

Neximatic

Innovative Device Connectivity

Installation Guide Mindray BeneView N15 (Ethernet) Mindray A3, A4, A5, A7, A8 (Cable Assembly 22)

Warning

Each package contains specific materials for the installation in this room.

A label is affixed on this page and it has the information about this room.

Please review the label before installation.

Read the entire instruction guide before starting the installation.

Installation should be performed by an IT, a Bio Tech or a person with knowledge of IT and medical devices.

Some installation may require additional component from the medical device manufacturer.

If there is any question or if there is any unexpected issue, please stop immediately, revert any setting and contact support. Failure to do so may damage the Nexi and/or any medical device.

Package Contents

Item	Description
Nexi	The Nexi communicates with the medical devices and stream medical data to an HER. The Nexi is pre-configured for the medical devices for this room The Nexi is pre-configured for the networking setting for this facility The Nexi can be re-configured for other medical devices when it is connected to the Internet
Cable Assembly	This cable assembly is specific for the medical devices in this room DO NOT DISASSEMBLE THE CABLE ASSEMBLY
Power Supply	This power supply is compatible to the Nexi DO NOT USE OTHER POWER SUPPLY UNLESS ADVISED
Velcro Strips	Use to mount the Nexi
Optional Mount	The package may contain additional mount equipment
Optional QR Tag	Some implementation may include a QR Tag

Installation Procedure

Pre-installation

- Check label for this package to ensure it is for the corresponding room.
- Ensure any necessary tools are available.

Installation

- Nexi: Review the features and ports of the Nexi.
- Medical Devices: Identify the medical devices.
- Power and Mount: Find a suitable mount location and power source.
- Cabling: Connect the cable between medical devices and the Nexi.
- Configuration: Set the medical devices according to instruction.
- Optional QR Code: Affix the QR Code in the front for scanning.

Testing

- Different generations of the Nexis have different test procedure.
- Please following the Test Section for more information.

Post-installation management

- Use wire ties to secure the cable assembly and power cord with enough slack
- If the Nexi is equipped with a cord clip, clip the power cord through it.

Items required for installation

Please have the following ready for an installation

- Wire ties
- Scissors
- Labels
- Screw drivers (Philips)

Nexi: Nexi-N6



Power, * USB and Ethernet

* Depending on the configuration, USB may be used for medical device interfacing.

Nexi-N6 Specification	
Model	Nexi-N6
Operation Voltage	12V DC
Maximum current consumption	1.5A
Operation temperature	25C, in-door only
Operation humidity	5-95%
Interfaces	4 USB ports 1 Ethernet port
Medical Device Interfaces	2 Serial interfaces 1 Ethernet interface
Indicator	Power Internet Service Data Transmission Issue

Medical Device Interfaces

Nexi Name is a globally unique number.

Nexi Name must be provided when contacting support.

Power Source and Mount Location (Anesthesia Machine)

The Nexi should use the power outlet available on the anesthesia machine

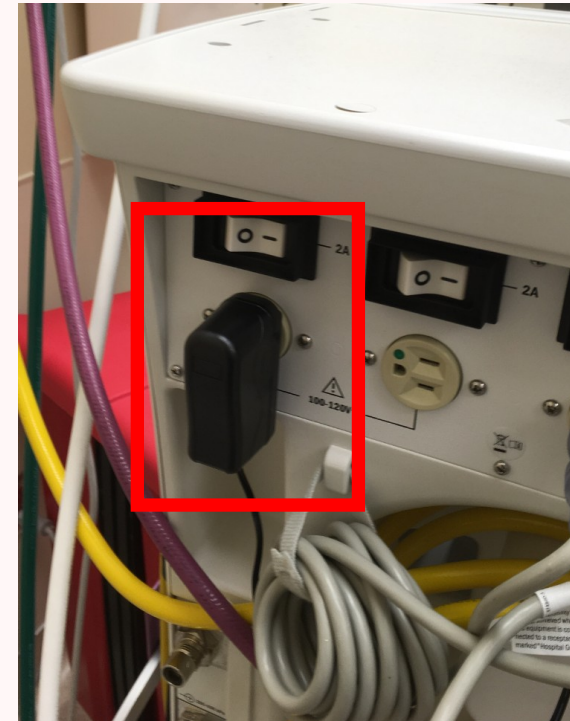
Assess the power cord and cabling to the medical devices to find a suitable mount location of the Nexi

- Location should provide enough slack for the power cord and the cabling
- Location should not obstruct any instrument
- Location should provide a clear view of the Nexi, its label and lights

