

PYROLOGIC 2000 SYSTEM

User Manual



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The FCC Wants You to Know

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 the 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:

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

FCC Warning

Modifications not expressly approved by the manufacturer could void the user authority to operate the equipment under FCC Rules.

Instructions concerning human exposure to radio frequency electromagnetic fields.

To comply with FCC Section 1.307(b)(1) for human exposure to radio frequency electromagnetic fields, implement the following instruction:

The equipment user should keep a distance of at least 20 cm. between the equipment antenna and his body or any other person.

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Introduction

Foreword

Congratulations for purchasing the Pyrologic 2000 wireless fireworks shooting system. We trust you will enjoy the unique features of this unparalleled system. The following instructions will familiarize you with the features and operation of this friendly system.

Thank you for choosing Pyrologic.

General information

Pyrologic 2000 is a wireless firework shooting system. Using a central Terminal Unit (TU), a multitude of Remote Control Units (RCU's) are controlled by a coded Radio Frequency link in order to fire upon command a firework electrically connected to each RCU of choice.

The TU, either hand-held or installed into a BU, must be operated at a minimum height of 0.6 meter from ground. The RCU must be installed at a minimum height of 0.6 meter from ground. Under such conditions the effective range between the TU and any RCU is maximum 65 meters.

By connecting an Extension Unit (XU) to the BU using a standard telephone cable, the RCU's can be controlled by the TU via the XU. The XU must be operated at a minimum height of 0.6 meter from ground. The RCU must be installed at a minimum height of 0.6 meter from ground. Under such conditions the effective range between the XU and any RCU is maximum 65 meters.

System Components Definition

- Terminal Unit (TU)
- Terminal Unit Master Key (MK)
- Base Unit (BU)
- Extension Unit (XU)
- External PTT (XPTT)
- Remote Controlled Unit (RCU)
- Remote Controlled Unit for controlling 16 extensions (RCU-16).

Basic System Characteristics

The normal operating range of the Pyrologic-2000 system is 65 meters from TU to RCU. This range can be extended by connecting an XU to a BU to which a TU is mounted. When mounting TU to BU, an XPTT can be attached to the BU. The range extension is in accordance to the length of the extension cable of the XU connecting between the BU to the XU. The RCUs are assigned to the TU by individual programming communicated through the one-way RF link between TU and RCU. Subsequently the operation of the RCUs is controlled by the TU through a one-way RF link between TU and RCU, or alternatively by a wired link between the BU onto which the TU is mounted and the XU, continued by a one-way RF link between XU and RCU.

The system operates at the 418 MHz frequency and has been designed to comply with the applicable FCC regulations (pending approval).

Safety and Operational Instructions

The operation of fireworks or pyrotechnics when using the Pyrologic 2000 system is identical to operation using appropriate wiring instead of the RF command link. All applicable laws and regulations regarding fireworks operation must be strictly adhered.

When you purchase the system the RCUs are in generic state. The RCUs have to be assigned to a specific TU Master Key according to the instructions detailed in this manual.

When using the system for the first time and until you have learned to operate the system correctly, please attach LEDs instead of squibs to the RCU squib connections and otherwise operate the system according to the standard operation instructions, in order to verify that you have mastered each and every detail of system operation.

