

Pyrologic Programmable Controller

User's Manual

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Pyro Logic Programmable Controller

Overview

The Pyro Logic Controller is designed to allow the Pyro-technician to fire up to 144 channels in any sequence, group or configuration without the need of re-patching or re-wiring.

The Controller is easily programmed to fire channels organized in Cues.

A set of Cues or a Cue List is stored in memory as a Show.

The Shows are recalled from memory and Fired by a Pyro-technician/Operator or synchronized to Time Code with the MIDI controller option installed.

Pyro Logic Desktop Features

Channel Select Buttons and Encoder (module selector).

The standard controller has an Encoder and 16 channel select buttons used for programming the Cue input. The LEDs on the channel select buttons are used to monitor slave module status.

Keypad 20 keys

The keypad is used for programming shows, and for limited functions during Run time.

A Keypad layout and brief description of their functions follows.

In the instruction section, key presses are indicated with >*< angle brackets.

LCD Display

The LCD display is 4 x 40 characters.

The LCD readout provides all the information the Pyro-technician needs to program and run shows.

Safety Switches

SAFE/ARMED keyswitch mechanically locks out the FIRE button in SAFE position.

In ARMED position both the Software and the FIRE button are enabled for the system to FIRE.

In SAFE mode the controller updates status from the modules in real time. Status is reported as valid match on the Green channel select button LEDs.

A channel fault is indicated by the Red 'FAULT' LED.

SLAVE POWER RELAY keyswitch locks out the firing current from the slave modules. When the SLAVE POWER is OFF, the channel button green LEDs will be All On if a remote corresponding to the remote selector encoder, is On Line.

Power ON/OFF switch

Powers up the controller and resets the control mode.

Options

Multi Port Selector Switch

For consoles equipped with the 4 Port option, this switch selects which port is reporting remote status in real time.

Keypad Layout and Brief Description

MEM 1	TC MEM 1	CHASE	HOME	START	ENTER
MEM 2	TC MEM 2	DELAY			
MEM 3	TC MEM 3	VIEW	DELETE	^ UP ARROW	
MEM 4	TC MEM 4		< LEFT ARROW		RIGHT > ARROW
		END CUE		DOWN ARROW	

MEM 1 to MEM 4

Memory locations for operator programmable/operator fired shows

TC MEM 1 to TC MEM 4

Memory locations for operator programmable/Time Code fired shows. (see MIDI Show Control).

HOME

Returns to the HOME screen. Operator will be prompted to confirm this action. The HOME key only functions at the MEMORY SHOW COMPLETE (end of show) screen in Run Mode.

START

Initializes the Mode selection from the HOME screen.

ENTER

Is a command key to enter data or instructions from LCD screen prompts.

END CUE

Inserts an 'E' to indicate the end of Channel selections for the Cue. Adds next numerical Cue # in order.

DELETE

Will Delete cue information in reverse order or cancel certain LCD screen prompts.

CHASE

Inserts the '+' symbol to indicate that a Channel selection, or Groups of Channels, (stages) will be followed by a Delay Time.

DELAY

Calls the Delay Time select screen where the time value of the '+' symbol is determined. (Chase speed).

VIEW

Flashes the bottom line of the LCD at the current Chase Speed.

UP ARROW

Scrolls LCD display UP Cue to Cue. (1, 2, 3, 4, 5, 6...etc.). Also used at some prompt screens.

DOWN ARROW

Scrolls LCD display DOWN Cue to Cue. (9, 8, 7, 6 etc.). Also used at some prompt screens.

RIGHT ARROW

Scrolls LCD displayed information Left to Right. For review of Cue data only.

LEFT ARROW

Scrolls LCD displayed information Right to Left. For review of Cue data only.

Channel Select Buttons and Encoder (module selector).

