



**GILBARCO
VEEDER-ROOT**

MDE-5220H

November 2022

FlexPay™ IV CRIND® Retrofit Kit Installation Instructions for Encore® S E-CIM™



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Table of Contents

SECTION 1 - INTRODUCTION

PAGES 1-4

Purpose	1
Intended Users	1
Required Tools	1
Configured Kits - Parts List	1
Configured Kit Optional Components	2
Critical Components	2

SECTION 2 - IMPORTANT SAFETY INFORMATION

PAGES 5-6

Important Safety Information	5
------------------------------------	---

SECTION 3 - REMOVING COMPONENTS

PAGES 7-28

Before You Begin	7
Encore E-CIM with E500 CRIND Electronics	8
Door Node	8
E-CIM	9
Speaker	11
CRIND Assembly	11
Printer (Ultra-Hi Dispensers only)	12
Encore E-CIM with FlexPay II Electronics	13
Door Node	13
E-CIM	14
Speaker	17
HIP/HIP 2 Assembly	18
10.4-inch Color Screen CRIND (CPU Assembly)	19
CRIND CPU Assembly	19
AFP/HIP 2/DCM2/DCM2.1	22
Alphanumeric Security Shield	24
Alphanumeric Security Shield	25

SECTION 4 - INSTALLATION

PAGES 29-56

FlexPay IV CRIND Retrofit Kit	29
Door	29
E-CIM	30
Door Node	33
Speaker	34
AFP/DCM2.2	35
Field Communication Wiring	42
Considerations	42
Wiring Requirements	45
Non-Dedicated High-Speed Field Wiring	50
Dedicated High-Speed Field Wiring (Non-POS) Instructions (DCM2.2 only)	51
Intercom PCA with Call Interface (M14595A001)	52
Alphanumeric Security Shield	54

Completing Installation 55

Registering Kits with Gilbarco Warranty 56

SECTION 5- REFERENCE INFORMATION **PAGES 57-58**

Related Documents 57

Abbreviations and Acronyms 57

SECTION 6- APPENDICES **PAGES 59-68**

Appendix A: Peripheral Options 59

 PIP3 Board Connections 59

 UPM Board Connections 60

 TRIND 59

 Installing Cabinet Heater for 10.4-inch Display 62

 Call Button 63

Appendix B: Block Diagrams 64

Appendix C: Verifying Cable Connections 66

 Cable Connections on Display Assembly 66

SECTION 1 - INTRODUCTION

Purpose

This manual provides instructions to install a 5.7- or 10.4-inch Color Screen FlexPay™ IV CRIND® Secure Payment Outdoor Terminal [(SPOT M7)] Retrofit Kit in an Encore® S E-CIM™ pump/dispenser (with or without CRIND). 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 Dispenser Communication Module (DCM)2.2 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
- Torque Wrench for Card Reader Nuts, 10-12 inch-lbs
- Cut-proof Gloves
- Scraper Tool (for removing graphics and adhesive)
- T15 or T20 Torx Driver for Numeric Universal Payment Module (UPM)

Note: Current UPM production uses T20 screws for all types; old UPM production used T15 screws.

- T20 Torx Driver for Alphanumeric UPM

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 550, Encore 700 S, Eclipse® Recommended Spare Parts Manual*.

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

- E-CIM insert with UPM assembly (keypad), UX300 card reader, display, Peripheral Interface PCB (PIP)3
- T-rail assembly with DCM2.2 or Auxiliary Feature PCB (AFP)
- Universal Serial Bus (USB) Printer assembly (for non-CRIND or alphanumeric with printer option units only)

SECTION 1 - INTRODUCTION

1

Configured Kit Optional Components

The following parts are potential configured kit optional components:

- UX400 Contactless
- Applause™ Media System, DCM2.X, and Gilbarco Systems on Module (GSoM).
- Cabinet Heater (optional for both 5.7- and 10.4-inch displays)
- Bank Note Acceptor (BNA)
- 2D Imager
- Intercom
- Keypad Heater Kit (power supply and cable harness)
- USB Printer assembly
- Door Replacement (alphanumeric units with printer or Encore® 500 S)

Note: Only Alphanumeric units with printer require door change; numeric units with printer do not, unless they are Encore 500 S.

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.

Critical Components

Note: Some of the parts listed below are optional. For complete parts list, see the packing list.

The following parts are critical components for FlexPay IV:

Location	Description	Part #	Notes
E-CIM	E-CIM Insert for 5.7" Display	M14478 (M15717 for Alphanumeric 5.7)	
	E-CIM Insert for 10.4" Display	M14482 (M15719 for Alphanumeric 10.4)	
	Contactless Card Reader, VeriFone® UX400	M14331A001	
	10.4" Softkeys	M10206B00X	1 = Right, 2 = Left
	5.7" Softkeys	M01254A003	
	Printed Circuit Assembly (PCA) Intercom Interface	M09751A002	Option
	PCA, Call Interface	M04528A001	Option
	Card Reader, VeriFone UX300	M14330A001	
	5.7" Color Display	M10369	Ampire
	10.4" Color Display Bracket	M14004B003	Kyocera®
	PCA, PIP 3	M13987A00X	1 = 5.7", 2 = 10.4"
	Assembly, UPM	M13888AXXX	"XXX" varies based on the customer requirement
	Imager, 2D	M16110B001	Previous part number: M14055B001

SECTION 1 - INTRODUCTION

1

Location	Description	Part #	Notes
E-CIM	Assembly, Alphanumeric UPM	M15550AXXX	"XXX" varies based on the customer requirement
	Americans with Disabilities Act (ADA) Keypad	M12287B001	
Mounted on Main Door	Cable, Wire and Speaker Next Generation Payment (NGP)	M09259A001	Option
Part of AFP or DCM2.X Assembly	PCA, AFP	M13124A001	
	DCM2.2 Assembly	M16002AXXX	
	DCM2.2 and Bracket	M15737A001	
	Phoenix Supply	M04161B001	
	Fuse Board	M05748A001	
Printer	Printer, USB	M04119A001	Option for alphanumeric kits
Mounted on Printer Door	ADA Keypad	M12287B001	
Mounted in Main Electronics Area (Opposite Main Power Supply)	Intercom PCA with Call Interface	M14595A001	
On T-rail	Heater/Fan Assembly	M07333A001	
	Keypad Heater Power Supply	M07953	

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.

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

In the event of inclement weather, including snow, ice, or flooding that makes driving conditions dangerous, please avoid servicing units. Always use available door stops to secure upper doors against unwanted/unexpected movement, especially during high winds. If necessary, reschedule service to avoid damage to the equipment. Weather may change unexpectedly; be aware of local weather conditions. During service, if conditions develop making service unsafe, close the unit(s) and proceed to a safe location.

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.

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

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.

3

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.

Notes: 1) 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) *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.*



- 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 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 software is not V3.00 or later, be prepared to update or replace the printer.

- 6 Remove power to the unit at the breaker panel. Follow OSHA lockout/tagout procedures.

- 7 Isolate two-wire connection to the unit and disconnect any Ethernet® network cable from 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

Encore E-CIM with E500 CRIND Electronics

Notes: 1) For units with FlexPay II electronics or units without CRIND, refer to *"Encore E-CIM with FlexPay II Electronics"* on page 13.

2) For units with 10.4-inch color screen generic CRIND, refer to *"10.4-inch Color Screen CRIND (CPU Assembly)"* on page 19.

3

IMPORTANT INFORMATION



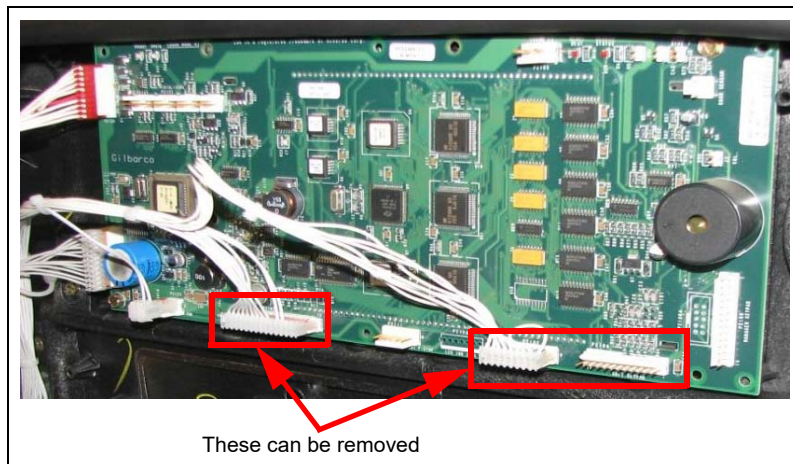
Ensure that the unit is functional. Check with the manager for any existing operational issues. If the unit has any special features, such as barcode scanner, verify proper operation before removal. Print a system health report to verify printer and CRIND functions. For more information, refer to *MDE-5221 FlexPay IV CRIND Start-up Manual*.

Door Node

To remove the door node:

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

Figure 1: Removing Door Node



- 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.

SECTION 3 - REMOVING COMPONENTS

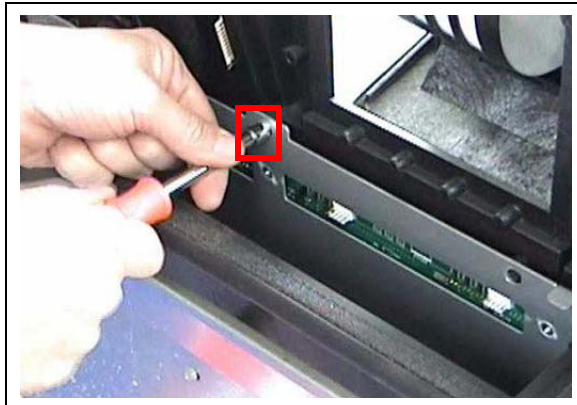
- 6 If the call button is installed, remove J902C from the call button board. This will be replaced by a new cable provided in the kit.
- 7 Remove the door node by removing the four screws that secure it to the unit door.
Note: Retain the door node and screws for reinstallation. Place all the boards in a safe and static-free surface.

E-CIM

To remove the E-CIM:

- 1 Remove the three screws holding the Price per Unit (PPU) bracket. The PPU bracket can sit in the wire trough. You need to reuse the screws to secure the PPU bracket back to the unit.
*Notes: 1) Retain the screws and PPU board for reinstallation (where used).
2) PPU can remain loose in the trough.
3) If the unit has a rain shield, remove it.*

Figure 2: Removing 1 of 3 Screws of PPU Board



- 2 Disconnect all cable connections from the electronics on the E-CIM door.
- 3 Remove the grade select buttons by pushing down from the top of the soda button while pulling from bottom of the soda buttons. The grade select bases will remain in position.
Note: Be careful not to dislodge the magnets.
- 4 Remove the PPU graphic (including adhesive and white adhesive tape) to gain access to each of the five E-CIM mounting screws on the front of the main door.
Note: Ensure you have a graphic replacement.
- 5 Loosen and remove the five Phillips-head screws in the top row on the front of the unit (see [Figure 3](#) on [page 10](#)).
Note: Retain the screws for reinstallation.

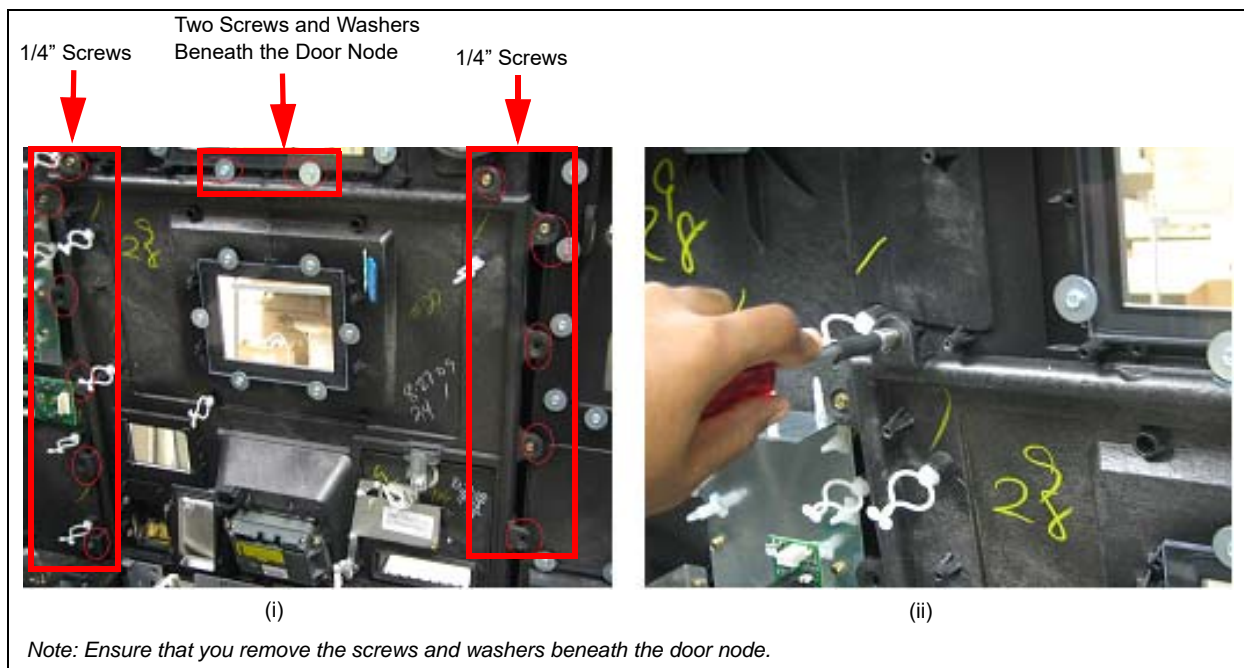
SECTION 3 - REMOVING COMPONENTS

Figure 3: Loosening and Removing E-CIM Mounting Screws



6 Loosen and remove all 1/4-inch screws that fasten the E-CIM to the unit door [see [Figure 4 \(i\)](#)].

Figure 4: Removing E-CIM



Note: The card reader, monochrome display, and auxiliary keypad can remain on the E-CIM to be removed. They can be discarded after final approval of the kit and when no fallback mitigation is required.

