Hamilton Manufacturing Corp.

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Multi-Lane Wash Controller Manual

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I. INTRODUCTION

The Multi-Lane Wash Controller integrates several car wash components into one control system. The components consist of a car wash controller, two to four Hamilton autocashiers (ACW's), and two to four lane gate controllers. The reason for multiple pay stations is that most tunnel car washes can accept a car faster than a customer can complete the payment transaction. Therefore, in order to maintain maximum throughput at the wash two or more customers can be doing the payment transaction at the same time. After each customer finishes the transaction their car is released in a controlled order so they can enter the wash.

Features

- 2,3, or 4 lane gate control
- Up to 8 different car washes
- Configurable time delays to suit your particular installation
- Internal keypad/display shows system status, alarms, and allows system configuration
- Advanced diagnostics possible with keypad and display
- Rugged rain proof steel enclosure

II. INSTALLATION

Electrical Installation

- **CAUTION! TO AVOID SEVER INJURY OR DEATH, ALWAYS DISCONNECT POWER TO THE CONTROLLER WHEN SERVICING**

- **NOTE: HAMILTON RECOMMENDS SURGE SUPPRESSION FOR THE AC LINE. CHECK WITH YOUR CONTRACTOR FOR PROPER SUPPRESSION SPECIFICA TIONS.**

The Multi-Lane Wash Controller operates on 120 VAC, 60Hz, 1 AMP. This unit uses a 10 AMP circuit breaker. This unit needs to be hard-wired with conduit.

Pulling Wires

The number of wires to be pulled to each piece of equipment is shown below. Refer to the electrical schematics, especially page –004 "Interconnection Diagram" for installation and wiring details.

Three Wires	Electrical Power (Hot, Neutral, and Ground)
13 Wires to Car Wash	8 wash signals, wash busy & start, DC hot & common
Four Wires to each gate	Gate up, car on loop, DC hot & common
Seven wires to each ACW	4 vend relays, cycle inhibit, DC hot & common
Optional 2 Wires- Inhibit	Optional Master Inhibit switch

Wire Terminations

- Power- The 120VAC hot wire should be connected directly to the electrical service panel and be the only device on this circuit. Use a 10A or 15A circuit breaker to feed the controller.
- Car wash – You will need to refer to the car wash controller manual to determine where to connect up the wash number, wash start, & busy signals. The Multi-Lane Wash Controller provides "dry" relay contacts for the wash number 1-8 signals and the wash start. The wash busy signal must be a "dry" relay contact closure.
- Gate Controllers - The Multi-Lane Wash Controller provides a "dry" relay contact for the "Gate UP" signal. The gate controller must provide a "dry" relay contact that closes when a car drives un der the opened gate. The gate controller must be configured to open on an open pulse and auto matically close after the car drives over the loop sensor and then beyond it. The gate should also close after a long delay if a car never drives over the loop and back off it.
- Master Inhibit – An optional switch can be added to "Inhibit" all pay lanes. Closing of this switch is normally used to signal that the car wash is shutdown like what would be done at night. Closing of this switch will also cause all the ACW machines to get an "inhibit" signal so that it will not accept any further transactions. Master Inhibit also clears any pending wash cycles and alarms. Thus it can also be used as a master reset.

Autocashier Installation and Setup

The Multi-Lane Wash Controller is designed to work with Hamilton model GL-ACW version 3.08 or higher autocashiers. Refer to the manual included with this product for specific installation details.

After the ACW has been installed it is important that its QUE MODE programming category be set to NO STACKING for it to operate properly with this system.

