



# IR Programmer

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## Radio Control Equipment Instruction Manual



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# 1 Introduction

Thank you for your purchase of a Magnetek® IR Programmer.

These instructions are to be used as a reference for personnel operating the IR Programmer and the equipment that it is controlling.

The user of these instructions should have basic knowledge in the handling of electronic equipment.

## 1.1 Product Manual Safety Information

Magnetek, Inc. (Magnetek) offers a broad range of radio remote control products, control products and adjustable frequency drives, and industrial braking systems for overhead material handling applications. This manual has been prepared by Magnetek to provide information and recommendations for the installation, use, operation and service of Magnetek's material handling products and systems (Magnetek Products). Anyone who uses, operates, maintains, services, installs or owns Magnetek Products should know, understand and follow the instructions and safety recommendations in this manual for Magnetek Products.

The recommendations in this manual do not take precedence over any of the following requirements relating to proper equipment operation:

- Instructions, manuals, and safety warnings from the manufacturers of the equipment where the radio system is used
- Plant safety rules and procedures of the employers and the owners of facilities where the Magnetek Products are being used
- Regulations issued by the Occupational Health and Safety Administration (OSHA)
- Applicable local, state or federal codes, ordinances, standards and requirements
- Safety standards and practices for the specific industry

This manual does not include or address the specific instructions and safety warnings of these manufacturers or any of the other requirements listed above. It is the responsibility of the owners, users and operators of the Magnetek Products to know, understand and follow all of these requirements. It is the responsibility of the owner of the Magnetek Products to make its employees aware of all of the above listed requirements and to make certain that all operators are properly trained. **No one should use Magnetek Products prior to becoming familiar with and being trained in these requirements and the instructions and safety recommendations in this manual.**

### **WARRANTY INFORMATION**

For information on Magnetek's product warranties by product type, please visit [www.cmco.com/magnetek](http://www.cmco.com/magnetek).

## 1.2 Warnings and Cautions

Throughout this document, WARNING and CAUTION statements have been deliberately placed to highlight items critical to the protection of personnel and equipment.



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



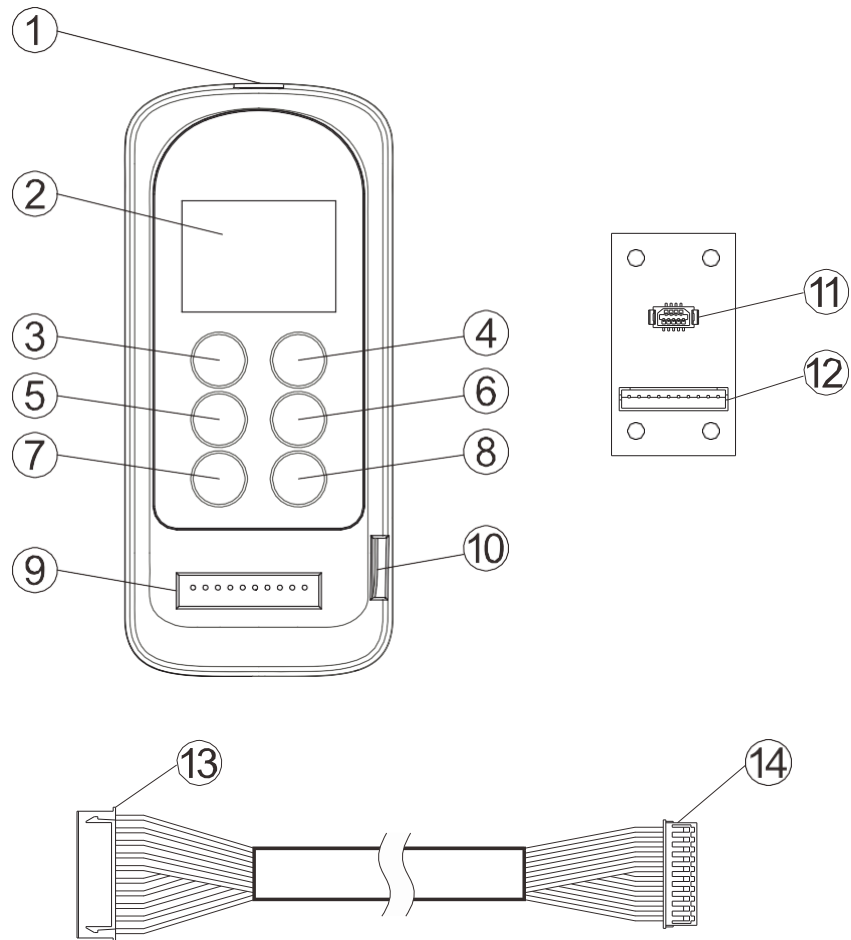
CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTE:** A NOTE statement is used to notify people of installation, operation, programming, or maintenance information that is important, but not hazard-related.

### **WARNINGS and CAUTIONS SHOULD NEVER BE DISREGARDED.**

The safety rules in this section are not intended to replace any rules or regulations of any applicable local, state, or federal governing organizations. Always follow your local lockout and tagout procedure when maintaining any radio equipment. The following information is intended to be used in conjunction with other rules or regulations already in existence. It is important to read all of the safety information contained in this section before installing or operating the Radio Control System.

## 2 External Illustrations



- |                     |   |
|---------------------|---|
| 1. Infrared Sensors | 8. "WRITE" Button                         |
| 2. LCD Screen       | 9. Programming Port                       |
| 3. "↑" Button       | 10. Mini USB Port (for firmware update)   |
| 4. "↓" Button       | 11. I-Chip Port                           |
| 5. "BACK" Button    | 12. I-Chip Programming Board Connector    |
| 6. "→" Button       | 13. Connector to Programming Port         |
| 7. "READ" Button    | 14. Connector to I-Chip Programming Board |

<b>(TX &amp; RX)</b>	→	Programming for both transmitter and receiver
<b>(TX)</b>	→	Programming for transmitter only
<b>(RX)</b>	→	Programming for receiver only

### 3 Power On/Off the Unit

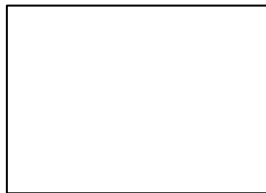
1. Nothing is shown on the LCD screen when power is off.

Power off

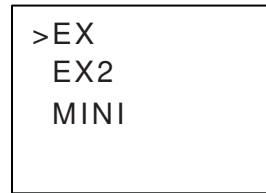


2. Press the “→” button to power on the unit.

Power off



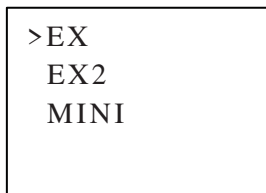
Power on



Press “→” button

3. Press the BACK button at type model main screen to power off the unit.

Power on



Power off



Press “Back” button

4. The unit will power off after 10 minutes of inactivity.
5. Change battery immediately when the LCD backlights flash repeatedly.

## 4 Model Selection

```
>EX  
EX2  
MINI
```

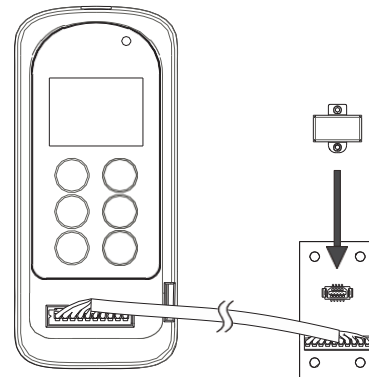
```
>BASE/DUO
```

At type model main screen use the “↑” and “↓” buttons to scroll between models. Press “→” button to enter the selected type model (cursor shown next to the type model). To deselect the type model after entering, press the “BACK” button until the type model main screen is shown again. Press the “BACK” button again to turn off the programmer.

## 5 Flex EX Models

### 5.1 Programming I-Chip

When entering the Flex EX models the first selection shown on the screen is “Program I-Chip.” Use the “↑” and “↓” buttons to scroll through various Flex EX settings or press “→” button to enter “Program I-Chip.” Make sure the I-Chip is connected to the programmer.



1. Press “→” button to erase I-Chip information, press “→” button again to execute. “ERASE OK” is shown on the screen when completed.
2. Press “READ” button to store the I-Chip information into the programmer. If the screen shows “READ OK” the transfer is completed.
3. Press “WRITE” button to transfer the stored I-Chip information into a new I-Chip. If the screen shows “WRITE OK” the transfer is completed.
4. Exit Program I-Chip by pressing the “BACK” button until the cursor is shown next to “PROGRAM.”
5. Press “↑” and “↓” button to scroll through other Flex EX settings.

### 5.2 Program Serial Number (TX & RX)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter Serial Number setting.
3. Press “↑” and “↓” button to change serial number as a whole or...
4. Press “→” button to go to the 1st digit on the far left of the serial number.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Serial Number by pressing the “BACK” button until the cursor is shown next to “S/N.”
9. Press “↑” and “↓” button to scroll through other Flex EX settings.

When finished, take out the I-Chip and insert it onto the I-Chip programming port located on the decoder module to transfer the new serial number from the I-Chip to the receiver. Make sure JP6 jumper is inserted when transferring I-Chip information into the receiver.

## 5.3 Program System Type (TX & RX)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter System Type setting.
3. Press “↑” and “↓” button to change system type as a whole or...
4. Press “→” button to go to the digit on the left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program System Type by pressing the “BACK” button until the cursor is shown next to “TYPE.”
9. Press “↑” and “↓” button to scroll through other Flex EX settings.

When finished, take out the I-Chip and insert it onto the I-Chip programming port located on the decoder module to transfer the new system type from the I-Chip to the receiver. Make sure JP6 jumper is inserted when transferring I-Chip information into the receiver.

## 5.4 Program System Frequency Range (TX)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter System Frequency Range setting.
3. Press “↑” and “↓” button to change frequency range.
4. Exit Program System Frequency Range by pressing the “BACK” button until the cursor is shown next to “FREQ.”
5. Press “↑” and “↓” button to scroll through other Flex EX settings.

When changing the frequency range table in I-Chip, make sure the transmitting and receiving RF boards are also changed accordingly.

## 5.5 Program System Channel (TX)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter System Channel setting.
3. Press “↑” and “↓” button to change system channel as a whole or...
4. Press “→” button to go to the digit on the left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program System Channel by pressing the “BACK” button until the cursor is shown next to “CHANNEL.”
9. Press “↑” and “↓” button to scroll through other Flex EX settings.

## 5.6 Program RF Power (TX)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter RF Power setting.
3. Press “↑” and “↓” button to change RF power (0.01 ~ 10mW).
4. Exit Program RF Power by pressing the “BACK” button until the cursor is shown next to “RFpower.”
5. Press “↑” and “↓” button to scroll through other Flex EX settings.

## 5.7 Program Transmitter Inactivity Timer (TX)

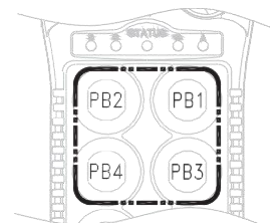
1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter Transmitting Timer setting.
3. Press “↑” and “↓” button to select M, S or ON (constant ON).
4. When Minutes or Seconds is selected, press “→” button to go to the first digit on the left and press “↑” and “↓” button to select numeric value.
5. Press “→” button to go the next digit to the right and press “↑” and “↓” button to select numeric value.
6. Press “→” button again to go to the next column to select “M” for minutes and “S” for seconds. Press “↑” and “↓” button to select.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Transmitter Timer by pressing the “BACK” button until the cursor is shown next to “TX TIMER.”
9. Press “↑” and “↓” button to scroll through other Flex EX settings.

## 5.8 Program Password (TX)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter Password setting.
3. Press “→” button to go to the 1st digit on the far left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 3.
7. Exit Program Password by pressing the “BACK” button until the cursor is shown next to “PASSWORD.”
8. Press “↑” and “↓” button to scroll through other Flex EX settings.

Only PB1 through PB4 are used when using the password function. Numeric value “1” represents PB1, “2” represents PB2, “3” represents PB3 and “4” represents PB4.

Setting “1111” → Password function disabled (manufacture preset)



## 5.9 Program Pushbutton Functions (TX)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter Pushbutton Functions setting.
3. Press “↑” and “↓” button to change pushbutton function as a whole or...
4. Press “→” button to go to the digit on the far left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Pushbutton Functions by pressing the “BACK” button until the cursor is shown next to “PB FUNC.”
9. Press “↑” and “↓” button to scroll through other Flex EX settings.

The transmitter pushbutton function tables (**Section 10, Part A on page 53**) illustrate which numeric value corresponds to which pushbutton function.

## 5.10 Program Function Relay / K26 Relay (RX)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter Function Relay setting.
3. Press “↑” and “↓” button to scroll and select.
4. Exit Program Function Relay by pressing the “BACK” button until the cursor is shown next to “FUNCTION RELY.”
5. Press “↑” and “↓” button to scroll through other Flex EX settings.

--	:	According to receiver dipswitch setting.
NORMAL	:	START function + AUX with normal momentary output. Works the 1st time rotate to the START position.
TOGGLE	:	START function + AUX with toggled/latching output.
TOG&E	:	START function + AUX with toggled/latching output. The relay opens when “STOP” button is pressed down and transmitter power off.
EXT	:	FUNCTION relay works simultaneously with the receiver MAIN relays.
TDM A+B	:	FUNCTION relay closes when selector switch is rotated to the A+B position and opens when rotated to A or B positions (tandem monitoring output).
S/P	:	FUNCTION relay closes when START command is executed and opens only when transmitter power is turned off.
HORN	:	FUNCTION relay closes for up to 3 seconds when START command is executed at transmitter power on and then becomes normal momentary outputs thereafter.

When finished, take out the I-Chip and insert it onto the I-Chip programming port located on the decoder module to transfer the new setting from the I-Chip to the receiver. Make sure JP6 jumper is inserted when transferring I-Chip information into the receiver.

## 5.11 Program Brake Functions (RX)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter Brake Function setting.
3. Press “↑” and “↓” button to scroll and select.
4. Exit Program Brake Functions by pressing the “BACK” button until the cursor is shown next to “BRAKE.”
5. Press “↑” and “↓” button to scroll through other Flex EX settings.

<b>DEMAG 1</b>	:	When releasing pushbutton from 2nd speed up to 1st speed, the 1st speed output relay will open for up to 1.0 second and then closes again.
<b>DEMAG 2</b>	:	When pushbutton is pressed down to 2nd speed directly from 0 speed, the 1st speed output relay will maintain closure for up to 0.4 second before 2nd speed output relay closes. When pushbutton is released from 2nd speed up to 0 speed, the 1st speed output relay will maintain closure for up to 0.5 second before going to 0 speed.
<b>DEMAG 3</b>	:	When releasing pushbutton from 2nd speed up to 1st speed, both 1st and 2nd speed output relays are opened. Release pushbutton to 0 speed and then press down to 1st speed to reengage the 1st speed output relay.
<b>P&amp;H</b>	:	When releasing pushbutton from 2nd speed up to 0 speed, the 1st speed output relay will maintain closure for up to 0.1 second before going to 0 speed.

When finished, take out the I-Chip and insert it onto the I-Chip programming port located on the decoder module to transfer the new Brake setting from the I-Chip to the receiver. Make sure JP6 jumper is inserted when transferring I-Chip information into the receiver.

## 5.12 Program Serial Number (Flex Pro transmitter)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter Serial Number setting.
3. Press “↑” and “↓” button to change serial number as a whole or...
4. Press “→” button to go to the 1st digit on the far left of the serial number.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press "BACK" button to go back to step 3 or 4.
8. Exit Program Serial Number by pressing the “BACK” button until the cursor is shown next to “TXSN.”
9. Press “↑” and “↓” button to scroll through other Flex EX settings.

## 5.13 Program Project ID (Flex Pro transmitter)

1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter Project ID setting.
3. Press “↑” and “↓” button to change serial number as a whole or...
4. Press “→” button to go to the 1st digit on the far left of the serial number.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Serial Number by pressing the “BACK” button until the cursor is shown next to “PRJT.”
9. Press “↑” and “↓” button to scroll through other Flex EX settings.

## 5.14 Program CAN ID (Flex Pro transmitter)

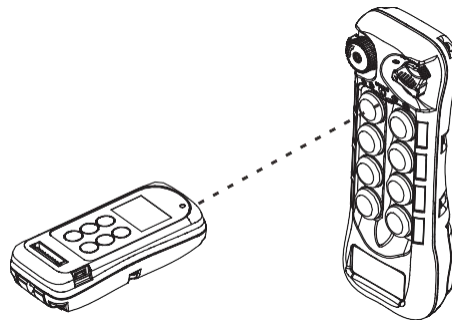
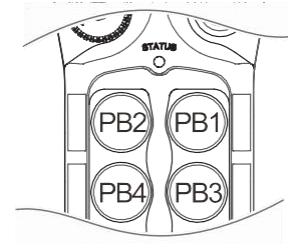
1. Make sure the I-Chip is connected to the programmer.
2. Press “→” button to enter CAN ID setting.
3. Press “↑” and “↓” button to change serial number as a whole or...
4. Press “→” button to go to the 1st digit on the far left of the serial number.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Serial Number by pressing the “BACK” button until the cursor is shown next to “CAN.”
9. Press “↑” and “↓” button to scroll through other Flex EX settings.

## 6 Flex EX2 Models

### 6.1 Program IR

#### 6.1.1 Transmitter

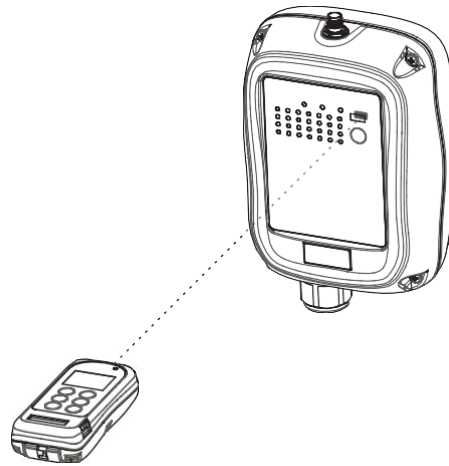
1. Rotate the power switch key to OFF ( 0 ) position.
2. With the “STOP” button elevated, press and hold PB1 and PB3 at the same time (READ not required).
3. Rotate the power switch key to ON ( 1 ) position.
4. Release PB1 and PB3 at the same time. The transmitter Status LED displays firmware version with red, green and orange blinks.
5. Press “READ” button to transfer transmitter info into the IR programmer. If the screen shows “READ OK” the transfer is completed.
6. Browse through list of settings by pressing “↑” and “↓” buttons.
7. Press “WRITE” button to transfer the new settings into the transmitter (transmitter Status LED constant orange). If the screen shows “WRITE OK” the transfer is completed (transmitter Status LED constant green for up to 2 seconds).



8. Exit Program IR by pressing the “BACK” button until the cursor is shown next to “PROGRAM.”
9. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.1.2 Receiver

1. Power on the receiver with MAIN relays deactivated (standby mode).



2. Press “READ” button to transfer receiver info into the IR programmer. If the screen shows “READ OK” the transfer is completed.
3. Browse through list of settings by pressing “↑” and “↓” buttons.
4. Press “WRITE” button to transfer the new settings into the receiver (receiver Status LED constant orange). If the screen shows “WRITE OK” the transfer is completed (receiver Status LED blinks green - standby mode).
5. Exit Program IR by pressing the “BACK” button until the cursor is shown next to “PROGRAM.”
6. Press “↑” and “↓” button to scroll through other Flex EX2 settings

**NOTE:** When performing infrared programming, make sure the distance between the IR programmer and the transmitter or receiver is within 10cm.