7 Carefully remove the E-CIM from the door.

SECTION 3 - REMOVING COMPONENTS

Speaker

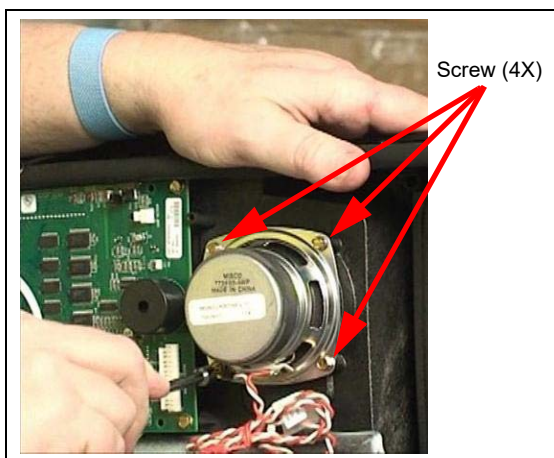
Note: Speaker may not be required for all installations. For example, Applause Media System applications will require a speaker with a connector installed.

If the speaker must be replaced, remove the speaker at this time.

If blanking plate is to be replaced with a speaker, remove the blanking plate at this time.

To remove the speaker, disconnect speaker wires and remove the four screws holding the speaker and take it out. Retain the screws for reuse.

Figure 5: Removing Speaker



CRIND Assembly

Note: Removing the CRIND Control Node (CCN) does not apply to non-CRIND units; proceed to [“FlexPay IV CRIND Retrofit Kit”](#) on [page 29](#).

To remove the CRIND assembly:

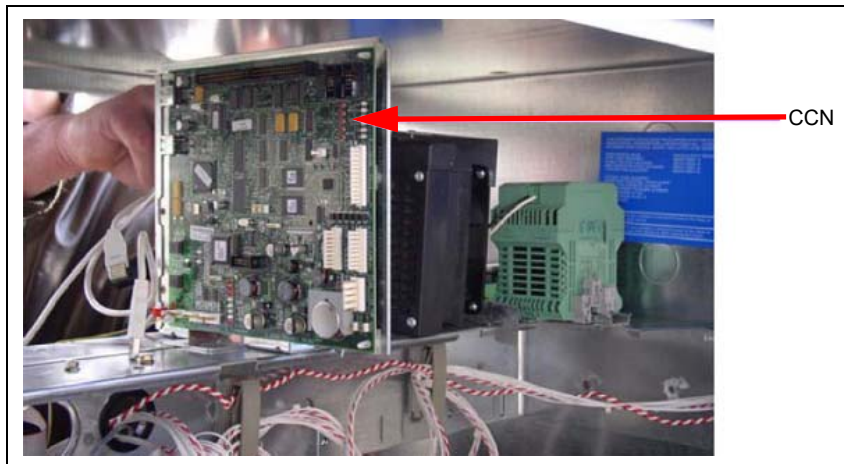
- 1 Disconnect all the cables from the CCN.

Note: The flat ribbon cable will be removed from the unit. The USB printer cables must be rerouted to the new E-CIM.

- 2 Remove the CCN assembly by removing the three 7-mm nuts located at the bottom of the mounting bracket (see [Figure 6](#) on [page 12](#)).

SECTION 3 - REMOVING COMPONENTS

Figure 6: Removing CRIND Assembly



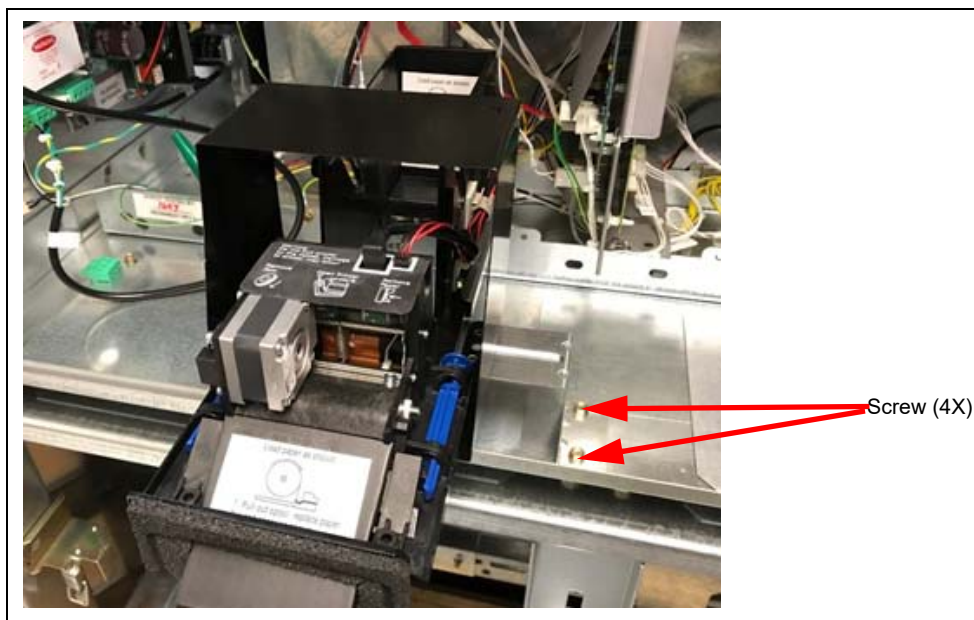
To install the FlexPay IV Retrofit Kit, proceed to [“FlexPay IV CRIND Retrofit Kit”](#) on [page 29](#).

Printer (Ultra-Hi Dispensers only)

To remove printer:

- 1 Disconnect printer power, ground, and USB cables from dispenser.
- 2 Remove 4 bolts, two on each side, that mount printer to dispenser.
- 3 Remove printer from dispenser.
Note: After the printer is removed, re-install the screws back into the screw holes.

Figure 7: Removing Printer



SECTION 3 - REMOVING COMPONENTS

Encore E-CIM with FlexPay II Electronics

- Notes:** 1) For units with E500 CRIND electronics, refer to *“Encore E-CIM with E500 CRIND Electronics”* on [page 8](#).
 2) For units with 10.4-inch color screen generic CRIND, refer to *“10.4-inch Color Screen CRIND (CPU Assembly)”* on [page 19](#).

3

IMPORTANT INFORMATION



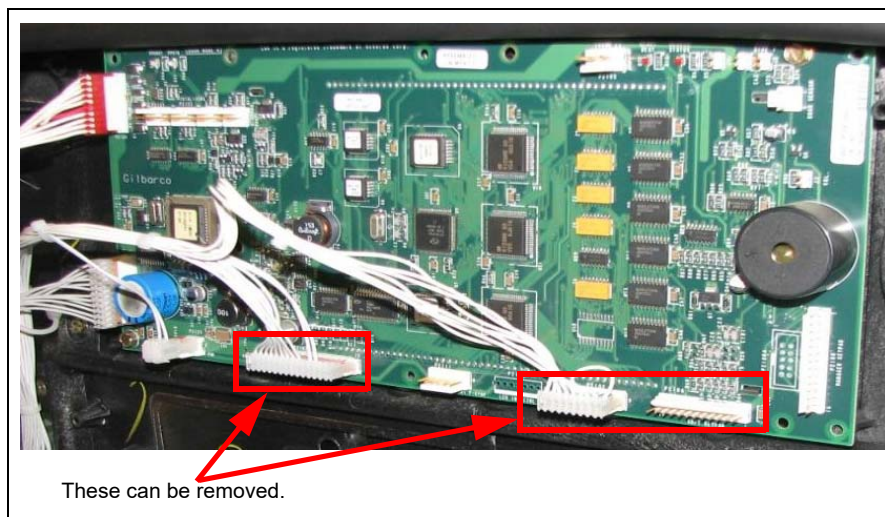
Ensure that the unit is functional. Check with the manager for any existing operational issues. If the unit has any special features, such as barcode scanner, verify proper operation before removal. Print a system health report to verify printer and CRIND functions. For more information, refer to *MDE-5221 FlexPay IV CRIND Start-up Manual*.

Door Node

To remove the door node:

- 1 Remove the soft keypad connector (P2106) from the door node (see [Figure 8](#)).

Figure 8: Removing Door Node



- 2 Remove the push-to-start connector from P2111 on the door node.
- 3 Disconnect the J5 (24 V power cable) connector from the monochrome display.
Note: The J5 connector will not be used in the new kit.
- 4 Disconnect the CN2 connector from the old card reader.
Note: The CN2 connector will not be used in the new kit.
- 5 Disconnect the customer keypad connector from the keypad.
Note: The customer keypad connector will not be used in the new kit.

SECTION 3 - REMOVING COMPONENTS

- 6 If the call button is installed, remove J902C from the call button board. This will be replaced by a new cable 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 boards in a safe and static-free surface.

3

E-CIM

To remove the E-CIM:

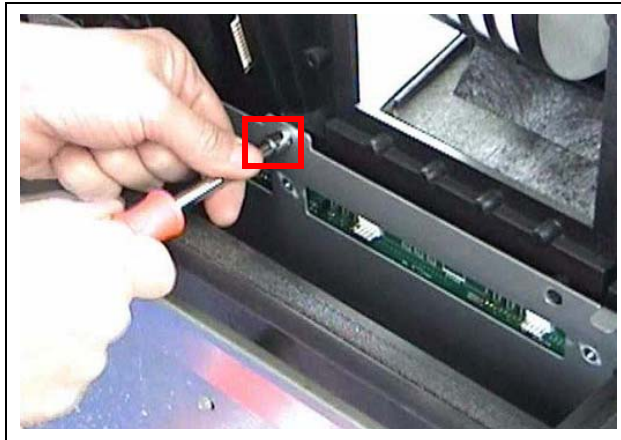
- 1 Remove the three screws holding the PPU bracket. The PPU bracket can sit in the wire trough. You need to reuse the screws to secure the PPU bracket back to the unit.

Notes: 1) Retain the screws and PPU board for reinstallation (where used).

2) PPU can remain loose in the trough.

3) If the unit has a rain shield, remove it.

Figure 9: Removing 1 of 3 Screws of PPU Board



- 2 Disconnect all the cable connections from the electronics on the E-CIM door.
- 3 Remove the grade select buttons by pushing down from the top of the soda button while pulling from bottom of the soda button. The grade select bases will remain in position.
Note: Be careful not to dislodge the magnets.
- 4 Remove the PPU graphic (including adhesive and white tape) to gain access to each five E-CIM mounting screws on the front of the main door.
Note: Ensure that you have a graphic replacement.