Barrier Gate Installation and Setup

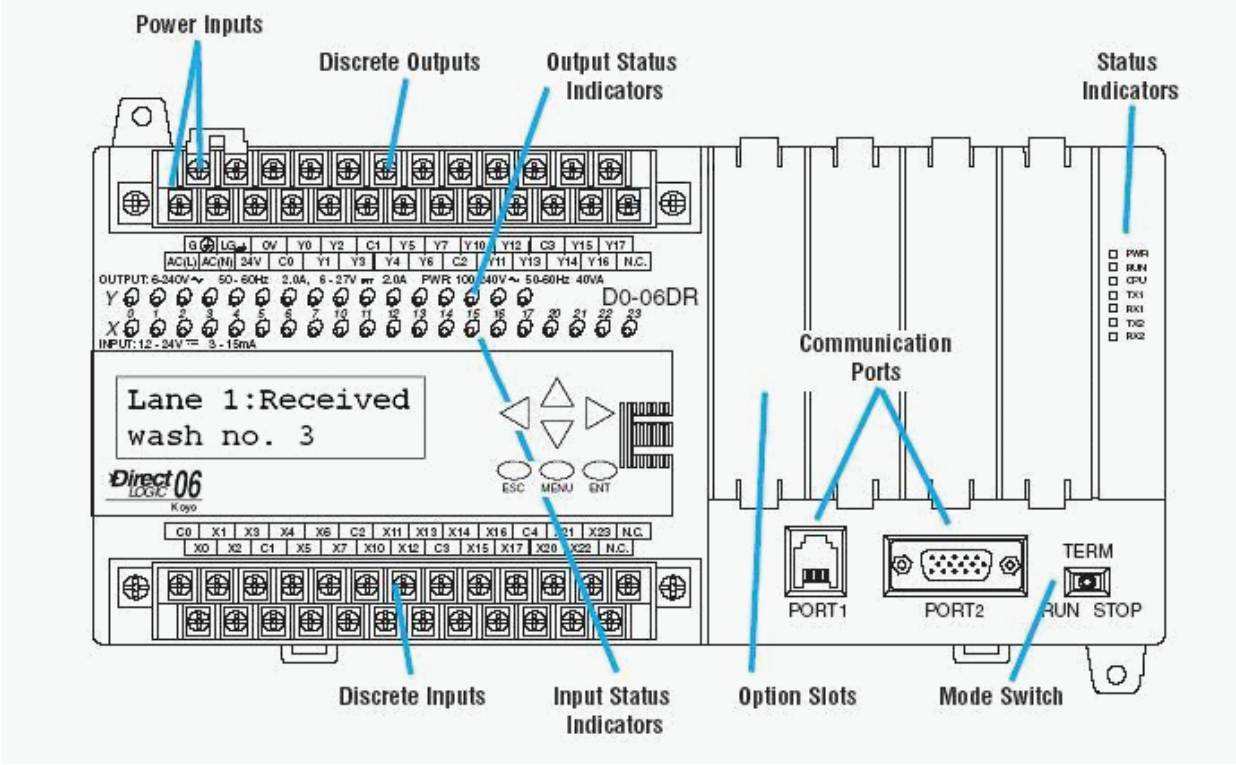
The barrier gate and car detection safety loop should be installed in accordance with the gate manufacturer's instructions. Refer to the manuals included with the gate for this information.

The Multi-Lane Wash Controller has been developed for use with the model MIB 30 traffic barrier manufactured by Magnetic Autocontrol. The MLC controller unit included with this gate needs to be setup in the following way.

- Program mode 6
- Loop A set to mode 2 (maintained contact when loop is occupied)
- Loop B set to mode 0 (loop is disabled)

III. SYSTEM STARTUP

Once all the wiring is complete the system is ready for power up and testing. The best way to test is to "buy" each type of wash from each of the ACW's. Then by watching the internal display the wash selected should match what comes up on the display when it says "Lane x: Received wash no. y" where x is the lane# and y is the wash purchased. You should then see the gate go up. After the car drives past the gate safety loop the gate will go down and the car wash will be told the wash number. If this sequence does not work then use the advanced diagnostic techniques later in this document.



Multi-Lane Wash Controller

For normal operation the Mode Switch should be in the Run position. The PWR & RUN & CPU lights should all be on.

IV. SYSTEM OPERATION

Normal Sequence of Operation

1. A customer makes a transaction at the ACW (autocashier).
2. The ACW closes it's vend relay(s) and the Multi-Lane Wash Controller decodes the relays into a wash number.
3. A delay occurs for taking change or a receipt.
4. If the system is processing another lane then it waits for that lane to complete.
5. The gate open relay closes and the gate goes up. A cycle signal is sent to the ACW and the car is prompted to proceed.
6. The car passes the loop sensor that is under the gate.
7. The wash number is given to the car wash controller. The gate then goes down. (Down is con trolled by the gate controller.)

User Configurable Setup Parameters

The Multi-Lane Wash Controller can be field configured via the internal keypad/display. This allows your system to match the desired operation and equipment present. The below "V" registers are stored in non-volatile flash EPROM and thus retain their value even on a long-term power outage. Later in this section describes how to make changes.

