



# **T3D-500**

## **Trap Release System**

### **Installation and Operating Instructions**

#### **Quality Replacement Parts**

5405 Valley Belt Rd, Ste A

Independence, OH 44131

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216-674-0200

## WARRANTY

**Long Range Systems, Inc.** warrants the trap release product against any defects that are due to faulty material or workmanship for a one-year period after the original date of consumer purchase. This warranty does not include damage to the product resulting from accident, misuse or improper electrical connection. If this product should become defective within the warranty period, we will repair or replace with equivalent product, free of charge. We will return your product, transportation charges prepaid standard UPS Ground shipping mode, provided the product is shipped prepaid to:

**Long Range Systems, Inc.**, 10840 Switzer Ave. #107, Dallas, TX 75238.

No return or replacement can be received without prior authorization and the proper RMA# posted to the outside of the shipping container.

This warranty gives you specific legal rights and you may also have rights that vary from state to state.



## *Welcome to Long Range*

Thank you for choosing Long Range Wireless Trap Release Systems to provide your trap release solution. We provide cutting edge products and first-rate service to satisfy your needs for years to come. Please familiarize yourself and your staff with the contents of this instruction in order to properly operate and maintain your system. For help operating your system or for any service problems, please call:

**(800) 987-6749**

Please keep this instruction in a safe place with copies available to key staff.

### *Table of Contents*

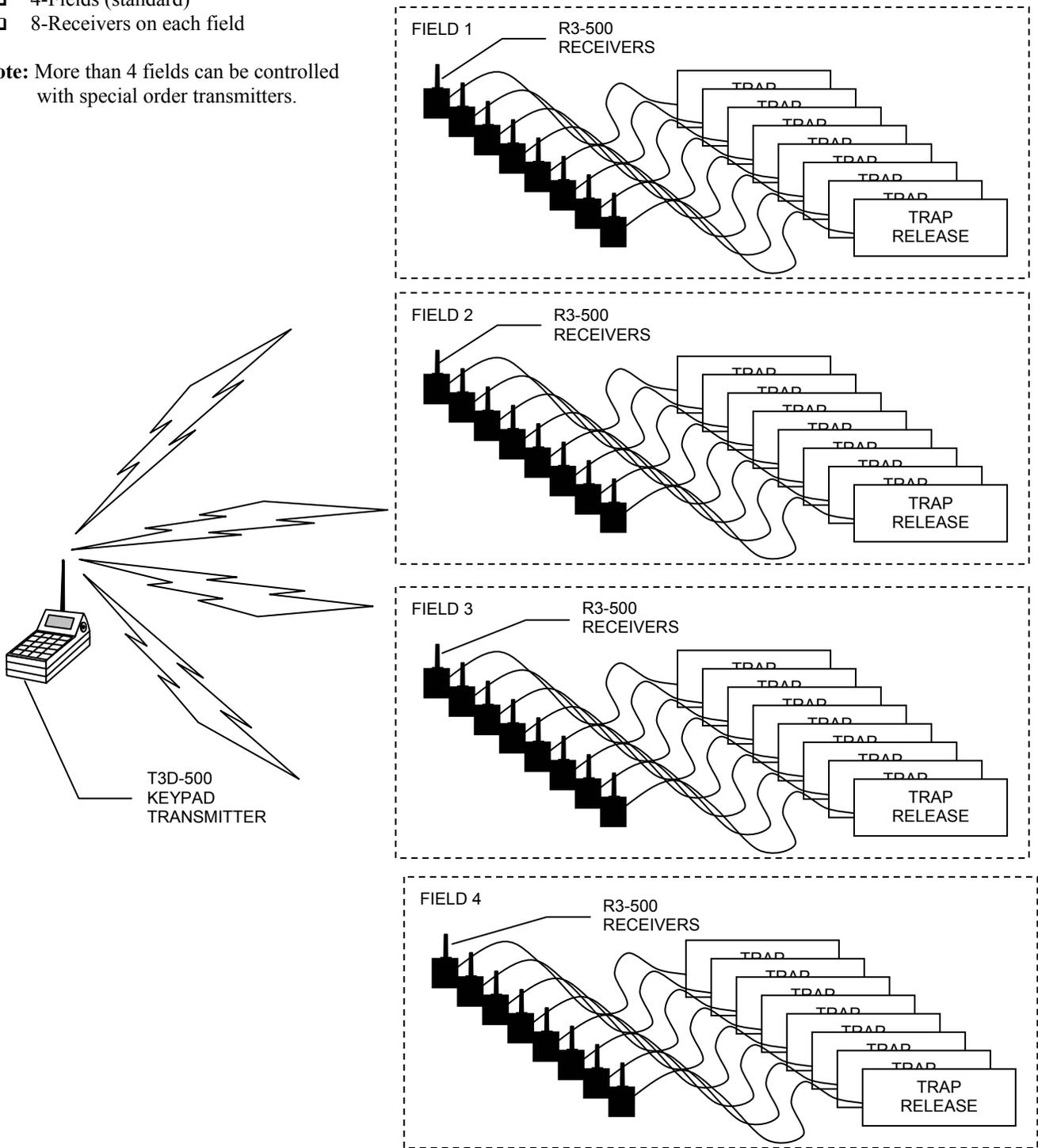
General Information .....	2
Keypad Installation .....	3
Keypad Functions .....	4
Key Functions.....	4
F Key Functions .....	4
Number Key Functions.....	4
↑ Function .....	4
↓ Function .....	4
No Bird Function.....	4
Clear Function .....	4
Enter Function .....	4
Initial Setup Functions.....	5
Initial Power Up, Time Set, and Authorization Code.....	5
Playing a Game .....	5
5-Stand Games .....	6
Playing the Game .....	6
Custom 5-Stand .....	7
Flush Games.....	8
Playing the Game .....	8
Custom Flush.....	9
Make New Random Game .....	9
Edit Existing Random Game .....	9
Make New User Game .....	9
Edit Existing User Game.....	10
Manual Games.....	11
Play Manual Game .....	11
Setup.....	11
Play.....	11
System Functions.....	12
System Functions Menu .....	12
System Functions .....	12
R3-500 Receivers .....	13
General Description.....	13
R3-500 Connection.....	13
R3-500 Dip Switch Settings .....	13
Troubleshooting .....	14
Keypad will not display anything .....	14
Power Test.....	14
Receivers are releasing when they were not activated.....	14
Receivers are releasing in a manner you did not program.....	14
Receivers are not answering the command or acting strange .....	14
My System is malfunctioning - What do I do? .....	14
Transmitter Specifications.....	15
Optional Accessories .....	15
Spare Parts .....	15

