

R Series®

In-service Script



ZOLL®

Device

Color Coded Operating System

Start with the **mode selector**. Three different colored coded areas.

- **RED** for Defib,
- **GREEN** for Pacing,
- **GREY** for monitoring.

Setup on Code Cart

- An Adult OneStep™ Complete Electrode should **ALWAYS** be connected to the therapy cable (if applicable).
- This ensures “Code-Readiness” and allows the device to pass its Automated Daily Test.



MODE
SELECTOR

Power LED lights

- 1 Battery Indicator: ● GREEN=Charged, ● AMBER=Charging
FLASHING=Problem (Check battery)
- 2 A/C Power Indicator ● GREEN=Device is plugged in
- 3 No lights=Not plugged in (Check, plug, check cord)

Code Readiness Indicator

- ✓ **GREEN Check mark**= Code Ready
- ✗ **RED “X”**= Not Code Ready

Self Test

Every 24 hours, the device will do a 100 point test and will display a ✓ if the device is ready for use, or ✗ if it failed a part of the test.

Failed Test

The device will display “Readiness Test Failed” on the screen and will highlight what needs to be corrected.

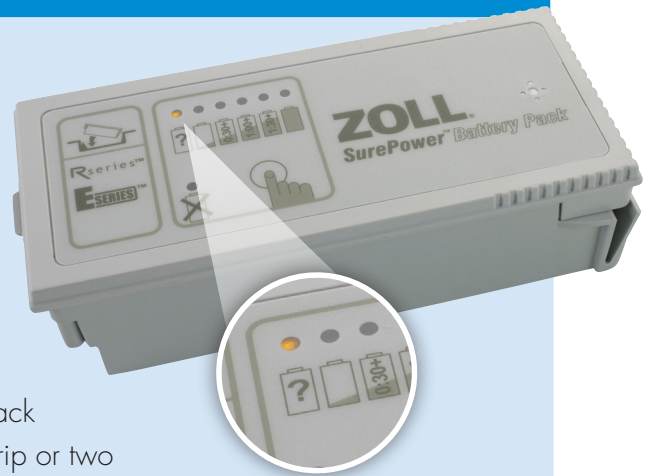
- These are usually easily fixable problems (No pads plugged in, no battery, no A/C power, etc).
- If the device reads “DEFIB FAILURE”, contact Biomedical Engineering.
- The device will not prevent a user from attempting therapy when ✗ is displayed

Device

Battery

Indicator lights show 30 min. increments for total of 4 hours of runtime.

- If **orange light** appears on "?" section of battery, contact Biomedical Engineering



Recorder Tray

Press button to open door, insert the paper with the black arrow facing towards the back of the device. Pull a strip or two forward and let paper drop. Then close the door on top of the strip.

Cables/Caps

- 1 Electrotherapy Cable – (Bolted down)
- 2 SpO₂ (Blue/If Applicable)
- 3 3 Lead ECG/One Step Cable
- 4 EtCO₂ (Yellow/If Applicable)
- 5 NIBP- Non-Invasive Blood Pressure (Black/If Applicable)
- 6 Cable Compartment for all cables attached

One Step Cable

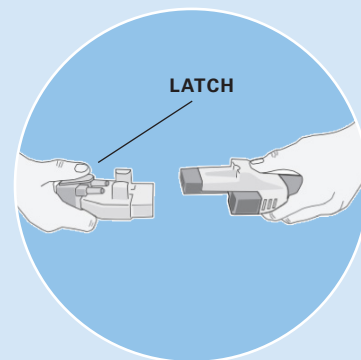
Comes out the side and is 8 feet in length.

Using the Device

Everything is pre-connected and ready for use.
This means it is ready for a **CODE READY**

Connecting and Disconnecting Pads

Locking lever holds pads and cable into place. Press on the far end of the lever to release.



Using the Defibrillator Pads

Preparation

It is important to **prepare the skin as best as you possibly can**. Dry the patient's skin, clip excess hair, and ensure surface for pad placement is clean.

Placement

Used in anterior and posterior positions and have a built in 3-lead (if Applicable). "Press and roll" the pads into place.

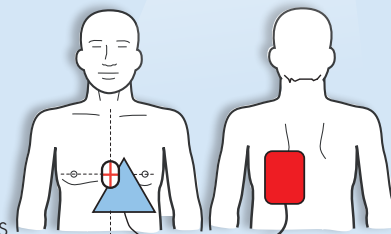
- 1 Posterior Pad (**RED**) Place 1st
- 2 Anterior Pad (**BLUE**) Place 2nd

RED is placed posterior **sub-scapular** to the left.

