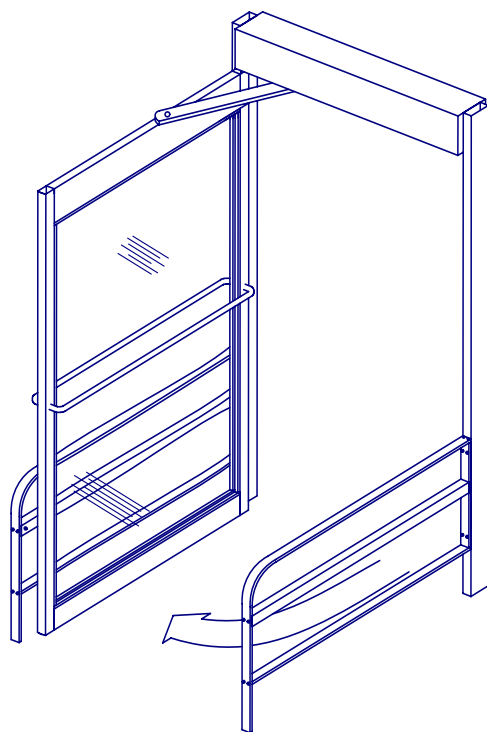




U Series Control and Handy Terminal

Setup and Programming Manual

U10 to U19 Versions



For
**Swinging
Door
Systems**

Table of Contents

I. PRODUCT INTRODUCTION.....	3
A. About the U Series Control	3
D. U Series Controller Specifications.....	3
II. U SERIES WIRING DESCRIPTIONS.....	4
A. Low Voltage Wiring Information (All wires are labeled and identified by color).....	4
B. 120 VAC Wiring Connections	5
C. Rocker Switch Functions.....	6
D. Before turning on power.....	6
III. NORMAL SETUP AND PROGRAMMING PROCEDURES	7
IV. DISCONNECTING THE HANDY TERMINAL	8
U Series Factory Settings & Available Functions - Swing Door.....	9
V. ADJUSTMENT PROCEDURES.....	10
A. Standard Function Adjustments.....	10
B. Feeling Adjustments	10
C. Special Function Adjustments	11
Door Functions for Signal at Full Open and Signal at Closing.....	14
Door Functions for Signal at Full Open and Signal at Closing (<i>Continued</i>)	15
VI. TROUBLESHOOTING.....	18
A. <i>The door is recycling on its own.</i>	18
B. <i>There was a power failure.</i>	18
C. <i>There was trouble detected by the controller</i>	18
D. <i>There are problems with the general door operation.</i>	18
E. <i>Handy Terminal message, “GYRO TECH HANDY TERMINAL” does not change.</i>	19
F. <i>There was trouble detected by the controller.</i>	20
VII. INSTALLATION OF SIMULTANEOUS HARNESS:.....	21

PROGRAMMING FLOWCHART	22
RESETTING THE CONTROL TO FACTORY SETTINGS.....	23
GENERIC WIRING - SINGLE DOOR	24
GENERIC WIRING - SIMULTANEOUS PAIR.....	26

I. Product Introduction

A. About the U Series Control

The NABCO Entrances U Series Controller is on the leading edge of technology for automatic door operation and control. These units provide 20 operational functions with more than 150 different options. In addition, an auxiliary output signal is available to further customize door operation in accordance with applicable standards.

B. The Companion Handy Terminal is used to make controller adjustments quick and easy. The Handy Terminal is powered directly from the Microprocessor, eliminating the need for batteries. (See Figure 1).

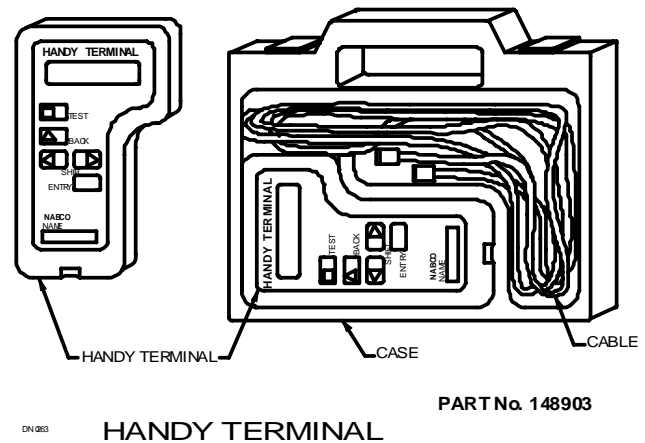


Figure 1

NOTE: The microprocessor can be used with the Handy Terminal for sliding, swinging and folding door applications. Since there are some specific differences in set-up procedures, and operation for each type of door, consult the instruction manual for the unit being installed.

C. The Handy Terminal along with Microprocessor will do the following:

1. Count the number of times the Handy Terminal has been connected for service.
2. Count the number of opening and closing operations. NOTE: The opening and closing counts are registered in increments of 100.
3. Count the number of times the door has recycled.

D. U Series Controller Specifications

1. The required power source is Max 5 amps @ 115 VAC +/-10 %, 50/60 Hz.
2. The power available from the controller for auxiliary equipment is 12 VDC 0.5 amps (Class 2 Power Supply).
3. The recommended operating temperature range is -4° to 140 °F (-20° to +60° Celsius).
If the unit is sluggish, try warming the unit inside a jacket or warm building.
4. The maximum recommended door weight is 200 pounds, although this only a rough estimate because the operator forces are dependent not only on door weight but hinge friction and wind loads.
5. The hold open time delay range can be set up to 67 seconds.
6. The door movement range for a swinging door leaf is 0° to 120°.

II. U Series Wiring Descriptions

A. Low Voltage Wiring Information (All wires are labeled and identified by color)

1. Wire 9DC12V (brown) is an Acusensor and Acugard power source. The output is 12 VDC with a maximum capacity of 0.5 amps.
2. Wire 7 (red) provides common ground for both the 12 VDC power source and all other signals.
3. Wire 61 (black) is the activation signal input that is not switched out in One Way mode (if equipped) and will open the door based on a signal from the Acusensor, mat or motion detectors.
4. Wire 6B (white) is for the swing side door mounted safety sensor
5. Wire H (green) is the safety with lockout for swing-side header mounted sensors or floor mats.
6. Wire M0 (orange) is the mode input switch one (SW1), used to achieve different door functions (See Section II.C.).
7. Wire M1 (orange) is the mode input for switch two (SW2), which is used to achieve special functions (See Section II.C.), specifically the EXIT mode.
If AUTO mode is selected, the control will instruct the electric lock (if equipped) to retract at all times.
If EXIT mode is selected, the control will instruct the electric lock (if equipped) to retract only for exiting traffic only.
8. Wire 62 (orange) is the exterior activation signal input that is switched out in EXIT mode (if equipped). In EXIT mode, it will reopen the door from any position except the fully closed position. When AUTO mode is selected, this wire works the same as Black 61.