- V7400- **Car present at loop sensor debounce time** (default=0.5 sec.)
  This time delay makes sure that a signal from the loop sensor is truly a car passing and not a short false signal.

- V7401- **Wash vend duration time** (default=1.0 sec.)
  This tells how long to close the relays to give the wash number and wash start signals to the car wash controller. The time should match the recommended time given by the car wash manufacturer.

- V7402- **Gate up signal duration** (default=1.0 sec.)
  This tells how long to close the relay to give the gate up signal to the gate controller. The time should match the recommended time given by the gate manufacturer.

- V7403- **Gate or Car failed to cycle alarm setpoint** (default=35.0 sec.)
  This alarm setpoint tells how long to wait for the car to drive over the loop sensor and back off before alarming and shutting down (inhibiting) the ACW. The time should match the timeout time set in the gate controller.

- V7404- **Car on loop sensor too long alarm setpoint** (default=60.0 sec.)
  This alarm setpoint tell how long to wait before alarming if a car is on the loop sensor too long or if the loop sensor fails in the on state.

- V7405- **Car wash busy too long alarm setpoint** (default=300.0 sec. or 5 min.)
  This alarm setpoint tell how long to wait before alarming if the car wash busy signal is on too long. Under normal operation the car wash busy signal will prevent the gate from going up until it is no longer busy. If it is busy a long time (this setpoint) then all the ACW's will be shutdown (inhibited) so that an equipment not ready message will be displayed.

- V7406- **Take change or receipt delay** (default=0.0 sec.)
  This time delay is the time from when the transaction is completed until when the gate opens.

- V7407- **Minimum time between lane releases** (default=5.0 sec.)
  This sets how long to wait before opening a gate after another car in a different lane has left its gate. Set this time high enough to allow the furthest lane car to pass by the lane closest to the car wash.

- V7410- **Maximum number of cars in wash queue** (default=0 cars)
  This sets the number of cars that can be stacked at the entrance of the car wash. Enter zero if once a car is released from the gate that the wash number is immediately to be given to the wash controller. Enter a number from 1-6 if you want the released cars to be queued up. This allows prepping of the car outside the wash tunnel entrance. The car wash busy is used this case to tell when a wash can be released from this queue.

- V7411- **Minimum time between wash vending** (default=5.0 sec.)
  This setpoint is only used if the wash queue size (V7410) above is non-zero. When a wash is released from the stacking queue, a wash relay will close to tell it what wash was bought for that car in the queue. The car wash controller must then close its "car wash busy" signal until it can accept another wash. This setpoint is here to allow enough time for busy signal to come on. If the setpoint is too short or the car wash busy signal never comes on then another wash will be released from the stacking queue before the wash controller is ready for it. This will result in the wash being lost.

- V7412- **Wash start delay** (default=2.0 sec.)
  This setpoint tells how long after a wash vend relay (1-8) is turned on before the wash start relay is turned on. A value of 0000 means that the wash vend and wash start relays turn on at the same time. A value that is greater than V7401 means that the wash relay will turn off before the wash start relay turns on.

Resetting User Configurable Setup Parameters Back To Factory Defaults

If for some reason you think the Setup Parameters have bad values in them you can reset all the values back to their factory defaults. Follow this procedure to do this:

1. Turn off power to the Multi-Lane Wash Controller by turning its internal circuit breaker off.

2. Press and hold the Alarm Reset push button.
3. While still holding in the Alarm Reset push button, turn power back on.
4. After about 5 seconds you can release the push button and all the setup parameters will be back to their factory default values.

Alarm Messages

When any alarm occurs the red Alarm Reset button will illuminate. To see what the alarm is, open up cabinet and look at the internal display.

- **Master Inhibit: Wash is Disabled** This alarm means that the optional "Master Inhibit" input is on. Closing of this switch is normally used to signal that the car wash is shutdown like what would be done at night. When this alarm occurs all the queued up washes from the ACW's will be cleared.