SECTION 3 - REMOVING COMPONENTS

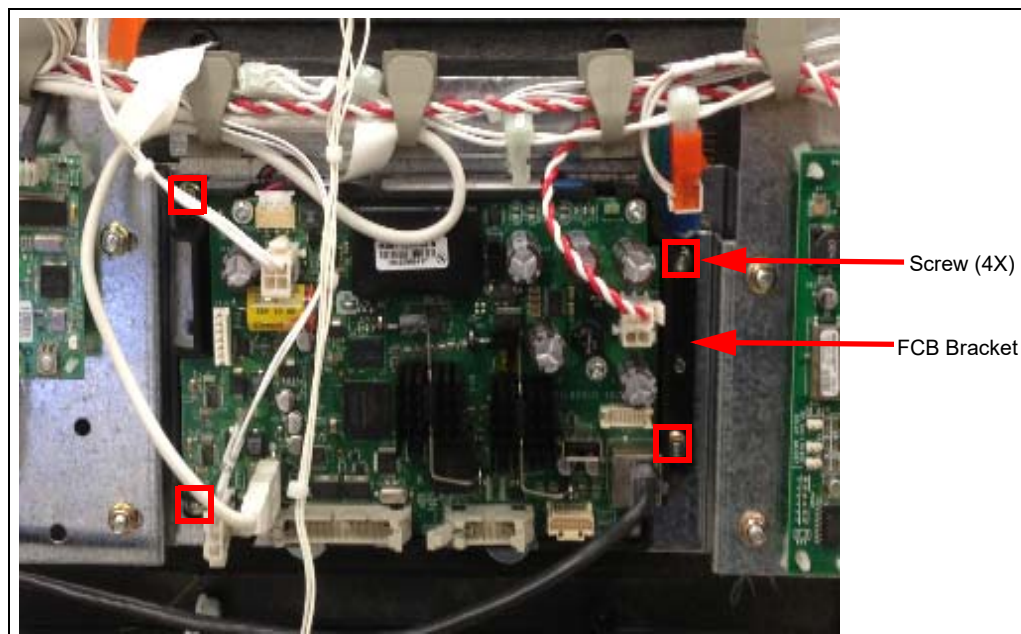
- 5 Loosen and remove the five Phillips-head screws in the top row on the front of the unit (see [Figure 10](#)).
Note: Retain the screws for reinstallation.

Figure 10: Loosening and Removing E-CIM Mounting Screws



- 6 Remove the FlexPay Control Board (FCB) bracket by removing the four screws for 5.7- and 10.4-inch display.
Note: Removing FCB bracket does not apply to non-CRIND units; skip to “[FlexPay IV CRIND Retrofit Kit](#)” on [page 29](#).

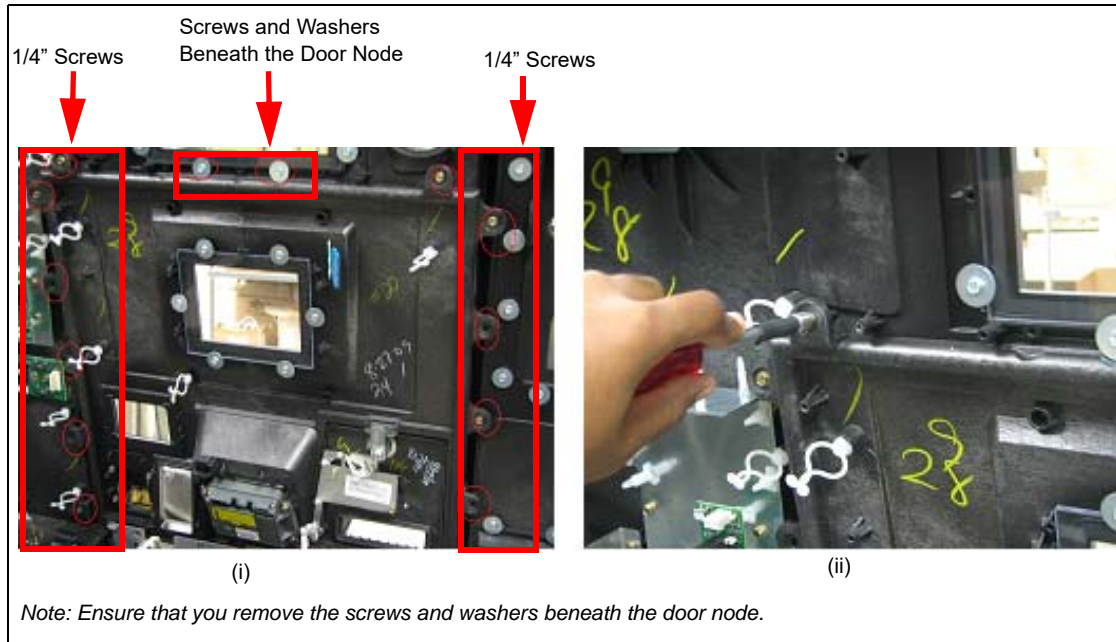
Figure 11: Removing FCB Bracket



SECTION 3 - REMOVING COMPONENTS

- 7 Loosen and remove all 1/4-inch screws that fasten the E-CIM to the unit door and remove the screws holding the CIM door [see [Figure 12 \(i\)](#)].

Figure 12: Removing E-CIM



Note: Card reader, monochrome display, and auxiliary keypad can remain on the E-CIM to be removed. They can be discarded after final approval of the kit and when no fallback mitigation is required.

- 8 Carefully remove the E-CIM from the unit door.

SECTION 3 - REMOVING COMPONENTS

Speaker

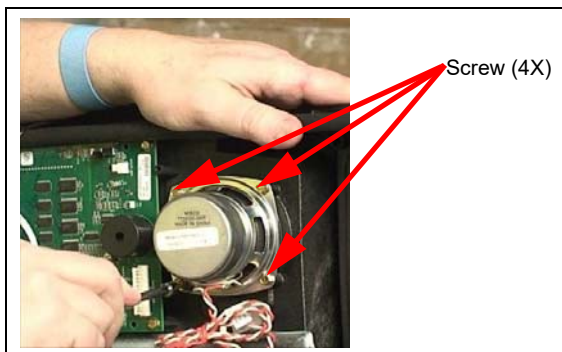
Note: Speaker may not be required for all installations. For example, Applause Media System applications will require a speaker with a connector installed.

If the speaker must be replaced, remove the speaker at this time.

If blanking plate is to be replaced with a speaker, remove the blanking plate at this time.

To remove the speaker, disconnect speaker wires, remove the four screws holding the speaker, and take out the speaker. Retain the screws for reuse.

Figure 13: Removing Speaker



SECTION 3 - REMOVING COMPONENTS

HIP/HIP 2 Assembly

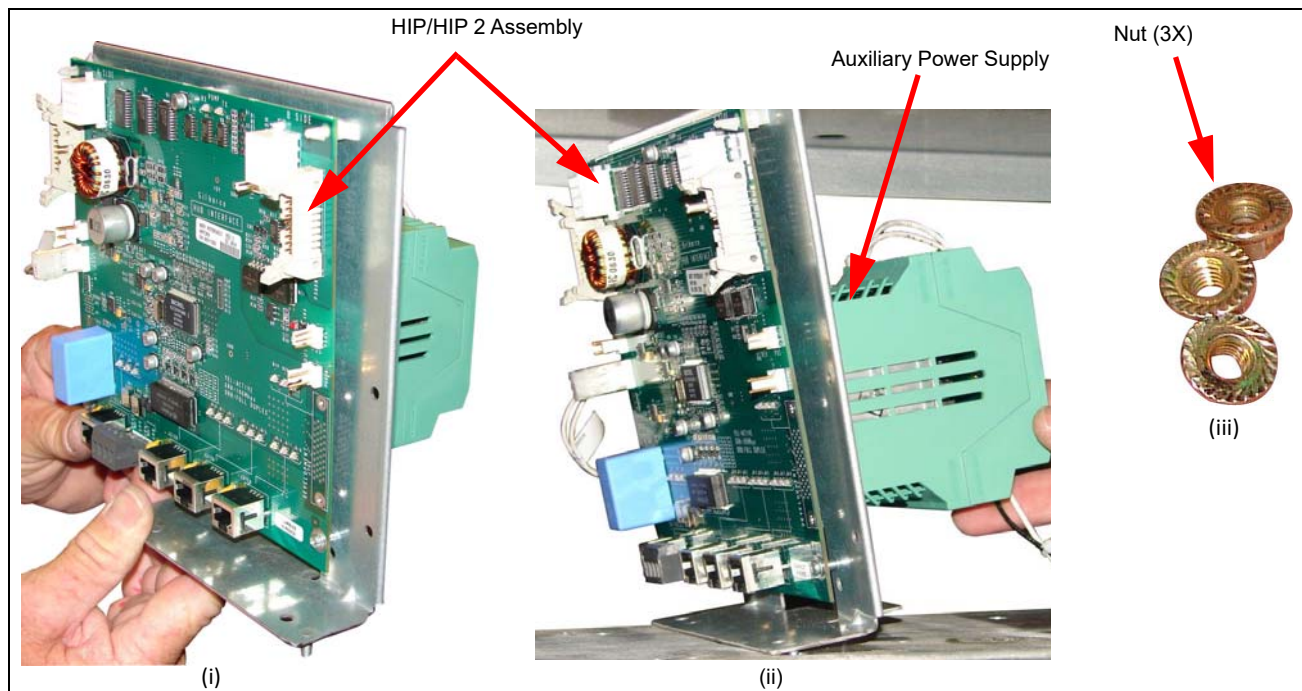
Note: Removing Hub Interface PCB (HIP)/HIP 2 assembly does not apply to non-CRIND units; skip to “FlexPay IV CRIND Retrofit Kit” on page 29.

3

To remove a HIP/HIP 2 assembly (if the unit has one):

- 1 Disconnect all the cables from the HIP/HIP 2.
- 2 Remove the three 7-mm nuts underneath the HIP/HIP 2 assembly. Retain the nuts for reuse.

Figure 14: Removing HIP/HIP 2 Assembly



SECTION 3 - REMOVING COMPONENTS

10.4-inch Color Screen CRIND (CPU Assembly)

Notes: 1) 10.4-inch color screen is also known as generic color screen.

2) For units with E500 CRIND electronics, refer to *“Encore E-CIM with E500 CRIND Electronics”* on page 8.

3) For units with FlexPay II electronics or units without CRIND, refer to *“Encore E-CIM with FlexPay II Electronics”* on page 13.

3

IMPORTANT INFORMATION



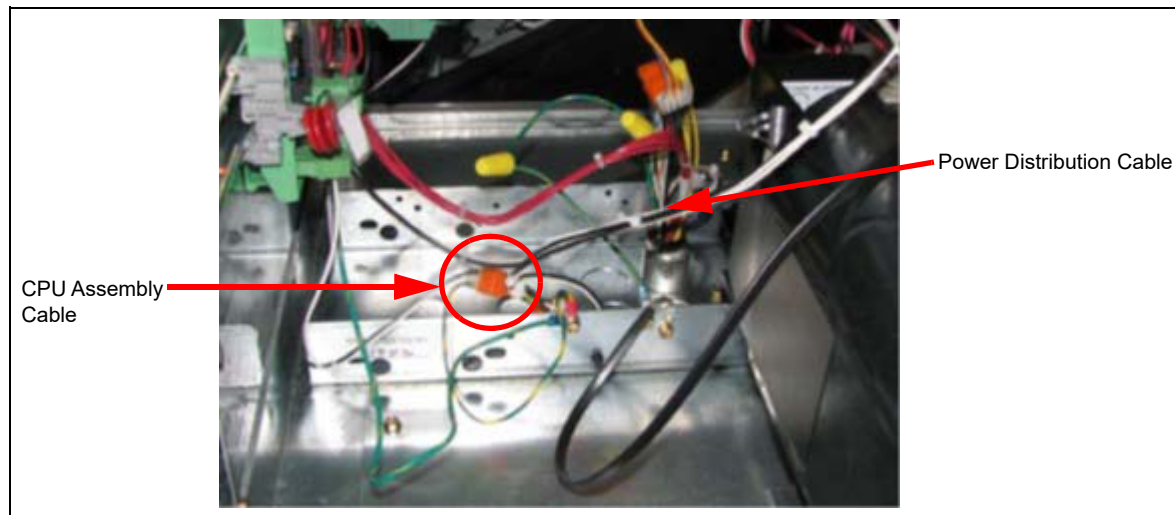
Ensure that the unit is functional. Check with the manager for any existing operational issues. If the unit has any special features, such as barcode scanner, verify proper operation before removal. Print a system health report to verify printer and CRIND functions. For more information, refer to *MDE-5221 FlexPay IV CRIND Start-up Manual*.

CRIND CPU Assembly

To remove the CRIND Central Processing Unit (CPU) assembly:

- 1 Disconnect the CPU assembly cable to the AC distribution cable (see [Figure 15](#)).

