update to see more models. nstallation CD, click Have Disk.
Manufacturer Brother Canon Epson Fuji Xerox This driver is digitally signed. Tell me why driver signing is import	Printers
	Next Cancel

8. Click **Browse** to browse to the folder where the CD drive is stored. The following figure is for reference only.



9. Click Next. The printer driver will be installed automatically.

Printer Sharing				
If you want to share type a new one. The	this printer, you must p share name will be visil	rovide a share nar ble to other netwo	me. You can use ork users.	the suggested name o
Do not share this	printer			
Share this printer	so that others on your r	network can find a	and use it	
Share name:				
Location:				
Comment:				

10. Upon completion of installation, click **Finish**.

🕞 🖶 Add Printer
You've successfully added HP Universal Printing PCL 6 (v6.1.0)
▼ Set as the default printer
To check if your printer is working properly, or to see troubleshooting information for the printer, print a test page. Print a test page
Finish Cancel

If you need to add a second network printer, repeat the steps above.

#### Configuring the network printer IP on a new printer

When multiple central stations use one printer, if a printer goes bad, you do not need to bring the central stations down to install the new drivers. You only need to set the IP address on the new printer.

Follow this procedure to set the IP address of a network printer:

- 1. Open Control Panel.
- 2. Select Devices and Printers.
- 3. Right click on the desired printer.
- 4. Select Printer Properties.
- 5. In the **Printer Properties** screen, select **Ports** and then select **Configure Port...**
- 6. Change **Printer Name or IP Address** to the IP address of the printer being used. For example, 172.16.0.X.
- 7. Click **OK**.

#### Installing the USB printer

#### NOTE

- Make sure that the USB cable of the printer is not connected with computer.
- 1. Right click the mouse to open CD driver, and then double click "setup.exe" file in the root directory.
- 2. Install the driver by following the indications shown below in the order of from left to right and from top to bottom:





HP LaserJet Enterprise 600 M601, M602 & M603 printer series - X	HP LaserJet Enterprise 600 M601, M602 & M603 printer series
Enable HP Web Services Activate free web services or your new web connected HP printer. For eace information on these services refer to your product documentation or	Themic your for choosing HPI Your product has been accountily institled and configured.
vait ihe iH ahveCveler ( <u>control (p. com (p.) capacitoriter</u> )) (())	When the test page is
HP Apps htt flogt her web vettour a computer. Apps enable you to access and pret Web content directly on your preter.	successfully printed, please click
Would you like to enable the Web Services for this printer per the Terma of Use?	this button.
Yes, open my Web browser to enable HP Web Services for my primi r.     Fyrar Web browser and rapin automatodity go to file also Mp.//7.37.222     O to do a unable Mrd Service and the Mrd Service and th	
V Pio, du hui enzore web services	Finish
- Date	HP Tritony Statement Online +   Copyright © 2011 Hewlett-Packard Development Company, L.P.

- 3. After test page is printed, close all the pop-up windows and access "Printers and Faxes" again.
- 4. Select **HP LaserJet 600 M601 M602 M603 PCL6** printer and re-name it as "M602\_usb" to complete installation of printer's USB driver.

• When installing a printer, select to install network driver or USB driver based on the actual requirement. Connect the printer to the CMS network if network printing is needed.

#### 3.6.3 Tasks after Printer Installation

To improve the print effect, follow the steps as below:

- Enter the Windows desktop and select Start → Control Panel → Hardware and Sound → Devices and Printers.
- 2. In the **Printers and Faxes** field of the **Devices and Printers** window, select the desired printer and right click the printer.
- 3. Select the **Printer properties** option from the pop-up menu to display the printer properties window.
- 4. Select the **Advanced** tab.
- 5. Unselect the Enable advanced printing features option.
- 6. Click the **OK** button to apply the setting and close the printer properties window.

To block the pop-up functional window when running the CMS, follow the steps as below:

- 1. After install the printer, implement a printing task.
  - A prompt window displays at the bottom-right of the desktop, as shown in the following figure.



2. Select the Settings option to display the Settings window, as shown in the following figure.

hp	Notification Settings		
Notification for HP Un	iversal Printing PCL 6:		
Whenever I	print to this printer		
C When there	s a warning or error		
When there i	s an error (printer has stopped)		
Small notification win	dow (don't show supplies levels)		
<b>()</b>		ОК	Cancel

- 3. Select the **Notification** tab, and unselect the **Enabled:** check box.
- 4. Select the **Offers** tab, and unselect the Allow special device information and offers to be displayed check box.
- 5. Click the **OK** button to apply the settings and close the **Settings** window.

# 3.7 Installing PDF Creator

When reports need to be output in PDF format, you need to install PDF Creator on the CMS host.

### **3.7.1 PDF Creator Installation Procedures**

To install the PDF Creator, follow this procedure:

- 1. Double click PDF Creator.exe in the customer-provided PDF Creator package (which can be downloaded from http://www.pdfforge.org or purchased). The following steps take installing PDF Creator 2\_4\_1-Setup as an example.
- 2. Select the setup language and then click **OK**. Wait for the completion of PDFCreator installation preparation.

	Select Set	tup Language 🛛 🗙	
	12	Select the language to use during the installation:	
		English	
		OK Cancel	
DF	Creator :	setup	×
Set	up is bei	ing prepared	

3. Upon completion of installation preparation, click **Next** on the Welcome screen of PDF Creator Setup Wizard.



4. In the **Select Components** screen, use the default settings and then click **Next**.

lect Components	
Which components should be inst	talled?
Select the components you want to want to install. Click Next when yo	:o install; clear the components you do not ou are ready to continue.
Custom installation	
application files	33.9 MB
PDF Architect 4	63.9 MB
🛛 🗹 Firefox integration	0.1 MB
internet Explorer integratio	3n U.4 MB
Current selection requires at least	100.9 MB of disk space.

5. On the **Ready to Install** screen, click **Install**.

🖥 Setup - PDFCreator		_ 🗆 X
<b>Ready to Install</b> Setup is now ready to begin installing f	PDFCreator on your computer.	
Click Install to continue with the install or change any settings.	ation, or click Back if you want to	review
Destination location: C:\Program Files\PDFCreator		<u> </u>
Setup type: Custom installation		
Selected components: application files PDF Architect 4 Firefox integration Internet Explorer integration		
Start Menu folder:		•
Shop pdfforge GmbH	< <u>B</u> ack <u>I</u> nstall	Cancel

6. Upon completion of installation, click **Finish**.



- 7. Configure pdfcteater.
  - a. Open the PDF Creator and then select **Profile Settings** to make the desired configuration changes.



b. Select Actions and Uncheck Open document.



- c. Select **PDF** to configure the PDF file properties.
- d. Select Security.

🔥 PDFCreator Settings			<u>_ D ×</u>
• Profile Settings	Profile: <> Default	: Profile>	<b>·</b> 🖉 + –
Document	General Compression Security	Signature	
Save	Require a password to open the PDF	document	
Auto-Save	Encryption Level		
Actions	C High Encryption (128 Bit AES)		
Image Formats	to copy content from the document     to print the document	to edit the docume to edit comments to fill forms	ent .
PDF	M to use a screen reader	I™ to edit the assemb	ly
Help		Save	Cancel

e. Select Encrypt PDF documents, set the Encryption level to Medium, and only allow the user to print or view the exported PDF.

Document	General Compression Security Signature
9	Final Former For
) Save	Require a password to open the PDF document Set Passwords
Auto-Sava	Encryption Level
Actions	C Low Encryption (40 Bit) G Medium Encryption (128 Bit) High Encryption (128 Bit AES) Allow the user
Image Formats	F to copy content from the document     F to edit the document     F to print the document     F restrict to low quality     F to use a screen reader     F to use a screen reader     F to use a screen reader

f. Save the profile changes.

🔥 PDFCreator Settings	_ 🗆 X
Monomial Profile Settings	Profile: <default profile=""></default>
Document	General     Compression     Security     Signature       Image: Encrypt PDF documents to protect its contents     Image: Security     Signature
Save	Require a password to open the PDF document     Set Passwords
Auto-Save	C Low Encryption (40 Bit)
Actions	Medium Encryption (128 Bit)     G High Encryption (128 Bit AES)     Allow the user
Image Formats	∀ to copy content from the document     ∀ to edit the document     ∀ to print the document     ∀ to edit comments     ∀ restrict to low quality     ∀ to fill forms
PDF	IV to use a screen reader IV to edit the assembly
Help	Save Cancel

g. Select Applications Settings.



h. Under Update, set **Check for updates** to **Never**.

🔥 PDFCreator Settings		_ 🗆 X
Mapplication Se	ettings	
General OPrinters Title	Language Please select the application language: English    Preview Update Check for updates: Never Check now Check now	
Debug	A Please note that you won't receive any notifications about available updates! Download the latest version at: http://www.pdfforge.org	
<b>A PDF</b> ARCHITECT	Default Printer         Allow PDFCreator to temporarily change the default printer         Ask         Explorer Context Menu Integration	
	Add Remove	
Help	Save Cancel	

i.Save the application settings changes.

• PDFCreator Settings		_ 🗆 >
Mpplication Se	ettings	
General	Language	
Printers	English Preview	
Title	Check for updates:	
Debug	▲ Please note that you won't receive any notifications about available updates! Download the latest version at: http://www.pdfforge.org	
A PDF ARCHITECT	Allow PDFCreator to temporarily change the default printer	
	Explorer Context Menu Integration	
	Add Remove	
Help	Save Canc	el

## 3.7.2 Verifying Installation of PDFCreator at the CMS

To verify installation of PDFC reator at the CMS, follow this procedure:

- 1. Select the system menu area in the upper left corner of the CMS screen.
- 2. Select <sup>(2)</sup> System Setup to access the System Setup menu.
- 3. Select the **Print** tab  $\rightarrow$  enter the required password  $\rightarrow$  select the **OK** button  $\rightarrow$  select the **Printer** tab.
- 4. Verify that **PDFCreator** is displayed in the drop-down list for **Printer**.

				<b>ع</b> ک	PDFCreator	<b>4:15</b> 2017-		)5-08
				System Setup	DDD OneNote 2007			×
	Review 1		Telemetry	Ne	HP Universal Printing PCL 6 (v6.1.0)		~	>>
Printe	·	Printer		PDFCreator •	HP LaserJet Pro M201-M202 PCL 6			
Schedul Repor	ed t	Paper Size		A4 ►	HP LaserJet P4015 UPD PCL 6			
End Case R	eport	Resolution		300 dpi 🕨	HP LaserJet M605 PCL 6			
Report La	/out				HP LaserJet 400 M401 PCL 6			
ECG Rep	ort							
Record	er							

## **3.7.3 Printing PDF Reports**

You can print PDF reports manually or set the printer to print PDF reports automatically. For details on printing PDF reports, see *BeneVision Central Monitoring System Operator's Manual (PN 046-010879-00)*.

## 3.7.4 Saving PDF Reports Manually or Automatically

You can save PDF reports manually or automatically.

#### 3.7.4.1 Saving PDF Reports Manually

To save PDF reports manually, follow this procedure:

1. Select the **Save** button

PDFCreatur				
Title			() po	fforge
Realtime Repo	rt_2017-05-08_	13-53-16		
Profile				
<default profil<="" td=""><td>e&gt;</td><td></td><td></td><td>•</td></default>	e>			•
▲ Metadata				
<u>S</u> ubject	4			
<u>K</u> eywords				V
Author				
cms				
Pri	nt more docun	nents to merge	or rearrange the	em
			e	
		1000		1818

2. Select the desired file save path. Suppose the PDF file save path is E:\REPORT.

🖳 Select destination					×				
🕘 🕘 📕 🕶 Computer 🕶 document (E:) 🖛 REPORT 🛛 🗸 🔯 Search REPORT									
Organize 👻 New folde	r				8≕ ▾ 🔞				
🔜 Desktop 📃	Name 🔺	Date modified	Туре	Size	<u> </u>				
Downloads	111_Rescue Report_04-25-2017_08-21-51	4/25/2017 8:22 AM	PDF Document	14 KB					
🕍 Recent Places	111_Rescue Report_24-04-2017_2-20-38 P	4/24/2017 2:20 PM	PDF Document	17 KB	_				
🦰 Librarias	🌽 111_Rescue Report_24-04-2017_2-20-39 P	4/24/2017 2:20 PM	PDF Document	17 KB					
Documents	🍃 111_Rescue Report_24-04-2017_2-50-45 A	4/24/2017 2:51 AM	PDF Document	15 KB					
Music	🍃 111_Rescue Report_24-04-2017_4-17-16 P	4/24/2017 4:17 PM	PDF Document	13 KB					
E Pictures	🕝 111_Rescue Report_24-04-2017_4-17-17 P	4/24/2017 4:17 PM	PDF Document	13 KB					
😸 Videos	111_Rescue Report_24-04-2017_5-22-18 P	4/24/2017 5:22 PM	PDF Document	17 KB					
	111_Rescue Report_24-04-2017_5-22-18 P	4/24/2017 5:22 PM	PDF Document	17 KB					
👰 Computer	111_Rescue Report_24-04-2017_5-36-07 P	4/24/2017 5:36 PM	PDF Document	14 KB					
🏭 system (C:)	🕝 111_Rescue Report_24-04-2017_5-36-08 P	4/24/2017 5:36 PM	PDF Document	14 KB					
👝 software (D:) 🖳	🕝 111_Rescue Report_24-04-2017_5-37-25 P	4/24/2017 5:37 PM	PDF Document	14 KB					
🧫 document (E:	111_Rescue Report_24-04-2017_5-37-26 P	4/24/2017 5:37 PM	PDF Document	14 KB					
💼 cms (F:)	111_Rescue Report_24-04-2017_5-38-31 P	4/24/2017 5:38 PM	PDF Document	14 KB	-1				
		10100125 10011	005 D 1	111/0					
File <u>n</u> ame:   Rea	time Report_2017-05-08_14-16-51				<u> </u>				
Save as type: PDF	file (*.pdf)								
🗻 Hide Folders				Sav	re Cancel				

3. Access E:\REPORT, and then you can view the PDF report output.

📕 REPORT				_	
G → 🕨 - Computer - document (E:)	▼ REPORT	<b>▼</b> 🔂	Search REPORT		<b>P</b>
Organize 👻 🙋 Open 👻 Share with 👻	Print New folder			•	(?)
🚖 Favorites	Name	Date modified 🔻	Туре	Size	<u> </u>
🧮 Desktop	🌽 Realtime Report_2017-05-08_14-16-51	5/8/2017 2:19 PM	PDF Document	143 KB	
🐞 Downloads	Realtime Report_2017-05-08_14-03-17	5/8/2017 2:03 PM	PDF Document	143 KB	
💯 Recent Places	Realtime Report_2017-05-08_13-53-16	5/8/2017 1:56 PM	PDF Document	143 KB	
	Realtime Report_2017-05-05_15-15-43	5/5/2017 3:16 PM	PDF Document	162 KB	
🛜 Libraries	BD_Tabular Trends Report_04-05-2017_07-59-56	5/4/2017 10:52 AM	PDF Document	17 KB	
Documents	Tabular Trends Report_04-05-2017_07-59-55	5/4/2017 10:52 AM	PDF Document	9 KB	
🎝 Music	BD_Tabular Trends Report_03-05-2017_23-59-57	5/4/2017 10:52 AM	PDF Document	17 KB	
📄 Pictures	🖉 Tabular Trends Report_03-05-2017_23-59-56	5/4/2017 10:52 AM	PDF Document	9 KB	

#### 3.7.4.2 Saving PDF Reports Automatically

To save PDF reports automatically, follow this procedure:

1. Upon completion of PDFCreator installation, from the Windows **Start** menu, select **PDFCreator**→select **Profile Settings**.





2. In the **Profile Settings** window, select the **Auto-Save** section. Check **Enable automatic saving** and then select the desired **Target Folder**. Suppose the target folder is E:\REPORT.

🔥 PDFCreator Settings	_ 🗆 ×
🔥 Profile Setting	S Profile: <default profile=""></default>
Document	Automatic Saving
Save	Ensure unique filenames (Do not overwrite existing files) Target Folder: Add Token:
Auto-Save	E:XEPORI
Actions	Edit profiles without print dialog by opening PDFCreator in Windows Explorer
Image Formats	
PDF	
Help	Save Cancel

3. Go back to the ViewBed screen and then select the **Print** quick key. This step takes printing a real-time report as an example.

The prompt "Printing..." is displayed at the CMS. Wait for the prompt of "Printing Completed". Upon completion of printing, the PDF report will be saved in the target folder automatically.

## NOTE

 If you need to print other reports such as EEG report, select corresponding print button. For how to select the print button, see BeneVision Central Monitoring System Operator's Manual (PN 046-010876-00).

🕞 🖉 🔻 Compu	ter ▼ document (E:) ▼ REPORT		<b>▼</b> 43	Search R
ganize 👻 💋 Open	<ul> <li>Share with</li></ul>			= - 🔳 (
Favorites	Name	Date modified 🔻	Туре	Size
💶 Desktop	💋 Realtime Report_2017-05-08_15-22-22	5/8/2017 3:22 PM	PDF Document	143 K
📕 Downloads	🕝 Summary Report_2017-05-08_15-22-16	5/8/2017 3:22 PM	PDF Document	13 K
🔄 Recent Places	🕗 Summary Report_2017-05-08_15-21-40	5/8/2017 3:21 PM	PDF Document	13 K
	🥥 Summary Report_2017-05-08_14-28-50	5/8/2017 2:29 PM	PDF Document	13 k
Libraries	😡 Realtime Report_2017-05-08_14-16-51	5/8/2017 2:19 PM	PDF Document	143 k
Documents	😡 Realtime Report_2017-05-08_14-03-17	5/8/2017 2:03 PM	PDF Document	143 k
J Music	Realtime Report_2017-05-08_13-53-16	5/8/2017 1:56 PM	PDF Document	143 k
Pictures	Realtime Report_2017-05-05_15-15-43	5/5/2017 3:16 PM	PDF Document	162 k
💾 Videos	BD_Tabular Trends Report_04-05-2017_07-59-56	5/4/2017 10:52 AM	PDF Document	17 k
	Tabular Trends Report_04-05-2017_07-59-55	5/4/2017 10:52 AM	PDF Document	9 k
Uomputer	BD Tabular Trends Report 03-05-2017 23-59-57	5/4/2017 10:52 AM	PDF Document	17 k

4. Access the target folder (in this example:E:\REPORT), and then you can view the PDF report output.

## 3.7.5 Viewing PDF Reports

You need to install a PDF reading application such as PDF Reader, Adobe Acrobat, or Foxit to view PDF reports.