Suggestion of a mount location

On top of the anesthesia machine

At the back of the anesthesia machine

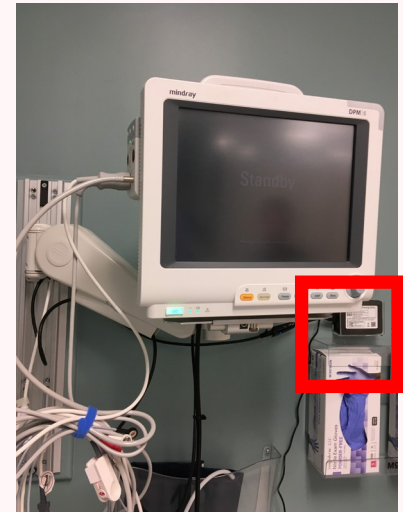


Power Source and Mount Location (Wall Mount)

The Nexi should use the nearest power outlet

The Nexi should be mounted on the wall using Velcro and the mount

- Location should provide enough slack for the power cord and the cabling
- Location should not obstruct any instrument
- Location should provide a clear view of the Nexi, its label and lights



Power Source and Mount Location (Wheeler)

A medical grade power outlet should be mounted on the wheeler

Both the Nexi and the medical device should be connected to the mounted power outlet

The Nexi should be mounted on the medical device

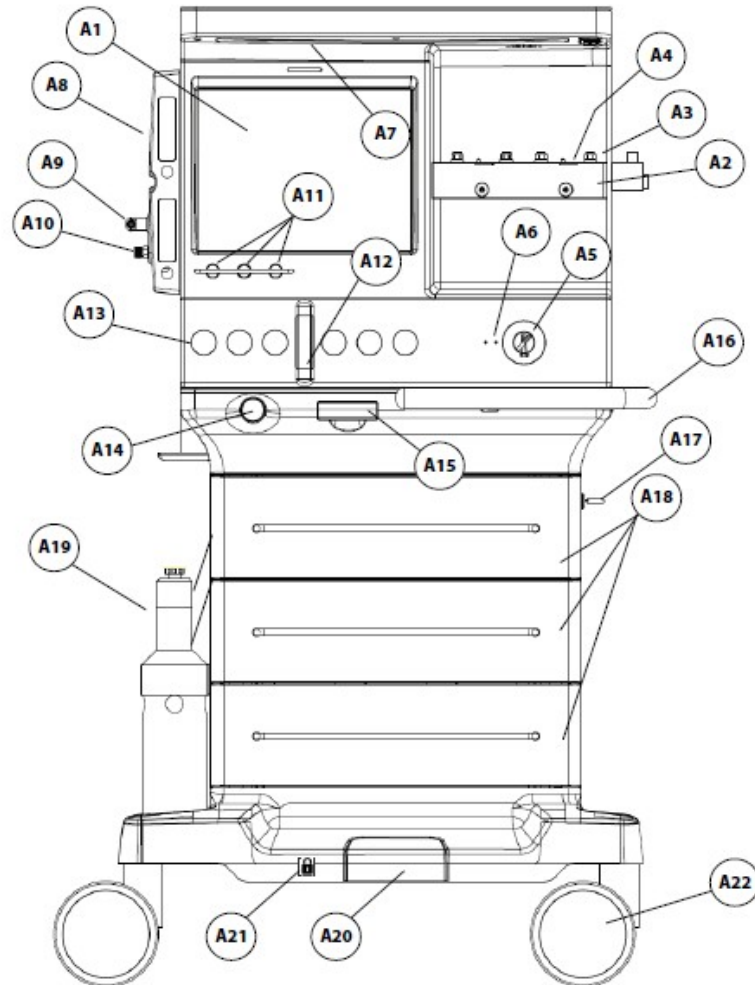
- Location should provide enough slack for the power cord and the cabling
- Location should not obstruct any instrument
- Location should provide a clear view of the Nexi, its label and lights



Medical Device: Mindray BeneVision N12, N15, N17



Medical Device: Mindray A3, A4, A5, A7, A8



Cable: Cable Assembly 22

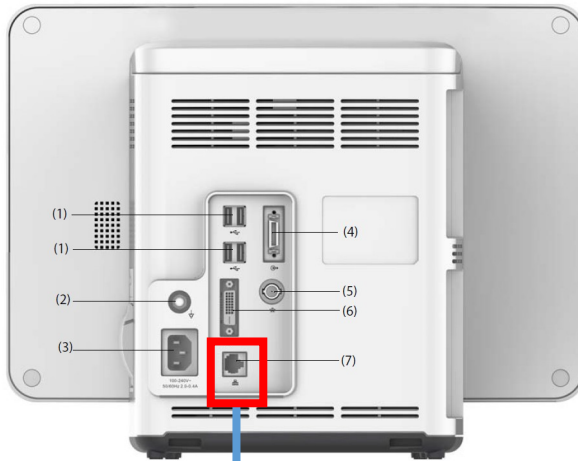


The cable assembly consists of two separate cables.
One is a single Serial-USB cable. An orange F/F Null adapter is attached to its serial end.
One is an Ethernet-USB adapter with an Ethernet cable.

DO NOT DISASSEMBLE.

DO NOT USE THIS FOR ETHERNET CONNECTION TO THE FACILITY'S NETWORK.