## GENERAL INFORMATION

The T3D-500 Trap Release System is used to trigger R3-500 receivers. The receivers are paged directly through a radio transmitter located in the T3D-500 keypad and relay contacts trigger the traps. The capacity of this system is:

- ❑ 4-Fields (standard)
- ❑ 8-Receivers on each field

**Note:** More than 4 fields can be controlled with special order transmitters.



*Typical Installation*

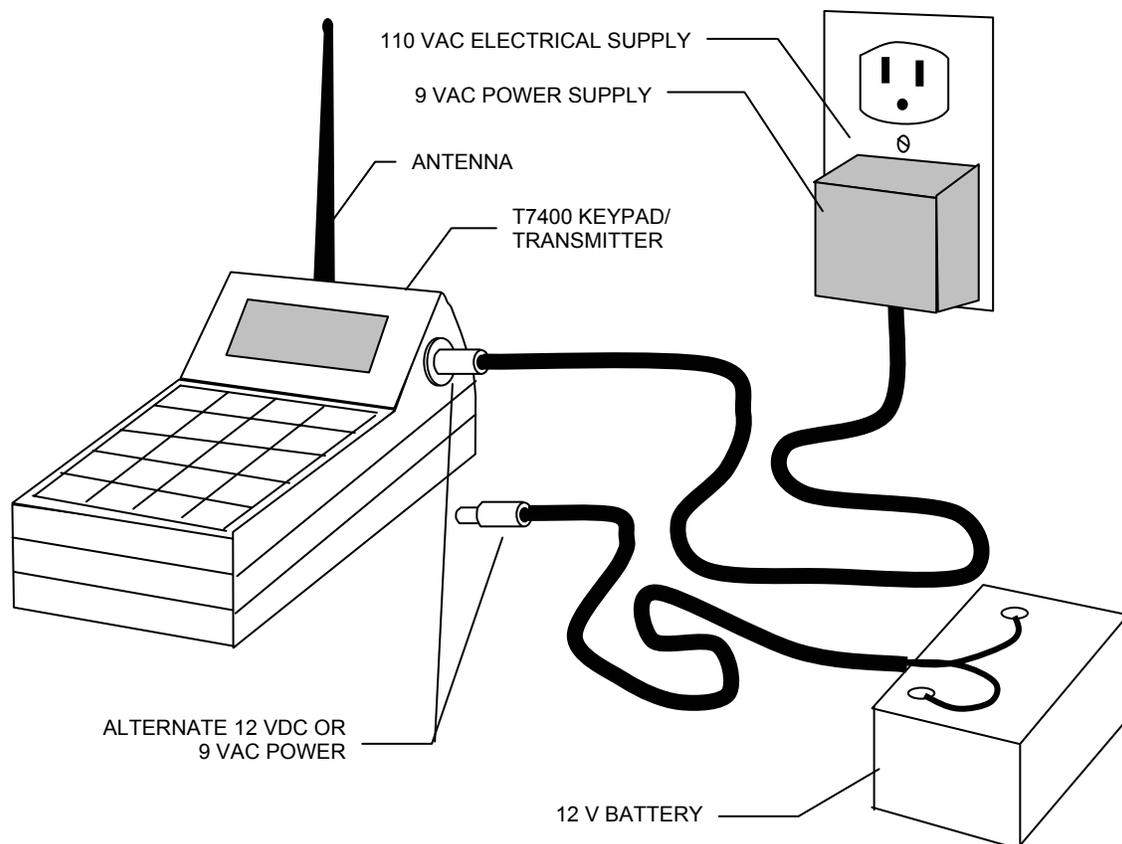
## KEYPAD INSTALLATION

**CAUTION: Do not connect any other devices to keypad.** Each keypad requires a separate power supply.

1. Locate the silver connector in the back of the keypad. Twist the keypad antenna onto silver connector on back of keypad.

**CAUTION: Do not mount the keypad antenna near any large metal objects.**

2. Mount the keypad in convenient location where there is access to either 110V power or 12 VDC power. It is best to mount the antenna pointing straight up, perpendicular to the ground.
3. If using the 110 Volt source, plug the power supply into standard 110V outlet and the barrel connector end into either of the side holes on the keypad
4. If using the 12 VDC source (12-15 V, 1-A minimum), connect the terminal ends of the cable to the positive (+) and negative (-) to the battery and the barrel connector end into either of the side holes on the keypad.
5. Upon completion of setup make sure the receivers are properly connected to receive power.