To view PDF reports, open the PDF report in the target folder using the desired PDF reading application.





■ The PDF report opened via Foxit is as shown below.

## 3.8 Installing a Recorder

No recorder driver is needed. Recording can function directly after system software is installed.

## NOTE

• Connect a recorder to COM1 port of the CMS host.

## 3.9 CMS System Software Installation

For how to install the CMS system software (running as normal service, see **3.3.17Installing the CMS System Software (Running As Normal Service)**.

### 3.9.1 Configuring CMS Display Size

To set the screen size, follow this procedure:

- 1. Select the system menu area = mindray in the upper left corner of the CMS screen.
- 2. Select Oster System Setup to access the System Setup menu.
- 3. Select the **Display** tab, enter the required password, and then select **OK**.
- 4. Select the **Screen** tab.
- 5. Select **Screen Size** and then select the desired option. If your screen size is not available, select **Others** and select the + or-button on the rulers to adjust the screen size.



- 6. Click **OK**.
- 7. Restart the CMS system to make the changes take effect.

### 3.9.2 Setting the Display Layout of CMS Screen

When the Central Station, the Work Station, or the View Station is equipped with four displays, the "**Display Layout**" option is available in the "**Screen**" tab and allows you to change the cursor moving mode. The display layout selected should be consistent with the appearance of your displays.

To change the display layout, follow this procedure:

- 1. Right click the mouse on the desktop, and then select **Screen Resolution** from the pop-up menu to display the window.
- 2. Adjust the layout of your displays either **1x4** or **2x2**.
  - **1X4**: Four displays are arranged in a line. You can move the cursor from the current display to its neighboring diplays.

#### Change the appearance of your displays



• **2x2**: When two displays are stacked on the other two displays. You can move the cursor from current display to its neighboring displays.

Change the appearance of your displays



- 3. Select the system menu area  $\equiv$  mindray in the upper left corner of the CMS screen.
- 4. Select OSS System Setup to access the System Setup menu.
- 5. Select the **Display** tab, enter the required password, and then select **OK**.
- 6. Select the **Screen** tab.
- 7. Set **Display Layout**: either **1x4** or **2x2**. This option should be consistent with the layout of your displays.
- 8. Restart the CMS system.

### NOTE

• The display setting changes will take effect after the CMS restarts.

# 3.10 Setting AP Management

- 1. From the CMS system, select the system menu area
- 2. Select  $\bigcirc$  System Setup  $\rightarrow$  Network $\rightarrow$  enter the password.
- 3. Select the **AP Management** tab.
- 4. Click Import AP Information to import a file(format:\*.txt)

	System Setup						
Reviev	N	Telemetry	Network		Print	«	≫
General	Import AP Information	AP Name 🗘	Mac address	Location	Detail		
Results Service		AP-CMS1	f84f573b5d10	HY9-7a1	7a1		
eGateway		AP-CMS2	882593BA4F16	aaaa7a2	7a2		
Central Station Authorization		AP-CMS3	000B6C41E50C	HY9-7a3	7a3		
Central Station Connection							
Bed Authorization							
AP Management							

 $\equiv$  mindray in the upper left corner of the screen.

#### NOTE

- The imported text file must be saved in the UTF-8 format.
- The text file that contains the AP information must be in this format: AP Name, Mac address, Location, Detail. AP Name, Mac address, Location, and Detail are customizable. For example, AP-CMS1,F84F573B5D10, HY9-7a1,7a1. Each filed is separated by a comma and there is no spacing between each field.

# 3.11 Connecting a CentralStation to WorkStation/ViewStation

This section describes how to connect a CentralStation to WorkStation or ViewStation.

Before connecting a Central Station to WorkStation/ViewStation, you need to configure IP addresses in the CentralStation and WorkStation/ViewStation respectively.

#### NOTE

• One of the CentralStations needs to be configured as the master server.

### 3.11.1 CMS Network IP Configuration

- 1. Select the system menu area = mindray in the upper left corner of the CMS screen.
- 2. Select **System Setup**  $\rightarrow$  **Network** $\rightarrow$  enter the password.
- 3. Select the **General** tab.
- 4. From the **Central Monitoring Network Setup** section (i.e. central network", enter 192.168.0.X into the text input box on the right of **Master Server IP Address**. This is the IP address of the CentralStation that is going to be the master.
- 5. Click the button on the right of the text input box for Local IP address and select 192.168.0.X.

				System Setup				×
Te	elemetry	Network			Print	Configuration	~	>>
General	Central Monitoring Ne	etwork Setup			Multicast Setup			
Results Service	Master Server IP Add	ress	192 . 168 .	0 . 20 🖉	Multicast Address	225.0.	0.8	/
eGateway	Local IP address		192 . 168 .	0.20 🕨	Multicast TTL			1 🕨
Central Station Authorization	Bedside Monitoring N	etwork Setup			Note:Please restart the sy	stem after making a change.		
Central Station Connection	Local IP address		172	2.16.0.20 >				
Bed Authorization	Remote View							
AP Management	Support Monitor Ren	note View						

- 6. From the **Bedside Monitoring Network Setup** section (i.e. patient network), click the button on the right of the text input box for **Local IP address** and select. 172.16.0.X.
- 7. Click **X** in the upper right corner to accept the changes.
- 8. Restart the system.

- If the CentralStation that is being set up is the master, enter its own IP address in the « Master Server IPAddress » field. See the figure above for reference.
- The CentralStation needs to be restarted for changes to take effect.

### 3.11.2 Configuring WorkStation/ViewStation Network IP Addresses

- 1. From the WorkStation/ViewStation, select the system menu area in the upper left corner of the screen.
- 2. Select System Setup  $\rightarrow$  Network Setup  $\rightarrow$  enter the password.

			System Setup			Х
Net	work	Print	Configuration	Other	«	>>
General	Central Monitoring Network Set	tup				
eGateway	Master Server IP Address	192 , 168 ,	0 . 20 /			
Central Station Connection	Local IP address	19	2.168.0.30 🕨			
	Note:Please restart the system a	after making a change.				

- 3. From the **Central Monitoring Network Setup** section (i.e. central network", enter 192.168.0.X into the text input box on the right of **Master Server IP Address**. This is the IP address of the CentralStation that is the master.
- 4. Click the button on the right of the text input box for Local IP address and select192.168.0.X.

- 5. Click **X** in the upper right corner to accept the changes.
- 6. Restart the system.

• The WorkStation/ViewStation needs to be restarted for changes to take effect.

## 3.11.3 Connecting a CentralStation to WorkStation/ViewStation

- At the WorkStation/ViewStation, select the system menu area mindray in the upper left corner of the screen.
- 2. Select  $\bigcirc$  System Setup  $\rightarrow$  Network Setup  $\rightarrow$  enter the password.
- 3. Select the **Central Station Connection** tab. The following figure is for reference only.

System Setup							
Network		Print	Configuration		Other	<b>«</b>	>>
General						(	)
eGateway Central Station Connection	Central Station		IP Address	Connected Status			
	TS		192.168.0.20	Disconnected		Connect	

- 4. Select the name of the central station you want to connect.
- 5. Click **Connect** and then click **X** in the upper right corner to close the **System Setup** window.

- For how to admit patients on the WorkStation/ViewStation, refer to section4.3 Assigning Monitoring Devices from the Host CentralStation to the WorkStation/ViewStation of the BeneVision Central Monitoring System Operator's Manual (P/N: 046-010879-00).
- For details on troubleshooting the issues that may occur when using the WorkStation/ViewStation, see *chapter 10 Troubleshooting*.

# 3.12 MLDAP Deployment

For details on the MLDAP deployment, refer to MLDAP Installation and User Guide (PN : 046-011462-00).

#### FOR YOUR NOTES

The configurations about the TMS are operated at the central monitoring system (CMS), such as programming the telemetry packs, admitting the transmitter, discharging the transmitter from the CMS, refer to

- TMS-6016 Telemetry Monitoring System Service Manual (P/N 046-005121-00)
- TMS60 Telemetry Monitoring System Service Manual (P/N 046-007057-00)

This chapter only concentrates on how to configure Panorama telemetry server to the BeneVision CMS.

### NOTE

• The Panorama telemetry server gets connected to the BeneVision patient network 172.16.0.X.

## 4.1 Configuring Panorama Telemetry Server

- 1. On the telemetry server, access the windows desktop.
- 2. From the windows desktop, open Control Panel.



- 3. In the Control Panel, open **Network Connections**.
- 4. Right click on the **ELAN Connected** and select **Properties**.



5. In the Internet Protocol (TCP/IP) Properties window, set the IP address to 172.16.0.X and the Subnet mask 255.255.0.0 and then click **OK.** 

neral	
ou can get IP settings assigned his capability. Otherwise, you ne or the appropriate IP settings.	automatically if your network support: ed to ask your network administrator
○ Obtain an IP address autom	natically
Use the following IP address	s:
IP address:	172 . 16 . 0 . 221
Sybnet mask:	255.255.0.0
Default gateway:	
C Obtain DNS server address	automatically
<ul> <li>Use the following DNS serve</li> </ul>	er addresses:
Preferred DNS server:	· · · ·
<u>A</u> lternate DNS server:	1 1 I
☐ Validate settings upon exit	Ad <u>v</u> anced

6. On the windows desktop, double click on CB\_Config.exe.

evice ID	608 MHz Wmts Enable		Emergency Disk	
Device ID W26E5ADX	✓ Enable Wmts Device	Enable Wmts Devices		
iewpoint Server Version Information	608 MHz Wmts Configuration			
Product Version 5.4.3	Global 0 V D	ownlink		
Baseline Version 4.2	R	FPair TXFP_None		
	Tim Id 0 💌	Deselect unusable		
P Addresses	- Band	frequencies	Save and Exit	
	C 608 - 609.5 MHz	€609.562500		
ELAN IP Address 172 . 16 . 0 . 221	C	✓ 609.593750		
	• 609.5 - 611 MHz	▼609.656250		
V/FLANUE AUL	C 611 - 612.5 MHz	✓ 609.687500	Cancel	
WELAN IP Address	C 6125 614 MHz	✓ 609.718750		
	10 012.3 * 014 MHz	C100 701 250		

7. Set the ELAN IP Address to 172.16.0.X, if not already configured.

#### NOTE

- The WELAN IP Address does not need to be configured.
- If an emergency disk was created for the telemetry server reloaded, click "Save and Exit". Restart the telemetry Server. If not, continue with the next step.
- 8. On the 608 MHz Wmts Enable, check Enable Wints Devices.



9. On the 608 MHz Wmts Configuration, set Global Tim Id to 0, Tim Id to 0, and Downlink RF Pair to TXFP\_None.

Global	0	-	
Tim Id	10	_	RF Pair TXFP_None -
Tim Id	0	-	

10. In the **Band** field, select the appropriate band based on the site survey that was performed.

	Deselect unusable frequencies			
Band	€609.531250 ▲			
C 608 - 609.5 MHz	€609.562500			
	€609.593750			
@ 609.5 - 611 MHz	€609.625000			
	€609.656250			
C 611 - 612.5 MHz	€609.687500			
	✓ 609.718750			
C 612.5 - 614 MHz	€609.750000			
and a case of the state of the	Cacho 701 250			

- 11. Click Save and Exit.
- 12. Restart the telemetry server.
- If the telemetry server is communicating with the BeneVision Central Station the following screen will come up with the following messages "Waiting for green signal from OSC, Waiting for Hive Server, CB Server Created and CB set to CB Master".



• For additional telemetry server settings, please refer to the Panorama Service Manual 0070-00-0634.

# 4.2 Programming Panorama Telepack 608 to BeneVision CMS

- 1. Connect a programming cable to COM 1 of the Central Station.
- 2. Connect the programming cable to the Telepack 608.
- 3. Install the batteries. After installing batteries, the LA and the RA lights are going to turn **ON** and wait for them to turn **OFF**.
- 4. From the CMS system, select the system menu area in the upper left corner of the screen.
- 5. Select  $\bigcirc$  System Setup  $\rightarrow$  enter the password  $\rightarrow$  select the **Telemetry** tab $\rightarrow$  select **Program**.

			System Setup			
Review		Telemetry	Network	Print	~	
Alarm	Free Connected Channel	Error: Could not receive data				
ECG	Free Channel	Device ID:				
Nurse Call Frequency	Program	Connect				
Setup		Software Version:				
Program		Hardware Version:				
WMTS Device		Lead Selection:				

6. When the following dialog box displays, click **OK**.



• The dialog box appears for five seconds. If you do not make a selection during the five seconds, you will get a programmed time out message.

The message "Wireless device programmed successfully" displays.

Wireless device programmed successfully.

## 4.3 Admitting Panorama Telepack 608 to BeneVision CMS

- 1. From the CMS system, select the system menu area  $\equiv$  mindray in the upper left corner of the screen.
- 2. Select System Setup  $\rightarrow$  enter the password  $\rightarrow$  select the **Device Management** tab.
- 3. In the monitor list, select the desired transmitter name.
- 4. Click +.

		System	n Setup						Х
Device Management		Review	Teleme	Telemetry		Network		~	>>
Device Assignment									
Auto Admit Device	d Display1	Identify	0		Department			ocal	*
	l of ×		D	evice Name	Departm.	Room No	Bed No	\$	
	345	*	(i) 9	027	ICU			+	•
			0		ICU			+	
5	+	÷	0		icu			+	•
		÷	(i) 5	8000622				+	•
			0 1	el 0671				+	
		*	(i) 1	el 7467				+	•
			() I	el 0673				+	
		+	() I	el 0670					
	+	+							
	•	•							
		•							
# 4.4 Programming Replacement Panorama Telepack 608

- 1. Connect a programming cable to **COM 1** of the Central Station.
- 2. Connect the programming cable to the **defective** Telepack 608.
- 3. Install the batteries. After installing batteries, the LA and the RA lights are going to turn ON and wait for them to turn OFF.
- 4. From the CMS system, select the system menu area = mindray in the upper left corner of the screen.
- 5. Select 0 System Setup  $\rightarrow$  enter the password  $\rightarrow$  select the **Telemetry** tab $\rightarrow$  select **Program**.
- 7. Click Free Connected Channel. The following dialog box displays.

# Channel Successfully freed.

- 8. Connect the Programming cable to the **new** Telepack 608. Inset the batteries to the Telepack. After inserting the batteries, the *LA* and the *RA* lights are going to turn **ON** and wait for them to turn **OFF**.
- 9. Click **Program**. When a confirmation message appears, click **OK**. The message "Wireless device programmed successfully" displays.

#### NOTE

• For how to admit Panorama Telepack 608, refer to 4.3Admitting Panorama Telepack 608 to BeneVision CMS.

# 4.5 Programming Tel-100/200 and TD 60 Transmitters

- 1. Connect a programming cable to COM 1 of the CentralStation
- 2. Connect the programming cable to the SpO<sub>2</sub> connector of the **Telepack**.
- 3. From the CMS system, select the system menu area in the upper left corner of the screen.

4. Select  $\bigcirc$  System Setup  $\rightarrow$  Factory Maintenance  $\rightarrow$  enter the password  $\rightarrow$  select the Frequency Setup tab, and then click the **Frequency Setup** button.

			1					1
<u> </u>	Channel	Name	SN	Frequency MHz	RSSI	dBm	Error Hate	-
196.76.5.135	2	TD000010	0-6789	608.35	81	-122	2.84%	
196.76.5.135	3	57000100		608.425	106	-113	61.78%	
196.76.5.135	1	TD60-FDA	6	608.3	171	-86	16.87%	
196.76.5.135	5			608.575	75	-124	100.00%	
196.76.5.135	6			608.625	64	-127	100.00%	
196.76.5.135	4			608.475	75	-124	100.00%	
196.76.5.135	7			608.7	64	-127	100.00%	
196.76.5.135	9	0008		609	140	-101	0.54%	
196.76.5.135	8			608.75	81	-122	100.00%	
196.76.5.135	10			609.125	61	-127	100.00%	
196.76.5.135	11			609.175	78	-123	100.00%	
196.76.5.135	12			609.275	84	-121	100.00%	_
196.76.5.135	13			609.325	59	-127	100.00%	
196.76.5.135	14			609.4	33	-127	100.00%	
196 76 5 135	15			609.45	59	-127	100.00%	
				Discharge	Floor Scan	Antenna Array Covera	age Pro	gram
IP Config	Multicast	Config						
Mainboard soft ver		V01.02.14	Total run-time(h)	18				
Receiver soft ver		V01.00	FPGA ver	V1.1		Mac Addr 00001	B1822CA	
rompt	icts were found cable. Select c	. Please follow th orresponding cor	ne steps below to reso nflicting device from t	lve the conflicting d he list. Then select F	evices first. Conr Program.	nect the conflicting transm	nitters to this m	achine

- 5. Click the Scan the Frequency Information button.
- 6. Select a channel, and then click **Program**. The following figure serves as an example.

uency Setup	
oftware Ver	
rotocol Ver	
lardware Ver	
req Seg	N -
tart Freq MHz : 6	08
nd Freq MHz : 61	4
requency	608.65 •
end Power dBm	
end Power dBh	608.65 ▼   
requency of tra	nsmikter(MHZ);
As the telemetry	transmitter is not

7. Program the frequency according to the screen prompts.

# NOTE

• The programmed frequency will take effect after the telemetry transmitter is restarted.