Cabling: Mindray BeneVision N12, N15



Ethernet

USB-Ethernet Dongle

Ethernet

USB #1

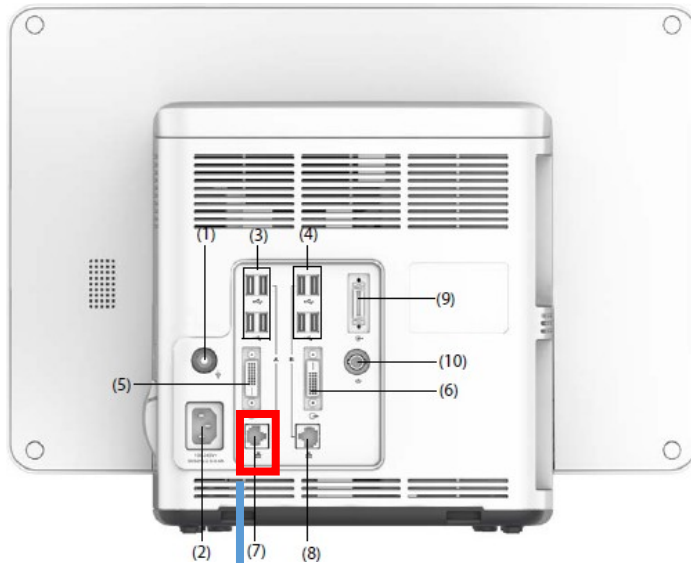
USB #2

USB #3

USB #4

Nexi

Cabling: Mindray BeneVision N17



Use only the left side Ethernet port.

DO NOT use the right side Ethernet port.

Use tape to cover the right side Ethernet port to avoid mistake.

Ethernet

USB-Ethernet Dongle

Ethernet

USB #1

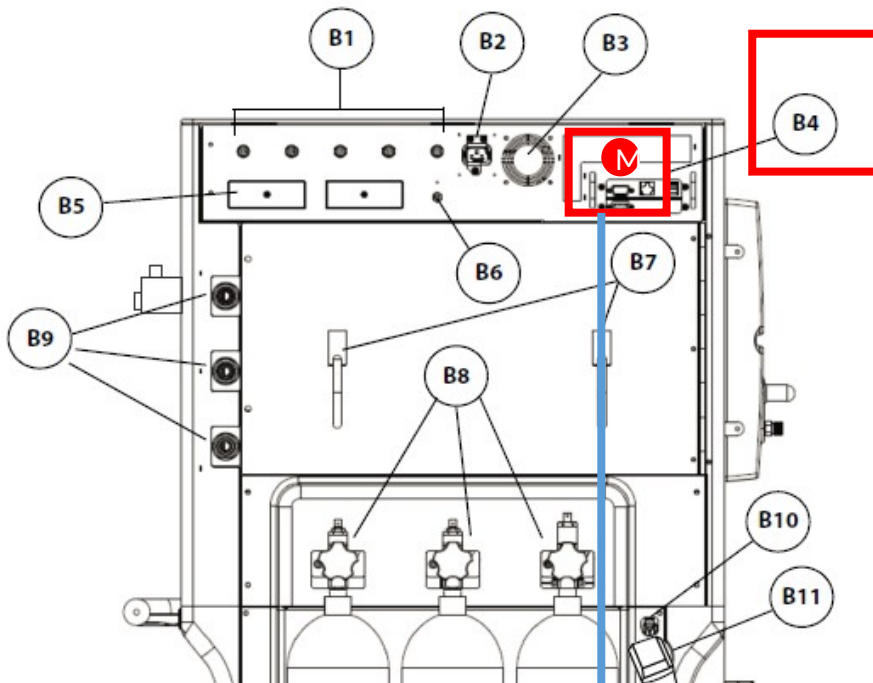
USB #2

USB #3

USB #4

Nexi

Cabling: Mindray A3, A4, A5, A7, A8



PART(S)	DESCRIPTION
B4	Communication Ports SP1, DP1, CS1, SB1, SB2 (See section 8.6.4 (pg. 8-7) "Communication Ports".)

Communication Ports

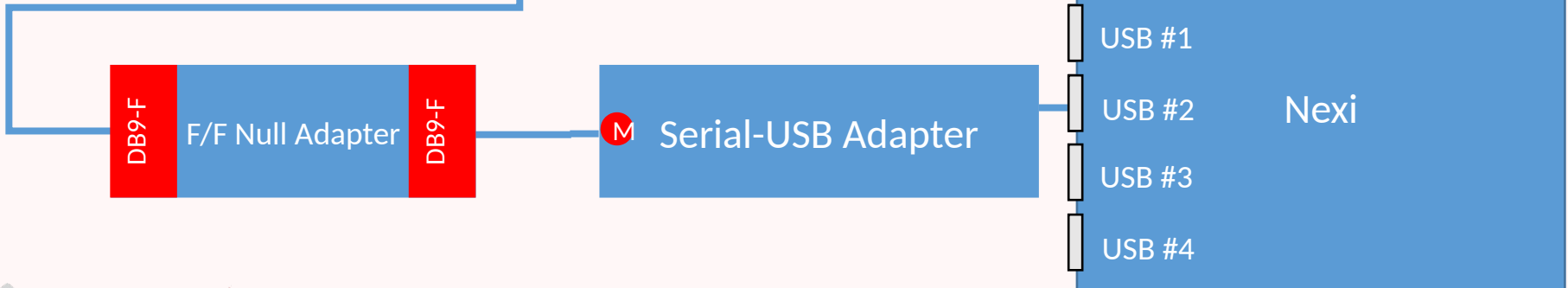
Communication Port (SP1): One DB9 male connector on the rear of the A5/A3. Provides a non-isolated output serial RS232C interface.