# KEYPAD FUNCTIONS

## Key Functions

Before you begin programming the keypad, read the following keypad descriptions. As the display changes the keys perform different functions.

### F Key Functions

The F (function) keys are the first row of keys under the display. The F1, F2, F3, and F4 keys correspond to the bottom row of text in the keypad display window. Dependent upon the displayed text in the window, the F1-F4 keys will mean different things.

In the example to the right:

- F1 is the **Prog** function.
- F2 or F3 is the **Play** function.
- F4 is the **Exit** function.

### Number Key Functions

The number keys 1 through 0 are used to enter numeric data such as the receiver number.

### ↑ Function

The ↑ key is pressed to scroll up through selections (e.g., scroll through the menu selections on the 5-stand menu)

### ↓ Function

The ↓ key is pressed to scroll down through selections (e.g., scroll through the menu selections on the 5-stand menu)

### No Bird Function

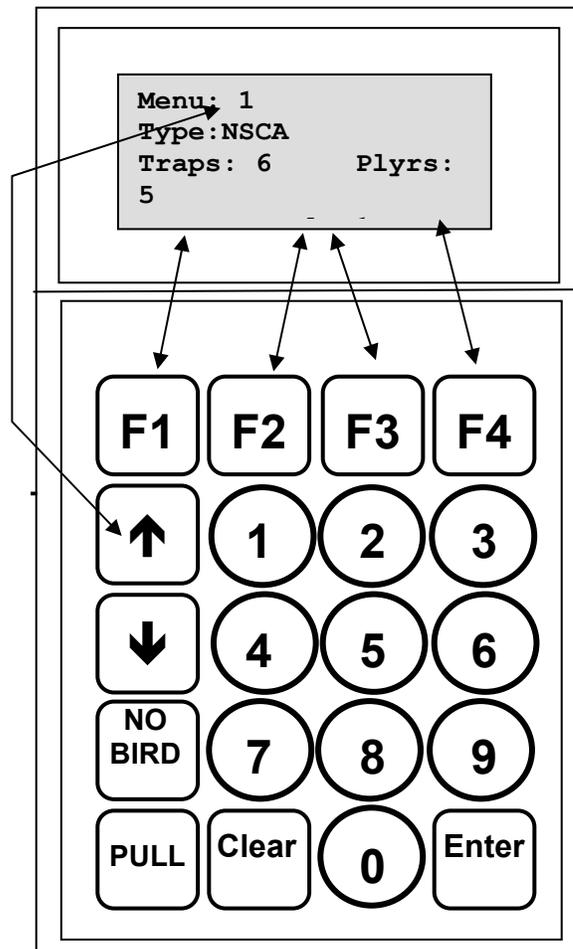
The **No Bird** key is used to report a failure of a trap to send a bird and replay the trap.

### Clear Function

The **Clear** key is used to clear and reenter inputs from the keypad.

### Enter Function

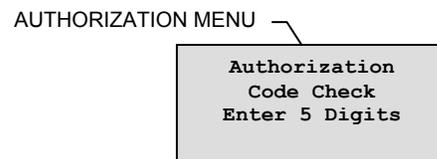
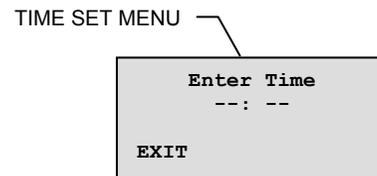
The **Enter** key is used to start the selected function and to complete function settings where required.



## INITIAL SETUP FUNCTIONS

### Initial Power Up, Time Set, and Authorization Code

1. Connect the antenna and power connection to the keypad.
2. After the transmitter initializes the time set menu is shown. Enter the current time and press the <Enter> key. (NOTE: Pressing **F1** (EXIT) bypasses this function and sets the time to 12:00am).
3. When the display asks for AM or PM press the **F1** Key for AM or the **F4** key for PM. (Note that AM is right above the F1 key and PM is right above the F4 key). The display changes to the Authorization menu.
4. At the Authorization Menu;
  - Enter Authorization Code **5 6 7 8 9** if any of the games are to be modified by the user. The screen displays Programming Functions are Enabled and stops at the game menu.
  - Press Enter if the games are not to be modified by the user. The screen displays Programming Functions are Disabled press any key to continue.

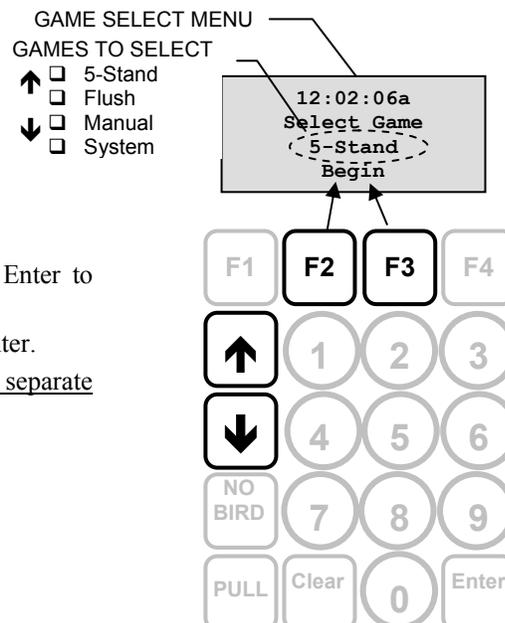


### Playing a Game

**Note:** The details of the games are described in separate paragraphs.

Playing any of the games requires the following basic steps:

1. Apply the power (AC or Battery) to the unit.
2. Set the time.
3. Enter the authorization code if game modification is used (or press Enter to continue to play stored games).
4. Use the **↑** and **↓** keys to select the desired game and press F1, F2, or Enter.
5. Use the **↑** and **↓** keys to select the version of the game to play (see separate game descriptions).
6. Select **Begin** (F2 or F3) to play the game.
7. Follow the instructions for the game.