The Pyro Logic has a Numerical Encoder (remote module selector) and two rows of eight select buttons. The Encoder determines the remote slave module address. The 16 channel buttons refer to the 16 remote channels available at each slave address. The following tables show how a channel may appear on the LCD display.

ENCODER							
1							
101	102	103	104	105	106	107	108
109	110	111	112	113	114	115	116

ENCODER							
2							
201	202	203	204	205	206	207	208
209	210	211	212	213	214	215	216

ENCODER							
3							
301	302	303	304	305	306	307	308
309	310	311	312	313	314	315	316

This system of the first digit representing the slave module address and the second 2 digits representing the channel on that slave continues up to the Encoder limit of 9.

Each 16 channel slave address has channels numbered 01 thru 16 on their channel outputs. The push button encoder on the slave module determines the slave's current address (first digit of the channel number).

Note that the standard 48 channel modules are in fact 3 groups of 16 channels and therefore occupy 3 slave module addresses.. The addresses are set at the factory and cannot be changed by the operator. The channel numbers are laid out on the faceplate of standard 48 channel modules.

The 48 channel modules can be custom ordered to be operator selectable. This feature is for advanced users only.

Remote Slave Modules and Addressing

16 channel slave modules.

16 channel Slave modules have a push-button Encoder on the front panel.

The Encoder sets the slave module address from 1 to 9.

The zero '0' address is invalid and will not respond to any command.

The number set on the slave encoder corresponds to the first digit of the channel number of the LCD display of the Pyro Logic Control Console.

- Example

A 16-channel slave with it's Encoder set to address '5' will be controlled by channels selected on the

*****Important Note*****

The slave must be powered down for a change to the Encoder address to take effect.

If it is not powered OFF it will remain at the old address regardless of Encoder setting.

*****Important Note*****

Slave Modules CANNOT share the same address.

- Example

Two slaves with the same address will FIRE in symmetry but in SAFE mode the status update will return an error.

With the optional 4 port output feature, the slave module addresses can be duplicated on 'different' ports, however, ALL duplicated channels on all ports will FIRE at the same time since the command signal output is common.

48 channel modules.

48 channel standard slaves have their address preset and can NOT be altered by the operator.

The 48 channel slaves are designated as '1' '4' or '7'

*****Important Note*****

Standard 48 channel slave modules occupy 3 consecutive Encoder numbers. (3 X 16 = 48 channels).

- Therefore

48 channel Slave '1'

Occupies Encoder settings 1, 2, 3. Channel numbers 101 to 316.

48 channel Slave '4'

Occupies Encoder settings 4, 5, 6. Channel numbers 401 to 616.

48 channel Slave 'C'

Occupies Encoder settings 7, 8, 9. Channel numbers 701 to 916

*****Important Note*****

It is NOT possible to control more than One 48 channel slave of the same number designation from one controller output. This creates the same address conflict as with the 16 channel modules. Duplicated channel numbers will all FIRE. The status update will return an error.

*****Important Note*****

48 channel slaves and 16-channel slaves can be configured to run from the same controller output so long as there is no address conflict.

The following rules apply.

If using an 48 channel module '1', the DS-16 slaves Can NOT be addressed 1, 2, or 3.

If using an 48 channel module '4', the DS-16 slaves Can NOT be addressed 4, 5, or 6.

If using an 48 channel module '7', the DS-16 slaves Can NOT be addressed 7, 8, or 9.

Startup Operation

When the Pyro Logic Controller is powered on, the operator will see the HOME screen.

Home Screen.

```
*PROGRAM OPERATOR SHOW*  
RUN OPERATOR SHOW  
PROGRAM TIME CODE SHOW  
RUN TIME CODE SHOW
```

The UP/DOWN arrow keys move the * Asterisk * that highlights the current selection.
To chose the * highlighted * function, press >START< (Capitalized words surrounded by the > < refer to keys on the keypad.

Programming Operator Shows

To program an Operator Show the SAFE/ARMED switch must be in SAFE position.

