MEDiC-NC™
Mobile Examination Device Case
User Guide

Document Part # DOC-UG-MEDIC-NC
Version 1.1
8/1/2022

Copyright 2022 Iron Bow Technologies

Copyright © 2022 Iron Bow Technologies
All Rights Reserved.
Specifications subject to change without notice.

For general inquiries, contact:

Iron Bow Healthcare Solutions

14370-B Sullyfield Circle, Chantilly, VA 20151
Toll: 800.338.8866
Tel: 703.279.3000
www.ironbowhealthcare.com

For support, contact:

Iron Bow Client Service Center

Toll: 833.476.6269 (833.IRONBOW)

Contents

Figures **4**
Introduction **5**
System Description **6**
System Layout – Top Section 6
System Layout – Base Section 7
Power Connection 8
Connecting to an External Computer 8
Using the Horus Scope **9**
Horus Scope Functions and Components 9
Basic Horus Scope Operations 10
Changing Horus Scope Lens Attachments 11
Using the Speakerphone **12**
Powering On Speakerphone 12
Performing Basic Operations 12
Specifications **13**

Figures

Figure 1. MEDiC-NC General View 5
Figure 2. Top Section of Case 6
Figure 3. Connecting the Stethoscope Charging Cable 6
Figure 4. Base Section Storage 7
Figure 5. Removable Cover Plate 7
Figure 6. Examination Equipment 7
Figure 7. 110 volt AC Power Connector 8
Figure 8. Connecting to a PC USB “A” Port 8
Figure 9. Connecting to a PC USB "C" Port 8
Figure 10 - Horus Scope Front View 9
Figure 11 - Horus Scope Power Swicth 10
Figure 12 - Horus Scope Controls 10
Figure 13. Speakerphone 12

Copyright 2022 Iron Bow Technologies

Introduction

The Mobile Exam Device Case (MEDiC-NC) from Iron Bow Healthcare Solutions equips Emergency Medical Services (EMS), first responders and others with the essential tools to conduct a telehealth consultation with specialists located remotely at a clinic, hospital or other medical facility using an external laptop. (Not supplied)

The MEDiC-NC is built for portability and durability and includes, a noise cancelling speakerphone for improved audio quality when used with an external laptop running a videoconferencing application, a handheld digital Horus Scope system, which includes a general purpose examination lens. Additional lens attachments for otoscopy and dermatology are available, and the case has been designed to securely house them in the base section.

Figure 1. MEDiC-NC General View

You may purchase extended support for the MEDiC-NC, which is offered through the Iron Bow Client Service Center, a U.S.-based, ISO 9001 service facility providing support 24x7x365 days a year. Extended support includes optionally available product maintenance, service desk management, incident and problem management, asset and configuration management,

System Description

The primary components of the MEDiC-NC include:

- An embedded speakerphone for high quality audio
- Integrated power supply for powering and charging all embedded and optional system devices
- Cable management system/connecting hub for all peripherals

The following medical devices are integrated in the MEDiC-NC platform:

- Handheld digital HD scope system (Horus Scope) with a general lens for medical examinations.

The following medical devices are available as options from Iron Bow.

- Otoscope and Dermascope lenses for the Horus Scope.
- EKO Blue Tooth Electronic stethoscope

The MEDiC-NC components are housed in a customized, hard case and is designed for connection to an external client supplied laptop providing video connectivity to remote location(s)

System Layout – Top Section

The top section of the case provides secure housing for an EKO electronic stethoscope (model: COR201-3M, or similar). The electronic stethoscope is connected via Blue Tooth to an external PC running a suitable application.

Figure 2. Top Section of Case

The top section of the case is designed specifically to house the EKO Electronic Stethoscope, with two Velcro straps to hold it in the correct position. When storing in the case, a charging cable is incorporated into the cutout which should be connected to the Stethoscope as shown below:

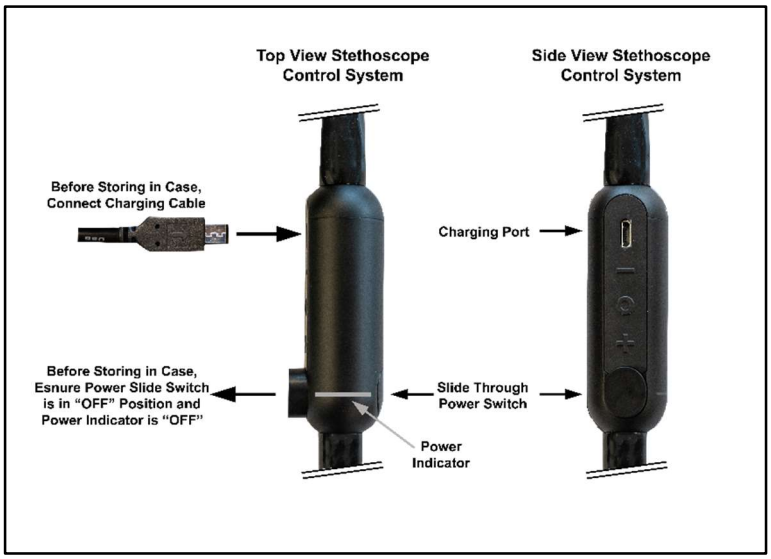

Figure 3. Connecting the Stethoscope Charging Cable

System Layout – Base Section

The base section of the case houses the power supply/charger, connecting cables, speakerphone and medical devices. The power supply and internal cabling are fitted in a protective enclosure, with the speakerphone mounted above. Included in the storage area of the case is a storage pouch for cables and other accessories.

1. Power supply, charger and internal cabling beneath protective cover
2. Speakerphone
3. Storage pouch

Figure 4. Base Section Storage

A removable cover protects the Horus Scope and lens attachments during transport and can double as a work surface.

1. Removable cover/ work surface (Below storage pouch)
2. USB connecting port for external Laptop (See connecting external PC section below)

Figure 5. Removable Cover Plate

The Horus Scope, lens attachments and other examination devices are stored in specific locations below the removable cover.

1. Horus Scope with General Purpose Lens
2. Dermascope lens attachment
3. Otoscope lens attachment
4. Insufflator bulb (attaches to otoscope lens)
5. Ear specula
6. Cables & accessory storage cutout
7. USB Peripheral connector

Figure 6. Examination Equipment

Copyright 2022 Iron Bow Technologies

Power Connection

A power inlet located on the outside of the case is used to charge the system when not in use or as necessary when the unit is being used near a wall power outlet. The power inlet connector includes a rubber cover to avoid ingress of dust and dirt.

Figure 7. 110 volt AC Power Connector

Connecting to an External Computer

The MEDiC-NC is designed for connection to a client supplied external laptop or PC. Supplied with the system is a 6 feet USB A to USB A cable (male to male), plus a USB A to USB C adaptor (female to male) which are used for external PC connection. Care should be taken if longer cables are used as the USB signal may become degraded.

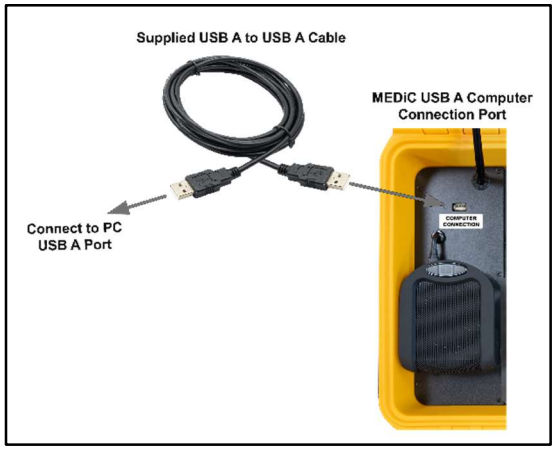

Figure 8. Connecting to a PC USB "A" Port

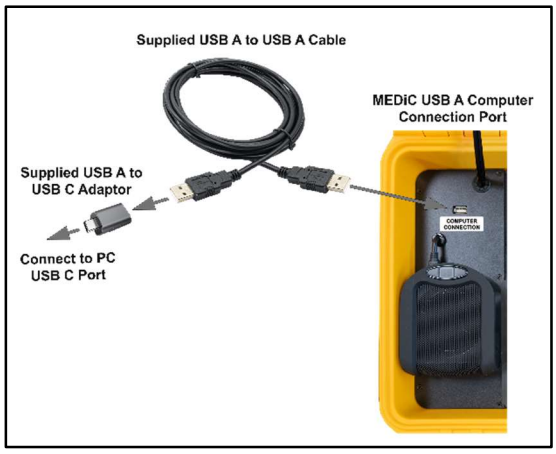

Figure 9. Connecting to a PC USB "C" Port

Figure 8. above, shows standard connectivity to a USB A port on an external laptop where the cable is connected from the top mounted "COMPUTER CONNECTION" port on the MEDiC-NC to a standard USB port on the laptop.

Figure. 9 shows connectivity to a USB C port on a laptop using the supplied adaptor and supplied USB A to USB A cable.

IMPORTANT NOTE: When connecting to a USB C port, it may be necessary to connect the adaptor to the port first and then connect the USB A cable to it. This is often required on USB C Thunderbolt ports but varies from different makes and models of computers. In the event that the system is connected and disconnected many times, this may result in no signal from the Horus Scope, and in this instance it is necessary to power cycle the Horus Scope using the power switch on top of the device. (see Using the Horus Scope section below)

Copyright 2022 Iron Bow Technologies

Using the Horus Scope

Horus Scope Functions and Components

The Horus Scope is used to capture and transmit images and video to a remote consulting clinician through the MEDiC. This section includes a summary of the Horus Scope functions and components, basic operation and troubleshooting tips.

