

# FIRESTORM FIRING SYSTEM

## User Guide (English)

TX1 Remote Control

RX1 Firing Module

RX6 Firing Module

RX18 Firing Module

## Introduction

Thank you for purchasing a **FireStorm Firing System**.

This firing system is designed for the safe and reliable wireless control of fireworks and pyrotechnics.



## Legal Disclaimer

The manufacturer(s), distributor(s) and / or seller(s) accept no responsibility whatsoever for any damage, injury or loss, financial or otherwise, resulting directly or indirectly from the use, misuse, function or malfunction of this device. By purchasing and using this device you understand and accept this disclaimer.

# SAFETY NOTICE

**ALWAYS ENSURE FIRING AREA IS CLEAR  
DURING TESTING AND FIRING!**

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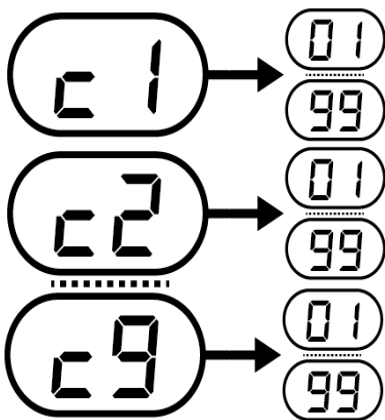
## Initial Setup

The system requires you to initially “bond” a any firing modules to your remote control. If a firing module has never been bonded, or if it has been cleared of its bonding information, then it cannot be controlled. This prevents unauthorised firing except from the desired remote control. You can bond a firing module to a remote control as many times as you want. Each time is it bonded the previous bonding information is overwritten.

The TX1 handheld remote control and the TX2 control desk remote control both allow bonding of firing modules in very similar ways.

During the bonding procedure the Channel Number and Cue Number that the firing module will respond to is set.

First we must explain the difference between “Channel” and “Cue”.



**Channel:** This is the logical channel that the remote control is operating on. Consider different channels to be like having completely separate remote controls. For example the TX1 has 9 channels, and each channel will allow an entire subset of firing modules to be controlled without firing any modules that are bonded to a different channel.

Channels are useful for dividing your show when using multiple firing modules. For example, you may have three firing modules at the front of your show set to Channel 1 for controlling multi-shot firework cakes, and two more firing modules at the back of your show set to Channel 2 for controlling firework shells.

**Cue:** A cue is the identifying number of a terminal on the firing module that you connect the firework or pyrotechnic igniter to. For example the RX18 has

18 Cues, which means it has 18 terminals where igniters can be connected. The TX1 and TX2 remote controls have 99 cues available *per channel*. This means that up to 99 terminals can be fired individually across different firing modules *per channel*. So with 9 channels, the TX1 handheld remote control can control 9 channels x 99 cues = 891 individual cues. With 200 channels, the TX2 control desk remote control can control 200 channels x 99 cues = 19,800 individual cues.

## Bonding Introduction

When you bond a firing module to a remote control, the firing module will respond to the Channel and Cue combination that you set when bonding. For example, if the remote control is set to Channel 1 - Cue 1 and you bond it to an RX1 firing module, then the firing module will fire when Channel 1 - Cue 1 is fired on the remote control. If you then set the remote control to Channel 1 - Cue 45, and bond the firing module again, it will now fire when Channel 1 - Cue 45 is fired on the remote control. You can bond the firing modules as many times as you like to reconfigure your firing system for different shows and setups. This easy bonding and reconfiguration procedure is one of the powerful features of the FireStorm firing system.

### NOTE

#### TX1 Handheld Remote Control

When bonding modules to fire simultaneously (multiple modules on the same Channel number and Cue Number) there will be no true reading of link quality or cue continuity on the TX1 Remote Control. This is because the TX1 has one light to represent radio link quality and cue continuity. It is impossible to display this information for multiple modules at the same time. Except for this, the system will still operate as normal.

If simultaneous firing is required, we recommend bonding firing modules to different cue or channel numbers, checking the individual radio link quality / range from your firing position, and then re-bonding the modules to the desired channel / cue prior to firing.

#### The TX2 Control Desk

The TX2 allows multiple simultaneous readings of link quality and cue continuity due the larger display and extra information lights.