Network Port (CS1): One RJ-45 network port

SB Ports (SP1, SP2): Two SB ports

CAUTION: Do not connect any devices to the SB ports other than Mindray approved USB storage devices and a supported USB mouse in system version 02.01.00 and higher (see "Networking and USB Storage" on page A-5).

Data Port (DP1): One test port for connection of calibration equipment by a Mindray-authorized service representative



Configuration: Mindray BeneVision N12, N15, N17

- Select the [Main Menu] quick key
- Scroll to the [System] column select[Maintenance]
- Input the **MIN888** as password
- Scroll to the [Network Setup] tab
- Set IP
 - Select the [LAN1 IP]
 - Check the [Use the Following Address]
 - Set the [IP Address] to 192.168.11.2
 - Set the [Subnet Mask] to 255.255.255.0
 - Set the [Gateway] to 0.0.0.0
- Set HL7 Configuration
 - Select the [HL7 Configuration]
 - Set [Server Address] to 192.168.11.3
 - Set [Port] to 9000
 - Turn on [Send Data]
 - Set [Data Interval] to 10sec

Information: Mindray BeneVision N12, N15, N17

- Maintenance passwords are either MIN332 or MIN888
- It can be MIN315
- Demo password is 2088
- Demo mode may not export data

Configuration: Mindray A3, A4, A5, A7, A8

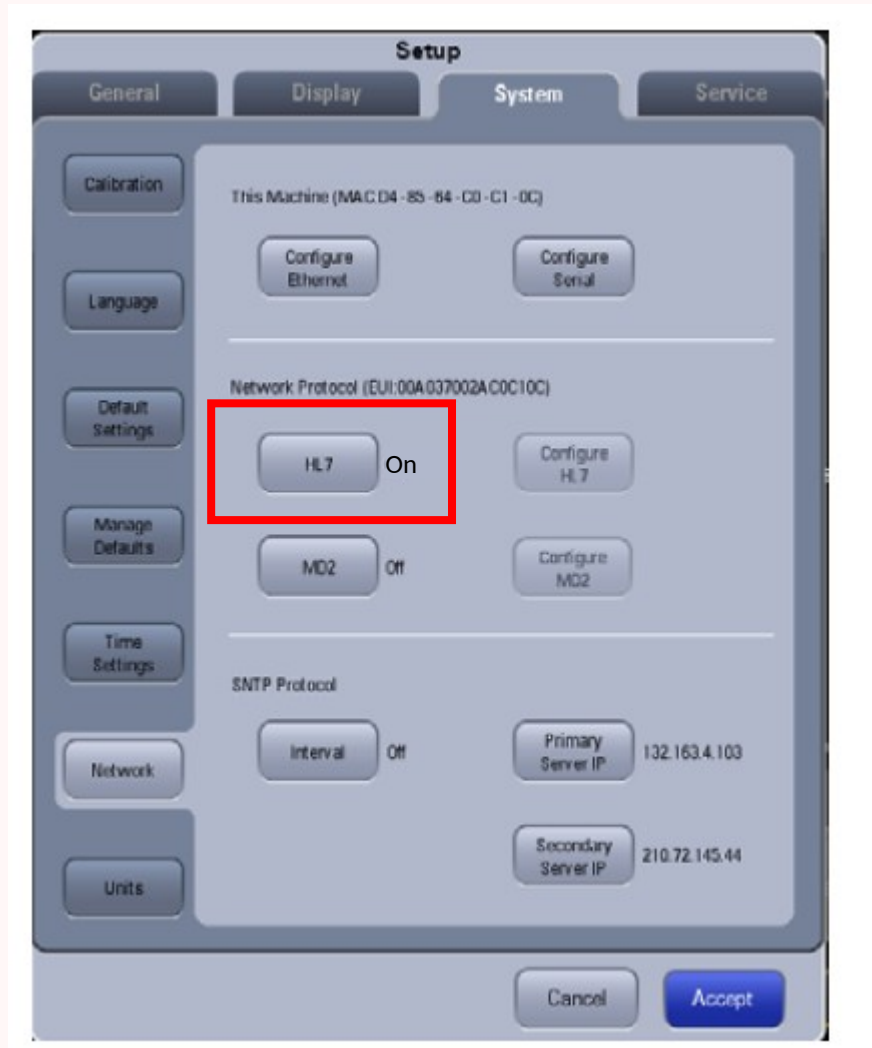
- Check Firmware Version on the A3, A4, A5, A7, A8
- Go to Setup, then Service and enter password = 789789
- Go to System and note SW Bundle version
- The SW Bundle version is like NN.NN.NN
 - For example, 02.02.12