## 6.2 Program Serial Number (TX & RX)

1. Press “→” button to enter Serial Number setting.
2. Press “↑” and “↓” button to change serial number as a whole or...
3. Press “→” button to go to the 1st digit on the far left of the serial number.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 2 or 3.
7. Exit Program Serial Number by pressing the “BACK” button until the cursor is shown next to “S/N.”
8. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.3 Program System Type (TX & RX)

1. Press “→” button to enter System Type setting.
2. Press “↑” and “↓” button to change system type as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 2 or 3.
7. Exit Program System Type by pressing the “BACK” button until the cursor is shown next to “TYPE.”
8. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.4 Program T-Type Functions (TX & RX)

1. Press “→” button to enter T-Type Functions setting.
2. Press “↑” and “↓” button to change type number.
3. Press “→” button and then “↑” and “↓” button to select “LOCK” for all Select buttons interlocked and “UNLOCK” for all Select buttons non-interlocked.
4. Exit Program T-Type Functions by pressing the “BACK” button until the cursor is shown next to “T-TYPE.”
5. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.5 Program System Frequency Range (TX & RX)

1. Press “→” button to enter Frequency Range setting.
2. Press “↑” and “↓” button to change frequency range.
3. Exit Program System Frequency Range by pressing the “BACK” button until the cursor is shown next to “FREQ.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.6 Program System Channel (TX & RX)

1. Press “→” button to enter System Channel setting.
2. Press “↑” and “↓” button to scroll and select channel number setting (assigned channel scheme) or UNASSIGN (unassigned channel scheme).
3. To program channel number, press “→” button to go to the digit on the left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the digit on the right and repeat step 4.
6. Press “BACK” button to go back to step 2 or 3.
7. Exit Program System Channel by pressing the “BACK” button until the cursor is shown next to “CHANNEL.”
8. Press “↑” and “↓” button to scroll through other Flex EX2 settings

## 6.7 Program RF Power (TX)

1. Press “→” button to enter RF Power setting.
2. Press “↑” and “↓” button to change RF power (0.01mW ~ 10mW).
3. Press “→” button and then “↑” and “↓” button to **enable** or **disable** RF power adjustment via transmitter dipswitch.
4. Exit Program RF Power by pressing the “BACK” button until the cursor is shown next to “RFpower.”
5. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.8 Program Pushbutton Functions (TX)

1. Press “→” button to enter Pushbutton Functions setting.
2. Press “↑” and “↓” button to change pushbutton function as a whole or...
3. Press “→” button to go to the digit on the left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 2 or 3.
7. Exit Program Pushbutton Functions by pressing the “BACK” button until the cursor is shown next to “PB FUNC.”
8. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

The transmitter pushbutton function tables (**Section 10, Part B on page 65**) illustrate which numeric value corresponds to which pushbutton function.

## 6.9 Program Left Rotary Switch Functions (TX)

1. Press “→” button to enter Left Rotary Switch Functions setting.
2. Press “↑” and “↓” button to select A/Off/B, A/B/A+B, A/A+B/B or A/B/C rotary switch sequence.
3. Exit Program Rotary Switch Functions by pressing the “BACK” button until the cursor is shown next to “SW-L FUNC.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.10 Program Right Rotary Switch Functions (TX)

1. Press “→” button to enter Left Rotary Switch Functions setting.
2. Press “↑” and “↓” button to select A/Off/B, A/B/A+B, A/A+B/B or A/B/C rotary switch sequence.
3. Exit Program Rotary Switch Functions by pressing the “BACK” button until the cursor is shown next to “SW-R FUNC.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.11 Program Transmitter Inactivity Timer (TX)

1. Press “→” button to enter Transmitting Timer setting.
2. Press “↑” and “↓” button to select “\_M” for minutes/seconds or “ON” for constant on.
3. When “ON” is selected, press “→” button and then “↑” and “↓” button to select “+START” or “+ANY.”
4. When “\_M” is selected, press “→” button to go to the digit on the left and press “↑” and “↓” button to select value. Press “→” button again to go to the next digit and press “↑” and “↓” button to select value.
5. Press “→” button again to select “M” for minutes or “S” for seconds. Press “↑” and “↓” button to select.
6. Press “→” button again to select “+START” or “+ANY” selection. Press “↑” and “↓” button to select.
7. Exit Program Transmitter Timer by pressing the “BACK” button until the cursor is shown next to “TX TIMER.”
8. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

Transmitter inactivity timer is for setting receiver main relays cutoff time when the transmitter is not in operation for a certain period of time. When set to 5 minutes (05M), the receiver main relays are deactivated at 5.0 minutes after last transmitter operation.

Select “ON” means the receiver main relays are activated at all times unless the “STOP” button is pressed down, transmitter power turned off, or receiver power turned off (inactivity timer disabled).

Select “+START” means after 5 minutes of transmitter inactivity, you must execute the START command to continue operation. Select “+ANY” means after 5 minutes of transmitter inactivity, press any pushbutton to continue operation.

## 6.12 Program LED1 Feedback Function (TX)

1. Press “→” button to enter LED1 Feedback Function setting.
2. Press “↑” and “↓” button to select Off, Input number or Output number.
3. When “Input” is selected, press “→” button and then “↑” and “↓” button to select input number that the external source is connected to (IN1 ~ IN4).
4. When “Output” is selected, press “→” button and then “↑” and “↓” button to select which output relay to feedback to LED1 (K1 ~ K24).
5. Select “Off” if no feedback is required.
6. Exit Program LED1 Feedback Function by pressing the “BACK” button until the cursor is shown next to “LED1.”
7. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.13 Program LED2 Feedback Function (TX)

1. Press “→” button to enter LED2 Feedback Function setting.
2. Press “↑” and “↓” button to select Off, Input number or Output number.
3. When “Input” is selected, press “→” button and then “↑” and “↓” button to select input number that the external source is connected to (IN1 ~ IN4).
4. When “Output” is selected, press “→” button and then “↑” and “↓” button to select which output relay to feedback to LED2 (K1 ~ K24).

5. Select "Off" if no feedback is required.
6. Exit Program LED2 Feedback Function by pressing the "BACK" button until the cursor is shown next to "LED2."
7. Press "↑" and "↓" button to scroll through other Flex EX2 settings.

## 6.14 Program LED3 Feedback Function (TX)

1. Press "→" button to enter LED3 Feedback Function setting.
2. Press "↑" and "↓" button to select Off, Input number or Output number.
3. When "Input" is selected, press "→" button and then "↑" and "↓" button to select input number that the external source is connected to (IN1 ~ IN4).
4. When "Output" is selected, press "→" button and then "↑" and "↓" button to select which output relay to feedback to LED3 (K1 ~ K24).
5. Select "Off" if no feedback is required.
6. Exit Program LED3 Feedback Function by pressing the "BACK" button until the cursor is shown next to "LED3."
7. Press "↑" and "↓" button to scroll through other Flex EX2 settings.

## 6.15 Program LED4 Feedback Function (TX)

1. Press "→" button to enter LED4 Feedback Function setting.
2. Press "↑" and "↓" button to select Off, Input number or Output number.
3. When "Input" is selected, press "→" button and then "↑" and "↓" button to select input number that the external source is connected to (IN1 ~ IN4).
4. When "Output" is selected, press "→" button and then "↑" and "↓" button to select which output relay to feedback to LED4 (K1 ~ K24).
5. Select "Off" if no feedback is required.
6. Exit Program LED4 Feedback Function by pressing the "BACK" button until the cursor is shown next to "LED4."
7. Press "↑" and "↓" button to scroll through other Flex EX2 settings.

## 6.16 Program Infrared START Function (TX)

1. Press "→" button to enter Infrared Start Function setting.
2. Press "↑" and "↓" button to select Off or IRS. Select "OFF" to disable infrared START function. Select "IRS" to enable infrared START function.
3. Exit Program Infrared START Function by pressing the "BACK" button until the cursor is shown next to "IR Mode."
4. Press "→" button to go to the next Infrared START setting.

## 6.17 Program Infrared START ID Code (TX)

1. Press “→” button to enter Infrared START ID code setting.
2. Press “↑” and “↓” button to set the 3-digit ID code as a whole or...
3. Press “→” button to go to the digit on the left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 2.  
*Make sure the infrared module on crane is set to same ID code as the transmitter.*  
*Selecting “000” disables the ID code function, hence any types of infrared modules can be used.*
7. Exit Program Infrared START ID Code by pressing the “BACK” button until the cursor is shown next to “IR ID.”
8. Press “→” button to go to the next Infrared START setting.

## 6.18 Program IRS Time Out (TX)

1. Press “→” button to enter IRS Time Out setting.
2. Press “↑” and “↓” button to select IRS Off or IRS On.  
*Select “IRS On” if infrared START is required after every transmitter timeout.*  
*Select “IRS Off” if infrared START is not required after every transmitter timeout.*
3. Exit Program IRS Time Out by pressing the “BACK” button until the cursor is shown next to “IRS FUNC.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.19 Program DEADMAN PB Function (TX)

1. Press “→” button to enter DEADMAN PB Function setting.
2. Press “→” and then “↑” and “↓” button to select which button or switch to be used as DEADMAN function (OFF, START, PB1... PB12).
3. Press “BACK” and then “→” button to select which button or buttons require pressing the DEADMAN button in order to work.
4. Press “→” to enter for PB1~PB7 setting. Press “→” button again to select which button to program. Press “↑” and “↓” button to assign. Shaded background means the assigned button works only when the DEADMAN button is pressed down.
5. Press “BACK” button and then “→” buttons to program PB8~PB12. Press “→” button to enter. Repeat step 4 above to assign.
6. Exit DEADMAN PB Function by pressing the “BACK” button until the cursor is shown next to “DEADMAN.”
7. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.20 Program PB Reset Function (TX)

1. Press “→” button to enter PB Reset Function setting.
2. Press “↑” and “↓” button to scroll and select OFF, 1S... 60S (seconds).
3. Exit PB Reset Function by pressing the “BACK” button until the cursor is shown next to “PB RESET.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

Require pressing the motion pushbutton twice in order to activate the designated output.

Example: When set to 60S (60 seconds), pressing the motion pushbutton twice is required after transmitter is inactive for 60 seconds. Pressing it once will not activate the designated output.

## 6.21 Program All PB Interlocked (TX)

1. Press “→” button to enter All PB Interlocked setting.
2. Press “↑” and “↓” button to scroll and select YES or NO.
3. Exit All PB Interlocked by pressing the “BACK” button until the cursor is shown next to “ALL PB INTERLOCKED.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.22 Program PB Delay Function (TX)

1. Press “→” button to enter PB Delay Function setting.
2. Press “↑” and “↓” button to scroll and select between OUT, TIME and PB number.

### **OUT Setting: Select output relay delay time.**

1. Press “→” button to enter output relay delay setting.
2. Press “↑” and “↓” button to scroll and select from 0.1 second to 1.5 seconds.

*Example: When set to 1.0 second, the output relay activates 1.0 second after PB1 is pressed.*

### **TIME Setting: Select the time interval requiring the output relay delay.**

1. Press “→” button to enter timer setting.
2. Press “↑” and “↓” button to scroll and select from 0 second to 5.0 seconds.

*Example: When set to 2 seconds, no output relay delay when pressing PB2 two seconds after releasing PB1.*

### **PB Setting: Select which pushbutton pair requires output relay delay.**

1. Press “→” button to go to the 2-digit value on the far left for PB1 and PB2.
2. Press “↑” and “↓” button to select or deselect. Shaded background means PB1 and PB2 are selected with the output relay delay function.
3. Press “→” button to go to the next 2-digit value for PB3 and PB4 and repeat step 2 above.
4. Press “→” button to go to the next 2-digit value for PB5 and PB6 and repeat step 2 above.
5. Press “→” button to go to the next 2-digit value for PB7 and PB8 and repeat step 2 above.
6. Exit PB Delay Function by pressing the “BACK” button until the cursor is shown next to “PB DELAY.”
7. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.23 Program Channel Scanning (RX)

1. Press “→” button to enter Channel Scanning setting.
2. Press “↑” and “↓” button to select number of channels to scan (01~12).
3. Exit Program Channel Scanning by pressing the “BACK” button until the cursor is shown next to “CH SCAN.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

**NOTE:** Make sure the Channel dipswitch in receiver position 7 and 8 is set to “11” in order for this to work.

## 6.24 Program Function Relay 1 / K25 Relay (RX)

1. Press “→” button to enter Function Relay 1 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 1 by pressing the “BACK” button until the cursor is shown next to “FUNC RLY1.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

---	:	According to receiver dipswitch setting.
LV	:	FUNCTION relay closes when receiver voltage is low.
ID	:	FUNCTION relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2nd time rotated to the START position.
NORMAL 2	:	START function + AUX with normal momentary output. Works the 1st time rotated to the START position.
TOGGLE	:	START function + AUX with toggled/latching output.
TOG&E	:	START function + AUX with toggled/latching output. The relay opens when “STOP” button is pressed down and transmitter power is turned off.
S/P	:	FUNCTION relay closes when START command is executed and opens only when transmitter power is turned off.
EXT	:	FUNCTION relay works simultaneously with the receiver MAIN relays.
TDM A+B	:	FUNCTION relay closes when selector switch is rotated to the A+B position and opens when rotated to A or B positions (tandem monitoring output).
HORN	:	FUNCTION relay closes for up to 3 seconds when START command is initiated at transmitter power on and then becomes normal momentary outputs thereafter.
G SENSOR	:	FUNCTION relay closes when Zero-G sensor is triggered (receiver MAIN relays deactivated) and opens when receiver MAIN relays are reactivated.
TANDEM C	:	FUNCTION relay closes when tandem receiver C is selected or activated.
RESET	:	FUNCTION relay closes when rotated to START position and opens when let go. Works during initial transmitter startup and inactivity timer START reset.
SW8 ABC	:	FUNCTION relay closes at C position (for pushbutton and rotary select ABC function).
SW12 ABC	:	FUNCTION relay closes at C position (for pushbutton and rotary select ABC function).

## 6.25 Program Function Relay 2 / K26 Relay (RX)

1. Press “→” button to enter Function Relay 2 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 2 by pressing the “BACK” button until the cursor is shown next to “FUNCTION RLY2.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

---	:	According to receiver dipswitch setting.
LV	:	FUNCTION relay closes when receiver voltage is low.
ID	:	FUNCTION relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2nd time rotated to the START position.
NORMAL 2	:	START function + AUX with normal momentary output. Works the 1st time rotated to the START position.
TOGGLE	:	START function + AUX with toggled/latching output.
TOG&E	:	START function + AUX with toggled/latching output. The relay opens when “STOP” button is pressed down and transmitter power is turned off.
S/P	:	FUNCTION relay closes when START command is executed and opens only when transmitter power is turned off.
EXT	:	FUNCTION relay works simultaneously with the receiver MAIN relays.
TDM A+B	:	FUNCTION relay closes when selector switch is rotated to the A+B position and opens when rotated to A or B positions (tandem monitoring output).
HORN	:	FUNCTION relay closes for up to 3 seconds when START command is initiated at transmitter power on and then becomes normal momentary outputs thereafter.
G SENSOR	:	FUNCTION relay closes when Zero-G sensor is triggered (receiver MAIN relays deactivated) and opens when receiver MAIN relays are reactivated.
TANDEM C	:	FUNCTION relay closes when tandem receiver C is selected or activated.
RESET	:	FUNCTION relay closes when rotated to START position and opens when let go. Works during initial transmitter startup and inactivity timer START reset.
SW8 ABC	:	FUNCTION relay closes at C position (for pushbutton and rotary select ABC function).
SW12 ABC	:	FUNCTION relay closes at C position (for pushbutton and rotary select ABC function).

## 6.26 Program Function Relay 3 / K30 Relay (RX)

1. Press “→” button to enter Function Relay 3 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 3 by pressing the “BACK” button until the cursor is shown next to “FUNC RLY3.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

---	:	According to receiver dipswitch setting.
LV	:	FUNCTION relay closes when receiver voltage is low.
ID	:	FUNCTION relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2nd time rotated to the START position.
NORMAL 2	:	START function + AUX with normal momentary output. Works the 1st time rotated to the START position.
TOGGLE	:	START function + AUX with toggled/latching output.
TOG&E	:	START function + AUX with toggled/latching output. The relay opens when “STOP” button is pressed down and transmitter power is turned off.
S/P	:	FUNCTION relay closes when START command is executed and opens only when transmitter power is turned off.
EXT	:	FUNCTION relay works simultaneously with the receiver MAIN relays.
TDM A+B	:	FUNCTION relay closes when selector switch is rotated to the A+B position and opens when rotated to A or B positions (tandem monitoring output).
HORN	:	FUNCTION relay closes for up to 3 seconds when START command is initiated at transmitter power on and then becomes normal momentary outputs thereafter.
G SENSOR	:	FUNCTION relay closes when Zero-G sensor is triggered (receiver MAIN relays deactivated) and opens when receiver MAIN relays are reactivated.
TANDEM C	:	FUNCTION relay closes when tandem receiver C is selected or activated.
RESET	:	FUNCTION relay closes when rotated to START position and opens when let go. Works during initial transmitter startup and inactivity timer START reset.
SW8 ABC	:	FUNCTION relay closes at C position (for pushbutton and rotary select ABC function).
SW12 ABC	:	FUNCTION relay closes at C position (for pushbutton and rotary select ABC function).

## 6.27 Program Brake Functions (RX)

1. Press “→” button to enter Brake Functions setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Brake Functions by pressing the “BACK” button until the cursor is shown next to “BRAKE.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

<b>DEMAG 1</b>	:	When releasing pushbutton from 2nd speed up to 1st speed, the 1st speed output relay will open for up to 1.0 second and then closes again.
<b>DEMAG 2</b>	:	When pushbutton is pressed down to 2nd speed directly from 0 speed, the 1st speed output relay will maintain closure for up to 0.4 second before 2nd speed output relay closes. When pushbutton is released from 2nd speed up to 0 speed, the 1st speed output relay will maintain closure for up to 0.5 second before going to 0 speed.
<b>DEMAG 3</b>	:	When releasing pushbutton from 2nd speed up to 1st speed, both 1st and 2nd speed output relays are opened. Release pushbutton to 0 speed and then press down to 1st speed to reengage the 1st speed output relay.
<b>P&amp;H</b>	:	When releasing pushbutton from 2nd speed up to 0 speed, the 1st speed output relay will maintain closure for up to 0.1 second before going to 0 speed.

## 6.28 Program MRX Micro Receiver PB type (MRX)

1. Press “→” button 2 times to enter MRX Receiver PB Type setting.
2. Press “↑” and “↓” button to scroll and select. PB1~4 setting means the receiver corresponds to PB1~PB4 on the transmitter. PB5~8 means the receiver corresponds to PB5~PB8 on the transmitter. PB9~12 means the receiver corresponds to PB9~PB12 on the transmitter. Inline means the PB number is counted from top to bottom instead of right to left.
3. Exit Program MRX Receiver PB Type by pressing the “BACK” button until the cursor is shown next to “MICRO RX.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

## 6.29 Program Function Relay 1 (K10 and CN5) (MRX)

1. Press “→” button to enter Function Relay 1 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 1 by pressing the “BACK” button until the cursor is shown next to “FUNCTION RLY1.”
4. Press “↑” and “↓” button to scroll through other Flex EX2 settings.

---	:	According to receiver dipswitch setting.
LV	:	FUNCTION relay closes when receiver voltage is low.
ID	:	FUNCTION relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2nd time rotated to the START position.
NORMAL 2	:	START function + AUX with normal momentary output. Works the 1st time rotated to the START position.
TOGGLE	:	START function + AUX with toggled/latching output.
TOG&E	:	START function + AUX with toggled/latching output. The relay opens when “STOP” button is pressed down and transmitter power is turned off.
EXT	:	FUNCTION relay works simultaneously with the receiver MAIN relays.
HORN	:	FUNCTION relay closes for up to 3 seconds when Start command is initiated at transmitter power on and then becomes normal momentary outputs thereafter.
G SENSOR	:	FUNCTION relay closes when Zero-G sensor is triggered (receiver MAIN relays deactivated) and opens when receiver MAIN relays are reactivated.
RESET	:	FUNCTION relay closes when rotated to START position and opens when let go. Works during initial transmitter startup and inactivity timer START reset.

## 7 Flex MINI Models

### 7.1 Program Direct

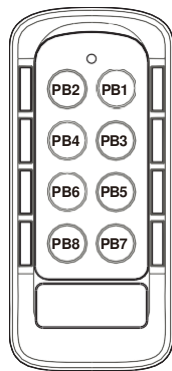
1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter Direct setting.
3. Press “READ” button to store transmitter or receiver information into the programmer. If the screen shows “READ OK” the transfer is completed.
4. Press “WRITE” button to transfer the stored transmitter or receiver information into a new transmitter or receiver. If the screen shows “WRITE OK” the transfer is completed.
5. Exit Program Direct by pressing the “BACK” button until the cursor is shown next to “Program.”
6. Press “↑” and “↓” button to scroll through other Flex Mini settings.

### 7.2 Program Serial Number (TX & RX)

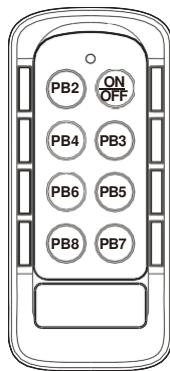
1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter Serial Number setting.
3. Press “↑” and “↓” button to change serial number as a whole or...
4. Press “→” button to go to the 1st digit on the far left of the serial number.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Serial Number by pressing the “BACK” button until the cursor is shown next to “S/N:.”
9. Press “↑” and “↓” button to scroll through other Flex Mini settings.

## 7.3 Program Keypad Type (TX & RX)

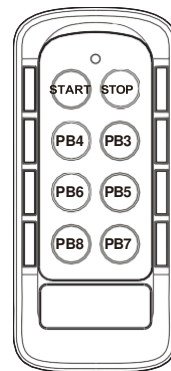
1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter Keypad Type setting.
3. Press “↑” and “↓” button to change system type as a whole or...
4. Press “→” button to go to the digit on the left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Keypad Type by pressing the “BACK” button until the cursor is shown next to “KEYPAD:.”
9. Press “↑” and “↓” button to scroll through other Flex Mini settings.