NOTE: For Acugard systems, this input is for approach traffic.

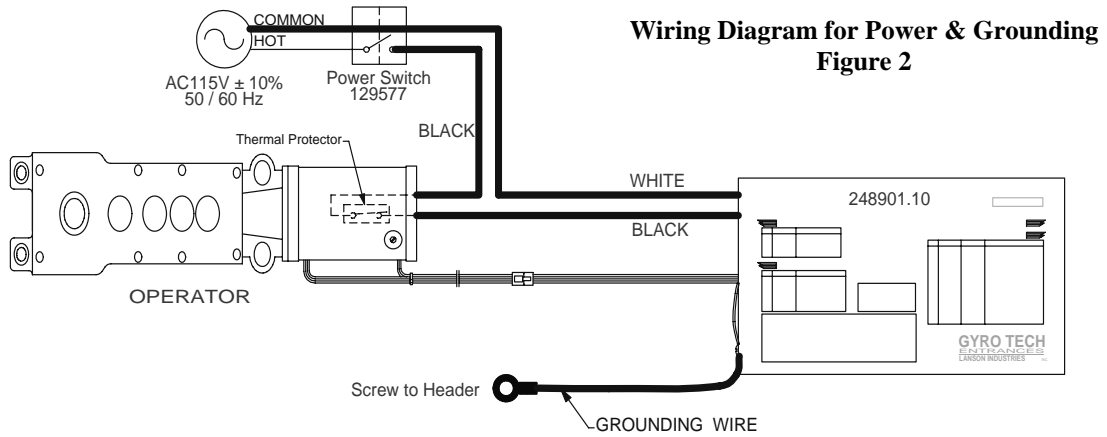
9. Wire SQ (yellow) is for alternating (aka sequential) door operation. Activate once to open and activate again to close the door. This function does not work in One Way or Night mode (if so equipped).
10. Wire BA (blue) will stop door operation if it is disconnected from Common (Red 7). This is a normally closed circuit. It is used by the rocker switch and panic breakout switches to shut down the unit by opening the circuit. Panic breakout should always be included on in-swing doors.

**CAUTION: Do not unplug blue jumper-plugs when panic switches are not used.
Unplugging these will stop the door's operation.**

11. Wire OUT+ (violet) is an internal auxiliary relay output, used as a switch with a maximum rating of 250VAC, 5A or 30VDC, 5A for an outside power source (Class 2 Load Only).
12. Wire OUT- (gray) is the common for output wire OUT+.

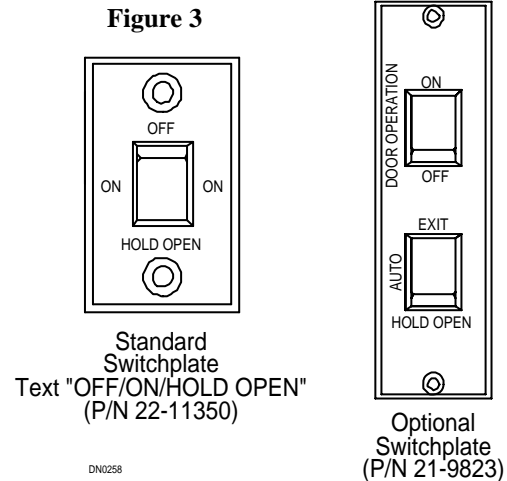
OUT+ and OUT- are limited in output current. Do not connect devices that exceed a total of 5 A.

B. 120 VAC Wiring Connections



C. Rocker Switch Functions

1. With the rocker switch in the **OFF** mode, the blue (BA) wire is disconnected from Red common therefore door operation will stop.
2. With the rocker switch in the **ON** mode, the blue (BA) wire is closed. This is a closed-loop circuit. This wire is also routed through the closed loop panic breakout switches. *If this circuit is opened at any time open, door operation will stop and you will not get past the first screen on the Handy Terminal during programming.*



3. The door is in **HOLD OPEN** mode when M0 and M1 are on. No activation is needed when this selection is made. See the Standard Switch plate in Figure 3.
4. **EXIT** mode allows activation to occur from only one side of the door. An electric lock remains locked unless an activation is received from the interior sensor. Electrically, M0 is on and M1 is off. (This feature requires an optional rocker switch and Rocker switch extension cable (P/N 229186). See the optional Switch plate in Figure 3). The door is in **AUTO** mode when both M0 and M1 are not connected to red wire #7.

D. Before turning on power....

1. Make sure all parts are wired properly including the 115 VAC. (See Figure 2).
2. Mode switch is set to “ON” (or “ON” and “AUTO” on the optional switch plate.)
3. The controller will be damaged if the power is switched on and off too quickly. After switching off the power, wait 10 seconds before switching it on.
4. Long term exposure to temperatures colder than - 4°Fahrenheit, without power should be avoided. Temperatures below -20° Fahrenheit may cause erratic behavior.
5. In the event of a power surge, which may cause a fuse failure, the fuse can be replaced. The power should be disconnected before removing the cover to replace the fuse.

**Use CAUTION once the cover is removed.
There is a large white resistor inside that is very HOT.**

If the damage is more than fuse replacement, do not attempt to repair the Controller.

III. Normal Setup and Programming Procedures

Note: The factory settings are reasonable, but not mandatory, for door operation. Each option should be reviewed carefully. Be sure the door is operating according to applicable ANSI controlling standards before releasing the entrance to the owner.

Setting the Stroke of the Door: Microprocessor setup involves correct wiring of the unit followed by door operation setup, door stroke and speed settings.

The swing path must be clear of objects before the power for the sensors or controller(s) is turned on. Use the Handy Terminal to set up the controller. After the power is turned on, the Handy Terminal will act as a guide for set-up procedures and Microprocessor programming. There will be a series of displayed messages and a list of acceptable options.

1. Plug the Handy Terminal into the Microprocessor connector.
2. Turn on the power and note the direction of movement. The door should stay closed.
3. If the door opens slowly, it has been set up with the wrong hand (right hand units require handing harnesses). If this is the case, turn off the power and insert the handing harness (p/n 119208) between the Microprocessor and operator. Turn the power back on and note the direction of movement. The door should stay closed.
4. Choose an option by placing the cursor over the option and pressing the ENTRY button. Follow these four steps as prompted by Handy Terminal messages to initialize up the door.
 - a. When the message reads SLIDE/SWING/STRK Y N, it is asking if you want to set the stroke on a sliding or swinging door. Move the cursor to the Y position and press the ENTRY button.
 - b. When the message reads SWING DOOR Y N, move the cursor to "Y" and press the ENTRY button.
 - c. When the message reads PUSH TEST, press the TEST button. The Handy Terminal will provide the message ADJUSTING NOW JUST A MOMENT.

Note: The door should be moving slowly from closed to full open to closed position, measuring the stroke while it moves. Make sure there are no obstacles, which would cause incorrect measurement.