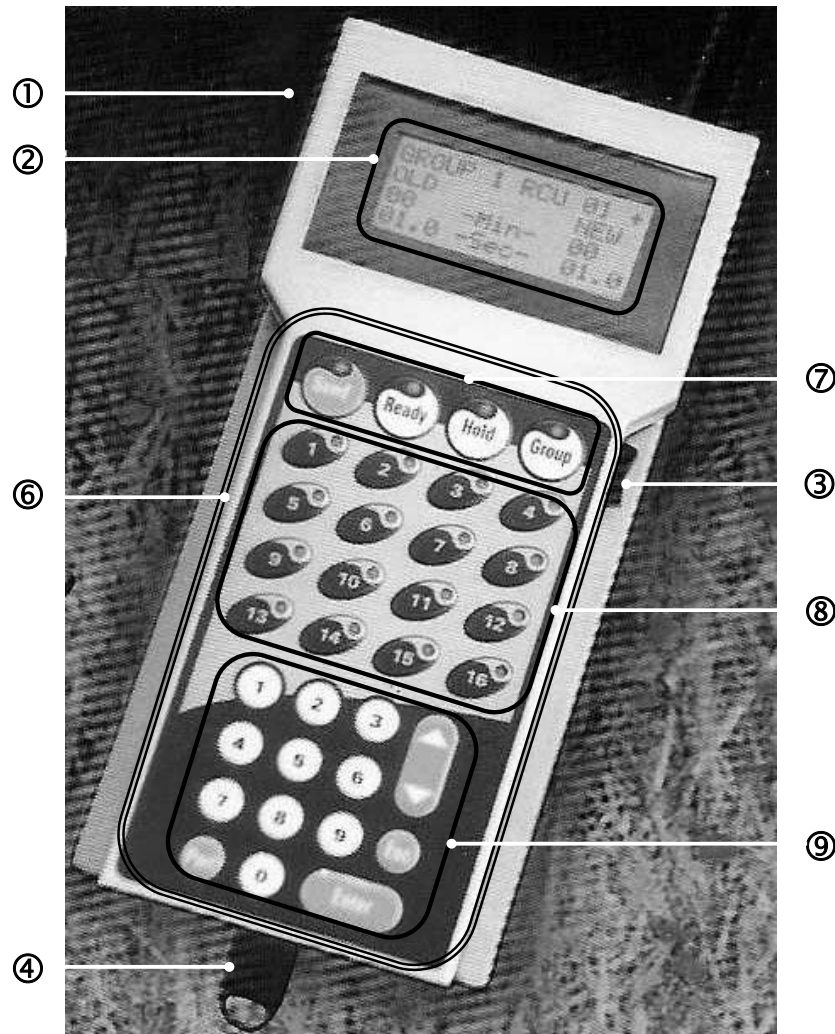
Under no circumstances open or tamper the system components. Warranty will void if any unauthorized attempt will be done to open or tamper system units.

Coping with External Transmission Disturbances: Pyrologic 2000 is a wireless system that is designed according to the FCC regulations. Please check the system to verify that there is no external interference. **UNDER NO CIRCUMSTANCES THE SYSTEM WILL FIRE WITHOUT OPERATOR COMMAND.**

Getting started

System Components

Terminal Unit



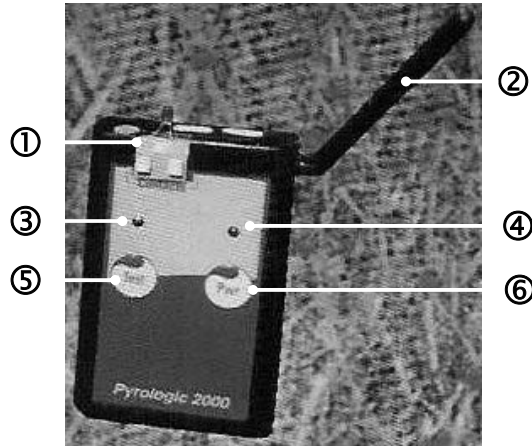
- ① Foldable Antenna
- ② Display
- ③ Terminal Unit PTT Switch
- ④ Master Key
- ⑤ Base Unit Connector
- ⑥ Terminal Unit Panel:
 - ⑦ Command Keys with Command Key LEDs
 - ⑧ Activation Keys with Control LEDs
 - ⑨ Programming Keys (including Numeric Keys, Scrolling key, Esc, Enter and Pwr keys).

The TU operates with four 1.5 Volt AA Alkaline batteries.

WARNING: Do not operate TU with rechargeable batteries.

Terminal Unit Master Key

Remote Controlled Unit



Front:

- ① Squib Contacts
- ② Foldable Antenna
- ③ Green LED
- ④ Red LED
- ⑤ Test Key
- ⑥ Power Key

Back:

- Battery Bay with transparent cover
- Battery (9 Volt alkaline battery - Not Included)
- Transparent foldable leg

Remote Controlled Unit- 16

The Remote Controlled Unit - 16 includes the following elements:

Front Panel with Green LED and Red LED and Test and Power Keys
 16 Squib Contacts
 Foldable Antenna
 Battery Bay with transparent cover
 Battery (9 Volt alkaline battery - Not Included)
 Transparent foldable leg

BASE UNIT, EXTENSION UNIT and EXTERNAL PTT are detailed in a separate manual.

Inserting Batteries

Please insert batteries in the TU and in the RCU's.

TU: Using screwdriver open master screw to release cover. Insert 4 x 1.5 Volt AA Alkaline batteries. Re-install cover and tighten master screw using screw-driver.

RCU: Open transparent battery cover. Insert 9 Volt alkaline battery. Re-install transparent battery cover.

