

Holland Computers, Inc.

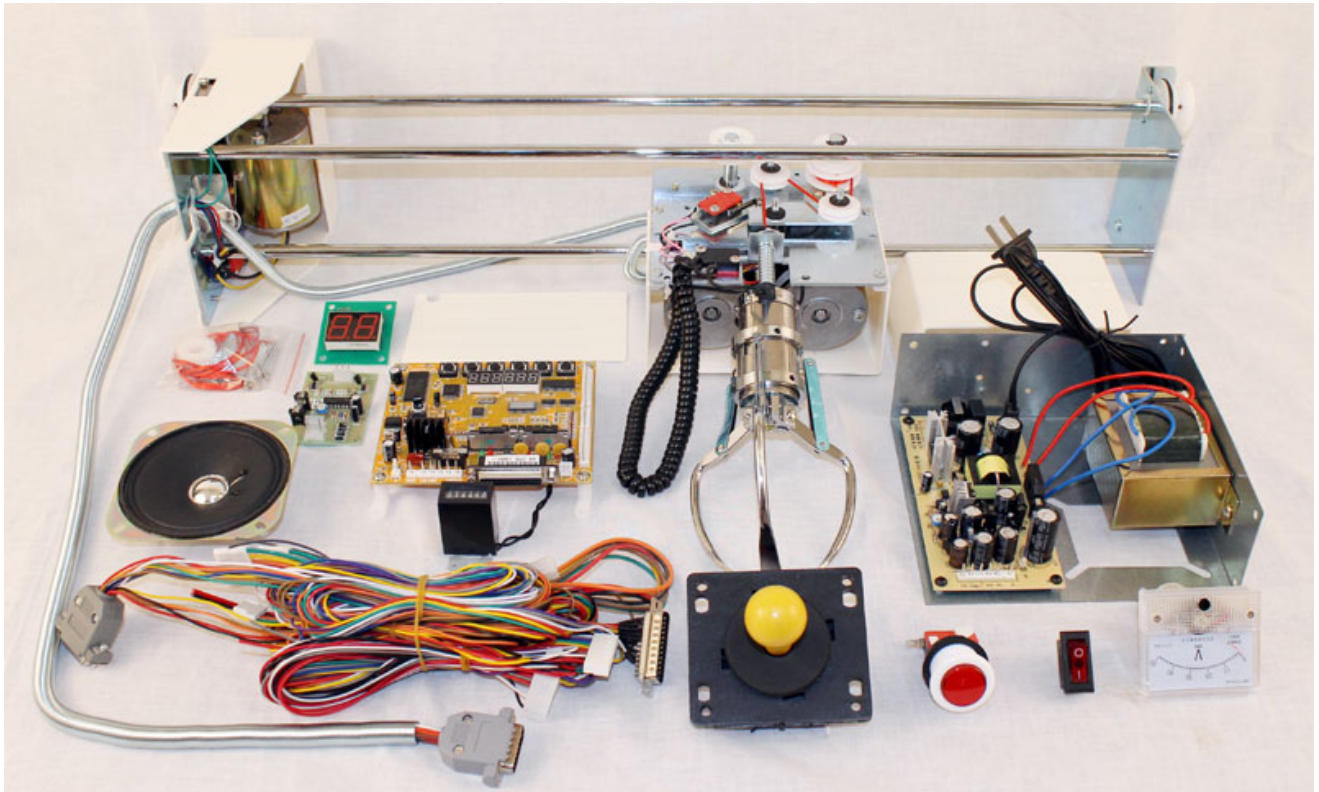
Crane Kit Manual
Part Number RA-CRANE-KIT

I. SECTION 1 - Introduction

a. Description

This kit is designed for professional installation only. It has been manufactured as a replacement gantry and electronics for existing machines using a 28" wide gantry or for new installations in your own cabinet.