At the Home Screen highlight

```
*PROGRAM OPERATOR SHOW*
```

press >START<

- the LCD screen will display Cue # 1 followed by 2 blank spaces. 1--

Channel Selection for a Group Fire Cue

A Group Fire is defined as a Cue where all of the channels selected Fire at once.

To select a channel for a Group Fire, turn the numerical encoder (1 to 9) and press a channel button.

The matching Numerical channel number is displayed on the LCD. (see Chart).

To accept the channel as part of the Group Fire Cue, press >ENTER<

The '>' symbol will be placed following the channel number.

Repeat above steps to complete the channel group.

Notes

The Program will only accept 1 channel number at a time.

A channel selection must be followed by >ENTER< or >END CUE<.

Channel numbers can be entered in any order (out of sequence).

- A sample group channel selection appears as follows

```
1--208>109>415>211>115>102>711>206
```

To enter this line as Cue # 1 press >END CUE< the LCD displays

```
1--208>109>415>211>115>102>711>206E
```

2--

If the channel selections are not correct, press >DELETE<. The >DELETE< key will erase a channel number or a symbol (> + or E) in reverse order from the end of the LCD display.

The programmer will have to >DELETE< all information following the desired changes and re-enter all subsequent cue information. Line item editing is not available.

Note that channel selections can be duplicated in the same Cue. The program will assemble the channel list properly during storage.

If channel selections are repeated in subsequent Cues, the controller will attempt to Fire the repeated channels in RUN Mode.

Program a Chase Fire Cue

A Chase Fire Cue is defined as a single channel, or Group of channels, called a 'Stage', separated by a programmed Delay time.

Chase 'Stages' are displayed the same as a group fire cue, with the channel numbers separated by the > symbol.

The DELAY locations are indicated by the the '+' symbol.

The programmed Delay time is inserted at each '+' symbol when the cue has been completed.

In Run Time, the channel(s) in the first stage of the Chase are Fired at once, (ALL channels preceding the first '+' symbol).

The program then pauses for the Delay time. (Delay time is selected during programming).

The next Stage of the Chase is Fired after the pause. The sequence continues until the 'E' (end of Cue).

During RUN, the FIRE button must be held down for the Chase to proceed.

Channel selection is the same as for a Group Fire Cue

Channels are selected for the first stage of the Chase followed by >ENTER<.

As many channels as desired can be selected for each stage of the Chase and in any order.

To end the first stage of the Chase press the >CHASE< key.

Please note that the >CHASE< key will only function after a channel number and Not after the >ENTER< key.

The controller will insert the '+' symbol to indicate that a Delay time will be inserted later in the program.

- A sample stage selection appears as follows

```
1__108>609+
```

- A multi-stage Chase may appears as in the following example,

```
1__108>609+114>316>109+101+102+501>116>403+911
```

The programmer is now ready to select the delay time which is inserted at ALL '+' symbols

Press the >DELAY< key

- The Delay screen appears

```
DELAY = 150 MILLISECONDS  
PRESS >END CUE< TO ACCEPT  
PRESS >VIEW< FOR DISPLAY
```

The screen defaults to the minimum Delay time of 150 milliseconds

The ^ UP ARROW key will increase the Delay time in 30 millisecond steps.

The V DOWN ARROW key will decrease the Delay time by 30 millisecond steps.

For a real time display of the current chase speed, press the >VIEW< key.

Character blocks flash along the bottom line of the LCD at the current chase speed.

To return to the Cue program screen without accepting a Delay time, press >DELETE<

To accept the displayed Delay time press >END CUE<

- Note that the >END CUE< key does not function in a Chase until the Delay Screen has been opened, this is done to prevent an unwanted Delay time value to be inserted in the Chase.

The Delay time is now inserted at ALL '+' symbol locations and the 'E' is inserted at the end of the Cue Line. The controller will insert the next Cue # in sequence.

```
1__108>609+114>316>109+101+102+501>116>403+911E  
2__
```

Storing Shows and Editing

A completed show must be stored in memory to be recalled in RUN mode to be fired.