## 5-STAND GAMES

The T3D-500 is shipped with 9 preset 5-stand games. Games 1 – 3 are standard NSCA games and cannot be altered except for number of players and mapping the receivers. With the authorization code all of these games can be modified to suit the needs of the player. Functions are:

**Menu** – use the ↑ and ↓ keys to select the game to play (1 - 9).

**Traps** – The number of traps programmed into the selected game (up to 8)

FROM GAME SELECT MENU

5-STAND MENU DEFINITIONS

**Type** – The type of game selected (NSCA or Custom)

**Players** – The number of players programmed into the selected game (up to 8)

**Level** – The skill level programmed into the selected game. :

Level 1 = 5 single pulls

Level 2 = 3 single pulls and 1 double pull

Level 3 = 1 single and 2 double pulls

### Playing the Game

1. At the Game Select Menu
  - Select **5-Stand**.
  - Select **Begin** (Press **F2** or **F3**).
2. Use the ↑ and ↓ keys to select the Game to play (Games 1 through 3 are standard NSCA games and only the number of shooters and the trap assignments can be changed).
3. Press:

**Note:** If a custom game is required, review the **Custom 5-Stand** paragraph.

- **F1** (Prog) to change the set number of players, assign traps, or set up a custom game (authorization code required)
- **F2 or F3** (Play) to play the selected game.
- **F4** (Exit) to return to the Game Select menu.

**Standard NSCA Games**

Game	NSCA Type	Level
1	6 Trap	1
2	6 Trap	2
3	6 Trap	3

**Release** – The type of release (single or pair [true or following]).

**Manual** - This is selected to select a particular trap to release or to exclude a shooter from the rotation.

Play

GAME SCREEN DEFINITIONS

**Stand #** -- The number of the stand that will throw on the release.

**Trap #** -- This is the trap that will be released on the next pull.

4. Continue pressing the **Pull** until the game is finished

**Note:** If a manual pull is required, review the **Manual Operation** paragraph.

- On the first sequence the game starts with stand 1 through last shooter.
- After each sequence the display shows **Rotate** and a count down counter.
- The next sequence starts with stand 2 through last shooter.
- Continue through the sequences until each shooter has shot at each trap from each stand. The system returns to the 5-Stand Menu.

**Example: 5-Stand Game 1 with 3 Players**

Sequence 1		Sequence 2		Sequence 3		Sequence 4		Sequence 5	
Stand	Trap								
1	5	2	1	3	4	4	2	5	6
2	1	3	4	4	2	5	6	1	5
3	4	4	2	5	6	1	5	2	1
1	2	2	4	3	3	4	6	5	5
2	4	3	3	4	6	5	5	1	2
3	3	4	6	5	5	1	2	2	4
1	1	2	5	3	6	4	4	5	3
2	5	3	6	4	4	5	3	1	1
3	6	4	4	5	3	1	1	2	5
1	6	2	3	3	1	4	5	5	2
2	3	3	1	4	5	5	2	1	6
3	1	4	5	5	2	1	6	2	3
1	4	2	2	3	5	4	3	5	1
2	2	3	5	4	3	5	1	1	4
3	5	4	3	5	1	1	4	2	2
Rotate →		Rotate →		Rotate →		Rotate →		Clear	

## Custom 5-Stand

Games (4 – 9) can be custom programmed to suit the shooters needs. To customize a game:

1. Select the desired 5-stand game from the menu (1 - 9).
2. Press **Prog** (F1).
3. Press **MORE** (F1) until the item to be changed appears on the menu.

**Note:** games 1 through 3 are preset and allow only the changing of number of shooters and trap information.

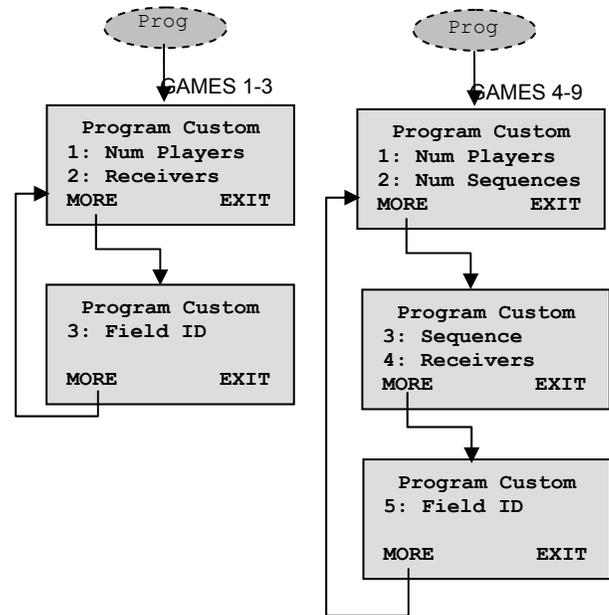
**Num Players** selects the number of shooters in the sequence (1 – 5).