#### FOR YOUR NOTES

# 5.1 Configuring the Master Server

Configure the master server in either of the following ways:

- The master server defaults to be integrated into the CentralStation. It does not need to be installed separately. Customers or engineers can log in to and configure the master server by selecting "System Setup" → "Network" → "Master Server".
- Use the master server UI client (PN: 110-006554-00) to log in to the master server and then configure the master server.

#### 5.1.1 Installing the Master Server UI Client

Double click on "MasterServerUIClientSetup.exe". The "Installer Language" dialog is displayed.
 Select the desired language and then select "OK" to proceed to the software installation screen.

Installer La	nguage	×
	Please select a language.	
	English / English	•
	ОК	Cancel

#### NOTE

- The installer language selected is the one displayed throughout the whole installation process. It is not the default language when MasterServerUIClient is running.
- If you wish to install MasterServerUIClient on English operating systems or operating systems of other languages, set the language of the opearating system to English prior to installation. Upon completion of installation, set the language of operating systems to the desired language.

2. Select the desired install location, and then click "Install".

🕞 Mindray MasterServerUIClient Setup	_ 🗆 X
<b>Choose Install Location</b> Choose the folder in which to install Mindray MasterServerUIClient.	
Setup will install Mindray MasterServerUIClient in the following folder. To install in a c folder, click Browse and select another folder. Click Install to start the installation.	lifferent
Destination Folder           C:\Program Files\Mindray MasterServerUIClient         Browse	
Space required: 1.0GB Space available: 6.1GB	
Mindray < Back	Cancel

3. Install "Finish".



#### 5.1.2 Logging In to Master Server

- 1. Open the master server setup client and then enter the server IP. Skip this step if you configure the master server via the CentraStation.
- 2. Enter the user name and password. During first installation, you need to log in to the master server as administrator and initialize configurations.

User Name	administrator
Password	Mindray99!

3. Click "Login".

	Master Server Setup	×
User Name	Administrator	
Password		
	Login	۲
Server Address	10.2.49.101	

#### NOTE

• Server Address in the above figure is the address of the master server.

# 5.2 Device Management

The device management screen displays all the devices connected to the master server. These devices include patient monitors, eGateway, CentralStation.

#### 5.2.1 Display Devices on the Device Management Screen

Click "Device Management". All the devices connected to the master server are automatically displayed.

Product Type	Electronic SN	Name	Department	Room No	
CS					
CS					
CS					
Monitor		M0001	сси		
Monitor		PM8000	GW		
BeneVision N22/19	JL-77000843		icu	0705	
N12		n series	icu	room	
BeneVision N12			lcu		

# 5.2.2 Deleting Devices on the Device Management Screen

Select devices in "Offline" state and then click "Delete" to delete these devices.

	IP Address	Mac address	Connection Status	Central Station IP Address	
$\checkmark$	10.2.49.249	F8:A9:63:51:D1:83	Offline		
	10.2.49.101	64:31:50:3E:83:0B	Online		
	10.2.48.65	80:C1:6E:F5:B4:1C	Offline		
	10.2.49.110	00:0F:14:11:51:FD	Online	10.2.49.101	
	10.2.49.249	AA:0A:02:31:F9:01	Offline	10.2.49.249	
	10.2.49.122	00:0B:AB:D2:93:7A/00:17:23:E4:F0:70	Offline		
	10.2.49.195	9E:65:A9:94:63:F8	Offline	10.2.49.101	
	10.2.49.69	A6:3C:77:D8:1F:5C	Standby	10.2.49.105	

#### NOTE

• Devices in Online or Standby state cannot be deleted.

# 5.2.3 Exporting Logs on the Device Management Screen

Select devices in "Online" state and then click "Export Log" to export logs of these devices.

	IP Address	Mac address	Connection Status	Central Station IP Address	
	10.2.49.249	F8:A9:63:51:D1:83	Offline		
	10.2.49.101	64:31:50:3E:83:0B	Online		
	10.2.48.65	80:C1:6E:F5:B4:1C	Offline		
$\checkmark$	10.2.49.110	00:0F:14:11:51:FD	Online	10.2.49.101	
	10.2.49.249	AA:0A:02:31:F9:01	Offline	10.2.49.249	
	10.2.49.122	00:0B:AB:D2:93:7A/00:17:23:E4:F0:70	Offline		
	10.2.49.195	9E:65:A9:94:63:F8	Offline	10.2.49.101	
	10.2.49.69	A6:3C:77:D8:1F:5C	Standby	10.2.49.105	
	Select All		D	elete Export Log	

#### NOTE

.

- You cannot export logs of devices in Offline state.
- You can export logs of Telemetry Monitors, and the CMS only.

#### 5.2.4 Modifying Device Information on the Device Management Screen

1. Click "…".

	Product Type	Electronic SN	Name	Department	Room No 🌻	
	CS					
	CS					
	CS					
	Monitor		M0001	ccu		
	Monitor		PM8000	GW	Detail	
	BeneVision N22/19	JL-77000843		icu	Operation Log	
$\checkmark$	N12		n series	icu	room	
	BeneVision N12			lcu		

2. Select "**Detail**" to view the detailed device information.

There ar	e 9 devices found.					O
	Product Type	Electronic SN	Name	Department	Room No 🌲	
	CS					
	CS					
	CS					
	Monitor		M0001	ccu		
	Monitor		PM8000	GW	Detail	
	BeneVision N22/19	JL-77000843		icu	Operation Log	
$\checkmark$	N12		n series	icu	room	
	BeneVision N12			lcu		

3. Select "**Operation Log**" to view operation details for the selected device.

There ar	e 9 devices found.					Ð
	Product Type	Electronic SN	Name	Department	Room No 🌻	
	CS					
	CS					
	CS					
	Monitor		M0001	ccu		
	Monitor		PM8000	GW	Detail	
	BeneVision N22/19	JL-77000843		icu	Operation Log	
$\checkmark$	N12		n series	icu	room	
	BeneVision N12			lcu		
	_	_	Operation Log	_	_	2
Please	e enter search criteria					
Time		User Name	Detail			
2018	-12-17 19:47:15	Administrator	Download log information	on from the deviceicu	room ICUBED(10.2.49.1	95).
2018	-12-17 19:40:36	Administrator	Download log informatio	on from the deviceicu	room ICUBED(10.2.49.1	95).

# **5.3 Configuration Management**

The configuration management function is applicable for Mindray OEM N series patient monitors and OEM ePM series patient monitors only.

#### 5.3.1 Adding Configurations on the Configuration Management Screen

You can add configurations either from a device list or a file list.

To add configurations, follow this procedure:

- 1. Click "Configuration Management".
- 2. Click "Add Configuration". Then select "Add From Device List".

Department	Configuration Name	Configuration Type	Product Type	Time	
	_neo_N12-121801	Neonate Configuratio.	BeneVision N12	2018-12-18 16:49:.	Device List
lcu	MachineConfig	Machine Configuratio.	BeneVision N12	2018-12-18 15:02:.	Device List
	Add From Device List	]			
	Add from File List				
Calact All	Add Configuration	Synchronize Configur	ation Delete Cor	figuration One	ation Log

3. Select the desired device and then click "**OK**".

	_	Select Dev	ice	×
Department	All	Please enter se	earch criteria.	
Department	Room No	Bed No	Product Type	IP Address
lcu			BeneVision N12	10.2.49.69
			ОК	Cancel
	Conf	iguration Ma	anagement	
Δ		Li		
	Add Success	TUL		

OK

4. Click "Add Configuration" and then select "Add from File List".

Department	Configuration Name	Configuration Type	Product Type	Time	
	_neo_N12-121801	Neonate Configuratio.	BeneVision N12	2018-12-18 16:49:.	Device List
lcu	MachineConfig	Machine Configuratio.	BeneVision N12	2018-12-18 15:02:.	Device List
	Add From Device List	]			
	Add from File List				
Select All	Add Configuration	Synchronize Configur	ation Delete Con	figuration Ope	ration Log

- 5. Select a configuration file in the \*.cfg format. This configuration file can be acquired by exporting it from a patient monitor via a USB stick.
- 6. Change the department name, department type, configuration type, and product type. Then click "**OK**". The configuration information is added successfully.

	Configuration information	Х			
File Path	D:/mldapcs/build/_neo_N12-121801	.cfg			
Department name	ICL				
Department Type	ICI	U 🕨			
Configuration Name	_neo_N12-121801	/			
Configuration Type	Adult Configuratio	n 🕨			
Product Type	BeneVision M12				
	OK				



#### 5.3.2 Synchronizing Configurations on the Configuration Management Screen

Department	Configuration Name	Configuration Type	Product Type	Time	
V Icu	MachineConfig	Machine Configuratio.	BeneVision N12	2018-12-18 15:02:.	Device List
lcu	N12-121801	Neonate Configuratio.	BeneVision N12	2018-12-25 16:53:.	Device List
icu	_neo_N12-121801	Neonate Configuratio.	BeneVision M12	2018-12-25 16:56:.	Device List
Select All	Add Configuration	Synchronize Configu	ation Delete Con	figuration Ope	ration Log

1. Select a configuration and then click "Synchronize Configuration".

2. Select the devices whose configurations need to be synchronized and then click "OK".

#### NOTE

- Configurations of devices in both offline and online states can be synchronized.
- Suppose a device's connection state is offline. After "Synchronize Configurations" is selected, if the device's state changes to online, its configurations can be automatically synchronized.
- 3. Click "Device List". Upon successful synchronization, "Success" is displayed in the "Result" column.

Department	Configuration Na	ime	Configuration Type	Product Type		Time		
🗸 lcu	MachineConfi	g	Machine Configuratio.	BeneVision N1	2	2018-12-18	15:02:.	Device List
			Device List					×
Department	Room No	Bed No	p IP Add	ress	Result			
lcu			10.2.	49.69	Succes	SS		

#### 5.3.3 Deleting Configurations on the Configuration Management Screen

Select one configuration file and then click "Delete Configuration" to delete this configuration file.

	Department	Configuration Name	Configuration Type	Product Type	Time	
$\checkmark$	lcu	MachineConfig	Machine Configuratio.	BeneVision N12	2018-12-18 15:02:.	Device List
	lcu	N12-121801	Neonate Configuratio.	BeneVision N12	2018-12-25 16:53:.	Device List
	icu	_neo_N12-121801	Neonate Configuratio.	BeneVision M12	2018-12-25 16:56:.	Device List
	Select All	Add Configuration	Synchronize Configur	ation Delete Config	guration Oper	ation Log

# 5.3.4 Displaying Operation Logs on the Device Configuration Management Screen

Click "Operation Log". The time, user name, and log details are displayed.

	_	Operation Log	Х
Please enter search criteri	a.		
Time	User Name	Detail	
2018-12-25 16:59:59	Administrator	Delete config(MachineConfig_MachineConfig) information.	
2018-12-25 16:58:12	Administrator	Synchronization config information(MachineConfig_MachineConfig) to lcu	ı (10.2.
2018-12-25 16:56:19	Administrator	Add config(UserConfig_icu_neo_neo_N12-121801) information.	
2018-12-25 16:55:51	Administrator	Delete config(UserConfig_general_neo_neo_N12-121801) information.	
2018-12-18 16:49:58	Administrator	Add config(UserConfig_general_neo_neo_N12-121801) information.	
2018-12-18 15:16:16	Administrator	Delete config(MachineConfig_BD_MachineConfig) information.	
2018-12-18 15:11:17	Administrator	Synchronization config information(MachineConfig_MachineConfig) to lcu	ı (10.2.

# 5.4 Version Upgrade Management

# 5.4.1 Adding Versions on the Version Upgrade Management Screen

1. Click "Version Upgrade Management".

Select All	Add Version	Delete Version	Operation Log	

2. Click "Add Version" Select an install file and version file. Then click "OK".

_	Select Version File	×
Install File	D:/mldapcs/BD/BD_Installer.pkg	
Version File	D:/mldapcs/BD/nfs_BD_Bin_CE114742/bd.pkg	
Product Type	BeneVision N22_19	
Version	02.09.00.01	
	ОК	Cancel
	Version Upgrade Management	
Â	Add Successful	
	ОК	
2-1-		

#### 3. Click "Synchronize To Device".

Product Type	Version	Time		
BeneVision N22_19	02.09.00.01	2018-12-25 17:14:17	Synchronize To Device	Device List

4. Select devices and then click "**OK**".

	Select Device ×							
Department All   Please enter search criteria.								
	Department	Room No	Bed No	IP Address	Version			
$\checkmark$	icu	0705	BD1	10.2.49.122	02.01.00.11 88290			
	Select All			1	ОК	Cancel		

#### NOTE

- Before synchronizing software version to a patient monitor, you need to set the master server address (Maintenance→ Network Settings → Find Device→ Master Server Address) on the bedside monitor. Then the patient monior is displayed in thelist of "Select Device".
- 5. Press the power button on a bedside monitor. Then the message "Are you sure you want to update software version to XX.XX.XX?" (where XX represents a version number) is displayed. Click "**OK**" on the bedside monitor. Then the message "Downloading version file" is displayed on the screen of the bedside monitor. After downloading install packets, the monitor is automatically restarted and automatically enters upgrade mode.

#### 5.4.2 Deleting a Version on the Version Upgrade Management Screen

Select a product type and then click "**Delete Version**".

	Product Type	Version	Time		
$\checkmark$	BeneVision N22_19	02.09.00.01	2018-12-25 17:14:17	Synchronize To Device	Device List
	Select All		Add Version	Delete Version C	)peration Log

# 5.4.3 Viewing Operation Logs on the Version Upgrade Management Screen

Click "Operation Log". The time, user name, and log details are displayed.

Operation Log ×				
Please enter search criteria.				
Time	User Name	Detail		
2018-12-25 17:14:17	Administrator	Add version(BeneVision N22_19 02.09.00.01) information.		
2018-12-25 17:12:11	Administrator	Delete version(BeneVision N22_19 02.09.00.01) information.		
2018-12-18 16:30:30	Administrator	Synchronization version(BeneVision N22_19 02.09.00.01) to icu 0705 BD1(1.		
2018-12-18 16:30:11	Administrator	Cancel Synchronization version(BeneVision N22_19 02.09.00.01) to icu 0705 .		
2018-12-18 16:29:53	Administrator	Synchronization version(BeneVision N22_19 02.09.00.01) to icu 0705 BD1(1.		
2018-12-18 14:02:50	Administrator	Synchronization version(BeneVision N22_19 02.09.00.01) to icu 0705 BD1(1.		
2018-12-18 14:01:55	Administrator	Synchronization version(BeneVision N22_19 02.09.00.01) to icu 0705 BD1(1.		
		e		

#### FOR YOUR NOTES

# 6.1 Installation

For the CMS with McAfee Application Control software (Optional), the installation of McAfee Application Control will be required.

- 1. Re-start the CMS host, and access the CMS screen.
- 2. Start Windows Task Manager, and then select the Processes tab.
- 3. End the "Master.exe" process, and then close the **Windows Task Manager** window to return the OS desktop.
- Insert the McAfee Application Control Software CD (P/N 115-012226-00) into the drive, and then select Windows 7(P/N 110-005592-00): SOLIDCOR620-498\_WIN→ Setup-win2008-win7.
   Windows server 2016/Windows 10(P/N 110-006093-00): setup-win-8-10-2012-amd64-7.0.1.462
- 5. In the "Setup-win2008-win7" folder, right click the "setup-win-7-x86-6.2.0.498.exe" .exe file to display a pop-up menu.
- 6. Select the **Run as administrator** option to enter the **Installation Wizard** window.
- 7. Click the **Next** button.

The License Agreement window displays.

- 8. Select the laccept the terms in the license agreement option, and then click the Next button.
- 9. In the **Customer Information** window, input the information as follows:
  - User Name: input "cmsuser".
  - Organization: input "hospital"
  - Serial Number: input the serial number listed on the Solidcore authorization label. (The Solidcore authorization label is located on the CD case of the CMS system software)
- 10. After input the information, click the **Next** button.
- 11. In the subsequent steps of the installation, the configurations are set by default.

# 6.2 Enabling the Solidifier

1. Once the installation is complete, double click the icon of McAfee Solidifier Command Line on the desktop. Then the following **McAfee Command Line** window displays.



2. Input "sadmin so" in the command line window, and press the "Enter" key. The computer performs solidification scan.

#### NOTE

- The solidification scan will take more than one hour.
- 3. After the scan is done, input "sadmin enable" in the command line window, and press the "Enter" key. At this moment, a message indicates that Solidcore will run after the computer restarts.
- 4. Re-start the CMS host after the above operations are finished.
- 5. Enter the CMS screen, and then press the group keys "Ctrl+Alt+Del" to start **Windows Task Manager**.
- 6. Select the **Processes** tab, and then end the "Master.exe" process.
- 7. Close Windows Task Manager, and return to the OS desktop.
- 8. Double click the "McAfee Solidifier Command Line" icon on the desktop to access to the **McAfee Command Line** window.
- 9. Input the "sadmin status" to check whether the Solidcore is in the "Enabled" state or not, as shown in the following figure.

	👿 IcAfee Solid	ifier Command L	ine		- 🗆 ×	
F	Microsoft Windows XP [version 5.1.2600]					
<pre>(C)Copyright 1985-2001 Microsoft Corp.</pre>					Solidcore state	
¢	. Program File					
	cAfee Solidifi	er	Enabled			
I	cAfee Solidifi	er on reboot:	Enabled			
S	System Controller:		Disconnected			
I	local CLI acces	s <b>:</b>	Recovered			
I	[fstype]	[status]	[driver status]	[volume]		
•	• NTFS	Solidified	Attached	C:\		
	NTFS	Solidified	Attached	D: \		
	FAT32	Solidified	Attached	E: \		

If the state is correct, it indicates that the installation is complete.