	Description
1	LCD Monitor
2	Picture/Video Mode switch
3	Menu
4	OK: Capture/Enter
5	Decrease brightness
6	Increase brightness
7	Power indicator

Figure 10 - Horus Scope Front View

Basic Horus Scope Operations

To power on the Horus Scope:

- Press and hold the power button at the top of the unit for two seconds. The Horus Scope will start up. Start-up takes about 20 seconds.

Figure 11 - Horus Scope Power Swicth

Once the start-up procedure is complete the Horus Scope screen will display the live video feed captured by the lens currently attached to the unit.

To switch between live video and image capture:

1. Press the **OK** button on the unit to capture images.
2. Press the button to return to live view.

Figure 12 - Horus Scope Controls

Changing Horus Scope Lens Attachments

To remove optical lens attachment from the Horus Scope:

1. Hold the camera in one hand and rotate optical lens counter-clockwise with the other hand until the lens detaches.
2. Gently pull to detach lens.

To add optical lens attachment to the Horus Scope:

1. Hold the camera in one hand and the lens in the other hand
2. Align the ● marks on the optical lens and the camera body
3. Push the lens and the camera together
4. Rotate optical lens clockwise until secure

For more details regarding the Horus Scope features, menu options, operation and care instructions please consult the JEDMED Horus Scope User's Manual, which can be found at: https://www.jedmed.com/pages/horus-scope-manuals

Using the Speakerphone

The speakerphone integrated in the MEDiC-NC system is used to improve the audio quality during video conferencing calls, delivering full-duplex audio with echo cancellation and noise suppression.

Powering On Speakerphone

The speakerphone is connected to the external PC via the USB A cable, as described in the section on connecting an external computer. The speakerphone turns on automatically when the computer is turned on, and turns off automatically when the computer is turned off.

Performing Basic Operations

The speakerphone has the following controls: Mute (center), Volume Up (right) and Volume Down (left).

Calls are initiated and terminated from the videoconferencing software installed on the external computer.

1 USB cable (power and voice transmission)
2 Volume Down
3 Mute
4 Volume Up
5 External headset 3.5 mm jack input (not visible in picture)
6 Loudspeaker
7 Microphone

Figure 13. Speakerphone

To mute the microphone, press the Mute button. When the microphone is muted, the LED light will blink. To unmute microphone, press the mute button again.

Control the volume by pressing the Volume Up and Volume Down buttons. To mute the speaker, press the Volume Down button until no sound is heard from the speaker.

You can connect a headset to the 3.5 mm jack external speaker input located on the connector panel at the top of the unit. Once a headset is connected to the 3.5 mm jack input the internal speaker will be muted and the sound will be heard only through the headset.

Copyright 2022 Iron Bow Technologies

Specifications

Case	
Body	Injection Molded HPX high performance resin
Environmental	Watertight Temperature range -20º F - 140º F (-29º C - 60º F)
Certifications	MIL-STD-810F / ATA 300 / FED-STD-101C
Color	Yellow
Inputs	AC power inlet with integrated cover for charging
JEDMED Horus Scope Handheld Digital HD Scope System	
Resolution	1920x1080p HD
Included Lens	General Purpose Lens (other lenses available)
Light Source	Light Emitting Diode (LED)
Display	3.5 full color LCD
Image Format	JPEG (still) and H.264 (video)
Media Card	Micro SD 2GB (included)
Weight	12 oz.
Focusing Range	5 mm to 30 mm
Speakerphone	
Connectivity	USB cable to Tablet PC via hub (integrated) 3.5 mm connection (for use with a headset instead of integrated speakers)
Power	USB power from Tablet PC via hub (LED will illuminate)
Audio	100% Full Duplex with no attenuation Acoustic Echo Cancelation >40 dB conforms to ITU-T G.167 Line echo cancellation Noise Cancelation >10 dB Low Delay (10msec) Speech processing and echo suppression at 16 kHz sampling rate Bandwidth for speech processing 20-7500 kHz Integrated loudspeaker with volume controls Mute button (with LED Mute indicator) Speech processing and echo suppression at 16 KHz sampling rate
Dimensions	
(L x W x D)	16.20" x 12.70" x 6.60" (41.1 x 32.3 x 16.8 cm)
Weight	
Total System	12 lbs.

2303 Dulles Station Boulevard, Suite 400
Herndon, VA 20171

Toll: 800.338.8866
Tel: 703.279.3000

www.ironbowhealthcare.com