



FireFly Wireless Firing Module


Patent Pending

Operating and Safety Instructions
- FOR PERSONAL USE ONLY -

IMPORTANT SAFEGUARDS

Definitions

Whenever used, the following items identify safety and property damage messages and designate a level of hazard seriousness.

 - This is the safety alert symbol. It alerts you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER - Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury. Usage of this signal word is limited to the most extreme situations.

WARNING - Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

CAUTION - Indicates a potentially hazardous situation, which, if not avoided, may result in minor/moderate injury.

NOTICE - Addresses practices not related to personal injury, such as device and/or property damage.



READ ALL INSTRUCTIONS BEFORE USE.

 **WARNING** -- To reduce the risk of fire, electric shock, or serious personal injury:

- Keep this device at least 3 feet (about 1 meter) away from the fireworks/cracker.
- Keep this device out of the reach of children and pets. Do not leave the device unattended while the power is on.
- Do not immerse the device in water or other liquids.
- Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

 **CAUTION** -- To reduce the risk of personal injury:

- Always ensure the device is OFF while connecting it to fireworks/crackers.

- Always ensure the device is lying on a flat, solid surface (ground).
- In cold weather (e.g. below 32 degree Fahrenheit), insert a wooden board under the device to isolate the device from the cold. Failure to do so may cause low power output.
- Do not touch the FireFly Clip heating coil after ignition, as the high temperature will cause injury.
- Do not allow the Connection Cables to hang over the edge of a table or counter to avoid accidental pushing or pulling of device.

Battery Handling and Usage:

- Keep batteries away from children and pets. Only adults should handle batteries. Ensure Battery Compartment Cover is securely attached to the Battery Compartment in accordance with all device usage instructions.
- Follow the battery manufacturer's safety and usage instructions.
- Do not mix a used battery with a new battery or mix different chemistries of batteries. Use only 1.5V "D" size alkaline batteries in this device.
- Never throw batteries into a fire or expose them to fire or other heat sources.
- Insert the batteries into the device observing the proper polarity (+/-) as indicated inside the Battery Compartment. See the "Battery Installation" subsection for detailed instructions.
- Remove spent or discharged batteries from the device Battery Compartment.
- Remove batteries when not using the device for an extended period.
- Dispose or recycle spent/discharged batteries in compliance with all applicable laws. For detailed information, contact your local solid waste authority.

NOTICE -- To reduce the risk of device and/or property damage:

- This device is intended for non-commercial and non-industrial use only.
- Always power off after use.
- Do not subject the device to excessive force, violent shocks, extreme temperatures, humidity levels, or lengthy periods of direct sunlight.
- Do not attempt to repair the device. This device contains no user-serviceable parts. If the unit stops operating, take it to an electronics repair shop of your choice.
- Use the device away from other electronic devices to reduce possible interference.
- Do not use liquid or aerosol cleaners to clean the device. Use a soft, damp cloth.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

Introduction

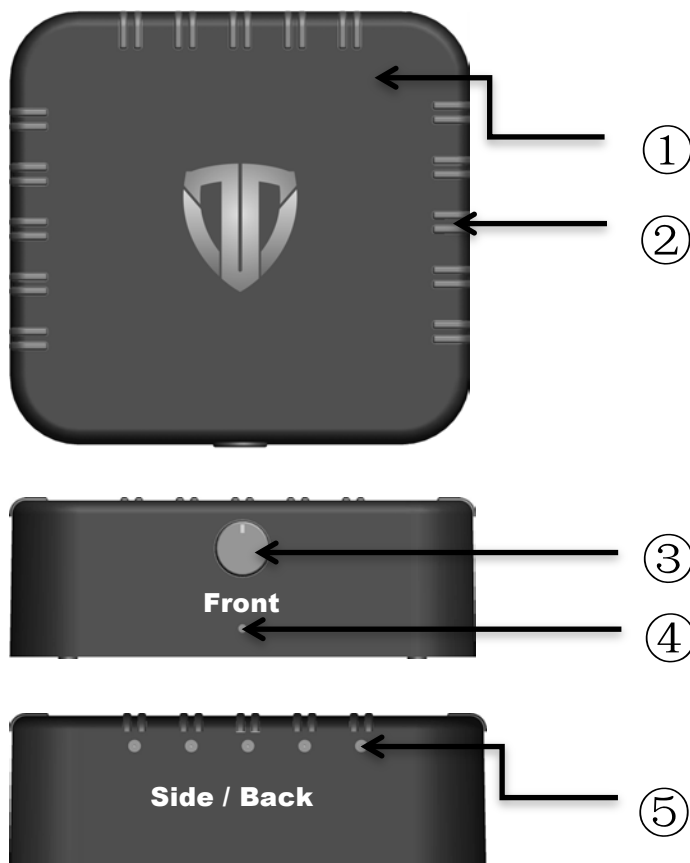
FireFly Wireless Firing Module has a wireless operating range up to 50 feet (16 meters) and is compatible with Bluetooth® v1.2 to v4.0. To get the most out of this device, read this manual entirely.