V/V /		
~~~		

• Ensure that the operating environment of CMS is free from virus before the installation of Solidcore. Otherwise, the CMS may break down after the installation of Solidcore.

#### NOTE

- The above-mentioned installation is required only when you select to install the software of Solidcore S3 Control.
- Perform the installation of Solidcore S3 Control after other software is installed.

# **6.3 Adding or Editing Additional Applications**

If applications have to be added, deleted or updated after the installation of Solidcore S3 Control, you can perform updates either via admin bu/sadmin eu or via sadmin disable and sadmin enable. "admin bu/sadmin eu" is used when you perform authorized software updates on a protected system. "sadmin disable/ sadmin enable" is used when you perform software updates on unprotected system. Compared with sadmin disable/ sadmin enable, admin bu/sadmin eu can save some time when you perform updates.

Other commonly used commands of McAfee Solidifier include:

- sadmin help: used to view the commonly used commands;
- sadmin status: used to view the status of McAfee.

#### 6.3.1 Performing Updates via sadmin bu and sadmin eu

- 1. Double click the icon of McAfee Solidifier Command Line on the desktop and the corresponding window will display.
- 2. Input "sadmin bu" in the command line, press the "Enter" key, and then restart the PC. The Solidcore control is disabled. You can add or delete the additional applications.
- 3. Input "sadmin eu" in the command line, press the "Enter" key, and then restart the PC.

#### 6.3.2 Performing Updates via sadmin disable and sadmin enable

- 1. Double click the icon of McAfee Solidifier Command Line on the desktop and the corresponding window will display.
- 2. Input "sadmin disable" in the command line, press the "Enter" key, and then restart the PC. The Solidcore control is disabled. You can add or delete the additional applications.
- 3. Double click the icon of McAfee Solidifier Command Line on the desktop, and then input "sadmin so" to scan all of applications.
- 4. Input "sadmin enable" in the command line, press the "Enter" key, and then restart the PC.

# **7** Connection Diagrams for Host, Remote Display, and KVM

# 7.1 Overview

The CMS supports the remote display, audio, and keyboard/mouse operation with the source from local CMS.

This section describes the connection diagrams for Kontron KISS 2U host, HP 800G1/G2/800G3/800G4 , HP 600G3/600G4 DM host, ELO display and HPE220T/ HPE230T display

In the connection diagrams for Kontron KISS 2U and HP 800G1/800G2/800G3/800G4, four touch displays are used for illustration only. If you need to connect one, two, or three touch displays, you do not need to configure all of the ports for the four touch displays. Please connect the desired number of touch displays by referring to the connection diagrams below.

#### NOTE

• Install the touchscreen driver only after all the connections are complete.

In the connection diagrams in this section, if a USB toVGA adapter (023-000766-00) is required, you need to install the adapter driver before proceeding to specific installation procedures in each subsection.

# 7.2 Installing Kontron KISS 2U and ELO – CE750/CE750A KVM

#### **Connection Diagram**



As shown in this figure, a USB to RS-232 adapter (023-000739-00) is required. Before using this adapter, you need to insert the adapter CD into the CD ROM and run the "Setup.exe" program to install the adapter driver. The touch displays as shown in the figure above only refer to the ELO touch display. CE750 KVM and CE750A KVM cannot be used simultaneously.

#### Installation Procedures

The following installation procedures are illustrated on the Kontron KISS 2U.

Tools Required:

- KVM extender (CE750R, CE750L) 023-000773-00
- DP-to-VGA adapter 023-000214-00
- USB-to-VGA adapter 023-000766-00
- RS-232 cable 300A-10-08997
- USB-to-RS232 adapter 023-000739-00

1. Connect the Local 1 devices to CE750L.

a. Connect one end of the DP-to-VGA adapter to the DP1 port of Kontron KISS 2U host.

b. Connect the yellow end of the CE750L accompanying cable to the CE750 input port.

c. Connect the VGA port of the CE750L accompanying cable to the DP-to-VGA adapter.

d. Connect the USB port of the RS-232 adapter to the USB 3.0 port of the Kontron KISS 2U host, and the other end to CE750L.

e.Connect the USB port of the CE750L accompanying cable to the USB 2.0 connector of Kontron KISS 2U host.

f. Connect the audio port of the CE750L accompanying cable to the audio port of the Kontron KISS 2U host.

2. Connect the Remote 1 devices to CE750R.

a.Connect the RS-232 port of touchscreen to the RS-232 port of CE750R by the touchscreen accompanying cable.

b. Connect the VGA port of touchscreen with the VGA port of CE750R by the touchscreen accompanying cable.

c. Connect the audio port of touchscreen with the audio port of CE750R by the touchscreen accompanying cable.

d. Connect the keyboard and mouse to the USB port of CE750R.

- Connect the Local 2 devices to CE750L.
   Repeat the operation a-d of Step 1.
- 4. Connect the Remote 2 devices to CE750R

Repeat the operation a-b of Step 2.

5. Connect the Local 3 devices to CE750L.

Repeat the operation a-d of Step 1.

- Connect the Remote 3 devices to CE750R.
   Repeat the operation a-b of Step 2.
- 7. Connect the Local 4 devices to CE750L.

a.Connect the DVI-to-VGA adapter to DVI port of Kontron KISS 2U host.

b. Connect the VGA port of the CE750L accompanying cable to the DVI-to-VGA adapter.

c. Connect one end of USB-to-RS-232 adapter to the USB 3.0 port of Kontron KISS 2U host, the other end to RS-232 cable.

d. Connect the RS-232 cable to CE750L.

8. Connect the Remote 4 devices to CE750R.

Repeat the operation a-b of Step 2.

- 9. Connect CE750L to CE750R by a network cable.
- 10. Install touchscreen driver. Refer to 3.3.21 Touchscreen Driver Installation (Optional).

#### CAUTION

- If recorder is extended for remote operation, the serial port of CE750L must be connected to the COM1 port of Kontron KISS 2U.
- If paging is extended for remote operation, the serial port of CE750L must be connected to the COM2 port of Kontron KISS 2U.

#### NOTE

- The CMS supports VGA video extension. The recommended equipment is ATEN KVM Extender CE750.
- The remote display equipment is required to support a resolution of 1280×1024 pixels. The max distance that a remote display can be connected is 650 feet.
- Please refer to the accompanying documents for the detailed operations, installation, specifications and precautions of VGA video transmission equipment.
- The CE750 KVM extender does not support remote USB storage. To support the remote USB storage, you need install a USB extender.

# 7.3 Installing HP 800G1/800G2/800G3 and ELO --- CE750/CE750A KVM

#### **Connection Diagram**



The touch displays as shown in the figure above only refer to the ELO touch display. CE750 KVM and CE750A KVM cannot be used simultaneously.

#### Installation Procedures

The following installation procedures are illustrated on the Kontron KISS 2U.

**Tools Required:** 

- KVM extender (CE750R, CE750L) 023-000773-00
- DP-to-VGA adapter 023-000214-00
- USB-to-VGA adapter 023-000766-00
- RS-232 cable 300A-10-08997
- USB-to-RS232 adapter 023-000739-00

1. Connect the Local 1 devices to CE750L.

a.Connect one end of the DP-to-VGA adapter to the DP1 port of HP 800G1/800G2/800G3 host.

b. Connect the yellow end of the CE750L accompanying cable to the CE750 input port.

c. Connect the VGA port of the CE750L accompanying cable to the DP-to-VGA adapter.

d. Connect the USB port of the RS-232 adapter to the USB 3.0 port of the HP 800G1/800G2/800G3 host, and the other end to CE750L.

e.Connect the USB port of the CE750L accompanying cable to the USB 2.0 connector of HP 800G1/800G2/800G3 host.

f. Connect the audio port of the CE750L accompanying cable to the audio port of the HP 800G1/800G2/800G3 host.

2. Connect the Remote 1 devices to CE750R.

a.Connect the RS-232 port of touchscreen to the RS-232 port of CE750R by the touchscreen accompanying cable.

b. Connect the VGA port of touchscreen with the VGA port of CE750R by the touchscreen accompanying cable.

c. Connect the audio port of touchscreen with the audio port of CE750R by the touchscreen accompanying cable.

d. Connect the keyboard and mouse to the USB port of CE750R.

3. Connect the Local 2 devices to CE750L.

Repeat the operation a-d of Step 1.

4. Connect the Remote 2 devices to CE750R

Repeat the operation a-b of Step 2.

5. Connect the Local 3 devices to CE750L.

a.Connect the USB-to-VGA adapter to USB port of HP 800G1/800G2/800G3 host.

b. Connect the VGA port of the CE750L accompanying cable to the VGA-to-VGA adapter.

c. Connect one end of USB-to-RS-232 adapter to the USB 3.0 port of HP 800G1/800G2/800G3 host, the other end to RS-232 cable.

d. Connect the RS-232 cable to CE750L.

6. Connect the Remote 3 devices to CE750R.

Repeat the operation a-b of Step 2.

7. Connect the Local 4 devices to CE750L.

a.Connect the VGA-to-VGA adapter to VGA port of HP 800G1/800G2/800G3 host.

b. Connect the VGA port of the CE750L accompanying cable to the VGA-to-VGA adapter.

c. Connect one end of USB-to-RS-232 adapter to the USB 3.0 port of HP 800G1/800G2/800G3 host, the other end to RS-232 cable.

d. Connect the RS-232 cable to CE750L.

8. Connect the Remote 4 devices to CE750R.

Repeat the operation a-b of Step 2.

- 9. Connect CE750L to CE750R by a network cable.
- 10. Install touchscreen driver. Refer to 3.3.21 Touchscreen Driver Installation (Optional).

#### CAUTION

- If recorder is extended for remote operation, the serial port of CE750L must be connected to the COM1 port of HP 800G1/800G2/800G3.
- If paging is extended for remote operation, the serial port of CE750L must be connected to the COM2 port of HP 800G1/800G2/800G3.

#### NOTE

- The CMS supports VGA video extension. The recommended equipment is ATEN KVM Extender CE750.
- The remote display equipment is required to support a resolution of 1280×1024 pixels. The max distance that a remote display can be connected is 650 feet.
- Please refer to the accompanying documents for the detailed operations, installation, specifications and precautions of VGA video transmission equipment.
- The CE750 KVM extender does not support remote USB storage. To support the remote USB storage, you need install a USB extender.

# 7.4 Installing HP 800G1/800G2/800G3/800G4/HP 600G3/600G4 and

# HP E230T/220T

Connection Diagram (Connecting Displays to Hosts Directly via a USB Cable)



#### Installation Procedures

The following installation procedures are illustrated on the HP 800G1/800G2/800G3/800G4/HP 600G3/600G4

- 1. Connect the VGA port of Display 1 to the VGA port of the host via a VGA cable. Connect the USB port of the Display 1 to the USB port of the host via a USB cable.
- 2. Connect the DP port of Display 2 to the DP port of the host via a DP cable. Connect the USB port of the Display 2 to the USB port of the host via a USB cable.
- 3. Connect the DP port of Display 3 to the DP port of the host via a DP cable. Connect the USB port of the Display 3 to the USB port of the host via a USB cable.

#### Connection Diagram (Connecting Displays to Hosts in Series via a USB Cable)



#### Installation Procedures

The following installation procedures are illustrated on the HP 800G1/800G2/800G3/800G4/Hp 600G3/600G4

- 1. Connect the VGA port of Display 1 to the VGA port of the host via a VGA cable. Connect the USB port of the Display 1 to the USB port of the host via a USB cable.
- 2. Connect the DP port of Display 2 to the DP port of the host via a DP cable. Connect the USB port of Display 2 to the USB port of Display 1 via a USB cable.
- 3. Connect the DP port of Display 3 to the DP port of the host via a DP cable. Connect the USB port of the Display 3 to the USB port of Display 2 via a USB cable.
# 8.1 Overview

The central monitoring system (CMS) is installed in the dual hard disks computer. When one of the dual hard disks fails, replace the faulty disk with a new one. The new disk recovers automatically.

When both hard disks fail, perform the following procedure:

# 8.2 HDD Replacement Procedure

## 8.2.1 Tools Required

- Software:
  - ♦ 801-300B-00010-00 DPM CMS FRU HD IMAGE
  - ♦ 115-047955-00 BeneVision CMS SOFTWARE TOOLS
  - ◆ 115-047956-00 BeneVision CMS SYSTEM SOFTWARE
  - ♦ 115-012226-00 MCAFEE Application Control
  - ◆ 110-006106-00 Windows 10 Enterprise LTSB(EN)
  - 110-006201-00 BeneVision GHO Recovery Tool(Ser Mode)
  - ♦ 110-006202-00 BeneVision GHO Recovery Tool(App Mode)
- Hardware:
  - Screw driver with TORX T15 Bit or large flat blade screwdriver.
  - Replacement Hard Drive/s PN 0992-00-0287 Seagate 500 GB and PN 023-001203-00 Western Digital 500GB for HP 800G1/800G2/800G3/800G4 host
  - Replacement Hard Drive/s PN 023-001203-00 Western Digital 500GB for Kontron KISS 2U host

# NOTE

- 801-300B-00010-00 is not for sale. It is a Mindray service tool.
- In a BeneVision CMS RAID configuration both drives must be the exact same type.

## 8.2.2 Rebuilding a Defective Hard Drive

- 1. Turn off the computer and replace the defective hard drive.
- 2. Turn on the computer. Wait until the computer boots up into the CMS operations.
- 3. Select the system menu area  $\equiv$  mindray in the upper left corner of the CMS screen.
- 4. Select O System Setup  $\rightarrow$  Factory Maintenance (enter the password).
- 5. Click Exit to Windows.

		System Setu				×
	Print	Configuration	Other	Factory Maintenance	~	>>
General	Pop up Application Window	Disable 🕨				
Layout Test	Telemetry Clinical Data Collection	on Off +				
Log	Running On Virtual Machine	No 🕨				
	Exit to Windows					
	Import License					
	Wireshark					
	DBUpdate					

6. In the windows desktop double click on the hard drive icon displayed at the bottom right of the screen. The Intel **\*Rapid Storage Technology** window will open.

Intel® Rapid Storage Technology		
Status Manage Performance Perferences		(intel)
Current Status	Storage System View	U
Your system is reporting one or more events, and data may be at risk. Refer to the details below for more information.	SATA_Array_0000	
😵 Manage	Volume1	
Click on any element in the storage system view to manage its properties. The Windows <sup>*</sup> write-cache buffer flushing policy can be enabled for all RAID array drives to ensure data integrity or disabled to improve data performance. Click the Help icon for more	466 GB	
information on setting the write-cache buffer flushing policy based on your needs. $rac{9}{2}$	SATA disk (466 GB)	
SATA_Array_0000 🦻	466 GB	
Volume1: Degraded <u>Rebuild to another disk</u> Details: Fix any problems reported on the array disks, or rebuild the volume to a new disk.	ATAPI Device	
Unknown disk on Controller 255, Port Unknown: Missing 🦻		

- 7. On the left side of the screen, click **Rebuild to another disk**.
- 8. The **Rebuild Volume** warning message will come up. Click on SATA Disk on Controller X, Port X (466 GB) option.
- 9. Click **Rebuild**.



The volume starts rebuilding and the page refreshes displaying the progress of the operation. At this point the Central Station can be rebooted into the CMS operations.

# NOTE

• In a BeneVision CMS RAID configuration, both drives must be of the exact same type.

# 8.2.3 Replacing Both Hard Drives in a RAID Configured BeneVision CMS

You need to complete sections **7.2.3.1** *Replacing Hard Drives and Setting BIOS*, **7.2.3.3** *Installing the Windows 7/10/server 2016 Operating* System and Driver, **7.2.3.4** *Activating and Configuring the Windows 7 Operating System*, and **7.2.3.6** *Installing the BeneVision Dongle Driver* to replace the hard drives in a RAID configured BeneVision CMS.

## NOTE

• Drives must be of the same manufacture and size.

#### 8.2.3.1 Replacing Hard Drives and Setting BIOS (Windows 7)

- 1. Replace both Hard Drives.
- 2. Turn on computer.
- 3. When the first screen is displayed, press ctrl-l on the keyboard to enter the **Intel Rapid Storage Technology** Main Menu screen.

	1. Create B 2. Delete B 3. Reset Di	AID Volume AID Volume sks to Non-RAID	4. 5. 6.	Recovery Volume Opt Acceleration Options Exit	ions s
AID	Volumes:	L DISKAOULUME	INFURMA	TION J	
	Hane	Level	Strin	Size Status	Bentable
	Volume8:1	RAID1(Mirror)	N/A	465, 86R Begraded	BOOLEDIE
	Volune®	RAID1(Mirror)	N/A	465.86B Begraded	Yes
a la	ical Devices:				
	Bevice Hodel	Serial #		Size Tune/Status	(11-1 10)
ST588DH882-1BD14 23127205		465.768 Menber Bisk(R)			
1 ST588BN882-1BB14 H2R9N3H1		4 WZR9N3H1	465.768 Henher Bisk(1)		en l

- 4. Select **Create RAID Volume**. (You will delete everything on the hard drives if they already have information stored on them.)
- 5. Accept default name, then select **RAID1 (Mirror)** for the RAID Level, and finally select **Create Volume**.

### 8.2.3.2 Replacing Hard Drives and Setting BIOS (Windows 10)

#### For 800G2/800G3/600G3/600G4

- 1. Replace both Hard Drives.
- 2. Turn on the computer.
- 3. When the first screen is displayed, press F3 on the key to enter the **Intel Rapid Storage Technology** screen.

Devices List	
Intel(R) Ranid Storage Technology	
Network Denice List	
Driver Health	
The platform is healthu	
▶ Exit	

- 4. Click Intel(R) Rapid Storage Technology.
- 5. Click **Create RAID Volume** and then move to **RAID**.