**Num Sequences** Used to set the number of sequences per round. (1 – 5)

**Sequence** Used for custom pull sequences. Sets the traps and pull type for each position.

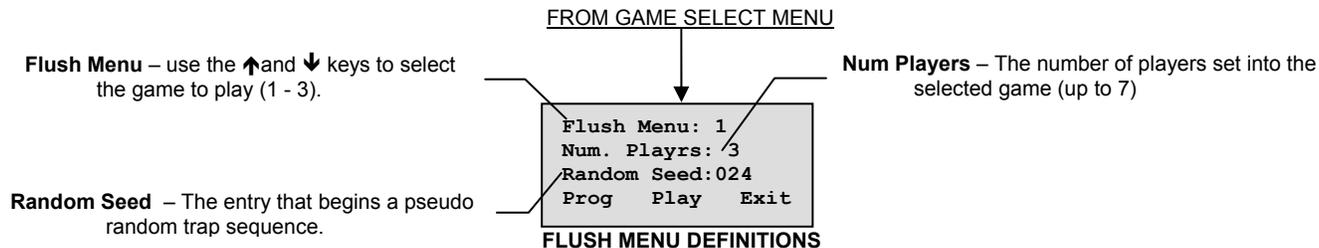
**Receivers** Used when substituting a receiver. Sets the receiver number that will be paged for each trap.

**Field ID** Used to eliminate interference with other fields. Sets the identification number of the field used (1 – 4).



## FLUSH GAMES

The T3D-500 is shipped with 3 random Flush games. These games throw a seemingly random series of birds for several shooters. With the authorization code the games can be modified to suit the needs of the player. Functions are:



### Playing the Game

**Note:** Game in Progress screen appears any time the Flush game is started or re-entered

**NO** will return to the game at the point it was exited without restarting counters (usually for interrupts or manual checks).

**YES** starts the game at the beginning.

1. At the Game Select Menu
  - Select **Flush**.
  - Select **Begin** (Press **F2** or **F3**).
2. Use the **↑** and **↓** keys to select the Game to play (Games 1 through 3).
3. Press:

**Note:** If a custom game is required, review the **Custom Flush** paragraph.

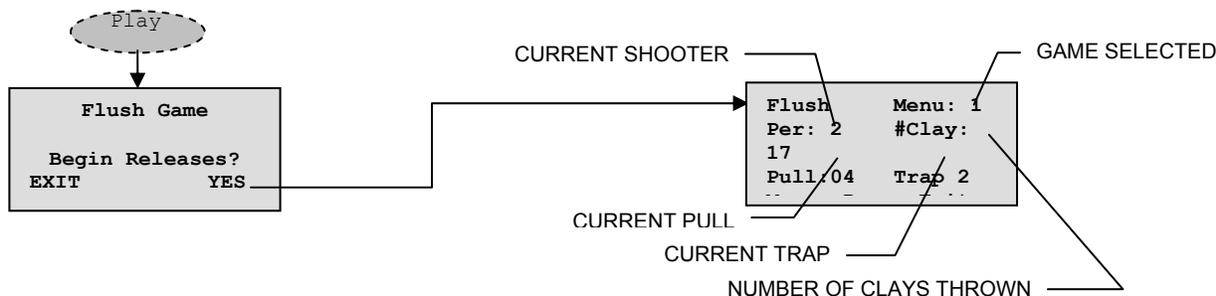
- **F1** (Prog) to change the set sequence type, random seed, number players, number of clays, field number, receivers, number of traps, of players (authorization code required)
- **F2 or F3** (Play) to play the selected game then select **YES** (F4) at the begin releases menu.
- The game will start **automatically** and release birds until the game is finished.

Press:

**Pause** (F3 or F3) to pause the game (e.g., someone needs a potty break). Press any key to continue the game where it was interrupted.

**Man.** (F1) to pause the game to manually throw a bird from the traps (e.g., to ensure the trap is working). Press the **Exit** (F4) key to return to the game.

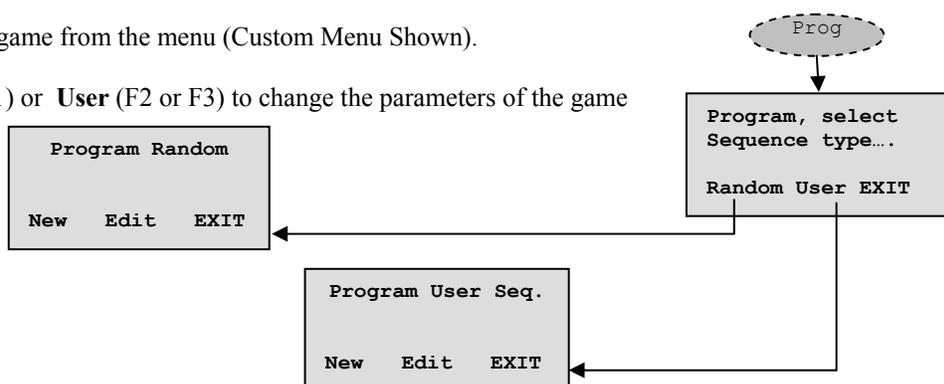
- **F4** (Exit) to return to the Game Select menu.