### NOTE

For the multi cue Firing Modules such as the RX6 and RX18, the Cue that you bond them to is the **starting cue** for the modules.

### Example 1:

Three RX6 modules are bonded to Channel 1 - Cue 1, Channel 1 - Cue 7 and Channel 1 - Cue 13 respectively.

By simply continuing to press the FIRE button on the remote control, you will automatically step from one module to the next.

RX6: 6 Cue Module A

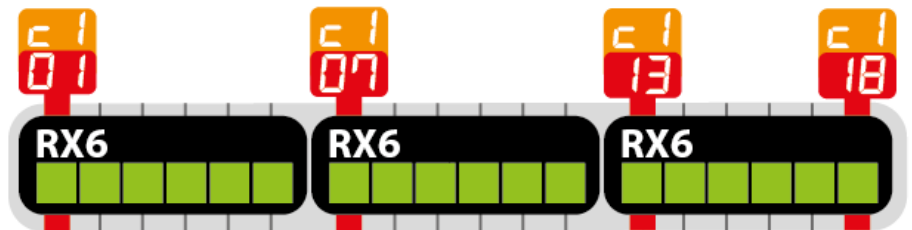
- Bonded to **Channel 1, Cue 1.**

RX6: 6 Cue Module B

- Bonded to **Channel 1, Cue 7.**

RX6: 6 Cue Module C

- Bonded to **Channel 1, Cue 13.**



### Example 2:

An RX1, RX6 and RX18 are all bonded to Channel 1, Cue 1 on the remote control.

RX1: 1 Cue Module

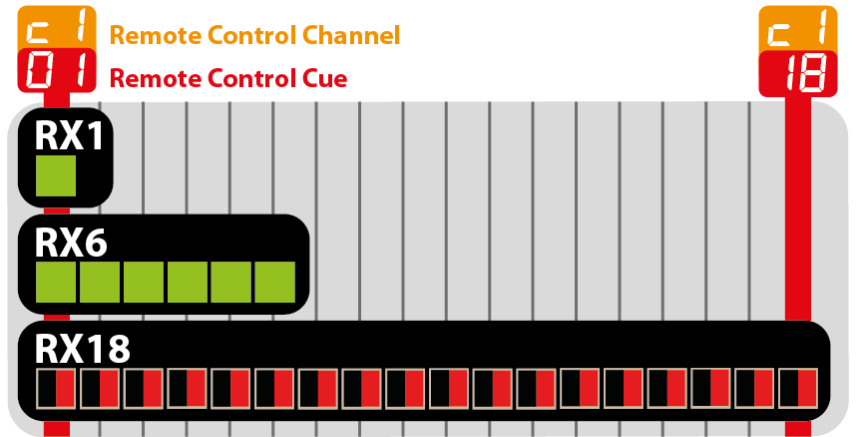
- Bonded to **Channel 1, Cue 1.**

RX6: 6 Cue Module

- Bonded to **Channel 1, Cue 1.**

RX18: 18 Cue Module

- Bonded to **Channel 1, Cue 1.**



**Cue 1 – 6** will have no true reading of link quality of continuity on the TX1 Remote Control.

**Cue 7 – 18** will have a true reading because there are no overlapping cues.

### Example 3:

Different modules can be bonded to the same Channel and Cue combination to fire cues simultaneously.

Six RX1 single-cue modules and two RX6 6-cue modules are bonded to fire simultaneously.

RX1: 1 Cue Module A - Bonded to **Channel 1, Cue 1.**

RX1: 1 Cue Module B - Bonded to **Channel 1, Cue 2.**

RX1: 1 Cue Module C - Bonded to **Channel 1, Cue 3.**

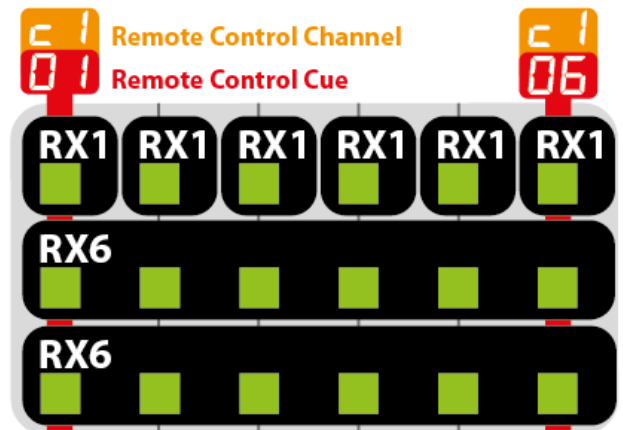
RX1: 1 Cue Module D - Bonded to **Channel 1, Cue 4.**