b. Kit Contents



- i. Gantry assembly
- ii. Gantry crane lower cover
- iii. Gantry crane front cover
- iv. Main board
- v. Power supply
- vi. Led display
- vii. Coin counter (Optional use)
- viii. Speaker
- ix. Button and switch assembly
- x. Joystick
- xi. Hardware kit with spare gear, screws and brackets
- xii. Wiring harnesses
- xiii. Power switch (Optional use)
- xiv. Volt meter (Optional use)
- xv. EF - LED light controller (Optional Use) (LED light strips sold separately)

c. Warnings and disclaimers

- i. This kit is designed for professional installation only.
- ii. EXPOSED HIGH VOLTAGE EQUIPMENT – USE EXTREME CARE – NEVER TOUCH ANY COMPONENT WITHOUT UNPLUGGING THE POWER CORD. FAILURE TO FOLLOW THIS WARNING MAY RESULT IN INJURY OR DEATH.
- iii. Due to varied manufacturing methods and multiple suppliers, some parts may not look as pictured in this manual. Wiring colors on diagrams are not provided because each manufacturer may use different colors. Please refer to the pin out section to trace connections.

c. Menu items and settings

i. Introduction to the Menu System

1. Menu Items and Sub Menu items are referred to by a code number. The code number is indicated by the first 2 digits of the programming display.
2. Values are displayed on the last 4 digits of the programming display.

ii. Basic Settings

1. The Main menu is active on startup. Simply navigate using the S3 button to cycle through the Menu Items (Codes) **IMPORTANT – You must Press and hold S3 for 3 seconds to save your settings**
 - a. Code 1 value = 1 coin equal x credits – Default x=1
 - b. Code 2 value = x coins = 1 credit – Default x=1
 - c. Code 3 value = crane activation countdown timer – Default = 15 seconds
 - d. Code 4 value = Demonstration Mode timer – Default = 0
 - i. Values 0 to 30 Minutes
 - ii. This is the amount of time before unit goes into demo mode. 0 Turns Demo Mode off.
 - e. Code 5 value = Strong Claw force – 15v to 46v. Default = 46V
 - f. Code 6 value = Weak Claw force – 5v to 15v. Default = 8v
 - g. Code 7 value = Control Mode Default = 2
 - i. 0 = Cancel control mode
 1. Code 8 and Code 9 have no effect
 2. Code 10 is effective
 - ii. 1 = Strong Claw force
 1. Code 8 and Code 9 are effective
 2. Code 10, Code 11 and Code 12 have no effect
 3. Prize winning rate
 - a. $\text{Times Controlled (Code 9) / Controller Basic Rate (Code 8)} = \text{Weak claw force times/games played}$
 - b. If the Controller Basic Rate (Code 8) is set to 5 and the Time Controlled (Code 9) is set to 1 then There will be 1 Strong claw force and 4 weak claw forces for every 5 plays
 - iii. 2 = Weak claw force mode
 1. Code 8 and Code 9 are effective
 2. Code 10, Code 11 and Code 12 have no effect
 3. Prize winning rate
 - a. $\text{Times Controlled (Code 9) / Controller Basic Rate (Code 8)} = \text{Strong claw force times/games played}$
 - b. If the Controller Basic Rate (Code 8) is set to 5 and the Time Controlled (Code 9) is set to 1 then There will be 1 weak claw force and 4 strong claw forces for every 5 plays
 - iv. 3 = Win prize mode (requires additional sensor to Pin 1 of J3, otherwise every play wins)
 1. Code 8 and Code 9 are effective
 2. Code 10, Code 11 and Code 12 have no effect
 3. Prize winning rate

- a. Times Controlled (Code 9) / Controller Basic Rate (Code 8)
= Strong claw force times/games played
 - b. If the Controller Basic Rate (Code 8) is set to 5 and the Time Controlled (Code 9) is set to 1 then there will be 1 win every 5 plays. If play fails to win then the next play will win.
 - h. Code 8 value = Controller Basic Rate. Range = 5-125. Default = 15
 - i. Controls number of plays used in control modes (Code 7)
 - i. Code 9 value = Times Controlled. Range = 1-15 times. Default =1
 - i. Controls number of times claw force is controlled used in control modes (Code 7)
 - j. Code 10 value = Timing Mode. Default =0
 - i. 0 = Time from clawing prize
 - 1. In the game, when claw goes down to grab prize, Strong claw force is output, timer is started. When Timer expires (set with Code 11), weak claw force is output and prize is dropped.
 - ii. 1 = Time from inserting coin
 - 1. Timer starts once game begins. Once timer expires, weak claw force is output and prize drops. This mode requires user to finish before the timer expires.
 - k. Code 11 value = Strong claw force timer. Range 0.5 to 11.0 seconds. Default = 1.0 seconds
 - l. Code 12 value = Weak claw force timer. Range 0.5 to 22.0 seconds. Default = 7.0 seconds
 - m. Code 13 value = Prize out position = Default = 1
 - i. 0 = Front left corner
 - ii. 1 = Front right corner
 - iii. 2 = Rear left corner
 - iv. 3 = Rear right corner
 - n. Code 14 value = Start position
 - i. 0 = Front left corner
 - ii. 1 = Front right corner
 - iii. 2 = Rear left corner
 - iv. 3 = Rear right corner