Contents

- Bluetooth® Wireless Firing Module (“the Module” below)
- Connection Cables (8 pcs of 1-meter & 7 pcs of 3-meter) with FireFly Clip

Controls and Features

1. Casing
2. Connectivity Status Indicators
3. Power Button with Red LED Indicator
4. Reset Button
5. Input Port for Connection Cable



Battery Installation



1. Locate the Battery Compartment Cover from the bottom of Module.
2. Loosen the screws in the Battery Compartment Cover with a Phillips-head screwdriver.
3. Insert eight (8) 1.5V “D” size alkaline batteries, observing the proper polarity (+/-) as indicated inside the Battery Compartment.
4. Replace the Battery Compartment Cover.

NOTES:

- *To conserve battery power, turn the Module off when not in use.*

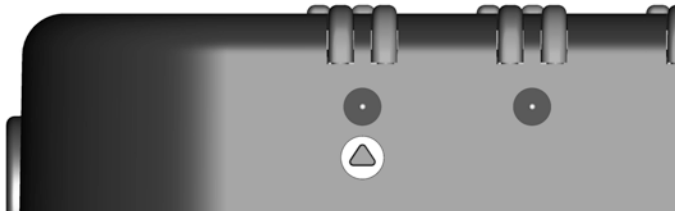
Powering On/Off

1. To turn Module on, press the Power Button (3) on the front of Module. The Red Connectivity Status Indicator lights up, indicating the unit is ON.
2. To turn Module off, press the Power Button (3) on the front of Module. The Red Connectivity Status Indicator goes off, indicating the unit is OFF.

Connection Cable

The Module is equipped with 15 specially designed Connection Cables with FireFly Clip, which enable you to connect up to fifteen (15) fireworks. Do NOT modify or attempt to strip these wires. Doing so may short circuit the Module.

1. Plug in the Connection Cable into any one of the Input Ports on Module.
2. Observe the triangle marking on the casing for position number 1.