RCU-16: Open transparent battery cover. Insert 9 Volt alkaline battery. Re-install transparent battery cover.

Navigating the System

When the TU is in the main settings menu screen or the standby screen, pressing **Esc** toggles between the two screens.

In any other screen, pressing **Esc** returns you to the previous screen.

To select a menu item, you can use either the Numeric Keypad or the Scrolling Key. On the Numeric Keypad, press the number that corresponds to the menu item number. Or, scroll down or up using the Scrolling Key until the desired menu item number is highlighted and then press **Enter**.

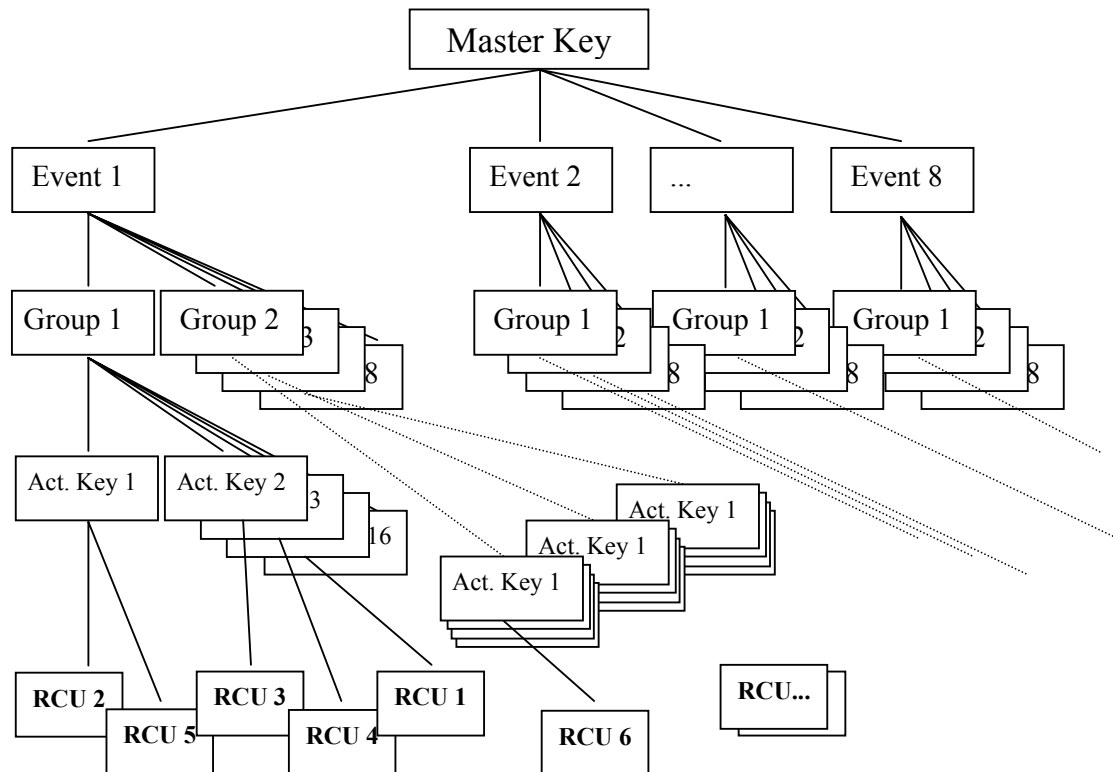
To input a value in an entry, you can use either the Numeric Keypad or the Scrolling Key. On the Numeric Keypad, press the desired number, or use the Scrolling Key to raise/lower or change the current value. Press **Enter** to move to the next entry or **Esc** to move to the previous entry (if you are in the first entry, pressing **Esc** will bring you to the previous screen).

System Layout

The system has five layout levels:

1. Master Key In each Master Key you can program up-to 8 Events in Manual, Semi-Automatic and Automatic mode (i.e. a total of 24 events)
2. Event In each Event you can program up-to 8 Groups
3. Group In each Group you can program up-to 16 Activation Keys
4. Activation Key For each Activation Key you can allocate up-to 128 RCUs
5. RCU Each RCU is specific for a unique combination of Master Key + Event Number Mode + Group Number + Activation Key Number. (???)

System Layout Diagram



Terminal Unit Menus

Note: If the TU is turned off, start-up the system as described in "System Start-Up" on page 16.

Main Settings Menu

```
1.EVENTS CONTROL
2.ADD UNITS
3.SET UNITS
4.TU SETTINGS
```

From this screen, you can access all the menus and functions of the system.