**Note:** If a manual pull is required, review the **Manual Operation** paragraph.

## Custom Flush

1. Select the desired game from the menu (Custom Menu Shown).
2. Press **Prog** (F1).
3. Press **Random** (F1) or **User** (F2 or F3) to change the parameters of the game



### Make New Random Game

1. Select **New** (F1) for a new definition, then sequence through the following choices. At each menu enter the required data followed by the **Enter** key.
  - Num. Players?** (1 – 7) selects the number of persons in the sequence.
  - Set # of Traps** (1 – 8) sets the number of traps that will be used in the round.
  - Num. Clays** (1 – 71) sets the total number of clays that will be pulled in the round.
  - Field** (1-4) sets the field address where the round will be played.
  - Game #** (1 – 255) sets the random seed number for the game. The game is based on this number and the game will be different for each value used.
2. The system automatically returns to the Game menu after game # is chosen.

### Edit Existing Random Game

1. Select **Edit** (F2 or F3) to enter the required definitions, then sequence through the following choices. At each menu enter the required data followed by the **Enter** key.
2. Select the item from the list (below), make changes and press **Enter**.
  - 1: Num. of players** (1 – 7) selects the number of shooters in the sequence and enter the game # (random seed 1 – 255).
  - 2: Num. Clays** (1 – 71) sets the total number of clays that will be pulled in the round. Pick the number of clays to throw in the game. Pick a game (seed)
  - 3: Field #** (1-4) sets the field address where the round will be played.
  - 4: Receivers** – used to map the receivers used in the field
  - 5: Num, # Traps** (1 – 8) sets the number of traps that will be used in the round.
  - 6: Random Seed** (1 – 255) sets the random seed number for the game. The game is based on this number and the game will be different for each value used.
3. Press **Done** (F4) to accept the entries and return to the Game menu.

### Make New User Game

**Note:** The sequence is chosen by the game when making a new game. The sequence can be edited on an existing game.

1. Select **New** (F1) for a new definition.
  - Num Players?** (1 – 7) selects the number of shooters in the sequence.
  - Set # of Traps** (1 – 8) sets the number of traps that will be used in the round.
  - Enter Field #** (1 -- 4) sets the field address where the round will be played.
  - Num Sequences** (1 – 64) sets the number of sequences that will be thrown.
  - Flush Menu #** shows the number of the menu being created or edited.
  - Pull** the details of the traps that will be thrown with each pull in the sequence. Pressing the **↑** and **↓** keys scrolls through each pull so that traps can be set.
  - Tr:** shows the trap(s) thrown on the pull. Select **Trap(s)** (F1) to add or delete traps from the pull
2. Select **Exit** (F4) when finished.

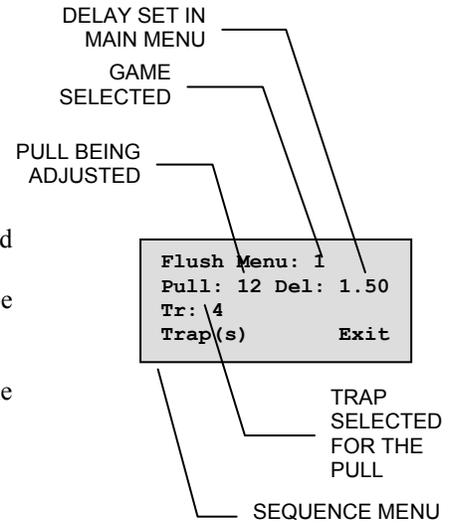
**Edit Existing User Game**

**Note:** Following pairs are **not** available to this game even if chosen at the sequence menu.

1. Select **Edit** (F2 or F3) to enter the required definitions.
2. Select the item from the list (below), make changes and press **Enter**.
  - ❑ **1: Num. of players** (1 – 7) selects the number of shooters in sequence and enter the game # (random seed 1 – 255).
  - ❑ **2: Num. Clays** (1 – 71) sets the total number of clays that will be pulled in the round.
  - ❑ **3: Field Num.** (1-4) sets the field address where the round will be played.
  - ❑ **4: Receivers** – used to map the receivers used in the field
  - ❑ **5: Num, # Traps** (1 – 8) sets the number of traps that will be used in the round.

**Note:** Following pairs are **not** available to this game even if chosen at the sequence menu.

- ❑ **6: Set Sequence** -- sets the sequence of the game (replaces random input)
  - Num Sqncs -- (1 - 59) sets the number of sequences to be defined. Enter the number required followed by **Enter**.
  - At the sequence menu, use the **↑** and **↓** keys to find the pull to modify and select the **Trap(s)** (F1) to change (see the **Manual games** description of the trap screen).
  - Press **Exit** (F4) when done.
- 3. Press **Done** (F4) to accept the entries and return to the Game menu.



## MANUAL GAMES

This game throws manually selected clays. With the authorization code the games can be modified to suit the needs of the player.