Configuration: Mindray A3, A4, A5, A7, A8

(Below SW 03.00.00)

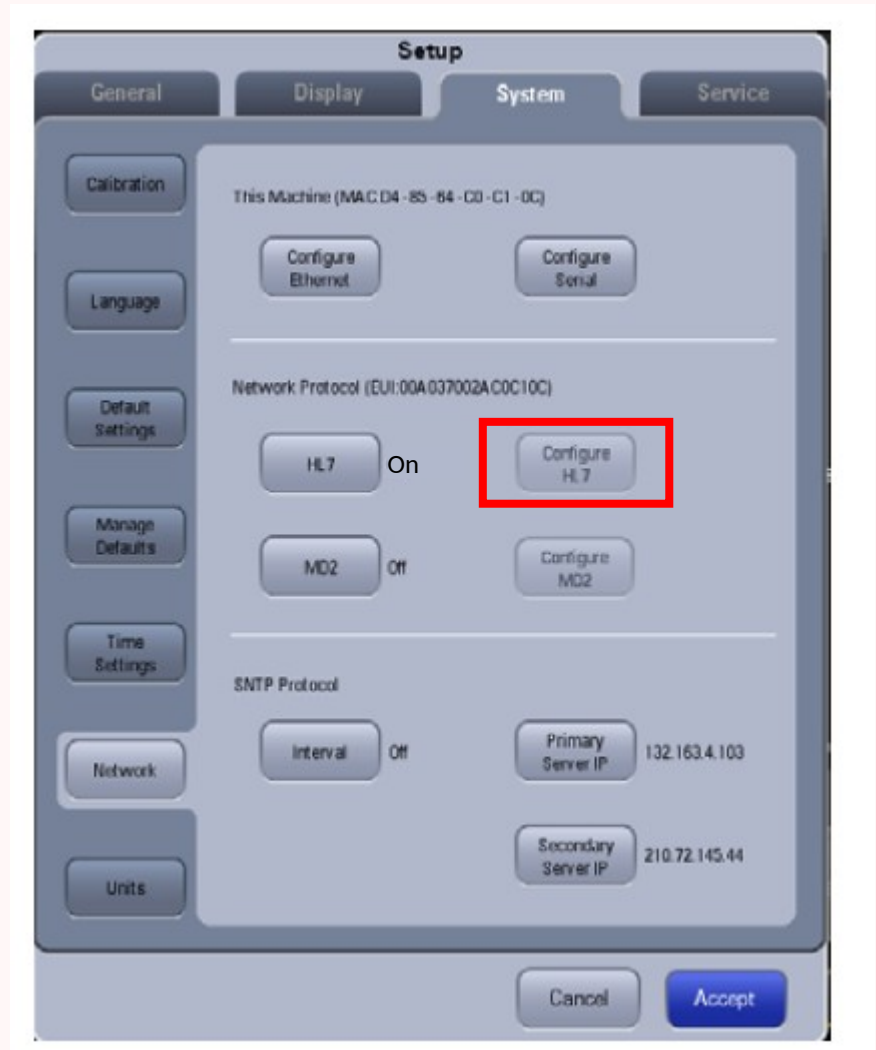
- Go to Setup, then Service and enter password = 789789
- Click on System
- Click on Network
- Set HL7 = on



Configuration: Mindray A3, A4, A5, A7, A8

(Below SW 03.00.00)

- Click on Configure HL7



Configuration: Mindray A3, A4, A5, A7, A8

(Below SW 03.00.00)

- In HL7 Configuration, set the following
 - Interval = 10sec
 - Send Waveforms = off
 - HL7 Compatibility = Most Recent

The screenshot shows the 'HL7 Configuration' dialog box with two main sections: 'Data + Waveforms' and 'Alarms'. Both sections have identical settings for 'Destination Device' and 'Protocol Configuration'.

Section	Destination Device	Protocol Configuration
Data + Waveforms	Destination IP: 192.168.23.200	Interval: Off
	Port: 1550	Send Waveforms: Off
		Set HL7 Compatibility: Most Recent
Alarms	Destination IP: 192.168.23.200	Send Alarms: Off
	Port: 1550	Send Alarms Ack: Off
		Set HL7 Compatibility: Most Recent

At the bottom right, there are 'Cancel' and 'Accept' buttons.