EVENTS CONTROL

On the main settings menu, select **EVENTS CONTROL** to display the **EVENTS CONTROL** screen:

```
1.SELECT EVENT
2.PROGRAM EVENT
3.CLEAR EVENT
4.CHOOSE EVENT
```

From this screen you can access all the events related menus and functions.

SELECT EVENT

On the **EVENTS CONTROL** screen, select **SELECT EVENT** to display the **SELECT EVENT** screen:

```
SELECT EVENT
Choose event
from 1 to 8
1
```

In this screen you can choose 8 different events for each of the Manual, Semi-automatic and Automatic modes. You can select between 8 events programmable on the Memory Key by pressing a Numeric Programming Key.

PROGRAM EVENT

On the **EVENTS CONTROL** screen, select **PROGRAM EVENT**. If you logged into the system with Low Level password, you will be prompted to enter the High Level password.

Note: The factory default setting for High Level Password is 11111111.

After entering high level password the following screen will be displayed:

1 . PROGRAM AUTO
2 . PROGRAM S-AUTO
3 . PROGRAM MANUAL

PROGRAM AUTO

By choosing **PROGRAM AUTO**, the following screen will be displayed:

GROUP 1	RCU	01	+
OLD			NEW
00	-Min-		00
00.0	-Sec-		01.0

Menu Options:

GROUP: 1 to 8

RCU: 01 to 16

Present: + or –

Min: 0 to 99

Sec: 0.0 to 59.8

For each RCU you have to program the minutes, seconds and tens of seconds as separate values. The new values of the minutes, seconds and tens of seconds are inputted, while the old values are displayed as reference. For each PRESENT (+) unit in a given group the appropriate Command Key LED will go on green.

PROGRAM S-AUTO

By choosing **PROGRAM S-AUTO** The following screen will be displayed:

GROUP	1
RCU	01
PRESENT	+
NUMBER	01

Menu Options:

GROUP: 1 to 8

RCU: 01 to 16

Present: + or –

NUMBER: 1 to 128

For each PRESENT (+) unit in a given group, the appropriate Command Key LED will go on green. In Semi-Automatic Operation, the **NUMBER** in the above screen stands for the order of activation of each RCU in the semi-automatic sequence.

MANUAL

By choosing **MANUAL** The following screen will be displayed:

GROUP	1
RCU	01
PRESENT	+

Menu Options:

GROUP: 1 to 8

RCU: 01 to 16

PRESENT: + or –

For each **PRESENT (+)** unit in a given group the appropriate Command Key LED will go on green.

CLEAR EVENT

On the **EVENTS CONTROL** screen, select **CLEAR EVENT**. If you logged into the system with Low Level password, you will be prompted to enter the High Level password.

Note: The factory default setting for High Level Password is 11111111.

After entering high level password, the following screen will be displayed:

Event: 1	MANUAL
ENTER -	to clear
ESC -	to cancel

Menu Options:

EVENT: 1 to 8; MANUAL, S-AUTO, AUTO

The event can be cleared by pressing ENTER, but this will work only with the high level password only.

CHOOSE EVENT

On the **EVENTS CONTROL** screen, select **CHOOSE EVENT** to display the following screen:

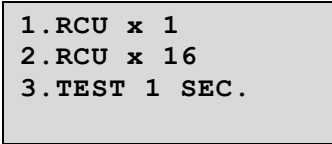
1 .	AUTO
2 .	S-AUTO
3 .	MANUAL

Select **AUTO** to start an automatic event, **S-AUTO** to start a semi-automatic event, or **MANUAL** to start a manual event.

ADD UNITS

ADD UNITS will give you the possibility to teach the RCUs their address (Group #, RCU #). It will also give you the opportunity to check the system for interference after placing the RCUs at the display location.

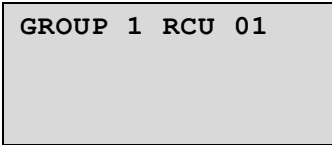
On the main settings menu, select **ADD UNITS** to display the following screen:



```
1. RCU x 1
2. RCU x 16
3. TEST 1 SEC.
```

RCU X 1

On the **ADD UNITS** screen, select **RCU X 1** to display the following screen:



```
GROUP 1 RCU 01
```

Menu Options:

GROUP: 1 to 8

RCU: 01 to 16

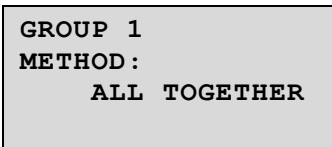
To teach the RCU its address:

On the RCU, press **Test** and **Pwr** keys together. Green LED will go on first and then red LED and both LEDs will blink together.