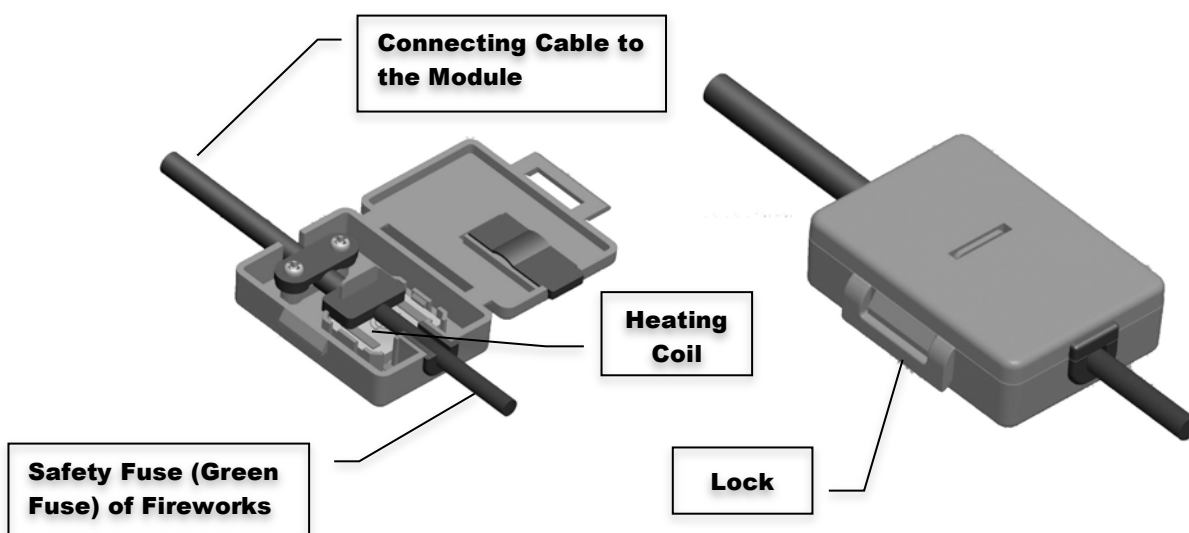


3. If the Connection Cable is fully connected to the Module, both green and red Connectivity Status Indicators will illuminate.
4. If for any reason the Connection Cable is not properly connected to the Module or the FireFly Clip heating coil is burned out or broken, the Connectivity Status Indicators will not illuminate fully. In the case of non-continuity, replace Connection Cables. Do not attempt to repair them.

Setup Fireworks

FireFly Wireless Firing Module is NOT designed for industrial or professional use. Make sure the fireworks being set off with this device belong to Consumer Fireworks category defined by your country. Additionally, make sure to follow instructions provided on each individual firework product package.

1. FireFly should be powered off.
2. Make sure the primary fireworks ignition fuse is a “safety” type, normally green in color.
3. Carefully place the ignition fuse so that the tip of fuse is positioned at the center of FireFly Clip heating coil.
4. Close and lock the FireFly Clip accordingly.
5. Ready for fire.



ATTENTION:

- *After each fire, carbon residue may build up on the heating coil affecting the next ignition. If subsequent carbon residue accumulates on the coil, the fireworks **may not** ignite/set off. It is recommended that the user clean the coil with a soft brush after each ignition and manually fire the coil without a fuse as the heat alone will help burn off any remaining residue. **FireFly should be powered off during this cleaning process.***

To Pair (Link) User Portable Device

1. Visit ShootFireFly.com to download the FireFly Application on your Android™ or Apple® portable wireless device.
2. Make sure the Bluetooth® feature of the portable wireless device is turned on (refer to the instruction guide of portable device for operation).
3. Open the FireFly Application on the portable device.
4. First time users will be asked to register the application by entering an email address or logging in via Facebook or Google. After that, users will receive an email from the system. Please click on the link in the email to complete the activation process.
5. Press “Firing Device” button to enter the Application.
6. Turn on the FireFly Wireless Firing Module (refer to the Power On/Off section of this manual).
7. Once the Module is detected by your device, it will appear in the FireFly Application ONLY. The Module device will not appear in the Bluetooth® setup on the portable device. This has been purposely designed to enhance the security of the system.
8. Select the “GT2404-A1” device when it appears.
9. Enter “00000” as the password and press “>” to pair.
10. When the Module is successfully paired, the Main Menu page will appear in the Application.

NOTE: *If the Module fails to pair, an error message will pop up. Turn the Module off for 5 seconds and then turn it on again. Retry from step 3 above. If it still fails to pair, press the reset button (4) by a small pin to reset the Module.*

NOTE: *These steps will not need to be repeated after initial pairing.*

To Use the Module

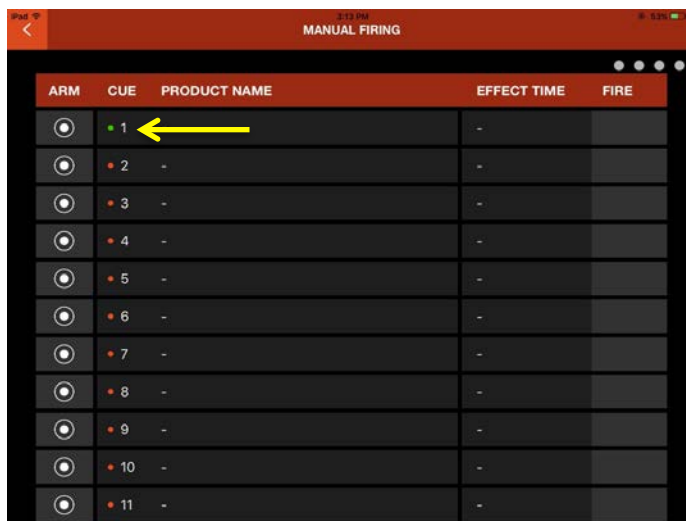
There are three features on the main menu:

1. Remote Fire Mode
2. Show Designer
3. Controller Setting

Remote Fire Mode

This feature enables you to manually set off the fireworks.