Configuration: Mindray A3, A4, A5, A7, A8

(Below SW 03.00.00)

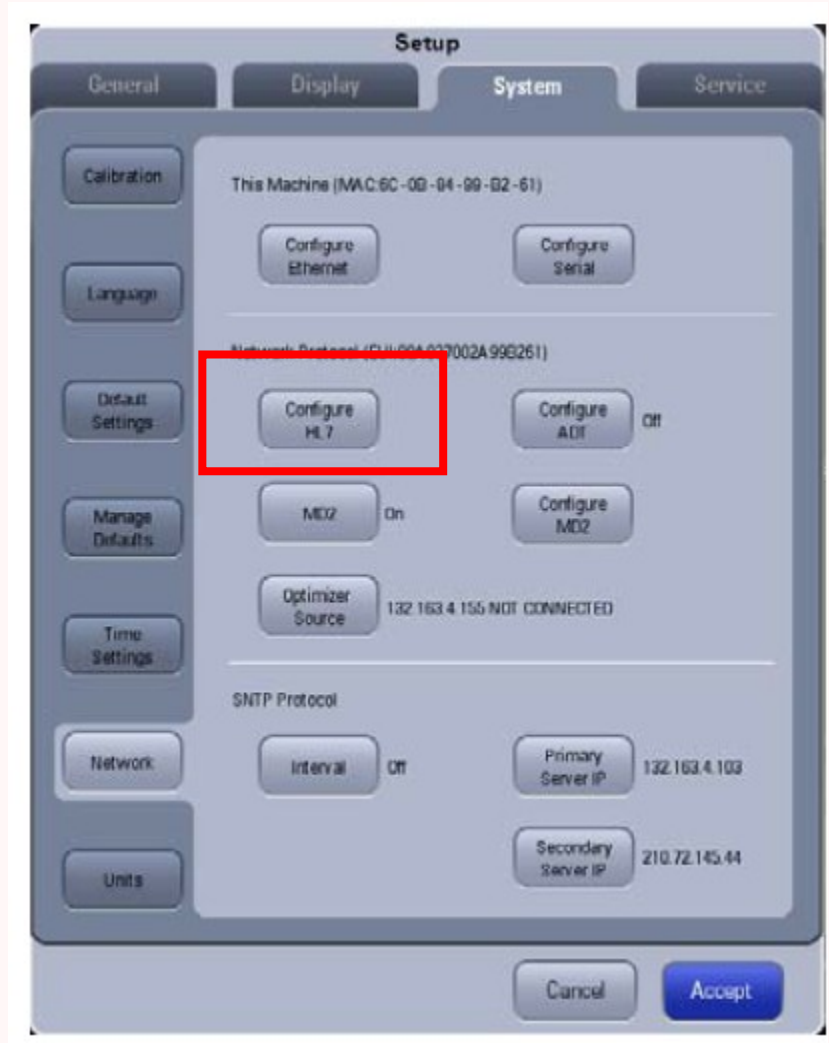
- In Serial Configuration, set the following
 - Protocol = HL7
 - Baud Rate = 115200
 - Stop Bit = 1
 - Parity = None
 - Interval = 10 sec



Configuration: Mindray A3, A4, A5, A7, A8

(SW 03.01.00 or higher)

- Go to Setup, then Service and enter password = 789789
- Click on System
- Click on Network
- Click on Configure HL7



Configuration: Mindray A3, A4, A5, A7, A8

(SW 03.01.00 or higher)

- In HL7 Configuration, set the following
 - Interval = 10sec
 - Send Waveforms = off
 - HL7 Compatibility = Most Recent

The screenshot shows the 'HL7 Configuration' dialog box with two main sections: 'Data + Waveforms' and 'Alarms'. Both sections have identical settings for 'Destination Device' and 'Protocol Configuration'.

Section	Field	Value
Data + Waveforms	Destination Device	
	Destination IP	192.168.23.200
	Port	1550
	Interval	10sec
	Send Waveforms	Off
	Set HL7 Compatibility	Most Recent
Alarms	Destination Device	
	Destination IP	192.168.23.200
	Port	1550
	Send Alarms	Off
	Send Alarms Ack.	Off
	Set HL7 Compatibility	Most Recent

At the bottom right of the dialog are 'Cancel' and 'Accept' buttons.

Configuration: Mindray A3, A4, A5, A7, A8

(SW 03.01.00 or higher)