To store an operator show, press one of the >MEM< keys. (numbered 1 to 4).

Note that >TC MEM< keys will not store an Operator Show program,

- The LCD will display the following prompt

```
STORE TO MEMORY #  
ARE YOU SURE?  
PRESS >ENTER< TO CONFIRM  
PRESS >DELETE< TO CANCEL
```

Saving to an already used memory location will overwrite the old show with the New Show.

>DELETE< will return the programmer to the programming screen without saving the show.

>ENTER< will bring up this prompt screen

```
SHOW HAS BEEN STORED TO MEMORY  
PRESS >HOME< TO RETURN TO HOME SCREEN  
PRESS >ENTER< TO RETURN TO PROGRAM
```

>ENTER< returns to the program screen where the Operator can store the same Show to another (backup) location. (the same show can be stored in all 4 >MEM< locations.

Editing or altering and re-saving a Show can Only be done at this point. The programmer can add or delete cues and save the altered show to any of the >MEM< locations.

>HOME< returns to the Home screen prompt.

Editing

To Edit or alter a Show the programmer must >DELETE< Cues information in reverse order.

- For example

If a show contains 20 Cues and the programmer wishes to change Cue 16, he must >DELETE< Cue #s 20, 19, 18, 17 and 16. From this point, all subsequent Cue information will have to be re-entered.

There is NO line item editing available. (not like we didn't try!!!).

RUN MODE

Recalling Shows

To recall and run a programmed show,
At the HOME Screen select

RUN OPERATOR SHOW
Press >START<

This prompt appears
RECALL A PRE PROGRAMMED SHOW BY
SELECTING ANY OF THE MEMORY LOCATIONS

When one of the >MEM< keys is pressed the operator will be prompted to confirm the choice.
Note that the >TC MEM< keys will not respond in Run Operator Show.

RUN MEMORY SHOW # ?
PRESS >ENTER< TO CONFIRM
PRESS >DELETE< TO CANCEL

Pressing >ENTER< will load the selected Show from memory.
The LCD displays Cues 1 to 4 in descending order.
Note that recalling a blank memory location will return the END OF MEMORY SHOW message.
The Operator can return to HOME only from the END OF MEMORY SHOW screen. To return HOME the operator must use the Arrow key to get to the end of the show before returning HOME. This feature prevents the unintended aborting of a show by way of an errant or mistaken key press during Run time.

Show Operation

The Cue displayed on the TOP LINE of the LCD screen is always the Cue that will fire when the FIRE button is pressed.

A Group Fire Cue will Fire all selected channels on the Cue Line at once.
The LCD will scroll all Cues up 1 position. The TOP LINE Cue is uploaded to the slaves.

A Chase Fire Cue will fire the first Stage of channels at once (ALL channels prior to the '+' symbol).
Pause for the programmed Delay Time, then Fire the next Stage of the Chase.

The Chase sequence will continue ONLY so long as the FIRE button is held down.

Release of the FIRE button during a Chase will halt the Cue
Re-pressing the FIRE button will begin where the Chase halted.
To skip the balance of a Chase Cue in progress, use the ARROW keys to skip the cue.
If the balance of a Chase Cue is skipped and subsequently reloaded to the TOP LINE by the >ARROW< keys, the Chase will Fire from the Beginning of the Cue, NOT from where it was last halted.

Skip a Cue or Review a Show

The UP ARROW and DOWN ARROW keys will scroll through the Cue List in numerical sequence.

*******VERY IMPORTANT*******

The controller will FIRE the CUE displayed on the TOP LINE of the LCD screen.

If using the ARROW keys, be sure that the TOP LINE cue is the correct Cue to be Fired.