1. Press the “Remote Fire Mode” button to enter.
2. Plug in the Titan Wire into the Module according to Titan Wire Connection section above.
(Note: In this mode, you can plug the Titan Cable into any jack of the Module.)
3. The color dot next to the cue number turns Green, indicating the Titan Wire has been plugged in at the respective position of the Module.



4. Select the product (fireworks) from the menu under “Product Name”.
5. The respective effective time of the selected product (fireworks) will show automatically.
6. Press the “Arm” button to activate.

7. Press “Fire” to set off the fireworks.
8. Please ensure you are at a safe distance prior to firing.

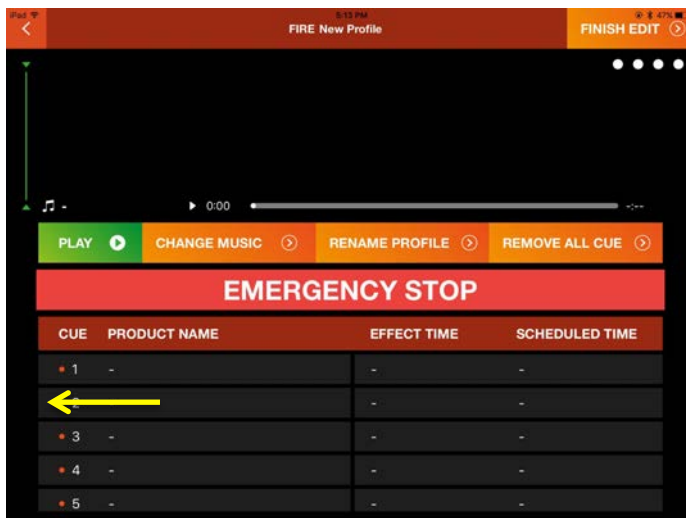
Show Designer Mode

This feature enables you to design your own Entertainment (show) and let the Module to set off the fireworks at your designated timing.

1. Press the “Show Designer” button to enter.
2. Select “Add Profile” to create a new Entertainment.
3. Select “Import Profile” to import the pre-designed entertainment from other portable device (Note: please refer to the later section for details).

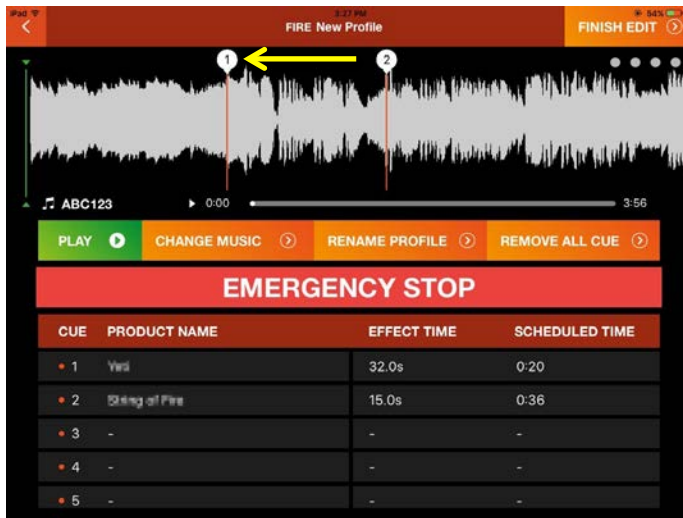
Creating New Entertainment

1. Plug in the Titan Wire into the Module according to Titan Wire Connection section above.
*(Note: In this mode, you **MUST** plug the Titan Cables into the jack, **starting from Position (Cue) number 1**. If you are setting up more than one (1) fireworks, they have to be setup consecutively without skipping any Input jack. See Titan Wire Connection section above for details.)*
2. The color dot next to the cue number turns Green, indicating the Titan Wire has been plugged in at the respective position of the Module.

