



**GILBARCO**  
**VEEDER-ROOT**

**MDE-5362C**

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# **FlexPay™ IV CRIND® (With Omnia) Retrofit Kit Installation Instructions for Encore® 300/500**



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## SECTION 1 - INTRODUCTION

### Purpose

This manual provides instructions for installing a 5.7- or 10.4-inch Color Screen FlexPay™ IV CRIND® (with Omnia) Retrofit Kit in an Encore® 300/500 unit. The FlexPay IV CRIND provides a secure payment platform that is EMV®-certified and Payment Card Industry PIN Entry Device (PCI-PED)-certified.

This manual also includes instructions for installing the Omnia board, which replaces the Dispenser Communication Module (DCM)2.X [including Gilbarco Systems on Module (GSoM) Printed Circuit Boards (PCBs)] in the FlexPay IV units.

### Intended Users

This manual is intended for Gilbarco®-trained and certified Authorized Service Contractors (ASCs).

### Required Tools

- Phillips® and Flat-blade Screwdrivers
- 1/4-inch Socket Set (Nut Driver)
- 7- and 8-mm Socket (Nut Driver or Socket Set)
- Diagonal Cutters
- Needle Nose Pliers
- T15 or T20 Torx Driver, depending on the Universal Payment Module (UPM)
- Torque Wrench for Card Reader Nuts, 10-12 inch-lbs
- Metal Shears
- Putty Knife or Scraping Tool (if required)
- Gloves

## SECTION 1 - INTRODUCTION

### 1 Configured Kits - Parts List

FlexPay IV CRIND Retrofit Kits are configured based on the serial number of the pump/dispenser (unit) for which they are intended. Therefore, the parts list will vary for each configured kit and unit/option type. For additional parts details, refer to the Bill of Materials (BOM) in the kit, your distributor, or contact Gilbarco Customer Service. For more information, you can also refer to *PT-1937 Encore 300, Encore 500/500 S, Encore 700 S, Eclipse® Recommended Spare Parts Manual*.

A common FlexPay IV CRIND Retrofit Kit will include the following parts:

- Customer Interface Module (CIM™) door with UPM assembly (keypad), UX300 card reader, display, Omnia Peripheral Interface PCB (PIP) Assembly
- T-rail assembly with Omnia assembly
- Universal Serial Bus (USB) Printer assembly
- Applause™ Media System, Omnia assembly

### Configured Kit Optional Components

The following parts are potential configured kit optional components:

- UX400 Contactless
- Cabinet Heater (optional for both 5.7- and 10.4-inch display)
- 2D Imager
- Intercom
- Keypad Heater Kit (power supply and cable harness)
- Insite360™ Encore, Omnia Assembly. For Encore 300, the pump features of Insite360 (Reset, Logs, etc.) are not supported.

For a complete parts list of the configured kit, refer to the build ticket that is provided with the kit.

*Note: Printers will be needed for non-CRIND units.*

# SECTION 1 - INTRODUCTION

## Parts List

1

*Note: Some of the parts listed below are optional. For a complete parts list, see the packing list. The following parts are components for FlexPay IV CRIND with Omnia:*

Location	Description	Part #	Notes
FlexPay IV CRIND CIM Door	Encore 300/500 CIM Door with CRIND	M14043	
	5.7" Color Display	M10369B00X	Ampire
	10.4" Color Display	M14004B003	Previous part number M14004A00X
	UPM	M13888AXXX	"XXX" varies based on customer requirement
	10.4" Softkeys	M10206B00X	1 = Right; 2 = Left
	5.7" Softkeys	M01254A003	
	Keypad, Americans with Disabilities Act (ADA)	M14820B001	
	Card Reader, UX300	M14330A001	
	Imager, 2D	M16110B001	Previous part number M14055B001
	Contactless Card Reader, UX400	M14331A001	
	Cable, Wire and Speaker	M09259A002	
	Printed Circuit Assembly (PCA), Call Interface	M04528A001	
	PCA, Omnia PIP	M15649A00X	A001 = 5.7", A002 = 10.4"
Underwriters Laboratories (UL®) Bucket	Intercom Interface PCA	M09751A002	One per door
Omnia Assembly	Omnia	M16181A002	
	DCM3	M15724A001	
	Switching Power Supply*	M04161B001	
	Fuse Board PCA	M05748A001	
Main Electronics Cavity	Heater/Fan Assembly	M07333A001	Includes Sunon® Fan #SP100A1123XBT and Dekko Heater #490590
	Intercom PCA with Call Interface	M14595A001	One per dispenser

*\*Note: Remote management functionality requires M07555A004 Encore Power Supply Assembly. For more information, refer to MDE-5349 Insite360 Encore Power Supply Retrofit Kit Installation Instructions for specific instructions.*

## SECTION 1 - INTRODUCTION

### 1

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## SECTION 2 - IMPORTANT SAFETY INFORMATION

### Important Safety Information

**Notes:** 1) *Save this Important Safety Information section in a readily accessible location.*

- 2) *Although DEF is non-flammable, Diesel is flammable. Therefore, for DEF cabinets that are attached to Diesel dispensers, follow all the notes in this section that pertain to flammable fuels.*

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining, or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task will be found. Fire, explosion, electrical shock, or pressure release could occur and cause death or serious injury, if these safe service procedures are not followed.



#### Preliminary Precautions

You are working in a potentially dangerous environment of flammable fuels, vapors, and high voltage or pressures. Only trained or authorized individuals knowledgeable in the related procedures should install, inspect, maintain, or service this equipment.

#### Emergency Total Electrical Shut-Off

The first and most important information you must know is how to stop all fuel flow to the pump/dispenser and island. Locate the switch or circuit breakers that shut off all power to all fueling equipment, dispensing devices, and Submerged Turbine Pumps (STPs).

**⚠ WARNING**

The EMERGENCY STOP, ALL STOP, and PUMP STOP buttons at the cashier's station WILL NOT shut off electrical power to the pump/dispenser. This means that even if you activate these stops, fuel may continue to flow uncontrolled.

You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an emergency and not the console's ALL STOP and PUMP STOP or similar keys.

#### Total Electrical Shut-Off Before Access

Any procedure that requires access to electrical components or the electronics of the dispenser requires total electrical shut off of that unit. Understand the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gilbarco equipment.

#### Evacuating, Barricading, and Shutting Off

Any procedure that requires access to the pump/dispenser or STPs requires the following actions:



- An evacuation of all unauthorized persons and vehicles from the work area
- Use of safety tape, cones, or barricades at the affected unit(s)
- A total electrical shut-off of the affected unit(s)

#### Read the Manual

Read, understand, and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call the Gilbarco Technical Assistance Center (TAC) at 1-800-743-7501. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

#### Follow the Regulations

Applicable information is available in National Fire Protection Association (NFPA) 30A; *Code for Motor Fuel Dispensing Facilities and Repair Garages*, NFPA 70; *National Electrical Code (NEC)*, Occupational Safety and Health Administration (OSHA) regulations and federal, state, and local codes. All these regulations must be followed. Failure to install, inspect, maintain, or service this equipment in accordance with these codes, regulations, and standards may lead to legal citations with penalties or affect the safe use and operation of the equipment.

#### Replacement Parts

Use only genuine Gilbarco replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gilbarco replacement parts could create a safety hazard and violate local regulations.

#### Federal Communications Commission (FCC) Warning

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

#### Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

##### Alert Symbol



This safety alert symbol is used in this manual and on warning labels to alert you to a precaution which must be followed to prevent potential personal safety hazards. Obey safety directives that follow this symbol to avoid possible injury or death.

##### Signal Words

These signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions below must be followed to prevent death, injury, or damage to the equipment:



**DANGER:** Alerts you to a hazard or unsafe practice which will result in death or serious injury.



**WARNING:** Alerts you to a hazard or unsafe practice that could result in death or serious injury.



**CAUTION** with Alert symbol: Designates a hazard or unsafe practice which may result in minor injury.

**CAUTION** without Alert symbol: Designates a hazard or unsafe practice which may result in property or equipment damage.

#### Working With Fuels and Electrical Energy

##### Prevent Explosions and Fires

Fuels and their vapors will explode or burn, if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause potentially dangerous vapors in the vicinity of the dispenser or island. DEF is non-flammable. Therefore, explosion and fire safety warnings do not apply to DEF lines.

## SECTION 2 - IMPORTANT SAFETY INFORMATION

### No Open Fire



Open flames from matches, lighters, welding torches, or other sources can ignite fuels and their vapors.

### No Sparks - No Smoking



Sparks from starting vehicles, starting, or using power tools, burning cigarettes, cigars, or pipes can also ignite fuels and their vapors. Static electricity, including an electrostatic charge on your body, can cause a spark sufficient to ignite fuel vapors. Every time you get out of a vehicle, touch the metal of your vehicle, to discharge any electrostatic charge before you approach the dispenser island.

### Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Familiarize yourself with Cardiopulmonary Resuscitation (CPR) methods, if you work with or around high voltages. This information is available from the American Red Cross. Always advise the station personnel about where you will be working, and caution them not to activate power while you are working on the equipment. Use the OSHA Lockout/Tagout procedures. If you are not familiar with this requirement, refer to this information in the service manual and OSHA documentation.

### Working With Electricity Safely

Ensure that you use safe and established practices in working with electrical devices. Poorly wired devices may cause a fire, explosion, or electrical shock. Ensure that grounding connections are properly made. Take care that sealing devices and compounds are in place. Ensure that you do not pinch wires when replacing covers. Follow OSHA Lockout/Tagout requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while the equipment is down.

### Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Ensure that you clean hands after handling equipment. Do not place any equipment in the mouth.

#### WARNING

The pump/dispenser contains a chemical known to the State of California to cause cancer.

#### WARNING

The pump/dispenser contains a chemical known to the State of California to cause birth defects or other reproductive harm.



Gilbarco Veeder-Root encourages the recycling of our products. Some products contain electronics, batteries, or other materials that may require special management practices depending on your location. Please refer to your local, state, or country regulations for these requirements.

### In an Emergency

#### Inform Emergency Personnel

Compile the following information and inform emergency personnel:

- Location of accident (for example, address, front/back of building, and so on)
- Nature of accident (for example, possible heart attack, run over by car, burns, and so on)
- Age of victim (for example, baby, teenager, middle-age, elderly)
- Whether or not victim has received first aid (for example, stopped bleeding by pressure, and so on)
- Whether or not a victim has vomited (for example, if swallowed or inhaled something, and so on)

#### WARNING



Gasoline/DEF ingested may cause unconsciousness and burns to internal organs. Do not induce vomiting. Keep airway open. Oxygen may be needed at scene. Seek medical advice immediately.

#### WARNING

DEF generates ammonia gas at higher temperatures. When opening enclosed panels, allow the unit to air out to avoid breathing vapors. If respiratory difficulties develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention.

#### WARNING



Gasoline inhaled may cause unconsciousness and burns to lips, mouth, and lungs. Keep airway open. Seek medical advice immediately.

#### WARNING



Gasoline/DEF spilled in eyes may cause burns to eye tissue. Irrigate eyes with water for approximately 15 minutes. Seek medical advice immediately.

#### WARNING



Gasoline/DEF spilled on skin may cause burns. Wash area thoroughly with clear water. Seek medical advice immediately.

#### WARNING

DEF is mildly corrosive. Avoid contact with eyes, skin, and clothing. Ensure that eyewash stations and safety showers are close to the work location. Seek medical advice/recommended treatment if DEF spills into eyes.

**IMPORTANT:** Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

#### Lockout/Tagout

Lockout/Tagout covers servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel.

Lockout/Tagout applies to all mechanical, hydraulic, chemical, or other energy, but does not cover electrical hazards.

Subpart S of 29 CFR Part 1910 - Electrical Hazards, 29 CFR Part 1910.333 contains specific Lockout/Tagout provision for electrical hazards.

## SECTION 3 - REMOVING COMPONENTS

### Before You Begin

#### IMPORTANT INFORMATION



Ensure that the unit is functional. Check with the manager for any existing operational issues. If the unit has any special features, such as 2D Imager, verify proper operation before removal. Print a system health report to verify printer and CRIND functions.

3

#### CAUTION



A properly grounded Electrostatic Discharge (ESD) wrist strap must be worn while servicing any electronic devices or components. Failure to use electrostatic precautions may damage electronic components and void warranty.

To prepare the site and unit for the installation:

- 1 Perform an inventory of the parts list provided. Ensure that there is no damage to the parts and that all the parts are accounted for based on the BOM shipped with the kit. Ensure that you carry the recommended spare parts to the installation site.

*Note: Retain all parts (including cables, nuts, bolts, screws, and so on) that are removed. These are required in case the unit must be reverted to the original as a fallback mitigation.*



- 2 Read all the safety information found in *MDE-3804 Encore and Eclipse Start-up/Service Manual* and “Important Safety Information” on [page 5](#). Perform a Job Safety Analysis (JSA) before beginning the installation.

- 3 Inform the manager.

- 4 Barricade the unit to be worked on.

- 5 Check the current state of the unit.

- a For Encore 500, verify that the printer firmware is version 3.00 or later by removing and refeeding paper to the printer while it is still powered.

*Note: If the software is not V3.00 or later, be prepared to update the printer software.*

- b Verify site and dispenser operation.

- c Perform a fueling transaction, including printing a receipt.

- d Check Applause for idle and busy media (if applicable). Verify video and audio.

- e Verify all unit options are functional (for example, intercom).

- f If applicable, ensure that Insite360 Encore is connected and operational, including a contract in place.

## SECTION 3 - REMOVING COMPONENTS

3

- g If the site is running Insite360 Encore or Applause Media System, access the Onboard Web application and record the configurations.
- h For Insite360 Encore, de-register the Secure Systems on Module (SSoM). After Omnia is installed, Insite360 Encore will be registered.
- i For Encore 500, ensure that the pump software version is 3.3.19 or later. If not, update the pump software.
- j For Encore 300, ensure that the pump software is the latest version for that pump configuration.

### IMPORTANT INFORMATION



Do not proceed with update if the pump software is not of the latest version because the Omnia will stop in the “Starting Application” mode as the pump does not respond to crucial pump commands with earlier versions.

- 6 Remove power to the unit at the breaker panel. Follow OSHA lockout/tagout procedures.
- 7 Isolate the two-wire connection to the unit and any other network connections to the back room.



### WARNING

Failure to turn off the unit during kit installation may cause injury or bodily harm from electrical shock. Ensure that all power to the unit is turned off before opening the door to the unit and during installation.

## SECTION 3 - REMOVING COMPONENTS

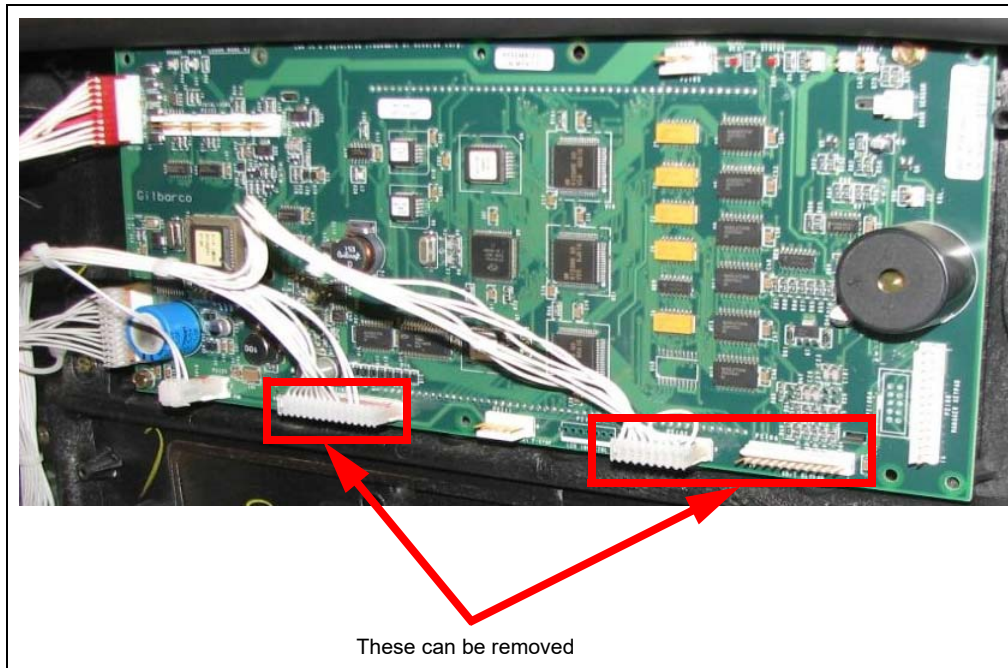
### Door Node/Main Display

*Note: Door nodes will be reused.*

To remove the door node:

- 1 Remove the soft keypad connector (P2106) from the door node (see [Figure 1](#)).

