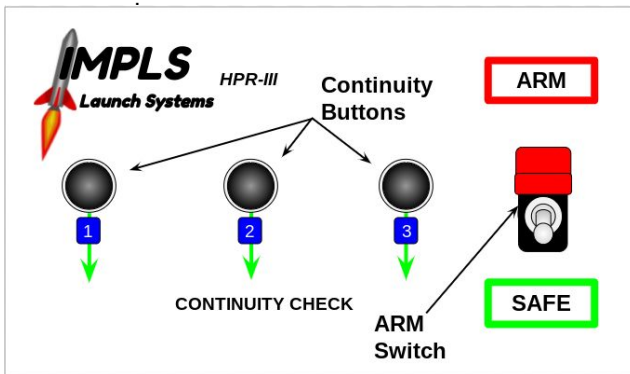# IMPLS Launch Systems

The *HPR-III* is a simple launch controller providing Arm lockout and warning, remote and local ignitor continuity test, and single button launch current for three pads. This manual explains how to use the controller in accordance with the safety codes.

Setting Up

The *HPR-III* controller is designed to be a wire spool to stow your extension cable, launch leads, and battery hookup. Unwind your extention cable and all of your launch leads and connect your
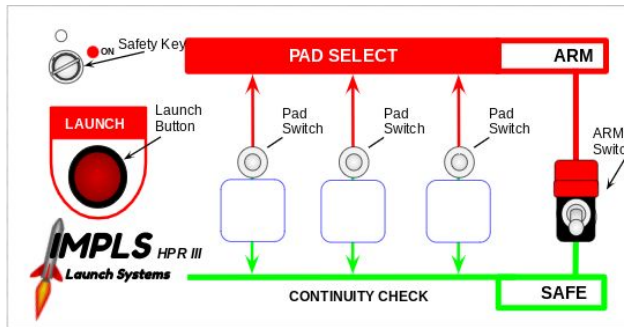

At this time the Arm switch should be set to safe, and the red paddle in the down position to indicate Safe. Distribute your launch leads to the launch pads.

You may test system function by shorting (connecting together) one or more launch lead alligator clips. Test by pressing the Continuity Buttons.

NOTE: Continuity check will work with the battery connected. The connection and state of the Controller does not affect Pad continuity checks at the Controller.

Walk the extension cable back to your LCO table. Plug it into the Console. You will now test remote continuity to make sure that everything is ready for use.

Insert the Safety Key and rotate to the ON position. The ARM switch should be SAFE and the paddle down to indicate Safe. Toggle the Pad Switches toward CONTINUITY CHECK. If it beeps then you are ready for operation.

NOTE: Remote continuity check will only work when Console is set to Safe.

Preparing for Launch

The launch leads may be clipped onto a rocket igniter. They are not connected in any special order, but you must make sure that the clips do not touch together when connected.

Connect launch leads to the rocket on the pad. Test continuity by pressing the continuity button.

When your rocket is ready, you may Arm the Controller by flipping up the red paddle and flipping the Arm switch to the ARM position. **If the Launch Arm siren starts, switch the Arm switch back to Safe** and yell at the LCO for the Console to be set to safe. When the Console has been set to Safe, then you may Arm the controller. Walk back to the LCO table.

From the Console, with the Safety Key set to ON, toggle the Pad Switch toward CONTINUITY CHECK to check continuity.

To select a rocket for launch, the LCO will flip the Pad Switch forward (toward PAD SELECT). Call out the launch, flip up the red paddle and flip the Arm Switch to ARM. Count down the launch, and press the Launch Button to launch the rocket.

NOTE: You may select one, or any combination of pads to launch.

Safe The Controller

When you have launched the rocket(s) flip the Console Arm Switch to SAFE by flipping down the red paddle. It is not necessary to switch the Safety Key to OFF, but the RSO will advise on this practice. Call out "Pads are Clear, you may recover your rockets!"

Walk to the controller and Safe the Controller by flipping down the red paddle. The system is ready for the next rocket.

More About the *HPR-III* System

We designed the system to fit neatly into the box we delivered to you. Please consider the box part of the system. You may use the box for several years if you are careful not to let it get wet. It also makes a convenient stand for your controller pad box.

The HPR-III is made up of durable electro- mechanical parts housed in strong UV resistant polypropylene cases. While the system is water resistant and should stand up to a light rain, it is not waterproof! If your *HPR-III* gets wet, please take care to swab it dry and let it dry in the sun before stowing it away. This reduces the risk of corrosion in the switches.

The launch relays are rated for 30 amps at 12 vdc. The 10 amp thermal breaker in the controller protects the 12v power source from overload in case of a short circuit. We have given careful thought to the design of this system so that it is difficult to use it in an unsafe fashion. When you observe rocketry safety rules and **only use this product to launch rockets**, you will enjoy many years of reliable service from this controller.

Thank You!

IMPLS Launch Systems

54321@IMPLSLaunch.com

More About the HPR-III System
The Console (ethernet) cable is a standard cable that you can replace for less than $30. We recommend that you purchase an additional cable to carry as a spare. We recommend 100' and 300' cables for use with this controller.

Advice to the Launch Control and Range Safety Officers.
The Dual Safety Lockout system on IMPLS controller systems is based on two Arm/Safe switches, one on the Controller and one on the Console. The Safety key disables the Console, so it is a third lockout. Flipping the red paddles down for Safe is a good visual indication that the system is Safe. Remote continuity checks are disabled when the safety key is switched to off.

Please be aware that the Safety Key switch, more than the other switches, may suffer significant wear with frequent use.

Under the safety rules we feel it is not a requirement to remove the safety key, but officers shall make their own determination as to the best practice use of the Launch Controller on their range.

Thank You!

TroubleShooting
1. To test battery hookup and charge, clip #1 leads together and press continuity button to test. This will sound the beeper even in the Console is off or not connected.
2. Check that the 10a circuit breaker has not tripped. It is just below the power plug. If the white button is sticking out ~ ½" then it has tripped. Press it in to reset.
3. If no continuity and Power source connected, the battery may be discharged or malfunctioning.

We recommend:
- You should charge the Power Pack or Battery before every launch.
- You place the Power Pack in shade or cover it with it's case to avoid overheating.
- In cold weather, it may be necessary to warm the battery in your pocket between flights to maintain charge current.
- You should carry a spare ethernet cable.

Excerpt from the NAR Rocketry Safety Code

My launcher will be 1500 feet from any occupied building or from any public highway on which traffic flow exceeds 10 vehicles per hour, not including traffic flow related to the launch. It will also be no closer to personnel than:

A-D 15ft	E-G 30ft
H 100ft	I 100ft
J 100ft	K 200ft

Warranty: IMPLS Launch Systems provide a 90 day warranty for parts and workmanship. If you identify any defect with our product, please email thomas@IMPLSLaunch.com or call 575-223-8945 and ask for Thomas or Gloria. We will address any issues and answer any questions.

We also invite your feedback, suggestions, and product ideas. Share your thoughts to 54321@IMPLSLaunch.com

Thank You!