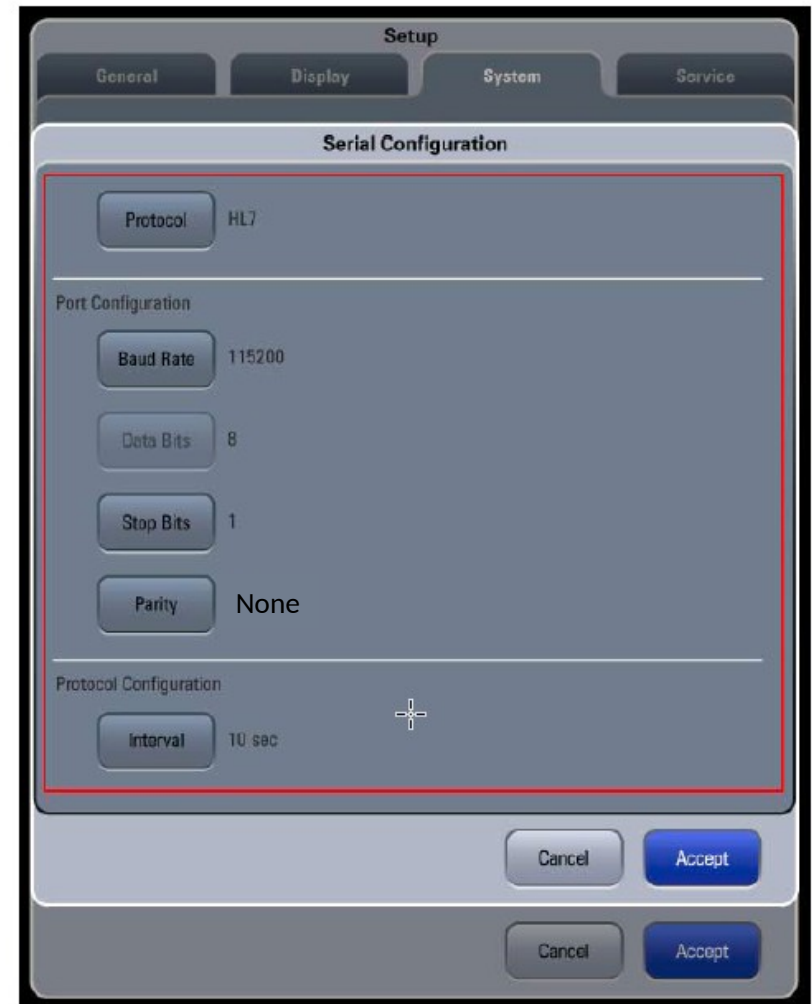
- Click on Configure Serial



Configuration: Mindray A3, A4, A5, A7, A8

(SW 03.01.00 or higher)

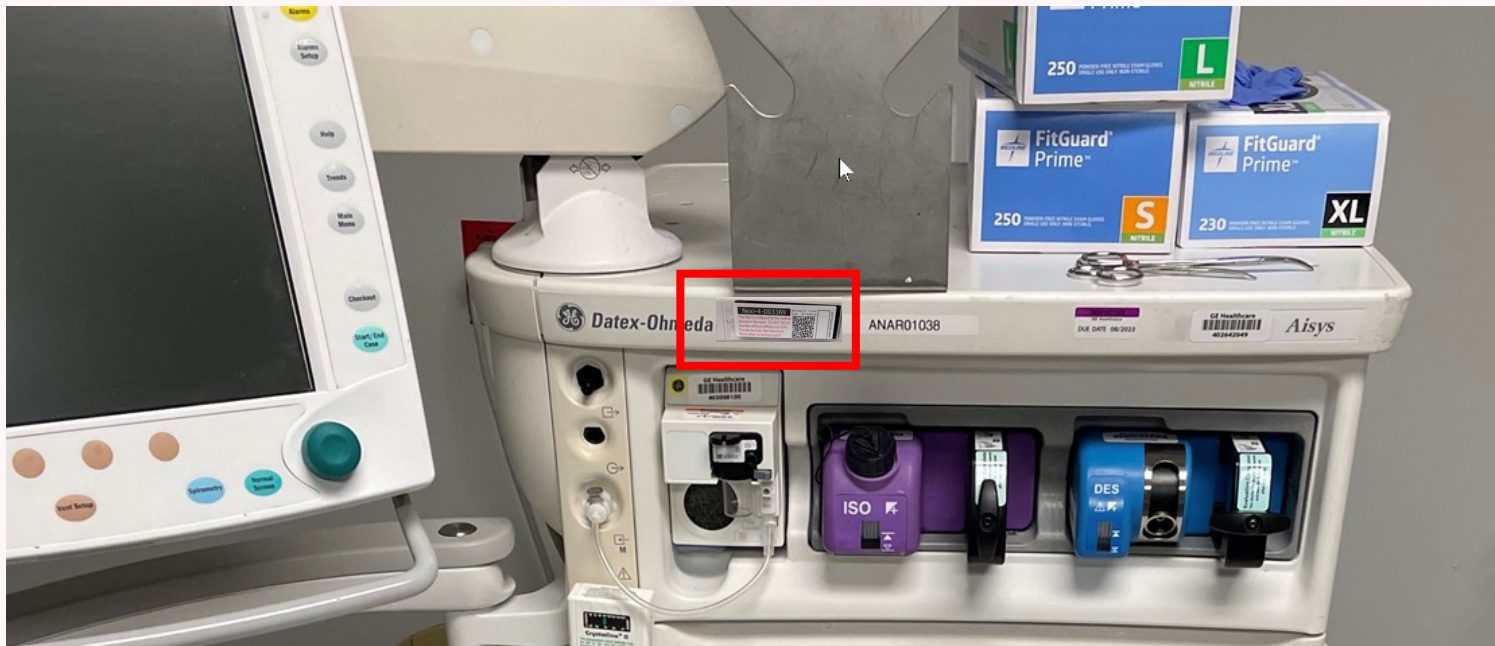
- In Serial Configuration, set the following
 - Protocol = HL7
 - Baud Rate = 115200
 - Stop Bit = 1
 - Parity = None
 - Interval = 10 sec



Optional: QR Tag

If the package contains a QR Tag, affix it to a visible location on the medical devices. Users scan the QR Tag to pick up the vital sign data.