**Figure 1: Removing Door Node (Encore 500 shown)**



- 2 Remove the push-to-start connector from P2111 on the door node.
- 3 Disconnect and remove the J5 (24 V power cable) connector from the monochrome display.
- 4 Disconnect and remove the CN2 connector from the old card reader.
- 5 Disconnect and remove the customer keypad connector from the keypad.
- 6 If the call button is installed, remove J902C from the call button board. This will be replaced by a new cable provided in the kit.
- 7 Remove the door node by removing the four screws that secure it to the unit door.  
*Note: Retain the door node and screws for reinstallation. Place all the boards in a safe and static-free surface.*
- 8 For Encore 300, remove the equivalent connections.

## SECTION 3 - REMOVING COMPONENTS

### Printer

Remove the printer assembly from the old door only if it is required to be installed on the new door.

## 3 CIM Door

To remove the CIM door:

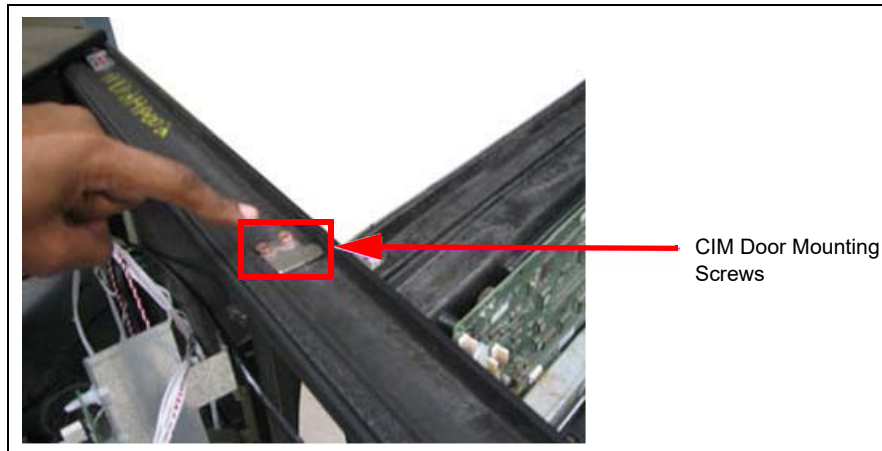
*Note: When removing the two CIM doors, it is very important to ensure that the side A door node/pump display is not swapped with the side B door node/pump display. The displays/door nodes must be returned to the same side from which they were removed.*

- 1 Disconnect all the cables connecting the electronics on the CIM door from the rest of the unit and UL bucket.

*Note: Only remove the existing CRIND related cables from the unit. Keep all pump-related cabling in the unit. Pump hardware, including cabling, will remain the same. Pump hardware is not part of the FlexPay IV CRIND (with Omnia) Retrofit Kit.*

- 2 Loosen and remove the two screws from the top of the CIM door at the hinge (see [Figure 2](#)).

**Figure 2: CIM Door Mounting Screws**



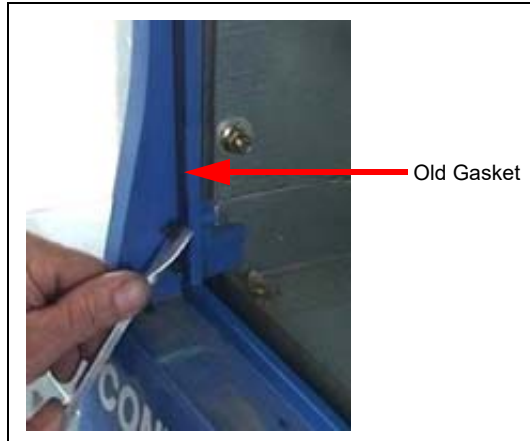
- 3 Lift the pin assembly out while holding on to the CIM door.
- 4 Remove the CIM door from the unit frame.  
*Note: If the site is using customer supplied locks, transfer them to the new CIM door.*
- 5 Carefully place the CIM door away from the unit in a safe location. Some components, such as the main display/door node, will be reused on the new FlexPay IV CRIND CIM door.



## SECTION 3 - REMOVING COMPONENTS

- 6 Remove any existing old gaskets on the option door opening. You may use a putty knife or scraping tool (see [Figure 3](#)).

**Figure 3: Removing Old Gaskets**



3

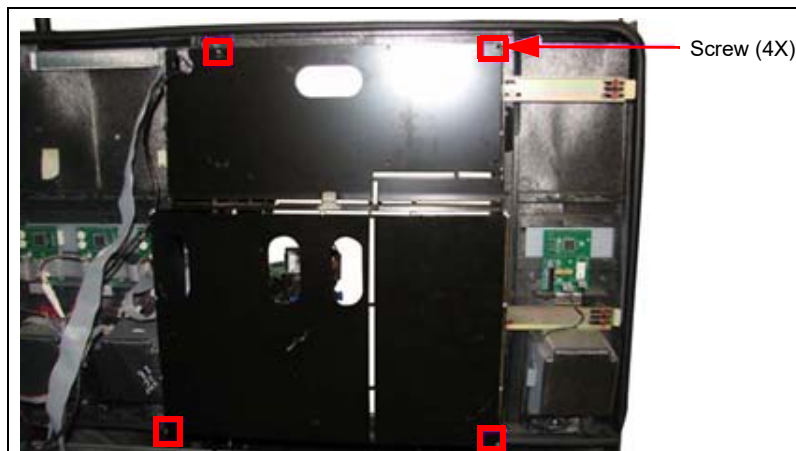
- 7 If the site is running Insite360 Encore or Applause Media System, access the Onboard Web application and record the configurations.
- 8 For Insite360 Encore, de-register the SSoM. After Omnia is installed, Insite360 Encore will be registered.
- 9 Update the Pump Control Node (PCN) software to 3.3.19 or later.

## UL Bucket

Remove the existing UL bucket by loosening and removing the four 1/4-inch screws that secure it to the unit door. There are two screws on each side, top and bottom (see [Figure 4](#)).

*Note: The UL bucket must be removed and remounted with Z-brackets. For UL bucket installation, see [Figure 17](#) on [page 26](#).*

**Figure 4: Removing Existing UL Bucket**



## SECTION 3 - REMOVING COMPONENTS

### Encore 300 CRIND Electronics (Mounted on T-Rail)

**Note:** For upgrading a unit that previously had no CRIND, disregard the steps for removing old CRIND components (except the door node or main display) and proceed with the installation of the new CIM door, printer, and Omnia assembly in *“FlexPay IV CRIND (With Omnia) Retrofit Kit”* on page 15.

**3**

To remove the CRIND regulator board assembly, monochrome Central Processing Unit (CPU), and CRIND logic board:

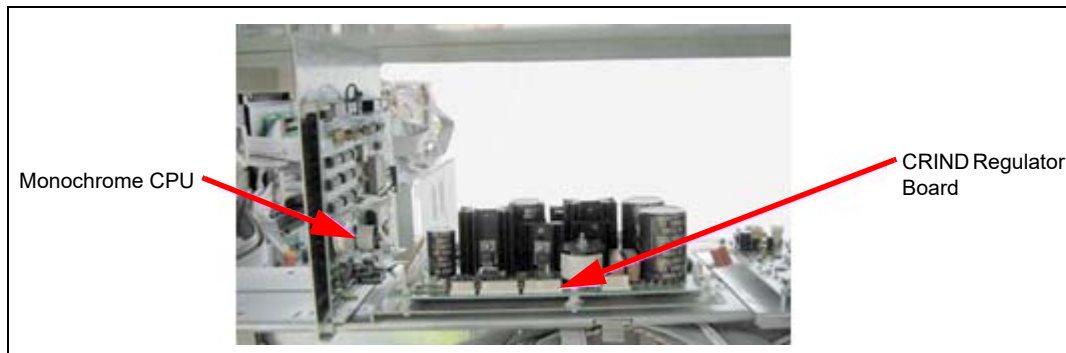
- 1 Disconnect all the cables from the CRIND regulator board assembly, monochrome CPU, and CRIND logic board, if applicable.
- 2 Remove the three 7-mm nuts that secure the bracket holding the CRIND regulator board and monochrome CPU (see Figure 5).

- 3 Remove the CRIND regulator board assembly and monochrome CPU assembly from the T-rail (see Figure 5).

*Note: When removing the CRIND regulator board and monochrome CPU assembly from the T-rail, ensure that you retain the CRIND two-wire cable J556.*

- 4 Remove CRIND logic board and the stand-off on the UL bucket.

**Figure 5: Removing CRIND Regulator Board**





## SECTION 3 - REMOVING COMPONENTS

### Encore 500 CRIND Electronics (Mounted on T-Rail)

*Note: For upgrading a unit that previously had no CRIND, disregard the steps for removing old CRIND components (except the door node or main display) and proceed with the installation of the new CIM door, printer, and Omnia assembly in “FlexPay IV CRIND (With Omnia) Retrofit Kit” on page 15.*

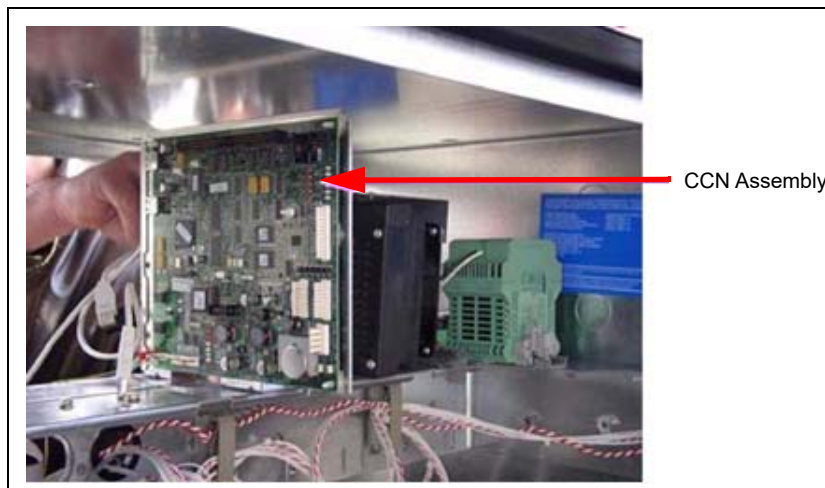
3

#### CCN Assembly

To remove the CRIND Control Node (CCN) assembly:

- 1 Disconnect all the cables from the old assembly.

**Figure 6: CCN Assembly**



- 2 Remove the old assembly by removing the three 7-mm nuts located at the bottom of the mounting bracket (see [Figure 6](#)).
- 3 If the old assembly was a CCN, remove the short Local Operating Network (LON) cable from the PCN. At this point it is disconnected, as it used to connect to the CCN. Locate the long disconnected LON cable going to the door node. Connect it to the PCN.

## SECTION 3 - REMOVING COMPONENTS

### FlexPay II CRIND Electronics (Mounted on T-Rail)

**Note:** For upgrading a unit that previously had no CRIND, disregard the steps for removing old CRIND components (except the door node or main display) and proceed with the installation of the new CIM door, printer, and Omnia assembly in *“FlexPay IV CRIND (With Omnia) Retrofit Kit”* on [page 15](#).

3

To remove the Hub Interface PCB (HIP) 2/DCM2.x bracket:

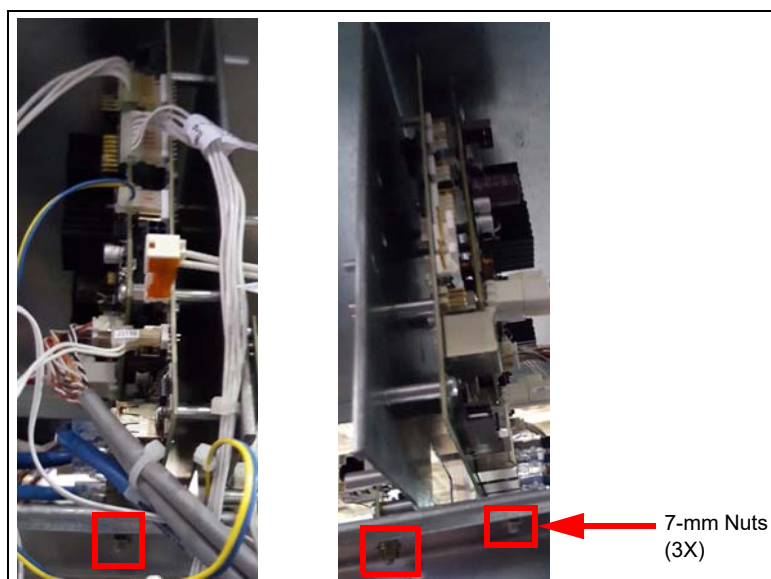
- 1 Disconnect all the cables connecting the HIP 2/DCM2.x as shown in [Figure 7](#).

**Figure 7: Disconnecting the Cables**



- 2 Remove the HIP 2/DCM2.x bracket located on the T-rail by removing the three 7-mm nuts as shown in [Figure 8](#).

**Figure 8: Removing 7-mm Nuts**



## SECTION 4 - INSTALLATION

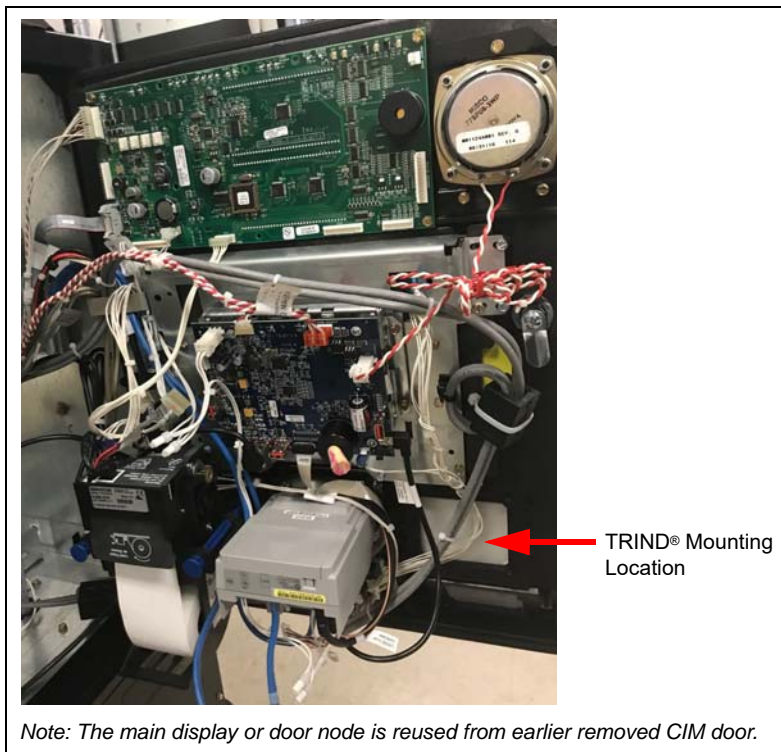
# FlexPay IV CRIND (With Omnia) Retrofit Kit

## CIM Door Installation

To install the CIM door:

- 1 Place the preassembled FlexPay IV CRIND CIM door over the mounting location on the main door on side A (used by the door that was removed earlier).

**Figure 1: Mounting CIM Door**



- 2 Insert the bracket and two screws removed previously, refer to step 1 through 6 on page 10. Tighten the screws to secure the new CIM door.
- 3 Remount the components from the old door to the new door (for example, door node, main display, and so on).  
*Note: Retain the door node or main display for reuse, even for a unit that has no CRIND.*
- 4 If the kit did not come with a printer, transfer the printer from the old door to the new door. Verify that the USB printer has software version 3.00 or later.  
*Note: The printer firmware can be upgraded in the maintenance menu. For more information, refer to MDE-5221 FlexPay IV CRIND Start-up Manual.*
- 5 Repeat the steps 1 through 4 for side B.

