



Flash Unit Instructions

The *FlashTiming* Flash Unit is designed to work with the Pyro Bright Flash Timer. The Flash Unit produces a bright burst of light when the pistol is fired at the start of a race. A microphone inside the Flash Unit senses the gunblast and triggers the flash. A Pyro Bright Flash aimed at the Flash Unit easily detects the flash from several hundred feet away and starts the timer for the race.

The Flash Unit has the following features on the rear of the unit.

- On/Off Switch
- Test Push Button/Ready Indication
- Sensor Holes

Directions for Use

1. Turn on the unit. The unit is ready when the red light (ready indicator) appears on the rear of the flash.
2. Position the unit such that there is an unobstructed visual path between the unit and the Pyro Bright Flash. Place the unit a short distance (up to 7 feet) from the starting device and orient it so that the sensor holes on the lower-rear of the unit will have a clear path for the sound wave to reach the Flash.
3. Aim the Pyro Bright Flash at the unit. The Pyro Bright Flash works up to 300 feet away, provided there is a clear line of sight between the Pyro Bright Flash and the Flash Unit. In a typical situation, the Pyro Bright Flash is situated in a press box and the Flash Unit is located at any one of the 4 four starting position around the track.
4. Fire the starting pistol. This triggers the Flash Unit which ensures that the Pyro Bright Flash starts the timer for the race.
5. Wait for the red light to turn on before starting the next race. The Flash Unit requires a few seconds to recharge between flashes. Verify that the read light is on before each race. This indicates that the batteries are charged and the unit is ready to go.



FlashTiming Flash Unit Mounted on Pan/Tilt Head



Test the Unit

You may test the flash and verify that the Pyro Bright Flash has line of sight to the Flash Unit by pushing the ready indicator/test button. The Pyro Bright Flash will buzz if it picks up the flash. This feature is useful for testing the timing system readiness. We recommend you test the system and check the signal reception whenever the starting location is changed.

Starting Devices and Ammunition

The Flash Unit works with most starting devices including the Pyro Bright Flash starter, .32 caliber and .22 caliber pistols. The Flash Unit has shown to be very reliable when used with a .22 caliber starting pistol using .22 ammunition and even crimps. This provides an economical alternative to the high cost of the Pyro Bright Flash shells and .32 ammunition.

Mount the Flash Unit

The Flash Unit can be mounted in several ways. The most convenient of these is on the *FlashTiming* Starter Stand with the optional Pan-Tilt Head. Using the unit this way allows everything to be contained in one package that is easily rolled from starting station to starting station. The Pan-Tilt Head is then easily pointed in the direction of the Pyro Bright Flash. The Flash Unit is about 8 feet above the ground when mounted on the *FlashTiming* Starter Stand

A second method is to use the *FlashTiming* Flash Tripod. The tripod is lightweight and the Flash Unit screws onto the top. It places the Flash Unit about 7 feet above the ground. The tripod weighs less than 5 pounds and is easily moved to different starting locations. On windy days, the tripod will need to be secured to prevent being blown over.

A third method is to hold the Flash Unit in the opposite hand as the starting pistol and orientated so that the flash will project in the direction of the Pyro unit.

Batteries

The Flash Unit requires two AA batteries for operation. The batteries are located in a compartment accessed from the side of the unit. A sliding cover can be removed without tools. The battery polarity is marked on a label inside the compartment. Alkaline cells are recommended. These should last at least for the duration of most competitions with fewer than 100 starts. A good indicator of the battery life is to measure the time for the unit to recover from one flash until the ready light is lit. Fresh batteries will generally accomplish this in about six seconds. When the time required exceeds 8 seconds it is recommended that the batteries be replaced.

Trouble Shooting

The Flash Unit has proven to be very reliable at capturing the start of a race and triggering the timer in the Pyro Bright Flash. Instances when the Pyro Bright flash did not start are usually a result of improper use. Here are some situations to avoid which may cause the Flash Unit not to go off:

1. There is an obstacle between the Flash Unit and the starting pistol. The flash is set off by the acoustic energy created when the starting pistol is fired. If there is an obstacle between the two, not enough energy reaches the Flash Unit to trigger it. The starter needs to be positioned near the flash with a line of sight between the pistol and the Flash Unit and a line of sight between the Pyro Bright Flash and the Flash Unit.
2. The Flash Unit is turned off: Make sure the Flash Unit is turned on. The flash will run for 4-5 hours with a fresh set of batteries, so it is not necessary to turn the flash off during a meet. Some starters chose to turn off the flash when moving the starting stand since the flash is sensitive to bumps when moving. Be sure that it is tuned back on when the new starting position is reached.
3. The starter fires the pistol when the Pyro Bright Flash is not aimed at the flash: There needs to be a way for the person aiming the Pyro Bright Flash to signal to the starter that they are ready. In most situations, this can be accomplished this with a flag or a hand wave.
4. Someone obstructs the line of sight from the flash to the Pyro Bright Flash just as the pistol is fired and the Pyro Bright Flash does not register the flash.
5. Camera flashes from the audience set off the Pyro Bright Flash: This can cause a conflict if someone in the line of sight of the Pyro Bright Flash snaps a picture at the start of the race. It is only a problem before the gun is fired. After the Pyro is running, flashes will not affect it.
6. The ammunition is a dud: The ammunition produces enough sound for the runners to start but not enough for the flash to go off.

Most of these situations can be avoided by reviewing the procedures with the starter and Pyro Bright Flash operator before the start of the meet. Regardless, there should be either back-up timers or a method in place to recall the runners if the timer does not start.