- d. When the unit has completed the initial setup, the message will read STD FUNCTION Y N. To see the door in action with the memorized settings, press TEST. The door will operate at the factory speeds and slow down at the latch check and back check points. After the test is completed, the display will again read “STD FUNCTION Y N”.

This concludes the initial setup to factory settings. The Handy Terminal can be disconnected per the following section and the building owner instructed on the doors operation. However, there are various other options available for the door’s operation. Skip to Section V to learn about these options.

NOTE: The factory settings are reasonable, but not mandatory, for door operation. These settings are shown in the table on page 9. Each option should be reviewed carefully before releasing the entrance to the owner.

IV. Disconnecting the Handy Terminal

CAUTION: Failure to follow the disconnecting procedures may result in total loss of communication between the microprocessor and Handy Terminal.

- A. The Handy Terminal can be disconnected after the last test has been completed and the display has been stabilized. This process normally takes a few seconds after the display indicates it is ready to accept new input from the Handy Terminal.
- B. If power to the Microprocessor needs to be cut off, wait an additional 5 seconds after the Handy Terminal has been disconnected.
- C. The door should now operate based on the pre-set settings shown in the following table. If changes are desired, go to Section V.

U Series Factory Settings & Available Functions - Swing Door

Adjustable Function	Factory setting	Options
Standard Functions		
Opening speed	3	Range 0 - 7
Closing speed	2	Range 0 - 7
Time delay	2	Range 0 - 7
Feeling Adjustments		
Start power	3	Range 0 - 7
Check power	6	Range 0 - 7
Reaction power	4	Range 0 - 7
Back-check speed	1	Range 0 - 3
Latch-check speed	1	Range 0 - 3
Special Functions		
Hold close	N	Yes or No
Signal at closing	N	Yes or No
Signal at Full Open	N	Yes or No
Manual opening	0	0 or 1 (Do NOT use 2 or 3)
Signal Slow	N	Yes or No
Recycle	Y	Yes or No
Recycle sensitivity	1	Range 0 - 3
After recycle	Y	Yes or No
Auxiliary output	0	Range 0 - 3
Output timer*	0	Range 0 - 3
Extended time delay	7	Range 0 - 7
Note: Adjustments must be made if the door is not operating in accordance with applicable ANSI standards.		

* The output timer selection is required only when selecting 0 or 2 on the Auxiliary Output.
This option will not appear if 1 or 3 have been selected for Auxiliary Output.

V. Adjustment Procedures

A. Standard Function Adjustments

1. Make sure the Handy Terminal is in the standard functions program located after normal setup. The message STD FUNCTION Y N will appear. Select N and press entry to proceed to the next section or select Y and press entry to start the Standard Functions program.
2. There are three categories of standard functions
 - ◆ **Opening Speed** - The message will read OPEN SPEED 3.
Eight speeds are available from 0 to 7. Seven is the fastest.

NOTE: Set all door speeds must comply with applicable ANSI standards.

- ◆ **Closing Speed** - The message will read CLOSE SPEED 2.
Eight speeds are available from 0 to 7. Seven is the fastest..
- ◆ **Time Delay** - The message TIME DELAY 2 will appear.
This determines the number of seconds the door will stay open after both the activating and safety signals are cleared. Eight options are offered with time delays of 0 to 7 seconds. Longer time delays are possible through Extended Time Delay settings in the Special Function adjustments sub-section.

B. Feeling Adjustments

1. The message FEELING ADJUST? Y N will appear. Select N and press entry to proceed to the next section or select Y and press entry to start the Feeling Adjustments program.
2. There are five available feeling adjustments:
 - ◆ **Start Power** - The message will read START POWER 3.
This is the power used to accelerate the door at the start of the opening and closing cycles. Eight options are offered. Option Zero (0) provides the slowest acceleration. Higher settings should be used on heavier doors or where high speed operation for opening are desired.
 - ◆ **Check Power** - The message will read CHECK POWER 6.
This adjusts braking power to reduce door speed to the check or latch speed. Eight options are offered. Zero (0) provides gradual braking, and 7 provides abrupt braking.
 - ◆ **Reaction power** - The message will read REACTION POWER 4.
It controls how fast the door will react to an activating signal (i.e., how long

it takes a closing door to reverse direction). Eight options are offered. Zero (0) provides the slowest reaction, 7 the fastest.

- ◆ **Back Check Speed** - The message will read BACK C. SPEED 1.
This is the speed of the door just before the fully open position. Four speeds are offered. Zero (0) is the slowest speed, and 3 is the fastest.
- ◆ **Latch Check Speed** - The message will read LATCH C. SPEED 1.
This is the speed of the door just before the fully closed position. Four speeds are offered. Zero (0) is the slowest speed, and 3 is the fastest.

C. Special Function Adjustments

1. The message will read: SPECIAL FUNCTION Y N. Select N and press entry to proceed to the next section or select Y and press entry to start Special Functions.
2. There are 10 adjustments:

- ◆ **Using Motor Power to hold the door closed**
The message will read HOLD CLOSE N.
Choose N and the door will be held closed with spring force alone.
Choose Y and the control will also hold the door closed with the motor.
NOTE: Spring force may not be enough to keep the door closed in windy conditions or positive building stack pressures.

The next selections deal with adjusting the control to respond to safety signals received from door mounted and header mounted sensors.

- ◆ **Door Operation with Safety Signal while door is closing**

The message will read: SIG. AT CLOSING N.

- ◆ **Door Operation with Safety Signal while door is open**

The message will read: SIG. FULL OPEN N.

A combination of the two settings allows for 4 types of safety systems:

SIG. AT CLOSING N SIG. FULL OPEN N.

For Acugard, with the sensors active during back check. Using this setting allows the control to accept signals from the swing side door mounted sensor during backcheck.

SIG. AT CLOSING Y SIG. FULL OPEN N.

For Acugard, with the sensors deactivated during back check. This is useful when guide rails or an abutting wall needs to be ignored by the control. These settings may eliminate the need for retrofitting micro switches on the operator. The control will ignore the swing side Acugard during backcheck. The backcheck angle is non-adjustable.

SIG. AT CLOSING N SIG. FULL OPEN Y.

Settings required for an Acurail system. *This system is obsolete and no*

longer used.

SIG. AT CLOSING Y SIG. FULL OPEN Y.

Settings required for a floor mat and safety beam system

See Door Functions Table on pages 14 & 15 for additional info on Signal at Open / Closing

- ◆ **Manual Open** - The message will read: MANUAL OPEN 0.
After the unit has been completely set up and is operating, a choice is offered on how the door will act if manually opened. This may occur because the activating device was not used or did not operate properly. There are four options:
0 – When pushed open manually, the door will close slowly by motor power.
1 - Opening the door manually from a closed position will activate the door to power open. Not a push-to-go, but push-to-start since continued pushing may cause a recycle.