## SECTION 4 - INSTALLATION

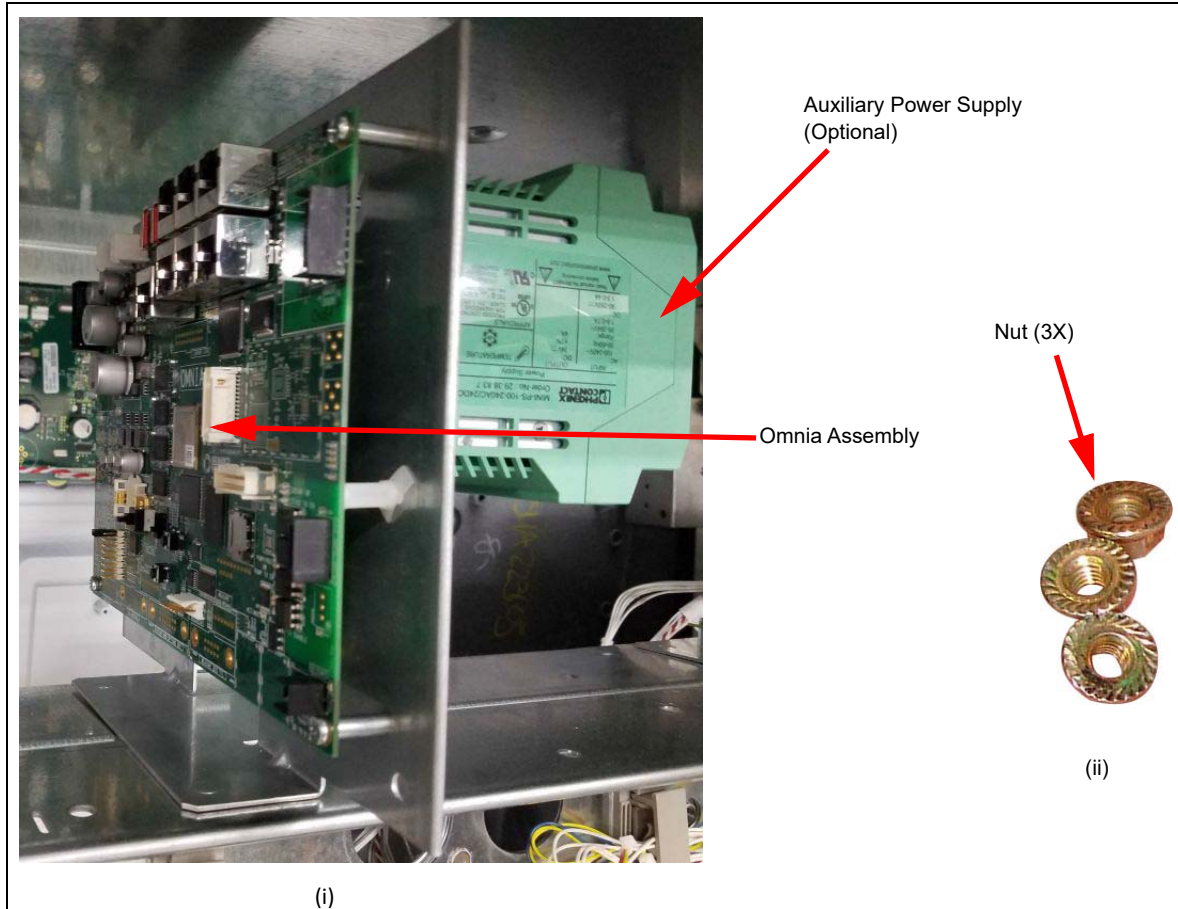
### Omnia Assembly

Mount the Omnia assembly on the T-rail using the three 7-mm nuts removed earlier or provided in the kit as shown in [Figure 2](#).

*Notes: 1) Use the same holes as those used for the HIP2/DCM2.x assembly removed earlier.*

*2) Verify that P6001 of the Omnia board is on the same side as the Weights & Measure (W&M) switch.*

**Figure 2: Installing Omnia Assembly**



### Omnia Assembly with Auxiliary Power Supply (10.4-inch Display and all Encore 300)

*Note: Insite360 Encore requires M07555A004 Encore Power Supply Assembly. Refer to MDE-5349 Insite360 Encore Power Supply Retrofit Kit Installation Instructions for specific instructions.*

To connect the cables:

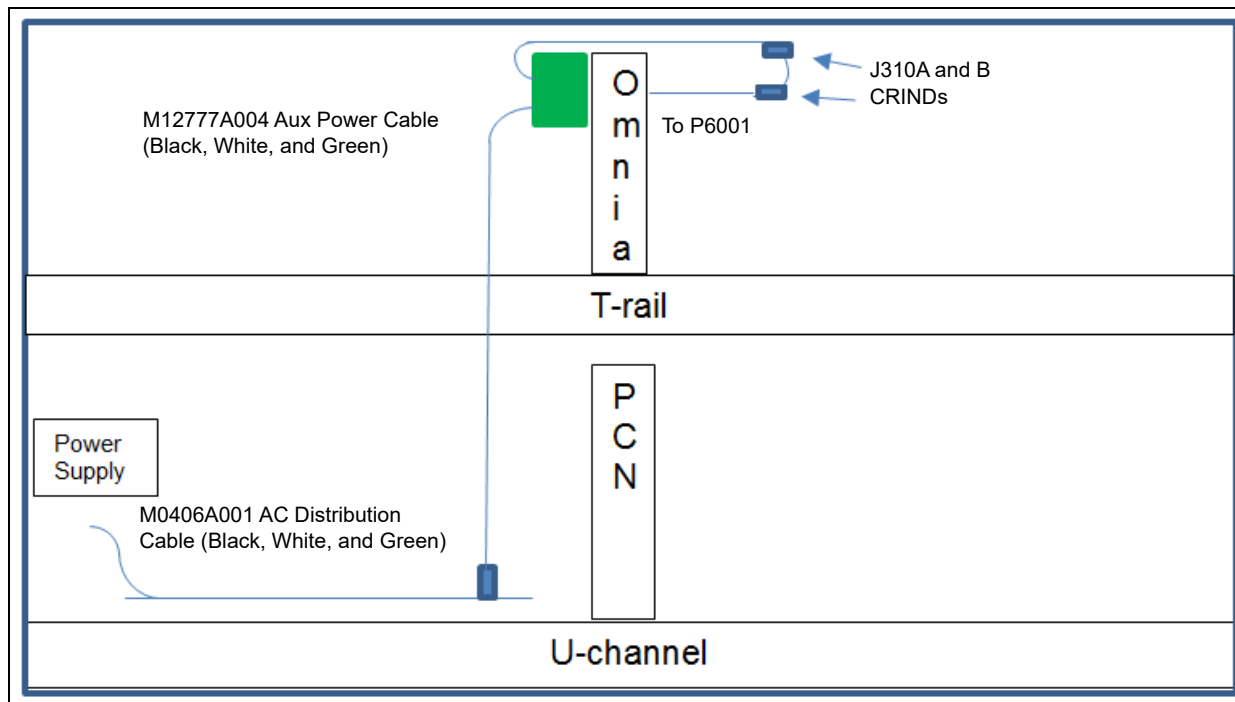
*Note: Ensure that the AC cables are not bundled with any non-AC cables.*

- 1 Connect J104 of the M12777A004 Cable to the M04406A001 AC Distribution Cable in the U-channel.
- 2 Connect P301A/B of the M14340 Cable side A to J301A of the M12777A004 Cable.

## SECTION 4 - INSTALLATION

3 Connect P301A/B of the M14340 Cable side B to J301B of the M12777A004 Cable.

**Figure 3: Encore 500 Power Supply Wiring (If Optional Power Supply is Supplied with Kit)**



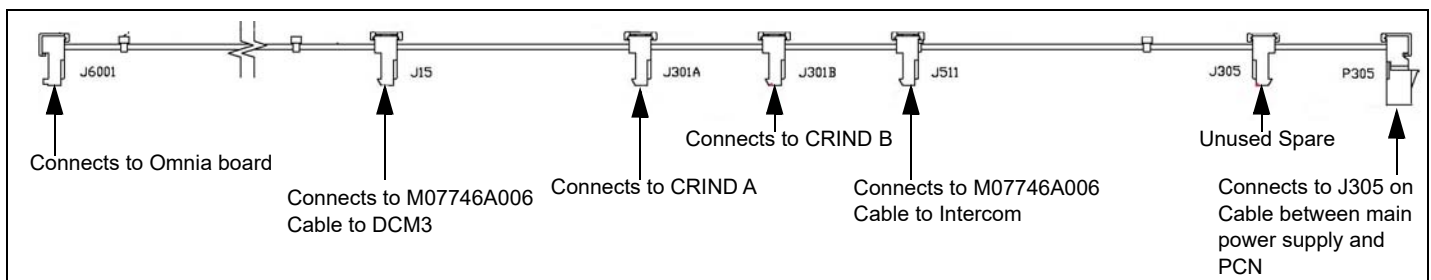
4

### Omnia Assembly Without Auxiliary Power Supply (5.7-inch Display)

To connect the cables:

*Note: Ensure that the AC cables are not bundled with any non-AC cables.*

**Figure 4: Cable Connections**



1 Connect P305 of the M07973A007 Cable to J305 of the M05547A00X Cable coming from the power supply.

*Note: If the unit's existing M05547A00X Power Cable does not contain a three-position J305, the kit contains a replacement M05547A00X Cable to install (which does contain a three-position J305 connector).*

2 Connect P301A/B of the M14340 Cable side A to J301A of the M07973A007 Cable.

3 Connect P301A/B of the M14340 Cable side B to J301B of the M07973A007 Cable.

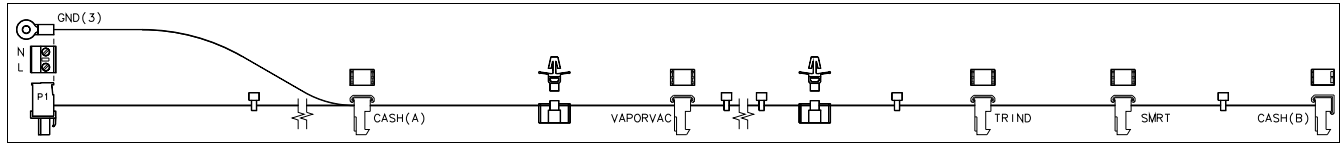


## SECTION 4 - INSTALLATION

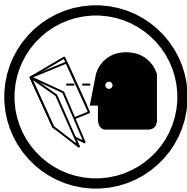
- 4 Connect the AC wires of the auxiliary power supply to the AC Power Distribution Cable (M04406A001) (see [Figure 5](#)). If the unit is not equipped with the AC distribution cable, it will be provided in the kit.

*Note: Omnia assemblies that contain a green Phoenix power supply will need to be connected to the AC Distribution Cable (M04406A001).*

**Figure 5: M04406A001 AC Power Distribution Cable**

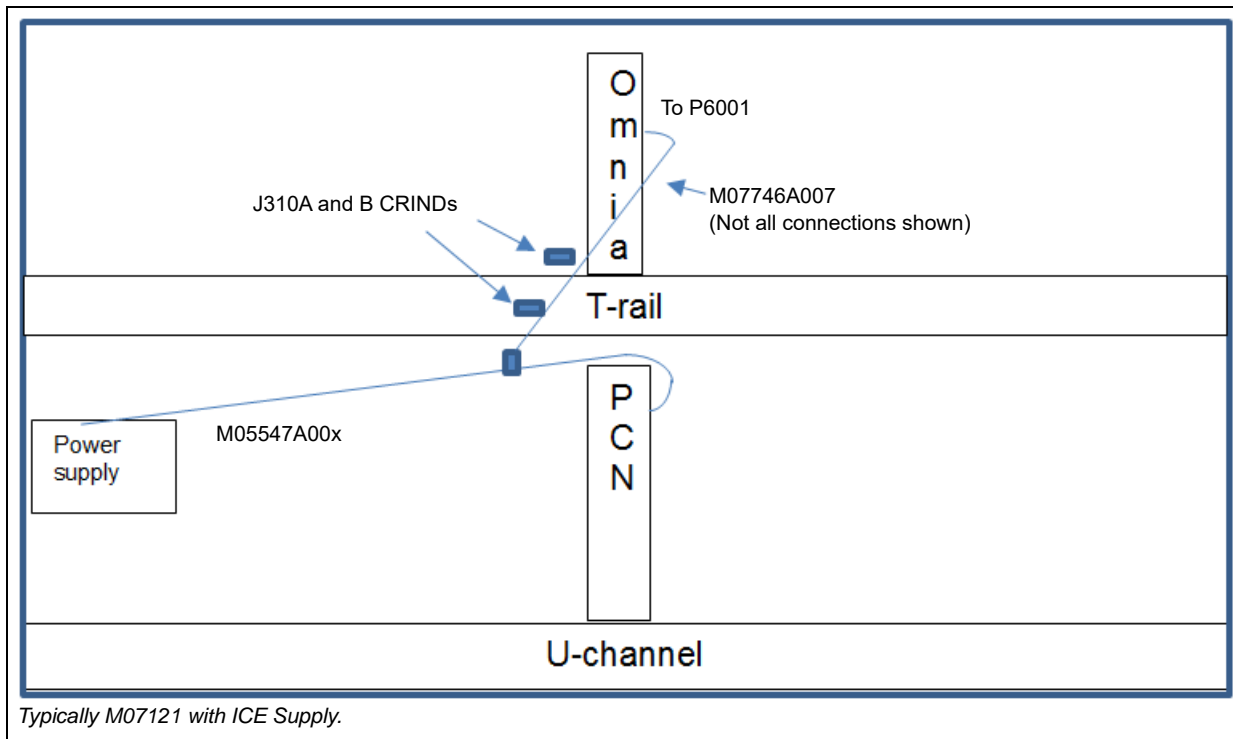


### IMPORTANT INFORMATION



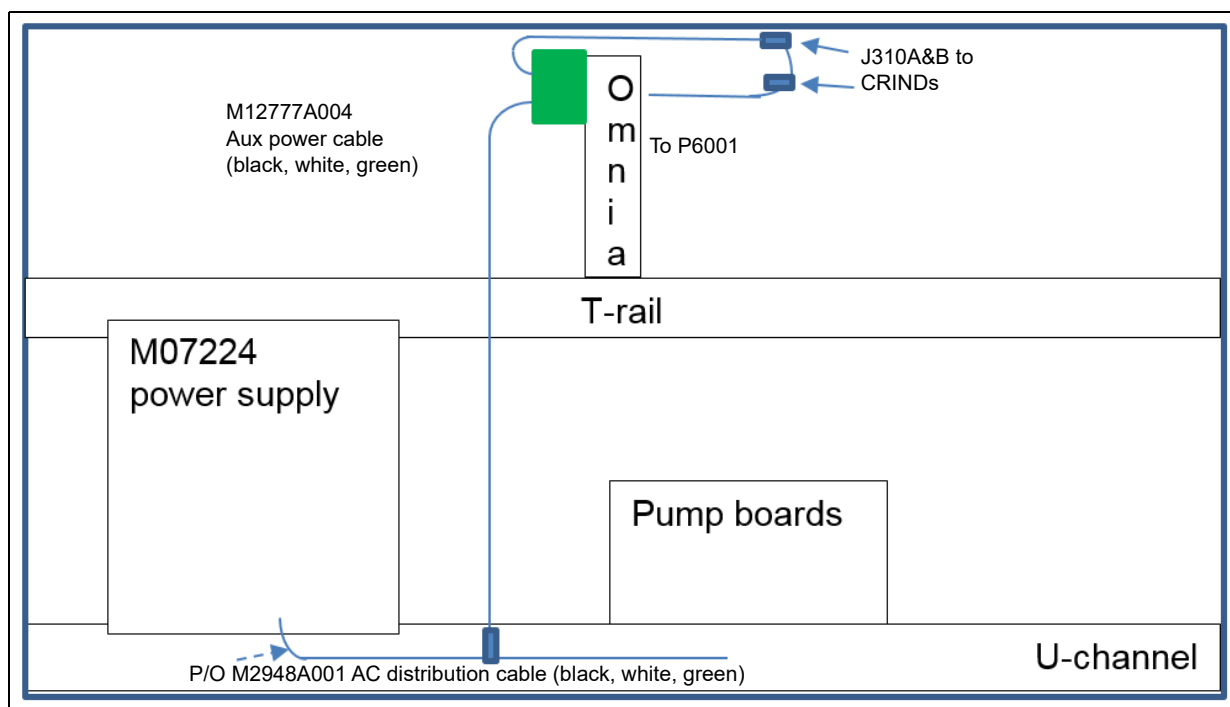
Cable routing is critical. It is very important to route and dress the cables properly. Exercise care in routing the cables, keeping in mind that the door(s) opens and closes for service. The cables must be dressed neatly. Ensure that there is no interference after the cables are connected and routed. Ensure that the ESD ground straps can be bundled together, but need to be well separated from data and power cables. Note that they should be fastened to the U-channel with separate bolts.