iii. S1 – Accounting Menu

1. Press Button S1 to enter the accounting menu, this will display Code 1. Subsequent presses of S1 will cycle through the following codes.
 - a. Code 1 value = Last 4 digits of coin counter
 - b. Code 2 value = First 4 digits of coin counter
 - c. Code 3 value = Last 4 digits of prize out counter
 - d. Code 4 value = First 4 digits of prize out counter
 - i. Example – Place the 4 digits of Code 2 in front of the 4 digits of Code 1 to get actual value;
 - If Code 1 value = 0189
 - And Code 2 Value = 1234
 - then Coin Counter reads 12340189**

2. Values cannot be changed, only reset. The following is the reset procedure.
 - a. Power off
 - b. Press and hold S1, S2 and S5 buttons while powering on.
 - c. Wait for display to change to either CLR?01 or CLR?02 (both do the same thing, you will get one or the other depending on the board revision)
 - i. Press S3 and hold for 10 seconds to clear all counters
 - ii. Press S4 and hold for 10 seconds to cancel

iv. S2 – Claw Force Adjustment

1. Press Button S2 to enter claw force adjustment menu, this will display Code 1 and Claw will operate 3 times. Press S2 again to change codes.
 - a. Code 1 = Strong claw force. Range 15.0v to 46.0v. Default is 46.0v
 - b. Code 2 = Weak claw force. Range 5.0 to 15.0v. Default is 8.0v
2. Press and hold S3 for 3 seconds to save your settings

III. Section 3 - Troubleshooting

a. Test Mode

- i. Test mode is used to test all buttons, switches and motors.
 1. Entering Test Mode
 - a. Power off
 - b. Press and hold S6 while powering on the enter Test Mode
 2. Exit Test Mode
 - a. Press and hold S3 for 3 seconds. 1 credit will be gained and game cycle will complete, the machine will reset to home position.

b. Error Codes

| Error Code | Description | Solution |
|-------------------|--|---|
| 11 | Wrong Data setting | Press S3 to set default |
| 12 | Wrong Account Data | Press S3 to clear account data |
| 13 | Bad Memory | Replace Board |
| 20 | Hardware Defective | Replace Board |
| 25 | Software Defective | Replace Board |
| 26 | Software Defective | Replace Board |
| 31 | Coin Acceptor 1 jammed or polarity wrong | Clear jam or reverse polarity |
| 32 | Coin Acceptor 2 jammed or polarity wrong | Clear jam or reverse polarity |
| 33 | Prize out sensor stuck or polarity wrong | Clear Prize door or Clear jam or reverse polarity |
| 41 | Machine Shaking | Stop shaking the machine |
| Clr?01 | Clear coin and score data? | S3 to clear S4 to cancel |
| Clr?02 | Clear accounting data? | S3 to clear S4 to cancel |

IV. Section 4 Connectors and Wiring

a. J1 – 25 pin Female D-Sub connector – Crane Gantry Control

i. Pin outs

1. Forward/Reverse Motor (-) Negative
2. Left/Right Motor (-) Negative
3. Up/Down Motor (-) Negative
4. Claw (+) Positive
5. Rearward stop switch
6. Forward stop switch
7. Right stop switch
8. Left stop switch
9. Up stop switch
10. Down stop switch
11. UNUSED
12. UNUSED
13. UNUSED
14. Forward/Reverse Motor (+) Positive
15. Left Right Motor(+) Positive
16. Up/Down Motor (+) Positive
17. Claw (-) Negative
18. GND
19. GND
20. GND
21. GND
22. GND
23. UNUSED
24. UNUSED
25. UNUSED

b. J2 – User LED Display

i. Pin outs

1. Light 1 (Not used in standard harness)
2. Light 2 (Not used in standard harness)
3. Light 3 (Not used in standard harness)
4. Light 4 (Not used in standard harness)
5. 12V (Not used in standard harness)
6. LED Segment G
7. LED Segment F
8. LED Segment E
9. LED Segment D
10. LED Segment C
11. LED Segment B
12. LED Segment A
13. LED Digit 1
14. LED Digit 2