WARNING: The QR Tag has a Nexi Name, which must match the Nexi on the medical devices all the time. A mismatch would lead to pulling wrong data.



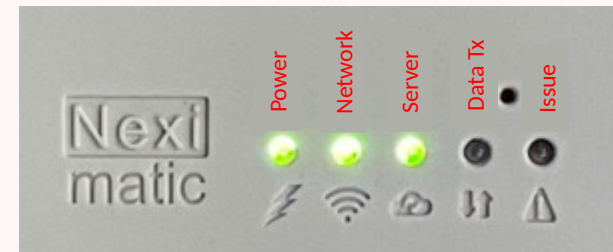
Testing: Nexi-6

- Post installation check

- Nexi is properly mounted
- Power connection to the Nexi
- Cable connection between the Nexi and medical devices
- Medical device settings if specified
- Network cable connection if using Ethernet
- All cables and cord are properly managed

- Observe

- Power light should be solid green.
- Network light should be solid green.
- Server light should be solid green.
- Data Transmission may blink blue.



Testing: Nexi-6

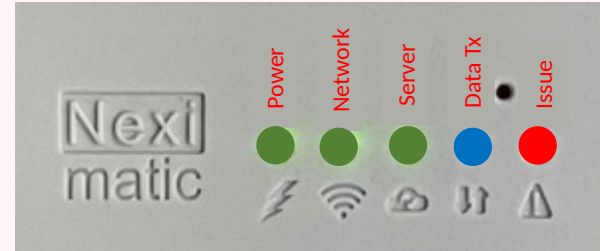
■ Testing

- Turn on the medical devices
- Put a Pulse Ox sensor on you
- When measurements are on the medical devices, scan the QR code on the Nexi and follow the instruction to review the live vital sign data.

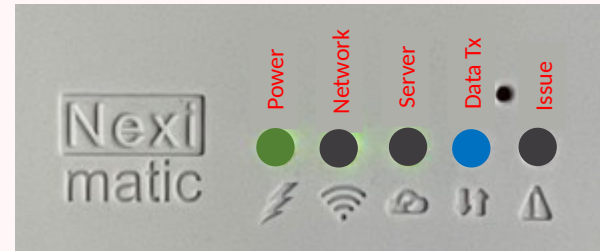


Information: Nexi-6

- Starting a reboot sequence.

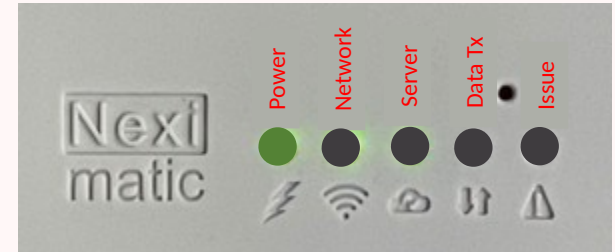


- During a reboot sequence.
- When the blue light goes off, operation begins.

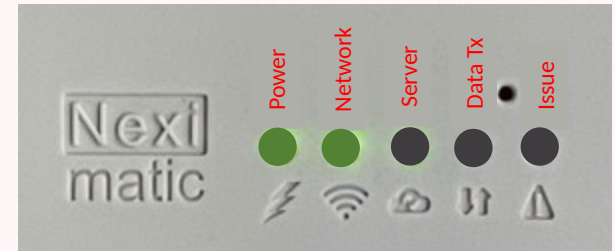


Information: Nexi-6

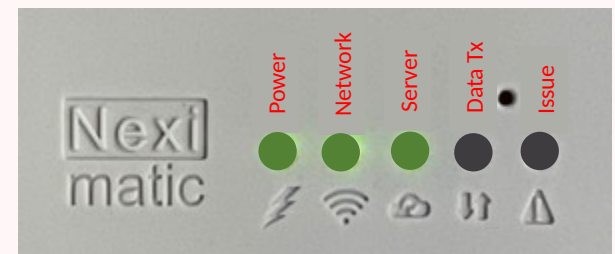
- Operation begins and Power light stays on.



- Regardless of WIFI or Ethernet, when there is a network connection, the Network light goes green.



- When the Nexi can reach its server, the Server light goes on green. This Server light has to be on.



Information: Nexi-6

- When there is any issue the Issue light goes on red. The Nexi would attempt a sequence of recovery. The recovery may involve a reboot.