The controller will attempt to Fire the TOP LINE Cue even if it has already been Fired

*******VERY IMPORTANT*******

The LEFT and RIGHT ARROW keys will scroll any off-screen channels along the Cue Line.

The LEFT and RIGHT ARROW keys are for review information only. They DO NOT alter the Firing information.

The Controller will Fire a Cue from the Beginning of the Cue, NOT from the LEFT/RIGHT arrow position of the LCD screen.

Quick Programming Guide Operator Show

The SAFE/ARMED key must be in the SAFE position.

1. At the Home Screen Select *PROGRAM OPERATOR SHOW* (UP/DOWN arrows).
2. Press >START<
3. Select a channel number using the Encoder and 16 select buttons. (see chart).
4. Press >ENTER<
5. The > symbol will appear following the channel #.

Group Fire Cue

1. Continue the channel selections followed by >ENTER<
2. When the Cue is completed press >END CUE<
3. The screen places an 'E' at the end of the Cue and adds the next Cue # in sequence.
4. There are 99 available Cues, each Cue can be a Group Fire OR a Chase Fire.

Chase Fire Cue

1. Select the first stage of channels to be Fired by pressing >ENTER< between channel selections
2. To move to the next stage of the chase press >CHASE<
3. The + symbol is inserted.
4. Select the following stages of the chase as in steps 1 and 2.
5. When the Cue is completed press >DELAY< (the delay time select window appears).
6. Use UP/DOWN arrows to increase/decrease the delay time
7. Press >VIEW< to see a display of the chase speed flashed on the bottom line of the LCD.
8. Press >DELETE< to return to the program screen without entering a Delay time.
9. When satisfied with the delay speed press >END CUE<.
10. The selected delay time is inserted at ALL '+' symbol locations.
11. The screen places an 'E' at the end of the Cue and adds the next Cue # in sequence.
12. There are 99 available Cues, each Cue can be a Group Fire OR a Chase Fire.

Delete Unwanted Information.

1. The >DELETE< key will erase cue information in reverse order.

- Example

If the program is at Cue 10, to change Cue 6, you must >DELETE< Cues 10, 9, 8, 7 .

All following Cue information must be re-entered. (Line item editing is Not available).

Store an Operator Show

1. When programming is complete, press any of the >MEM< keys. (TC MEM keys do not respond).
2. The storage prompt screen appears.
3. Press >ENTER< to store. (this will overwrite a previous show, if any, stored in the same location).
4. The confirm storage prompt screen appears
5. >ENTER< returns to the program screen with the stored show intact (for back up or editing).
6. >HOME< returns to the Home screen prompt.

Quick Run Guide Run Operator Show

1. At the Home screen select *RUN OPERATOR SHOW*(UP/DOWN arrows)
2. Press >START<
3. Prompt screen asks to select one of the >MEM< keys.
4. Press any of the >MEM< keys. (TC MEM keys do not respond).
5. Confirmation prompt screen appears
6. Press >ENTER< to load the show.
7. Blank memory locations display the END OF MEMORY SHOW screen
8. A valid location will load the show into the RUN memory buffer.
9. The LCD will display Cues 1 to 4
10. The Cue on the TOP line of the LCD is uploaded to the remote slave modules.
11. The UP/DOWN arrow keys skip the Cues up and down.
12. **The Cue on the TOP line of the LCD is ALWAYS the Cue that will Fire.**

Fire a Group Fire Cue

1. **The Cue on the TOP line of the LCD is ALWAYS the Cue that will Fire.**
2. Ensure that SAFE/ARMED keyswitch is ARMED. (green LED on).
3. Ensure SLAVE POWER RELAY keyswitch is ON. (yellow LED on).
4. Press the FIRE button.
5. All channels in the Cue will FIRE simultaneously.
6. The controller will scroll all Cues up 1 position and upload the next Cue # in sequence to be fired.
The TOP LINE of LCD display is always the Cue that will Fire.