<p>Do not use 2 or 3. These settings are for a folding door. Inadvertently setting this to 2 or 3 will cause the door to malfunction.</p>
--

- ◆ **Signal Slow** - The message will read: SIGNAL SLOW N.
Choose Y and the door slows down when the swing side door mounted sensor detects an object during an opening cycle. Choose N and the door stops when the sensor detects an object. After the signal drops out, the door opens or closes slowly.
Note: See Door Functions Table for details
- ◆ **Recycle** - The message will read: RECYCLE? Y.
This adjustment determines what the door will do if it encounters an obstacle during the closing cycle. Choose Y and the door re-opens when it strikes an object, choose N and the door stops and remain in that position until the next activating signal. The door operation when the door reaches full open position is then governed by “After Recycle”.
- ◆ **Recycle Sensitivity** -The message will read: RECYCLE SENS. 1.
This setting adjusts how hard the door will push against an object before it recycles. There are four options: Zero (0) is softest, 3 is hardest.
Note: Excessive binding or blockage in the drive train, tight weather stripping, binding rollers, etc can cause the door to RECYCLE unnecessarily. If this happens more than 3 times consecutively at the same spot, the door will shut down. Error _5 will appear when the Handy Terminal is connected following this instance. These problems must be eliminated before the Recycle Sensitivity is re-adjusted.

- ◆ **After Recycle** - The message will read: AFTER RECYCLE Y.
If RECYCLE was previously set to “Y”, then this setting adjusts for operation after the door reaches the full open position caused by the recycle. Choose Y and the door will close after the time delay expires. Choose N and door will stay in the open position; it will take another activating signal for it to time out and close.

Note: If RECYCLE was not previously set to “Y”, then this setting has no effect.

Door Functions for Signal at Full Open and Signal at Closing

Acugard System (Full Detection during back check)

SIG. AT CLOSING: N SIG. FULL OPEN: N

Wiring: Acugard (Swing Side) - 6B White Acugard (Approach Side) - 61 Black
 Acusensor (Swing Side) - H Green Activation Device (Swing Side) - 62 Orange

The door is currently:	What occurs with the door when the swing side <i>Acugard</i> detects objects:	What occurs with the door when the swing side <i>Acusensor</i> detects objects:
Closed	The door will remain closed regardless of an activation signal	The door will remain closed regardless of an activation signal
Opening	The door will either stop or slow down depending on the SIGNAL SLOW setting. If SIGNAL SLOW is N, the door will stop and remain fixed until the signal is clear. After clearing the door will continue to open at slow speed. If SIGNAL SLOW is Y, the door will slow and continue to open at this slow speed.	N/A
Fully Open	N/A	The door stays open
Closing	N/A	N/A

Acugard System (No Detection during back check)

SIG. AT CLOSING: Y SIG. FULL OPEN: N

Wiring: Acugard (Swing Side) - 6B White Acugard (Approach Side) - 61 Black
 Acusensor (Swing Side) - H Green Activation Device (Swing Side) - 62 Orange

The door is currently:	What occurs with the door when the swing side <i>Acugard</i> detects objects:	What occurs with the door when the swing side <i>Acusensor</i> detects objects:
Closed	The door will remain closed regardless of an activation signal	The door will remain closed regardless of an activation signal
Opening	When the door is in back check, it will continue to open. Otherwise, the door will either stop or slow down depending on the SIGNAL SLOW setting. If SIGNAL SLOW is N, the door will stop and remain fixed until the signal is clear. After clearing the door will continue to open at slow speed. If SIGNAL SLOW is Y, the door will slow and continue to open at this slow speed.	N/A
Fully Open	N/A	The door stays open
Closing	N/A	N/A

Door Functions for Signal at Full Open and Signal at Closing (Continued)

Acurail System (Obsolete System)

SIG. AT CLOSING: N SIG. FULL OPEN: Y

Wiring: Safety Beam - 6B White Acusensor (Approach Side) - 61 Black
 Acusensor (Swing Side) - H Green Acusensor (Swing Side) - 62 Orange

The door is currently:	What occurs with the door when the safety beam is interrupted:	What occurs with the door when the swing side <i>Acusensor</i> detects objects:
Closed	The door will remain closed regardless of an activation signal	The door will remain closed regardless of an activation signal
Opening	The door will either stop or slow down depending on the SIGNAL SLOW setting. If SIGNAL SLOW is N, the door will stop and remain fixed until the signal is clear. After clearing the door will slowly close <i>unless</i> an activation signal is present. If this is the case, the door will open at slow speed. If SIGNAL SLOW is Y, the door will slow and continue to open at this slow speed.	N/A
Fully Open	The door stays open	The door stays open
Closing	N/A	N/A

Floor Mat & Safety Beam System

SIG. AT CLOSING: Y SIG. FULL OPEN: Y

Wiring: Safety Beam - 6B White Activation Device (Approach Side) - 61 Black
 Floor Mat (Swing Side) - H Green Activation Device (Swing Side) - 62 Orange

The door is currently:	What occurs with the door when the safety beam is interrupted:	What occurs with the door when the swing side floor mat is activated:
Closed	The door will remain closed regardless of an activation signal	The door will remain closed regardless of an activation signal
Opening	The door will either stop or slow down depending on the SIGNAL SLOW setting. If SIGNAL SLOW is N, the door will stop and remain fixed until the signal is clear. After clearing the door will slowly close <i>unless</i> an activation signal is present. If this is the case, the door will open at slow speed. If SIGNAL SLOW is Y, the door will slow and continue to open at this slow speed.	N/A
Fully Open	The door stays open	The door stays open
Closing	N/A	The door can not re-open by an activation signal

- ◆ **Auxiliary Output** - The message will read: AUX. OUTPUT 0.
This will determine when the internal relay switches (wires OUT+ and OUT-) for the operation of an electric lock, to sequence another door, relay or other device. There are four options:
0 – Electric Lock Function. The relay closes immediately upon activation to disengage the lock then ¼ to 1 second later the door opens. The message will read: OUTPUT TIMER 0.

Note: The time delay selected for the lock release will also be used as the time delay to set the lock after the door arrives at the closed position.

This option has several sub options should be selected from four options:

- ★ 0 – 1/4 second
- ★ 1 – 1/2 second
- ★ 2 - 3/4 second
- ★ 3 - 1 second (use this setting for doors equipped with electric locks)

1 - The air lock option will instruct the Microprocessor to prevent a second door from opening until the first door is closed in a passageway situation. The controls need to be connected with a custom-built harness. Contact NABCO Engineering for details.

2 - The sequential door operation option will instruct the Microprocessor to sequentially open a pair of doors in a passageway situation. This requires selecting the time delay between the first and second door operations. The controls need to be connected with a custom built harness. Contact NABCO Engineering for details. The message will read: Output Timer 0.

Four sub options are offered:

- ★ 0 - Two seconds
- ★ 1 - Four seconds
- ★ 2 - Six seconds
- ★ 3 - Eight seconds

3 - Not used.

- ◆ **Extended Time Delay** - The message reads: EXT. TIME DELAY 7.