**Figure 6: E500 Power Supply Wiring (If Optional Power Supply is not Supplied with Kit)**



## SECTION 4 - INSTALLATION

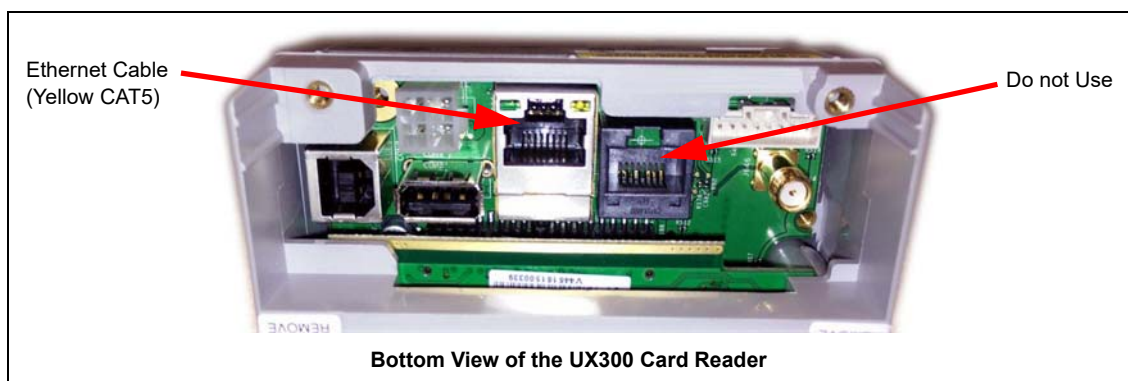
**Figure 7: Encore 300 Power Supply Wiring (If Optional Power Supply is not Supplied with Kit)**



- 5 Connect the Ethernet® cable to the card reader. The yellow Category 5 (CAT5) cable in the kit matches the yellow connector on the Omnia PCB (for dedicated side).

*Note: Q13850-10 is provided in the kit if longer Ethernet cables are needed.*

**Figure 8: Connecting Ethernet Cable to the UX300 Card Reader**

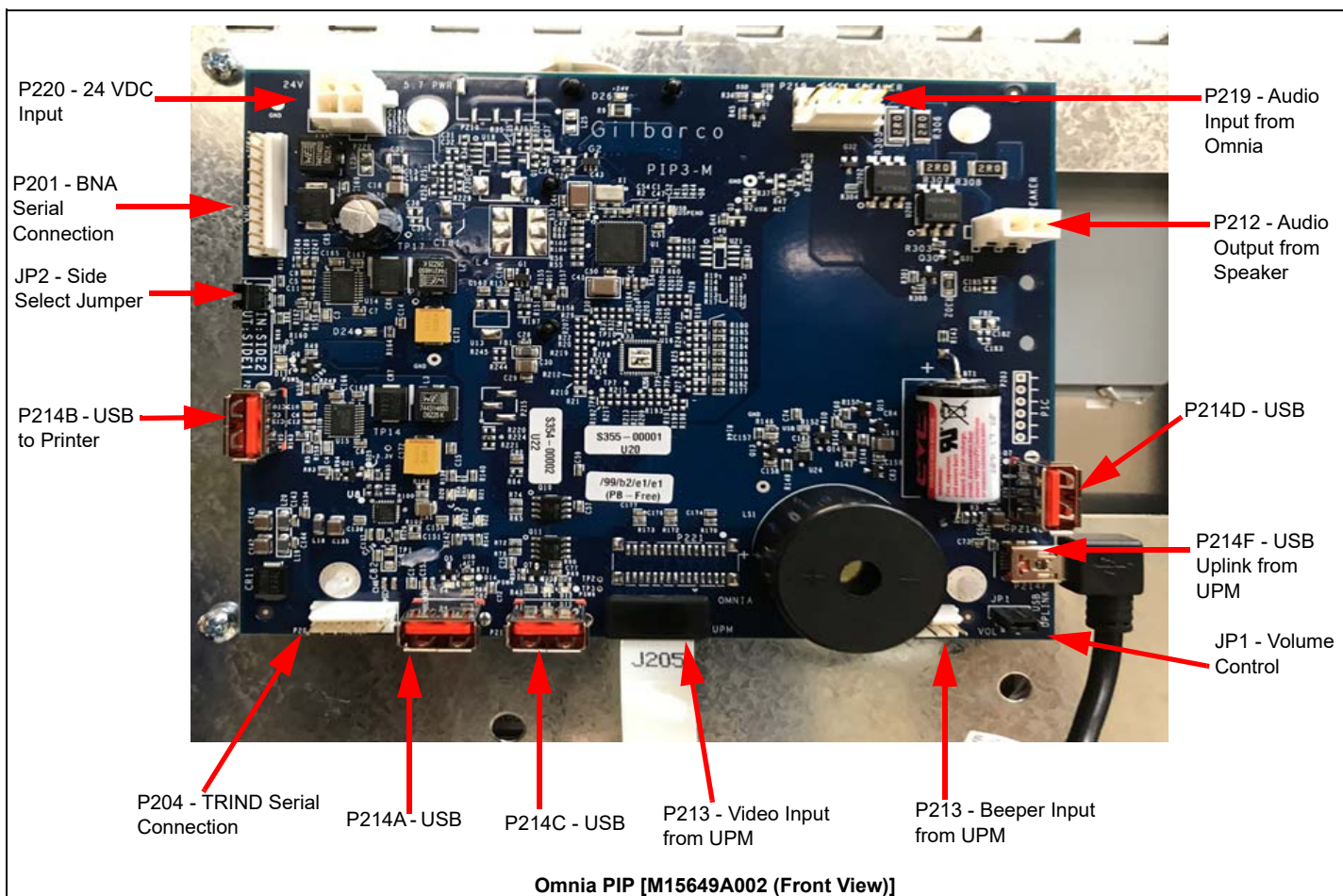


## SECTION 4 - INSTALLATION

6 Connect the USB cable from the printer to Omnia PIP, using the port on the left side.

*Note: Ensure that the USB printer cable is seated.*

**Figure 9: Omnia PIP (M15649A002) Connections**



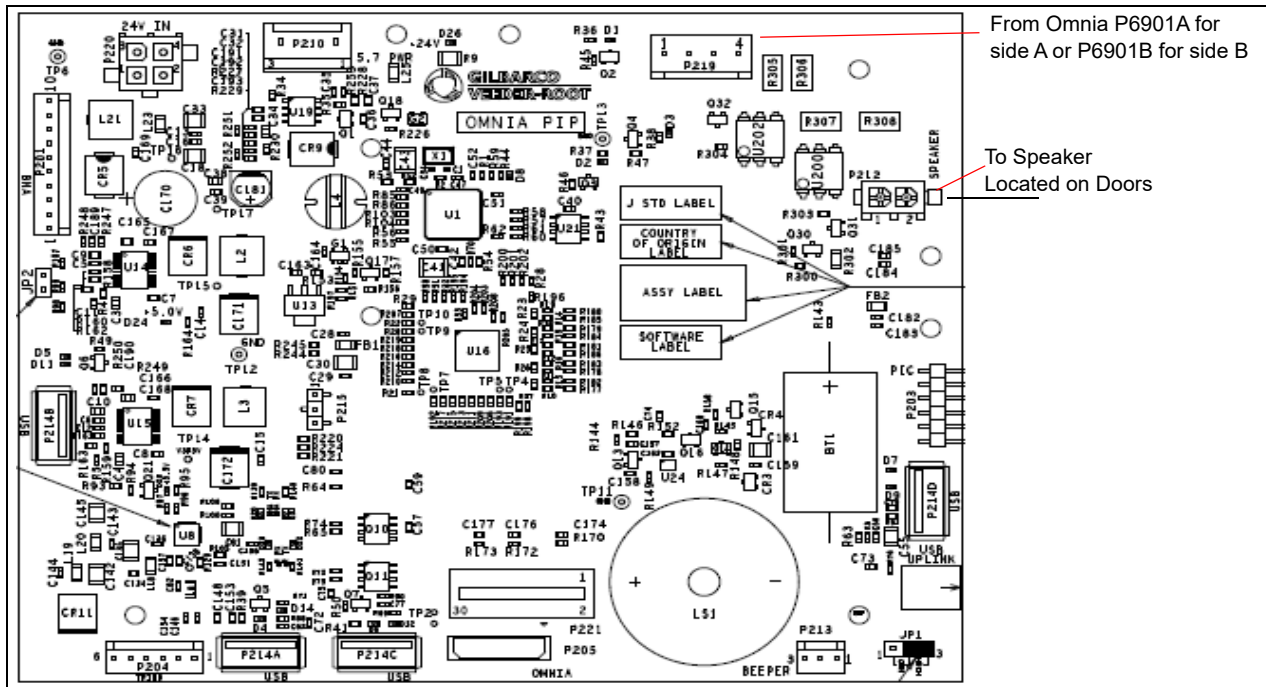
*Note: Install a jumper on JP2 when Omnia PIP is located on side B of the dispenser.*



## SECTION 4 - INSTALLATION

7 Connect P212 to speaker.

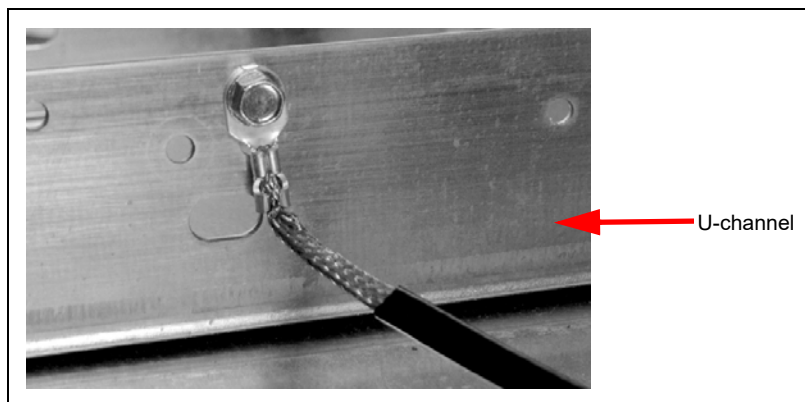
**Figure 10: Omnia Without Intercom**



For units with Intercom, refer to [Figure 16](#) on [page 25](#).

8 Connect the ESD ground cables from the UPM and UX300 to the Computer Display (CD) module chassis.

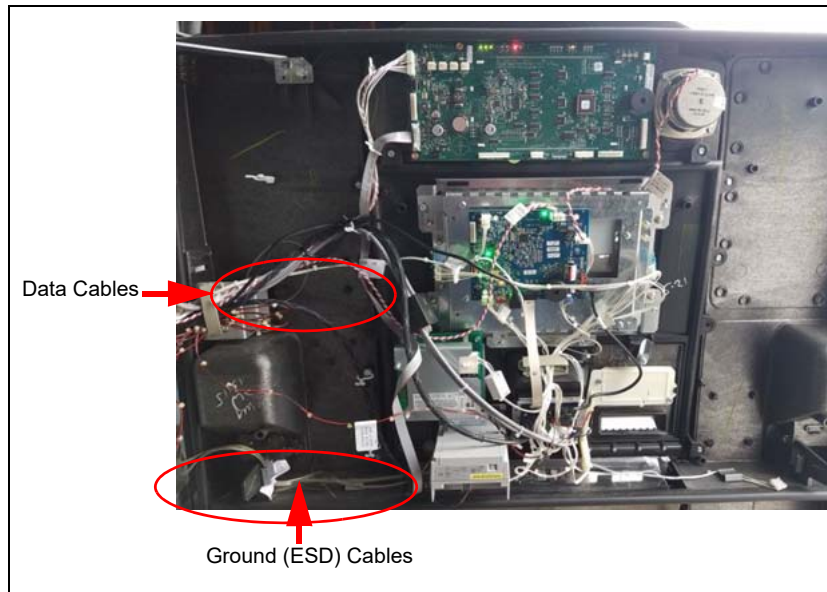
**Figure 11: Ground Wire Connected to Chassis**



## SECTION 4 - INSTALLATION

The important factor in cable routing is to separate the ground cables (which route ESD events to chassis) from the data and power cables.

**Figure 12: Separating Ground Cables from Data and Power Cables**



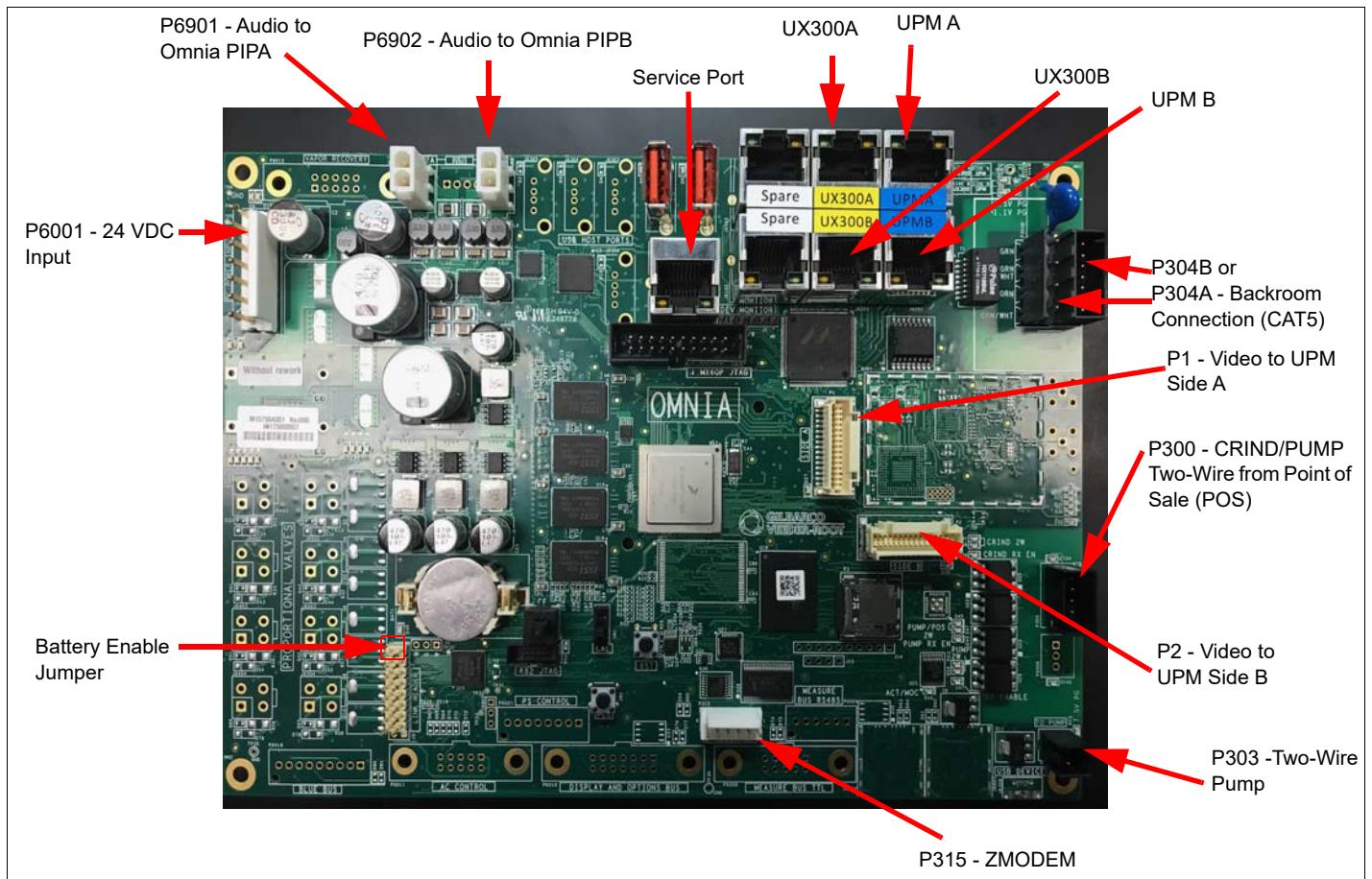
9 Connect P902C to call button board (if installed).

*Note: If Applause Media System is installed, there will also be a new audio cable from Omnia PIP and a video cable from Omnia to UPM. Audio Cable (M14425A002) goes from P419L to Omnia PIP P219. Video Cable (M14338A00X) goes from Omnia P1 for Side A UPM and Omnia P2 for Side B UPM to UPM P6.*

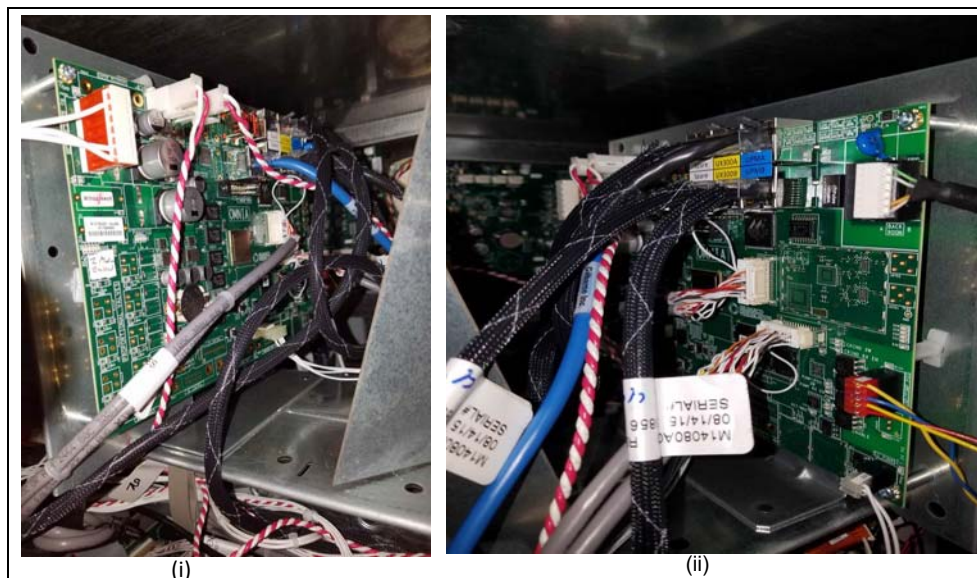
## SECTION 4 - INSTALLATION

10 Connect all the applicable cables to the Omnia assembly as shown in Figure 13.

**Figure 13: Omnia Board Connections**



**Figure 14: Connecting Cables**



## SECTION 4 - INSTALLATION

- 11 Connect the Ethernet cable from each UPM to the Omnia board.