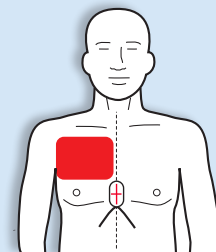
BLUE is placed with the **CPR sensor- Mid Sternal** in the center of the sternum

Pediatric Pads: 0-8 Years and >25kg (55lbs)

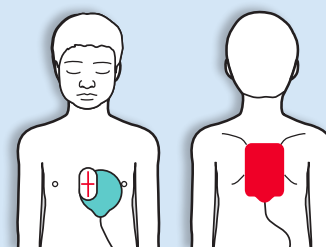
When Pediatric OneStep CPR pads are connected, the R Series will automatically decrement to a starting energy of 50J and "Pediatric" will be displayed on the screen.



PLACEMENT



ALTERNATE PLACEMENT



PEDIATRIC PADS

Integrated 3-Lead

The OneStep CPR Electrode (Adults Only) has an integrated 3-Lead for pacing needs. No need to attach a separate cable to your patient.

If attempting to Pace in A/A placement, it is recommended to attach a separate 3-Lead when using the OneStep Pads as the ECG signal may be faint.

Converting To Manual Mode

(R Series Plus Model ONLY)

Depending on how your facility configures the device, you can convert the R Series Plus in to Manual Mode by one of the two ways:

- 1 Press the Manual Mode Key (bottom left corner)
- 2 Press the Manual Mode key (bottom left corner), and then the Confirm Key (bottom right corner)

Defibrillation Mode—Red Zone

(Simulator should be turned to “VT HI”)

Can be used in Advisory Mode or as a Manual Defibrillator

Advisory Mode (AED)

- 1 Turn to **DEFIB** mode,
- 2 Press “**ANALYZE**”,
- 3 Upon detecting a shockable rhythm, the device will charge and once ready, the “shock” button will illuminate Red. Press shock when ready.

Auto Escalation—The device will increase the energy automatically unless the user selects the energy themselves.

- Energy will start at **120J**, then to **150J**, then to **200J** for Adult Patients
- Energy for Pediatrics starts at **50J**, then to **70J**, then to **85J**

Energy Select Key—Changes energy level

Note: if you manually change the energy, you will have to manually change it again for the next energy level/shock.

Manual Mode- To do a Manual Defibrillation

- 1 **ENERGY SELECT**
- 2 **CHARGE**
- 3 **SHOCK**



CPR Sensor, Compressions, and Feedback

CPR Sensor: Is built in to the anterior pad.

Real CPR Help™: Lets clinicians know how they are doing with their compressions based on RATE, DEPTH, RELEASE, and a PERFUSION PERFORMANCE INDICATOR.

Idle Timer: Will display after 3 seconds on inactivity in the "Purple" Zone of the monitor.

Rate and Depth Numerical Values: Will display once you start compressions.

Release Bar: Checks the status of your release and speed of recoil off the chest. Full Bar=Great!

Diamond/PPI (Perfusion Performance Indicator): Mimics perfusion pressure and will begin to fill.

What we want to see:

- 1 Rate (compressions per minute) 100-120 CPM
- 2 Depth: At least 2.0-2.4 inches for adults
- 3 Recoil: Release Bar needs to be full

Scenario 1

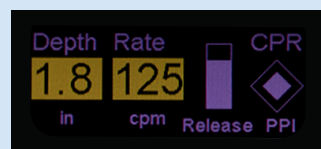
- Not doing compressions to proper rate
- The device will begin to beep. Match the metronome to get back to the right rate of 100cpm.

Scenario 2

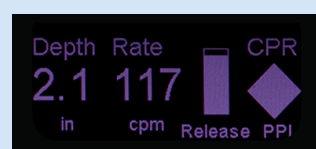
- Not compressing deep enough
- The device will say "Push Harder" to get you above 2 inches in depth.

Positive Confirmation: Once you have sufficient depth, the device will say "Good Compressions".

Pediatric Feedback: Will only display Rate and Depth- you will not hear the "Push Harder" voice prompt.



Inadequate compressions



Good compressions

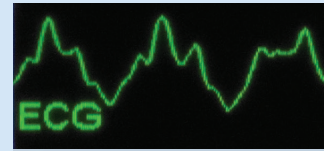
-----BLS USERS ARE NOW EXCUSED FROM TRAINING-----

See-Thru CPR® Technology

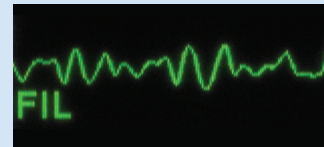
(Simulator is Changed to VF Artifact)

Two Wave Forms

- 1 Raw ECG – Same waveform with artifact
 - 2 Filtered ECG – Internal algorithm that filters out any artifact allowing you to see the underlying rhythm.
- As you are doing compressions, you can analyze the rhythm without letting off the chest.
 - Allows you to charge **WHILE** doing compressions.