These settings enable an extended time delay beyond the zero to seven seconds standard.

For settings 0 – 6, the timing for these settings add to the Standard time Delay found in Standard function Adjustments. For example: setting the Standard Time Delay to “2” plus Extended Time Delay to “1” will mean that the total time delay will be equal to 2 + 10 = 12 seconds. If the total time delay is not sufficient, the door will begin to close if the timer expires before it gets to the full open point. *Note: Set the Extended Time Delay to 0 for both doors in a pair to close at the same time.*

For setting 7, the door will continue to the full open point even if the timer expires before it gets there. The standard time delay of 0 to 7 seconds will apply after the door reaches the open position.

- 0**- The standard 0 to 7 second delay
- 1** - 10 seconds longer than standard (10-17 seconds)
- 2** - 20 seconds longer (20-27 seconds)
- 3** - 30 seconds longer (30-37 seconds)
- 4** - 40 seconds longer (40-47 seconds)
- 5** - 50 seconds longer (50-57 seconds)
- 6** - 60 seconds longer (60-67 seconds)
- 7** - The door will open to the full open point before closing even if the time delay has expired during the opening cycle. The standard time delay of 0 to 7 seconds applies after the door reaches the open position

◆ **History Data** - The message will read: HISTORY DATA Y N?

Select N and press entry to proceed to the next section or select Y and press entry to review the History Data.

- MAINTENANCE CNT: Indicates the number of times a Handy Terminal has been connected to the unit. The counter will record up to 255 connections.
- OPERATION CNT: Indicates the number of full door operations. It is updated every 100 door cycles. The counter will display up to 6,553,500 cycles.
- RECYCLE CNT: Indicates the number of times the door reversed direction after sensing an object was struck or friction or binding surpassed the RECYCLE SENSITIVITY setting. The counter will display up to 255 recycles. The RECYCLE COUNT on all U series control can be set back to zero using the latest version of the Nabco Handy Terminal. The latest version has a GREEN housing and is also equipped with a buzzer function. Follow these steps to clear the RECYCLE COUNT:
 1. Indicate the RECYCLE COUNT on the Handy Terminal.
 2. Push the "L" button.
 3. "CLR RECYCLE CNT?" will be indicated on the screen.
 4. Select "Y" and push the entry button.The RECYCLE COUNT will now be cleared.
- RUN AWAY CNT: This is not addressed in the software of the swing door program. It will remain at 0.

A flow chart can be found on page 22 of this manual identifying the path to all of the functions and setting choices.

VI. Troubleshooting

A. *The door is recycling on its own.*

1. Check if the Acusensors are sensing (seeing) something causing reactivation.
2. With the rocker switch set to OFF, be sure that the door moves freely open and closes without obstructions or binding.

B. *There was a power failure.*

1. A power failure lasting less than one second will not affect operation.
2. A power failure of one second or more will cause the Microprocessor to brake the door fully. The door will stop in the position it was in when the power failed and close slowly under spring pressure.
3. When the power is reapplied, settings programmed into the microprocessor remain in effect. It is ready for operation.

C. *There was trouble detected by the controller*

1. See page 20. If the Microprocessor does not operate at all, check the wiring, connections, and activation devices. Connect the Handy Terminal for an error message, clear and repair. Check the power supply, fuse and motor wiring/encoder, or change out the motor. The final option would be to change the Microprocessor.

D. *There are problems with the general door operation.*

1. If the door does not open at all, check the sensor wiring, actuating sensor, and breakout circuitry if so equipped. Connect the Handy Terminal and try the TEST key. Ensure that no safety sensors are preventing the door from opening.
2. On a new installation, if a door tries to close instead of opening, the motor wiring may need to be reversed. This requires removal or installation of a handing harness P/N 11-9208. Check or reset the stroke using the Handy Terminal then install the handing harness in series between the motor and the control. Check the Handy Terminal settings. Note: The settings may not have been saved by the Microprocessor if the entry button was not pressed after each change or the door may have been set up as a slider instead of a swinger. Reprogram the Microprocessor by starting over at the beginning of Section III.
3. In some cases, resetting the microprocessor may solve some erratic or unusual operations. As a “last resort”, follow the procedures on page 23 to reset the controller.

E. *Handy Terminal message, “GYRO TECH HANDY TERMINAL” does not change.*

This is caused by an open circuit between the Blue BA wire and the Red 7 wire.

1. Check if you have a rocker switch installed and set to the ON position. If a switch assembly is not used, be sure the jumper (see Figure 4) is inserted in place of the rocker switch in the main harness.

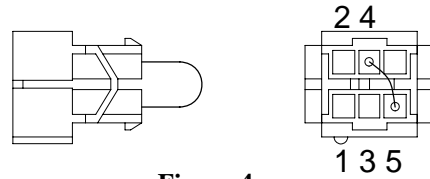


Figure 4

2. Check the normally closed (N.C.) panic switch for correct operation. Contacts are normally closed when the door is in normal operation. On pairs of doors, the panic switches are connected in series, so that either switch will cause the circuit (Blue BA wire) to open. If there is no panic switch used, ensure Panic Switch Bypass Plugs (P/N 12-10324) are installed in place of the panic switch. These plugs are used in three locations on the harness. There should be one plug for each position. If these plugs are not installed, you will not be able to proceed past the first screen on the Handy Terminal and programming will not be possible.