Type 1



Type 2



Type 3

## 7.4 Program System Frequency Range (TX & RX)

1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter System Frequency Range setting.
3. Press “↑” and “↓” button to change frequency range.
4. Exit Program System Frequency Range by pressing the “BACK” button until the cursor is shown next to “FREQ:.”
5. Press “↑” and “↓” button to scroll through other Flex Mini settings.

## 7.5 Program System Channel (TX & RX)

1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter System Channel setting.
3. Press “↑” and “↓” button to change system channel as a whole or...
4. Press “→” button to go to the digit on the left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program System Channel by pressing the “BACK” button until the cursor is shown next to “CHANNEL.”
9. Press “↑” and “↓” button to scroll through other Flex Mini settings.

## 7.6 Program RF Power (TX)

1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter RF Power setting.
3. Press “↑” and “↓” button to change RF power (0.01mW ~ 10mW).
4. Exit Program RF Power by pressing the “BACK” button until the cursor is shown next to “RFpower.”
5. Press “↑” and “↓” button to scroll through other Flex Mini settings.

## 7.7 Program Transmitter Inactivity/Sleep Timer (TX)

1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter TX Timer setting.
3. Press “↑” and “↓” button to select ON (sleep timer disabled) or 01M (minute).
4. Press “→” button to go to the digit on the far left (tens).
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right (units) and repeat step 5.
7. Exit Program Transmitter Inactivity/Sleep Timer by pressing the “BACK” button until the cursor is shown next to “TX TIMER.”
8. Press “↑” and “↓” button to scroll through other Flex Mini settings.

## 7.8 Program Output Relay 1 & 2 (PB1 & PB2) (RX)

1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter Program Output Relay 1 & 2.
3. Press “↑” and “↓” button to change numeric value as a whole or...
4. Press “→” button to go to the digit on the far left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Output Relay 1 & 2 by pressing the “BACK” button until the cursor is shown next to “RELAY 1 & 2.”
9. Press “↑” and “↓” button to scroll through other Flex Mini settings.

01	:	On & Off pushbutton pair (for keypad type 01, 02 and 03).
003	:	On + Start & Off + Start pushbutton pair (for keypad type 03 only).

## 7.9 Program Output Relay 3 & 4 (PB3 & PB4) (RX)

1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter Program Output Relay 3 & 4.
3. Press “↑” and “↓” button to change numeric value as a whole or...
4. Press “→” button to go to the digit on the far left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Output Relay 3 & 4 by pressing the “BACK” button until the cursor is shown next to “RELAY 3 & 4.”
9. Press “↑” and “↓” button to scroll through other Flex Mini settings.

01	:	On & Off pushbutton pair (for keypad type 01, 02 and 03).
003	:	On + Start & Off + Start pushbutton pair (for keypad type 03 only).

## 7.10 Program Output Relay 5 & 6 (PB5 & PB6) (RX)

1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter Program Output Relay 5 & 6.
3. Press “↑” and “↓” button to change numeric value as a whole or...
4. Press “→” button to go to the digit on the far left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Output Relay 5 & 6 by pressing the “BACK” button until the cursor is shown next to “RELAY 5 & 6”.
9. Press “↑” and “↓” button to scroll through other Flex Mini settings.

01	:	On & Off pushbutton pair (for keypad type 01, 02 and 03).
003	:	On + Start & Off + Start pushbutton pair (for keypad type 03 only).

## 7.11 Program Output Relay 7 & 8 (PB7 & PB8) (RX)

1. Make sure the programming cable is connected to the system.
2. Press “→” button to enter Program Output Relay 7 & 8.
3. Press “↑” and “↓” button to change numeric value as a whole or...
4. Press “→” button to go to the digit on the far left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the next digit to the right and repeat step 5.
7. Press “BACK” button to go back to step 3 or 4.
8. Exit Program Output Relay 7 & 8 by pressing the “BACK” button until the cursor is shown next to “RELAY 7 & 8.”
9. Press “↑” and “↓” button to scroll through other Flex Mini settings.

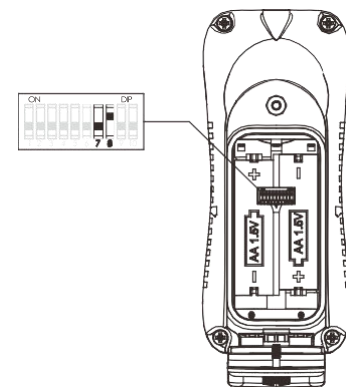
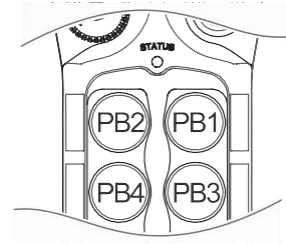
01	:	On & Off pushbutton pair (for keypad type 01, 02 and 03).
003	:	On + Start & Off + Start pushbutton pair (for keypad type 03 only).

## 8 Flex BASE & DUO Models

### 8.1 Program IR

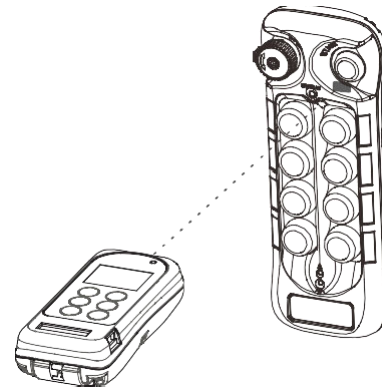
#### 8.1.1 Transmitter

1. Press down the “STOP” button (transmitter power off).
2. Press and hold “PB1” and “PB3” at the same time for the BASE model and set dipswitch position #7 and #8 to “01” for the DUO model (“READ” not required).
3. Reset the “STOP” button by rotating it clockwise or counter-clockwise; it will pop up.
4. Release “PB1” and “PB3” at the same time. The transmitter Status LED displays firmware version with red, green and orange blinks.
5. Press “READ” button to transfer transmitter info into the IR programmer. If the screen shows “READ OK” the transfer is completed.
6. Browse through list of settings by pressing “↑” and “↓” buttons.
7. Press “WRITE” button to transfer the new settings into the transmitter (transmitter Status LED constant orange). If the screen shows “WRITE OK” the transfer is completed (transmitter Status LED constant green for up to 2 seconds).
8. Exit Program IR by pressing the “BACK” button until the cursor is shown next to “Program.”
9. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

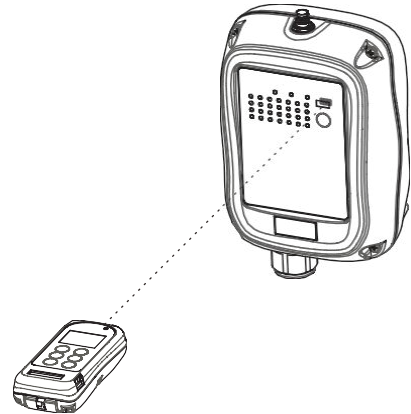


#### 8.1.2 Receiver

1. Power on the receiver with MAIN relays deactivated (standby mode).
2. Press “READ” button to transfer receiver info into the IR programmer. If the screen shows “READ OK” the transfer is completed.
3. Browse through list of settings by pressing “↑” and “↓” buttons.
4. Press “WRITE” button to transfer the new settings into the receiver (receiver Status LED constant orange). If the screen shows “WRITE OK” the transfer is completed (receiver Status LED blinks green - standby mode).
5. Exit Program IR by pressing the “BACK” button until the cursor is shown next to “Program.”
6. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.



**NOTE:** When performing infrared programming, make sure the distance between the IR programmer and the transmitter or receiver is within 10cm.



## 8.2 Program Serial Number (TX & RX)

1. Press “→” button to enter Serial Number setting.
2. Press “↑” and “↓” button to change serial number as a whole or...
3. Press “→” button to go to the 1st digit on the far left of the serial number.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 2 or 3.
7. Exit Program Serial Number by pressing the “BACK” button until the cursor is shown next to “S/N:.”
8. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

## 8.3 Program System Type (TX & RX)

1. Press “→” button to enter System Type setting.
2. Press “↑” and “↓” button to change system type as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 2 or 3.
7. Exit Program System Type by pressing the “BACK” button until the cursor is shown next to “TYPE:.”
8. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

## 8.4 Program T-Type Function (TX & RX)

1. Press “→” button to enter T-Type Function setting.
2. Press “↑” and “↓” button to change type number.
3. Press “→” button and then “↑” and “↓” button to select “LOCK” for all Select buttons interlocked and “UNLOCK” for all Select buttons non-interlocked.
4. Exit Program T-Type Function by pressing the “BACK” button until the cursor is shown next to “T-TYPE:.”
5. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

## 8.5 Program System Frequency Range (TX & RX)

1. Press “→” button to enter Frequency Range setting.
2. Press “↑” and “↓” button to change frequency range.
3. Exit Program System Frequency Range by pressing the “BACK” button until the cursor is shown next to “FREQ:.”
4. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

## 8.6 Program System Channel (TX & RX)

1. Press “→” button to enter System Channel setting.
2. Press “↑” and “↓” button to change system channel as a whole or...
3. Press “→” button to go to the digit on the left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 2 or 3.
7. Exit Program System Channel by pressing the “BACK” button until the cursor is shown next to “CHANNEL.”
8. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

## 8.7 Program RF Power (TX)

1. Press “→” button to enter RF Power setting.
2. Press “↑” and “↓” button to change RF power (0.01mW ~ 10mW).
3. Press “→” button and then “↑” and “↓” button to enable or disable RF power adjustment via transmitter dipswitch.
4. Exit Program RF Power by pressing the “BACK” button until the cursor is shown next to “RFpower.”
5. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

## 8.8 Program Pushbutton Functions (TX)

1. Press “→” button to enter Pushbutton Function setting.
2. Press “↑” and “↓” button to change pushbutton function as a whole or...
3. Press “→” button to go to the digit on the left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 2 or 3.
7. Exit Program Pushbutton Functions by pressing the “BACK” button until the cursor is shown next to “PB FUNC.”
8. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

The transmitter pushbutton function tables (**Section 11, Part C on page 81**) illustrate which numeric value corresponds to which pushbutton function.

## 8.9 Program Transmitter Inactivity Timer (TX)

1. Press “→” button to enter Transmitting Timer setting.
2. Press “↑” and “↓” button to select “\_M” for minutes/seconds or “ON” for constant on.
3. When “ON” is selected, press “→” button and then “↑” and “↓” button to select “+START” or “+ANY.”
4. When “\_M” is selected, press “→” button to go to the digit on the left and press “↑” and “↓” button to select value. Press “→” button again to go to the next digit and press “↑” and “↓” button to select value.
5. Press “→” button again to select “M” for minutes or “S” for seconds. Press “↑” and “↓” button to select.
6. Press “→” button again to select “+START” or “+ANY” selection. Press “↑” and “↓” button to select.
7. Exit Program Transmitter Timer by pressing the “BACK” button until the cursor is shown next to “TX TIMER.”
8. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

Transmitter inactivity timer is for setting receiver main relays cutoff time when the transmitter is not in operation for a certain period of time. When set to 5 minutes (05M), the receiver main relays are deactivated at 5.0 minutes after last transmitter operation.

Select “ON” means the receiver main relays are activated at all time unless the “STOP” button is pressed down or receiver power is turned off (inactivity timer disabled).

Select “+START” means after 5 minutes of transmitter inactivity you must press the green “START” button to continue operation. Select “+ANY” means after 5 minutes of transmitter inactivity you may press any pushbutton to continue operation.

## 8.10 Program Channel Scanning (RX)

1. Press “→” button to enter Channel Scanning setting.
2. Press “↑” and “↓” button to select number of channels to scan (01~12).
3. Exit Program Channel Scanning by pressing the “BACK” button until the cursor is shown next to “CH SCAN.”
4. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

**NOTE:** Make sure the Channel dipswitch in receiver position 7 and 8 is set to “11” in order for this to work (refer to manual section 4.2.2.11).

## 8.11 Program Function Relay 1 / K25 Relay (RX)

1. Press “→” button to enter Function Relay 1 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 1 by pressing the “BACK” button until the cursor is shown next to “FUNC RLY1.”
4. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

----	:	According to receiver dipswitch setting.
LV	:	FUNCTION relay closes when receiver voltage is low.
ID	:	FUNCTION relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2nd time the “START” pushbutton is pressed.
TOGGLE	:	START function + AUX with toggled/latching output.
TOG&E	:	START function + AUX with toggled/latching output. The relay opens when “STOP” button is pressed down and transmitter power is turned off.
S/P	:	FUNCTION relay closes when START command is executed and opens only when transmitter power is turned off.
EXT	:	FUNCTION relay works simultaneously with the receiver MAIN relays.
TDM A+B	:	FUNCTION relay closes when selector switch is rotated to the A+B position and opens when rotated to A or B positions (tandem monitoring output).
HORN	:	FUNCTION relay closes for up to 3 seconds when Start command is initiated at transmitter power on and then becomes normal momentary outputs thereafter.
TANDEM C	:	FUNCTION relay closes when tandem receiver C is selected or activated.
RESET	:	FUNCTION relay closes when Start command is initiated and opens when let go. Works during initial transmitter startup and inactivity timer START reset.

## 8.12 Program Function Relay 2 / K26 Relay (RX)

1. Press “→” button to enter Function Relay 2 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 2 by pressing the “BACK” button until the cursor is shown next to “FUNCTION RLY2.”
4. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

----	:	According to receiver dipswitch setting.
LV	:	FUNCTION relay closes when receiver voltage is low.
ID	:	FUNCTION relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2nd time the “START” pushbutton is pressed.
TOGGLE	:	START function + AUX with toggled/latching output.
TOG&E	:	START function + AUX with toggled/latching output. The relay opens when “STOP” button is pressed down and transmitter power is turned off.
S/P	:	FUNCTION relay closes when START command is executed and opens only when transmitter power is turned off.
EXT	:	FUNCTION relay works simultaneously with the receiver MAIN relays.
TDM A+B	:	FUNCTION relay closes when selector switch is rotated to the A+B position and opens when rotated to A or B positions (tandem monitoring output).
HORN	:	FUNCTION relay closes for up to 3 seconds when Start command is initiated at transmitter power on and then becomes normal momentary outputs thereafter.
TANDEM C	:	FUNCTION relay closes when tandem receiver C is selected or activated.
RESET	:	FUNCTION relay closes when Start command is initiated and opens when let go. Works during initial transmitter startup and inactivity timer START reset.

## 8.13 Program Function Relay 3 / K30 Relay (RX)

1. Press “→” button to enter Function Relay 3 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 3 by pressing the “BACK” button until the cursor is shown next to “FUNC RLY3.”
4. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

----	:	According to receiver dipswitch setting.
LV	:	FUNCTION relay closes when receiver voltage is low.
ID	:	FUNCTION relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2nd time the “START” pushbutton is pressed.
TOGGLE	:	START function + AUX with toggled/latching output.
TOG&E	:	START function + AUX with toggled/latching output. The relay opens when “STOP” button is pressed down and transmitter power is turned off.
S/P	:	FUNCTION relay closes when START command is executed and opens only when transmitter power is turned off.
EXT	:	FUNCTION relay works simultaneously with the receiver MAIN relays.
TDM A+B	:	FUNCTION relay closes when selector switch is rotated to the A+B position and opens when rotated to A or B positions (tandem monitoring output).
HORN	:	FUNCTION relay closes for up to 3 seconds when Start command is initiated at transmitter power on and then becomes normal momentary outputs thereafter.
TANDEM C	:	FUNCTION relay closes when tandem receiver C is selected or activated.
RESET	:	FUNCTION relay closes when Start command is initiated and opens when let go. Works during initial transmitter startup and inactivity timer START reset.

## 8.14 Program Brake Functions (RX)

1. Press “→” button to enter Brake Function setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Brake Functions by pressing the “BACK” button until the cursor is shown next to “BRAKE.”
4. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

<b>DEMAG 1</b>	:	When releasing pushbutton from 2nd speed up to 1st speed, the 1st speed output relay will open for up to 1.0 second and then closes again.
<b>DEMAG 2</b>	:	When pushbutton is pressed down to 2nd speed directly from 0 speed, the 1st speed output relay will maintain closure for up to 0.4 second before 2nd speed output relay closes. When pushbutton is released from 2nd speed up to 0 speed, the 1st speed output relay will maintain closure for up to 0.5 second before going to 0 speed.
<b>DEMAG 3</b>	:	When releasing pushbutton from 2nd speed up to 1st speed, both 1st and 2nd speed output relays are opened. Release pushbutton to 0 speed and then press down to 1st speed to reengage the 1st speed output relay.
<b>P&amp;H</b>	:	When releasing pushbutton from 2nd speed up to 0 speed, the 1st speed output relay will maintain closure for up to 0.1 second before going to 0 speed.

## 8.15 Program MRX Micro Receiver PB type (MRX)

1. Press “→” button 2 times to enter PB Type setting.
2. Press “↑” and “↓” button to scroll and select. PB1~4 setting means the receiver corresponds to PB1~PB4 on the transmitter. PB5~8 means the receiver corresponds to PB5~PB8 on the transmitter. PB9~12 means the receiver corresponds to PB9~PB12 on the transmitter. Inline means the PB number is counted from top to bottom instead of right to left.
3. Exit Program Micro Receiver PB Type by pressing the “BACK” button until the cursor is shown next to “MICRO RX.”
4. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

## 8.16 Program Function Relay 1 (K10 and CN5) (MRX)

1. Press “→” button to enter Function Relay 1 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 1 by pressing the “BACK” button until the cursor is shown next to “FUNC RLY1.”
4. Press “↑” and “↓” button to scroll through other Flex BASE/DUO settings.

----	:	According to receiver dipswitch setting.
LV	:	FUNCTION relay closes when receiver voltage is low.
ID	:	FUNCTION relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2nd time the “START” pushbutton is pressed.
TOGGLE	:	START function + AUX with toggled/latching output.
TOG&E	:	START function + AUX with toggled/latching output. The relay opens when “STOP” button is pressed down and transmitter power is turned off.
S/P	:	FUNCTION relay closes when START command is executed and opens only when transmitter power is turned off.
EXT	:	FUNCTION relay works simultaneously with the receiver MAIN relays.
HORN	:	FUNCTION relay closes for up to 3 seconds when Start command is initiated at transmitter power on and then becomes normal momentary outputs thereafter.
RESET	:	FUNCTION relay closes when Start command is initiated and opens when let go. Works during initial transmitter startup and inactivity timer START reset.

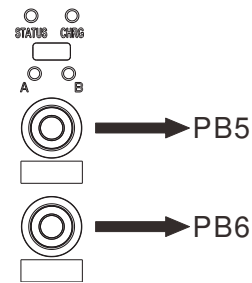
## 9. ZLTX-VRX Models

**Note:** The ZLTX requires the IR programmer to have v238 for the programmer to communicate with the ZLTX transmitter. The firmware version is displayed on the main display when the unit is powered on. Refer to Section 11 on how to update the firmware on your existing IR programmer or reach out to our service team who will coordinate an update to your device. The hex file is available to download on ZLTX product page.

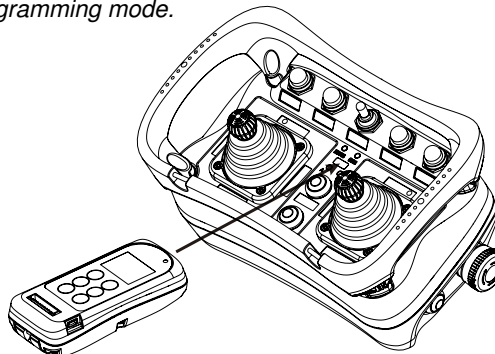
### 9.1 Program IR

#### 9.1.1 Transmitter (ZLTX)

1. Only WRITE requires entering the IR programming mode.
2. Reset the STOP button (Status LED turned green for up to 2.0 seconds, transmitter power on).
3. Press and hold both PB5 and PB6 at the same time for up to 3.0 seconds (Status LED blinks orange). Let go of both PB5 and PB6 when LED-A and LED-B turned red.
4. Entered programming mode with Status LED displays 1x orange blink for firmware version, remote pairing and **IR programming**.
5. Press and hold both PB5 and PB6 at the same time for up to 3.0 seconds (LED-A and LED-B turned red). Let go of both PB5 and PB6 when Status LED turned orange.
6. The Status LED now displays the transmitter firmware version with red, green and orange blinks.
7. Proceed to infrared transmitter programming using the IR programmer Unit.
8. Enter PROGRAM IR and then press READ button to transfer transmitter info into the IR programmer. If the screen shows "READ OK" the transfer is completed.
9. Browse through list of settings by pressing "↑" and "↓" buttons.
10. Press WRITE button to transfer the new settings into the transmitter (transmitter Status LED constant orange). If the screen shows "WRITE OK" the transfer is completed (transmitter Status LED constant green for up to 2 seconds).
11. Exit infrared programming mode by pressing down the STOP button (transmitter power off).