Fire a Chase Cue

7. **The Cue on the TOP line of the LCD is ALWAYS the Cue that will Fire.**
8. Ensure that SAFE/ARMED keyswitch is ARMED (green LED on).
9. Ensure SLAVE POWER RELAY keyswitch is ON. (yellow LED on)
10. Press the FIRE button.
11. All channels in the first Stage (prior to the '+' symbol) will FIRE at once.
12. The controller will pause for the programmed delay time.
13. The next stage of the Chase will Fire only if the FIRE button is still held down.
14. Release of the FIRE button will halt the Chase.
15. Re-pressing the FIRE button will resume the Chase from where it was halted.
16. The sequence continues to the 'E' end of Cue.
17. The UP/DOWN arrow keys will skip the balance of a halted Chase. Note that if a Chase cue is reloaded by using the arrow keys, the Chase will fire from the beginning of the cue, not from where it was previously halted.
18. The controller will upload the next Cue # in sequence.

END OF MEMORY SHOW screen appears after the final Cue has been fired.

The Up Arrow key will reload Cues in reverse numerical order. (Please note that a SHOW must be at least 2 Cues long).

The Operator can return to HOME only from the END OF MEMORY SHOW screen. In all cases to return HOME the operator must use the Arrow key to get to the end of the show before returning HOME. This feature prevents the unintended aborting of a show by way of an errant or mistaken key press during Run time.

Status Reporting and Display

Status reporting is indicated by the Green LEDs located on the Channel Select buttons. The status is updated when the SAFE/ARMED key is set to the SAFE position, otherwise the controller holds and displays the status as of the last SAFE position.

Valid Match

The Green LED indicates there is a valid (live) match at the channel indicated. Matches on all slaves can be displayed by selecting the slave address on the module select encoder. This feature will also determine if the expected slave module is On Line. If the operator expects to see matches on the selected slave and none appear, the slave is not ON Line or the SAFE/ARMED key is not in SAFE position.

Channel Fault

Short Circuit

Channel Fault is the indication of a shorted output channel on a slave module. The presence of a shorted channel is indicated by the Red 'FAULT' LED on the Pyro Logic controller.

Each slave module is equipped with 16 Red fault indicator LEDs. Three sets of 16 in the case of the 48 channel slave.

The Red LED on will indicate that a channel is in fault and should not be connected to any device. The device will likely ignite immediately.

Slave Power

Fault status is also the indication of the channel firing current being turned OFF. If this is done by the slave power relay switch, the Yellow LED on the Pyro Logic controller will be OFF.

When the slave power is turned off at the controller, ALL Red LEDs on ALL slave modules will be ON.

Remote Slaves On Line

With the Slave Power key switch OFF and the SAFE/ARMED key in SAFE, any current slave modules on line will be indicated by all 16 Green LEDs on the channel select buttons being ON. To detect On Line slaves with this method, rotate the module select encoder and note which addresses display all green LEDs.

Slave Module Indicator LEDs

The Green LED at the slave indicates power ON (mains).

The Yellow LED indicates that the module has no faults.

The Red LEDs indicate that the corresponding channel is at fault. In case of Fault, the Yellow LED will be Off.

If the slave power key has been turned Off at the Control Console, all 16 red LEDs will be On. (Fault also indicates that firing power is not present. The logic power source controls the LEDs.

Slave Module Address

The front panel push button encoder determines the address of the slave module. To change the address, the slave module power must be turned Off with the key switch. After the encoder has been changed, the power is turned back on and the slave re-initializes itself at the new address. Please note that encoder changes made with the power on are ignored by the slave and the slave will still respond to commands sent to its previous address.

Pyro Logic Controller SureFire Slave Module Safe Field Operation Procedure

Read and familiarize yourself with the operators manuals for these products. If there is something you do not understand about the addressing and operation of the SureFire system, consult qualified personnel.

DO NOT connect ANY pyro devices to the system prior to running the following steps. You run the risk of injury or death to yourself and your co-workers.