On the TU, press **Enter**. RCU LEDs will light together for 1 second and then go off. RCU address has been assigned. Insert address into the battery bay visible through transparent battery cover.

RCU X 16

On the **ADD UNITS** screen, select **RCU X 16** to display the following screen:



```
GROUP 1
METHOD:
  ALL TOGETHER
```

Menu Options:

GROUP: 1 to 8

METHOD: ALL TOGETHER or ONE BY ONE

If you choose **ALL TOGETHER**, all squibs that are connected to the RCUX16 will fire simultaneously.

If you choose **ONE BY ONE**, the RCU X 16 will work as 16 different RCUs in one group.

To teach the RCU X 16 its address:

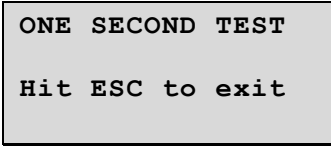
On the RCU, press the **Test** and **Pwr** keys together. Green LED will go on first and then red LED and both LED's will blink together.

On the TU, press **Enter**. RCU LEDs will light together for 1 second and then go off. RCU address has been assigned. Insert address into the battery bay visible through transparent battery cover.

Test 1 SEC.

To test the system:

Choose **TEST 1 SEC.** from the **ADD UNITS** menu. The following screen will be displayed:



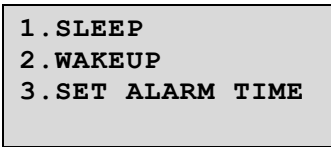
```
ONE SECOND TEST  
Hit ESC to exit
```

Press **Pwr** on RCUs participating in event. RCUs Green and Red LEDs will blink together synchronized in all RCUs.

SET UNITS

The SET UNITS option gives you the possibility to set the RCUs in the appropriate mode.

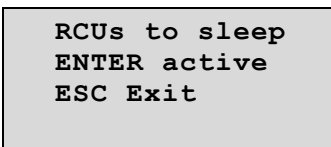
When you choose SET UNITS, the following screen will be displayed:



```
1.SLEEP  
2.WAKEUP  
3.SET ALARM TIME
```

SLEEP

When you choose SLEEP from the SET UNITS menu, The following screen will be displayed:



```
RCUs to sleep  
ENTER active  
ESC Exit
```

WAKEUP

When you choose WAKEUP from the SET UNITS menu, The following screen will be displayed:

```
Wake up RCUs
ENTER active
ESC Exit
```

SET ALARM TIME

When you choose SET ALARM TIME from the SET UNITS menu, The following screen will be displayed:

```
Set Alarm
-Hours-  -Min-
  20      12
Alarm    Off
```

Menu Options:

Hours:

Min:

Alarm: On/Off

TU SETTINGS

When you choose **TU SETTINGS** the following screen will be displayed:

```
1. INTENSITY
2. CLOCK
3. BACKLIGHT
4. PASSWORDS
```

INTENSITY

When you choose INTENSITY from the TU SETTINGS menu The following screen will be displayed:

```
Choose    Level
From  1   to   9
      1
```

Pressing Enter will return you to the TU SETTINGS menu.

CLOCK

When you choose CLOCK from the TU SETTINGS menu The following screen will be displayed:

```
SET CLOCK
-Hours-  -Min-
  18      44
```

BACKLIGHT

When you choose BACKLIGHT from the TU SETTINGS menu The following screen will be displayed:

```
1.OFF
2.ON PTT OR KEY
3.ALLWAYS
```

You can make the choice using the Scroll Key and pressing Enter. The screen will display for 1 second the backlight choice. Pressing ESC will return you to the TU SETTINGS menu.

PASSWORDS

When you choose PASSWORDS from the TU SETTINGS menu The following screen will be displayed:

```
1.HIGH
2.LOW
```

When you choose HIGH from the PASSWORDS menu The following screen will be displayed:

```
HIGH  PASSWORD
OLD   11111111

NEW   _____
```

High Password is Level 1 Password. High Password Off Factory is 11111111.

When you choose LOW from the PASSWORDS menu The following screen will be displayed:

LOW	PASSWORD
OLD	00000000
NEW	_____

Low Password is Level 2 Password. Low Password Off Factory is 00000000.