Figure 15: Disconnecting CPU Assembly to AC Distribution Cable



SECTION 3 - REMOVING COMPONENTS

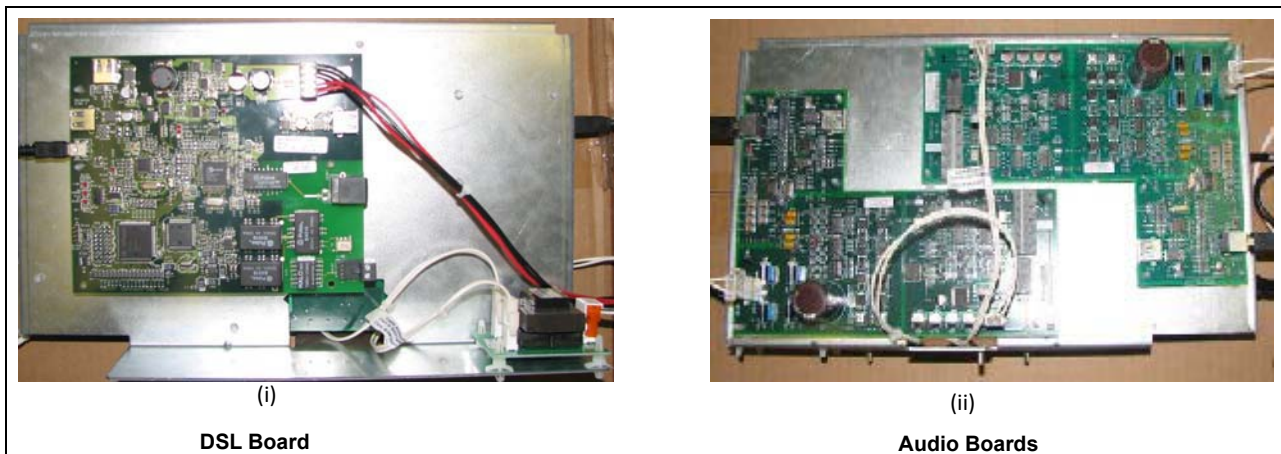
- 2 Disconnect all CRIND cables on the E-CIM (see [Figure 16](#)).

Figure 16: CRIND Cables on E-CIM



Note: If the unit is equipped with audio, remove the Digital Subscriber Line (DSL) board and audio board assembly from the T-rail (see [Figure 17](#)).

Figure 17: DSL Board, CPU Assembly, and Audio Boards

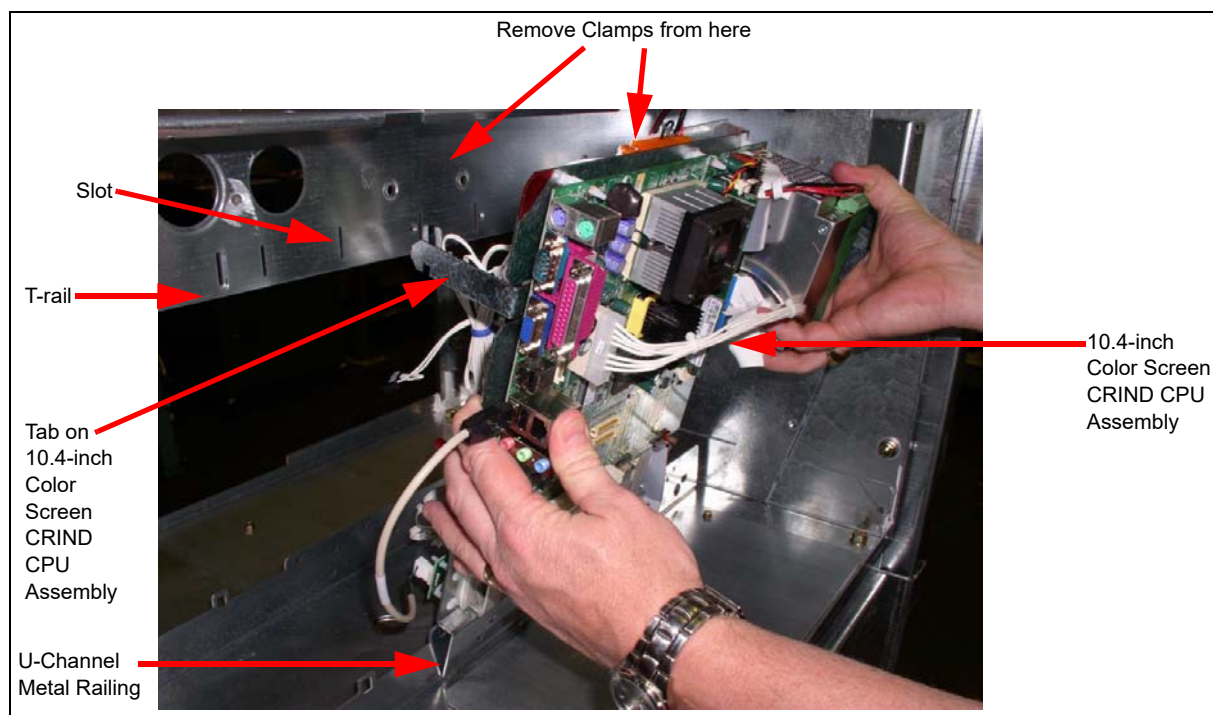


- 3 Remove the screws at the bottom of the 10.4-inch color screen CRIND CPU assembly that secure it to the U-channel of the Computer Display (CD) module (see [Figure 18](#) on [page 21](#)).
- 4 Slide the two tabs on the 10.4-inch color screen CRIND CPU assembly out of the slots on the T-rail.

SECTION 3 - REMOVING COMPONENTS

5 Carefully remove the color screen CRIND CPU assembly.

Figure 18: Removing 10.4-inch Color Screen CRIND CPU Assembly



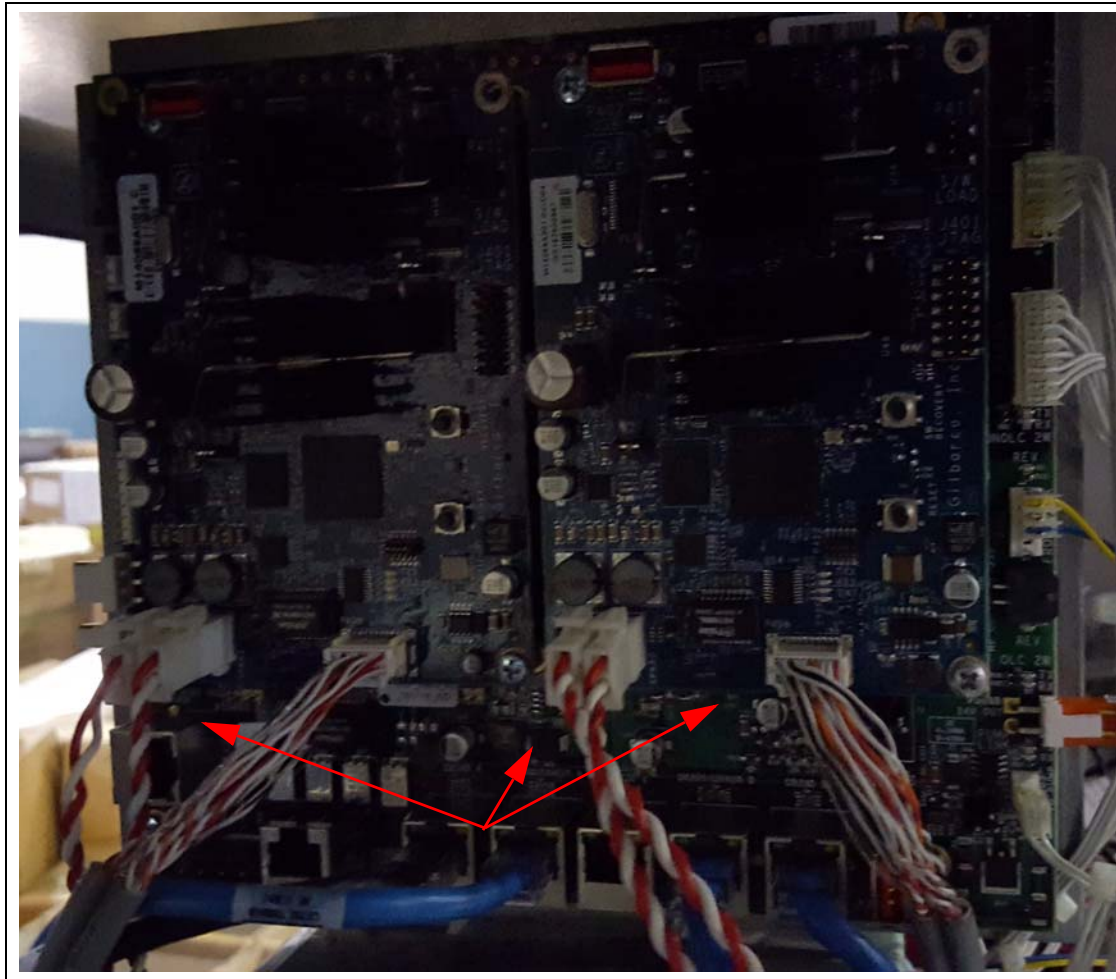
SECTION 3 - REMOVING COMPONENTS

AFP/HIP 2/DCM2/DCM2.1

To remove the Hub Interface PCB (HIP) 2/AFP/DCM2/DCM2.1 bracket:

- 1 Disconnect all the cables from the AFP, HIP 2, or DCM2/DCM2.1 (see [Figure 19](#)).

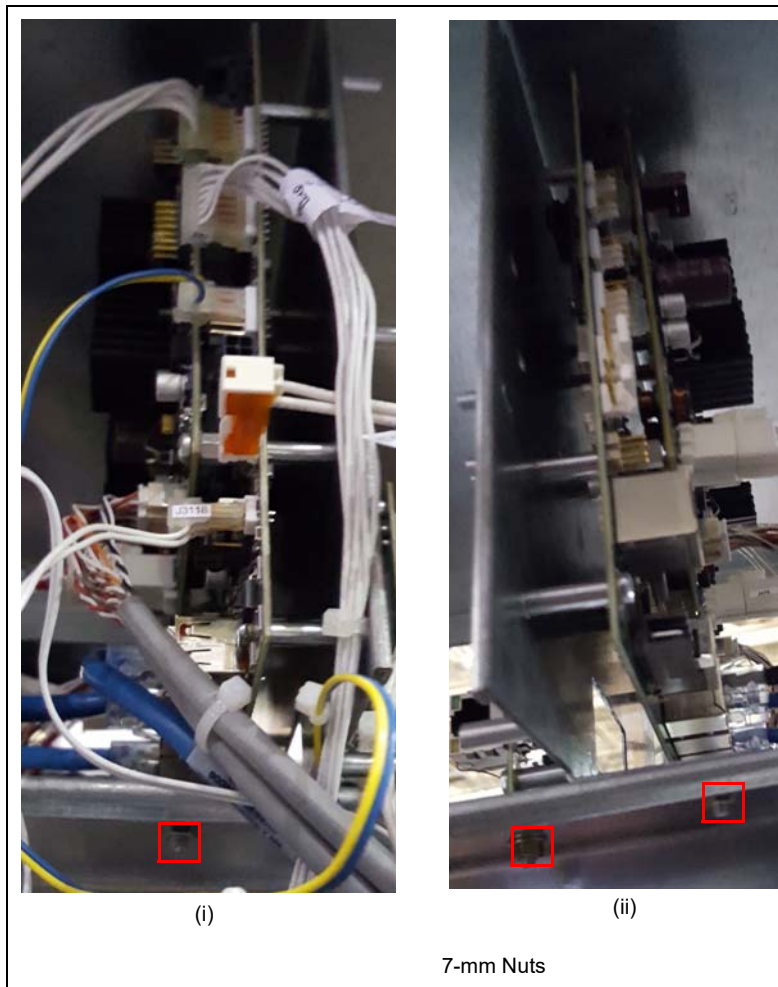
Figure 19: Disconnecting Cables



SECTION 3 - REMOVING COMPONENTS

- 2 Remove the HIP2/AFP/DCM2/DCM2.1 bracket located on the T-rail by taking off the three 7-mm nuts as shown in [Figure 20](#). Retain the nuts for reuse.

Figure 20: Removing Nuts



- 3 Remove the GSoMs, if present, from the existing assembly. Retain the GSoMs for reuse.

SECTION 3 - REMOVING COMPONENTS

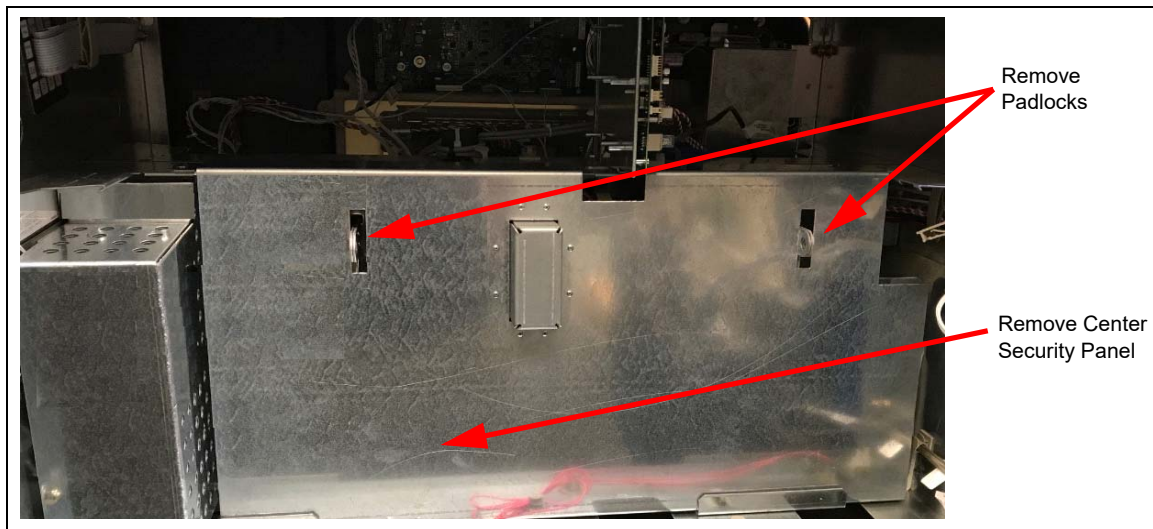
Alphanumeric Security Shield

To remove the Security Shield:

- 1 Remove any padlocks and center security panel as shown in [Figure 21](#). If the dispenser being updated does not have a printer, retain the panel for reuse. If the dispenser has the printer option with a printer clearance hole, discard the old center panel.