F. *There was trouble detected by the controller.*

1. Following are some types of error messages that can be encountered:

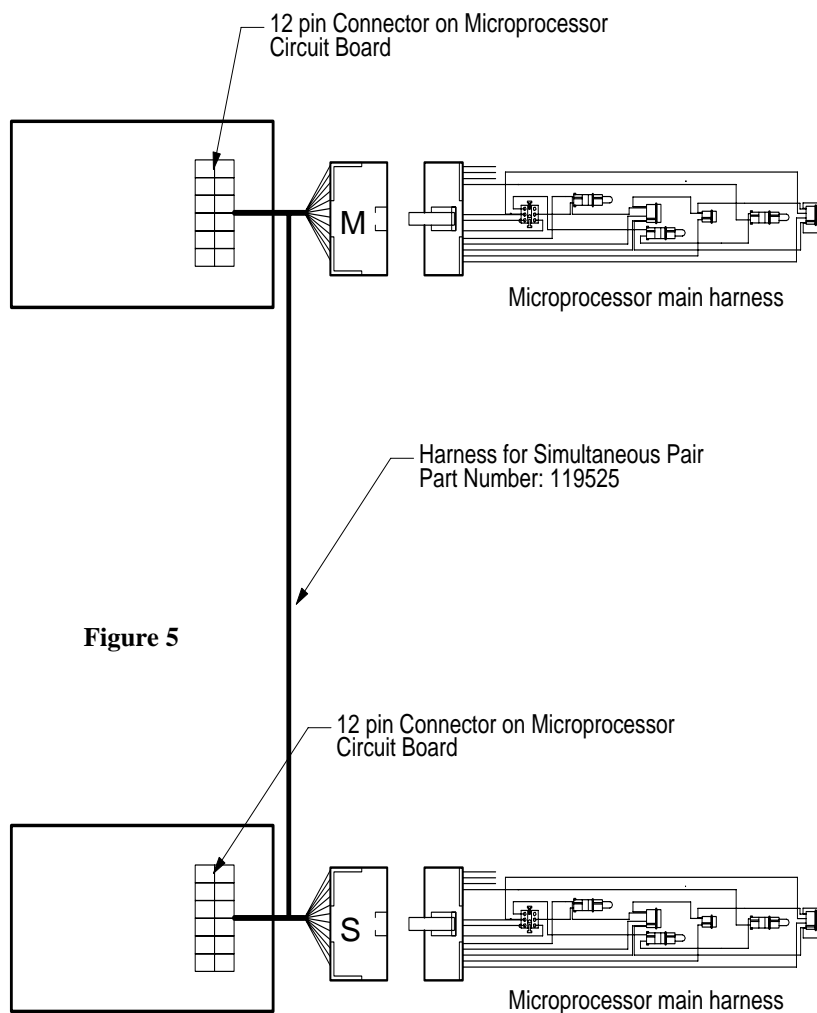
NUMBER	ERROR MESSAGE	MEANING	RESOLUTION: MICROPROCESSOR MAY BE RESET BY PERFORMING ONE OF THE FOLLOWING PROCEDURES
1.	Error Check Y – N	Microprocessor has encountered one of the following errors below..	Choose Y to clear
2.	STROKE ERROR	This means the microprocessor has sensed movement longer than the adjusted stroke of the motor or encoder has failed	Check the motor coupler for tightness and readjust the door stroke. If re-stroke fails, replace the motor
3.	ROM ERROR	Internal ROM Error	Reset Microprocessor by turning 120 VAC off then on again OR connect Handy Terminal & clear error message
4.	ERROR RESET AGAIN	<u>Communication Error</u> Communication between Microprocessor and Handy Terminal is not taking place	Reset Microprocessor by turning 120 VAC off then on again. If problem persists the cables, or control and/or Handy Terminal might be defective. Tip: Try using Handy Terminal and/or harness on a different door
5.	RAM ERROR	<u>Internal RAM Error</u>	Reset Microprocessor by turning 120 VAC off then on again OR connect Handy Terminal & clear error message
6.	EEPROM ERROR	<u>Internal EEPROM Error</u>	Reset Microprocessor by turning 120 VAC off then on again OR connect Handy Terminal & clear error message
7.	ERROR_4	<u>Electric Lock Error</u> Activation device was signaling the control to open door but the electric lock failed to unlock or bound up ten times in a row	Manually move the door to the latch position OR reset Microprocessor by turning 120 VAC off then on again OR connect Handy Terminal & clear error message
8.	ERROR_5	<u>Recycle Error</u> Recycle was detected more than three times at same door position continuously	Allow door to creep to the full open or closed position OR reset Microprocessor by turning 120 VAC off then on again OR connect Handy Terminal & clear error message
<p>Above error codes might have been generated as the result of a hardware problem. If resetting the software as described above does not resolve the problem, the cause of the hardware malfunction must be determined and corrected.</p>			

VII. Installation of Simultaneous Harness:

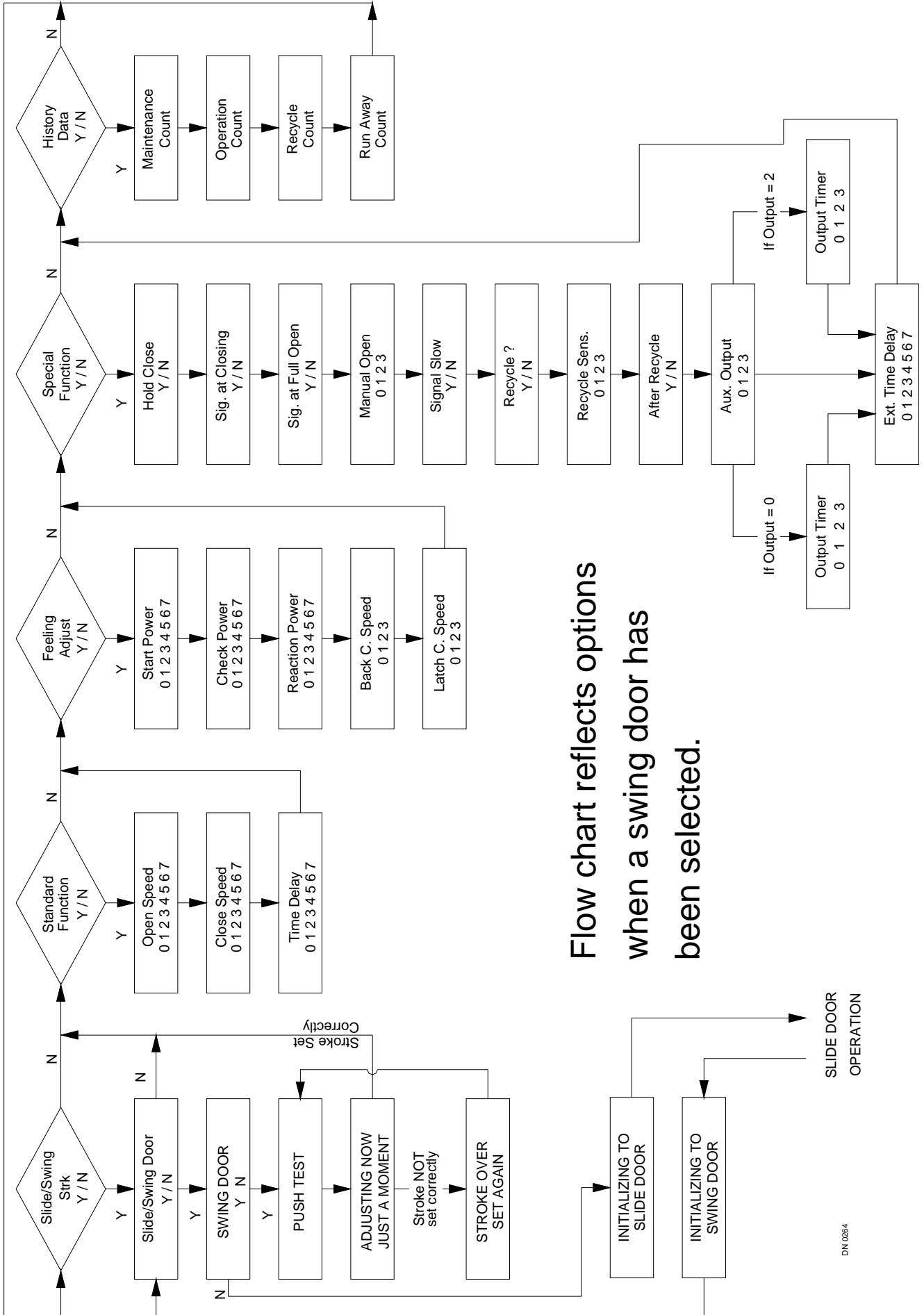
Refer to Figure 5. The following harness should be installed only after both controls have been individually programmed for matching speeds, time delays, etc.