- **Car wash is Busy too long** This alarm indicates that the "Car Wash Busy" input signal has been on longer than the configured setpoint time. (V7405 defaults to 5 minutes). The ACW will be inhibited when this occurs in order to give an "Equipment Not Ready" message to the user. If the busy signal turns off, the gate will go up and the car can proceed. The only exception to this is if the Alarm Reset push button is pushed when you have a Car wash is Busy too long alarm. If you do this then all the queued up washes from the ACW's will be cleared. This is to handle a situation where the car wash has been busy so long that cars have left the area.

- **Lane x:Car didn't leave gate area** This alarm means that the car did not drive over the loop sensor and back off within the configured setpoint time after the gate was told to open. (V7403 defaults to 35 seconds). This could be caused by a stalled car, a drive off, the gate failed to open, or a failed loop sensor. When this alarm occurs the ACW machine for that lane is shutdown (inhibited) until the Alarm Reset push button is pressed.

- **Lane x: Car on loop too long** This alarm means that a car is stuck on the loop sensor longer than the configured setpoint time. (V7404 defaults to 60 seconds). A car stuck there or a failed loop sensor could cause this. When this alarm occurs the ACW machine for that lane is shutdown (inhibited). This alarm resets when the sensor input for that lane turns off.

- **No alarms are present** This is what shows on the display when alarms go away. But if a transac tion occurs then that will display instead. See the Operational Messages section.

Operational Messages

During normal operation the display will show the result of the last event that happened. If one of the lanes currently has an alarm then the alarm messages will remain on the display and these operational messages will not appear. The operational lane will still function though.

- **Lane x: Received wash no. y** This display appears when the person performs a transaction and the ACW turns on it's vend relays. "x" will be 1-4 and "y" will be 1-8.

- **Lane x: Open Gate for wash# y** This display appears when the Multi-Lane Wash Controller closes the relay to open the gate in Lane x (1-4). Also at the same time it toggles the Cycle/Inhibit relay to the ACW to indicate that the transaction is complete.

- **Lane x: Sent wash no. y** This message will only appear if you ARE NOT using car wash stack ing. (V7410=0) When the car goes beyond the loop sensor this display appears. The Multi-Lane Wash Controller closes one of its 8 relays to the car wash to indicate what wash was purchased for this lane. It also closes the wash start relay.
- **Lane x: Queued wash no. y** This message will only appear if you ARE using car wash stacking. (V7410>0) When the car goes beyond the loop sensor this display appears. The wash number for that car is put into queue.
- **Sent from Queue wash no. y** This message will only appear if you ARE using car wash stacking. (V7410>0) When the car goes beyond the loop sensor this display appears. The Multi-Lane Wash Controller closes one of its 8 relays to the car wash to indicate what wash was purchased for the queued up car. It also closes the wash start relay.

V. USING THE KEYPAD & DISPLAY

Entering User Configurable Setup Parameters

Use the internal keypad/display to make changes to your setup parameters. Be sure to document what changes were made to prevent loss of these values in case the memory in the Multi-Lane Wash Controller gets corrupted. Also document any changes on the Mylar sheet that is on the inside door of enclosure.

Note: All the addresses are displayed in octal (base 8) notation so they can only include digits 0 – 7. The data values stored in these locations are displayed in decimal and can include digits 0 – 9.

Press the MENU key until the ">" is next to M3: MONITOR.

```
MENU SCREEN
>M1:PLC INFO.
```

Press the ENT key to select M3:MONITOR.

```
>M2:SYSTEM CFG
>M3:MONITOR
```

Press the ENT key to select DATA MONITOR.

```
M3:>DATA MONITOR
   >BIT  MONITOR
```

Press the ENT key to select "V" type memory.

```
M3:DATA TYPE      V
ADDRESS       00000
```

Press the ← and → keys to move the cursor left or right.

```
M3:DATA TYPE      V
ADDRESS       00000
```

Press the ↑ and ↓ keys to change the digit up or down.

```
M3:DATA TYPE      V
ADDRESS       07000
```

Press the ENT key when the address is the one you want to change.

```
M3:DATA TYPE      V
ADDRESS       07400
```

The display now shows two consecutive registers. You can use ↑ and ↓ keys to scroll to different addresses. Press the ENT key if you want to change a value.

```
M3:V  7401   V 7400
VAL   0010     0005
```

Note: All time values are in tenths of a second. Thus 0010 means 1.0 seconds.