If center security shield section is the old style, which extends above the T-rail, it must be replaced with a new center section.

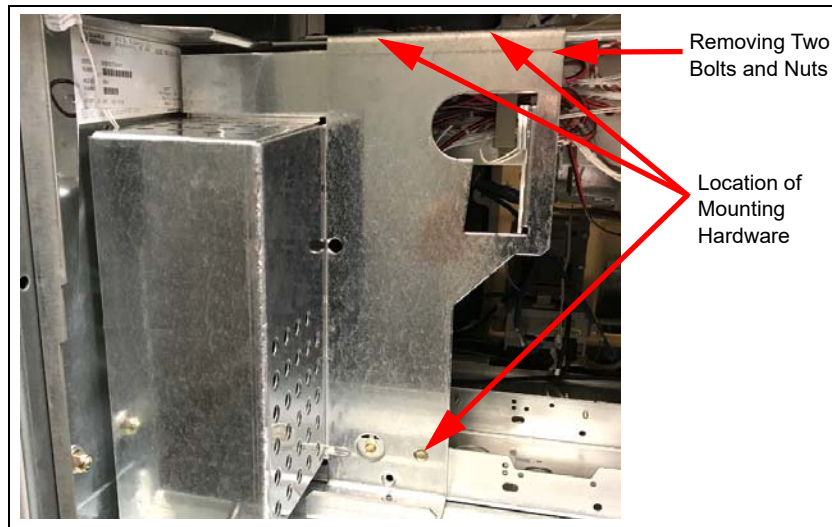
Figure 21: Removing Padlocks and Security Panel



SECTION 3 - REMOVING COMPONENTS

- 2 Remove the left-side security panel by removing two bolts and nuts at the top and one thread-forming screw at the bottom. If you are installing a new printer option with the kit, discard the panel and retain the mounting hardware for reuse. Otherwise, retain the panel and mounting hardware for reuse.

Figure 22: Removing Bolts and Nuts



SECTION 3 - REMOVING COMPONENTS

Alphanumeric Security Shield

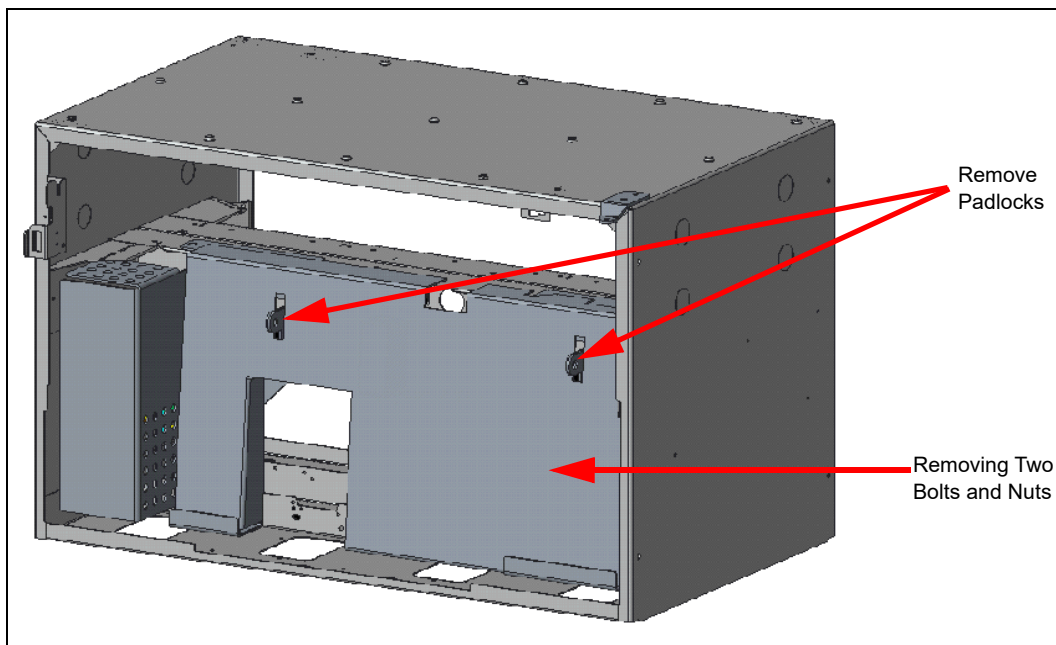
The Alphanumeric security shield is the Ultra Hi security shield upgrade for FlexPay IV. It is applicable for dispensers with printer and with security shields.

3

To remove the Alphanumeric security shield, proceed as follows:

- 1 Remove the center security shield and discard.
- 2 Remove the padlocks.

Figure 23: Removing Padlocks and Center Security Shield

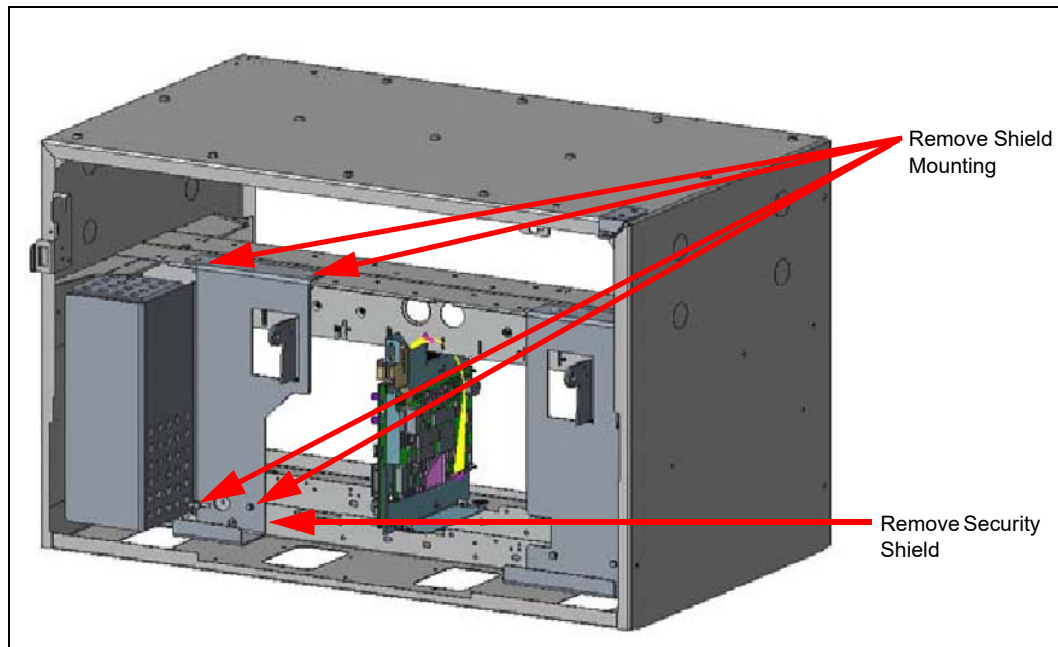


- 3 Remove the left-side shield mounting hardware and save for reuse.

SECTION 3 - REMOVING COMPONENTS

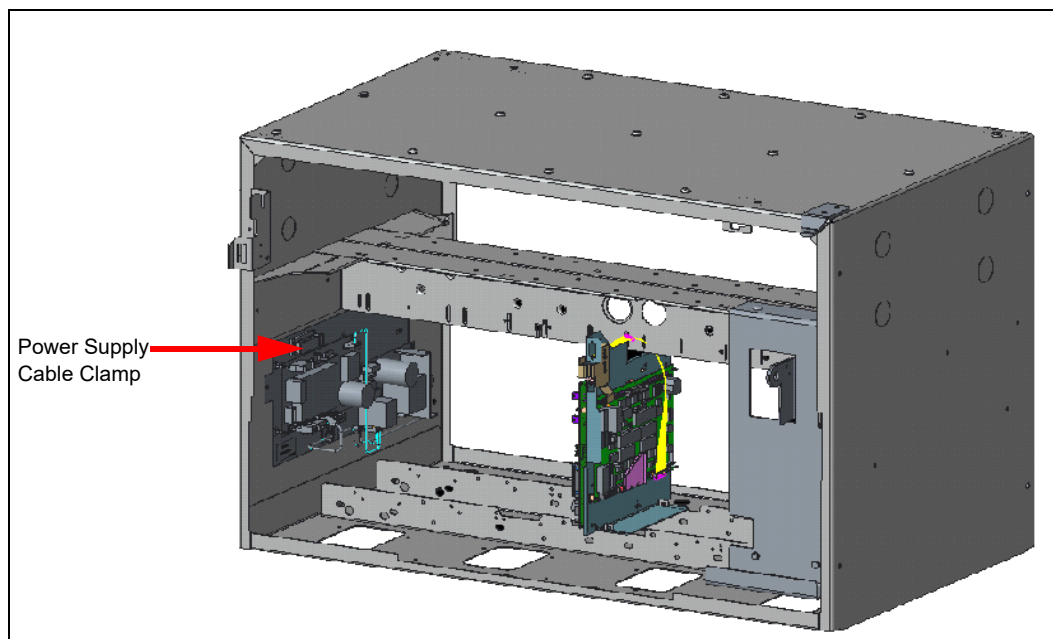
- 4 Remove the left-side security shield and discard.

Figure 24: Removing Padlocks and Left Security Shield



- 5 Open the power supply cable clamp and allow any cables to hang free.

Figure 25: Opening Power Supply Cable Clamp



SECTION 3 - REMOVING COMPONENTS

3

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SECTION 4 - INSTALLATION

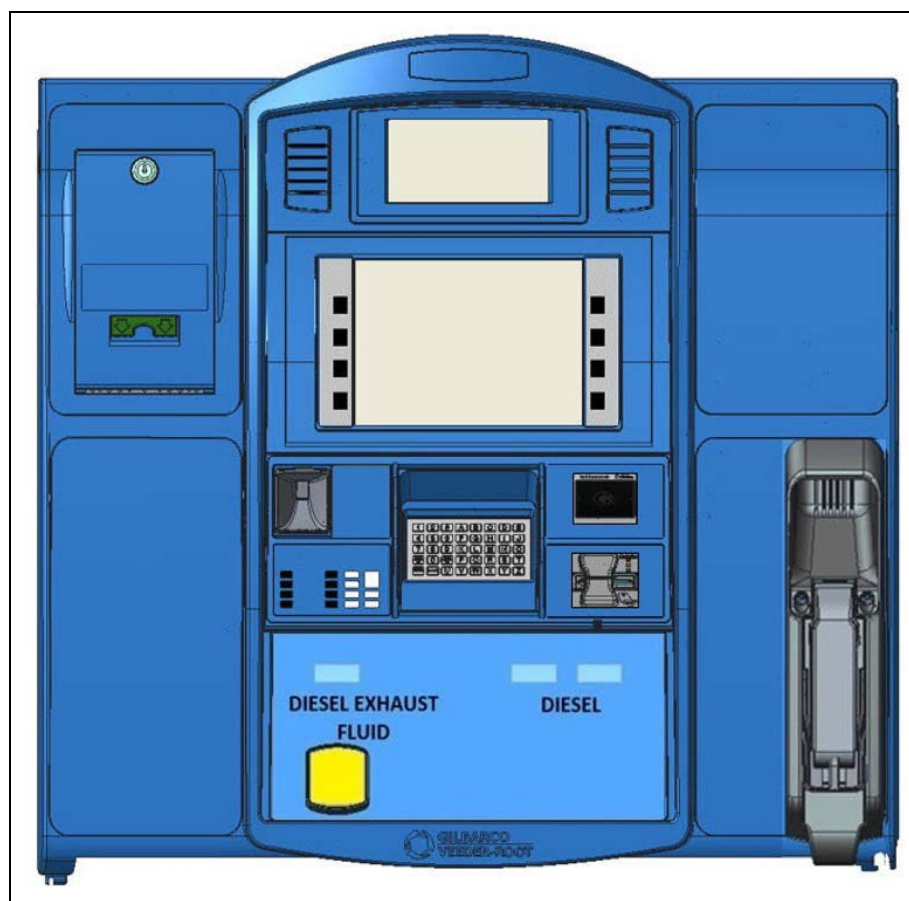
FlexPay IV CRIND Retrofit Kit

If the kit includes an Alphanumeric Keypad and printer, you need to replace the entire door. Otherwise, continue to the installation of the new “E-CIM” on [page 30](#).