RX1: 1 Cue Module E - Bonded to **Channel 1, Cue 5.**

RX1: 1 Cue Module F - Bonded to **Channel 1, Cue 6.**

RX6: 6 Cue Module A - Bonded to **Channel 1, Cue 1.**

RX6: 6 Cue Module B - Bonded to **Channel 1, Cue 1.**



**Cue 1 – 6** will have no true reading of link quality of continuity on the TX1 Remote Control.

If we have specific areas of a show that we want to keep separate, we can use different channels.

### Example 4:

Three RX18 stacked in series (for example placed at the front of show for multi shot cakes) and then two separate RX18s (placed at the back of show for shells).

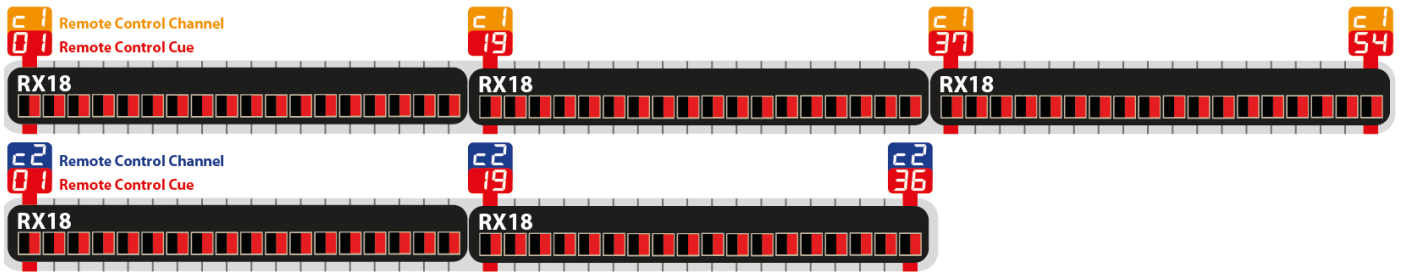
RX18: 18 Cue Module A - Bonded to **Channel 1, Cue 1.**

RX18: 18 Cue Module B - Bonded to **Channel 1, Cue 19.**

RX18: 18 Cue Module C - Bonded to **Channel 1, Cue 37.**

RX18: 18 Cue Module D - Bonded to **Channel 2, Cue 1.**

RX18: 18 Cue Module E - Bonded to **Channel 2, Cue 19.**



Switching between Channel 1 and Channel 2 and simply pressing the fire button will advance through all the cues step by step as desired.

## TX1 Remote Control Overview



## Switch ON TX1 Remote Control



Press and hold the **POWER** button until the display lights up.  
 The display will show the selected Channel number for one second (c1 - c9).  
 The display will then show the selected Cue number (01 - 99).  
 The battery indicator will continually flash the battery level ( ●●● | ●● | ● ).

## Switch OFF TX1 Remote Control

Press and hold the **POWER** button until the display turns off.

### NOTE

The remote control **can not** be switched off when in **ARM** mode. This is to prevent accidentally switching off the remote control during firing.

## Set Channel on TX1 Remote Control



Press and release **POWER** button at any time to select a new channel.  
The display will show c1 - c9.  
Use **UP** and **DOWN** arrows to select desired channel.  
Press and release **POWER** button to return. The new channel has now been set.

## Set Cue on TX1 Remote Control



The default display on the Remote Control is the cue number.  
Use the **UP** and **DOWN** arrows to set the desired cue.  
Holding the **UP** or **DOWN** arrows will rapidly change the cues.

### NOTE

You can not bond a firing module when the remote control is **ARMED**.  
Press and release the **ARM** button to toggle between **ARMED** and **DISARMED** mode.  
The top right LED will be ON / OFF to indicate **ARM** and **DISARMED** mode.

### NOTE

If you are unsure which Channel number or Cue number the firing module is bonded to, then simply bond it again. It is very quick and easy. We recommend always re-bonding the firing modules to the desired Channel and Cue if there is any doubt.