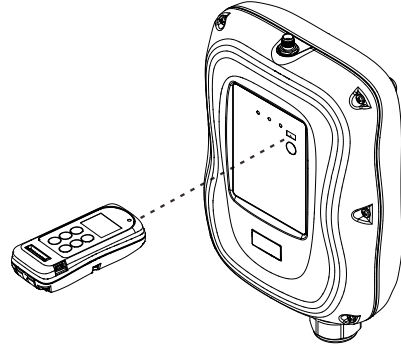


*Note: READ command (transfer transmitter information to the IR programmer) does not require entering the IR programming mode, only when performing the WRITE command (transfer IR information to the transmitter) requires entering the IR programming mode.*



### 9.1.2 Receiver (VRX)

1. Power on the receiver with MAIN relays deactivated (standby mode).
2. Press READ button to transfer receiver info into the IR programmer. If the screen shows "READ OK" the transfer is completed.
3. Browse through list of settings by pressing "↑" and "↓" buttons.
4. Press WRITE button to transfer the new settings into the receiver (receiver Status LED constant orange). If the screen shows "WRITE OK" the transfer is completed (receiver Status LED blinks green – standby mode).



*Note: When performing infrared programming, make sure the distance between the IR programmer and the transmitter or receiver are within 10cm.*

## 9.2 Program Serial Number (TX & RX)

1. Press "→" button to enter Serial Number setting.
2. Press "↑" and "↓" button to change serial number as a whole or...
3. Press "→" button to go to the 1<sup>st</sup> digit on the far left of the serial number.
4. Press "↑" and "↓" button to change numeric value.
5. Press "→" button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2 or 3.
7. Exit Program Serial Number by pressing the BACK button until the cursor is shown next to "S/N".
8. Press "↑" and "↓" button to scroll through other ZLTX-VRX settings.

## 9.3 Program System Type (TX & RX)

1. Press "→" button to enter System Type setting.
2. Press "↑" and "↓" button to change system type as a whole or...
3. Press "→" button to go to the digit on the far left.
4. Press "↑" and "↓" button to change numeric value.
5. Press "→" button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2 or 3.
7. Exit Program System Type by pressing the BACK button until the cursor is shown next to "TYPE".
8. Press "↑" and "↓" button to scroll through other ZLTX-VRX settings.

## 9.4 Program System Frequency Range (TX & RX)

1. Press "→" button to enter Frequency Range setting.
2. Press "↑" and "↓" button to change frequency range.
3. Exit Program System Frequency Range by pressing the BACK button until the cursor is shown next to "FREQ".
4. Press "↑" and "↓" button to scroll through other ZLTX-VRX settings

## 9.5 Program System Channel (TX & RX)

1. Press “→” button to enter System Channel setting.
2. Press “↑” and “↓” button to scroll and select channel number setting
3. (assigned channel scheme) or UNASSIGN (unassigned channel scheme).
4. To program channel number, press “→” button to go to the digit on the left.
5. Press “↑” and “↓” button to change numeric value.
6. Press “→” button to go to the digit on the right and repeat step 4.
7. Press BACK button to go back to step 2 or 3.
8. Exit Program System Channel by pressing the BACK button until the cursor is shown next to “CHANNEL”.
  - a. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.6 Program Transmitter Inactivity Timer (TX)

1. Press “→” button to enter Transmitting Timer setting.
2. Press “↑” and “↓” button to select “\_M” for minutes/seconds or “ON” for constant on.
3. When “ON” is selected, press “→” button and then “↑” and “↓” button to select “+START” or “+ANY”.
4. When “\_M” is selected, press “→” button to go to the digit on the left and press “↑” and “↓” button to select value. Press “→” button again to go to the next digit and press “↑” and “↓” button to select value.
5. Press “→” button again to select “M” for minutes or “S” for seconds. Press “↑” and “↓” button to select.
6. Press “→” button again to select “+START” or “+ANY” selection. Press “↑” and “↓” button to select.
7. Exit Program Transmitter Timer by pressing the BACK button until the cursor is shown next to “TX TIMER”.
  - a. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

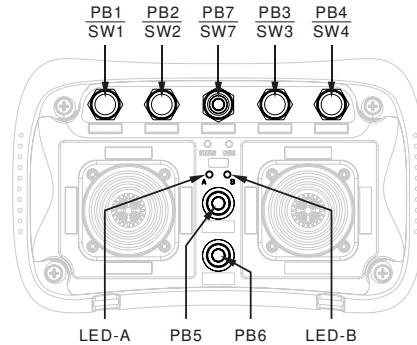
Transmitter inactivity timer is for setting receiver main relays cutoff time when the transmitter is not in operation for a certain period of time. When set to 5 minutes (05M), the receiver main relays are deactivated at 5.0 minutes after last transmitter operation.

Select “ON” means the receiver main relays are activated at all time unless the STOP button is pressed down, transmitter power off, or receiver power turned off (inactivity timer disabled).

Select “+START” means after 5 minutes of transmitter inactivity you must execute the START command to continue operation. Select “+ANY” means after 5 minutes of transmitter inactivity, press any pushbutton to continue operation.

## 9.7 Program Transmitter Button Functions (TX)

1. Press “→” button to enter Transmitter Button Functions setting.
2. Press “↑” and “↓” button to change function number as a whole or...
3. Press “→” button to go to the digit on the left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2 or 3.
7. Exit Program Transmitter Button Functions by pressing the BACK button unit the cursor is shown next to “PB FUNC”.
  - a. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.



### Toggle Button with LED Indication

Function Number	Display Type	PB1	PB2	PB3	PB4	PB5	PB6	PB7
001	1 Red	LED-A	Normal	Normal	Normal	Normal	Normal	Normal
002	2 Reds	Normal	LED-A	Normal	Normal	Normal	Normal	Normal
003	3 Reds	Normal	Normal	LED-A	Normal	Normal	Normal	Normal
004	4 Reds	Normal	Normal	Normal	LED-A	Normal	Normal	Normal
005	5 Reds	Normal	Normal	Normal	Normal	LED-A	Normal	Normal
006	6 Reds	Normal	Normal	Normal	Normal	Normal	LED-A	Normal
007	7 Reds	Normal	Normal	Normal	Normal	Normal	Normal	LED-A
008	8 Reds	LED-B	Normal	Normal	Normal	Normal	Normal	Normal
009	9 Reds	Normal	LED-B	Normal	Normal	Normal	Normal	Normal
010	1 Green	Normal	Normal	LED-B	Normal	Normal	Normal	Normal
011	1 Green 1 Red	Normal	Normal	Normal	LED-B	Normal	Normal	Normal
012	1 Green 2 Reds	Normal	Normal	Normal	Normal	LED-B	Normal	Normal
013	1 Green 3 Reds	Normal	Normal	Normal	Normal	Normal	LED-B	Normal

<b>014</b>	1 Green 4 Reds	Normal	Normal	Normal	Normal	Normal	Normal	LED-B
<b>015</b>	1 Green 5 Reds	LED-A	LED-B	Normal	Normal	Normal	Normal	Normal
<b>016</b>	1 Green 6 Reds	Normal	LED-A	LED-B	Normal	Normal	Normal	Normal
<b>017</b>	1 Green 7 Reds	Normal	Normal	LED-A	LED-B	Normal	Normal	Normal
<b>018</b>	1 Green 8 Reds	Normal	Normal	Normal	LED-A	LED-B	Normal	Normal
<b>019</b>	1 Green 9 Reds	Normal	Normal	Normal	Normal	LED-A	LED-B	Normal
<b>020</b>	2 Greens	Normal	Normal	Normal	Normal	Normal	LED-A	LED-B
<b>021</b>	2 Greens 1 Red	LED-A	Normal	LED-B	Normal	Normal	Normal	Normal
<b>022</b>	2 Greens 2 Reds	Normal	LED-A	Normal	LED-B	Normal	Normal	Normal
<b>023</b>	2 Greens 3 Reds	Normal	Normal	LED-A	Normal	LED-B	Normal	Normal
<b>024</b>	2 Greens 4 Reds	Normal	Normal	Normal	LED-A	Normal	LED-B	Normal
<b>025</b>	2 Greens 5 Reds	Normal	Normal	Normal	Normal	LED-A	Normal	LED-B

\*\* Normal → Normal button function without LED indication.

\* LED-A & LED-B → Transmitter toggled button with LED indication.

### A/B Button Select with LED Indication

Type-A select sequence: A → B → A → B...

Type-B select sequence: Off → A → B → Off → A → B...

Type-C select sequence: A → B → A+B → A → B → A+B or A → B → C → A → B → C...

Type-D select sequence: Off → A → B → A+B → Off → A → B → A+B...

Type-E select sequence: A+B → A → B → A+B → A → B...

<b>Function Number</b>	<b>Display Type</b>	<b>PB1</b>	<b>PB2</b>	<b>PB3</b>	<b>PB4</b>	<b>PB7</b>
<b>050</b>	5 Greens	Type-A	Normal	Normal	Normal	Normal
<b>051</b>	5 Greens 1 Red	Type-B	Normal	Normal	Normal	Normal
<b>052</b>	5 Greens 2 Reds	Type-C	Normal	Normal	Normal	Normal
<b>053</b>	5 Greens 3 Reds	Type-D	Normal	Normal	Normal	Normal
<b>054</b>	5 Greens 4 Reds	Type-E	Normal	Normal	Normal	Normal
<b>055</b>	5 Greens 5 Reds	Normal	Type-A	Normal	Normal	Normal
<b>056</b>	5 Greens 6 Reds	Normal	Type-B	Normal	Normal	Normal
<b>057</b>	5 Greens 7 Reds	Normal	Type-C	Normal	Normal	Normal
<b>058</b>	5 Greens 8 Reds	Normal	Type-D	Normal	Normal	Normal

059	5 Greens 9 Reds	Normal	Type-E	Normal	Normal	Normal
060	6 Greens	Normal	Normal	Type-A	Normal	Normal
061	6 Greens 1 Red	Normal	Normal	Type-B	Normal	Normal
062	6 Greens 2 Reds	Normal	Normal	Type-C	Normal	Normal
063	6 Greens 3 Reds	Normal	Normal	Type-D	Normal	Normal
064	6 Greens 4 Reds	Normal	Normal	Type-E	Normal	Normal
065	6 Greens 5 Reds	Normal	Normal	Normal	Type-A	Normal
066	6 Greens 6 Reds	Normal	Normal	Normal	Type-B	Normal
067	6 Greens 7 Reds	Normal	Normal	Normal	Type-C	Normal
068	6 Greens 8 Reds	Normal	Normal	Normal	Type-D	Normal
069	6 Greens 9 Reds	Normal	Normal	Normal	Type-E	Normal
070	7 Greens	Normal	Normal	Normal	Normal	Type-A
071	7 Greens 1 Red	Normal	Normal	Normal	Normal	Type-B
072	7 Greens 2 Reds	Normal	Normal	Normal	Normal	Type-C
073	7 Greens 3 Reds	Normal	Normal	Normal	Normal	Type-D
074	7 Greens 4 Reds	Normal	Normal	Normal	Normal	Type-E

\* Normal → Normal button function without LED indication.

\* Type A ~ E → Type of A/B select sequence with LED indication.

## 9.8 Program RF Power (TX)

1. Press “→” button to enter RF Power setting.
2. Press “↑” and “↓” button to change RF power (0.01mW ~ 25mW).
3. Press “→” button and then “↑” and “↓” button to **enable** or **disable** RF power adjustment via transmitter dipswitch.
4. Exit Program RF Power by pressing the BACK button until the cursor is shown next to “RFpower”.
  - a. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.9 Program Infrared START Function (TX)

1. Press “→” button to enter Infrared Start Function setting.
2. Press “↑” and “↓” button to select Off or IRS.

*Select “OFF” to disable infrared START function.*

*Select “IRS” to enable infrared START function.*

3. Exit Program Infrared START Function by pressing the BACK button until the cursor is shown next to “IR Mode”.
4. Press “↓” button to go to the next Infrared START setting.

## 9.10 Program Infrared START ID Code (TX)

1. Press “→” button to enter Infrared START ID code setting.
2. Press “↑” and “↓” button to set the 3-digit ID code as a whole or...
3. Press “→” button to go to the digit on the left.
4. Press “↑” and “↓” button to change numeric value.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press “BACK” button to go back to step 2.

*Make sure the infrared module on crane is set to same ID code as the transmitter.*

*Select “000” disables the ID code function hence any types of infrared modules can be used.*

7. Exit Program Infrared START ID Code by pressing the BACK button until the cursor is shown next to “IR ID”.
8. Press “↓” button to go to the next Infrared START setting.

## 9.11 Program IRS Time Out (TX)

1. Press “→” button to enter IRS Time Out setting.
2. Press “↑” and “↓” button to select IRS Off or IRS On.

*Select “IRS On” if infrared START is required after every transmitter timeout.*

*Select “IRS Off” if infrared START is not required after every transmitter timeout.*

3. Exit Program IRS Time Out by pressing the BACK button until the cursor is shown next to “IRS FUNC”.
5. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.12 Program LED1 Feedback Function (TX)

1. Press “→” button to enter LED1 Feedback Function setting.
2. Press “↑” and “↓” button to select Off, Input number or Output number.
3. When “Input” is selected, press “→” button and then “↑” and “↓” button to select input number that the external source is connected to (IN1 ~ IN4).
4. When “Output” is selected, press “→” button and then “↑” and “↓” button to select which output relay to feedback to LED1 (CN1 ~ CN6 / K1 ~ K6).
5. Select “Off” if no feedback is required.
6. Exit Program LED1 Feedback Function by pressing the BACK button until the cursor is shown next to “LED1”.
6. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.13 Program LED2 Feedback Function (TX)

1. Press “→” button to enter LED2 Feedback Function setting.
2. Press “↑” and “↓” button to select Off, Input number or Output number.
3. When “Input” is selected, press “→” button and then “↑” and “↓” button to select input number that the external source is connected to (IN1 ~ IN4).
4. When “Output” is selected, press “→” button and then “↑” and “↓” button to select which output relay to feedback to LED2 (CN1 ~ CN6 / K1 ~ K6).

5. Select "Off" if no feedback is required.
6. Exit Program LED2 Feedback Function by pressing the BACK button until the cursor is shown next to "LED2".
7. Press "↑" and "↓" button to scroll through other ZLTX-VRX settings.

## 9.14 Program Lever Type (TX)

1. Press "→" button to enter left joystick or lever type setting.
2. Press "↑" and "↓" button to select joystick "LX LY" for left joystick X and Y axis or "L1 L2" for lever-1 and lever-2 (counting from the far left).
3. Exit Program Left Joystick or Lever Type by pressing the BACK button until the cursor is shown next to "LJ TYPE".
4. Press "↑" and "↓" button to scroll through other ZLTX-VRX settings.

## 9.15 Program Lever Type (TX)

1. Press "→" button to enter right joystick or lever type setting.
2. Press "↑" and "↓" button to select joystick "RX RY" for right joystick X and Y axis or "L3 L4" for lever-3 and lever-4 (counting from the far left).
3. Exit Program Right Joystick or Lever Type by pressing the BACK button until the cursor is shown next to "RJ TYPE".
5. Press "↑" and "↓" button to scroll through other ZLTX-VRX settings.

## 9.16 Program LX/L1 Lever Output (TX)

1. Press "→" button to enter LX/L1 Lever Output setting.
2. Press "↑" and "↓" button to scroll and select between None, 1-step, 2-step 3-step, 4-step, 5-step and Analog.
3. Exit Program LX/L1 Lever Output by pressing the BACK button until the cursor is shown next to "LX/L1 OUT".
4. Press "↑" and "↓" button to scroll through other ZLTX-VRX settings.

Set each joystick/lever's number of steps according to the hardware installed. Note the ZLTX only has lever options today.

## 9.17 Program LY/L2 Lever Output (TX)

1. Press "→" button to enter LY/L2 Lever Output setting.
2. Press "↑" and "↓" button to scroll and select between None, 1-step, 2-step 3-step, 4-step, 5-step and Analog.
3. Exit Program LY/L2 Lever Output by pressing the BACK button until the cursor is shown next to "LY/L2 OUT".
4. Press "↑" and "↓" button to scroll through other ZLTX-VRX settings.

Set each joystick/lever's number of steps according to the hardware installed. Note the ZLTX only has lever options today.

## 9.18 Program RX/L3 Lever Output (TX)

1. Press “→” button to enter RX/L3 Lever Output setting.
2. Press “↑” and “↓” button to scroll and select between None, 1-step, 2-step 3-step, 4-step, 5-step and Analog.
3. Exit Program RX/L3 Lever Output by pressing the BACK button until the cursor is shown next to “RX/L3 OUT”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

Set each joystick/lever's number of steps according to the hardware installed. Note the ZLTX only has lever options today.

## 9.19 Program RY/L4 Lever Output (TX)

1. Press “→” button to enter RY/L4 Lever Output setting.
2. Press “↑” and “↓” button to scroll and select between None, 1-step, 2-step 3-step, 4-step, 5-step and Analog.
3. Exit Program RY/L4 Lever Output by pressing the BACK button until the cursor is shown next to “RY/L4 OUT”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

Set each joystick/lever's number of steps according to the hardware installed. Note the ZLTX only has lever options today.

## 9.20 Program SW1/PB1 Function (TX)

1. Press “→” button to enter SW1/PB1 setting.
2. Press “↑” and “↓” button to scroll and select between Normal, SW A/A+B/B, SW A/B/A+B and SW A/B/C select sequence.
3. Exit SW1/PB1 Function by pressing the BACK button until the cursor is shown next to “SW1 FUNC”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.21 Program SW2/PB2 Function (TX)

1. Press “→” button to enter SW2/PB2 setting.
2. Press “↑” and “↓” button to scroll and select between Normal, SW A/A+B/B, SW A/B/A+B and SW A/B/C select sequence.
3. Exit SW2/PB2 Function by pressing the BACK button until the cursor is shown next to “SW2 FUNC”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.22 Program SW3/PB3 Function (TX)

1. Press “→” button to enter SW3/PB3 setting.
2. Press “↑” and “↓” button to scroll and select between Normal, SW A/A+B/B, SW A/B/A+B and SW A/B/C select sequence.
3. Exit SW3/PB3 Function by pressing the BACK button until the cursor is shown next to “SW3 FUNC”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.23 Program SW4/PB4 Function (TX)

1. Press “→” button to enter SW4/PB4 setting.
2. Press “↑” and “↓” button to scroll and select between Normal, SW A/A+B/B, SW A/B/A+B and SW A/B/C select sequence.
3. Exit SW4/PB4 Function by pressing the BACK button until the cursor is shown next to “SW4 FUNC”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.24 Program SW7/PB7 Function (TX)

1. Press “→” button to enter SW7/PB7 setting.
2. Press “↑” and “↓” button to scroll and select between Normal, SW A/A+B/B, SW A/B/A+B and SW A/B/C select sequence.
3. Exit SW7/PB7 Function by pressing the BACK button until the cursor is shown next to “SW7 FUNC”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.25 Program Channel Scanning (RX)

1. Press “→” button to enter Channel Scanning setting.
2. Press “↑” and “↓” button to select number of channels to scan (01~12).
3. Exit Program Channel Scanning by pressing the BACK button until the cursor is shown next to “CH SCAN”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.26 Program Function Relay 1 / K25 Relay (RX)

1. Press “→” button to enter Function Relay 1 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 1 by pressing the BACK button until the cursor is shown next to “FUNC RLY1”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

---	:	According to receiver dipswitch setting.
LV	:	Function relay closes when receiver voltage is low.
ID	:	Function relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2 <sup>nd</sup> time the START button is pressed.
NORMAL2	:	START function + AUX with normal momentary output. Works the 1 <sup>st</sup> time the START button is pressed.
TOGGLE	:	START function + AUX with toggled output.
TOG&E	:	START function + AUX with toggled output. The relay opens when STOP button is pressed down.
EXT	:	Function relay works simultaneously with the receiver MAIN relays.

TDM A+B	:	Function relay closes when selector switch is rotated to the A+B position and opens when rotate to A or B positions (tandem monitoring output).
HORN	:	Function relay closes for up to 3 seconds when START button is pressed at transmitter power on and then becomes a normal momentary output thereafter.
G SENSOR	:	Function relay closes when Zero-G sensor is triggered (receiver MAIN relays deactivated) and opens when receiver MAIN relays are reactivated.
TANDEM C	:	FUNCTION relay closes when tandem receiver C is selected or activated.
RESET	:	Function relay closes when the START button is pressed and opens when let go. Works during initial transmitter startup and inactivity timer START reset.
SW1 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
SW2 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
SW3 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
SW4 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
SW7 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).