Remove power to both controls and open the top covers. Remove the main 12 pin harness from the circuit board by unplugging the connector. Once removed, install the simultaneous-pair harness in its place. Repeat the step for the second controller. The simultaneous-pair harness has connectors for each of the main harnesses to plug in. Now both controls are tied together. If an activation occurs on one harness, it will activate both controls. Using one rocker switch to operate both controls is adequate. A jumper must be installed into the opposing rocker switch connector. The part number for the jumper plug is 11-9826.

Note: Set the extended time delay to 0 for both doors in a pair to close at the same time.



Programming Flowchart

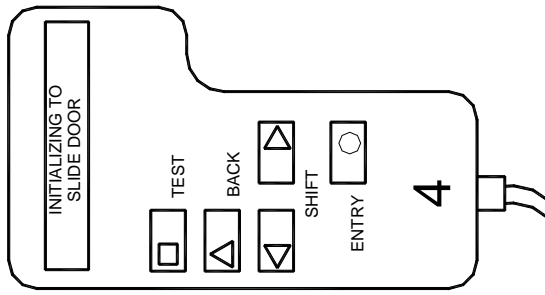


Flow chart reflects options when a swing door has been selected.

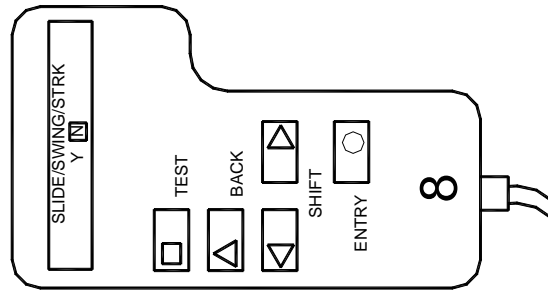
SLIDE DOOR OPERATION

DN 0264

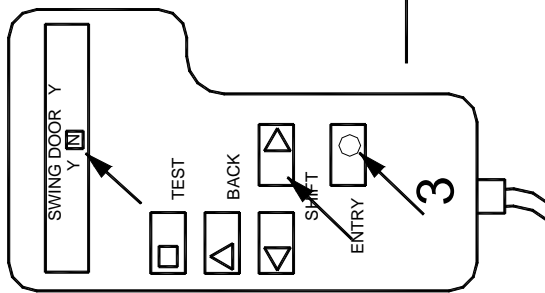
Resetting the Control to Factory Settings



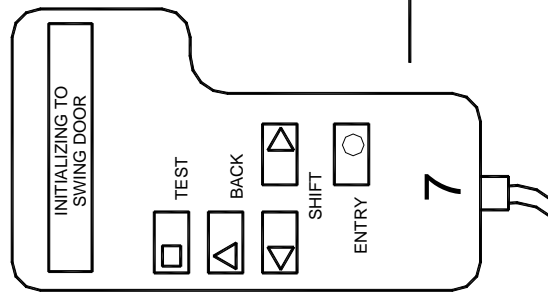
The unit will display this message and the Microprocessor will be set to slider settings.



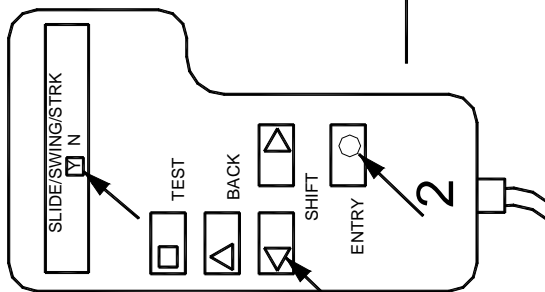
The unit has been reset. Reattempt to set the swing door to desired settings



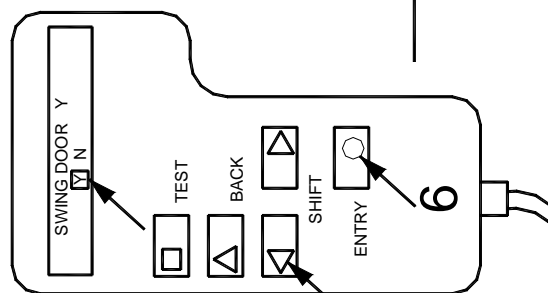
Display should now look like this. Shift to "N" and press "Entry"



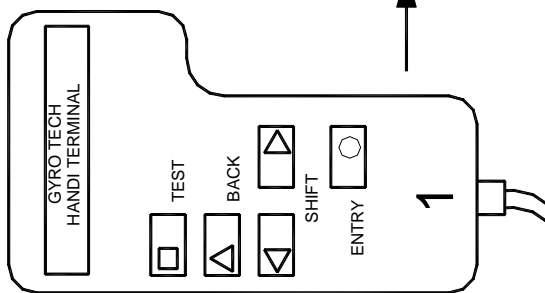
The unit will display this message and the Microprocessor will be set to swinger settings.



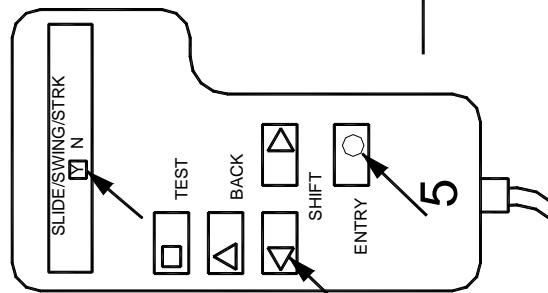
In a few seconds, display should change as shown. Shift to "Y" and press "Entry"



The display should look like this. Shift to "Y" and press "Entry"



This is what is first displayed when the Handi Terminal is plugged in.



In a few seconds, display should change as shown. Shift to "Y" and press "Entry"

How to reset the microprocessor to default swinger settings.