Press the ← and → keys to move the cursor left or right. Press the ↑ and ↓ keys to change the digit up or down. Press the ESC key to abort the change. Press the ENT key to save your change.

```
M3:DATA      V 7400
 CHG= 0005     0005
```

When you are all done making changes press the ESC key 5 times to return to the default screen.

```
DL06 PLC    MAY 08
          15:02:13
```

Using the Keypad & Display for Troubleshooting Inputs & Outputs

The easiest method to troubleshoot input and output wiring is just look at the red LED's on the front of the controller. However, not all of the inputs and outputs have status LED's. So you can optionally use the keypad & display to view the state of inputs (X) and outputs (Y) to see if the controller sees them as on or off. One problem when viewing bit status information on the display is that if a transaction occurs while the controller is in RUN mode then the display will update with an operational status message. One way to stop this from occurring is to set the mode switch to STOP. This will allow you to monitor any of the inputs (X) but will not work for the outputs (Y). The outputs will only be active when the mode switch is set to RUN. Another method you can use to prevent messages from appearing is to generate an alarm such as "Master Inhibit". If an alarm is present then no Operational Messages are displayed. Use this document in conjunction with the supplied electrical schematics.

INPUT	LED	DESCRIPTION
X0	yes	Car Wash Busy
X1	yes	Master Inhibit
X2	yes	Alarm Reset
X3	yes	Spare
X4	yes	Gate 1 Car On Loop
X5	yes	ACW 1 Relay 1
X6	yes	ACW 1 Relay 2
X7	yes	ACW 1 Relay 3
X10	yes	ACW 1 Relay 4
X11	yes	Gate 2 Car On Loop
X12	yes	ACW 2 Relay 1
X13	yes	ACW 2 Relay 2
X14	yes	ACW 2 Relay 3
X15	yes	ACW 2 Relay 4
X16	yes	Gate 3 Car On Loop
X17	yes	ACW 3 Relay 1
X20	yes	ACW 3 Relay 2
X21	yes	ACW 3 Relay 3
X22	yes	ACW 3 Relay 4
X23	yes	Gate 4 Car On Loop
X100	no	ACW 4 Relay 1
X101	no	ACW 4 Relay 2
X102	no	ACW 4 Relay 3
X103	no	ACW 4 Relay 4

EXAMPLE: VIEW ALL INPUTS (X)

Press the MENU key until the ">" is next to M3: MONITOR.

```
MENU SCREEN
>M1:PLC INFO.
```

Press the ENT key to select M3:MONITOR.

```
>M2:SYSTEM CFG
>M3:MONITOR
```

Press the ↑ and ↓ keys to select BIT MONITOR. Press the ENT key.

```
M3:>DATA MONITOR
   >BIT  MONITOR
```

Press the ↑ and ↓ keys to select "X" type memory. Press the ENT key.

```
M3:BIT  TYPE      X
ADDRESS         000
```

Press the ← and → keys to move the cursor left or right. Press the ↑ and ↓ keys to change the digit up or down. Press the ENT key.

```
M3:BIT  TYPE      X
ADDRESS         000
```

The state of the input (0=off, 1=on) and the next 19 inputs will now be displayed. Use the ← and → keys to move the cursor left or right to show more inputs.

```
M3:BIT - X0
00000011000011000001
```

Note: The Mode Switch must be returned to the RUN position for normal operation.

Using the Keypad & Display to Force Outputs On

Most interface problems are due to faulty wiring or system setup. But if you suspect that an internal relay in the Multi-Lane Wash Controller is not working you can test it with the following procedure. This procedure allows you to "force" or turn on a relay output. If you tell it turn on and it does not turn on then the controller is bad and should be replaced. Use this document in conjunction with the supplied electrical schematics. To turn off all forces cycle power on the Multi-Lane Wash Controller by turning the internal circuit breaker off and then back on.