- 6. Select **RAID1(Mirror)**, and then move to **Select Disks**.
- 7. Select X to make two disks selected, as shown below.



- 8. Click **Create Volume**. When disk array is done successfully. press Esc to return back to the main page.
- 9. Select **Exit** to a query page.
- 10. Select Yes to exit.

### For KISS 2U

- 1. Replace both Hard Drives.
- 2. Turn on the computer.
- 3. When the first screen is displayed, press F2 on the keyboard to enter the Blos Main Menu screen.
- 4. Select 1. Create RAID Volume. If a RAID volume already exists, select 2. Delete RAID Volume first.

Intel(R) Rapid Storage Technolo	ogy - Option ROM - 12.7.0.1936
Copyright(C) 2003-13 Intel Corp	poration. All Rights Reserved.
2. Delete RAID Volume	4. Recovery Volume Options
2. Delete RAID Volume	5. Acceleration Options
3. Reset Disks to Non-RAID	6. Exit
RAID Volumes: None defined. Physical Devices: ID Device Model Serial # 0 HDC HD5003ABY2-0 HD-HMAYP0HAUFX6 1 HDC HD5003ABY2-0 HD-HMAYP0HAUFX6	Size Type/Status(Vol ID) 465.7GB Mon-RAID Disk 465.7GB Mon-RAID Disk

- 5. Select RAID1 (Mirror) for RAID Level. Leave other items unchanged with the default value.
- 6. Upon completion of setting, select **Create Volume**.



7. In the dialog that pops up, select **Y**.

Name: Volume1 RAID Level: RAID1(Mirror) Disks: Select Disks Strip Size: N/A Capacity: 465.8 GB	<b>Copyright(C) 2003-13 1</b>	ntel Corporation. REATE VOLUME MENU	All Rights Reserved. ]
Sync: N/H	Name: RAID Level: Disks: Strip Size: Capacity: Sync:	Volune1 RAID1(Mirror) Select Disks N/A 465.8 GB N/A	

8. Upon completion of creation, select **6. Exit**.

	Intel(R) Ra Copyright(C	pid Storage Technol ) 2003-13 Intel Cor	ogy - Opt poration	tion ROM - 12.7.0.1 All Rights Reser	1936 -ved.
	1. Create 2. Delete 3. Reset D	RAID Volume RAID Volume Jisks to Non-RAID	4. 5. 6.	Recovery Volume Op Acceleration Optic Exit	ntions Mas
RAII ID 0	) Volumes: Name Volume1	Level RAID1(Mirror)	Strip N/A	Size Status 465.8GB Normal	Bootable Yes
Phys ID 0 1	sical Devices: Device Model HDC HD5003ABY2 HDC HD5003ABY2	Serial # -0 HD-HMAYP0HAUFX6 -0 HD-HMAYP0J6SJ2L		Size Type/Stat 465.7GB Member Di 465.7GB Member Di	<b>us(Vol ID)</b> sk(0) sk(0)

### For HPE DL360 Gen9

- 1. Replace both Hard Drives.
- 2. When the following screen appears, select **F10**.



3. Select Perform Maintenance.





Smart Array P440ar Create Array
<ul> <li>In a dual domain configuration, mixing single and dual ported SAS drives can lead to a loss of redundancy.</li> <li>To avoid wasting drive capacity, select physical drives that are the same size for the new array.</li> </ul>
Select Physical Drives for the New Array (What's this?)
Sort By Size 🗸
All Items
Select All (4) Sas NOD Port 11: Box 1: Bay 1 Sas NOD Port 11: Box 1: Bay 2 Sas NOD Port 11: Box 1: Bay 3 Sas NOD Port 11: Box 1: Bay 3 Sas NOD Port 11: Box 1: Bay 3 Sas NOD Port 11: Box 1: Bay 3
Smart Array P440ar Create Logical Drive
The size may be automatically adjusted slightly to optimize performance.
<ul> <li>Certain operaning systems do not support logical drives greater than 502 GIB or boot volumes greater than 2 TIB. Check operating system documentation for details.</li> </ul>
The logical drive must be smaller than 2 TiB if it is used as a boot volume, the OS does not support hybrid MBR boot code, and the system has legacy BIOS firmware.
RAID Level (what's thes?)
0.9992
PAID 1+0
C MAID S
Raid 6 (ADG)
Strip Size / Full Stripe Size (what's this?)
0 8 Ki8/16 Ki8
0 16 KIB / 32 KIB
0 32 KiB / 64 KiB
0 64 KiB / 128 KiB
C 128 KiB / 256 KiB
• 256 KiB / 512 KiB
Sectors/Track (what's thes?)
63
• 32
Size (www.sts.thvz
Maximum Size: 1907674 MiB (1.8 TiB)     Custom Size
Create Logical Drive

	create Logical Drive	
<ul> <li>The size may be automatically adjuste</li> <li>Certain operating systems do not sup documentation for details.</li> <li>The logical drive must be smaller than</li> </ul>	id slightly to optimize performance. port logical drives greater than 502 GIB or boot volumes greater than 2 TIB. Check operating system	Hide
legacy BIOS firmware.	2 HB If it is used as a boot volume, the OS does not support hybrid MBR boot code, and the system has	
RAID Level (What's this?)		
RAID 0		
RAID 5		
() RAID 6 (ADG)		
Strip Size / Full Stripe Size (What	's this7)	
0 8 KiB / 16 KiB 16 KiB / 32 KiB		
32 KIB / 64 KIB		
64 KiB / 128 KiB		
256 KiB / 256 KiB     256 KiB / 512 KiB		
512 KIB / 1024 KIB		
0 1024 KIB / 2 MIB		
Sectors/Track (What's this?)		
63		
0 02		
Size (What's this?)		
Maximum Size: 1907674 MiB (1.8 TiB)		
Custom Size		
1720pdag htm	Create Logical Origan	Cancel
ANALY FRANCE		contect
Emant Armau B440ar		1.4.1
Embedded Slot	Create Logical Drive	
- I select Drive was successfully see by		
Cogical Drive was successfully create	d. Please choose one of the actions below.	
Array Details	id. Please choose one of the actions below.	
Array Details	d, Please choose one of the actions below.	
Array Details	ok, Please choose one of the actions below. OK 3725.9 GIB (100.0%)	
Array Details Status Used State Total Usable Space	ok. OK 3725.9 CIB (100.0%) 3.6 TIB	
Array Details Status Used Space Total Usable Space Acceleration Mode	ok. OK 3725.9 GIB (100.0%) 3.6 TiB Independent: Caching can be enabled or disabled for each individual logical drive	
Array Details Status Used Space Total Usable Space Acceleration Mode Logical Drives	ed. Please choose one of the actions below. OK 3725.9 GIB (100.0%) 3.6 TiB Independent: Caching can be enabled or disabled for each individual logical drive	
Array Details Status Used Space Total Usable Space Acceleration Mode Logical Drives Logical Drives	ed. Please choose one of the actions below. OK 3725.9 GIB (100.0%) 3.6 TiB Independent: Caching can be enabled or disabled for each individual logical drive 1.82 TiB (2.00 TB)	
Array Details Status Used Space Total Usable Space Acceleration Mode Logical Drives Logical Drives Physical Drives	ed. Please choose one of the actions below. OK 3725 9 GIB (100.0%) 3.6 TIB Independent: Caching can be enabled or disabled for each individual logical drive 1.82 TIB (2.00 TB)	
Array Details Status Used Space Total Useble Space Acceleration Mode Logical Drives Logical Driv	ed. Please choose one of the actions below. OK 3725 9 GIB (100.0%) 3.6 TIB Independent: Caching can be enabled or disabled for each individual logical drive 1.82 TIB (2.00 TB)	
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Array Details Shaus Used Space Total Usable Space Acceleration Mode Logical Drives Logical Drives Mysical Drives 178 SAS HOD at Port J. Box1. Bay1 178 SAS HOD at Port J. Box1. Bay3 178 SAS HOD at Port J. Box1. Bay3	oK 3725 9 GIB (100 D%) 3 6 TB Independent Caching can be enabled or disabled for each individual logical drive 1.82 TIB (2.00 TB)	
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T Refresh	Embedded Slot	
	Actions	Status M
	Contig	View all status
A CONTRACTOR	transfer Are you sure you want to exit the application?	Controlle
and the second	Config Setting Video	1 Data 1 Data 4 Data
	parameters for example. Modify Spare Activation Mode	View more de
	Modifies the spare activation mode from the default behavior (activate on failure only) to predictive spare activation and back.	1.50

- 4. Select **Create RAID Volume**. (You will delete everything on the hard drives if they already have information stored on them.)
- 5. Accept default name, then select **RAID1 (Mirror)** for the RAID Level, and finally select **Create Volume**.

## 8.2.3.3 Installing the Windows 7/10/server 2016 Operating System and Driver

You can follow one of the following two methods to install the Windows 7 operating system and driver.

- Recover the Windows 7 HDD image
- Install the Windows7 operating system CD and driver

#### **Recovering the Windows 10 HDD Image**

Tools required:

- Recovery tool (PN : 110-006201-00) used to make the recovery USB stick.
- HP 800G3/HP 800G4/HP 800G2/HP 600G3/HP 600G4, KISS 2U, HPE DL360 GEN9/ HPE DL360 GEN10

Follow this procedure to recover the Windows 10 HDD image:

- 1. Plug the recovery USB stick into the computer.
- 2. Turn on the computer.
- 3. When the first screen is displayed, press the following button on the keyboard and then select USB disk.
  - For HP 800G3/HP 800G4/HP 800G2/HP 600G3/HP 600G4, press F9.
  - For KISS 2U, press F5.

soot me	IIU
	UEFI - Windows Boot Manager
	UEFI - USB3.0 FLASH DRIVE 00000000000000062
	UEFI - DVD/CDROM
	UEFI N/W - IPV6 Network - Intel(R) Ethernet I210-T1 GbE NIC
	UEFI N/W - IPV4 Network - Intel(R) Ethernet I210-T1 GbE NIC
	UEFI N/W - IPV6 Network - Intel(R) Ethernet Connection (5) I219-LM
	UEFI N/W - IPV4 Network - Intel(R) Ethernet Connection (5) I219-LM
	Boot from file

4. When the following screen is displayed, enter 1.



5. When the following screen is displayed, enter y.



## Recovering the Windows server 2016 HDD Image (HPE DL360 GEN9)

- 1. Plug the recovery USB stick into the computer.
- 2. Turn on the computer.
- 3. When the following screen is displayed, press F11 on the keyboard.



4. When the following screen is displayed, select the USB stick plugged.



5. When the following screen is displayed, enter 1.



6. When the following screen is displayed, enter y.

****BeneV	ision CMS Restore Tool(APP Mode)******	*****
*		×
* 1	Recovery Whole disk	×
*		×
* 2	Recovery Disk C	×
*		*
* 3	Manual Recovery	*
*		*
* 4	Restart	*
*		*
*******	**************************************	Ø <del>xxxx</del>
This tool o Please ento 1 The data of	only appliese to UEFI-guided operating er the number of the selected items: f the entire disk will be lost,are you	systems. sure?(y/n):y

#### Recovering the Windows 7 HDD Image

- 1. Plug the USB stick containing the Windows 7 HDD image (P/N 801-300B-00010-00), into the USB port on the back of the computer.
- Exit the Intel® Rapid Storage Technology program, the system will go through its normal boot sequence.
   Press "F9" (for HP800G1/800G2/800 G3/800G4) or "F5" (for Kontron KISS 2U) to access the Boot Menu. The system will ask for a password. Type in the password and press "Enter".
- 3. Highlight "USB Device" by pressing the up and down arrows. Press +" to move it up to the first spot. Press F10 to save the settings.
- 4. After the BeneVision CMS boots from the USB drive hit ok at the Symantec Ghost Splash Screen. This may take several minutes.
- 5. When the "About Symantec Ghost" prompt screen appears, click **OK** to proceed.

6. From the Symantec Ghost menu, select Local  $\rightarrow$  Disk  $\rightarrow$  From Image.



7. When the prompt opens, click on the "Look in:" dialog to select the corresponding USB drive which contains the ghost image. As an example, in the image below the files are located on the G Drive.

nage file name t	o restore from		
Look jn:	🖃 X: [Boot] Local drive	T	
Nan ghost Program File ProgramData Users Hindows	OVD D DH16D7SH C     OVD D DH16D7SH C     OVD D DH16D7SH C     OVD D 1.1: CSYSTEMJ NTFS drive     OVD D 1.2: CDATAJ NTFS drive	WD drive	Jate 4 02:03:08 PM 3 05:23:02 AM 3 05:22:50 AM 5 05:22:50 AM 4 02:03:10 PM

8. Select the WIN.GHO file located under the "HP 8380 RAID WIN 7" folder. For KISS and 800G1/G2, the WIN.GHO file is located under the "EN-WIN" folder of Disc E.

9. Click on the WIN.GHO file to select the actual ghost file.



10. When prompted, select the destination drive to install the operating system which is the "Intel Raid" volume as shown in the figure below.

				Constant Property in			
rive.	Location	Model	Size(MB)	Туре	Cylinders	Heads	Sectors
	Local	Intel Raid 1 Volume 1.0.	476937	Basic	60800	255	63
	Local	Kingston DataTraveler 2.0	7441	Basio	948	255	63
	Local	05 Volumes	484367	Basic	\$17.48	255	83

11. In the next screen, the dialog will show the destination drive details. Click **OK** to accept all default values.

nati	ion Drive I	Details						11H CEL
art	Type	Letter	ID	Description	Label	New Size	Old Size	Data Size
1	Primary		07	NTES	DiskLoad	60894	57239	15120
2	Logical		07	NTFS extd	DiskLoad	416034	391090	97
				Free	7	7		
				Total	476937	476937	15218	

12. Click **Yes** to acknowledge that the destination drive will be erased during the ghosting process.

13. Allow the ghosting process to complete. While the process is underway, the dialog window will show its progress from 0% to 100% as well as an estimated time remaining to complete the task.



- 14. When the ghosting process is finished, click **Continue** to close the **Clone Complete** dialog window.
- 15. Select **Quit** to exit from the Norton Ghost program. If a popup dialog windows asks for confirmation to quit, click **Yes**.
- 16. Unplug the USB stick containing the ghosting images from the back of the machine.
- Restart the computer by holding down the power button to turn off the PC, and then turn it back on.
   Once the computer has restarted allow the computer to start normally and display the Windows desktop.

#### Installing the Windows 7 Operating System CD

- 1. Insert the Windows7 OS installation CD (115-034049-00).
- 2. When "**Press any key to boot from CD**..." appears on the screen, press any key. The following screen is displayed.

	Windows Boot Manager	
noose an operating syst Use the arrow keys to H	em to start, or press TAB to sel highlight your choice, then press	ect a tool: ENTER.)
Windows Setup [EMS E	Enabled]	>
To specify an advanced	option for this choice, press F8.	
Tools:		
Windows Manager Diag	montic	
Windows Memory Drag	nostic	
ENTER=Choose	TAB=Menu	ESC=Cancel

- 3. Press the Enter key.
- 4. When the following screen appears, select **I accept the license terms**, and click **Next**.

MICROSOFT SOFTWARE LICENSE TERMS	
WINDOWS 7 PROFESSIONAL SERVICE PA	CK 1
These license terms are an agreement betwee	een you and
• the computer manufacturer that distribut	es the software with the computer, or
the software installer that distributes the	software with the computer.
Please read them. They apply to the softwar which you received it, if any. Printed-paper li software take the place of any on-screen lice	e named above, which includes the media on cense terms, which may come with the unse terms. These terms also apply to any
MICIOSOIC	

5. When the following screen appears, select **Custom (advanced)**.



6. When the following screen appears, select **Disk 0 Partition 1:SYSTEM**, and then click the **Next** button to start installation. Wait patiently for completion of the installation.

Name	Total Size	Free Space	Туре
Disk 0 Partition 1: SYSTEM	55.9 GB	55.8 GB	System
Disk 0 Partition 2: DATA	381.9 GB	381.8 GB	Logical
Disk 0 Partition 3: BCKUP	27.9 GB	27.9 GB	Logical
A Refresh		Drive options	(advanced)
a Load Driver			

Install Windows	
Installing Windows	
That's all the information we need right now. installation.	Your computer will restart several times during
Copying Windows files	
Expanding Windows files (0%)	
Installing features	13
Completing installation	

7. When the following screen appears, enter the username "**cmsuser**" and computer name "**cmsuser-PC**", and then click **Next**.

🌀 👩 Set Up Wir	idows
Choose a use	Type a user name (for example John):
۲	Copyright © 2009 Microsoft Corporation. All rights reserved.

8. When the following screen appears, click **Next** and do not enter the password.

tion that helps protect your ssword or keep it in a safe p	lace.
nber your password. w you your hint.	
	mber your password. w you your hint.

9. Enter the product key which is displayed on the Windows License label attached to the host. Then click **Next**.

. Jbe loar murgans bloga	ct key		
You can find your Windows produ your copy of Windows. The label r product key with your computer.	ct key on a label included night also be on your cor	I with the package that came nputer case. Activation pairs )	with rour
The product key looks similar to the PRODUCT KEY XXXXX-XXXXX-XXXX	iis:		
1		-	
(dashes will be added automatical	y)		
Automatically activate Windows	when I'm online		
What is activation? Read our privacy statement			

10. When the following screen appears, select **Use recommended settings**.



11. When the following screen appears, set time and time zone as shown below. Select **Automatically** adjust clock for Daylight Saving Time, and then click Next.

Time	e zon	e										
(UT	C-08:	00) P	acifi	ic Tir	me (l	JS & Can	ada)			-		
	utom	atica	ally a	djus	t clo	ck for Day	light Saving	Time				
Date	=						Time:					
	Se	pten	nber	, 201	.4	•		-				
Su 31	Mo	Tu 2	We	Th	Fr	Sa	-		-			
7	8	9	10	11	12	13	(-	T	)			
14 21	15 22	16 23	17 24	18 25	19 26	20 27	1-		/			
28	29	30	1	2	3	4	The second secon					
5	6	1	8	9	10	11	6	21-13 DA	10			

Upon completion of settings, the following screen is displayed.



- 12. Remove the Windows7 OS installation CD from the CD-ROM drive and keep it properly. Then plug the Windows 7 patch CD (115-034050-00).
- 13. Run the "install all.bat" file under the "WIN7 English hotfix" folder in the root directory of the patch CD to execute patch installation.

- 14. Upon completion of installation, restart the computer.
- 15. Remove the patch CD from the CD-ROM drive and keep it properly. Up to now, installation of the operating system is complete.

After installing the operating system, you need to close the automatic update function of the operation system by following the steps below.

- 1. Select Start  $\rightarrow$  Control Panel  $\rightarrow$  System and Security  $\rightarrow$  turn automatic updating on or off.