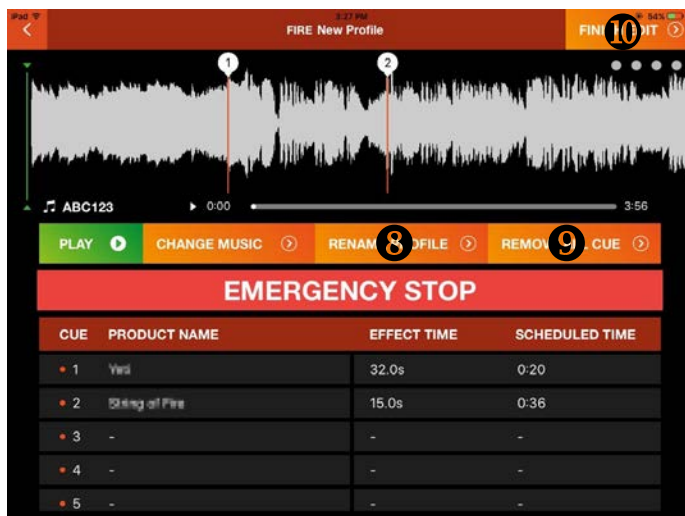


3. Select the product (fireworks) from the menu under “Product Name”.

4. The respective effective time of the selected product (fireworks) will show automatically.
5. Press “Change Music” button to select the music for the entertainment. The music file must be already stored inside the portable device. Please refer to the Instruction Guide of your device for importing music file.
(Note: The Firefly app prohibits using DRM protected music file, Warning Message would pop up if DRM protected music is picked).
6. Press on anywhere of the music timeline to add the cue onto the music. A flag with the respective cue number will appear.



7. Move the flag to your designated time of firing of that cue (fireworks).
8. Press “Rename Profile” to give a name to this entertainment (show).
9. Press “Remove All Cue” to start the design again.



10. If you want to remove the added Cue, enter the cue by pressing anywhere on the line then press “Delete”.
11. Press “Finish Edit” after you finish the design.
12. There are two features after you finish editing the entertainment:
 - a. Testing
 - b. Fire Now

Testing feature

It is recommended to simulate the show by using the testing feature. In this feature, the whole “show” will run as if the cues were actual firing; except that the heating coil would not be ignited. The red indicator on the module would flash indicating the circuit is closed (completed) and the firing would happen at the designated time. Please note that the red indicator flashes at the ignition time ONLY. It is NOT the time you want to set off the fireworks. The ignition time has considered the burning time (rate) of the fuse of fireworks.

Fire Now feature

It is the actual firing feature to allow the module to set off the fireworks automatically. Please make sure you are of a safety distance from the fireworks before you press the “Fire Now” button.

Emergency Stop

For any emergency that you want to stop the firing immediately, press the Emergency Stop button to module from operation. Make sure the pace maker has stopped before you go and switch off the module.

Note: The “Emergency Stop” only stops the automatic set off feature of the module. You have to switch off the module by pressing the On/Off switch (See Power On/Off section above).

Troubleshooting

Problem	Reason for Problem	Solution
Slow Response	<ol style="list-style-type: none"> 1. The Module is placed too far from the portable device. The effective distance is around 60 feet (18 meters). 2. Low battery power could seriously affect Module's response. 3. Low power level of portable device could affect the transmission signal to the Module. 4. In extreme cold, the batteries and electronic components may respond slowly. 5. Because the Module uses Bluetooth[®] wireless technology, it may be interfered with by surrounding devices. 	<p>Shorten the distance between the portable device and Module.</p> <p>Replace batteries.</p> <p>Charge your portable device.</p> <p>Put a flat, wooden board under the Module to isolate it from the cold ground.</p> <p>Keep a distance from other people who are using any electronic devices with 2.4 GHz radio frequency.</p>
No ignition	<ol style="list-style-type: none"> 1. The FireFly Connection Cable is not plugged into the Module completely. 2. Heating coil is dirty. 	<p>Check whether the red and green Status Indicators at the input port both light up.</p> <p>Clean the heating coil by brushing it gently to remove the carbon residue after each firing.</p>
Pairing Lost	<ol style="list-style-type: none"> 1. Bluetooth[®] on the portable device may not be turned on or may have disconnected. 	<p>Within the settings of your portable wireless device, make sure Bluetooth[®] is turned on. It may be necessary to repeat the pairing steps again.</p>
All Lights Flashing	<ol style="list-style-type: none"> 1. System overloaded 	<p>Restart system and set cues further apart</p>

Specifications

Bluetooth® Version	v 4.0
Operating Time	up to 300 ignitions
Standby Time	up to 150 hours

Model# Titan-1

FCC ID: 2ALI3T201700001

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For FireFly Wireless Firing Module information, questions, or customer service, e-mail: fireflysupport@ti-techs.com

FCC NOTES

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and, if not installed and used in accordance with these instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limit set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.