Operating the System

Note: Before operating the system, make sure the TU and RCUs has batteries. For details, see page 6.

System Start-Up

Insert Master Key into TU and press the **Pwr** button on the TU.

Command key LEDs will be in the following condition:

Key LED	Color
Send	Red
Ready	Green
Hold	Red
Group	Green

The start-up screen will be displayed:

```

19:01:57
EVENT:1 GROUP:1
MODE:  MANUAL
    
```

1. To start the system, press **Esc**. You will be prompted to enter the password:

```

ENTER PASSWORD
_____
    
```

Note: The factory default setting for Low Level password is 00000000 and for High Level password is 11111111. For further details about passwords, see page 26.

2. Enter the password and press ENTER. The main settings menu will be displayed:

```

1.EVENTS CONTROL
2.ADD UNITS
3.SET UNITS
4.TU SETTINGS
    
```

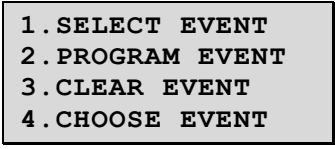
Programming an Event

Note: If the TU is turned off, start-up the system as described in "System Start-Up" on page 16. If the TU is turned on, press Esc until the main settings menu is displayed.

Note: For details about navigating, selecting options and entering values, see "Navigating the System" on page 6.

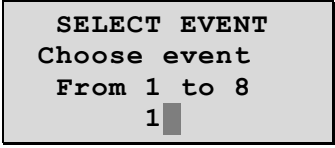
Select Event Number

1. In the main settings menu, select **EVENTS CONTROL**. The **EVENTS CONTROL** screen will be displayed:



```
1.SELECT EVENT
2.PROGRAM EVENT
3.CLEAR EVENT
4.CHOOSE EVENT
```

2. Select **SELECT EVENT**. The **SELECT EVENT** screen will be displayed:



```
SELECT EVENT
Choose event
From 1 to 8
1
```

3. Select an event number (from 1 to 8), and press Enter. The **EVENTS CONTROL** screen will be displayed again.

Select Event Mode

1. Select **PROGRAM EVENT**. If you logged into the system with Low Level password, you will be prompted to enter the High Level password.

Note: The factory default setting for High level password is 11111111. For further details about passwords, see page 26.

After entering high level password, the **PROGRAM EVENT** screen will be displayed:

1 . PROGRAM AUTO 2 . PROGRAM S-AUTO 3 . PROGRAM MANUAL
--

2. Select the desired mode you want to program and follow the instructions below according to your selection.

IMPORTANT: Note that there is no correlation between the events with the same number belonging to different modes. For example, you might choose to program RCUs 1, 3, 5 and 8 in Group 1 in Event 1 in Manual mode; RCUs 4, 12 and 15 in Group 1 in Event 1 in Semi-Automatic mode; and RCUs 4-13, 15 and 16 in Group 1 in Event 1 in Automatic Mode. When performing an event, the TU may send firing commands only to the RCUs which have been programmed for the specific event.

1. PROGRAM AUTO

If you want to program the automatic mode, select **PROGRAM AUTO** in the **PROGRAM EVENT** screen. The following screen will be displayed:

GROUP 1 RCU 01 + OLD NEW 00 -MIN- 00 00.0 -SEC- 00.0	<u>Options:</u> GROUP: 1 to 8 RCU: 01 to 16 PRESENT: + or - Min: 0 to 99 Sec: 0.0 to 59.8
---	--

Choose the desired values for **GROUP**, **RCU** and Present (+/-).

For each RCU, input the minutes, seconds and tens of seconds (in intervals of 2) as separate values. The new values of the minutes, seconds and tens of seconds are inputted, while the old values are displayed as reference. For each PRESENT (+) unit in a given group, the appropriate Command Key LED will go on green.

When finished, press Esc twice to return to the **EVENTS CONTROL** screen.

2. PROGRAM S-AUTO

If you want to program the semi-automatic mode, select **PROGRAM S-AUTO** in the **PROGRAM EVENT** screen. The following screen will be displayed:

GROUP 1 RCU 01 PRESENT + NUMBER 01	<u>Options:</u> GROUP: 1 to 8 RCU: 01 to 16 PRESENT: + or - Number: 1 to 128
---	--

Choose the desired values for **GROUP**, **RCU**, Present (+/-) and **NUMBER**.