- 2. When the following screen is displayed, select **Never check for updates** from the drop-down list of **Important Updates**.
- 3. Click **OK** to save the settings.

Windows Update      Change settings     Choose how Windows can install updates     When your computer is online, Windows can automatically check for important updates and install them     using these settings. When new updates are available, you can also install them before shutting down the     computer.     How does automatic updating help me?     Important updates	۹
Choose how Windows can install updates When your computer is online, Windows can automatically check for important updates and install them using these settings. When new updates are available, you can also install them before shutting down the computer. How does automatic updating help me? Important updates	
Never check for updates (not recommended)         Install new updates:         Every day         at 3:00 AM         Recommended updates         Image: Second content of the second content of	

#### **Installing the Driver**

After finishing installing the Windows 7 Operating System, you need to install the driver to complete the entire installation process.

Installing the Driver for HP800G1 Host

- 1. Place the driver CD that comes with the computer into the CD-ROM drive, and install the driver according to the directory sequence of folder and the file sequence in the folder.
- 2. Always select **Agree**, **Yes** or **Next** during the installation. The computer must be restarted manually each time a driver is installed.

Organize  Share with  New folder					
🔶 Favorites	Name	Date modified	Туре		
🧮 Desktop	🐌 No.1 Chipset	11/1/2009 3:41 PM	File folder		
🗼 Downloads	🐌 No.2 VGA	11/1/2009 3:41 PM	File folder		
🖳 Recent Places	퉬 No.3 Audio	11/1/2009 3:41 PM	File folder		
	퉬 No.4 Network	11/1/2009 3:41 PM	File folder		
🥽 Libraries	퉬 No.5 Others	11/1/2009 3:41 PM	File folder		
Documents					

The following picture shows an example of the folder sequence: No. 1 > No. 2 > No. 3 > No. 4 > No.5.

There are two driver installation files in the No.1 folder, as shown below. Install the No.1 motherboard driver and No.2 USB3.0 driver in turn. The computer must be restarted each time a driver is installed.



- 3. Run the graphics card driver installation file No.1 sp62626 INTEL VGA 32 in the No. 2 folder, and restart the computer after installation is completed.
- 4. Run the audio driver installation file No.1 sp65606 Realtek HD W7 32 64 in the No.3 folder, and restart the computer after installation is completed.
- 5. Run the network card driver installation file 🔄 No.1 sp65251 nic 32 in the No.4 folder. When the

following installation screen is displayed, click the **Install Drivers and Software** button, and then always click **Next** or **Install**. Restart the computer after installation is completed.



There are two driver installation files in the No. 5 folder, as shown below.



- 6. Install the No.1 and No.2 driver installation files. Always click **Next** or **Yes** during installation. Restart the computer after each file is installed.
- 7. After the computer starts completely, click the hidden icons in the lower right corner of the desktop. The icon shown below should be available. "√" indicates normal operation of the dual hard disks.

The icon should be available. "√"		
	Customize	
	Click	1:51 PM 9/20/2014

Installing the Driver for KISS 2U Host

- 1. Place the driver CD that comes with the computer into the CD-ROM drive, and install the driver according to the directory sequence of folder and the file sequence in the folder.
- 2. Always select **Agree**, **Yes** or **Next** during the installation. The computer must be restarted manually each time a driver is installed.

The following picture shows an example of the folder sequence: 1 > 2 > 3 > 4 > 5 > 6 > 7 > 8 > 9.



3. Run the motherboard driver INF\_allOS\_9.4.0.1017\_PV in the 1-Chipset driver folder, and restart

the computer after installation is completed.

4. Run the ME driver installation file TelloS\_5.0M\_FW\_9.0.2.1345\_PV.exe in the 2-ME driver

folder. After installation is completed, exit through the interface below, and then restart the computer.

Intel® Manageability Engine Firmware Recovery Agent – ×
Status History
Status Report
Intel® Manageability Engine Firmware Recovery Agent helps you to keep your system up-to-date
Checking for updates
Minimize to tray Quit
Run the graphics card driver installation file 😺 Win32_15319.exe in the
ktq87-graphics-win7-32b-v15319 folder under the 3-Graphics driver folder. Restart the computer after
installation is completed
Run the USB 3.0 driver installation file
after installation is completed.
Run the USB-to-VGA driver installation file Setup in the in the folder under the
5-USB to VGA driver folder. Restart the computer after installation is completed.
Run the audio driver installation file
computer after installation is completed. Since Kontron KISS 2U server is not provided a speaker, no s
will be sent out in the power-on/off process after the audio driver is installed.
Run the network card driver installation file 📕 Autorun in the 7-Network driver folder. The
installation interface is shown below. Click the <b>Install Drivers and Software</b> button, and then always
select Next or Install. Restart the computer after installation is completed.

5.

6.

7.

8.

9.



- 10. Run the USB3.0 driver installation file STOR\_Win7\_8\_12.5.0.1066 in the 8-RAID driver folder. Restart the computer after installation is completed.
- 11. Run the watchdog driver installation file **keapisys32.msi** in the 9-Watchdog driver folder, and restart the computer after installation is completed.

After the computer starts completely, click the hidden icons in the lower right corner of the desktop. The icon shown below should be available. " $\checkmark$ " indicates normal operation of the dual hard disks.



Installing the Driver for HP800 G2 Host (Windows 7 32-bit)

- 1. Place the driver CD that comes with the computer into the CD-ROM drive, and install the driver according to the directory sequence of folder and the file sequence in the folder.
- 2. Always select **Agree**, **Yes** or **Next** during the installation. The computer must be restarted manually each time a driver is installed. The following screen shows an example of the file list.

名称	修改日期	类型	大小
JE HP 800G2 WIN7 32	2016/9/21 16:11	文件夹	
HP 800G2 WIN7 64	2016/9/21 16:11	文件夹	
Microsoft .NET	2016/9/21 16:24	文件夹	
🍌 NO7. SP72788	2016/9/23 13:55	文件夹	
# munet_framework_4.5_r2_x86_x64_1076098	2014/1/17 17:34	应用程序	49,182 KB
NO1. sp72786 CHIP 32 64	2015/12/23 18:02	应用程序	3,197 KB
🖾 NO2. sp71459 realtek 32 64	2015/12/24 9:38	应用程序	181,410 KB
🛃 NO3. sp74234 USB3 32 64	2015/12/23 18:02	应用程序	5,637 KB
🛃 NO6. sp72775 AHCI 32 64	2016/9/21 10:07	应用程序	13,451 KB

- 3. Run NO1. sp72786 CHIP 32 64, install the motherboard driver, and restart the computer after installation is completed.
- 4. Run NO2. Sp71459 realtek 32 64, install the audio driver, and restart the computer after installation is completed.
- 5. Run NO3. Sp74234 USB3 32 64, install the USB3.0 driver, and restart the computer after installation is completed.
- 6. Open the folder HP 800G2 WIN7 32, run NO4. Sp74742 NIC 32, install the network card driver, and restart the computer after installation is completed.
- 7. Open the folder HP 800G2 WIN7 32, run NO5. Sp74567 intel VGA 32, install the graphics card driver, and restart the computer after installation is completed.
- 8. Run mu\_.net\_framework\_4.5\_r2\_x86\_x64\_1076098, and restart the computer after installation is completed. Run NO6. Sp72775 AHCI 32 64 after the computer is restarted, install the dual-hard disk control driver, and restart the computer after installation is completed.
- 9. After the computer starts completely, click the hidden icons in the lower right corner of the desktop. The icon shown below should be available. "√" indicates normal operation of the dual hard disks.



10. Open the device manager, right-click PCI Serial Port under Other Devices, and select Update Driver Software.

🚔 Device Manager		
File Action View Help		
	12 12 15	
	ES evices trollers nting devices	Right-click
Ports (COM & L	Disable	
Processors	Uninstall	
<ul> <li>Sound, video ar</li> <li>System devices</li> </ul>	Scan for hardware changes	
🔈 - 🏺 Universal Serial	Properties	
		-

11. When the following screen is displayed, select **Browse my computer for driver software**.

Geo 📓 Update Driver Software - PCI Serial Port	<b>X</b>
How do you want to search for driver software?	
Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.	
Browse my computer for driver software Locate and install driver software manually.	
	Cancel

12. Click **Browse** in the displayed window, select the NO7. SP72788 folder, and click **Next** to complete the driver installation.

		×
$\bigcirc$	Update Driver Software - PCI Serial Port	
	Browse for driver software on your computer	
	Search for driver software in this location:	
	F:\N07. SP72788 Browse	
	✓ Include subfolders	
	Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.	
	Next Cano	el

- 13. Restart the computer after installation is completed.
- 14. Open the device manager, right-click on PCI Simple Communications Controller under Other Devices, and select **Update Driver Software**.



- 15. Select **Browse my computer** for driver software from the pop-up window.
- 16. Click **Browse** in the displayed window, select the NO7. SP72788 folder and then click **Next** to complete the driver installation.
- 17. Restart the computer after installation is completed.

#### Installing the Driver for HP800 G3 Host (Windows 7 32-bit)

- 1. Place the Windows 7 patch CD into the CD-ROM drive.
- 2. Run the "install all.bat" file. The computer restarts when the cmd window disappers from the screen.

Name ^	Date modified	Туре	Size
🚳 install all	7/8/2016 2:19 AM	Windows Batch File	1 KB
🔲 📷 Windows6.1-KB2575077-x86	5/31/2016 2:41 AM	Microsoft Update	272 KB
📷 Windows6.1-KB2614892-x86	5/31/2016 2:41 AM	Microsoft Update	228 KB
📷 Windows6.1-KB2618535-x86	5/31/2016 2:41 AM	Microsoft Update	265 KB
📷 Windows6.1-KB2740374-v2-x86	5/31/2016 2:41 AM	Microsoft Update	709 KB
📷 Windows6.1-KB2821049-x86	5/31/2016 2:41 AM	Microsoft Update	682 KB
📷 Windows6.1-KB2866695-x86	5/31/2016 2:41 AM	Microsoft Update	1,008 KB
📷 Windows6.1-KB2894655-x86	5/31/2016 2:41 AM	Microsoft Update	1,294 KB
📷 Windows6.1-KB2913431-x86	5/31/2016 2:41 AM	Microsoft Update	1,051 KB
a we have here the second seco	E (34 (3642 3 44 AM)	A.C. (6.11) 1.5	2.554.70

- 3. Place the driver CD that comes with the computer into the CD-ROM drive, and install the driver according to the directory sequence of folder and the file sequence in the folder.
- 4. Always select **Agree**, **Yes** or **Next** during the installation. The computer must be restarted manually each time a driver is installed. The following screen shows an example of the file list.

🐌 NO6.vgawin732 64SP81349	7/31/2017 8:18 PM	File folder	
🚝 NO1.net_framework_4.5_r2_x86_x64_1076098	1/17/2014 1:34 AM	Application	49,182 KB
🛃 NO2.sp78817 W10P64 W7P64 32 CHIP	5/10/2017 1:39 AM	Application	3,199 KB
🛃 NO3.sp78827 W7P32 64 CHIP USB3	5/10/2017 1:49 AM	Application	5,721 KB
🛃 NO4.sp78848 W10P64 W7P32 64 MEIchoose	5/10/2017 1:54 AM	Application	102,458 KB
NO5.sp78957 W7P32 NVIDIA GT720	5/10/2017 2:05 AM	Application	186,495 KB
🛃 NO6.sp79275 W10P64 W7P32 64 Conexant	5/10/2017 1:50 AM	Application	89,190 KB
🛃 NO7.sp78880 W7P32 64 Rapid AHCI	5/10/2017 1:48 AM	Application	13,946 KB
🛃 NO8.sp77773 W7P32 NIC	5/10/2017 1:51 AM	Application	31,535 KB

- 5. Run NO2.sp78817 W10P64 W7P64 32 CHIP, install the motherboard driver, and restart the computer after installation is completed.
- 6. Run Run NO3. Sp74234 USB3 32 64, install the USB3.0 driver, and restart the computer after installation is completed.
- 7. Run NO5.sp78957 W7P32 NVIDIA GT720, install the Discrete graphics card driver, and restart the computer after installation is completed.
- 8. Run NO6.sp79275 W10P64 W7P32 64 Conexant, install the audio driver, and restart the computer after installation is completed.

- 9. Run NO8.sp77773 W7P32 NIC, install the network card driver, and restart the computer after installation is completed.
- 10. Run NO4.sp78848 W10P64 W7P32 64 MEI--choose, install the network card driver, and restart the computer after installation is completed.
- 11. Run NO1.net\_framework\_4.5\_r2\_x86\_x64\_1076098, and restart the computer after installation is completed. Run NO7.sp78880 W7P32 64 Rapid AHCI--, install the dual-hard disk control driver, and restart the computer after installation is completed.
- 12. After the computer starts completely, click the hidden icons in the lower right corner of the desktop. The icon shown below should be available. "√" indicates normal operation of the dual hard disks.



13. Open the device manager, right-click Display adapters under Standard VGA Graphics Adapter, and select Update Driver Software.



14. When the following screen is displayed, select **Browse my computer for driver software**.



Click Let me pick form a list of device drivers on my computer, select the NO6.vgawin732
 64SP81349\Graphics\ki121256 file, click ok, select Inter(R) HD Graphics 530 and click Next to complete the driver installation.

	×
G 🗓 Update Driver Software - Standard VGA Graphics Adapter	
Browse for driver software on your computer	
Search for driver software in this location:	
D:\800G3\New folder\NO6.vgawin732 64SP81349  Browse	
✓ Include subfolders	
▲ Let me nick from a list of device drivers on my computer	
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.	
Next Cano	el



Update Driver Software - Intel(R) HD Graphics 530	<b>—</b> ×
Select the device driver you want to install for this hardware. Select the manufacturer and model of your hardware device and then disk that contains the driver you want to install, click Have Disk.	click Next. If you have a
Model Intel(R) HD Graphics 510 Intel(R) HD Graphics 515 Intel(R) HD Graphics 520 Intel(R) HD Graphics 530 This driver is digitally signed. Tell me or by driver is digitally signed.	Have Disk
	Next Cancel

16. Restart the computer after installation is completed.

## Installing the Driver for HP800 G4 Host (Windows 10 64-bit)

- 1. Place the Windows10 patch CD into the CD-ROM drive.
- 2. Run the "install all.bat" file. The computer restarts when the cmd window disappers from the screen.
| 🚳 install. bat                  | 2019-1-14 17:33  | Windows |
|---------------------------------|------------------|---------|
| 🗐 Installation guide.docx       | 2018-4-21 15:17  | Microsc |
| 📷 windows10.0-kb4132216-x64.msu | 2018-7-26 9:15   | Microsc |
| 📷 windows10.0-kb4471321-x64.msu | 2018-12-23 12:11 | Microsc |

- 3. Place the driver CD that comes with the computer into the CD-ROM drive, and install the driver according to the directory sequence of folder and the file sequence in the folder.
- 4. Always select **Agree**, **Yes** or **Next** during the installation. The computer must be restarted manually each time a driver is installed. The following screen shows an example of the file list.

🌗 Audio	2018-10-10 15:35
퉬 Chipset	2018-10-10 15:36
🕌 Graphics	2018-10-10 15:38
퉬 InputDevices	2018-10-10 15:41
📔 Network	2018-10-10 15:41
퉬 Storage	2018-10-10 15:41

- 5. Run Audio\Synaptics\Synaptics\_TTCKB2\8.65.281.0\ install.cmd, install Audio driver, and restart the computer after installation is completed.
- 6. Run Chipset\Intel\2018Intel\_SS1TB2\1825.12.0.1144\ install.cmd, install the Chipset driver, and restart the computer after installation is completed.
- 7. Run Chipset\Intel\IntelChip\_RRXFB2\10.1.17667.8082\ install.cmd, install the Chipset driver, and restart the computer after installation is completed.
- 8. Run \Graphics\Intel\IntelGrap\_TTK8B2\24.20.100.6136\ install.cmd, install the Graphics driver, and restart the computer after installation is completed.
- 9. Run InputDevices\Prolific\ProlificU\_TT2WB2\3.8.18.0\ install.cmd, install the InputDevices driver, and restart the computer after installation is completed.
- 10. Run Network\Intel\Intell219\_TTCCB2\12.17.10.6\install.cmd, install the network card driver, and restart the computer after installation is completed.

#### 8.2.3.4 Activating and Configuring the Windows 7 Operating System

- 1. Open the **Start** menu in the lower left hand corner of the Windows Operating System. Right click on the **Computer** menu and select **Properties**. In the dialog window that appears, click on the bottom of the window over the text **You must activate today. Activate Windows now**.
- 2. When prompted, type in the Windows Product ID from the label that is affixed to the top of the machine.



- 3. Use the phone system for activation. Follow the onscreen instructions for dialing the phone number and inputting the installation ID. Once the system validates the ID, type in the Confirmation ID. Follow the on screen instructions to finish the activation process. At the conclusion of activation, exit back to the Windows desktop.
- 4. Install the required software and drivers by referring to sections 3.3 Display Installation to 3.8 Installing a Recorder

No recorder driver is needed. Recording can function directly after system software is installed.