## 9.27 Program Function Relay 2 / K26 Relay (RX)

1. Press “→” button to enter Function Relay 2 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 2 by pressing the BACK button until the cursor is shown next to “FUNC RLY2”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

---	:	According to receiver dipswitch setting.
LV	:	Function relay closes when receiver voltage is low.
ID	:	Function relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2 <sup>nd</sup> time the START button is pressed.
NORMAL2	:	START function + AUX with normal momentary output. Works the 1 <sup>st</sup> time the START button is pressed.
TOGGLE	:	START function + AUX with toggled output.
TOG&E	:	START function + AUX with toggled output. The relay opens when STOP button is pressed down.
EXT	:	Function relay works simultaneously with the receiver MAIN relays.
TDM A+B	:	Function relay closes when selector switch is rotated to the A+B position and opens when rotate to A or B positions (tandem monitoring output)

HORN	:	Function relay closes for up to 3 seconds when START button is pressed at transmitter power on and then becomes a normal momentary output thereafter.
G SENSOR	:	Function relay closes when Zero-G sensor is triggered (receiver MAIN relays deactivated) and opens when receiver MAIN relays are reactivated.
TANDEM C	:	FUNCTION relay closes when tandem receiver C is selected or activated.
RESET	:	Function relay closes when the START button is pressed and opens when let go. Works during initial transmitter startup and inactivity timer START reset.
SW1 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
SW2 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
SW3 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
SW4 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
SW7 ABC	:	Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).

## 9.28 Program Function Relay 3 / K30 Relay (RX)

1. Press “→” button to enter Function Relay 3 setting.
2. Press “↑” and “↓” button to scroll and select.
3. Exit Program Function Relay 3 by pressing the BACK button until the cursor is shown next to “FUNC RLY3”.
4. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

---	:	According to receiver dipswitch setting.
LV	:	Function relay closes when receiver voltage is low.
ID	:	Function relay works simultaneously with all motion commands.
NORMAL	:	START function + AUX with normal momentary output. Works the 2 <sup>nd</sup> time the START button is pressed.
NORMAL2	:	START function + AUX with normal momentary output. Works the 1 <sup>st</sup> time the START button is pressed.
TOGGLE	:	START function + AUX with toggled output.
TOG&E	:	START function + AUX with toggled output. The relay opens when STOP button is pressed down.
EXT	:	Function relay works simultaneously with the receiver MAIN relays.
TDM A+B	:	Function relay closes when selector switch is rotated to the A+B position and opens when rotate to A or B positions (tandem monitoring output).
HORN	:	Function relay closes for up to 3 seconds when START button is pressed at transmitter power on and then becomes a normal momentary output thereafter.

- G SENSOR : Function relay closes when Zero-G sensor is triggered (receiver MAIN relays deactivated) and opens when receiver MAIN relays are reactivated.
- TANDEM C : FUNCTION relay closes when tandem receiver C is selected or activated.
- RESET : Function relay closes when the START button is pressed and opens when let go. Works during initial transmitter startup and inactivity timer START reset.
- SW1 ABC : Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
- SW2 ABC : Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
- SW3 ABC : Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
- SW4 ABC : Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).
- SW7 ABC : Function relay closes at C position (for button or toggle switch programmed to Select A/B/C function).

## 9.29 Program L1 Relay Outputs (RX)

1. Press “→” button to enter L1 Relay Outputs setting.
2. Press “↑” and “↓” button to change function number as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value “0” or “1”.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2.
7. Exit Program L1 Relay Outputs by pressing the BACK button until the cursor is shown next to “L1 RELAY”.
8. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

Output Relay Function	CN1 ~ CN6	K1	K2	K3	K4	K5	K6
<b>Type A</b> 00000001	at 1 <sup>st</sup> Step	F1	or R1				
	at 2 <sup>nd</sup> Step	F1	or R1	F/R2			
	at 3 <sup>rd</sup> Step	F1	or R1	F/R2	F/R3		
	at 4 <sup>th</sup> Step	F1	or R1	F/R2	F/R3	F/R4	
	at 5 <sup>th</sup> Step	F1	or R1	F/R2	F/R3	F/R4	F/R5
<b>Type B</b> 00000011	at 1 <sup>st</sup> Step	F1	or R1				
	at 2 <sup>nd</sup> Step	F1	or R1	F/R2			
	at 3 <sup>rd</sup> Step	F1	or R1		F/R3		
	at 4 <sup>th</sup> Step	F1	or R1			F/R4	
	at 5 <sup>th</sup> Step	F1	or R1				F/R5

<b>Type C</b> 00000101	at 1 <sup>st</sup> Step	F	or R	F/R1			
	at 2 <sup>nd</sup> Step	F	or R	F/R1	F/R2		
	at 3 <sup>rd</sup> Step	F	or R	F/R1	F/R2	F/R3	
	at 4 <sup>th</sup> Step	F	or R	F/R1	F/R2	F/R3	F/R4
<b>Type C</b> 00000111	at 1 <sup>st</sup> Step	F	or R	F/R1			
	at 2 <sup>nd</sup> Step	F	or R		F/R2		
	at 3 <sup>rd</sup> Step	F	or R			F/R3	
	at 4 <sup>th</sup> Step	F	or R				F/R4
<b>Type D</b> 00001001	at 1 <sup>st</sup> Step	F1	or R1				
	at 2 <sup>nd</sup> Step	F1	or R1	F2	or R2		
	at 3 <sup>rd</sup> Step	F1	or R1	F2	or R2	F3	or R3
	at 4 <sup>th</sup> Step						
<b>Type E</b> 00001011	at 1 <sup>st</sup> Step	F1	or R1				
	at 2 <sup>nd</sup> Step			F2	or R2		
	at 3 <sup>rd</sup> Step					F3	or R3

**F** → Forward    **F1** → Forward 1<sup>st</sup> step    **F2** → Forward 2<sup>nd</sup> step    **F3** → Forward 3<sup>rd</sup> step  
**R** → Reverse    **R1** → Reverse 1<sup>st</sup> step    **R2** → Reverse 2<sup>nd</sup> step    **R3** → Reverse 3<sup>rd</sup> step  
**F/R1** → Forward and Reverse shared 1<sup>st</sup> step    **F/R2** → Forward and Reverse shared 2<sup>nd</sup> step  
**F/R3** → Forward and Reverse shared 3<sup>rd</sup> step    **F/R4** → Forward and Reverse shared 4<sup>th</sup> step  
**F/R5** → Forward and Reverse shared 5<sup>th</sup> step

### 9.30 Program L2 Relay Outputs (RX)

1. Press “→” button to enter L2 Relay Outputs setting.
2. Press “↑” and “↓” button to change function number as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value “0” or “1”.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2.
7. Exit Program L2 Relay Outputs by pressing the BACK button until the cursor is shown next to “L2 RELAY”.
8. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

<b>Output Relay</b>	<b>CN1 ~ CN6</b>	<b>K1</b>	<b>K2</b>	<b>K3</b>	<b>K4</b>	<b>K5</b>	<b>K6</b>
<b>Function</b>							
<b>Type A</b> 00000001	at 1 <sup>st</sup> Step	F1	or R1				
	at 2 <sup>nd</sup> Step	F1	or R1	F/R2			
	at 3 <sup>rd</sup> Step	F1	or R1	F/R2	F/R3		
	at 4 <sup>th</sup> Step	F1	or R1	F/R2	F/R3	F/R4	
	at 5 <sup>th</sup> Step	F1	or R1	F/R2	F/R3	F/R4	F/R5

<b>Type B</b> 00000011	at 1 <sup>st</sup> Step	F1	or R1				
	at 2 <sup>nd</sup> Step	F1	or R1	F/R2			
	at 3 <sup>rd</sup> Step	F1	or R1		F/R3		
	at 4 <sup>th</sup> Step	F1	or R1			F/R4	
	at 5 <sup>th</sup> Step	F1	or R1				F/R5
<b>Type C</b> 00000101	at 1 <sup>st</sup> Step	F	or R	F/R1			
	at 2 <sup>nd</sup> Step	F	or R	F/R1	F/R2		
	at 3 <sup>rd</sup> Step	F	or R	F/R1	F/R2	F/R3	
	at 4 <sup>th</sup> Step	F	or R	F/R1	F/R2	F/R3	F/R4
<b>Type C</b> 00000111	at 1 <sup>st</sup> Step	F	or R	F/R1			
	at 2 <sup>nd</sup> Step	F	or R		F/R2		
	at 3 <sup>rd</sup> Step	F	or R			F/R3	
	at 4 <sup>th</sup> Step	F	or R				F/R4
<b>Type D</b> 00001001	at 1 <sup>st</sup> Step	F1	or R1				
	at 2 <sup>nd</sup> Step	F1	or R1	F2	or R2		
	at 3 <sup>rd</sup> Step	F1	or R1	F2	or R2	F3	or R3
<b>Type E</b> 00001011	at 1 <sup>st</sup> Step	F1	or R1				
	at 2 <sup>nd</sup> Step			F2	or R2		
	at 3 <sup>rd</sup> Step					F3	or R3

**F** → Forward    **F1** → Forward 1<sup>st</sup> step    **F2** → Forward 2<sup>nd</sup> step    **F3** → Forward 3<sup>rd</sup> step  
**R** → Reverse    **R1** → Reverse 1<sup>st</sup> step    **R2** → Reverse 2<sup>nd</sup> step    **R3** → Reverse 3<sup>rd</sup> step  
**F/R1** → Forward and Reverse shared 1<sup>st</sup> step    **F/R2** → Forward and Reverse shared 2<sup>nd</sup> step  
**F/R3** → Forward and Reverse shared 3<sup>rd</sup> step    **F/R4** → Forward and Reverse shared 4<sup>th</sup> step  
**F/R5** → Forward and Reverse shared 5<sup>th</sup> step

### 9.31 Program L3 Relay Outputs (RX)

1. Press “→” button to enter L3 Relay Outputs setting.
2. Press “↑” and “↓” button to change function number as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value “0” or “1”.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2.
7. Exit Program L3 Relay Outputs by pressing the BACK button until the cursor is shown next to “L3 RELAY”.
7. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

Output Relay Function	CN1 ~ CN6	K1	K2	K3	K4	K5	K6
<b>Type A</b> 00000001	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step at 4 <sup>th</sup> Step at 5 <sup>th</sup> Step	F1 F1 F1 F1 F1	or R1 or R1 or R1 or R1 or R1	 F/R2 F/R2 F/R2 F/R2	  F/R3 F/R3 F/R3	   F/R4 F/R4	    F/R5
<b>Type B</b> 00000011	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step at 4 <sup>th</sup> Step at 5 <sup>th</sup> Step	F1 F1 F1 F1 F1	or R1 or R1 or R1 or R1 or R1	 F/R2    	  F/R3   	   F/R4  	    F/R5
<b>Type C</b> 00000101	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step at 4 <sup>th</sup> Step	F F F F	or R or R or R or R	F/R1 F/R1 F/R1 F/R1	 F/R2 F/R2 F/R2	  F/R3 F/R3	   F/R4
<b>Type C</b> 00000111	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step at 4 <sup>th</sup> Step	F F F F	or R or R or R or R	F/R1    	 F/R2   	  F/R3  	   F/R4
<b>Type D</b> 00001001	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step	F1 F1 F1	or R1 or R1 or R1	 F2 F2	 or R2 or R2	  F3	  or R3
<b>Type E</b> 00001011	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step	F1  	or R1  	 F2  	 or R2  	  F3	  or R3

**F** → Forward    **F1** → Forward 1<sup>st</sup> step    **F2** → Forward 2<sup>nd</sup> step    **F3** → Forward 3<sup>rd</sup> step  
**R** → Reverse    **R1** → Reverse 1<sup>st</sup> step    **R2** → Reverse 2<sup>nd</sup> step    **R3** → Reverse 3<sup>rd</sup> step  
**F/R1** → Forward and Reverse shared 1<sup>st</sup> step    **F/R2** → Forward and Reverse shared 2<sup>nd</sup> step  
**F/R3** → Forward and Reverse shared 3<sup>rd</sup> step    **F/R4** → Forward and Reverse shared 4<sup>th</sup> step  
**F/R5** → Forward and Reverse shared 5<sup>th</sup> step

### 9.32 Program L4 Relay Outputs (RX)

1. Press “→” button to enter L4 Relay Outputs setting.
2. Press “↑” and “↓” button to change function number as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value “0” or “1”.

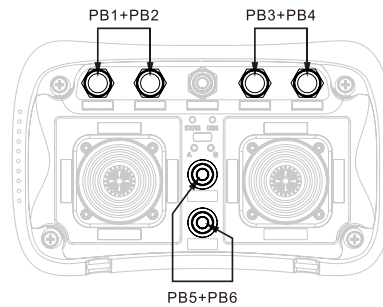
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2.
7. Exit Program L4 Relay Outputs by pressing the BACK button until the cursor is shown next to “L4 RELAY”.
8. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

Output Relay Function	CN1 ~ CN6	K1	K2	K3	K4	K5	K6
<b>Type A</b> 00000001	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step at 4 <sup>th</sup> Step at 5 <sup>th</sup> Step	F1 F1 F1 F1 F1	or R1 or R1 or R1 or R1 or R1	 F/R2 F/R2 F/R2 F/R2	  F/R3 F/R3 F/R3	   F/R4 F/R4	    F/R5
<b>Type B</b> 00000011	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step at 4 <sup>th</sup> Step at 5 <sup>th</sup> Step	F1 F1 F1 F1 F1	or R1 or R1 or R1 or R1 or R1	 F/R2   F/R2	  F/R3  F/R3	   F/R4 F/R4	    F/R5
<b>Type C</b> 00000101	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step at 4 <sup>th</sup> Step	F F F F	or R or R or R or R	F/R1 F/R1 F/R1 F/R1	 F/R2 F/R2 F/R2	  F/R3 F/R3	   F/R4
<b>Type C</b> 00000111	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step at 4 <sup>th</sup> Step	F F F F	or R or R or R or R	F/R1   F/R1	 F/R2  F/R2	  F/R3 F/R3	   F/R4
<b>Type D</b> 00001001	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step	F1 F1 F1	or R1 or R1 or R1	 F2 F2	 or R2 or R2	  F3	  or R3
<b>Type E</b> 00001011	at 1 <sup>st</sup> Step at 2 <sup>nd</sup> Step at 3 <sup>rd</sup> Step	F1  F1	or R1  or R1	 F2 F2	 or R2 or R2	  F3	  or R3

**F** → Forward    **F1** → Forward 1<sup>st</sup> step    **F2** → Forward 2<sup>nd</sup> step    **F3** → Forward 3<sup>rd</sup> step  
**R** → Reverse    **R1** → Reverse 1<sup>st</sup> step    **R2** → Reverse 2<sup>nd</sup> step    **R3** → Reverse 3<sup>rd</sup> step  
**F/R1** → Forward and Reverse shared 1<sup>st</sup> step    **F/R2** → Forward and Reverse shared 2<sup>nd</sup> step  
**F/R3** → Forward and Reverse shared 3<sup>rd</sup> step    **F/R4** → Forward and Reverse shared 4<sup>th</sup> step  
**F/R5** → Forward and Reverse shared 5<sup>th</sup> step

## 9.33 Program SW1 & SW2 Relay Outputs (RX)

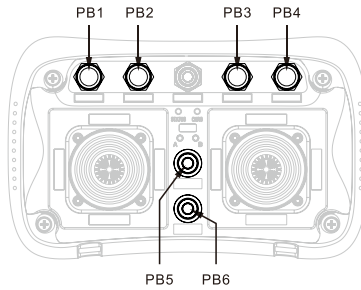
1. Press “→” button to enter SW1 & SW2 Relay Outputs setting.
2. Press “↑” and “↓” button to change function number as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value “0” or “1”.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2.
7. Exit Program SW1 & SW2 Relay Outputs by pressing the BACK button until the cursor is shown next to “SW1&2 RELAY”.
8. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.



**Interlocking Button Outputs**

Function #	Function Descriptions (left button / right button)	# of Relays Used
00000000	Normal momentary output (all contacts open when both buttons are pressed simultaneously or one after another)	2
00011000	Normal momentary output (1 <sup>st</sup> button pressed maintain contact when both buttons are pressed one after another)	2
00001100	OFF / ON	2
00010010	On + Start/Off + Start - For added safety, you must first press and hold the green START button and then the On or Off button to activate the output relay.	2
00001110	Magnet Lift On & Off	2
00010000	OFF / ON (EMS)**	2
00010100	Toggled / Toggled	2
00010110	Toggled / Toggled (EMS)**	2
00011110	Toggled / Normal (EMS)**	2

\* EMS: Relay opens when STOP button is pressed down.



### Non-Interlocking Button Outputs

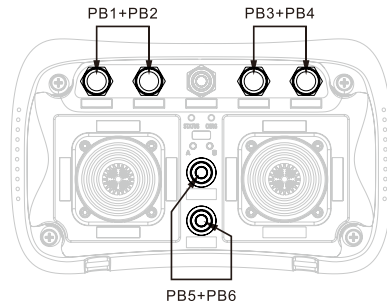
Function #	Function Descriptions (left button / right button)	# of Relays Used
10000000	Normal / Normal	2
10000010	Normal / Toggled	2
10000110	Normal / Toggled (EMS)**	2
10001000	Normal / Normal + Start*	2
10001100	Normal / Pitch & Catch	2
10010000	Toggled / Normal	2
10010010	Toggled / Toggled	2
10010110	Toggled / Toggled (EMS)**	2
10011000	Toggled / Normal + Start*	2
10011100	Toggled / Pitch & Catch	2
10110000	Toggled (EMS**) / Normal	2
10110010	Toggled (EMS)** / Toggled	2
10110110	Toggled (EMS)** / Toggled (EMS)**	2
10111000	Toggled (EMS)** / Normal + Start*	2
10111100	Toggled (EMS)** / Pitch & Catch	2
11000000	Normal + Start* / Normal	2
11000010	Normal + Start* / Toggled	2
11000110	Normal + Start* / Toggled (EMS)**	2
11001000	Normal + Start* / Normal + Start*	2
11001100	Normal + Start* / Pitch & Catch	2
11100000	Pitch & Catch / Normal	2
11100010	Pitch & Catch / Toggled	2
11100110	Pitch & Catch / Toggled (EMS)**	2
11101000	Pitch & Catch / Normal + Start*	2

\* Normal + Start: For added safety, you must first press and hold the green START button and then the intended button to activate the output relay.

\*\* EMS: Relay opens when STOP button is pressed down

## 9.34 Program SW3 & SW4 Relay Outputs (RX)

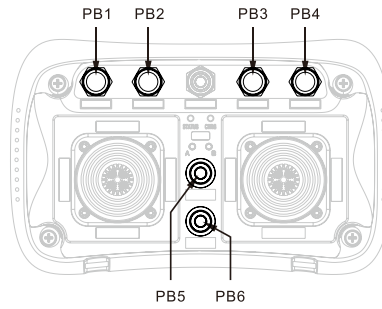
1. Press “→” button to enter SW3 & SW4 Relay Outputs setting.
2. Press “↑” and “↓” button to change function number as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value “0” or “1”.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2.
7. Exit Program SW3 & SW4 Relay Outputs by pressing the BACK button until the cursor is shown next to “SW3&4 RELAY”.
8. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.



### Interlocking Button Outputs

Function #	Function Descriptions (left button / right button)	# of Relays Used
00000000	Normal momentary output (all contacts open when both buttons are pressed simultaneously or one after another)	2
00011000	Normal momentary output (1 <sup>st</sup> button pressed maintain contact when both buttons are pressed one after another)	2
00001100	OFF / ON	2
00010010	On + Start/Off + Start - For added safety, you must first press and hold the green START button and then the On or Off button to activate the output relay.	2
00001110	Magnet Lift On & Off	2
00010000	OFF / ON (EMS)**	2
00010100	Toggled / Toggled	2
00010110	Toggled / Toggled (EMS)**	2
00011110	Toggled / Normal (EMS)**	2

\* EMS: Relay opens when STOP button is pressed down.