1. Place all slave modules in position. The system is designed for modules to be placed in close proximity to the pyrotechnic effects to avoid long runs of cable from the channel outputs to the pyro effects or matches.
2. In the case of regular effects, keep the modules at least six feet from the effect. Dust and debris from these effects may effect the operation of the slave modules over the long term.
3. In the case of 'concussion' effects, place the modules at least 15 feet from the concussion pots. The shock from the concussions can damage the electronics of the module and/or shake the communication or AC connections loose.
4. Run all communication and AC cables to the modules.
5. Set up the PyroLogic controller.
6. Plug all communication cables into the controller.
7. With the SAFE/ARM key in the SAFE position and the SLAVE POWER key in the OFF position, recall the show you intend to run.
8. All slaves should be powered on and all 16 Red channel LEDs should be lit. The Green Power LED should be lit. The Yellow scan LED should NOT be lit. (See Trouble Shooting).
9. From the controller, identify all on line modules by turning the encoder. On-line modules will show all 16 green match LEDs lit when the module select knob is turned to the address of the module.
10. If you have the multi-port feature on your console, test all ports for modules.
11. Turn the SLAVE POWER key switch 'ON'. Firing and match test current is now applied to all module output channels. This test confirms communication between the controller and all slave modules.
12. Investigate each slave for faults. All 16 Red channel LEDs should be off. (If there are any Red channel LEDs still lit, see trouble shooting). The Green Power LED and the Yellow scan LED should be lit. (See Trouble Shooting).
13. Return to the controller. Place the SAFE/ARMED key in the ARMED position. At this point you can fire some or all of your cues as a test. The Red channel LEDs of the modules should flash briefly when the modules are fired. This test confirms communications and shows the operator which channels on which modules are firing without the use of test matches.
14. Turn the SAFE/ARMED key to the SAFE position. Turn the SLAVE POWER key to the 'OFF' position. Firing current is now disconnected from the slave modules and all 16 Red channel LEDs on all modules should be lit.
15. Slave modules can be turned 'OFF' using the key on the front panel.
16. You are now ready to connect pyro devices to the system.
17. Once pyro is connected you must restart the modules. **Sound an all clear and be certain that all personnel and property are clear of pyro areas.**
18. Turn the slave modules 'On' using the key on the front panel. All 16 Red channel LEDs should be lit.
19. Return to the console. **While maintaining the all clear, turn the SLAVE POWER key to the ON position.** The SAFE/ARMED key must remain in the SAFE position. You are now ready to test for match status. Turn the encoder (and use the port select if you have the multi-port option) to ensure that matches are present on their proper channels. Investigate missing matches if any.

Troubleshooting

Slave module does not turn on. The green power LED does not come on.

Ensure that the AC cord is connected to a live AC plug.

Ensure that the mains power switch on the rear on the module is on.

Ensure that the power key on the front of the module is on.

Slave module does not respond to the Slave Power key from the controller. The 16 red channel LEDs do not go Off.

Ensure that communication cables are properly connected

Ensure that the module has a valid address. Zero is not valid. The module must be turned Off then back On for the new address to be in effect.

The internal relay may be malfunctioning.

The Yellow scan LED is not on. All Red channel LEDs are off.

Stop immediately. There may be a fault in the module. Check for 12 Volts DC at any of the output connectors. If unsure how to verify proper function of the module, refer to qualified personnel.

A red channel LED on the module is On, all other red LEDs are off, the Yellow scan LED is off.

Stop immediately. There is a fault on that channel. Any pyro connected to that channel will explode immediately. Investigate the problem or refer the module to qualified service personnel.

Slave Module red channel LEDs do not come ON when the SLAVE POWER key is turned Off at the controller.

The internal relay in the module is fused On. **This is a potentially dangerous condition.** The internal relay must be replaced. Refer to qualified personnel.