c. J3 – User Controls

i. Pin outs

1. Prize out sensor
2. Activate claw button
3. Joystick Left
4. Joystick Right
5. Joystick Back
6. Joystick Forward
7. GND

d. J4 – Coin Acceptor

i. Pin outs

1. GND
2. GND
3. GND
4. Coin 1 input signal
5. Coin 2 input signal
6. Prize stop watch
7. UNUSED
8. 12V
9. 12V
10. Coin insert stop watch
11. 12V
12. Shaking switch

e. J5 - Power

i. Pin outs

1. GND
2. 5V
3. 24V
4. GND(48V)
5. 48V
6. 12V

f. J6 – Speaker

i. Pin outs

1. Speaker (-) Negative
2. Speaker (+) Positive

g. J7 – Claw force voltage test connection

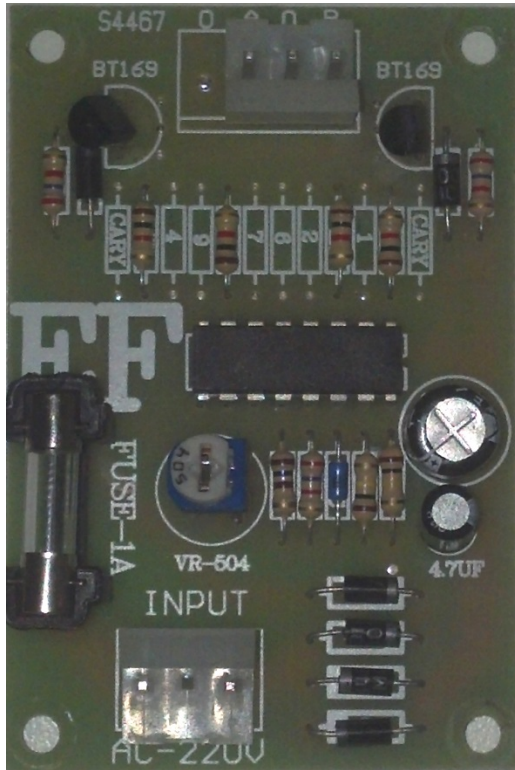
i. Pin outs

1. V+
2. V-

V. Optional equipment

a. EF Light Control Board

i. Image



- ii. Input AC 110v or 220v
- iii. Output DC 12V
- iv. **THIS UNIT DOES NOT CONNECT TO THE MAIN BOARD. ANY ATTEMPT TO DO SO WILL VOID ANY AND ALL WARRANTIES FOR THIS KIT.**
- v. LED Light strips not included

- b. **Volt Meter** is used to check output voltage to assist in setting proper claw strength. Can be permanently mounted or simply used during setup then removed.
- c. **Coin Counter** is provided to offer a way to keep a running total of coins. Onboard counter can be reset, losing this data. Exclusion of this unit will not effect operation.
- d. **Power Switch** – **UNPLUG FROM AC POWER SUPPLY BEFORE INSTALLING THE POWER SWITCH**

i.



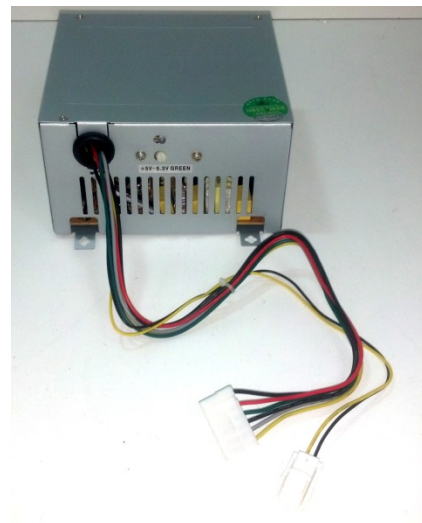
ii. Must be wired into the AC input of the Power Supply. Interrupt AC Power where indicated on this diagram

1.



V. Alternate Power Supply

- a. Some units will come with a different power supply. This is because there was a change in manufacturing. This is what the new power supply looks like:
- b. The small pigtail is unused and supplies 12v power for lighting or other accessories as you see fit.
- c. When using this unit, there will be a short 6 wire harness in the kit that will not be used.



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