*Note: These ports are dedicated. The UPMs and UX300 Card Readers must be connected to the correct ports.*

Figure 15 shows the labels on the Omnia board.

**Figure 15: Omnia RJ-45 CAT5 connections for UPMs and UX300s (+ Spares)**

Spare	UX300A	UPMA
Spare	UX300B	UPMB

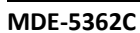
## Intercom PCA with Call Interface (M14595A001)

To install M14595A001 Intercom Board, proceed as follows:

- 1 Mount plate with the M14595A001 Intercom Board on the wall opposite to the dispenser power supply.  
*Note: P506 will be toward the side A of the dispenser.*
- 2 Disconnect the speaker from P504 on the Omnia PIP.
- 3 Connect M14762A001 Cable to P506A on the M14595A001 Intercom Board. Make the other three connections as shown in Figure 16 on page 25.
- 4 Repeat the connections for side B, using M14762A002 Cable.
- 5 Connect M14763A001 Power Cable to P511 on the M14595A001 Intercom Board.
- 6 Make field wiring connections to P510A and P510B.
- 7 Note the jumpers that can be used to adjust sensitivity or customer talk time. (Typically, it is not necessary to add jumpers.)



4



## SECTION 4 - INSTALLATION

### UL Bucket

To install the UL bucket:

- 1 Attach the four “Z-shaped” M15322B001 offset brackets to the UL bucket to offset and raise the UL bucket (see Figure 17).

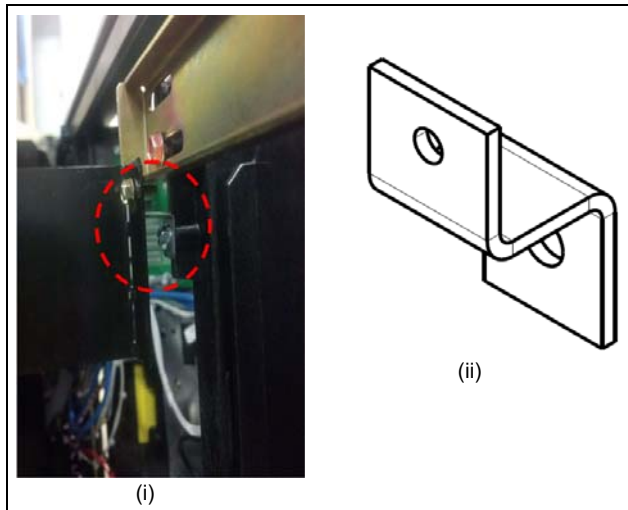
*Note: Use gloves when handling the UL bucket and the Z-shaped brackets.*

- 2 Ensure the small mounting hole of the Z-bracket is on the top. This will raise the UL bucket from its original position.

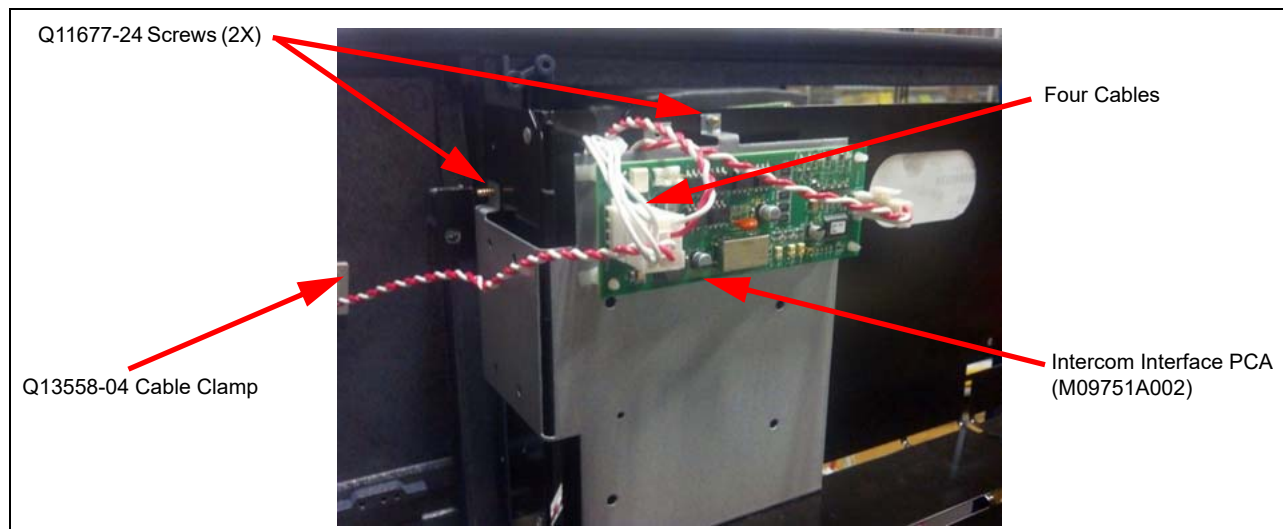
- 3 Use the original UL bucket screws to secure the individual brackets to the doors. Then use the four Q11677-24 Screws provided in the kit, to attach the UL bucket to the brackets.

*Note: If the Encore 500 unit you are upgrading does not have a UL bucket, a UL bucket will be provided in the kit if the intercom board is installed.*

**Figure 17: Raising UL Bucket Using Z-shaped Offset Brackets**



**Figure 18: Mounting Location for Single-Side Intercom**



## SECTION 4 - INSTALLATION

### Printer Power Connections

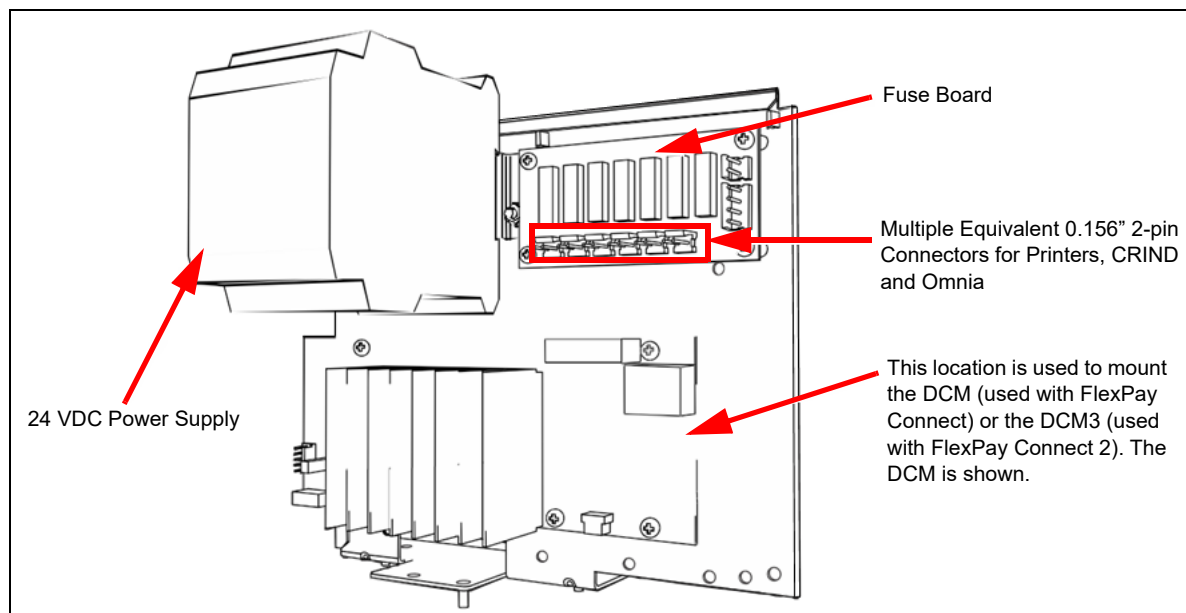
*Note: If the FlexPay IV CRIND Retrofit Kit includes the optional Insite360 Encore Power Supply, refer to MDE-5349 Insite360 Encore Power Supply Retrofit Kit Installation Instructions (included) for power supply installation instructions.*

To make printer power connections:

- **Encore 300 or Encore 500 with M02274 power supply:** Connect the 24 V printer power connector cable to the fuse board on the Omnia assembly (see [Figure 19](#)).
- **Encore 500 with Phoenix or ICE supply:** The printers remain connected to the main power supply.

*Note: The M07973A007 Cable shown in [Figure 4](#) on [page 17](#) is used for the connections.*

**Figure 19: Connecting Printer Power Connector Cable**



*Note: M12777A003 is supplied when a secondary power supply is provided on the Omnia assembly.*

## SECTION 4 - INSTALLATION

### Forecourt Wiring

Depending on the dispenser type and whether or not it has factory-installed conduit, there are different specifications in the current loop wiring.

If the kit includes DCM3, refer to information about merged and non-merged high speed connections (see [“Appendix C: System Block Diagram”](#) on page 44).

## 4 Considerations

- P300 has the red/yellow and blue/yellow current loop inputs for both the pump and the CRIND.
- P303 is the current loop output to the pump. It must be used even in the Generic CRIND mode.

#### For Passport Major Oil Company (MOC)

- CRIND two-wire must be on the blue/yellow wires.
- The pump two-wire input must be connected to P303.

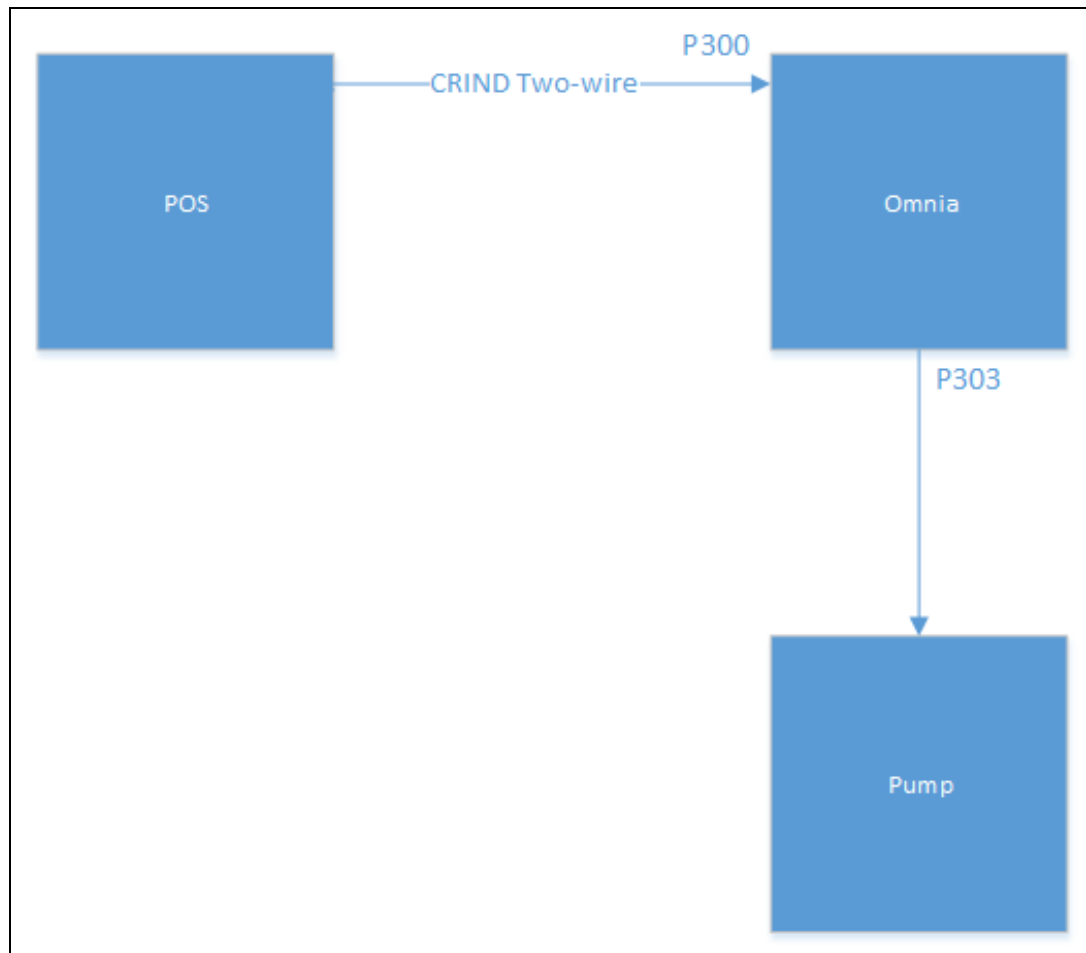
To set up the Omnia board for Passport wiring:

- 1 Remove the two-wire cables from the conduit that are attached to A9 and A19, as applicable (see [Figure 20](#) on [page 29](#)).
- 2 Connect the blue wire to CRIND A9 (see [Figure 20](#) on [page 29](#)).
- 3 Connect the mated yellow wire to CRIND A19.
- 4 Connect the J300 connector on the M02993A005 to P300 of the Omnia board.
- 5 Connect J403 of the M00491A001 Cable to P303 on the Omnia board.
- 6 Connect the other end of the M00491A001 cable to the P1109 on the PCN.



## SECTION 4 - INSTALLATION

Figure 20: Two-Wire Connection (MOC)

**4**

### For Generic CRIND

- CRIND two-wire must be connected to the blue/yellow wires. Pump two-wire must be connected to the red/yellow wires.
- The pump two-wire input is driven by P303.

To connect the Omnia board with the PCN and conduit:

- 1 Remove the J1109 connector of the pump two-wire from the PCN.
- 2 Remove the two-wire cables from the conduit that are attached to A9, A19, B9, and B19 (see [Figure 21](#) on [page 30](#)).

## SECTION 4 - INSTALLATION

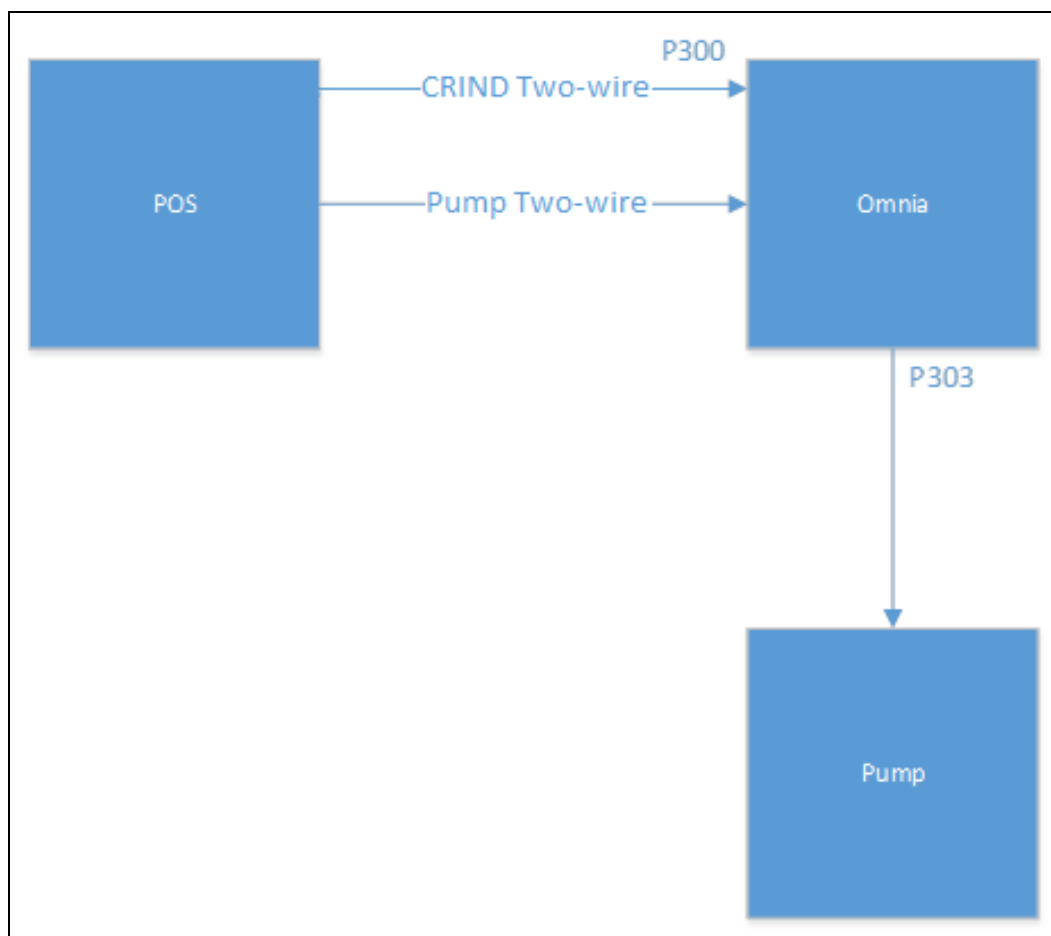
3 Connect the wires labeled 'CRIND' and pump of the M02993A005 Cable to the two-wire cables coming out of the conduit. Connect the colored wires as follows:

a Connect the red wire to pump A9 (see [Figure 21](#) on [page 30](#)).

b Connect the mated yellow wire to pump A19 and CRIND B19.

c Connect the blue wire to CRIND B9.