For each PRESENT (+) unit in a given group, the appropriate Command Key LED will go on green. In Semi-Automatic Operation, the NUMBER in the above screen stands for the order of activation of each RCU in the semi-automatic sequence.

When finished, press Esc twice to return to the EVENTS CONTROL screen.

3. PROGRAM MANUAL

If you want to program the manual mode, select **PROGRAM MANUAL** in the **PROGRAM EVENT** screen. The following screen will be displayed:

GROUP 1 RCU 01 PRESENT +	<u>Options:</u> GROUP: 1 to 8 RCU: 01 to 16 PRESENT: + or -
---	--

Choose the desired values for **GROUP**, **RCU** and Present (+/-).

For each PRESENT (+) unit in a given group the appropriate Command Key LED will go on green.

When finished, press Esc three times to return to the main settings manu.

Add Units

You have to "teach" the RCUs their address (Group Number and RCU Number) and also check the system for interference, after placing the RCUs at the display location.

1. Select **ADD UNITS**. The following screen will be displayed:

1.RCU x 1 2.RCU x 16 3.TEST 1 SEC.
--

2. Select **RCU x 1**. The following screen will be displayed:

GROUP 1 RCU 01	<u>Options:</u> GROUP: 1 to 8 RCU: 01 to 16
-----------------------	---

3. Enter **GROUP** number between 1-8, press **Enter** and input an **RCU** number between 1 and 16.

Now you can assign an address to an RCU.

Note: Make sure 9 volt battery is in place and Power is OFF.

4. On the RCU, press and hold the **Test** button and press the **Pwr** button. First, the Green LED will go on, then the Red LED will go on and then both leds will blink intermittently (this is RCU programming mode).
5. Press **Enter** on TU. Both RCU LEDs will blink together for 1 second, the RCU power will go off. The RCU address has been programmed.
6. Write down the address and insert it into RCU battery bay, visible through transparent cover.

Repeat this procedure for each of the RCUs.

Test Procedure

1. Place RCU in position, normally 60 cm above ground for full range.
2. Press the **Pwr** button on the RCU – green LED will light indicating that battery is OK. Green LED will go off automatically. Red light will blink. This indicates that the RCU is in STANBY state. (In case that red light is going on at Power On, replace battery, press **Pwr** button again and repeat procedure).
3. Red light will blink at low frequency. This indicates that the RCU is in STANBY state.
4. Go to the main settings menu screen in the TU.

Note: If the TU is turned off, start-up the system as described in "System Start-Up" on page 16. If the TU is turned on, press Esc until the main settings menu is displayed.

5. Select **ADD UNIT**. The following screen will be displayed:

1.RCU x 1
2.RCU x 16
3.TEST 1 SEC.

6. Select **Test 1 SEC**.
7. Leave TU in place and check each individual RCU. When Red and Green LED's are blinking together, it indicates that there is communication between the TU and the RCU.
8. After checking that the communication between the TU and RCUs is OK, go to the TU and press **Esc**. RCUs will be in STANDBY state with red light blinking.

Firing

Firing Preparations

1. Connect squib/electric match-head to the RCU.
2. Press the **Test** button on the RCU.
3. If green LED lights, circuit is OK. If Red LED lights, circuit is not functional – change the squib.
4. Connect the squib to the firework/shell.

Setting RCUs Sleep State and Alarm

This step is optional.

Sleep

If there is time left until the event, you can put the RCUs into sleep state.

1. At the TU main settings menu, select **SET UNITS** menu.
2. In the **SET UNITS** menu, select **SLEEP**.

The TU will send the RCUs a SLEEP command. The RCUs will go into sleep state, with the green and red LEDs blinking together every 5 seconds.

Wakeup

If you want to wake up the sleeping RCUs, and the TU power is not turned off:

1. At the TU main settings menu, select **SET UNITS** menu.
2. In the **SET UNITS** menu, select **WAKE-UP**.

The TU will send the RCUs a WAKEUP command. The RCU's will go into Standby state, with the red LED blinking.

If the TU power has been turned off, you will wake up the sleeping RCUs by turning the TU power on. The TU will send the RCUs a WAKEUP command. The RCUs will go into Standby state, with the red LED blinking.

Alarm

You can set an ALARM time.

1. At the TU main settings menu, select **SET UNITS** menu.
2. In the **SET UNITS** menu, select **SET ALARM TIME**. The following screen will be displayed:

SET ALARM	
-Hours-	-Min-
00	00
Alarm	Off

3. Input the desired alarm time.

Such setting will cause the TU (if power turned off) to wake up at the chosen alarm time and at that time cause the TU to send the wakeup command to the RCUs. The RCUs will go into Standby state, with the red LED blinking.