Door

To install the new door:

Figure 1: Door Assembly With Printer



SECTION 4 - INSTALLATION

E-CIM

To install the new E-CIM:

Notes: 1) Ensure the surface is clean before installing the new E-CIM.

2) 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.

- 1 Install the door using the 1/4-inch screws removed in step 6 on [page 10](#), including the two screws with washers that are located underneath the door node. Note that doors include variations depending on components ordered.

Note: Leave the connections hanging at this time.

- 2 Install the five Phillips-head screws on the front above the PPU display.

Figure 2: E-CIM Assembly



SECTION 4 - INSTALLATION

Figure 3: Cabling for Printer Door Opening

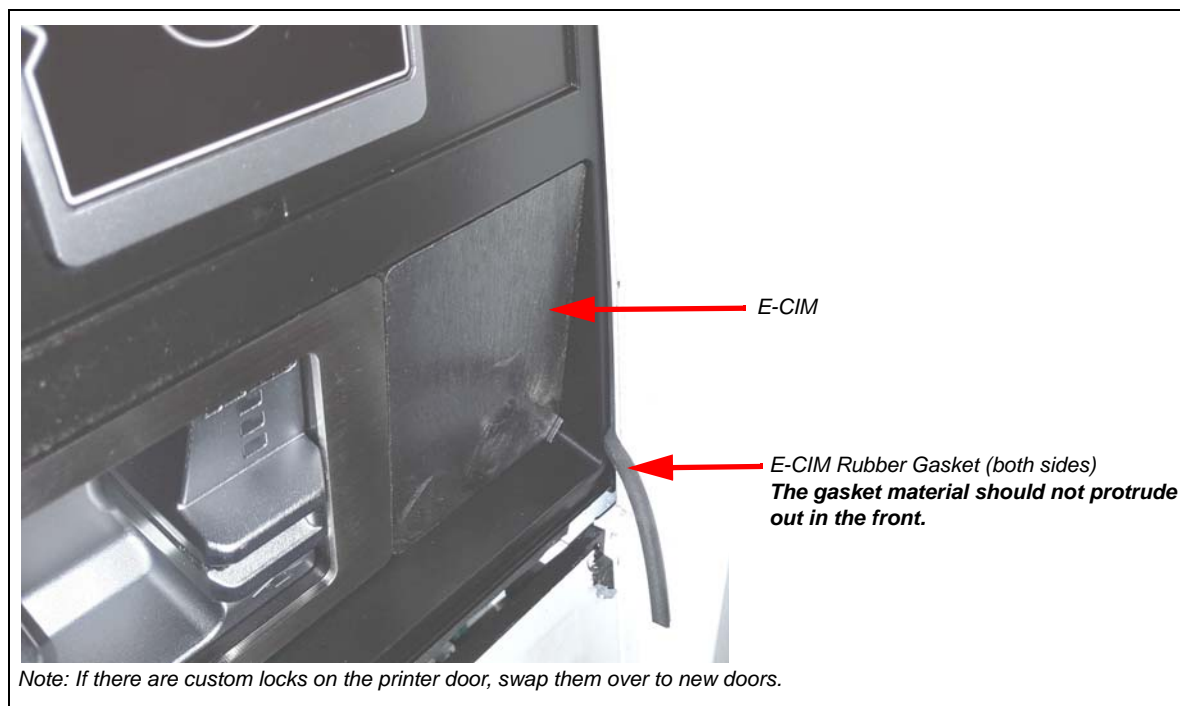
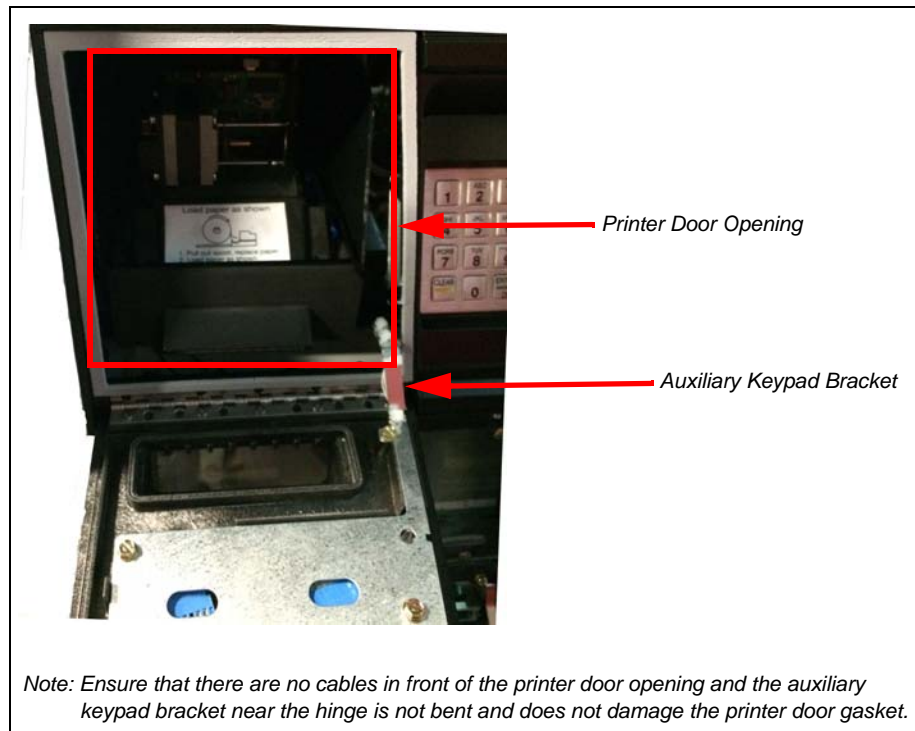


Figure 4: Cabling for Printer Door Opening



SECTION 4 - INSTALLATION

Figure 5: Printer Cables Connection for Alphanumeric Door

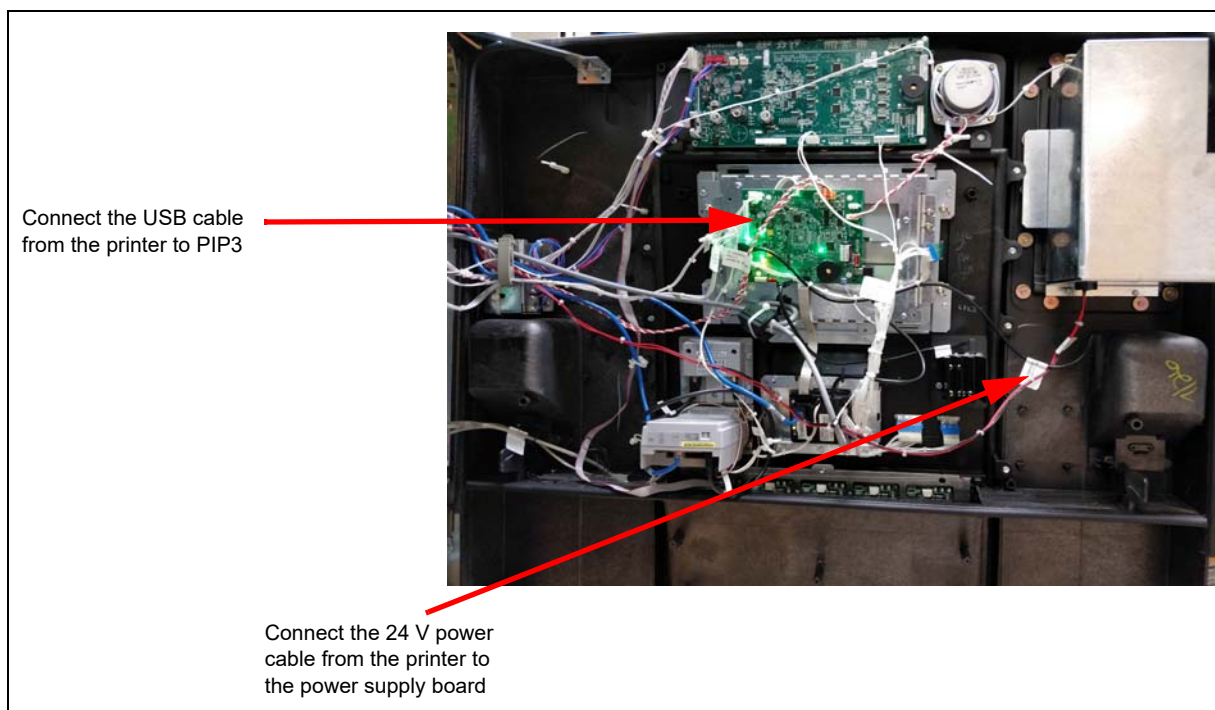
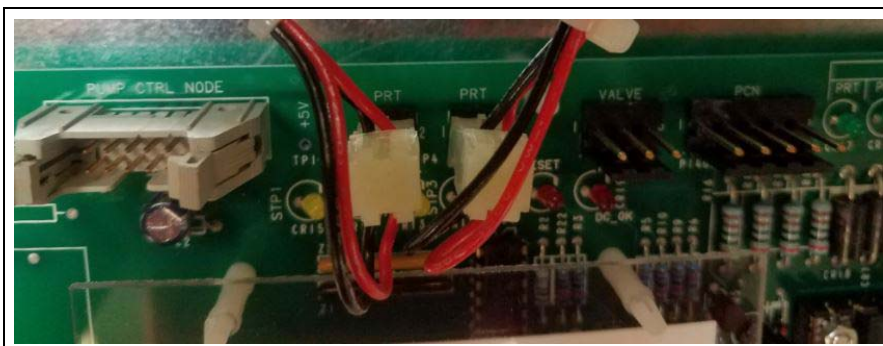


Figure 6: Printer Cables Connection on the Power Supply Board

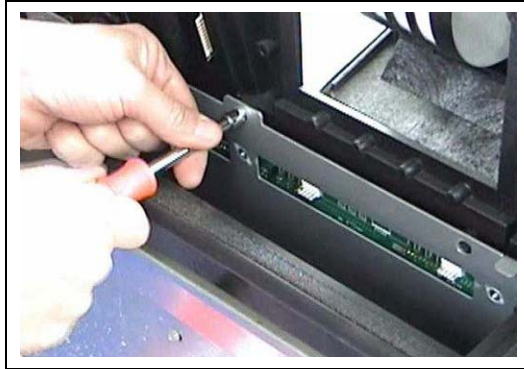


SECTION 4 - INSTALLATION

- 3 Reattach the PPU board bracket using the three screws that were removed in the “E-CIM” section on [page 9](#).

Note: If unit is equipped with a rain shield over the PPU, reinstall it.

Figure 7: Securing PPU Board

**4**

Door Node

Note: Ensure that you do not swap sides when reinstalling the door nodes.

To reinstall the door node:

- 1 Secure the door node to the unit door using the screws that were removed in step 7 on [page 9](#).
- 2 Reattach J902C that was removed in step 6 on [page 9](#) to the call button board (if equipped).
- 3 Install the PPU graphic.
- 4 Reinstall the grade select buttons using the screws removed in step 5 on [page 9](#).

Note: If you have push-to-start or push-to-stop door alarm for cash acceptor, install the connector J2111 to P2111.

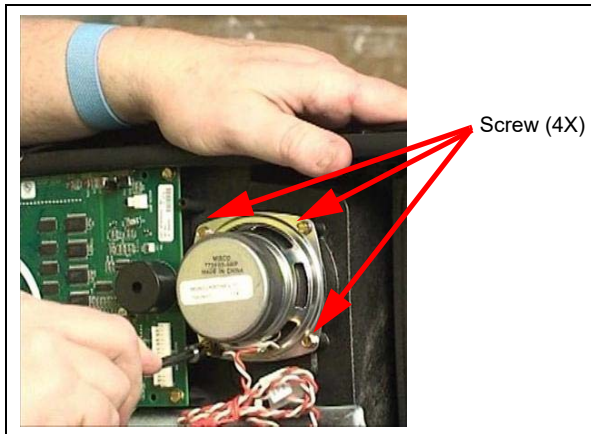
SECTION 4 - INSTALLATION

Speaker

If applicable, reinstall the speaker, reconnect speaker wires, and reinsert the four screws holding the speaker that were removed in the “Speaker” section on [page 11](#).

Note: If Applause Media System/GSoM is installed, speaker wires are connected to the PIP3, or through the intercom board to the PIP3, if so equipped.