**Figure 21: Two-Wire Connection (Generic)**



## SECTION 4 - INSTALLATION

### Completing Installation

To complete installation:

- 1 Inspect all the connections and cable routing before applying power.

#### IMPORTANT INFORMATION



Cable routing is critical. It is very important to route and dress the cables properly. Exercise care in routing the cables, keeping in mind that the door(s) opens and closes for service. The cables must be dressed neatly. Ensure that there is no interference after the cables are connected and routed. ESD ground straps can be bundled together, but need to be separated from data and power cables. They should be fastened to the U-channel with separate bolts [see Figure 22 (ii) on page 32].

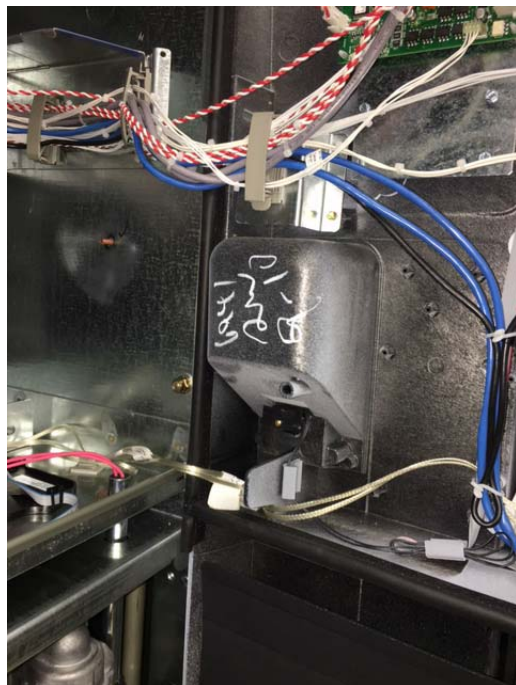
After making all cable connections, close the main door and open the printer door. Pull the sliding printer tray and ensure that there is no cable interference.

For FlexPay IV CRIND Retrofit Kits, new printers are included and preassembled with the retrofit CIM door for Encore 300 and in some cases for Encore 500. For block diagrams, refer to [“Appendix C: System Block Diagram”](#) on [page 44](#). If the existing printer is reused, a new Printer Bezel Bracket (M12708B003) will need to be installed on the new CIM door using the existing hardware.

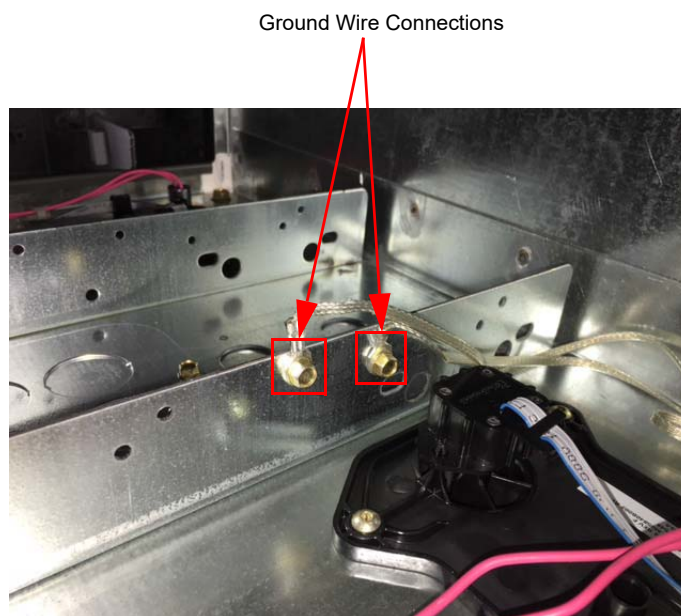
The ground cables from the UPM and card reader should ideally be connected to the chassis as shown in [Figure 22 \(i\)](#). However, for some CRIND door configurations, the cables will not reach the position shown, and in that case, the ground cables must connect to chassis as shown in [Figure 22 \(iii\)](#).

## SECTION 4 - INSTALLATION

Figure 22: Ground Wire Connected to Chassis



(i)



(ii)



(iii)

For detailed block diagrams of cable connections, refer to [“Appendix C: System Block Diagram”](#) on [page 44](#).

## SECTION 4 - INSTALLATION

The important factor in cable routing is to separate the ground cables (which route ESD events to chassis) from the data and power cables.

**Figure 23: Separating Ground Cables from Data and Power Cables**

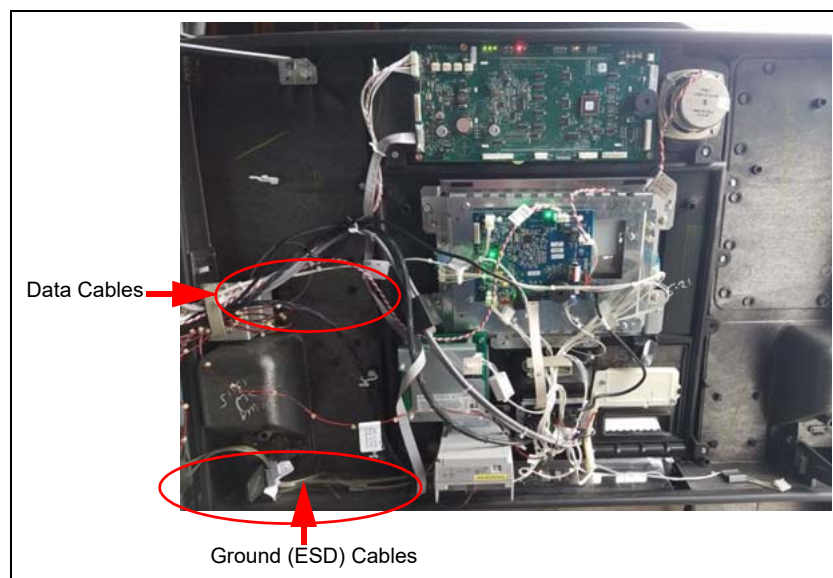
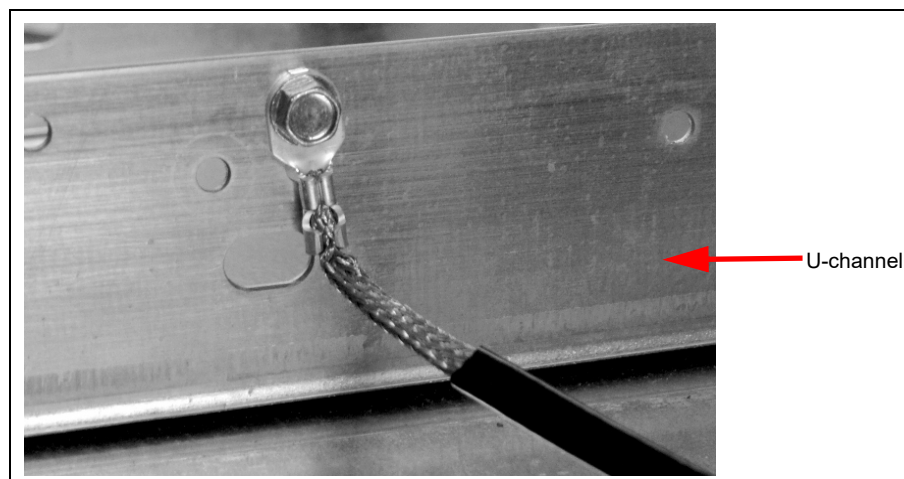


Figure 22 shows a ground wire connected to the chassis. The 8-mm ground screw (2X) is provided in the kit. *Note: Fasten each ground cable individually to the chassis (one cable per ground screw).*

**Figure 24: Ground Wire Connected to Chassis**



## SECTION 4 - INSTALLATION

### Updating Software

- 1 For instructions to configure Omnia from the Maintenance Menu in the CRIND, refer to *MDE-5369 FlexPay IV CRIND with Omnia Start-Up and Service Manual*.
- 2 Update the CRIND software to Version 42.10.XX or later. Depending on the existing version, you might need to update to an intermediate version, and then to the latest released version.
- 3 After upgrading the CRIND software, configure Omnia in the Maintenance Menu.

## 4

### Registering Kits with Gilbarco Warranty

To register the kits with Gilbarco Warranty:

- 1 After the kits are successfully installed, register kits through web commissioning within 30 days.
- 2 Provide the correct model and serial numbers.  
*Note: Registering the kits ensures that proper warranty is applied.*
  - EPK NGPM 500 S **EPK M7 500S** - 500S M7 UPGRADE
  - EPK NGPM ADV **EPK M7 ADV** - ADV M7 UPGRADE
  - EPK NGPM E-CIM **EPK M7 ECIM** - E-CIM M7 UPGRADE
  - EPK NGPM ENC3 **EPK M7 ENC3** - E300 M7 UPGRADE
  - EPK NGPM ENC5 **EPK M7 ENC5** - E500 M7 UPGRADE

*Note: Registering the kits ensures that proper warranty is applied.*

## SECTION 5 - REFERENCE INFORMATION

### Related Documents

Document No.	Title
MDE-3804	Encore and Eclipse Start-up/Service Manual
MDE-3965	Encore Options Keypad, Call Button and Eclipse Pump Stop Button Retrofit Kits Installation Manual
MDE-4366	USB Printer Maintenance Guide
MDE-4609	Heater/Fan Kit (M07333K00X) Installation Guide for Encore 300/The Advantage Series [with FlexPay EMV (Canada Only)]/Atlas <sup>®</sup> DEF and Encore S/Encore 500/700/DEF Units
MDE-4736	FlexPay EPP Heater Kit, Card Reader Heater, and UPM Heater Kit Installation Instructions
MDE-4917	FlexPay Connect D-Box Installation Manual
MDE-5223	FlexPay IV CRIND Service/Troubleshooting Guide
MDE-5227	M7 Maintenance Tool User Guide
MDE-5265	BRCM2.x Installation and Upgrade Instructions
MDE-5314	Insite360 Encore Remote Management Installation, Start-up, and Service Manual
MDE-5349	Insite360 Encore Power Supply Retrofit Kit Installation Instructions
MDE-5369	FlexPay IV (with Omnia) Programming and Service Manual
PT-1936	Encore Series Pumps and Dispensers Illustrated Parts Manual
PT-1937	Encore 300, Encore 500/500 S, Encore 550, Encore 700 S, Eclipse Recommended Spare Parts Manual

5

### Abbreviations and Acronyms

Term	Description
ADA	Americans with Disabilities Act
ASC	Authorized Service Contractor
BOM	Bill of Materials
BRCM	Back Room Communication Module
CAT5	Category 5
CCN	CRIND Control Node
CD	Computer Display
CPU	Central Processing Unit
CIM	Customer Interface Module
CRIND	Card Reader in Dispenser
D-Box	Distribution Box
DCM	Dispenser Communication Module
E-CIM™	Enhanced Customer Interface Module
EMV	Europay®, MasterCard®, and Visa®
EPP	Encrypting PIN Pad
ESD	Electrostatic Discharge
FCC	Federal Communications Commission
GSoM	Gilbarco Systems on Module
HIP	Hub Interface PCB
JSA	Job Safety Analysis
LED	Light Emitting Diode

## SECTION 5 - REFERENCE INFORMATION

Term	Description
LON	Local Operating Network
MOC	Major Oil Company
NGP	Next Generation Payment
OSHA	Occupational Safety and Health Administration
PCA	Printed Circuit Assembly
PCB	Printed Circuit Board
PCI	Payment Card Industry
PCI-PED	Payment Card Industry PIN Entry Device
PCN	Pump Control Node
PIP	Peripheral Interface PCB
POS	Point of Sale
SSoM	Secure Systems on Module
TRIND	Transmitter/Receiver in Dispenser
UL	Underwriters Laboratories
UPM	Universal Payment Module
USB	Universal Serial Bus
VDC	Voltage Direct Current
W&M	Weights and Measure



## SECTION 6 - APPENDICES

# Appendix A: PCB, Connections, and Light Emitting Diode (LED) Information

## Omnia Board Connections

Connector	Port Number	Function	From	To
7-pin MTA	P6001	Power IN	P6001	Power input
2-pin plug	P6901	Audio out to Omnia PIPA	P6901	Omnia PIP: P219
2-pin plug	P6902	Audio out to Omnia PIPB	P6902	Omnia PIP: P219
25-pin high density	P1	Video out to UPM A	P1	UPM-P6
25pin high density	P2	Video out to UPM B	P2	UPM-P6
5-pin MTA	P300	Two-wire connection to POS	P300	Conduit/POS
2-pin MTA	P303	Two-wire to pump	P303	Pump-P1109
6-pin MTA	P315	ZMODEM	P315	Pump control node P1111
7-pin MTA	P304A	Backroom connection/DCM3	P304A	DCM3-J17
4-pin plug	P304B	Backroom connection	P304B	Conduit

*Note: Verify P6001 of the Omnia board is on the same side as the W&M switch.*

For more information, refer to [“Appendix A: PCB, Connections, and Light Emitting Diode \(LED\) Information”](#) on [page 37](#).