Unfiltered ECG signal during CPR



Signal filtered by See-Thru CPR

Pacing-Green Zone

(Simulator is changed to "3rd")

- **Leads** are built in to the pads (Only OneStep Complete Pacing Pads)
- **Pacing zone** is labeled **GREEN**
- **Dials:** Two dials
 - 1 Output
 - 2 Rate
- **Default Settings:** 0mA and 70PPM
- **What we see:** Downward pacing markers
- **How can we see capture?:** We should see Pacer Marker followed by widened QRS.
- **How do we confirm capture?** Check the pulse of the patient.
- **Capture** 40-80mA. (Good starting point)
- 10% **above** the threshold.
- **Underlying Rhythm:** Press and hold the 4:1 button at the bottom of the screen
- **4:1 Button:** Suppresses the pacer to 1/4 the set rate allowing us to see the underlying rhythm w/out losing capture.



Cardioversion- (Synchronized Cardioversion)

(Simulator should be in "AFIB")

We need to be Synchronized

Dial: Should be in the RED Zone (Defib)

Sync: Press Sync button which is located to the far right of screen

Arrow: Wait to see SYNC indicators on top of the "R" wave

Charge and Shock – When we shock during cardioversion, we need to "Press and Hold" until the device internally syncs with the R wave and delivers a shock.



Monitor Mode

Lead Key: Can change the lead by pressing lead- Circulates through Lead III and PADS

Size Key: The gain of the trace. Makes the waveform bigger or smaller.

Alarm Suspend: Alarms a default to be "Off". (Unless otherwise configured)

- 1 **Alarm Off** – Press and hold for 3-4 seconds and the alarm will be SILENCED until other wise activated by the user.
- 2 **Temporary Silence** – Press alarm suspend and it will be temp disabled (15 for lethal and 90 for non-lethal).
- 3 If the patient is in VFib, Vtac, or Asystole, the alarms will automatically sound after 5 seconds.

Recorder: Starts or stops the paper recorder at anytime.

Soft-keys

- 1 **Options Includes:**
 - **QRS Vol On:** Turns tone on or off.
 - **Low Bright:** Adjust Screen Brightness.
 - **Traces:** Waveforms you can bring up. Options — Traces — Trace 2,3.
 - **More:** Reveals "Clock Set" to change time the Defib displays.



Monitor Mode

2 EtCO₂

- Place single use patient airway adapter in to place
- No need to **ZERO** between each use
- No need to warm-up
- Everything happens automatically... "Plug and Play"
- To Bring up the waveform: Options — — — Traces — — — Trace 3 — — — EtCO₂
- **NIBP**: Param — Setting — Auto Interval (set time for Auto Interval)



3 Code Marker: Varies with which zone you are in (Defib, Pacer, Monitor)

- Allows you to time stamp different clinical actions and retrieve later.

4 Report Data: Transcript of the entire code start to finish.

- **Print Chart**: All codes start to finish, including waveforms during the code.
- **Print Range**: Select and print specific event.
- **Print Log**: Time stamp of everything that has happened since the device has been on for the current code and previous codes that are stored.
- **Test Log**: Holds the last 1000 tests performed and can be retrieved here.

5 Alarms: Set highs and lows for different parameters.

- The alarms will be defaulted back once the device is off for 8 seconds.

NIBP Key (If purchased)- One NIBP reading. Press again to abort reading.

- Press and hold for 2 Seconds for Auto Interval reading

Data Transfer and Test Log

It is very important to transfer the code data after an event as you have a limited amount of time (30 min to 3 days per hospital configuration) before the R Series will erase all content. Follow these steps for WiFi Transfer or Compact Flash Card Transfer:



WiFi Transfer

- Monitor Mode — — — Report Data — — — Transfer Mode — — — Report to WiFi

Compact Flash Card

- Monitor Mode — — — Report Data — — — Transfer Mode — — — Report to Card

Test Log

The R Series can hold the last 1000 Tests performed (manual or automatic) and can be reviewed/printed out for verification at anytime. Test Log will never become “full” as once the memory reaches 1000 and a new test is entered, the oldest test will be deleted to make room. Follow the steps to review the Test Log:

- Monitor Mode — — — Report Data — — — Test Log