## Continuity and Link Status Display

When you have bonded a module to a cue, you can then see the radio link quality and continuity of the cue on the Remote Control.



**Steady Green:** Radio link is **GOOD** and Cue Continuity is **GOOD**.  
Flickers: Radio link might be bad. Move closer or reposition module.



**Steady Red:** Radio link is **GOOD** and Cue Continuity is **BAD**.  
Flickers: Radio link might be bad. Move closer or reposition module.



**Off:** Nothing bonded to this Cue OR firing module off or out of range.

### NOTE



Radio link quality and cue continuity information can only be viewed when the TX1 remote control is **DISARMED**. When **ARMED** one way radio traffic commences and the Link Status Light indicates a transmission. You can quickly switch between **ARM** and **DISARM** mode to re-check the link status and cue continuity if necessary.

## Battery Level Display

All FireStorm equipment displays the battery level in the same way.

The battery light will flash every 5 seconds with either 3, 2 or 1 flash to correspond to the approximate battery level.

Light	Description
3 flash	Battery full
2 flash	Battery partially used, change soon.
1 flash	Change battery.

## Receiver Module Bonding Procedure



### Module RX1 & RX6 Bonding Procedure

Move slide switch to **ARM** position.

Hold **BOND** button for **5 seconds** until both lights illuminate.

Release **BOND** button.

Then follow **Remote Control Bonding Procedure** below.



### Module RX18 Bonding Procedure

Turn key switch to **ARM** position.

Hold **BOND** button for **5 seconds** until status light is orange.

Release **BOND** button.

Then follow **Remote Control Bonding Procedure** below.

## Receiver Module Clear Bonding Procedure

You can clear the bonding information from any firing module.

Once cleared the firing module will not respond to any remote control until it is bonded again.



### RX1 and RX6 Firing Module

Move slide switch to **ARM** position.

Hold **BOND** button for **15 seconds** until both lights go out.



### RX18 Firing Module

Turn key switch to **ARM** position.

Hold **BOND** button for **15 seconds** until status light goes out.

## Remote Control Bonding Procedure



Hold **POWER** button to turn on remote control.

Check remote control is on desired channel. Remote will show channel number on power up (c1 - c9).

Set desired channel and cue number.



Press and release **FIRE** button.

Any modules in Bonding Mode will have been bonded and set with the current Channel and Cue number.

The bonding light on the Module will go out and the link status light on the Remote Control will illuminate either red or green, depending on whether there is continuity on that cue.

## Fire a Cue

### NOTE

**Ensure the area is safe and secure before testing or firing!**

Ensure Module is bonded to the correct channel and cue. If in doubt simple re-bond to the desired channel and cue.

1. Switch Module to **TEST** and check if there is correct continuity on the module (indicated by red lights next to cue numbers).
2. Switch Module to **ARM**.
3. Switch **ON** Remote Control.
4. Select desired Channel and Cue on Remote Control.
5. Check for Link Status and Cue Continuity on Remote Control.
6. Press **ARM** on Remote Control (Link Status light will now be **OFF** and Arm Light will be **ON**).
7. Press **FIRE** on Remote Control when ready to fire. Wait for visual confirmation of firing before releasing FIRE button.
8. Cue number will automatically increment when **FIRE** button is released.

## Sequence Control

The TX1 remote control allows you to fire a sequence of effects with a fixed interval between each effect. This feature is useful for simulating machine gun fire, aircraft gun fire and chases of single shot fireworks.

Any of the following intervals can be set:

- 50ms - 950ms in continuous 50ms steps.
- 1.0s - 2.0s in continuous 100ms steps.

The sequence can span multiple firing modules on the same channel.

### Example 1:

3 x RX6 6 Cue Modules could be bonded to Cue 1, Cue 7 and Cue 13 respectively and a sequence fired across all 3 module from Cue 1 to Cue 18.

## Example 2:

10 x RX1 1 Cue Modules could be bonded to Cues 1 - 10 respectively and a sequence fired across all 10 modules from Cue 1 to Cue 10 on the remote control.

The sequence can be stopped at any time by releasing either of the **SEQ** or **FIRE** buttons.

## Set a Sequence Interval



When **DISARMED**, press and release the **SEQ** button.

The display will flash and show the interval time between cues.