Firing Procedure

Note: If the TU is turned off, start-up the system as described in "System Start-Up" on page 16. If the TU is turned on, press Esc until the main settings menu is displayed.

1. On the main settings menu, select **EVENTS CONTROL**. The **EVENTS CONTROL** screen will be displayed:

1. SELECT EVENT 2. PROGRAM EVENT 3. CLEAR EVENT 4. CHOOSE EVENT
--

2. Select **SELECT EVENT** from the **EVENTS CONTROL** menu. The **SELECT EVENT** screen will be displayed:

SELECT EVENT Choose event from 1 to 8 1 █

3. Here you can choose 8 different events for each of the Manual, Semi-automatic and Automatic modes. You can select between 8 events programmable on the Memory Key by pressing a Numeric Programming Key.
4. Press **Esc** to return to the **EVENTS CONTROL** menu.
5. From the **EVENTS CONTROL** menu, select **CHOOSE EVENT**. The following screen will be displayed:

1. AUTO 2. S-AUTO 3. MANUAL
--

Now you have chosen the specific event for fireworks display.

Arming the system

Press the READY button. The display will count down 7 seconds. During this time the command LEDs will be in the following condition:

Key LED	Color
Send	Red
Ready	Red
Hold	Green
Group	Green

After elapsing of the 7 seconds, the command LEDs will be in the following condition:

Key LED	Color
Send	Green
Ready	Red
Hold	Green
Group	Green

This indicates that the TU has sent the arming command to the RCUs. On the RCUs, the green light will blink. This indicates that the RCUs are in armed state.

WARNING: The system is in armed state. If the PTT will be pressed and the SEND button will be pressed when in semi-automatic or automatic mode, the system will fire. In manual mode, if the PTT will be pressed and any of the active 1-16 command buttons (as indicated by the command key LED's lighting green) will be pressed, the system will fire.

Firing in Manual Mode

1. The display will be as follows:

20:17:10
EVENT:1 GROUP:1
MODE: MANUAL

2. Choose the Group according to your preference. You can increment the group number by 1 by pressing the **Group** key. When current Group number is 16, pressing on the Group key will bring you to Group 1.
3. Press the PTT and press any of the active command keys. The firework will fire. Any RCU that has functioned will shut down automatically. The command key LED of any fired unit will turn from green to red.

4. To stop an event press **Hold**. The TU will send a disarm command to the RCUs. Any RCU that hasn't received yet a firing command will return to Standby state with the red light blinking. The command key LEDs will get into the following condition:

Key LED	Color
Send	Red
Ready	Green
Hold	Red
Group	Green

Firing In Semi-Automatic Mode

1. The display will be as follows:

20:17:10
EVENT:1 GROUP:1
MODE: S-AUTO

2. Press the PTT and press the **Send** key. A firework will fire in the pre-programmed order every time you press the **Send** key. The command key LED of any fired unit will turn from green to red. Any RCU that has functioned will shut down automatically. You can increment the group number by 1 by pressing the **Group** key. When current Group number is 16, pressing on the Group key will bring you to Group 1.
3. To stop an event press **Hold**. The TU will send a disarm command to the RCUs. Any RCU that hasn't received yet a firing command will return to Standby state with the red light blinking. The command key LEDs will get into the following condition:

Key LED	Color
Send	Red
Ready	Green
Hold	Red
Group	Green
Activation Keys	

Firing In Automatic Mode

1. The display will be as follows:

Time from start	20:17:10 GROUP 1 RCU 01 ##:##.# #:##.# AVAIL: ##	Time left
-----------------	---	-----------

2. Press the PTT and press the **Send** key. As long as you hold the PTT, the fireworks will fire in the pre-programmed order and timing. The command key LED of any fired unit will turn from green to red. Any RCU that has functioned will shut down automatically.
3. To stop an event press **Hold**. The TU will send a disarm command to the RCUs. Any RCU that hasn't received yet a firing command will return to Standby state with the red light blinking. The command key LEDs will get into the following condition:

Key LED	Color
Send	Red
Ready	Green
Hold	Red
Group	Green
Activation Keys	

Terminal Unit Settings

Passwords

Clock

Intensity and Backlight

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Quick Reference Guide

I plan that this section will summerize the steps to operate the system in one page on the back cover, with references to the appropriate pages in the manual.