## Omnia PIP Connections

The following table lists the connections on the Omnia PIP:

Connector	Port Number	Function	From	To
10-pin MTA	P201	Cash Acceptor	P201	BNA
6-pin MTA	P204	TRIND	P204	TRIND J182
3-pin Plug	P213	BEEP Connector	P213	UPM P2
4-pin Plug	P220	24 VDC IN	P220	Power Supply Cable (M14340)
Mini USB	USB UPLINK	USB IN	USB UPLINK	UPM P4
USB	P214A	USB Out	P214A	USB Expand
USB	P214B	USB Out	P214B	USB Expand
USB	P214C	USB Out	P214C	USB Expand
USB	P214D	USB Out	P214D	USB Expand
4-pin MTA	P219	Speaker Input from Omnia	P219	P6901A and P6901B
2-pin Mat-n-Lok	P211	Audio to Left Speaker	P211	Left Speaker
25-pin	P205	Video Input from UPM	P205	UPM P5
20-pin	P206	LVDS Data to 10.4"	P206	10.4"
33-pin	P207	Video Data to 5.7"	P207	5.7"
2-pin	P215	Up/Down for 5.7"	P215	DNP

SECTION 6 - APPENDICES

Connector	Port Number	Function	From	To
10-pin	P208	10.4" Backlight	P208	10.4" Backlight
3-pin	P210	5.7" Backlight	P210	5.7" Backlight Leads

Omnia Assembly Jumpers

*Note: Verify that JP7 (Watchdog enabled) is installed on the PCN. If JP7 is not installed, the PCN will lock up during the remote reset process.*

The following table lists the status and functions of jumpers:

Jumper	Description
Omnia Board	
J3	Jumper ON = Battery connected Jumper OFF = Battery disconnected
Omnia PIP	
JP2	Jumper ON = Side B Jumper OFF = Side A

## SECTION 6 - APPENDICES

### Omnia PIP LEDs

Reference Designator	Color	Function	Behavior
D1	Green	USB link	ON: U8 connected to USB Hub
D4			ON: USB device plugged into P214A OFF: No USB device connected
D5			ON: USB device plugged into P214B OFF: No USB device connected
D6			ON: USB device plugged into P214C OFF: No USB device connected
D7			ON: USB device plugged into P214B OFF: No USB device connected
D9	Red	USB over current	ON: Over current fault detected on P214D OFF: Normal operation
D11			ON: Over current fault detected on P214B OFF: Normal operation
D12			ON: Over current fault detected on P214C OFF: Normal operation
D14			ON: Over current fault detected on P214A OFF: Normal operation
D20	Yellow	Serial communication	ON: UPM TX to BNA OFF: UPM is not communicating with BNA
D21			ON: BNA TX to UPM OFF: BNA is not communicating with UPM
D22			ON: UPM TX to TRIND OFF: UPM is not communicating with TRIND
D23			ON: TRIND TX to UPM OFF: TRIND is not communicating with UPM
D24	Green	Power good	ON: 5 VDC power is good OFF: 5 VDC power fault or board not powered
D25			ON: 3.3 VDC power is good OFF: 3.3 VDC power fault or board not powered
D26			ON: 24 VDC power is good OFF: 24 VDC power fault or board not powered

*Note: Install a jumper on JP2 when Omnia PIP is located on Side B of the dispenser.*

## SECTION 6 - APPENDICES

### Omnia LEDs

Reference Designator	Color	Function	Behavior
D7	Green	1.5V power good LED	ON: 1.5 V power is good OFF: 1.5 V power is not good
D8		1.1V power good LED	ON: 1.1 V power is good OFF: 1.1 V power is not good
D17		1.8V power good LED	ON: 1.8 V power is good OFF: 1.8 V power is not good
D18		1.35V power good LED	ON: 1.35 V power is good OFF: 1.35 V power is not good
D22		Power Input LED	ON: Omnia PCB has 24 VDC from power supply OFF: Omnia PCB does not have 24 VDC from power supply
D23		5V USB power good LED	ON: USB power is good OFF: USB power is not good or the regulator is not enabled.
D24		5V power good LED	ON: 5 V power is good OFF: 5 V power is not good
D25		5VPS power good LED	ON: 5 VPS power is good OFF: 5 VPS power is not good
D26		3.3V power good LED	ON: 3.3 V power is good OFF: 3.3 V power is not good
D37		CRIND 2W RX	Blinking: Data received from POS
D38	Yellow	CRIND 2W TX	Blinking: Data sent to POS
D39	Green	CRIND TX Enable	ON: TX enable line is active. Omnia will successfully communicate to the POS OFF: Omnia will not send messages to the POS
D45	Yellow	Pump (POS) 2W RX	Blinking: Data received from POS
D47		Pump (POS) 2W TX	Blinking: Data sent to POS
D49	Green	Pump (POS) TX Enable	ON: TX enable line is active. Omnia will successfully communicate to the POS OFF: Omnia will not send messages to the POS
D53	Yellow	Pump 2W RX	Blinking: Data received from pump
D56		Pump 2W TX	Blinking: Data sent to pump
D57	Green	Pump TX Enable	ON: TX enable line is active. Omnia will successfully communicate to the pump OFF: Omnia will not send messages to the pump
D58	Green	Active Mode LED	ON: Omnia configured correctly. OFF: Omnia not properly configured
D73	Yellow	7.5V power good LED	ON: 7.5 V power is good OFF: 7.5 V power is not good or is not enabled by Omnia

# SECTION 6 - APPENDICES

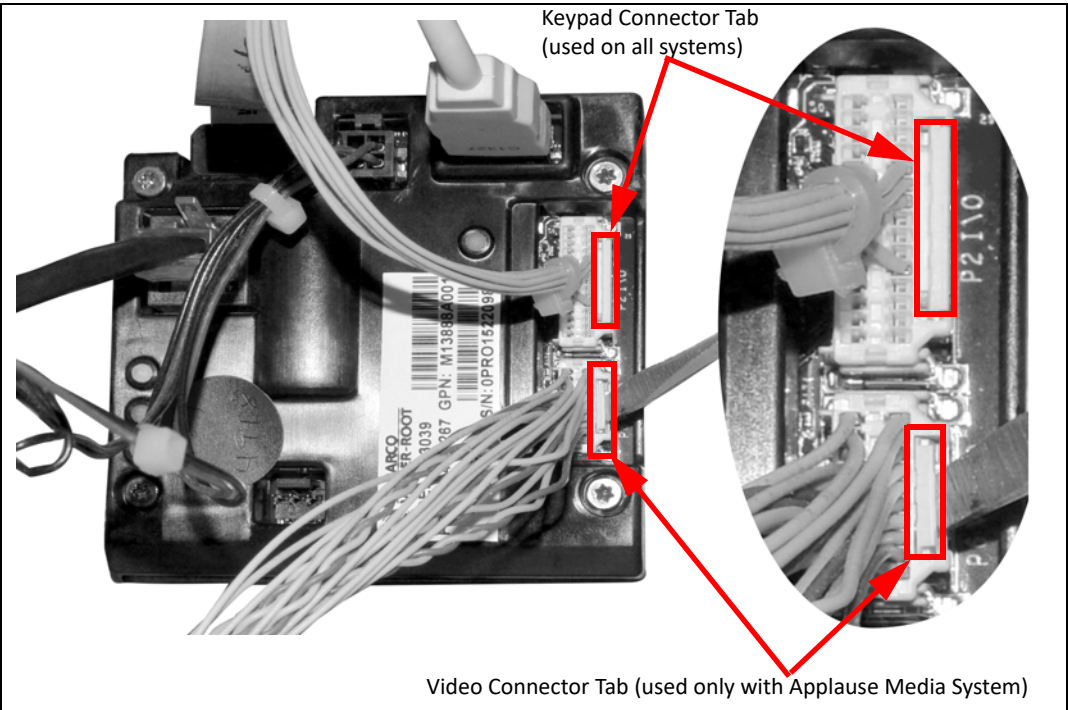
## UPM Board Connections

### CAUTION

#### Keypad Connector Tab

Some of the connectors have a tab on the side that must be pressed prior to removing the connector. You must depress and hold the tab on the side of the UPM soft-key connector if you want to remove it. If you do not press the tab, the wire might be pulled out from the connector.

Figure 1: Keypad and Video Connector Tabs



6

The following table lists the connections on the UPM:

Port Number	To	Function
P1	24 V Power into UPM	UPM power (and keypad heater power, if equipped)
P2	Omnia PIP - (P213), softkeys, door node (P2111), door switch (192), ADA, call	Input/Output (I/O) to multiple CRIND functions: <ul style="list-style-type: none"> <li>• Softkeys</li> <li>• ADA</li> <li>• Door switch</li> <li>• Beeper</li> </ul>
P3	Omnia Blue UPM (see <a href="#">Figure 1</a> )	Ethernet to the Omnia board
P4	Omnia PIP - USB uplink	USB uplink to the Omnia PIP
P5	Omnia PIP - P205	Video out
P6	Omnia - P406 Applause Media System video input	Video input from the Omnia

## SECTION 6 - APPENDICES

The following table lists the peripherals for the cables:

Part Number	Port Number	Function
M03184A00X	P201	Cash Acceptor
R20773-GX	P204	TRIND
M09267A00X	P213	BEEP Connector
M09794A00X	P220	24 VDC Power In
M14337A001	P1	UPM Heater Cable

## SECTION 6 - APPENDICES

### Appendix B: Peripheral Options

#### Installing Cabinet Heater

*Note: The cabinet heater is optional for both 5.7- and 10.4-inch displays.*

To install the cabinet heater:

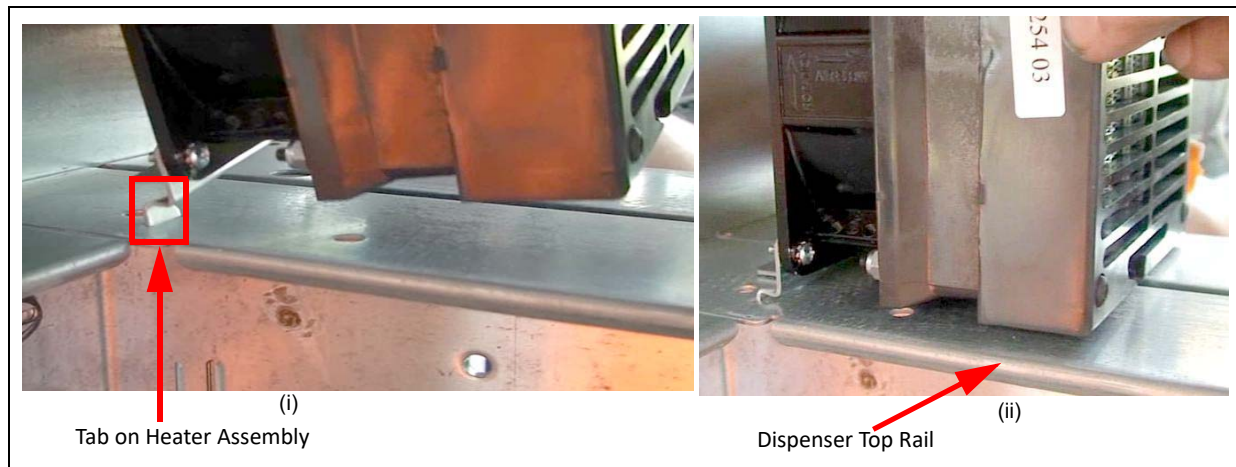
- 1 Insert the tab on the heater onto the top rail in the unit (see [Figure 2](#)).
- 2 To secure the heater, put a nut on the other side of the stud and tighten it.

For more information, refer to *MDE-4609 Heater/Fan Kit (M07333K00X) Installation Guide for Encore 300/The Advantage Series [with FlexPay EMV (Canada Only)] and Encore S/Encore 500 Units*.

*Note: This manual is included in the kits that have a heater.*

6

**Figure 2: Installing Cabinet Heater**



*Note: If a UPM Keypad Heater Power Supply Assembly (M07953A006) is ordered, there is a separate “heater cable harness” that intercepts the normal UPM power harness to also supply power to the UPM heater. For more information, refer to MDE-4736 FlexPay EPP Heater Kit (M08631K001) and Card Reader Heater Installation Instructions.*

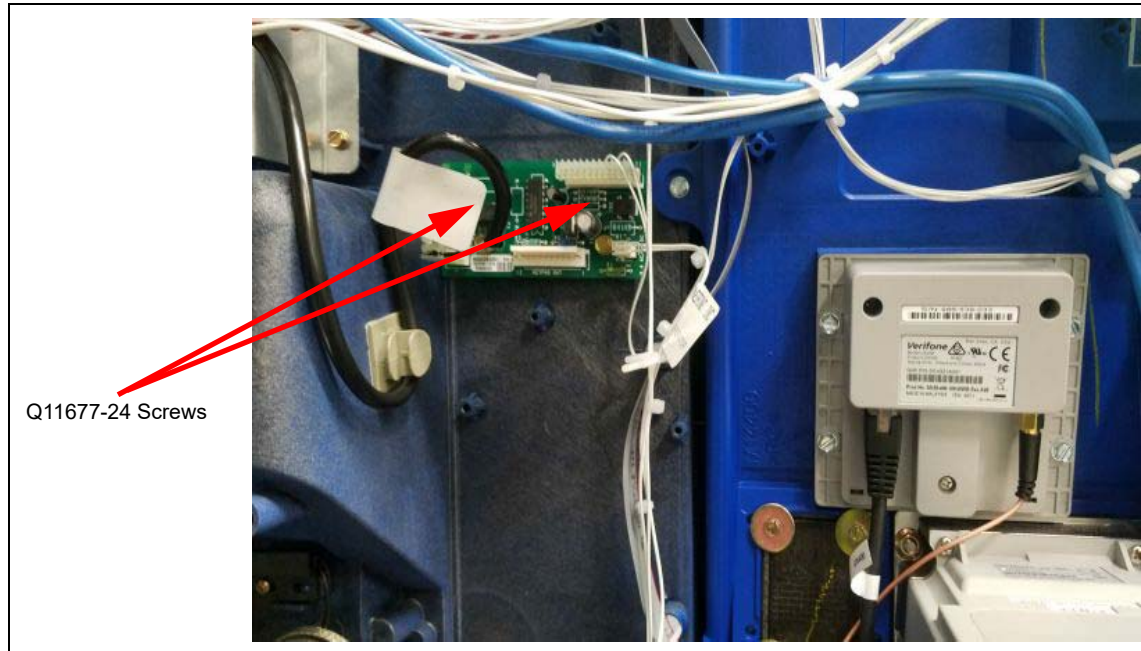


## SECTION 6 - APPENDICES

### Call Button

If it is necessary to relocate the call button board, locate the two mount points on the main door bezel and mount the call button board using two Q11677-24 screws as shown in the following figure.

**Figure 3: Call Button Board**





## SECTION 6 - APPENDICES

### Appendix D: TRIND

Install Patent and Federal Communications Commission (FCC) Decal (M02962B017) on the outside sheathing below the existing FCC label.

**Figure 5: Installing Decal**



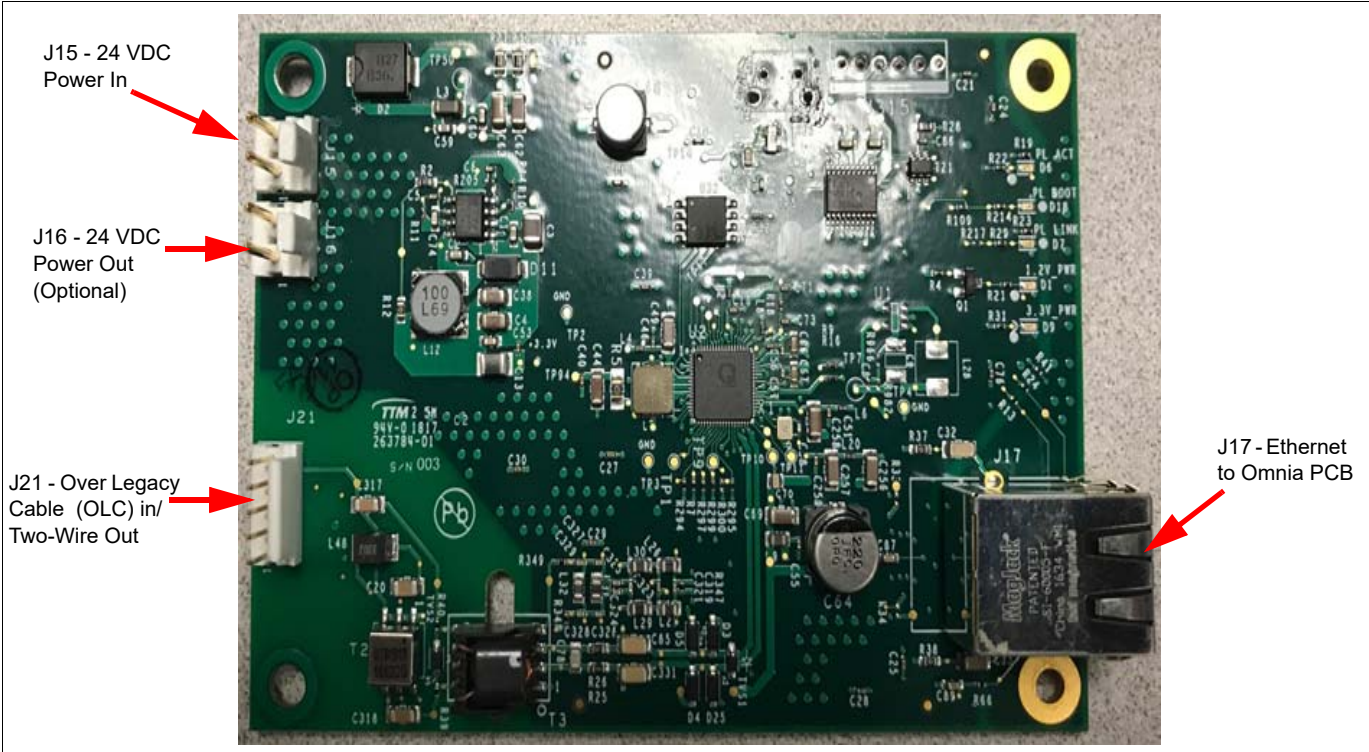
*Note: If two kits are installed on one unit (one on each side), only one decal is needed below the existing FCC label.*

# SECTION 6 - APPENDICES

## Appendix E: DCM3 Assembly (M15724A001)

The DCM3 is used when high-speed communication is required across the forecourt. The DCM3 is only used with the Back Room Communication Module (BRCM)2.x. Connect the cables to the DCM3 assembly as shown in Figure 6. Refer to *MDE-5265 BRCM2.x Installation and Upgrade Instructions* for BRCM2.x connection details.