OUTPUT	LED	FORCE BIT	TURNS ON
Y0	yes	C1000	Car wash #1
Y1	yes	C1001	Car wash #2
Y2	yes	C1002	Car wash #3
Y3	yes	C1003	Car wash #4
Y4	yes	C1004	Car wash #5
Y5	yes	C1005	Car wash #6
Y6	yes	C1006	Car wash #7
Y7	yes	C1007	Car wash #8
Y10	yes	C1010	ACW 1 cycle/inhibit relay
Y11	yes	C1011	ACW 2 cycle/inhibit relay
Y12	yes	C1012	ACW 3 cycle/inhibit relay
Y13	yes	C1013	ACW 4 cycle/inhibit relay
Y14	yes	C1014	Alarm Present (alarm reset) light
Y15	yes	C1015	Spare Output
Y16	yes	C1016	Spare Output
Y17	yes	C1017	Spare Output
Y100	no	C1020	Lane 1 Gate Up
Y101	no	C1021	Lane 2 Gate Up
Y102	no	C1022	Lane 3 Gate Up
Y103	no	C1023	Car Wash Start
Y110	no	C1024	Lane 4 Gate Up
Y111	no	C1025	Spare Output
Y112	no	C1026	Spare Output

EXAMPLE: FORCE ON OUTPUT Y10 (ACW 1 CYCLE/INHIBIT RELAY)

Press the MENU key until the ">" is next to M3: MONITOR.

```
MENU SCREEN
>M1:PLC INFO.
```

Press the ENT key to select M3:MONITOR.

```
>M2:SYSTEM CFG
>M3:MONITOR
```

Press the ↑ and ↓ keys to select BIT MONITOR. Press the ENT key.

```
M3:>DATA MONITOR
   >BIT  MONITOR
```

Press the ↑ and ↓ keys to select "C" type memory. Press the ENT key.

```
M3:BIT  TYPE      C
ADDRESS        0000
```

Press the ← and → keys to move the cursor left or right. Press the ↑ and ↓ keys to change the digit up or down. Press the ENT key.

```
M3:BIT  TYPE      C
ADDRESS        1010
```

The state of the force bit (0=off, 1=on) and the next 19 bits will now be displayed. Use the ← and → keys to move the cursor left or right to select the desired force bit. Press the ENT key.

```
M3:BIT - C   1010
00000000000000000000
```

The display now looks like this: Press the ENT key to change the STAT from OFF to ON or ON back to OFF. When C01010 STAT is on then Output Y10 should turn on. Press the ESC key to return to the previous screen.

```
M3:BIT - C   1010
CHG=ON   STAT:OFF
```

To turn off all forced outputs cycle power on the Multi-Lane Wash Controller by turning the internal circuit breaker off and then back on.

SETUP PARAMETERS RECORD SHEET

Use this sheet to record any changes that were made to the factory defaulted setup parameters. This will guard against losing your settings in case of memory failure.

Note: All time values displayed on the display are in tenths of a second. Thus 0010 means 1.0 seconds.

ADDRESS	DESCRIPTION	FACTORY	CHANGES
V7400	Car present at loop sensor debounce time	0.5 sec.	
V7401	Wash vend & start duration time	1.0 sec.	
V7402	Gate up signal duration	1.0 sec.	
V7403	Gate or Car failed to cycle alarm setpoint	35.0 sec.	
V7404	Car on loop sensor too long alarm setpoint	60.0 sec.	
V7405	Car wash busy too long alarm setpoint	300.0 sec.	
V7406	Take change or receipt delay	0.0 sec.	
V7407	Minimum time between lane releases	5.0 sec.	
V7410	Maximum number of cars in wash queue	0 cars	
V7411	Minimum time between wash vending	5.0 sec.	
V7412	Wash start delay	2.0 sec.	

LIMITED WARRANTY AGREEMENT OF HAMILTON MANUFACTURING CORP.

Hamilton Manufacturing Corp., an Ohio Corporation, ("Seller") warrants to Purchaser that all new equipment shall be free from defects in material and factory workmanship for a period of one (1) year from the original shipping date. Hamilton Manufacturing Corp. further warrants if any part of said new equipment in Seller's sole opinion, requires replacement or repair due to a defect in material or factory workmanship during said period, Seller will repair or replace said new equipment. Purchaser's remedies and the liabilities and obligations of Seller herein shall be limited to repair or replacement of the equipment as Seller may choose, and Seller's obligation to remedy such defects shall not exceed the Purchaser's original cost for the equipment. Purchaser EXPRESSLY AGREES this is the EXCLUSIVE REMEDY under this warranty. There are no other express or implied warranties which extend beyond the face hereof. All warranty repair service must be performed by either a Factory Trained Service Representative or **HAMILTON MANUFACTURING CORP., 1026 Hamilton Drive, Holland, Ohio 43528 PHONE (419) 867-4858 or (800) 837-5561, FAX (419) 867-4867.**