### Non-Interlocking Button Outputs

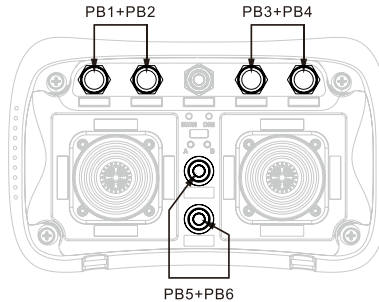
Function #	Function Descriptions (left button / right button)	# of Relays Used
10000000	Normal / Normal	2
10000010	Normal / Toggled	2
10000110	Normal / Toggled (EMS)**	2
10001000	Normal / Normal + Start*	2
10001100	Normal / Pitch & Catch	2
10010000	Toggled / Normal	2
10010010	Toggled / Toggled	2
10010110	Toggled / Toggled (EMS)**	2
10011000	Toggled / Normal + Start*	2
10011100	Toggled / Pitch & Catch	2
10110000	Toggled (EMS**) / Normal	2
10110010	Toggled (EMS)** / Toggled	2
10110110	Toggled (EMS)** / Toggled (EMS)**	2
10111000	Toggled (EMS)** / Normal + Start*	2
10111100	Toggled (EMS)** / Pitch & Catch	2
11000000	Normal + Start* / Normal	2
11000010	Normal + Start* / Toggled	2
11000110	Normal + Start* / Toggled (EMS)**	2
11001000	Normal + Start* / Normal + Start*	2
11001100	Normal + Start* / Pitch & Catch	2
11100000	Pitch & Catch / Normal	2
11100010	Pitch & Catch / Toggled	2
11100110	Pitch & Catch / Toggled (EMS)**	2
11101000	Pitch & Catch / Normal + Start*	2

\* Normal + Start: For added safety, you must first press and hold the green START button and then the intended button to activate the output relay.

\*\* EMS: Relay opens when STOP button is pressed down.

## 9.35 Program SW5 & SW6 Relay Outputs (RX)

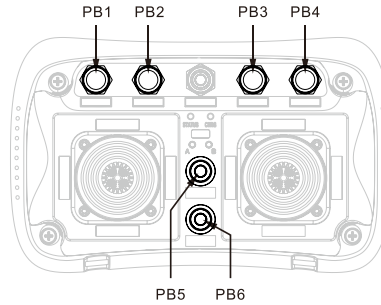
1. Press “→” button to enter SW5 & SW6 Relay Outputs setting.
2. Press “↑” and “↓” button to change function number as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value “0” or “1”.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2.
7. Exit Program SW5 & SW6 Relay Outputs by pressing the BACK button until the cursor is shown next to “SW5&6 RELAY”.
8. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.



### Interlocking Button Outputs

Function #	Function Descriptions (left button / right button)	# of Relays Used
00000000	Normal momentary output (all contacts open when both buttons are pressed simultaneously or one after another)	2
00011000	Normal momentary output (1 <sup>st</sup> button pressed maintain contact when both buttons are pressed one after another)	2
00001100	OFF / ON	2
00010010	On + Start/Off + Start - For added safety, you must first press and hold the green START button and then the On or Off button to activate the output relay.	2
00001110	Magnet Lift On & Off	2
00010000	OFF / ON (EMS)**	2
00010100	Toggled / Toggled	2
00010110	Toggled / Toggled (EMS)**	2
00011110	Toggled / Normal (EMS)**	2

\* EMS: Relay opens when STOP button is pressed down.



### Non-Interlocking Button Outputs

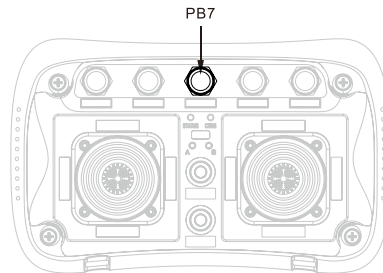
Function #	Function Descriptions (left button / right button)	# of Relays Used
10000000	Normal / Normal	2
10000010	Normal / Toggled	2
10000110	Normal / Toggled (EMS)**	2
10001000	Normal / Normal + Start*	2
10001100	Normal / Pitch & Catch	2
10010000	Toggled / Normal	2
10010010	Toggled / Toggled	2
10010110	Toggled / Toggled (EMS)**	2
10011000	Toggled / Normal + Start*	2
10011100	Toggled / Pitch & Catch	2
10110000	Toggled (EMS)** / Normal	2
10110010	Toggled (EMS)** / Toggled	2
10110110	Toggled (EMS)** / Toggled (EMS)**	2
10111000	Toggled (EMS)** / Normal + Start*	2
10111100	Toggled (EMS)** / Pitch & Catch	2
11000000	Normal + Start* / Normal	2
11000010	Normal + Start* / Toggled	2
11000110	Normal + Start* / Toggled (EMS)**	2
11001000	Normal + Start* / Normal + Start*	2
11001100	Normal + Start* / Pitch & Catch	2
11100000	Pitch & Catch / Normal	2
11100010	Pitch & Catch / Toggled	2
11100110	Pitch & Catch / Toggled (EMS)**	2
11101000	Pitch & Catch / Normal + Start*	2

\* Normal + Start: For added safety, you must first press and hold the green START button and then the intended button to activate the output relay.

\*\* EMS: Relay opens when STOP button is pressed down.

## 9.36 Program SW7 Relay Outputs (RX)

1. Press “→” button to enter SW7 Relay Outputs setting.
2. Press “↑” and “↓” button to change function number as a whole or...
3. Press “→” button to go to the digit on the far left.
4. Press “↑” and “↓” button to change numeric value “0” or “1”.
5. Press “→” button to go to the next digit to the right and repeat step 4.
6. Press BACK button to go back to step 2.
7. Exit Program SW7 Relay Outputs by pressing the BACK button until the cursor is shown next to “SW7 RELAY”.
8. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.



### PB7 Button Outputs

Function #	Function Descriptions	# of Relays Used
10000000	Normal	1
10010000	Toggled	1
10110000	Toggled (EMS)**	1
11000000	Normal + Start*	1
11100000	Pitch & Catch	1

\* Normal + Start: For added safety, you must first press and hold the green START button and then the intended button to activate the output relay.

\*\* EMS: Relay opens when STOP button is pressed down.

## 9.37 Program L1 Analog Outputs (RX)

1. Press “→” button to enter L1 Analog Outputs setting.
2. Press “↑” and “↓” button to scroll and select OFF, VOLTAGE and CURRENT outputs.

### VOLTAGE (0~10V):

1. Press “→” button to enter and then “↑” and “↓” button to select **Maximum**, **Neutral** and **Minimum** voltage value, press “→” button again to enter.
2. Press “↑” and “↓” button to select numeric value for the first digit to the far left.
3. Press “→” button to go the next digit to the right and repeat step 2.
4. Press BACK button to go back to step 1.
5. Exit Program L1 Analog Outputs by pressing the BACK button until the cursor is shown next to “L1 ANALOG”.
6. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

### CURRENT (0~20mA):

1. Press “→” button to enter and then “↑” and “↓” button to select **Maximum**, **Neutral** and **Minimum** current value, press “→” button again to enter.
2. Press “↑” and “↓” button to select numeric value.
3. Press BACK button to go back to step 1.
4. Exit Program L1 Analog Outputs by pressing the BACK button until the cursor is shown next to “L1 ANALOG”.
5. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.38 Program L2 Analog Outputs (RX)

1. Press “→” button to enter L2 Analog Outputs setting.
2. Press “↑” and “↓” button to scroll and select OFF, VOLTAGE and CURRENT outputs.

### VOLTAGE (0~10V):

1. Press “→” button to enter and then “↑” and “↓” button to select **Maximum**, **Neutral** and **Minimum** voltage value, press “→” button again to enter.
2. Press “↑” and “↓” button to select numeric value for the first digit to the far left.
3. Press “→” button to go the next digit to the right and repeat step 2.
4. Press BACK button to go back to step 1.
5. Exit Program L2 Analog Outputs by pressing the BACK button until the cursor is shown next to “L2 ANALOG”.
6. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

### CURRENT (0~20mA):

1. Press “→” button to enter and then “↑” and “↓” button to select **Maximum**, **Neutral** and **Minimum** current value, press “→” button again to enter.
2. Press “↑” and “↓” button to select numeric value.
3. Press BACK button to go back to step 1.
4. Exit Program L2 Analog Outputs by pressing the BACK button until the cursor is shown next to “L2 ANALOG”.
5. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.39 Program L3 Analog Outputs (RX)

1. Press “→” button to enter L3 Analog Outputs setting.
2. Press “↑” and “↓” button to scroll and select OFF, VOLTAGE and CURRENT outputs.

### VOLTAGE (0~10V):

1. Press “→” button to enter and then “↑” and “↓” button to select **Maximum**, **Neutral** and **Minimum** voltage value, press “→” button again to enter.
2. Press “↑” and “↓” button to select numeric value for the first digit to the far left.
3. Press “→” button to go the next digit to the right and repeat step 2.
4. Press BACK button to go back to step 1.
5. Exit Program L3 Analog Outputs by pressing the BACK button until the cursor is shown next to “L3 ANALOG”.
6. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

### CURRENT (0~20mA):

1. Press “→” button to enter and then “↑” and “↓” button to select **Maximum**, **Neutral** and **Minimum** current value, press “→” button again to enter.
2. Press “↑” and “↓” button to select numeric value.
3. Press BACK button to go back to step 1.
4. Exit Program L3 Analog Outputs by pressing the BACK button until the cursor is shown next to “L3 ANALOG”.
5. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

## 9.40 Program L4 Analog Outputs (RX)

1. Press “→” button to enter L4 Analog Outputs setting.
2. Press “↑” and “↓” button to scroll and select OFF, VOLTAGE and CURRENT outputs.

### VOLTAGE (0~10V):

1. Press “→” button to enter and then “↑” and “↓” button to select **Maximum**, **Neutral** and **Minimum** voltage value, press “→” button again to enter.
2. Press “↑” and “↓” button to select numeric value for the first digit to the far left.
3. Press “→” button to go the next digit to the right and repeat step 2.
4. Press BACK button to go back to step 1.
5. Exit Program L4 Analog Outputs by pressing the BACK button until the cursor is shown next to “L4 ANALOG”.
6. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

### CURRENT (0~20mA):

1. Press “→” button to enter and then “↑” and “↓” button to select **Maximum**, **Neutral** and **Minimum** current value, press “→” button again to enter.
2. Press “↑” and “↓” button to select numeric value.
3. Press BACK button to go back to step 1.
4. Exit Program L4 Analog Outputs by pressing the BACK button until the cursor is shown next to “L4 ANALOG”.
5. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

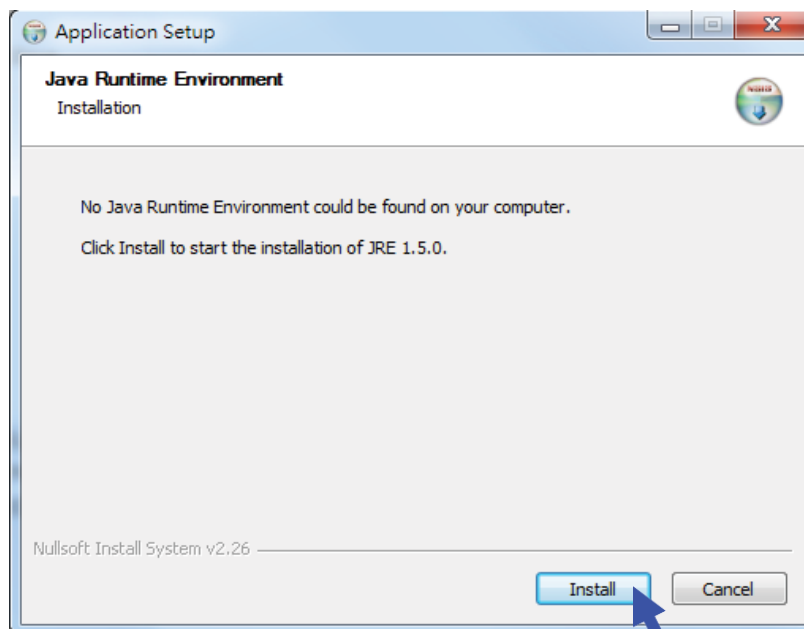
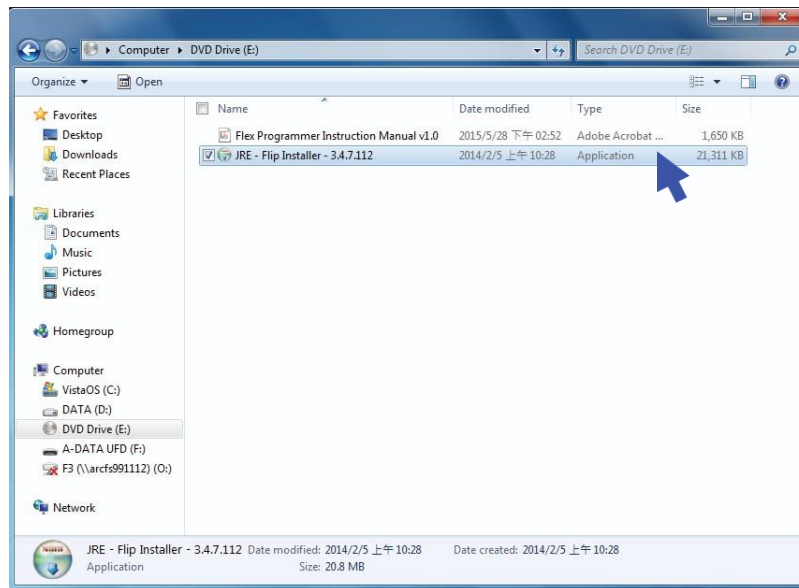
## 9.41 Program Jumper Functions (RX)

1. Press “→” button to enter Jumper Function setting.
2. Press “↑” and “↓” button to scroll and select from various jumper settings.
3. Press “→” button again then “↑” and “↓” button to scroll and select OPEN or SHORT.
4. Exit Program Jumper Functions by pressing the BACK button until the cursor is shown next to “JUMPER”.
5. Press “↑” and “↓” button to scroll through other ZLTX-VRX settings.

# 10. Firmware Update

## 10.1 Install Software

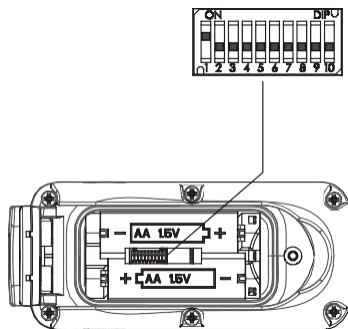
### 10.1.1 Install the provided software



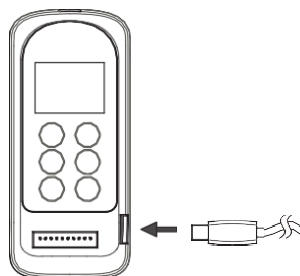


## 10.2 Firmware Update

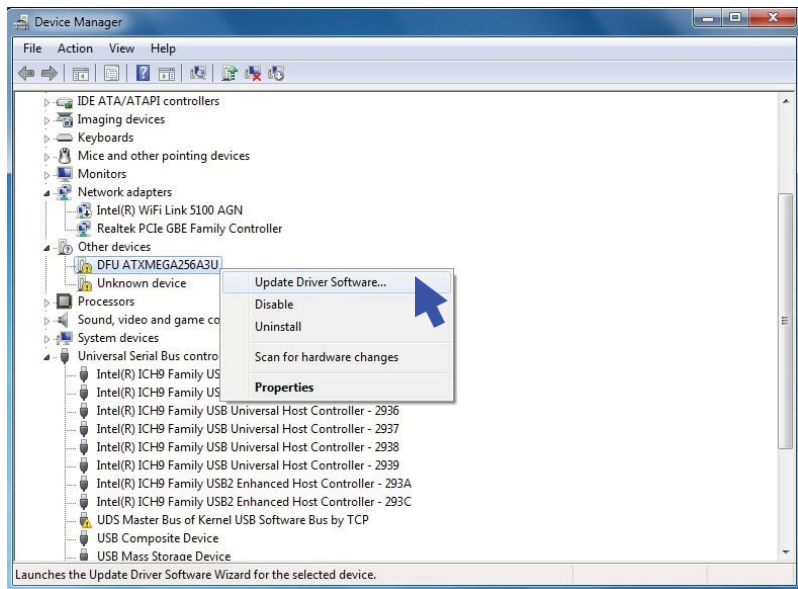
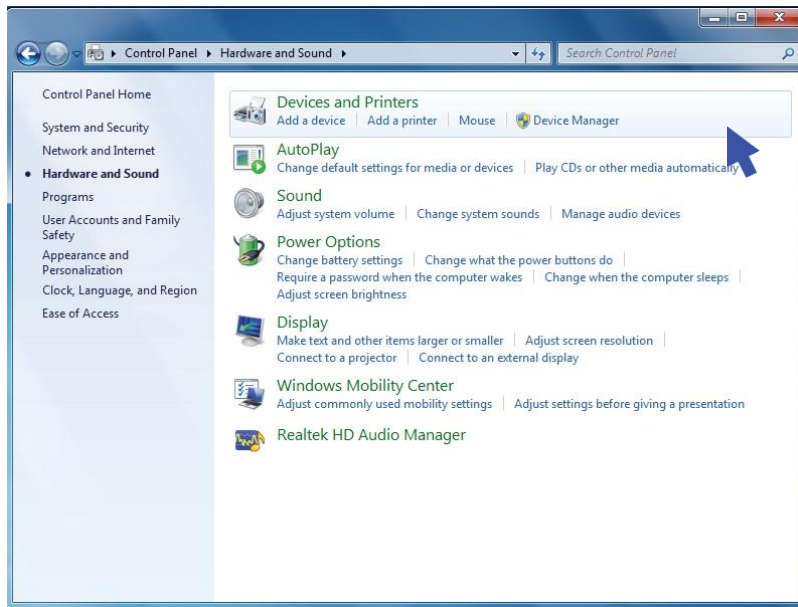
### 10.2.1 Set dipswitch position #1 to “1” or “up” position

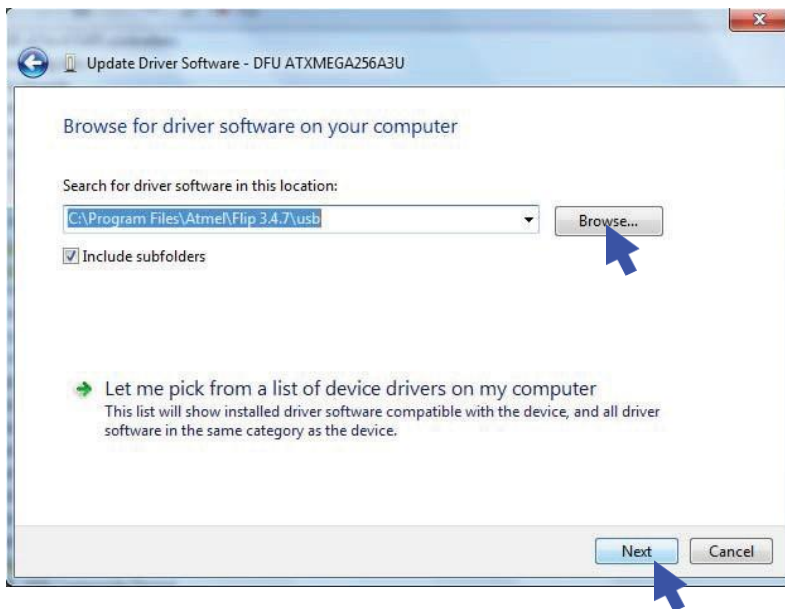
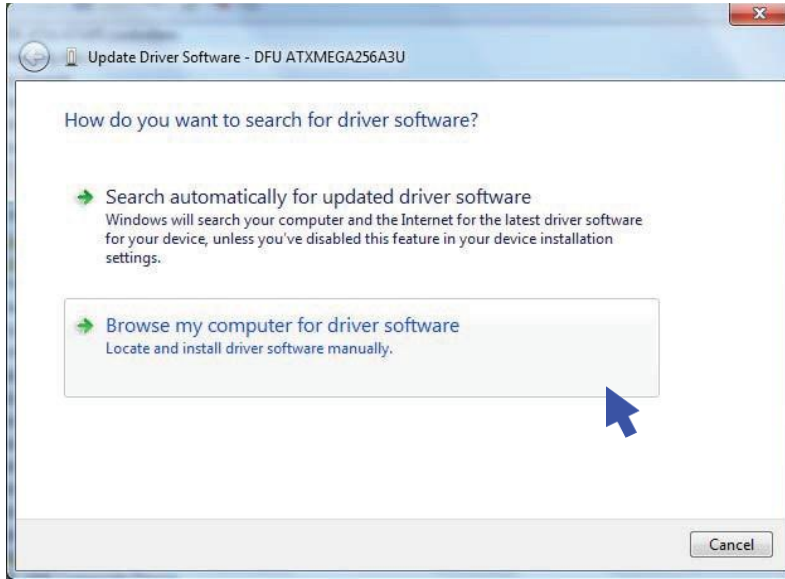