#### NOTE

• Connect a recorder to COM1 port of the CMS host.

CMS System Software

5. Click on the Date and Time in the tray at the lower right hand corner of the screen.



6. Click Change Time and Date Settings....



7. Select the **Internet Time** tab.

ate and Time Additional	Clocks Internet Time	
This computer is not se server.	t to automatically synchronize with a	n Internet time
	🐨 Change	settings
What is Internet time sy	inchronization?	
	OK Carrel	Amply

8. Click Change Settings.

onfigure Inter	net time settings:		
Synchronize	with an Internet time serve	r	
Serveri	time.windows.com	-	Update now

9. Uncheck the Synchronize with an Internet time server box. Then click OK.

te and Time Additional Cl	odks Internet Time
	Date: Monday, February 09, 2015 Time: 10:55:41 AM
	Change date and time
Time zone	
(UTC-05:00) Eastern Tim	e (US & Canada)
	Change time zone
Daylight Saving Time be clock is not set to adjust	gins on Sunday, March 08, 2015 at 2:00 AM. The for this change.
Notify me when the	clock changes
Get more time zone info	ermation online

10. In the **Date** and **Time** tab, select **Change time zone**....



- 11. Uncheck the box labeled Automatically adjust clock for Daylight Saving Time. Then click OK.
- 12. From the **Date and Time** menu, click **OK**.

#### 8.2.3.5 Activating and Configuring the Windows 10/Server 2016 Operating System

- 1. Press the Windows key and the R key simultaneous to open the **Run** window.
- 2. Enter cmd and then press the Enter key to bring up the command window.
- 3. Enter "slmgr -upk" and then press the Enter key to uninstall the existing key, as shown below.



4. In the cmd command window, enter slmgr –ipk and the key on the Windows authorization label. For example, slmgr –ipk XXXXX-XXXXX-XXXXX-XXXXX, where X represents the key. Please note that spacing between command characters must be entered.



In the following screen, press the Windows key and the R key simultaneous to open the **Run** window. SLUI
 4 is entered by default. Click **OK**. Please note that there is a space between SLUI and 4, as shown below.

Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
slui 4 ~
This task will be created with administrative privileges.

- Select your country or region
- 6. Select the country where the software to be activated is located. We take China for an example.

7. Call 800 830 1832 and then follow the voice prompts.

€ Call a	nd pro	ovide	your i	nstalla	ation I	D			
Call one charges r	of these ni nay be ap	umbers. Tl plied by lo	he automa ocal operat	ited phone tors for to	e system w II-free num	vill ask for y bers in ce	our instal tain coun	lation ID (II tries or reg	ID). Some ions.
Toll free:									
Toll:	832								
400 830 1	832								
Installati 1	on ID: 2		4		6	7	8	Q	
5090895	4135010	2402125	1447836	4148852	3012446	8940683	3821524	3764482	
Read our	privacy sta	atement							
						Enter co	nfirmatior		Cancel

8. Enter ID per voice prompt.



9. Right-click on This PC and then select **Properties**. Upon successful activation, **Change product key** will be displayed instead of **Activate Windows**. Please note that the description displayed varies with language settings.

Control Panel Home	View basic information	about your computer	
Device Manager	Windows edition		
Remote settings	Windows 10 Enterprise 201	6 LTSB	
System protection	© 2016 Microsoft Corporat	tion. All rights reserved.	Windows 10
Advanced system settings	10		VVIII00VV310
	System		
	Processor:	Intel(R) Core(TM) i5-6500 CPU @ 3.20GHz 3.19 GHz	
	Installed memory (RAM):	8.00 GB (7.88 GB usable)	
	System type:	64-bit Operating System, x64-based processor	
	Pen and Touch:	No Pen or Touch Input is available for this Display	
	Computer name, domain, and	workgroup settings	
	Computer name:	DESKTOP-LTHKQ73	Schange settings
	Full computer name:	DESKTOP-LTHKQ73	
	Computer description:		
	Workgroup:	WORKGROUP	
	Windows activation		
	Connect to the Internet to	activate Windows. Read the Microsoft Software License Terms	
	Product ID: 00380-70400-0	0001-AAOEM	SActivate Windows

Security and Maintenance

#### 8.2.3.6 Installing the BeneVision Dongle Driver

- 1. Insert the BeneVision Software Tools CD (PN 115-047955-00) containing the BeneVision Dongle Driver (P/N 897-000062-00).
- 2. Click and open the folder titled "USB Dog Driver". Open the subfolders and double click on the "MicroDogInstdrv" application. The application installs the driver for the license dongle.



- 3. When the Micro Dog Driver installation window opens, select **USB Dog Driver** under Driver Installation. Finally click the **Install Driver** button on the lower left hand side of the window.
- 4. When installation is complete, look for the message in red "The driver has been installed successfully". Click **Exit** to exit from installation of the Micro Dog Driver.



#### 8.2.3.7 Configuring IP Address

- 1. Connect an Ethernet cable between the LAN connection on the back of the computer and an Ethernet hub or switch.
- 2. From the Windows 7 desktop, click the START icon $\rightarrow$  CONTROL PANEL $\rightarrow$  NETWORK AND SHARING CENTER $\rightarrow$  CHANGE ADAPTER SETTINGS.
- 3. Configure the "Local Area Connection 2" for static IP address with an address of 172.16.0.Xfor 800G1/800G2/800G3 computer or 192.168.0.X is for KISS computer.Configure thesubnet mask to 255.255.0.0.
- 4. Configure the "Local Area Connection" for static IP address with an address of 192.168.0.X for 800G1/800G2/800G3 computer or 172.16.0.X is for KISS computer. Configure thesubnet mask to 255.255.0.0.

#### 8.2.3.8 Installing CMS Software

1 Insert the BENEVISION CMS Software CD. Click to select and open the "CMSSetup" folder. Double click to open the "CentralStationSetup.exe" application to begin the installation process.

💮 CentralStationSetup.exe	2017-1-9 19:13
🚳 cmslognote.dll	2017-1-6 16:09
🚳 installassistant.dll	2017-1-6 16:09
🚳 log.dll	2017-1-6 16:09
🚳 mfc100u.dll	2017-1-6 16:09
🚳 msvcp100.dll	2017-1-6 16:09
🚳 msvcr100.dll	2017-1-6 16:09

2. When prompted, select **English** as the default language.

Installer L	anguage	23
	Please select a language.	
	English / English	-
	ОК	Cancel

3. Select **Next** to continue the installation.

💮 Mindray CMS Setup		🗑 Mindray CMS Setup
	Welcome to Mindray CMS Setup	Choose Install Location Choose the folder in which to install Mindray CMS.
	Setup will guide you through the installation of Mindray CMS, It is recommended that you dose all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.	Setup will install Mindray CMS in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.
	Click Next to continue.	Destination Folder
		C: \Program Files (x86)\Hindray CMS Browse
		Space required: 511.9MB Space available: 707.0MB Mindray
	Next > Cancel	< Back Next > Cancel

4. Select **Running On PC**, and then select **Install**.

Mindr	ay CMS Setup g Environment Setting		
[	<ul> <li>Running On Virtual Machine</li> <li>Running On PC</li> </ul>		
Mindray –		< Back Install	Cancel

- 5. Select **Finish**. The CMS will start automatically.
- 6. From the Central Station, select **Factory**  $\rightarrow$  " System Setup and then select **Factory**

Maintenance. Enter the password 332888. Select Exit to Windows to return to the Windows desktop.

- 7. Install the McAfee Solidifie by referring to 5.1 Installation and 5.2 *Enabling the Solidifier*.
- 8. Restart Computer and restore the database using the previously backed up .bak file, or manually configure all BeneVision CMS settings and Peripheral Devices. Return system to service.

# 8.3 Database Update

#### Refer to section 3.3.18

Installing the CMS System Software (Running As Normal Service)

- 7. Enter the Running Environment Setting screen. For how to enter this screen, see section **3.3.16** Installing the CMS System Software (Running As Application).
- 8. In the Running Environment Setting screen, select Running As Normal Service or Running As Failover Cluster Service. The following procedures take Running As Normal Service as an example.

	÷		
🕞 Mindray CMS Setup			_ 🗆 X
Running Environment Setting			
C Running As Application			
Running As Normal Service			
C Running As Failover Cluster Service	e		
Mindense			
Minoray	< <u>B</u> ack	<u>N</u> ext >	Cancel

#### 9. Select Next.

10. Select the proper privileges for services. The following figure serves as an example only.

🕞 Mindray CMS Setup	<u>_                                    </u>
Set account to run service	
<ul> <li>System</li> <li>Local Service</li> <li>Network Service</li> <li>User Defined</li> <li>Domain Name or Computer Name</li> <li>User Name</li> <li>Password</li> </ul>	zhanxi-PC
Mindray	< Back Install Cancel

The descending order of privileges is System, Local Service, Network Service, and User Defined.

If **User Defined** is selected, the system will automatically create a system user

 $depending \, on \, the \, user \, name \, and \, password \, entered.$ 

11. Import a license.

A valid license dongle or a license file is required for starting a service. If a license file is

available, click the icon (license tool PN: 110-005825-00). The **License** dialog is displayed. In this dialog, select **Import** and then select the path where the license file is located.



12. After importing the license successfully, restart the system.

#### 8.3.1.1 Configuring the Network Tab



- Click the desktop shortcut Setup . The configuration tool screen is displayed. 7.
- 8. Enter the login password. The default password is 888888.
- 9. Select the **Network** tab and the nconfigure network items. The items marked in red rectangle must be configured. IP addresses in the figure beloware for reference only.

$\equiv$ mind/ag	Y			
Masagement	Recent	Telementry	Betwork	Car < 🚿
General	Central Monitoring Network Setup		Malicert Setup	
Results Service	Naster Server Address	196.76.5.250 🖉	Mutticast Address	225.0.0.8 🖋
eGatemay	Master Servic IF feldrow		Nutherst TTL	10
Central Station Authorization	Connection Status	Connected	Encryption Connection Type	
Bed Authorization	Local IP address	196.76.5.150 +	Encryption Connection Type	Only Private Encryption +
AP Management	Bedside Monitoring Network Setup		Hote Proce restart the system after moting a charge	
MEDAP	Local IP address	19676.5.150 *		
MobileServer	Remote View			
	Support Monitor Remote View			
		639		

10. Restart the CMS.

:	≡⊓	iind <i>r</i> ay		
	Ċ	Shutdown		Review
		Restart		Setup
	(j	System Information		
	eGa	tewav Master Server	IP Addross	

11. Admit monitoring devices as below: Select the **Device Management** tab. Select the "+" button besides the desired monitoring device.

Ala	rm	Pa	atient Management	Device	e Management	Rev	/iew		>>
Device Assignment									
Auto Admit	0								
Device		Device Name	Department	Room No	Bed No	States		\$	
	0	Tel 19195	111					+	]
	0	M0001	ICU	room-7777	bed888	Online	<b>U</b>	-	
	0				99999	Offline	6	-	
	0	Bd22		7a06-1	ip120		6	÷	
	()			bd	bd-234				
	(1)				ip207				

12. Configure other items if needed.

#### NOTE

 Upon completion of successful network setup, you can access the configuration tool screen via the WorkStation connected to the CentralStation. At the WorkStation, select the system menu area in the upper left corner of the screen- select System Setup-select the Network tab-select the Central Station Connection tab-select the desired CentralStation-select the Setup button.

Database Update (Optional).

## **8.4 Configuring Printer**

Refer to section **3.6** Installing Printer.

## 8.5 Installing Dual Displays

Refer to section **3.3.1** Implementing Double Screen Display by DP-to-VGA Adapter for dual displays connection and settings.

## 8.6 Setting the Size and Display Layout of CMS Screen

1. Access the CMS system.

- 2. Select the system menu area  $\equiv$  mindray in the upper left corner of the screen.
- 3. Select <sup>(2)</sup> System Setup→ Display→Screen→ Screen Size. Adjust the screen size of the CMS system in accordance with actual screen size. Restart PC to enable the screen size settings.

# 8.7 Setting Language and Time

Refer to section **3.3.9** Configuring System Windows Region and Language for language settings. Refer to section **3.3.11** Configuring Windows System Operating Time for time settings.

## 9.1 Maintenance

Failure on the part of the responsible hospital or institution employing the use of the central monitoring system to implement a satisfactory maintenance schedule may cause undue equipment failure and possible health hazard.

#### WARNING

• The safety checks or servicing involving any disassembly of devices should be performed by professional servicing personnel; otherwise, it may lead to undue equipment failure and possible health hazards.

## 9.1.1 General Inspection

Whenever your system is repaired or upgraded, a thorough inspection should be performed by qualified service personnel to ensure the reliability.

Before the central monitoring system is put into use and when it is in use, follow these guidelines to inspect it:

- Inspect the equipment and its accessories for mechanical damage;
- Inspect if the environment and power supply meet the specified requirements;
- Inspect all power cords and signal lines for fraying or other damages, and if they are properly connected and insulated;
- Inspect if the sound system functions normally;
- Inspect if each function of the system is in good condition;
- In case of any damage or abnormality, do not use the central monitoring system. Contact the hospital biomedical engineers or our service personnel immediately.

## 9.1.2 System Performance Test

After the central monitoring system is reinstalled or quick recovery installation is performed, follow this procedure to make sure that the system functions correctly:

- Display setup
- Functional test of admitting patient
- Record and print
- Clear test data
- Shut down

# 9.2 Cleaning

Your equipment should be cleaned on a regular basis. If the CMS accumulates heavy dust, it should be cleaned regularly. The equipment to be cleaned includes the main unit (including power fan, cabinet fan or other fan etc.), displays, printer, recorder, keyboard and mouse. Before cleaning the equipment, consult your hospital's regulations for cleaning, disinfecting and sterilizing equipment

#### WARNING

- Be sure to shut down the system and disconnect all power cords from the outlet before cleaning the equipment.
- Cooling fans installed on CPU, display adapter and cabinet should be cleaned on a regular 6-months time interval. If any malfunction of cooling fan is encountered, please contact supplier for replacement as soon as possible. Dust accumulation on cooling fans can lead to failure due to high temperature.

The exterior surfaces of the equipment may be cleaned with a clean and soft cloth, sponge or cotton ball, dampened with a non-erosive cleaning solution. Drying off excess cleaning solution before cleaning the equipment is recommended. Following are examples of cleaning solutions:

- Hydrogen peroxide (3%)
- Ethyl alcohol (70%)
- Host cleaning solutions
- Liquid crystal display (LCD) detergent

Follow these rules to clean the equipment; Failure to do so may cause the material to melt, distort, or may dull the finish of the case, blur lettering on the labels, or cause equipment failures.

- ALWAYS dilute the solutions according to the manufacturer's suggestions.
- ALWAYS wipe off all the cleaning solution with a dry cloth after cleaning.
- NEVER SUBMERGE the equipment into water or any cleaning solution, or POUR or SPRAY water or any cleaning solution on the equipment.
- NEVER permit fluids to run into the casing, switches, connectors, or any ventilation openings in the equipment.
- NEVER use abrasive materials and erosive or acetone –based cleaners.

#### WARNING

- Disinfection or sterilization may cause damage to the equipment; therefore, when preparing to disinfect or sterilize the equipment, consult your hospital's infection controllers or professionals.
- The cleaning solutions above can only be used for general cleaning. If you use them to control infections, we shall assume no responsibility for the effectiveness.

## 9.3 Preventative Maintenance

#### 9.3.1 Display Monitors

The monitor panel and housing should be cleaned by the user as required.

#### WARNING

• Do not clean the monitor while it is turned on and/or plugged in.

#### NOTE

• Never use an abrasive glass cleaner containing highly concentrated ammonia and strong base chemicals since they damage the surface treatment.

#### 9.3.2 LCD Display Chassis

#### WARNING

- Do not clean the monitor while it is turned on and/or plugged in.
- Do not spray any cleaner directly on a display. It could possibly leak inside the unit and cause damage.

Clean the chassis with a lightly moistened soft cloth.

#### 9.3.3 Care and Cleaning of the Screen/Touchscreen

For the best performance, it is recommended that the touch screen on the BeneVision display(s) be kept clean. You can use any standard glass cleaner to clean the screen. Use a cloth or towel to apply the cleaner. Glass cleaner sprayed directly on a display could possibly leak inside a non-sealed unit and cause damage. Remove fingerprints and stains by using a liquid lens cleaner and a soft cloth.

To prevent scratches on the front panel of the display screen, observe the following precautions when cleaning:

#### WARNING

- DO NOT spray any liquids directly on the screen.
- DO NOT use abrasive cleaning materials to clean a touch screen.
- DO NOT wipe a dry screen.
- DO NOT use alcohol or chlorinated hydrocarbon solvents.
- Use a fine soft-hair brush to carefully brush away dust and dirt particles.
- Use a soft cloth moistened with cleaner solution to wipe the touch screen clean.

## 9.3.4 CMS Chassis, Gateways, Telemetry Server Chassis and Wireless Transceiver

The external cleaning procedures should only be performed by a qualified electronic technician.

#### Cleaning

Use an anti-static vacuum to carefully remove accumulated dust, dirt, and lint from the various external surface areas. Be careful not to dislodge components, or connectors.

#### Visual Inspection

Perform a visual check to verify that dust, dirt, and lint has been completely removed, and all connectors are secured and all fans are operational.

## 9.3.5 Uninterruptible Power Supplies (UPS)

#### 9.3.5.1 Rack Mounted UPS

The battery is designed to last for three (3) to five (5) years under normal use. The UPS performs a self-test automatically every two (2) weeks. If the test fails, the battery LED on the front panel of the UPS will be illuminated. If this occurs, replace the battery cartridge.

Refer to the UPS manufacturer's website for replacement battery cartridge specifications. Instructions for battery replacement are included with the replacement battery cartridge.

Mindray does not supply replacement battery cartridges for the UPS.

#### 9.3.5.2 Desktop and Auxiliary UPS

Under normal conditions, the original battery in the UPS will last several years. Each UPS has a self-test function to determine the status of the internal battery.

#### 9.3.5.3 UPS Model OmniVS800

To run a self-test, leave connected equipment on. With the UPS plugged in and ON, press and hold the button until the UPS beeps (about 2 seconds) then release it. If the batteries are weak, the "Replace Battery" LED will stay lit and the UPS will continue to beep after the test.

Refer to the UPS manufacturer's website for replacement battery specifications. Instructions for battery replacement are included with the replacement battery cartridge.

## 9.3.6 CMS Network Equipment Racks

Use an anti-static vacuum to carefully remove accumulated dust, dirt, and lint from the various external surface areas. Be careful not to dislodge components, or connectors.

Verify the mechanical integrity of all cables, wires, and network connections. Replace any frayed or kinked cables.

## 9.3.7 System Maintenance Schedule

#### 9.3.7.1 Preventative/Periodic Maintenance

The Preventative Maintenance for the BeneVision CentralNetwork will consist of periodic cleaning, inspection and testing.

Network Components such as Ethernet switches, KVM switches and extenders, Antennas, and Wireless Access points have no preventative maintenance requirements.

Telemetry Packs do not require any preventative maintenance requirement other than cleaning. Refer to telemetry operator's manual for cleaning and testing instructions.

Use the following tables for each maintenance procedure:

Central Station and Telemetry Server and Equipment Rack.

Activity Area	Action	Technical Level	Method	Schedule
Cooling fans	Clean	BioMed/CE	Forced air	Annually
Power supply	Clean	BioMed/CE	Forced air	Annually
Fans	Clean	BioMed/CE	Forced air	Annually
Connections	Inspect	BioMed/CE	/	Annually
Cases	Inspect	BioMed/CE	/	Annually
UPS batteries	Test	BioMed/CE	Refer to section <b>8.3.5</b>	Annually
			Uninterruptible Power	
			Supplies (UPS)	

# 9.4 BIOS Settings

# 9.4.1 BIOS Settings for Kontron KISS 2U (023-001020-00) Central Station, ViewStation, WorkStation

BIOS Information	
BIOS Vendor	Phoenix Technologies Ltd.
Core Version	KTQ8758-MDY001
Compliancy Version	UEFI 2.31; PI 0.9
BIOS Version	23
Board Information	
Product Name	KTQ87/Flex
PCB ID	09
ADVANCED	
Processor Configuration	
-Active Processor Cores=	ALL
-Enabled XD=	Enabled
-Intel(R) Virtualization Techonolgy=	Enabled
-Intel(R) Trusted Execution Technology=	Disabled
HDD Configuration	
-SATA Device=	Enabled
-Interface Combination=	RAID
System Agent (SA) Configuration	
Graphics Configuration	
-Primary Display Selection=	Auto
-Internal Graphics=	Auto
-DVMT Pre-Allocated=	32MB
-DVMT Total Gfx Men=	256MB
IGD Configuration	
-IGD – Boot Type=	VBIOS Default
South Bridge Configuration	

-Port 80h Cycles=	LPC Bus
-State After G3=	State S0
-PS/2 Legacy device wake=	Wake from S3 Only
-USB/PCIe device wake=	Auto
LAN Configuration	
-ETH1 Configuration (Left)=	Enabled
-Wake on LAN=	Enabled
-ETH2 Configuration(Right)=	Enabled
PCI bridge Configuration	
-Cache Request Length Limit=	128 Bytes
-Cache Request Cout Limit=	4
-Cache Timer Transfer Limit=	8
-Cache Timer Lower Limit=	127
-Cache Timer Upper Limit=	448
-Read Prefetch=	Enabled
-Completion Cache Mode=	Light Caching
Hardware Health Configuration	
-System Temperature Location=	Onboard
-Fan Cruise Control=	Disabled
-Watchdog Function=	0
Display Configuration	
-Switch mode=	DP
AMT Configuration	
-Intel(R) AMT=	Enabled
-EnterIntel(R) MEBx Setup=	Disabled
-Un-Configure ME=	Disabled
MEBx Configuration	
-Enter Intel(R) MEBx Setup=	Disabled
-Un-Configure ME=	Disabled
-Hide Un-Configure ME Configuration=	Disabled

-MEBx Debug Message output=	Disabled
-USB Provision	Enabled
ME Configuration	
-Intel(R) ME=	Enabled
-Intel(R) AT=	Enabled
Intel(R) Rapid Start Technology	
-Intel(R) Rapid Start Technology Support=	Enabled

#### воот

**Boot Priority Order** 

- 1. USB HDD
- 2. USB CD
- 3. USB FDD
- 4. ATAPI CD
- 5. ATA HDD0
- 6. ATA HDD1
- 7. ATA HDD2
- 8. ATA HDD3
- 9. ATA HDD4
- 10. ATA HDD5
- 11. Other HDD
- 12. PCI LAN
- 13. Internal Shell
- 14. PCI SCSI
- 15. ATA HDD

# 9.4.2 BIOS Settings for RM/VM Central Station, ViewStation, WorkStation and Gateway (0998-00-0708-01,0998-00-0709-01) MAIN

.....

System Overview

ID = 986LCD27 Build Date = 02/05/08 PCB ID = 10

#### ADVANCED

CPU Configuration

- Execute Disable Bit =		Enabled
- Vanderpool Technology=		Enabled
- Intel (R) SpeedStep (tm) te	ech. =	Automatic
IDE Configuration		
With IDE CDROM		With SATA CDROM
- ATA/IDE Configuration =	Enhanced	ATA/IDE Configuration=Compatible
- Configure SATA as =	IDE	Legacy Channels = SATA only
- Configure SATA Channels	= Before PATA	
- Primary IDE Master =	Hard Disk	
- Primary IDE Slave =	Not Detected	Primary IDE Slave = Atapi CD ROM
- Secondary IDE Master =	Hard drive	
<ul> <li>Secondary IDE Slave =</li> </ul>	Not Detected	
- Third IDE Master =	Atapi CD ROM Third IDE	Master = Not Detected
- Third IDE Slave =		Not Detected
- Hard Disk Write Protect =		Disabled
- IDE Detect Time Out (Sec)	-	35
- ATA(PI) 80Pin Cable Detec	tion =	Host & Device
- Staggered Spin-up delay	=	Disabled
LAN Configuration		
5		
- ETH1 Configuration (Upp	er) =	Enabled
- ETH2 Configuration (Low	er) =	Enabled
FW/IEEE 1394 Configuratio	on	
- FW/IEEE 1394 Configurat	ion =	Disabled
SuperIO Configuration		
<ul> <li>Serial Port1 Address =</li> </ul>		3F8/IRQ4
<ul> <li>Serial Port2 Address =</li> </ul>		2F8/IRQ3
- Serial Port2 Mode =		Normal
- Parallel Port Address =		378
- Parallel Port Mode =		Normal
- Parallel Port IRQ =		IRQ7
<ul> <li>Serial Port3 Address =</li> </ul>		3E8

- Serial Port3 IRQ =	IRQ11
- Serial Port4 Address =	2E8
- Serial Port4 IRQ =	IRQ10

## Hardware Health Configuration

- Fan Cruise Control =	Disabled
- Fan Cruise Control =	Disabled
- Fan Cruise Control =	Disabled
- Watchdog Function =	Disabled

## ACPI Configuration

S3 (STR)
No
ACPI v1.0
Disabled

## APM Configuration

- Power Management/APM =	Enabled
- Video Power Down Mode =	Suspend
- Hard Disk Power Down Mode =	Suspend
- Suspend Time Out =	Disabled
- PS/2 Kbd/Mouse S4/S5 Wake =	Disabled
- Keyboard Wake Hotkey =	Any Key
- Power Button Mode =	On/Off
- Resume On Ring =	Disabled
- Resume On PME# =	Disabled
- Resume On RTC Alarm =	Disabled
PCI Express Configuration	
<ul> <li>Active State Power-Management =</li> </ul>	Disabled
Remote Access Configuration	
- Remote Access =	Disabled
USB Configuration	

<ul> <li>Legacy USB Support =</li> </ul>	Enabled
- USB 2.0 Controller Mode =	HiSpeed

#### PCIPNP

- Plug & Play O/S =	No
- Allocate IRQ to PCI VGA =	Yes

#### воот

**Boot Settings Configuration** 

- Quick Boot =	Enabled
- Quiet Boot =	Disabled
- AddOn ROM Display Mode =	Force BIOS
- Bootup Num-Lock =	Off
- PS/2 Mouse Support =	Auto
- Wait For 'F1' If Error =	Enabled
- Hit 'DEL' Message Display =	Enabled
- Lock Keyboard before OS boot =	Disabled
- Allow F11 popup =	Disabled
- Interrupt 19 Capture =	Disabled
- Execute OEM extension =	Disabled
- Default init boot order =	0->4->3->5->2->1
- Force boot Device =	Disabled

**Boot Device Priority** 

With IDE CDROM		

#### With SATA CDROM

1st Boot Device = 3M-TEAC CD-W552GB **	1st Boot Device PS-ATAPI iHAS5424B **	
2nd Boot Device = PM-ST3160815AS **	2nd Boot Device = PM-ST3160815AS **	
3rd Boot Device = SM-ST3250410AS **	3rd Boot Device = SM-ST3250410AS **	
** Dependent on model number of drive installed in unit		

#### Security

- Boot Sector Virus Protection =

Disabled

#### CHIPSET

North Bridge Configuration

- Boots Graphic Adapter Priority = - Internal Graphics Mode Select = - PEG Port = - PEG Force x1 =	PEG/PCI Enabled, 8MB Auto Disabled
Video Function Configuration	
- DVMT Mode Select =	DVMT Mode
- DVMT/FIXED Memory =	128MB
- Boot Type =	CRT+CRT2
- Backlight Signal Inversion =	Disabled
- LCDVCC Voltage =	3.3V
- LVDS =	None
- SDVO =	CRT
South Bridge Configuration	
- USB Functions =	8 USB Ports
- USB 2.0 Controller =	Enabled
- Audio controller =	Enabled
- Audio Jack Sensing =	Auto
- SMBUS Controller =	Enabled
- Restore on AC Power Loss =	Last State

Halt on invalid Time/Date =	Enabled
Secure CMOS =	Enabled

#### FOR YOUR NOTES

#### The parts list is shown in below table.

No.	P/N	Description	
Display Co	mponents		
1			
2	115-053141-00	HP 230T 23 inch widescreen touch display	
3	045-003486-00	VGA 1-4 Display Repeater Transmitter	
4	045-003487-00	VGA Display Repeater Receiver	
5	023-001128-00	Black 19" ELO Touch	
6	023-000773-00	ATEN USB KVM Extender CE750	
Service Components			
1	023-001412-00	NTP Time Server	
2	023-001571-00	Serial Extender	
3	137-00-0003-01	Serial Gender Changer - Male to Male	
4	023-001533-00	ProDesk 600 SSD 128 GB	
5	023-001670-00	ProDesk 600 ACDC	
6	022-000373-00	HPE DL360G9 Power Supply(720478-B21)	
7	023-001684-00	HPE DL360G9 16G Memory(805349-B21)	
8	023-001685-00	HPE DL360G9 1TB HDD(846524-B21)	
9	024-001037-00	HPE DL360G9 CPU Fan(792854-001)	
10	023-001667-00	HP Mount for Monitors	
11	023-001668-00	HP VESA Sleeve	
12	023-000525-00	Black Logitech USB Keyboard/Mouse	
13	023-000214-00	DP to VGA Adapter	
14	300A-10-08997	RS232 Cable	
15	023-000739-00	USB to Serial Converter	
16	023-001667-00	HP PC Mounting Bracket	
17	023-001668-00	HP Desktop Mini Securty dual VESA Sleeve	
18	DA8K-10-14452	Power cable	
19	023-001138-00	PS/2 mouse	
20	0000-10-10937	PS/2 keyboard	
21	023-000525-00	USB mouse and keyboard	
22	0992-00-0150-03	PS2 LONGVIEW COMPANION,830 (AMER)	
23	023-001496-00	Win10 loT Ent 2016 LTSB Value	
24	115-034410-00	Windows 7 EMB x32/64x	
25	023-000996-00	32G USB Stick	

No.	P/N	Description
26	023-001686-00	64G USB Stick
27	115-032428-00	Dongle for CentralStation
28	115-032426-00	Dongle for WorkStation
Printers / Reco	rders	
1	115-032908-00	Strip Chart Recorder
2	023-001566-00	HP LaserJet Enterprise M608n
Network Hardw	vare Components	
1	023-001379-00	Cisco POE Switch WS-C2960XR-24TS-I (24-port, L3)
2	115-047355-00	HPE OfficeConnect 1920-48G-PoE+ (370W) Switch
		(JG928A)
3	023-001377-00	HPE OfficeConnect 1920-24G-PoE+ (370W) Switch
		(JG926A)
4	023-001635-00	Aruba 2930F 24G 4SFP Switch (JL259A)
5	023-001634-00	Aruba 2930F 48G 4SFP Switch (JL260A)
6	023-001633-00	Aruba 2930F 24G PoE+ 4SFP Switch (JL261A)
7	023-001630-00	Aruba 2930F 48G PoE+ 4SFP Switch (JL262A)
8	023-001629-00	HP 1920S 48G 4SFP PPoE+ 370W Switch (JL386A)
9	023-001628-00	HP 1920S 24G 2SFP PoE+ 370W Switch (JL385A)
10	023-001627-00	HP 1920S 48G 4SFP Switch (JL382A)
11	023-001625-00	HP 1920S 24G 2SFP Switch (JL381A)
12	023-001514-00	Cisco AIR-AP2802I-A-K9
13	023-001060-00	Cisco Aironet 2602 AP
14	023-001111-00	Cisco 2504 Controller
Hardware		
1	115-051209-00	R3 CMS Host Package (2U)
2	115-050971-00	R3 CMS Host Package (Tower)
3	115-050935-00	R3 WS Host Package (Mini)
4	115-053154-00	R3 DMS Enterprise Server (1U)
Miscellaneous		
1	047-015114-00	BeneVision CMS machine labels (FDA)
2	115-012226-00	McAfee Application Control Software & Licence
		label
3	115-034048-00	Labeling Kit (CS/VW/WS)
4	115-034050-00	BeneVision CMS OS Patches



The following table lists the parts used for Kontron KISS 2U V2 KTQ87 (P/N: 023-001020-00).

1	023-001212-00	Motherboard, 810582-4500 (KISS 2U V2 KTQ87)
2	023-001201-00	Power supply, R1S2-5300V4V
3	023-001202-00	CPU i5-4570S 22nm FCLGA1150
4	023-001205-00	Memory, VL37B5263A-K9SD (4G)
5	023-001203-00	Harddisk 500GB SATA6Gb/s
6	023-001209-00	DVD recorder
7	023-001204-00	USB3.0 to DVI-I Graphics Dongle

## 11.1 The displaying text on the CMS screen is abnormal.

Please ensure the region and language of the operating system is the same with the language set in the CMS system.

- 1. To set up the region and language of the operating system, refer to section **3.3.9** Configuring System Windows Region and Language.
- 2. To set up the language of the CMS, select the system menu area **mindray** in the upper left corner of the CMS screen.
- 3. Select System Setup  $\rightarrow$  enter the password  $\rightarrow$  Other $\rightarrow$  Language and select the desired language.

## 11.2 No Waveforms Is Displayed or Stored in the Full Disclosure

## **Review Tab**

Follow the steps below:

- 1. Select the 🔻 button in the upper left corner of the review screen.
- 2. From the drop-down list, select **Full Disclosure.**
- 3. Select Setup. The Select Waveform menu is displayed.
- 3. Select the **Storage** tab.
- 4. Enable the desired waveforms to be stored.
- 5. Select the Display(Maximum: 3) tab.
- 6. Enable the desired waveforms to be displayed on the review page.

# 11.3 Multi-/Dual-screen changes to Single-screen during the CMS

## installation

- 1. Check if the displays are connected to host and work functionally.
- 2. Check if the display mode is set correctly; please refer to section **3.3.1** Implementing Double Screen Display by DP-to-VGA Adapter.

# 11.4 Remove Dongle Error

The following prompt message may appear during installation or running.



Dongle error may be caused by dongle driver not installed, dongle inserted improperly, or USB port damaged. Please check dongle driver or reinsert dongle.

# 11.5 CMS Unable to Connect the Bedside Monitor

This fault may be caused by network configuration, network cable plugged improperly, network cable damaged etc. Refer to the following procedures to troubleshoot this fault.

- 1. Check if the network cable is plugged properly.
- 2. Check network configuration to see if the IP address of the CMS and that or network bed number of the monitor are configured correctly.
- 3. Use ping command to check if the CMS can be connected to the bedside monitor. Try to ping as many monitors as possible. In the case of ping failure, the fault may lie in hardware.
- 4. Check if the crystal connector on the network cable or the network cable is damaged.
# 11.6 CentralStation Is Not Displayed in the CentralStation

## Connection List at the WorkStation/ViewStation

When the desired CentralStation is not displayed in the CentralStation connection list at the WorkStation/ViewStation, do as follows:

- Verify that the Master Server IP address is configured correctly and rebooted after it was configured.
- Verify that the network connection on the back of the computer a connected to the Central network.
- -Verify that the Central Network IP address and subnet mask of the Central Station and WorkStation/View Station are configured correctly.

## **11.7 Abnormal Database Service Handling**

If database service stops by accident or runs abnormally, CMS will restart automatically.

## 11.8 Database update

The MYSQL database in the CMS (Version 02.XX) can be imported into the newly installed CMS (Version 03.XX).

## 11.9 eGateway Unable to Obtain the Exported Files from the CMS

If the CMS exported files cannot be received on the eGateway, you need change the settings on CMS and eGateway as followings.

#### Change the Firewall Settings on the CMS Host

- 1. Open "Control Panel".
- 2. Select Windows Firewall, and then "Allow a program or feature through Windows Firewall".
- 3. Allow "File and Printer Sharing" and "netlogon service" applications to pass through all network firewalls.

#### $Change \ the \ SMB \ Authentication \ Level \ on \ the \ eGateway \ Host$

- 1. Run "GPedit.msc".
- 2. Select Computer Configuration→ Windows Settings→ Security Settings→ Local Policies→ Security Options.
- 3. Double click **Network security: LAN Manager authentication level**. The properties screen displays.
- 4. Set Network security: LAN Manager authentication level value to Send LM & NTLM use NTLMv2 session if negotiated.
- 5. Run "Services.msc", and restart the "Server" service.

## 11.10 Disk Array Error

When the alarm message **Disk Array Error. Please Check!** Is displayed in the system alarm area at the top of the screen, contact your service representative and replace the faulty disk with a known good one.