Figure 8: Removing Speaker



Note: For some peripherals, new components may be shipped with the kit depending on the types of options installed.

For peripheral options, refer to “[Appendix A: Peripheral Options](#)” on [page 57](#).

For cable block diagrams, refer to “[Appendix B: Block Diagrams](#)” on [page 62](#).

SECTION 4 - INSTALLATION

AFP/DCM2.2

AFP Assembly

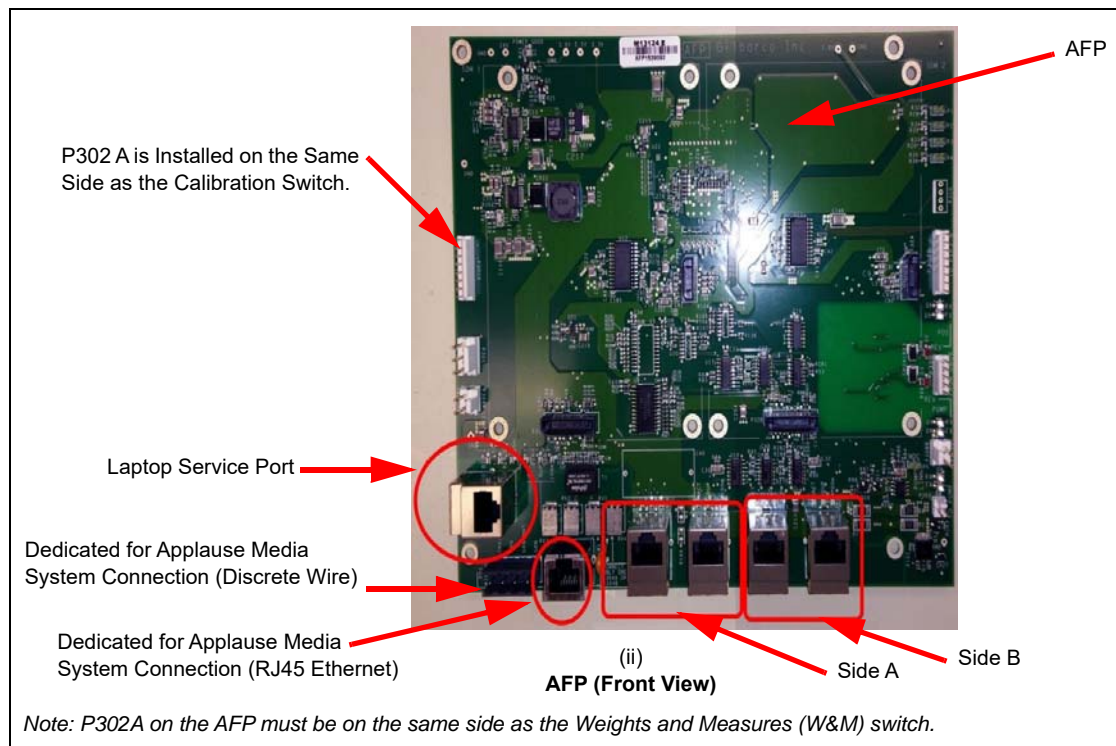
To install the AFP assembly, mount the AFP assembly on the T-rail by using the three 7-mm nuts removed earlier or provided in the kit as shown in [Figure 9](#).

Notes: 1) Use the same holes as the CCN or HIP/HIP 2 assembly removed earlier.

2) 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.

4

Figure 9: Installing AFP Assembly



SECTION 4 - INSTALLATION

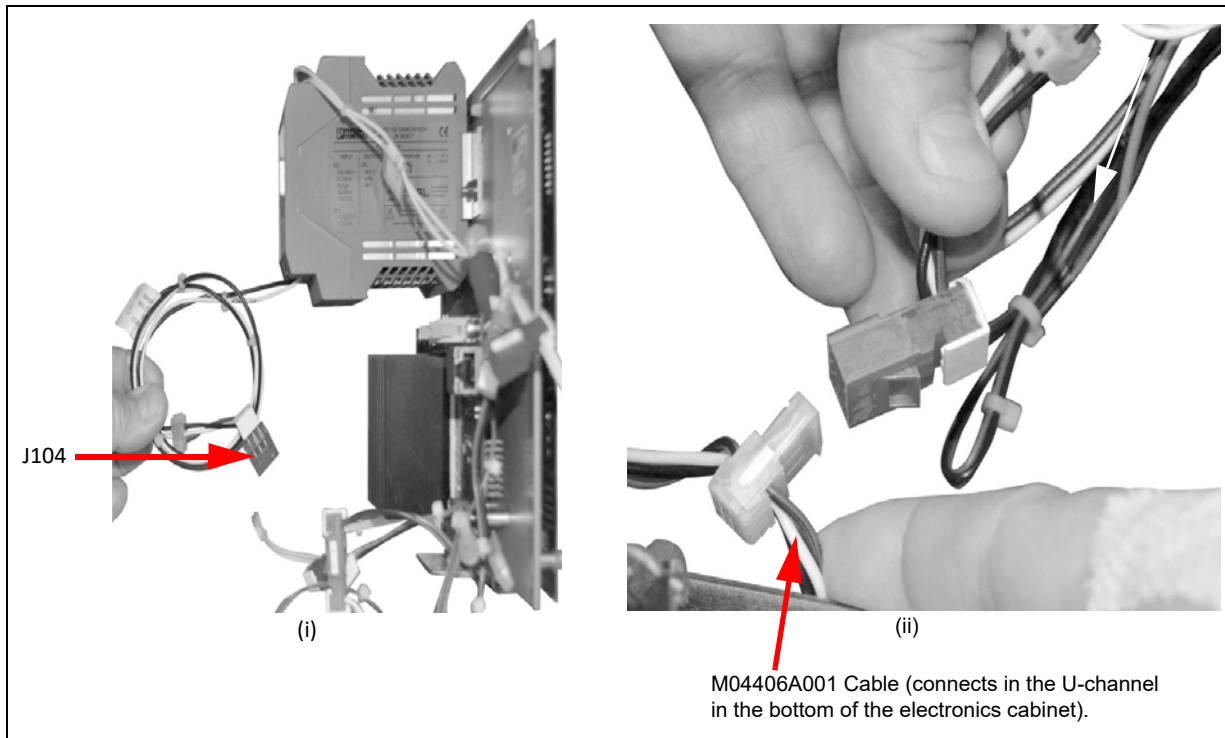
For cable block diagram, refer to “Appendix B: Block Diagrams” on page 62.

AFP Assembly with Power Supply (10.4-inch Display)

To connect the cables:

- 1 Connect J104 of the M12777A003 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 M12777A003 Cable.
- 3 Connect P301A/B of the M14340 Cable side B to J301B of the M12777A003 Cable.

Figure 10: Connecting Cables



AFP Assembly Without Power Supply

To connect the cables:

- 1 Connect P305 of the M07973A004 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 M07973A004 Cable.

SECTION 4 - INSTALLATION

- 3 Connect P301A/B of the M14340 Cable side B to J301B of the M07973A004 Cable.

Note: Verify that J401 is connected to P401 on the AFP.

IMPORTANT INFORMATION



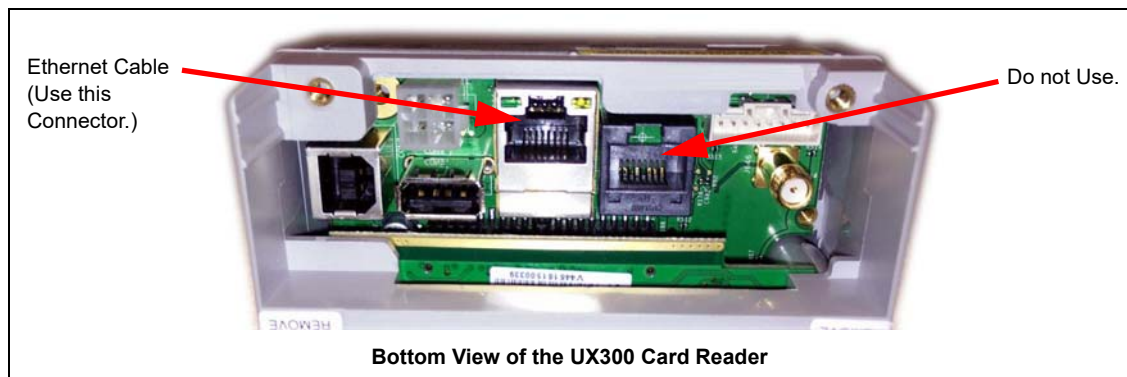
Cable routing is critical. It is very important to route and dress the cables properly. Exercise care in routing the cables, keeping in mind that the door(s) opens and closes for service. The cables must be dressed neatly. Ensure that there is no interference after the cables are connected and routed. 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.

4

- 4 Connect the Ethernet cable from each UPM by connecting J303A for side A and J303B for side B to the AFP.

Note: For programming, before power up, ensure to leave the side B UPM and card reader Ethernet cable disconnected until side A IP addresses have been set. For more information, refer to MDE-5221 FlexPay IV CRIND Start-up Manual. Connect the Ethernet cable from each card reader to the AFP. Connect the card reader from side A to J305A and J305B for side B.

Figure 11: Connecting Ethernet Cable



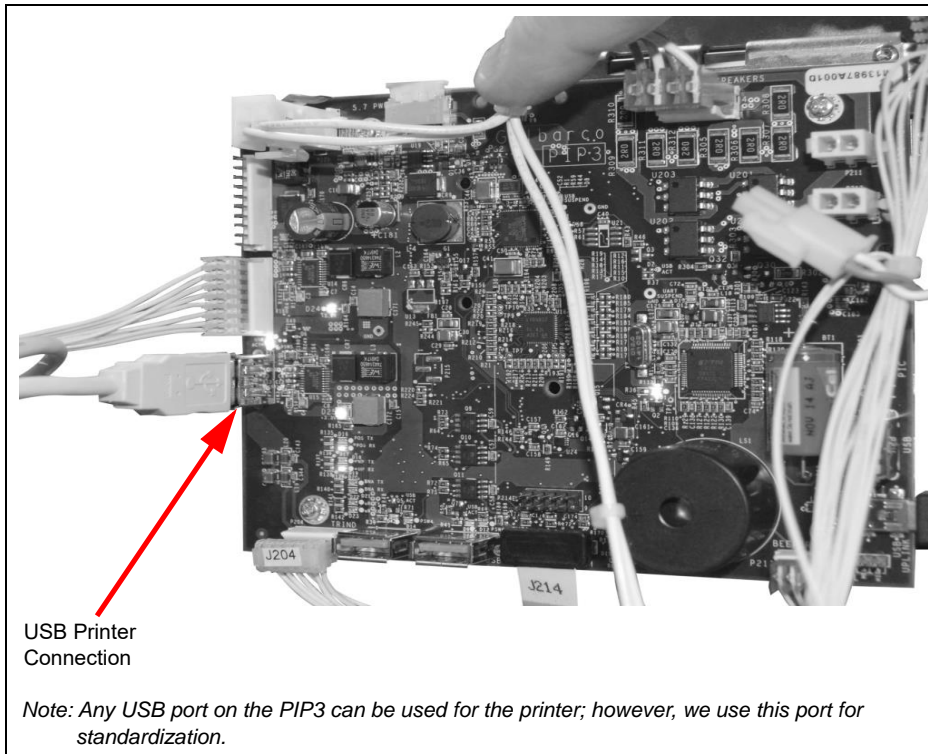
Note: Ensure AC cables are not bundled with any non-AC cables.

- 5 Connect J302A of M14339A001 from side A E-CIM (J202 PIP3) to J302A on the AFP.
- 6 Connect J302B of M14339A001 from side B E-CIM (J202 PIP3) to J302B on the AFP.
- 7 Connect P2111 to start/stop connection on door node.

SECTION 4 - INSTALLATION

- 8 Connect the USB cable from the printer to PIP3, using port on the left side.

Figure 12: Connecting USB from Printer to PIP3



- 9 Connect the ESD ground cables from the UPM and UX300 to the CD module chassis (see [Figure 24](#) on [page 52](#) and [Figure 25](#) on [page 53](#)).
- 10 Connect P902C to call button board (if installed).

If Applause Media System/GSoM are installed, there will also be an audio cable from GSoM to PIP3 and a video cable from GSoM to UPM. Audio Cable (M14425) goes from GSoM P419L and P419R to PIP3 P219. Video Cable (M14338) goes from GSoM P406 to UPM P6. Ensure to connect cables from door A to GSoM A, and from door B to GSoM B.