### 10.2.2 Plug in the USB cable (not provided)



### 10.2.3 Please try the following if device cannot be found when plugged in by USB into the computer

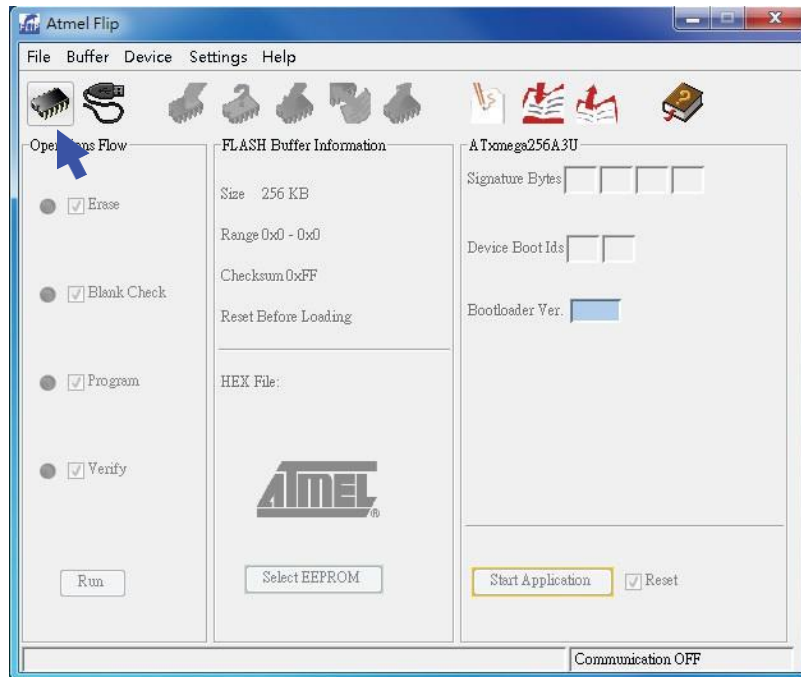




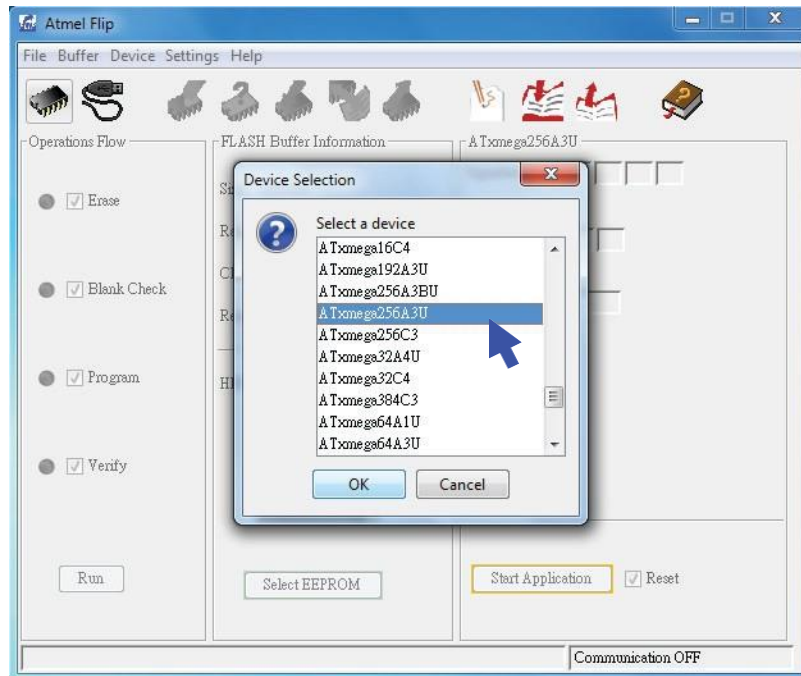
## 10.2.4 Open Flip 3.4.7



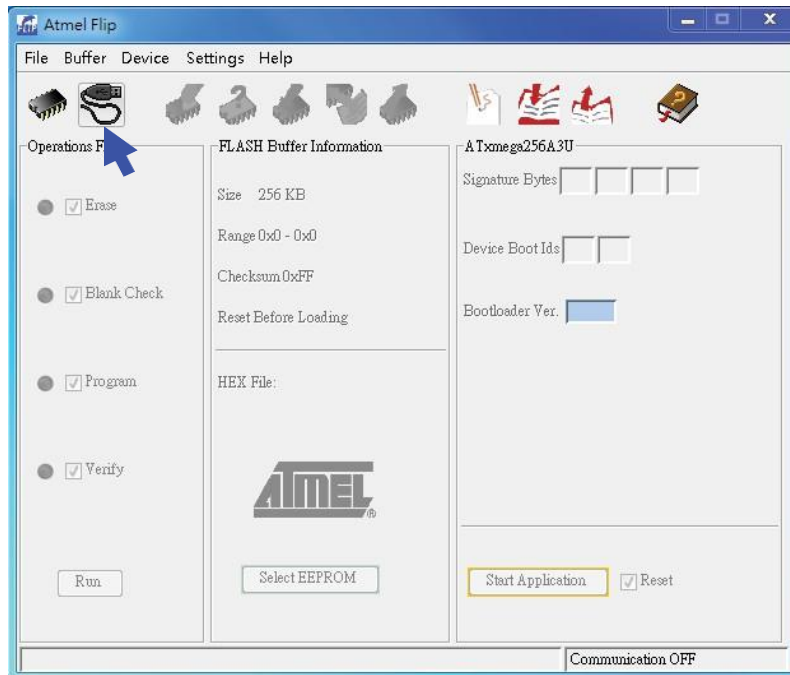
## 10.2.5 Select a target device



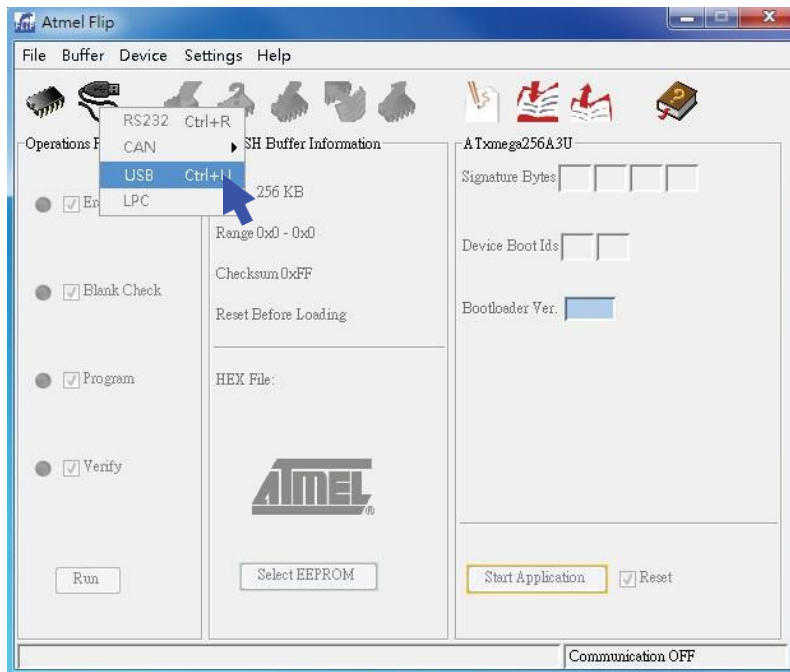
## 10.2.6 Select ATxmega256A3U



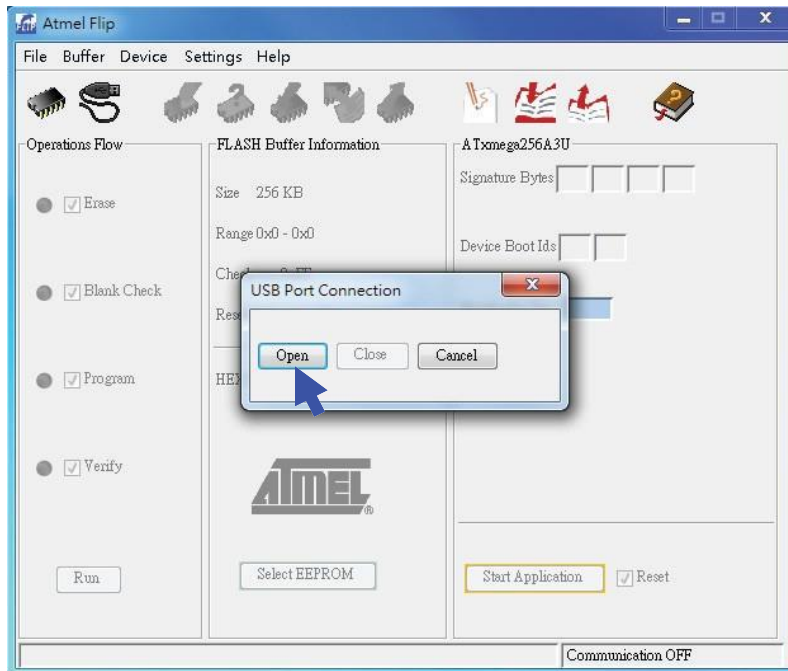
## 10.2.7 Select a communication medium



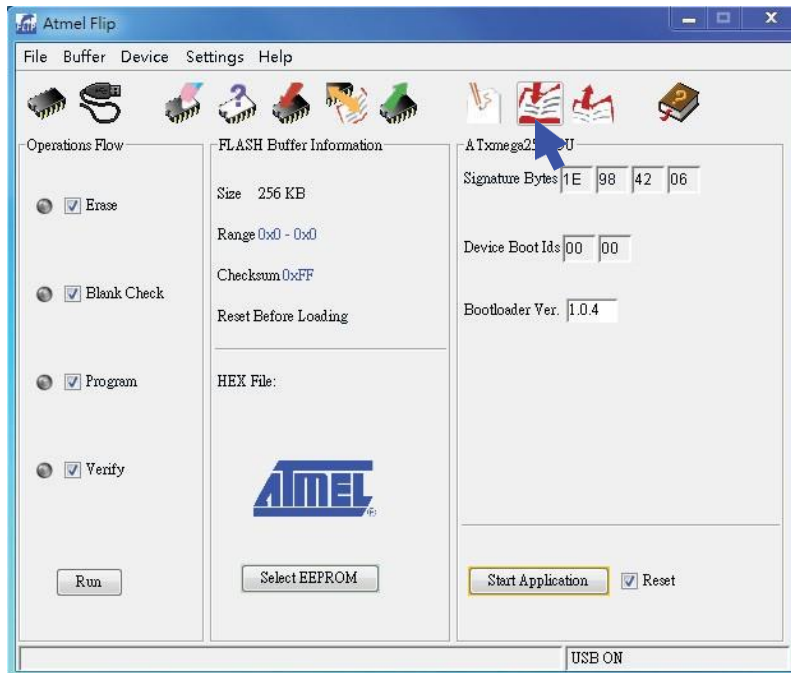
## 10.2.8 Select USB



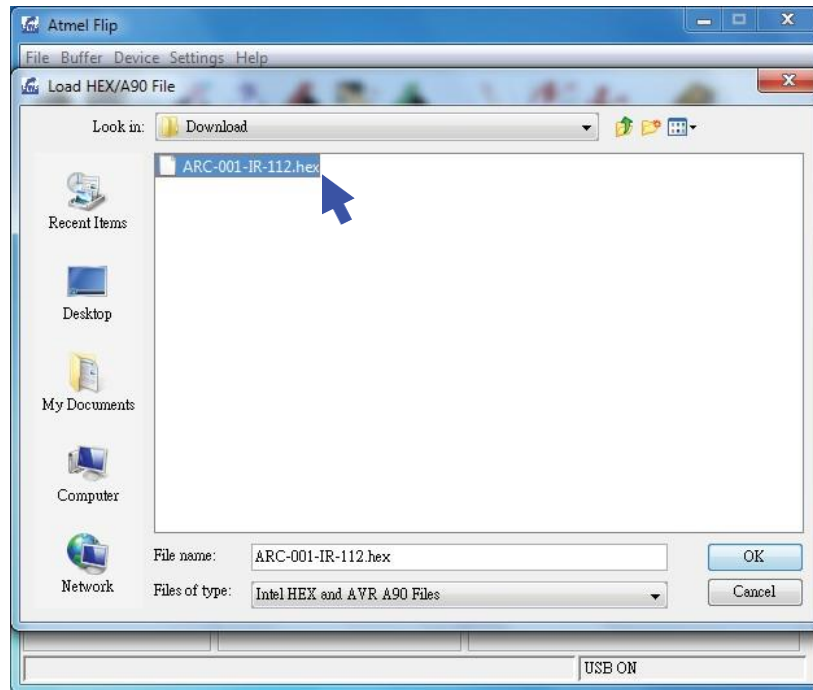
## 10.2.9 Open USB



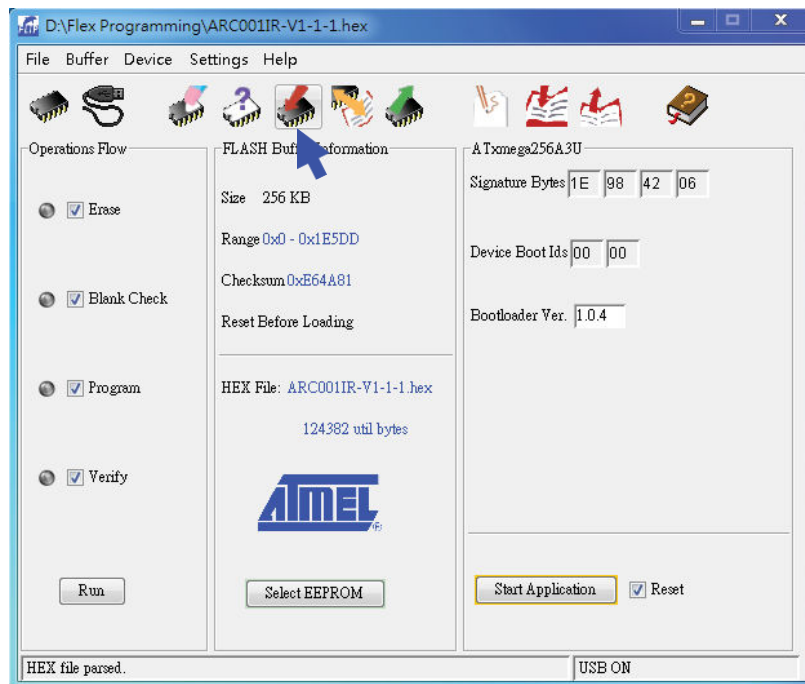
## 10.2.10 Load HEX file



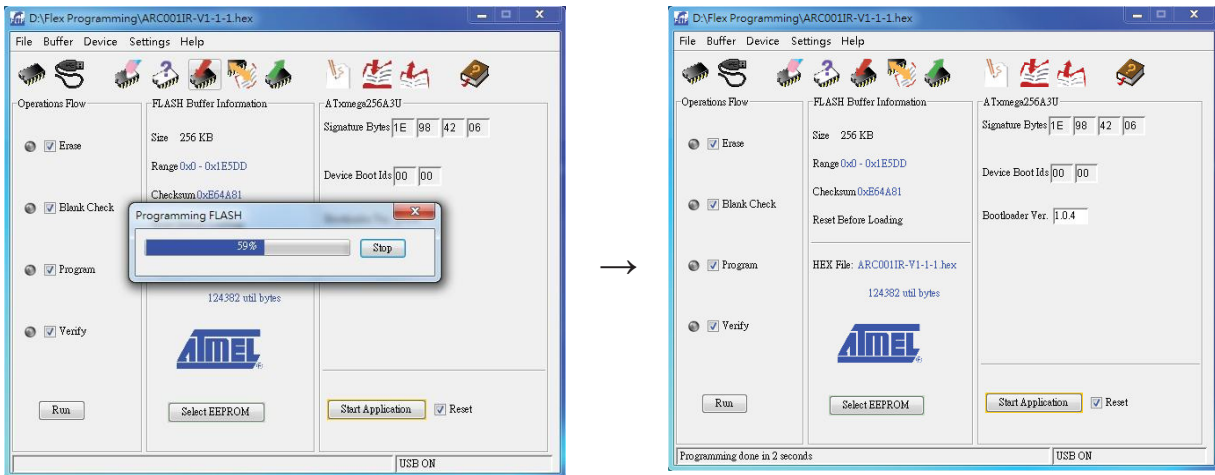
## 10.2.11 Select HEX file (downloaded from ARC website)



## 10.2.12 Program target device memory



## 10.2.13 Download and Complete



## 10.2.14 Unplug the USB cable and set dipswitch position #1 back to “0” or “down” position

# 11. Pushbutton Function Table

## A. Flex EX Models

### A. Transmitter Toggle Functions (Standard)

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
001	00000001				4								
002	00000010			3	4								
003	00000011		2	3	4								
004	00000100	1	2	3	4								
005	00000101								4				
006	00000110							3	4				
007	00000111						2	3	4				
008	00001000					1	2	3	4				
009	00001001										4		
010	00001010									3	4		
011	00001011								2	3	4		
012	00001100							1	2	3	4		
013	00001101												4
014	00001110											3	4
015	00001111										2	3	4
016	00010000									1	2	3	4

## B. Transmitter Toggle Functions (Inline)

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
01	00000001				4								
017	00010001			3	4								
018	00010010		2	3	4								
019	00010011	1	2	3	4								
005	00000101								4				
020	00010100							3	4				
021	00010101						2	3	4				
022	00010110					1	2	3	4				
005	00000101										4		
020	00010100									3	4		
021	00010101								2	3	4		
022	00010110							1	2	3	4		
009	00001001											4	
023	00010111										3	4	
024	00011000									2	3	4	
025	00011001								1	2	3	4	
013	00001101												4
026	00011010											3	4
027	00011011										2	3	4
028	00011100									1	2	3	4

### C. A/B Pushbutton Select Functions (Standard)

Type-A selector sequence : A+B → A → B → A+B ...  
 Type-B selector sequence : Off → A → B → Off → A → B ...  
 Type-C selector sequence : A → B → A+B → A → B → A+B ...  
 Type-D selector sequence : Off → A → B → A+B → Off → A → B → A+B ...

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
029	00011101			A/1.2									
030	00011110			B/1.2									
031	00011111			C/1.2									
032	00100000			D/1.2									
033	00100001				A/3.4								
034	00100010				B/3.4								
035	00100011				C/3.4								
036	00100100				D/3.4								
037	00100101			A/1.2	A/3.4								
038	00100110			A/1.2	B/3.4								
039	00100111			A/1.2	C/3.4								
040	00101000			A/1.2	D/3.4								
041	00101001			B/1.2	B/3.4								
042	00101010			B/1.2	C/3.4								
043	00101011			B/1.2	D/3.4								
044	00101100			C/1.2	C/3.4								
045	00101101			C/1.2	D/3.4								
046	00101110			D/1.2	D/3.4								
047	00101111							A/1.2					
048	00110000							B/1.2					
049	00110001							C/1.2					
050	00110010							D/1.2					
051	00110011								A/3.4				
052	00110100								B/3.4				
053	00110101								C/3.4				
054	00110110								D/3.4				

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
055	00110111							A/1.2	A/3.4				
056	00111000							A/1.2	B/3.4				
057	00111001							A/1.2	C/3.4				
058	00111010							A/1.2	D/3.4				
059	00111011							B/1.2	B/3.4				
060	00111100							B/1.2	C/3.4				
061	00111101							B/1.2	D/3.4				
062	00111110							C/1.2	C/3.4				
063	00111111							C/1.2	D/3.4				
064	01000000							D/1.2	D/3.4				
065	01000001									A/1.2			
066	01000010									B/1.2			
067	01000011									C/1.2			
068	01000100									D/1.2			
069	01000101										A/3.4		
070	01000110										B/3.4		
071	01000111										C/3.4		
072	01001000										D/3.4		
073	01001001									A/1.2	A/3.4		
074	01001010									A/1.2	B/3.4		
075	01001011									A/1.2	C/3.4		
076	01001100									A/1.2	D/3.4		
077	01001101									B/1.2	B/3.4		
078	01001110									B/1.2	C/3.4		
079	01001111									B/1.2	D/3.4		
080	01010000									C/1.2	C/3.4		
081	01010001									C/1.2	D/3.4		
082	01010010									D/1.2	D/3.4		
083	01010011											A/1.2	
084	01010100											B/1.2	
085	01010101											C/1.2	

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
086	01010110											D/1.2	
087	01010111												A/3.4
088	01011000												B/3.4
089	01011001												C/3.4
090	01011010												D/3.4
091	01011011											A/1.2	A/3.4
092	01011100											A/1.2	B/3.4
093	01011101											A/1.2	C/3.4
094	01011110											A/1.2	D/3.4
095	01011111											B/1.2	B/3.4
096	01100000											B/1.2	C/3.4
097	01100001											B/1.2	D/3.4
098	01100010											C/1.2	C/3.4
099	01100011											C/1.2	D/3.4
100	01100100											D/1.2	D/3.4

## D. A/B Pushbutton Select Functions (Inline)

Type-A selector sequence : A+B → A → B → A+B ...  
 Type-B selector sequence : Off → A → B → Off → A → B ...  
 Type-C selector sequence : A → B → A+B → A → B → A+B ...  
 Type-D selector sequence : Off → A → B → A+B → Off → A → B → A+B ...