05 = 50ms, 10 = 100ms, 15 = 150ms ... 1.0 = 1.0s, 1.1 = 1.1s, 1.2 = 1.2s etc.

Set the desired interval time using the **UP** and **DOWN** arrows.

Press and release the **SEQ** button to return.

The interval time is now set.

## Fire a Sequence



Press and release **ARM** button to arm the remote control.

Link Status light will now be **OFF** and Arm Light will be **ON**.

Set the desired starting cue using the **UP** and **DOWN** arrows.

Press and **hold SEQ** button and then press and **hold FIRE** button.

The sequence will fire for as long as both buttons are **held**.

The display will show the current cue.

### NOTE

It is important to **press and hold SEQ** and then, while continuing to **hold the SEQ** button, **press and hold FIRE**. If you press **FIRE** first, the current cue will fire and then when **SEQ** is pressed the sequence will begin from the **next** cue.

## Change Batteries on RX1 / RX6 / RX18 Firing Module

### NOTE

We strongly recommend **Energiser Industrial brand** 9V batteries. They have a high current capacity and will ensure perfect operation of the Firing System.

**Do not use low cost, unbranded batteries.** Use only good quality branded Alkaline 9V PP3 batteries.

**BEWARE BAD BATTERIES!**



### RX1



Remove 2 screws on Terminal panel of module.  
Remove end panel and plastic bezel.  
Replace 1 x 9V PP3 battery

### RX6



Remove **all 4 screws** on Terminal panel of module.  
Remove end panel and plastic bezel.



Remove **top 2 screws** on Antenna panel of module.



Slide down front panel towards the terminal connections.  
Entire panel will slide off.

Replace 2 x 9V PP3 batteries (we strongly recommend Energiser Industrial brand batteries).

### RX18



Lever up the 2 battery drawers on the front panel using a flat screwdriver or key.  
They will pop up and out.

Replace 2 x 9V PP3 batteries. Observe correct polarity.

Press the drawers back into place and ensure the locking tap is secure by under the lip by pushing down and pulling battery drawers towards you simultaneously.

## Using Test Lamps

Some users like to use test lamps for checking whether cues are actually firing.

This is not strictly necessary as the lights on all FireStorm firing modules show you if the cue is firing.

However, should you wish to use test lamps there are some things to consider.

### **If using a LED (Light Emitting Diode) type of test lamp:**

- There will be no continuity reading because the LED will not pass the small amount of test current used during the continuity testing.
- The LED must be connected the correct way around. Note for the RX6 firing module the terminal polarity alternates. Terminals 1,2 and 3 are opposite polarity to terminals 2,4 and 6.
- Use a 12v rated LED. A normal LED will blow due to the high voltage from the firing module.

**If using a filament type of test lamp none of the above points apply.**

## Troubleshooting

Problem	Potential Solutions
Battery indicator does not flash when switched on	Replace batteries in device.
Remote does not switch on	Replace batteries in remote. Make sure to hold the power switch for 3 seconds.
Remote does not switch off	Make sure the remote is not in ARM mode.
Key will not turn in RX18	Make sure you are using the correct key (Lorlin Key 850 for the RX18). <b>Note:</b> keys for RX18 and TX2 are different.
Key will not turn in TX2	Make sure you are using the correct key (Lorlin Key 901 for the TX2). <b>Note:</b> keys for RX18 and TX2 are different.
Module will not bond	Replace batteries in remote and attempt bonding again Replace batteries in module and attempt bonding again Make sure to hold the bond button for 5 seconds until orange light is on. Make sure an antenna is attached to both the remote and the module
Module will not switch on	Check all module batteries are plugged in correctly. Replace batteries in module.
Slow continuous flash on RX18 or RX6. <u>Individual Cue and Status lights both flashing</u>	One or more Cue's stuck OFF. Switch module off and on again. If problem persists, contact EasyPyro.
Slow continuous flash on RX18 or RX6. <u>Only Status light flashing</u>	One or more Cue's stuck ON. Switch module off and on again. If problem persists, contact EasyPyro.
Quick continuous flash on RX18 or RX6 status light	High Side MOSFET stuck ON. If problem persists, contact EasyPyro.

## Contact Details

Thank you for purchasing an EasyPyro Ltd designed and manufactured product.

You are welcome to contact us at any time for friendly support and information about the product range.

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