Figure 6: DCM3 Connections



Connection Table (M15724A001)

Connector	Port Number	Function	From	To
RJ-45	J17	Ethernet	J21	Omnia P304
5-pin MTA	J21	OLC/two-wire	Conduit/J21	Omnia P300
2-pin MTA	J15	Power IN		DCM3
2-pin MTA	J16	Power Out	N/A	N/A-no current use

## SECTION 6 - APPENDICES

### LEDs

Reference Designator	Color	Function	Behavior
D1	Green	1.2 V Power Good	ON: 1.2 VDC ON OFF: 1.2 VDC fault or board not powered
D9		3.3 V Power Good	ON: 3.3 VDC ON OFF: 3.3 VDC fault or board not powered
D8		24 V Power Good	ON: 24 VDC ON OFF: 24 VDC fault or board not powered
D6	Yellow	High Speed ACT	ON: Link present Blink: TX/RX data OFF: No link present
D7	Green	High Speed Link	ON: Successful connection to BRCM2.x OFF: No link to BRCM2.x

### DCM3 Two-Wire Connections

These instructions detail how to perform two-wire connections when a DCM3 is used in the system. The DCM3 is required when a BRCM2.x is used to provide high-speed communication across the forecourt. The BRCM2.x when used with the DCM3 supports the following two modes:

- The option of merging the high speed data onto the same conductors used for current loop.
- The option of not merging high-speed data onto the same conductors used for current loop. This setup requires additional wire pairs brought out to each dispenser.

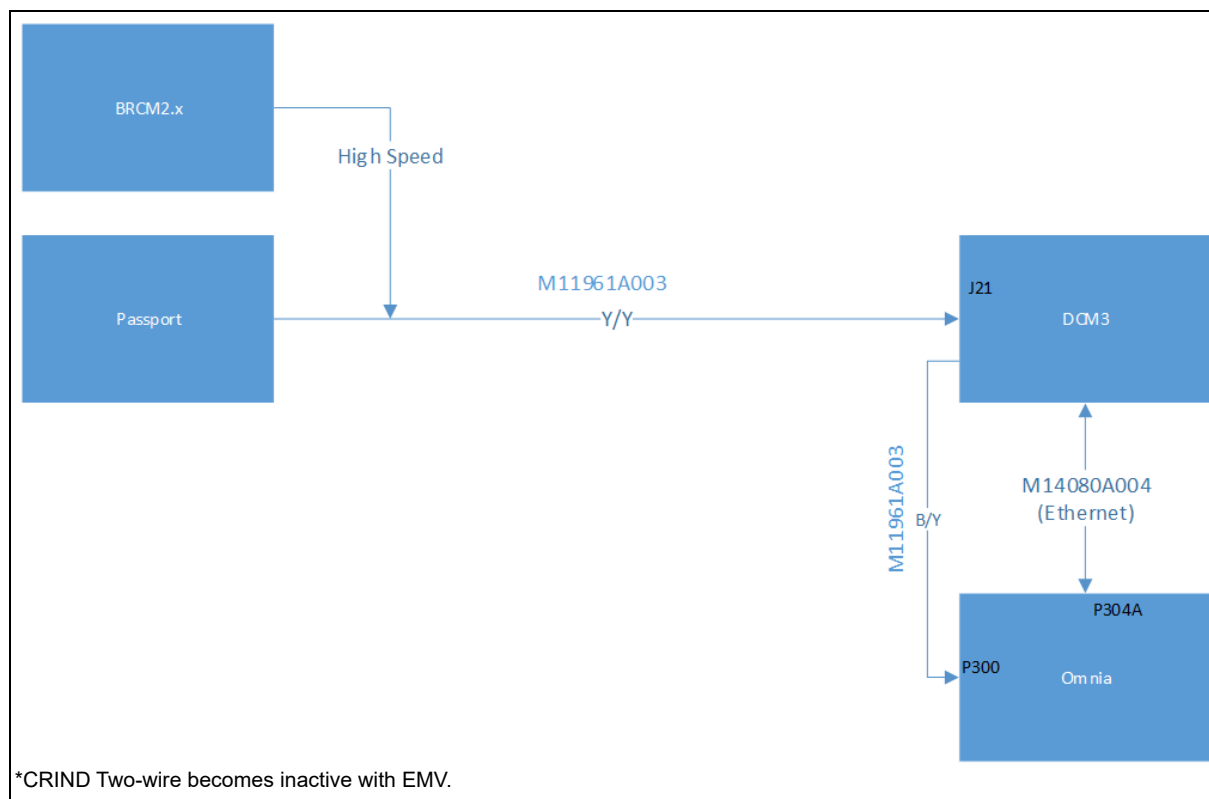
#### DCM3 Two-Wire Connection (Merged)

Ensure that the two-wire connection when high speed data is merged onto the same conductors is as follows:

- 1 Connect P21 of the M11961A003 cable to J21 of the DCM3.
- 2 Connect J300 of the M11961A003 cable to P300 of the Omnia.
- 3 Connect the Y/Y pair of the M11961A003 to the B/Y pair of wires coming from the conduit.

## SECTION 6 - APPENDICES

Figure 7: MOC (Merged), Pre-EMV\*



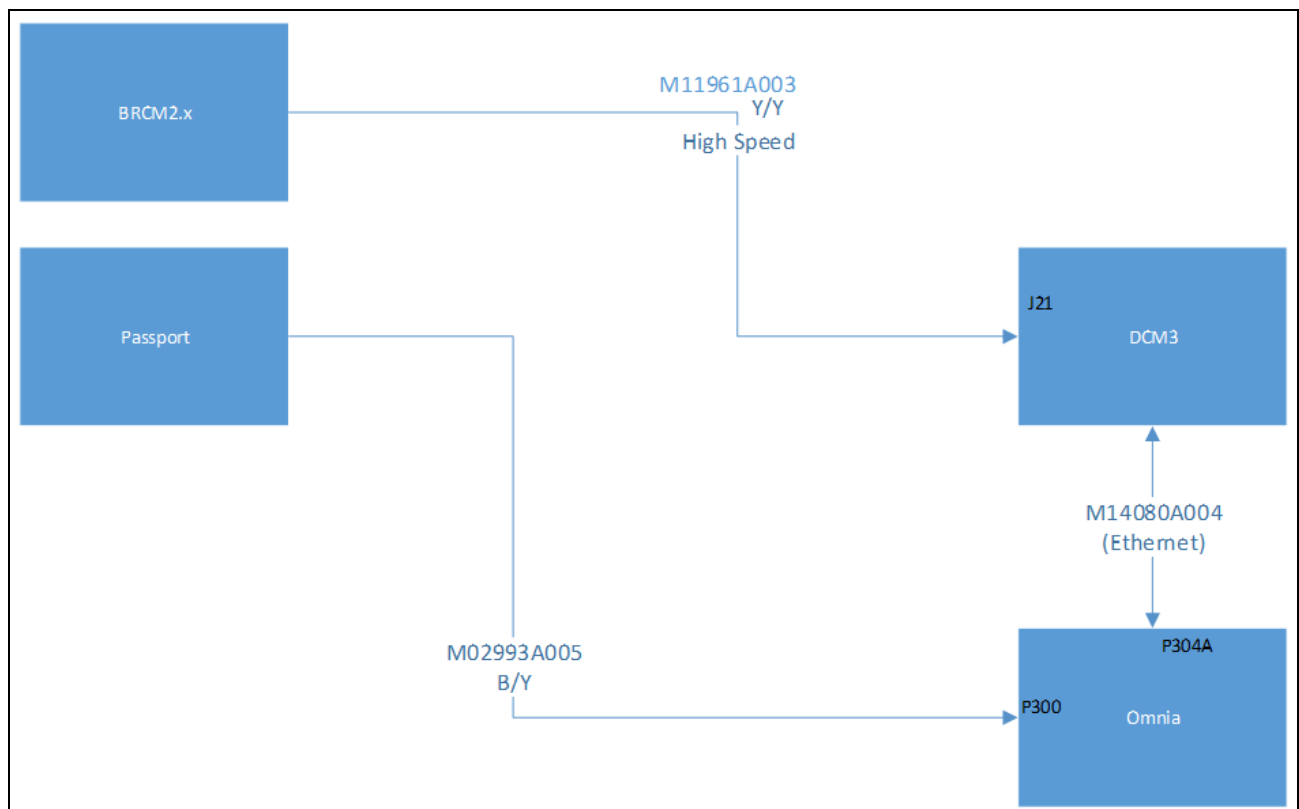
## SECTION 6 - APPENDICES

### DCM3 Two-Wire Connection (Non-Merged)

Ensure that the two-wire connection when high speed data is not merged onto the same conductors is as follows:

- 1 Connect P21 of the M11961A003 cable to J21 of the DCM3.
- 2 Connect the Y/Y pair of the M11961A003 to the designated wires coming out of the conduit.
- 3 Connect J300 of the M02993A005 cable to P300 of the Omnia.
- 4 Connect the B/Y pair of the M02993A005 to the B/Y pair coming from the conduit.

**Figure 8: MOC (Non-Merged)**





## SECTION 6 - APPENDICES

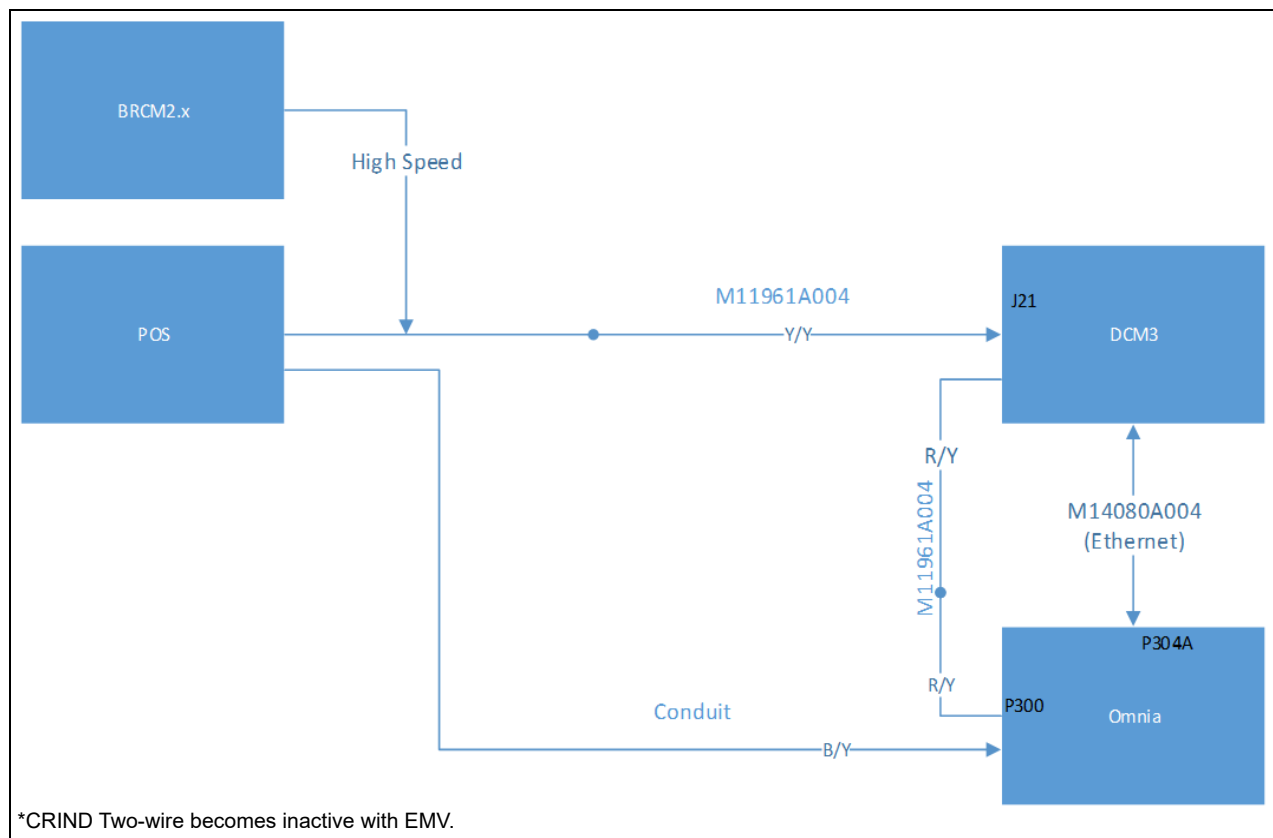
### Generic (Merged)

The Omnia board supports high speed communication via the BRCM2.x. When connection to a BRCM2.x is required, the kit will ship with a DCM3 (M15724A001) attached to the Omnia bracket assembly. See the following wiring instructions.

Ensure that the connection to Omnia is as follows:

- 1 Connect P21 of the M11961A004 cable to J21 of the DCM3.
- 2 Connect the Y/Y pair of the M11961A004 to the R/Y pair of wires coming from the conduit.
- 3 Cut J300 off M11961A004.
- 4 Connect the R/Y pair of M11961A004 to the R/Y pair of M02993A005.
- 5 Connect J300 of the M02993A004 cable to P300 of the Omnia.

**Figure 9: Generic (Merged), Pre-EMV\***

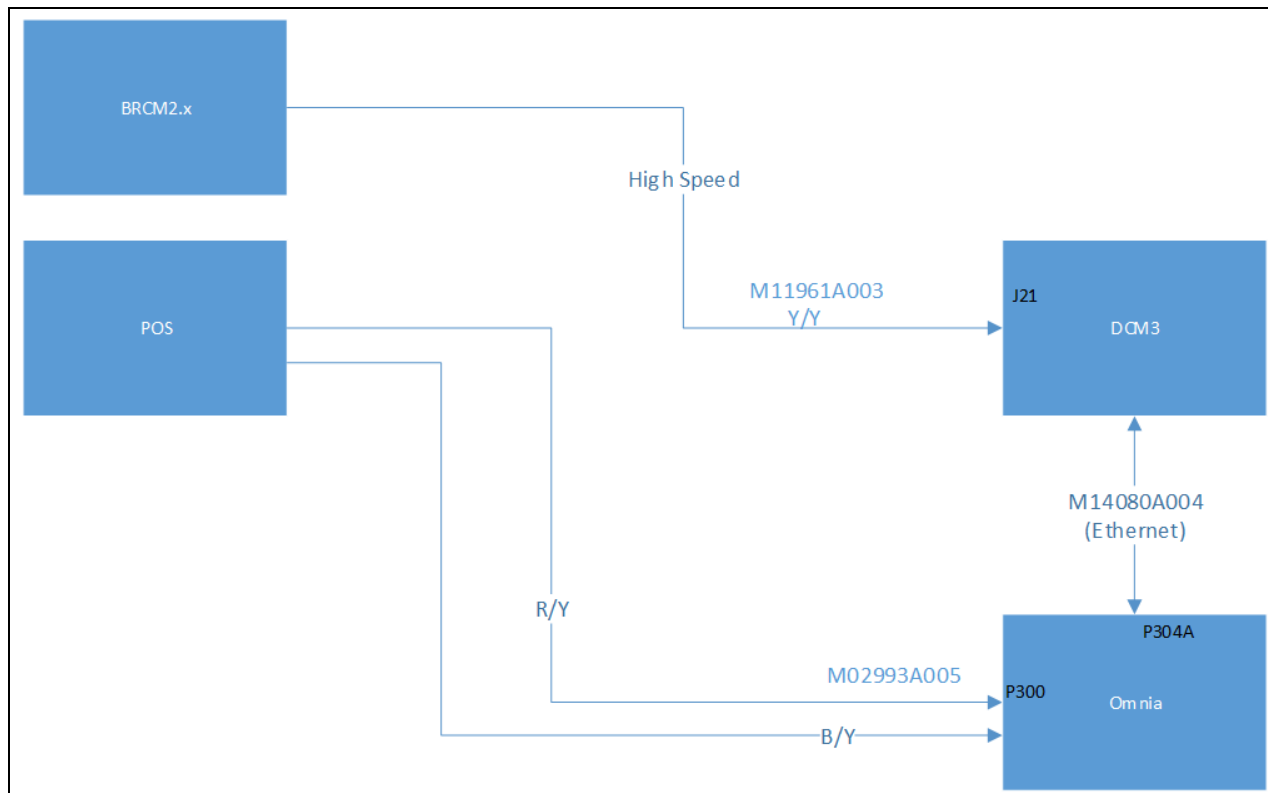


## Generic (Non-Merged)

Ensure that the connection to Omnia is as follows:

- 1 Connect P21 of the M11961A004 cable to J21 of the DCM3.
- 2 Connect the Y/Y pair of the M11961A004 to the designated wires coming the conduit.
- 3 Connect J300 of the M02993A005 cable to P300 of the Omnia.
- 4 Connect the B/Y pair of M02993A005 to the B/Y pair of wires coming from the conduit.
- 5 Connect the R/Y pair of the M02993A005 to the R/Y pair coming from the conduit.

**Figure 10: Generic (Non-Merged)**



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