### Play Manual Game

When the **Begin** option is selected the T3D-500 display, the system enters the Manual play setup mode. Setup functions are:

#### Setup

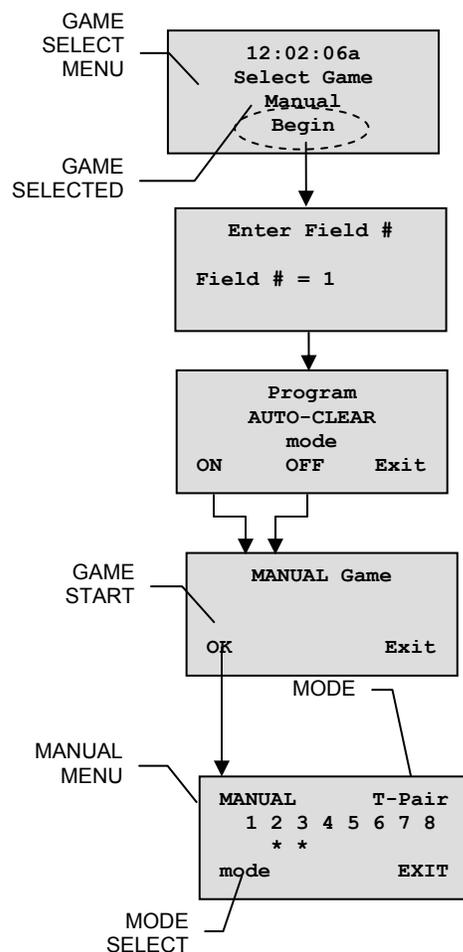
- ❑ **Field #** – use keypad to select the field to use (1 - 4).
- ❑ **AUTO-CLEAR (OFF/ON)** – When set to **OFF** (F2 or F3), selected traps can be re-thrown continuously without resetting at every pull. When set to **ON** (F1) the traps will be cleared for new entries between each pull.
- ❑ **MANUAL Game** – The start screen to play the manual game. Press **OK** (F1) to start.

#### Play

1. At the manual menu, select the desired throw mode (press **mode** (F4) to toggle between single and true pair).

**Note:** Throwing a single only requires pushing the number of the trap, throwing a pair requires entering the both numbers and pressing the **Enter** key.

2. Press the number(s) of the traps to be thrown. Press **Enter** if pairs are to be thrown.
3. Continue steps 1 and 2 until finished, and then select **Exit** (F4) to quit.



# SYSTEM FUNCTIONS

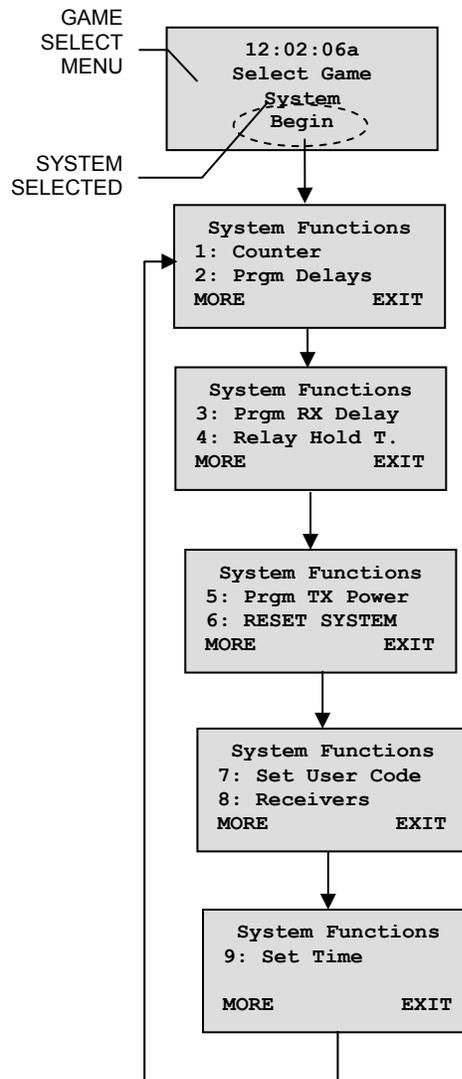
## System Functions Menu

The system functions set the counters and other monitors controlling the games. The authorization code is necessary to modify these parameters.

## System Functions

System Setup functions are:

1. **Counter** – use keypad to select the field to use (1 - 4).  
**Clear Count** – Select to set the game counters to zero.  
**Set Limit** – Sets the limit on the number of birds that can be thrown before the system shuts down the game. Setting 1 – 99 limits the count from 1 to 99 throws, setting 0 disables the limit.  
**Show Count** – Shows the current bird count, the set limit, and the number of no birds.
2. **Prgm Delays** – Sets the program delays for birds.  
**Single** – Sets the minimum time that the system will allow between pulls for single birds (default 1.5 sec).  
**Following** – Sets the minimum time that the system will allow between pulls for single birds (default 1.5 sec).  
**On Report** – Sets the minimum time before the second bird can be sent on a manual on report pull.  
**True Pair** -- Sets the maximum time that the system will wait between the two birds in a true pair (default 1.5 sec).
3. **Prgm RX Delays** – Command sent to the receiver that sets the delay between the pull command and the trap actually releasing the bird. (0 to 15 sec) (default 0 sec).
4. **Relay Hold T.** – Command sent to the receiver to ensure the relay contacts are held closed long enough for the machine to work (0.25 to 3.75 sec) (default 0.75 sec).
5. **Prgm TX Power.** – This allows the transmitter power to be increased or decreased (1 – 18). In situations where the transmitter may cause interference, the power should be decreased. Extreme long-range situations may lead to the need to increase the power. In either case, LRS should be consulted before changing this setting. (default Level 14).
6. **Reset System** – Occasionally power outages or interruptions or other causes may cause the transmitter system to need a reset. LRS should be consulted before using this function.
7. **Set User Code** – The user code is the password that allows users into the transmitter programming. This code setting. Requires a master code obtained from LRS.
8. **Receivers** – This function is used to set the transmitter to page the number for the receiver used at various traps. Normally this would be trap 1 = receiver 1, trap 2 = receiver 2, etc. However, in some occasions a different receiver may be substituted (e.g., trap 5 using receiver 8).
9. **Set Time** – This function is used to set the time. **Note:** The time is reset each time the transmitter is powered up.