DN 0265

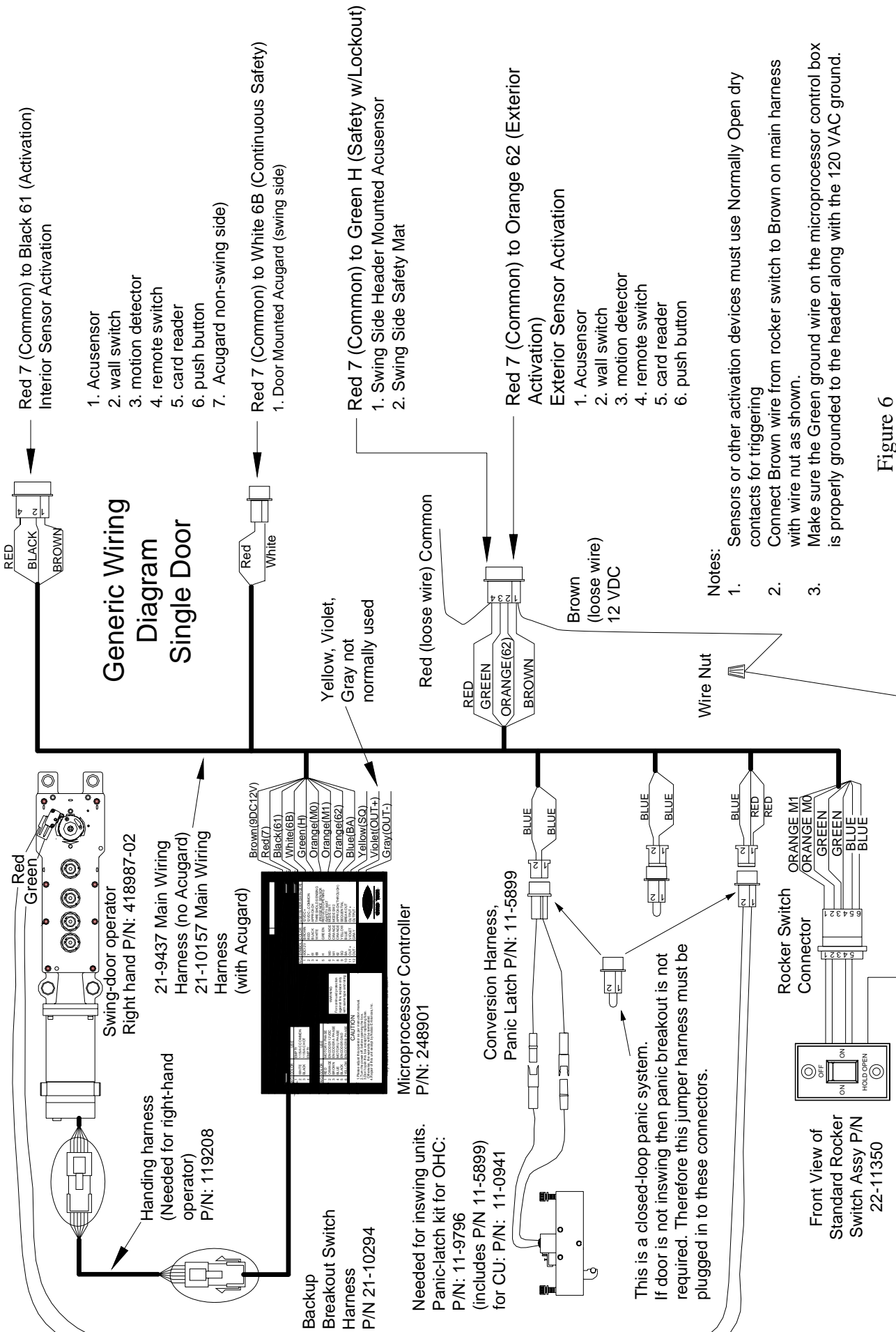
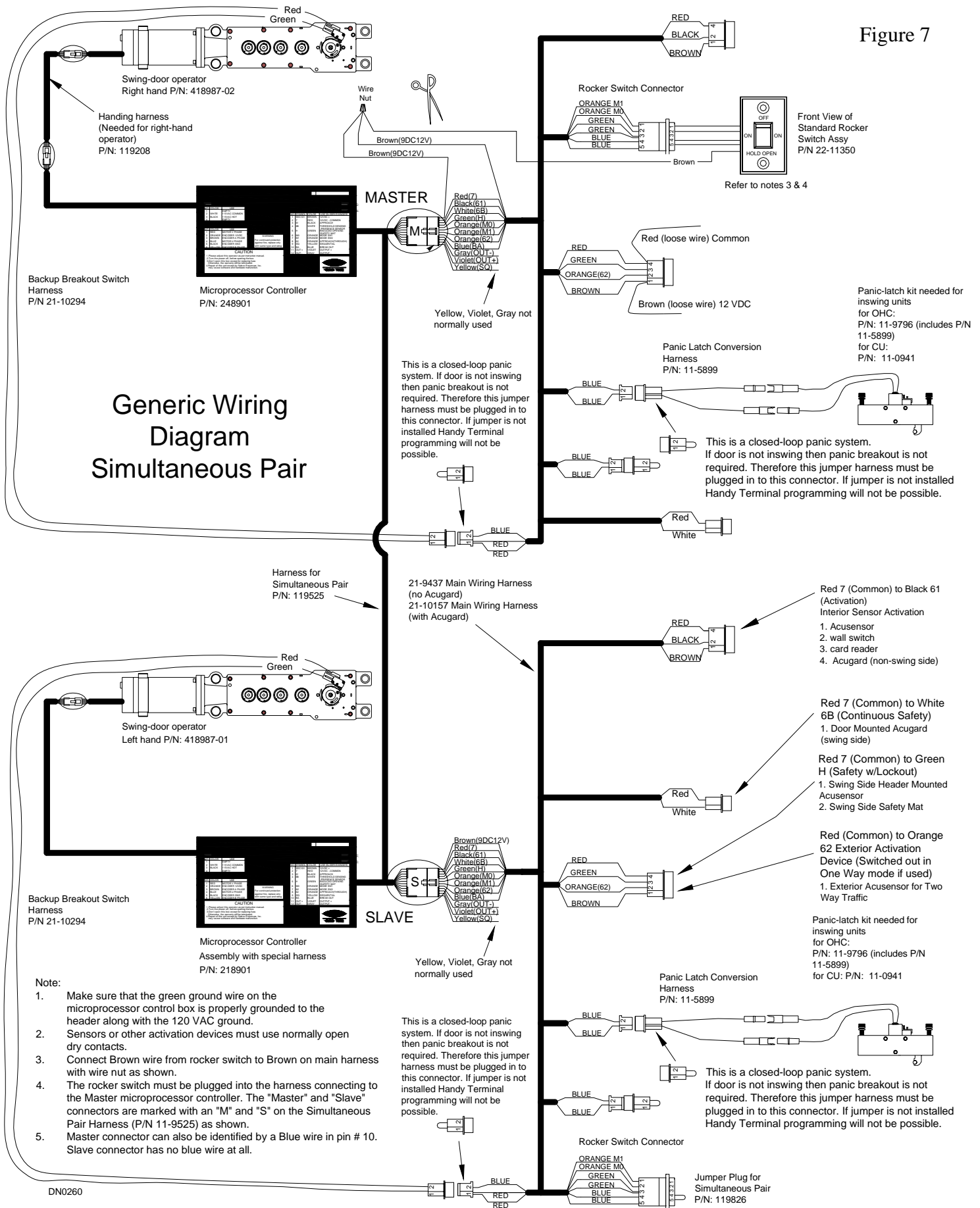


Figure 6

DN0259

Figure 7



For additional assistance, contact NABCO Entrances, Inc at 1-877- 622-2694