The limited warranty for new equipment is conditioned upon the following:

1. The subject equipment has not, in the Seller's sole opinion, been subjected to: accident, abuse, misuse, vandalism, civil disobedience, riots, acts of God, natural disaster, acts of war or terrorism.
2. The Seller shall not be liable for any expense incurred by Purchaser incidental to the repair or replacement of equipment and Purchaser shall assume full responsibility for any freight or shipping charges.
3. The coverage of this warranty shall not extend to expendable parts.
4. Purchaser shall have a warranty registration card on file with Seller prior to any claim in order for warranty protection to apply.
5. No warranty coverage is applicable to any equipment used for currency other than that specified at the time of the purchase.
6. Seller expressly disclaims any warranty that counterfeit currency will not activate said equipment.
7. Seller expressly disclaims any warranty for any losses due to bill manipulation or theft or loss of cash under any circumstances.
8. Use of the equipment for anything other than its intended and designed use will void the Limited Warranty Agreement. Use of equipment for anything other than its intended and designed use includes, but is not limited to, downloading software/applications not certified by Seller such as e-mail, spyware, screen savers, viruses, worms, third party software, web search engines, cookies, spam, desktop applications, games, web surfing, etc.

Seller further warrants all repair or service work performed by a factory trained representative or Hamilton Manufacturing Corp. for a period of ninety (90) days from the date the repair or service work was performed. Purchaser's remedies and the liabilities and obligations of Seller herein shall be limited to repair or replacement of equipment as Seller may choose, and Seller's obligation to remedy such defects shall not exceed the Purchaser's depreciated value of the equipment. Purchaser EXPRESSLY AGREES this is an EXCLUSIVE REMEDY under this warranty. There are no other express or implied warranties on repair or service work performed by a factory trained representative or Hamilton Manufacturing Corp. which extend beyond the face hereof.

The limited warranty for repair and service work is conditioned upon the following:

1. The subject equipment has not, in the Seller's sole opinion, been subjected to: accident, abuse, misuse, vandalism, civil disobedience, riots, acts of God, natural disaster, acts of war or terrorism.
2. The Seller shall not be liable for any expense incurred by Purchaser incidental to the repair or replacement of equipment and Purchaser shall assume full responsibility for any freight or shipping charges.
3. The coverage of this warranty shall not extend to expendable parts.
4. Purchaser shall have a warranty registration card on file with Seller prior to any claim in order for warranty protection to apply.
5. No warranty coverage is applicable to any equipment used for currency other than that specified at the time of the purchase.
6. Seller expressly disclaims any warranty that counterfeit currency will not activate said equipment.
7. Seller expressly disclaims any warranty for any losses due to bill manipulation or theft or loss of cash under any circumstances.
8. No person or entity other than a factory trained representative or Hamilton Manufacturing Corp. has performed or attempted to perform the subject repair or service.
9. Using equipment which has been serviced or repaired for anything other than its intended or designed use such as downloading software applications not certified by Seller will void the Limited Warranty Agreement. This includes software/applications such as e-mail, spyware, screen savers, viruses, worms, third party software, web search engines, cookies, spam, desktop applications, games, web surfing, etc.

THIS AGREEMENT IS MADE WITH THE EXPRESS UNDERSTANDING THAT THERE ARE NO IMPLIED WARRANTIES THAT THE EQUIPMENT SHALL BE MERCHANTABLE, OR THAT THE GOODS SHALL BE FIT FOR ANY PARTICULAR PURPOSE. PURCHASER HEREBY ACKNOWLEDGES THAT IT IS NOT RELYING ON THE SELLER'S SKILL OR JUDGMENT TO SELECT OR FURNISH EQUIPMENT SUITABLE FOR ANY PARTICULAR PURPOSE AND THAT THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THAT WHICH IS DESCRIBED HEREIN.

The Purchaser agrees that in no event will the Seller be liable for direct, indirect, or consequential damages or for injury resulting from any defective or non-conforming new, repaired or serviced equipment, or for any loss, damage or expense of any kind, including loss of profits, business interruption, loss of business information or other pecuniary loss arising in connection with this Limited Warranty Agreement, or with the use of, or inability to use the subject equipment regardless of Sellers knowledge of the possibility of the same.

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