## R3-500 RECEIVERS

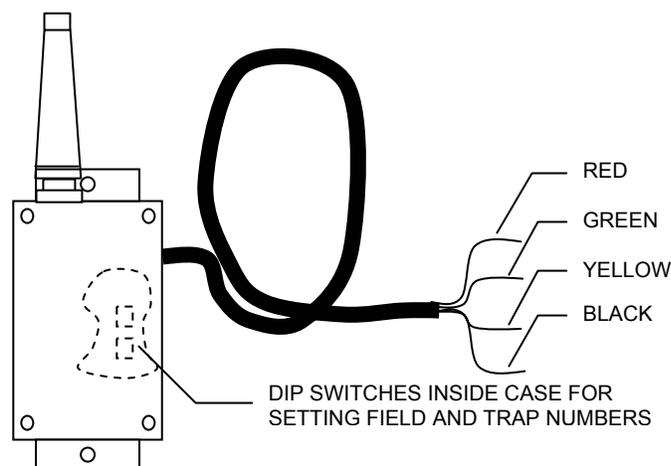
### General Description

The LRS R3-500 receiver used with this system receives 467.750 MHz encoded data sent from the T3C-500 transmitter. In response to the signal, relay outputs close to enable the trap release.

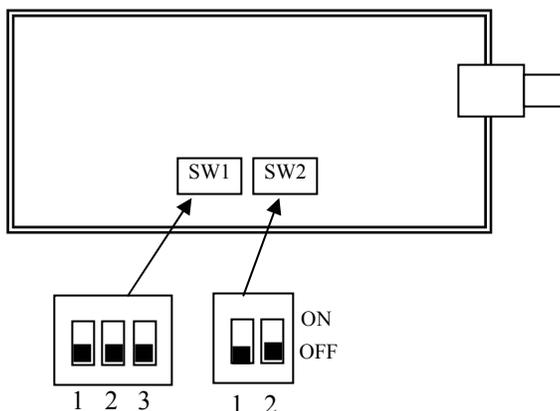
### R3-500 Connection

Connect the receiver as follows:

1. Connect the antenna to the silver connector.
2. If necessary, remove the cover and set the dipswitches to match the field and trap number (see next paragraph).
3. Replace the cover.
4. Connect the colored wires to the trap release system.
  - Red wire to +12 VDC (alternate)
  - Black wire to -12 VDC (common)
  - Yellow and Green wires are the normally open contacts to a 10 amp relay.
5. Apply power to the trap release system.



### R3-500 Dip Switch Settings



Switch 1 Settings for Trap #			
	1	2	3
Trap 1	OFF	OFF	OFF
Trap 2	ON	OFF	OFF
Trap 3	OFF	ON	OFF
Trap 4	ON	ON	OFF
Trap 5	OFF	OFF	ON
Trap 6	ON	OFF	ON
Trap 7	OFF	ON	ON
Trap 8	ON	ON	ON

Switch 2 Settings for Field #		
	1	2
Field 1	OFF	OFF
Field 2	ON	OFF
Field 3	OFF	ON
Field 4	ON	ON

## TROUBLESHOOTING

### ***Keypad will not display anything***

#### **Power Test**

Display power supply may be bad.

- Try another source of power for the keypad (battery)
- If this fixes it, you need a new power supply. Call Long Range Systems or Use RADIO SHACK #273-1611 (9VAC power supply).
- If display is still blank, call Long Range Systems.

#### **Receivers are releasing when they were not activated**

This problem is generally interference from another LRS System. You may be too close to another field using the Long Range Systems Products. Ensure the transmitters and receivers are set for the correct field.

#### **Receivers are releasing in a manner you did not program**

Review receiver modes, delays and addresses and enter the mode you would like. It probably has changed. If all receivers are not receiving a command, follow the "Master Reset" instructions.

#### **Receivers are not answering the command or acting strange**

Make sure the power supplying the receivers is of the proper voltage and correctly connected. When testing receivers, place them at least 3 feet from the keypad controller. You should also do a Master Reset (see top of page).

#### **My System is malfunctioning - What do I do?**

Should your system ever fail to function properly do the following:

1. Read through the troubleshooting section of the instruction manual. Answers to most questions can be found there. In most cases a simple Master Reset (see troubleshooting) or replacing a blown fuse will cure the problem.
2. Call **Long Range Wireless Trap Release Systems** - (800) 987-6749. We are available Monday through Friday 8:30 am to 5:00 pm Eastern Time.

## TRANSMITTER SPECIFICATIONS

The transmitter has been tested and approved by the FCC for part 90 operation on AM or NBFM

**Power Supply:** The transmitter operates from 12 to 20VDC or 9 to 12VAC - 1Amp minimum Two 2.1mm power connectors - polarity insensitive – available on either side for convenience.  
**Display:** 16 x 4 (col. x row) Character based LCD with yellow-green backlight.  
**Keypad:** 4 x 5 (col. x row) membrane switch.  
**Frequency:** The transmitter broadcasts at 467.750MHz.  
**Modulation:** AM  
**Output Power:** 1 Watt.

## OPTIONAL ACCESSORIES

**Extended Antenna:** Call Long Range Systems.

## SPARE PARTS

**Keypad Power Supply:** Radio Shack #273-1611.  
**Antenna:** Call Long Range Systems.