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
101	01100101			A/1.2									
102	01100110			B/1.2									
103	01100111			C/1.2									
104	01101000			D/1.2									
033	00100001				A/3.4								
034	00100010				B/3.4								
035	00100011				C/3.4								
036	00100100				D/3.4								
105	01101001			A/1.2	A/3.4								
106	01101010			A/1.2	B/3.4								
107	01101011			A/1.2	C/3.4								
108	01101100			A/1.2	D/3.4								
109	01101101			B/1.2	B/3.4								
110	01101110			B/1.2	C/3.4								
111	01101111			B/1.2	D/3.4								
112	01110000			C/1.2	C/3.4								
113	01110001			C/1.2	D/3.4								
114	01110010			D/1.2	D/3.4								
115	01110011							A/1.2					
116	01110100							B/1.2					
117	01110101							C/1.2					
118	01110110							D/1.2					
051	00110011								A/3.4				
052	00110100								B/3.4				
053	00110101								C/3.4				
054	00110110								D/3.4				

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
119	01110111							A/1.2	A/3.4				
120	01111000							A/1.2	B/3.4				
121	01111001							A/1.2	C/3.4				
122	01111010							A/1.2	D/3.4				
123	01111011							B/1.2	B/3.4				
124	01111100							B/1.2	C/3.4				
125	01111101							B/1.2	D/3.4				
126	01111110							C/1.2	C/3.4				
127	01111111							C/1.2	D/3.4				
128	10000000							D/1.2	D/3.4				
115	01110011									A/1.2			
116	01110100									B/1.2			
117	01110101									C/1.2			
118	01110110									D/1.2			
051	00110011										A/3.4		
052	00110100										B/3.4		
053	00110101										C/3.4		
054	00110110										D/3.4		
119	01110111									A/1.2	A/3.4		
120	01111000									A/1.2	B/3.4		
121	01111001									A/1.2	C/3.4		
122	01111010									A/1.2	D/3.4		
123	01111011									B/1.2	B/3.4		
124	01111100									B/1.2	C/3.4		
125	01111101									B/1.2	D/3.4		
126	01111110									C/1.2	C/3.4		
127	01111111									C/1.2	D/3.4		
128	10000000									D/1.2	D/3.4		
129	10000001										A/1.2		
130	10000010										B/1.2		
131	10000011										C/1.2		
132	10000100										D/1.2		

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
069	01000101											A/3.4	
070	01000110											B/3.4	
071	01000111											C/3.4	
072	01001000											D/3.4	
133	10000101										A/1.2	A/3.4	
134	10000110										A/1.2	B/3.4	
135	10000111										A/1.2	C/3.4	
136	10001000										A/1.2	D/3.4	
137	10001001										B/1.2	B/3.4	
138	10001010										B/1.2	C/3.4	
139	10001011										B/1.2	D/3.4	
140	10001100										C/1.2	C/3.4	
141	10001101										C/1.2	D/3.4	
142	10001110										D/1.2	D/3.4	
143	10001111											A/1.2	
144	10010000											B/1.2	
145	10010001											C/1.2	
146	10010010											D/1.2	
087	01010111												A/3.4
088	01011000												B/3.4
089	01011001												C/3.4
090	01011010												D/3.4
147	10010011											A/1.2	A/3.4
148	10010100											A/1.2	B/3.4
149	10010101											A/1.2	C/3.4
150	10010110											A/1.2	D/3.4
151	10010111											B/1.2	B/3.4
152	10011000											B/1.2	C/3.4
153	10011001											B/1.2	D/3.4
154	10011010											C/1.2	C/3.4
155	10011011											C/1.2	D/3.4
156	10011100											D/1.2	D/3.4

## E. Transmitter Toggle + A/B Pushbutton Select Functions (Standard)

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
157	10011101			1	A/3.4								
158	10011110			1	B/3.4								
159	10011111			1	C/3.4								
160	10100000			1	D/3.4								
161	10100001		1	2	A/3.4								
162	10100010		1	2	B/3.4								
163	10100011		1	2	C/3.4								
164	10100100		1	2	D/3.4								
165	10100101			A/1.2	4								
166	10100110			B/1.2	4								
167	10100111			C/1.2	4								
168	10101000			D/1.2	4								
169	10101001		3	A/1.2	4								
170	10101010		3	B/1.2	4								
171	10101011		3	C/1.2	4								
172	10101100		3	D/1.2	4								
173	10101101							1	A/3.4				
174	10101110							1	B/3.4				
175	10101111							1	C/3.4				
176	10110000							1	D/3.4				
177	10110001						1	2	A/3.4				
178	10110010						1	2	B/3.4				
179	10110011						1	2	C/3.4				
180	10110100						1	2	D/3.4				
181	10110101							A/1.2	4				
182	10110110							B/1.2	4				
183	10110111							C/1.2	4				
184	10111000							D/1.2	4				
185	10111001						3	A/1.2	4				
186	10111010						3	B/1.2	4				
187	10111011						3	C/1.2	4				

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
188	10111100						3	D/1.2	4				
189	10111101									1	A/3.4		
190	10111110									1	B/3.4		
191	10111111									1	C/3.4		
192	11000000									1	D/3.4		
193	11000001								1	2	A/3.4		
194	11000010								1	2	B/3.4		
195	11000011								1	2	C/3.4		
196	11000100								1	2	D/3.4		
197	11000101									A/1.2	4		
198	11000110									B/1.2	4		
199	11000111									C/1.2	4		
200	11001000									D/1.2	4		
201	11001001								3	A/1.2	4		
202	11001010								3	B/1.2	4		
203	11001011								3	C/1.2	4		
204	11001100								3	D/1.2	4		
205	11001101											1	A/3.4
206	11001110											1	B/3.4
207	11001111											1	C/3.4
208	11010000											1	D/3.4
209	11010001										1	2	A/3.4
210	11010010										1	2	B/3.4
211	11010011										1	2	C/3.4
212	11010100										1	2	D/3.4
213	11010101											A/1.2	4
214	11010110											B/1.2	4
215	11010111											C/1.2	4
216	11011000											D/1.2	4
217	11011001										3	A/1.2	4
218	11011010										3	B/1.2	4
219	11011011										3	C/1.2	4
220	11011100										3	D/1.2	4

## F. Transmitter Toggle + A/B Pushbutton Select Functions (Inline)

NO	Dip Set	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
221	11011101			1	A/3.4								
222	11011110			1	B/3.4								
223	11011111			1	C/3.4								
224	11100000			1	D/3.4								
225	11100001		1	2	A/3.4								
226	11100010		1	2	B/3.4								
227	11100011		1	2	C/3.4								
228	11100100		1	2	D/3.4								
229	11100101							1	A/3.4				
230	11100110							1	B/3.4				
231	11100111							1	C/3.4				
232	11101000							1	D/3.4				
233	11101001						1	2	A/3.4				
234	11101010						1	2	B/3.4				
235	11101011						1	2	C/3.4				
236	11101100						1	2	D/3.4				
229	11101101									1	A/3.4		
230	11101110									1	B/3.4		
231	11101111									1	C/3.4		
232	11110000									1	D/3.4		
233	11110001								1	2	A/3.4		
234	11110010								1	2	B/3.4		
235	11110011								1	2	C/3.4		
236	11110100								1	2	D/3.4		
237	11110101										1	A/3.4	
238	11110110										1	B/3.4	
239	11110111										1	C/3.4	
240	11111000										1	D/3.4	
241	11111001									1	2	A/3.4	
242	11111010									1	2	B/3.4	

<b>NO</b>	<b>Dip Set</b>	<b>PB1</b>	<b>PB2</b>	<b>PB3</b>	<b>PB4</b>	<b>PB5</b>	<b>PB6</b>	<b>PB7</b>	<b>PB8</b>	<b>PB9</b>	<b>PB10</b>	<b>PB11</b>	<b>PB12</b>
<b>243</b>	11111011									<b>1</b>	<b>2</b>	<b>C/3.4</b>	
<b>244</b>	11111100									<b>1</b>	<b>2</b>	<b>D/3.4</b>	
<b>245</b>	11110101											<b>1</b>	<b>A/3.4</b>
<b>246</b>	11110110											<b>1</b>	<b>B/3.4</b>
<b>247</b>	11110111											<b>1</b>	<b>C/3.4</b>
<b>248</b>	11111000											<b>1</b>	<b>D/3.4</b>
<b>249</b>	11111001										<b>1</b>	<b>2</b>	<b>A/3.4</b>
<b>250</b>	11111010										<b>1</b>	<b>2</b>	<b>B/3.4</b>
<b>251</b>	11111011										<b>1</b>	<b>2</b>	<b>C/3.4</b>
<b>252</b>	11111100										<b>1</b>	<b>2</b>	<b>D/3.4</b>

## B. Flex EX2 Models

### A. Transmitter Toggle Functions (Standard)

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
001				4								
002			3	4								
003		2	3	4								
004	1	2	3	4								
005								4				
006							3	4				
007						2	3	4				
008					1	2	3	4				
009										4		
010									3	4		
011								2	3	4		
012							1	2	3	4		
013												4
014											3	4
015										2	3	4
016									1	2	3	4

## B. Transmitter Toggle Functions (Inline)

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
01				4								
017			3	4								
018		2	3	4								
019	1	2	3	4								
005								4				
020							3	4				
021						2	3	4				
022					1	2	3	4				
005										4		
020									3	4		
021								2	3	4		
022							1	2	3	4		
009											4	
023										3	4	
024									2	3	4	
025								1	2	3	4	
013												4
026											3	4
027										2	3	4
028									1	2	3	4

### C. A/B Pushbutton Select Functions (Standard)

- Type-A selector sequence : A → B → A → B ...
- Type-B selector sequence : Off → A → B → Off → A → B ...
- Type-C selector sequence : A → B → A+B → A → B → A+B ...
- Type-D selector sequence : Off → A → B → A+B → Off → A → B → A+B ...
- Type-E selector sequence : A → B → C → A ...

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
029			A/1.2									
030			B/1.2									
031			C/1.2									
032			D/1.2									
033				A/3.4								
034				B/3.4								
035				C/3.4								
036				D/3.4								
037			A/1.2	A/3.4								
038			A/1.2	B/3.4								
039			A/1.2	C/3.4								
040			A/1.2	D/3.4								
041			B/1.2	B/3.4								
042			B/1.2	C/3.4								
043			B/1.2	D/3.4								
044			C/1.2	C/3.4								
045			C/1.2	D/3.4								
046			D/1.2	D/3.4								
047							A/1.2					
048							B/1.2					
049							C/1.2					
050							D/1.2					
051								A/3.4				
052								B/3.4				
053								C/3.4				

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
054								D/3.4				
055							A/1.2	A/3.4				
056							A/1.2	B/3.4				
057							A/1.2	C/3.4				
058							A/1.2	D/3.4				
059							B/1.2	B/3.4				
060							B/1.2	C/3.4				
061							B/1.2	D/3.4				
062							C/1.2	C/3.4				
063							C/1.2	D/3.4				
064							D/1.2	D/3.4				
065									A/1.2			
066									B/1.2			
067									C/1.2			
068									D/1.2			
069										A/3.4		
070										B/3.4		
071										C/3.4		
072										D/3.4		
073									A/1.2	A/3.4		
074									A/1.2	B/3.4		
075									A/1.2	C/3.4		
076									A/1.2	D/3.4		
077									B/1.2	B/3.4		
078									B/1.2	C/3.4		
079									B/1.2	D/3.4		
080									C/1.2	C/3.4		
081									C/1.2	D/3.4		
082									D/1.2	D/3.4		
083											A/1.2	
084											B/1.2	

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
085											C/1.2	
086											D/1.2	
087												A/3.4
088												B/3.4
089												C/3.4
090												D/3.4
091											A/1.2	A/3.4
092											A/1.2	B/3.4
093											A/1.2	C/3.4
094											A/1.2	D/3.4
095											B/1.2	B/3.4
096											B/1.2	C/3.4
097											B/1.2	D/3.4
098											C/1.2	C/3.4
099											C/1.2	D/3.4
100											D/1.2	D/3.4
609								E/123				
610												E/123

## D. A/B Pushbutton Select Functions (Inline)

Type-A selector sequence : A → B → A → B ...  
 Type-B selector sequence : Off → A → B → Off → A → B ...  
 Type-C selector sequence : A → B → A+B → A → B → A+B ...  
 Type-D selector sequence : Off → A → B → A+B → Off → A → B → A+B ...

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
101			A/1.2									
102			B/1.2									
103			C/1.2									
104			D/1.2									
033				A/3.4								
034				B/3.4								
035				C/3.4								
036				D/3.4								
105			A/1.2	A/3.4								
106			A/1.2	B/3.4								
107			A/1.2	C/3.4								
108			A/1.2	D/3.4								
109			B/1.2	B/3.4								
110			B/1.2	C/3.4								
111			B/1.2	D/3.4								
112			C/1.2	C/3.4								
113			C/1.2	D/3.4								
114			D/1.2	D/3.4								
115							A/1.2					
116							B/1.2					
117							C/1.2					
118							D/1.2					
051								A/3.4				
052								B/3.4				
053								C/3.4				
054								D/3.4				

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
119							A/1.2	A/3.4				
120							A/1.2	B/3.4				
121							A/1.2	C/3.4				
122							A/1.2	D/3.4				
123							B/1.2	B/3.4				
124							B/1.2	C/3.4				
125							B/1.2	D/3.4				
126							C/1.2	C/3.4				
127							C/1.2	D/3.4				
128							D/1.2	D/3.4				
115									A/1.2			
116									B/1.2			
117									C/1.2			
118									D/1.2			
051										A/3.4		
052										B/3.4		
053										C/3.4		
054										D/3.4		
119									A/1.2	A/3.4		
120									A/1.2	B/3.4		
121									A/1.2	C/3.4		
122									A/1.2	D/3.4		
123									B/1.2	B/3.4		
124									B/1.2	C/3.4		
125									B/1.2	D/3.4		
126									C/1.2	C/3.4		
127									C/1.2	D/3.4		
128									D/1.2	D/3.4		
129										A/1.2		
130										B/1.2		
131										C/1.2		
132										D/1.2		

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
069											A/3.4	
070											B/3.4	
071											C/3.4	
072											D/3.4	
133										A/1.2	A/3.4	
134										A/1.2	B/3.4	
135										A/1.2	C/3.4	
136										A/1.2	D/3.4	
137										B/1.2	B/3.4	
138										B/1.2	C/3.4	
139										B/1.2	D/3.4	
140										C/1.2	C/3.4	
141										C/1.2	D/3.4	
142										D/1.2	D/3.4	
143											A/1.2	
144											B/1.2	
145											C/1.2	
146											D/1.2	
087												A/3.4
088												B/3.4
089												C/3.4
090												D/3.4
147											A/1.2	A/3.4
148											A/1.2	B/3.4
149											A/1.2	C/3.4
150											A/1.2	D/3.4
151											B/1.2	B/3.4
152											B/1.2	C/3.4
153											B/1.2	D/3.4
154											C/1.2	C/3.4
155											C/1.2	D/3.4
156											D/1.2	D/3.4

## E. Transmitter Toggle + A/B Pushbutton Select Functions (Standard)

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
157			1	A/3.4								
158			1	B/3.4								
159			1	C/3.4								
160			1	D/3.4								
161		1	2	A/3.4								
162		1	2	B/3.4								
163		1	2	C/3.4								
164		1	2	D/3.4								
165			A/1.2	4								
166			B/1.2	4								
167			C/1.2	4								
168			D/1.2	4								
169		3	A/1.2	4								
170		3	B/1.2	4								
171		3	C/1.2	4								
172		3	D/1.2	4								
173							1	A/3.4				
174							1	B/3.4				
175							1	C/3.4				
176							1	D/3.4				
177						1	2	A/3.4				
178						1	2	B/3.4				
179						1	2	C/3.4				
180						1	2	D/3.4				
181							A/1.2	4				
182							B/1.2	4				
183							C/1.2	4				
184							D/1.2	4				
185						3	A/1.2	4				
186						3	B/1.2	4				
187						3	C/1.2	4				

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
188						3	D/1.2	4				
189									1	A/3.4		
190									1	B/3.4		
191									1	C/3.4		
192									1	D/3.4		
193								1	2	A/3.4		
194								1	2	B/3.4		
195								1	2	C/3.4		
196								1	2	D/3.4		
197									A/1.2	4		
198									B/1.2	4		
199									C/1.2	4		
200									D/1.2	4		
201								3	A/1.2	4		
202								3	B/1.2	4		
203								3	C/1.2	4		
204								3	D/1.2	4		
205											1	A/3.4
206											1	B/3.4
207											1	C/3.4
208											1	D/3.4
209										1	2	A/3.4
210										1	2	B/3.4
211										1	2	C/3.4
212										1	2	D/3.4
213											A/1.2	4
214											B/1.2	4
215											C/1.2	4
216											D/1.2	4
217										3	A/1.2	4
218										3	B/1.2	4
219										3	C/1.2	4
220										3	D/1.2	4

## F. Transmitter Toggle + A/B Pushbutton Select Functions (Inline)

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
221			1	A/3.4								
222			1	B/3.4								
223			1	C/3.4								
224			1	D/3.4								
225		1	2	A/3.4								
226		1	2	B/3.4								
227		1	2	C/3.4								
228		1	2	D/3.4								
229							1	A/3.4				
230							1	B/3.4				
231							1	C/3.4				
232							1	D/3.4				
233						1	2	A/3.4				
234						1	2	B/3.4				
235						1	2	C/3.4				
236						1	2	D/3.4				
229									1	A/3.4		
230									1	B/3.4		
231									1	C/3.4		
232									1	D/3.4		
233								1	2	A/3.4		
234								1	2	B/3.4		
235								1	2	C/3.4		
236								1	2	D/3.4		
237										1	A/3.4	
238										1	B/3.4	
239										1	C/3.4	
240										1	D/3.4	
241									1	2	A/3.4	
242									1	2	B/3.4	

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
243									1	2	C/3.4	
244									1	2	D/3.4	
245											1	A/3.4
246											1	B/3.4
247											1	C/3.4
248											1	D/3.4
249										1	2	A/3.4
250										1	2	B/3.4
251										1	2	C/3.4
252										1	2	D/3.4

## C. Flex BASE Models

### A. Transmitter Toggle Functions (Standard)

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
001	1											
002		2										
003			1									
004				2								
005					1							
006						2						
007							1					
008								2				
009									1			
010										2		
011											1	
012												2
013	1	2										
014			1	2								
015					1	2						
016							1	2				
017									1	2		
018											1	2

### B. Transmitter Toggle Functions (Inline)

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
019	1		2									
020					1		2					
021									1		2	
022		1		2								
023						1		2				
024										1		2

### C. A/B Pushbutton Select Functions (Standard)

- Type-A selector sequence : A → B → A → B ...  
 Type-B selector sequence : Off → A → B → Off → A → B ...  
 Type-C selector sequence : A → B → A+B → A → B → A+B ...  
 Type-D selector sequence : Off → A → B → A+B → Off → A → B → A+B ...

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
025			A/1.2									
026			B/1.2									
027			C/1.2									
028			D/1.2									
029				A/1.2								
030				B/1.2								
031				C/1.2								
032				D/1.2								
033							A/1.2					
034							B/1.2					
035							C/1.2					
036							D/1.2					
037								A/1.2				
038								B/1.2				
039								C/1.2				
040								D/1.2				
041											A/1.2	
042											B/1.2	
043											C/1.2	
044											D/1.2	
045												A/1.2
046												B/1.2
051												C/1.2
052												D/1.2

## D. A/B Pushbutton Select Functions (Inline)

Type-A selector sequence : A → B → A → B ...  
 Type-B selector sequence : Off → A → B → Off → A → B ...  
 Type-C selector sequence : A → B → A+B → A → B → A+B ...  
 Type-D selector sequence : Off → A → B → A+B → Off → A → B → A+B ...

NO	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12
049			A/1.2									
050			B/1.2									
051			C/1.2									
052			D/1.2									
029				A/1.2								
030				B/1.2								
031				C/1.2								
032				D/1.2								
053							A/1.2					
054							B/1.2					
055							C/1.2					
056							D/1.2					
037								A/1.2				
038								B/1.2				
039								C/1.2				
040								D/1.2				
057											A/1.2	
058											B/1.2	
059											C/1.2	
060											D/1.2	
045												A/1.2
046												B/1.2
047												C/1.2
048												D12

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