SECTION 4 - INSTALLATION

DCM2.2 Assembly

To install DCM2.2:

- 1 Transfer the GSoMs removed in step 3 on [page 23](#) to the new DCM2.2 assembly.
- 2 Mount the DCM2.2 assembly onto the mounting bracket.
- 3 Attach the mounting bracket on the T-rail using the three 7-mm nuts removed in step 2 on [page 23](#).
- 4 Connect all applicable cables to the DCM2.2 assembly as shown in [Figure 13](#) on [page 40](#).
- 5 If applicable, install Intercom PCA. Refer to “[Intercom PCA with Call Interface \(M14595A001\)](#)” on [page 49](#).
- 6 Connect the M15241A002 ZMODEM cable to P1111 on the Pump Control Node (PCN), to P315 (also labeled as ZMODEM Pump on the DCM2.2).
- 7 Replace the 24 VDC M07973A006 Power Cable in place of M07973A004 and make the following connections:
 - Connect P305 to J305.
 - Connect J401 to P301 on the DCM2.2 assembly.
 - Connect power to each CRIND (J301A to P301A/B and J301B to P301A/B).

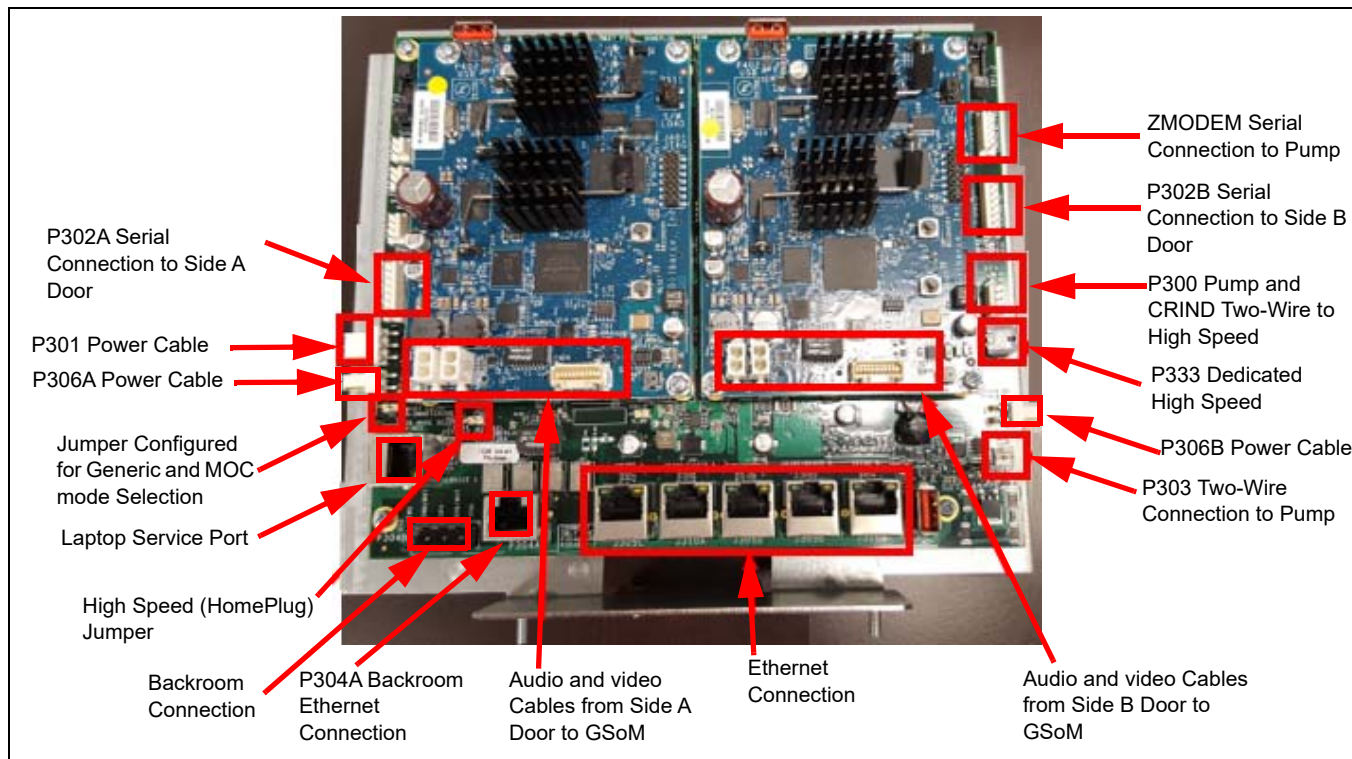
SECTION 4 - INSTALLATION

DCM2.2 Connections

For cable block diagram, refer to “Appendix B: Block Diagrams” on page 62.

Connect all the applicable cables to the DCM2.2 assembly as shown in Figure 13.

Figure 13: DCM2.2 Connections



DCM2.2 Connectors

The following table lists the port numbers and functions of DCM2.2 connectors:

Connector	Port Number	Function
3-pin MTA .156"	P301	24 VDC power input
2-pin MTA .156"	P306A	24 VDC power output (fused). This is primarily used to power the DCM in Applause Media System
5-pin MTA .100"	P300	Two-wire from D-box (CRIND and Pump-Generic only)
2-pin MTA .100"	P303	Two-wire to PCN
8-pin MTA .100"	P302A	RS-232 pump and CRIND to PIP3 Side A
4-pin	P333	Dedicated HomePlug
8-pin MTA .100"	P302B	RS-232 pump and CRIND to PIP3 Side B
RJ-45	P304A/B	Ethernet connection to the backroom. P304B is the optional discreet wire connection
	J305C	Ethernet connection to UPMA
	J310A	Ethernet connection to UX300A
	J310B	Ethernet connection to UPMB
	J303B	Ethernet connection to UX300B
	J303A	Laptop Service port 1
	J310A	Laptop Service port 2

SECTION 4 - INSTALLATION

DCM2.2 LED Indicators

Check the following LED indicators after DCM2.2 is power ON.

Function	Color	Control
CCP Power_Good LED	Green	Driven when 2.5 V, 3.3 V, and 5 V are present.
HomePlug Power LED	Green	ON: Power Ready Flashing: Loading Firmware OFF: Power not ready
Home Plug Status LED	Green	On: HomePlug Link detected Flashing: TX or RX Activity Off: HomePlug Link not detected
Two-Wire	Orange	Flashing: TX and RX (Two-wire) detected ON: RX is solid and TX is OFF if there is an Open connection. Wire is not connected. OFF: No communication. Both TX and RX are OFF
SSoM Activity	Green	On: SSoM is detected Flashing: After SSoM Registered
Router Enable	Green	On: when the SSoM installed and it has Cloud Connectivity.
P304 ETH Link/Act	Orange	ON: When we use CAT5 Configuration OFF: When we use HomePlug

DCM2.2 Jumpers

The following table lists the status and functions of jumpers:

Connector	ON	OFF	Function
J3	X		High-speed connection active. P304 A/B disabled.
		X	High-speed connection inactive. P304A and P304B connects to CAT5 running through the conduit for high speed connection (if used).
J4	X		Unit is connected to a Passport Point of Sale (POS) MOC
		X	Unit is connected to a third party POS (Generic)
J5	X		VLAN is enabled
		X	VLAN is disabled
J6	B		Install the Jumper on the B position for the 45 mA Current loop

SECTION 4 - INSTALLATION

Field Communication Wiring

Depending on the dispenser type and whether or not it has factory-installed conduit, there are different specifications in the current loop wiring. [Figure 14 on page 43](#) and [Figure 15 on page 44](#) provide generic wiring information.

Considerations

4

- P300 has the red/yellow and blue/yellow current loop inputs for both the pump and the CRIND, respectively.
- P303 is the current loop output to the pump. It must be used even in the Generic CRIND mode.
- **DCM2 Only:** J3 ON enables the high-speed connection shared with the red/yellow current loop wires. If it is ON, the J304A and B are disabled.
- **MOC/Generic Selection:** Made by installing J4 on the DCM2.2. Note that on the DCM2.2, installing this jumper shifts the CRIND two-wire to the red/yellow wires.

The following table lists wiring considerations:

Cable Part	Connections
M15241A002	Connect J315 of M15241A002 to P315 on the DCM2.2
	Connect J1111 of M15241A001 to P1111 of the PCN

Note: The above connections are applicable for E-CIM, E500, and E500 S (not applicable for The Advantage® Series and E300).

Wiring Requirements

The high speed connection is always carried on red/yellow wires. The following requirements indicate details for Passport and Generic CRIND.

For Passport

- **DCM2.2 Only:** CRIND two-wire connection must be on the red/yellow wires. This is significantly different from previous CRINDs to ensure high-speed connection.
- **AFP Only:** CRIND two-wire connection must be on the blue/yellow wires.
- J4 (DCM2.2) or JP5 (AFP) must be ON.
- If DCM2.2 high-speed connectivity is used, J3 must be ON.
- The pump two-wire input must be connected to P303.

For Generic CRIND

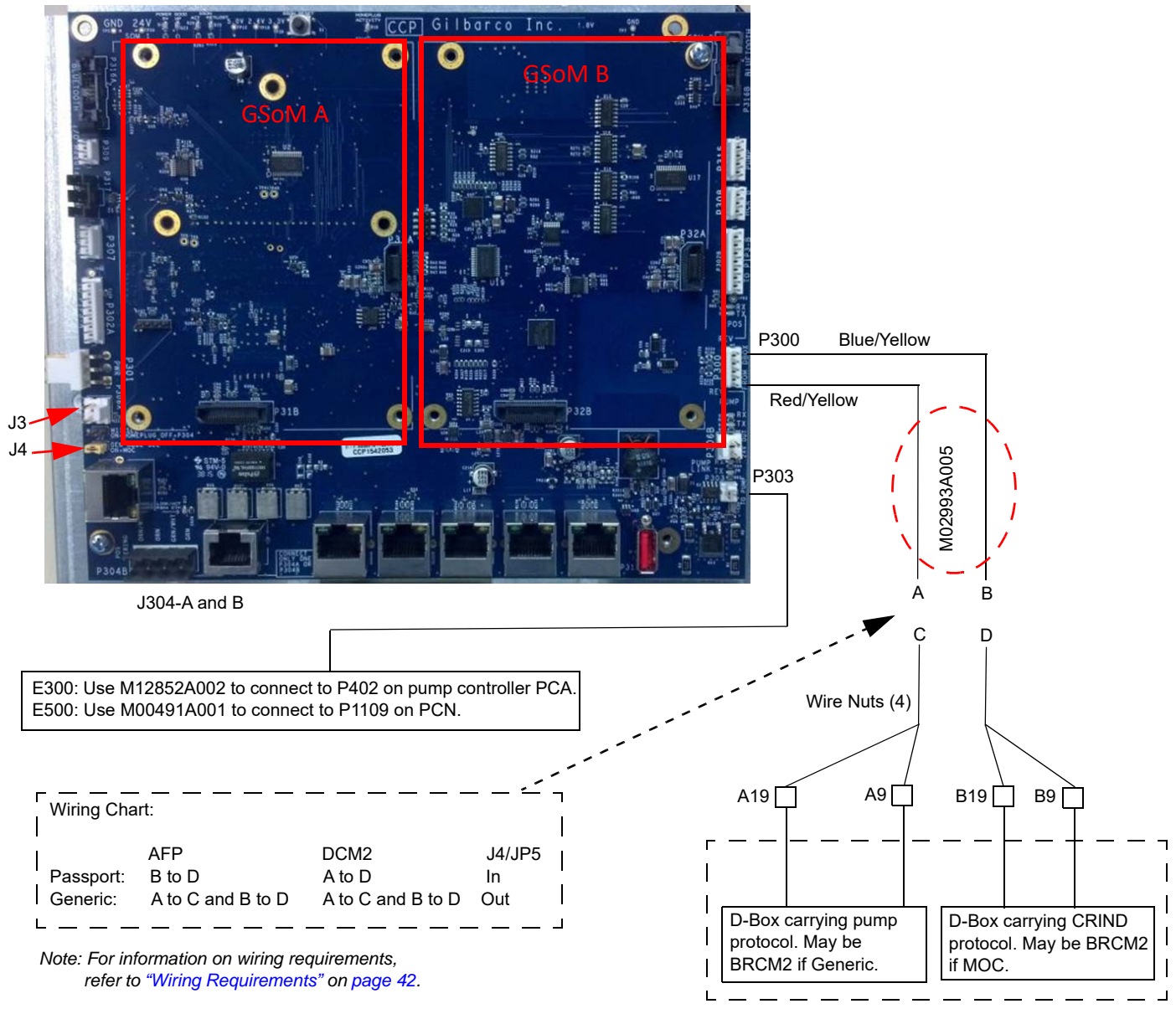
- CRIND two-wire (pre-EMV) must be connected to the blue/yellow wires. Pump two-wire must be connected to the red/yellow wires.
- J4 must be out.
- If DCM2.2 high-speed connectivity is used, J3 must be ON.
- The pump two-wire input is driven by P303.

SECTION 4 - INSTALLATION

Figure 14: Wiring Diagram for Field-installed Wiring (AFP/DCM2.2)

4

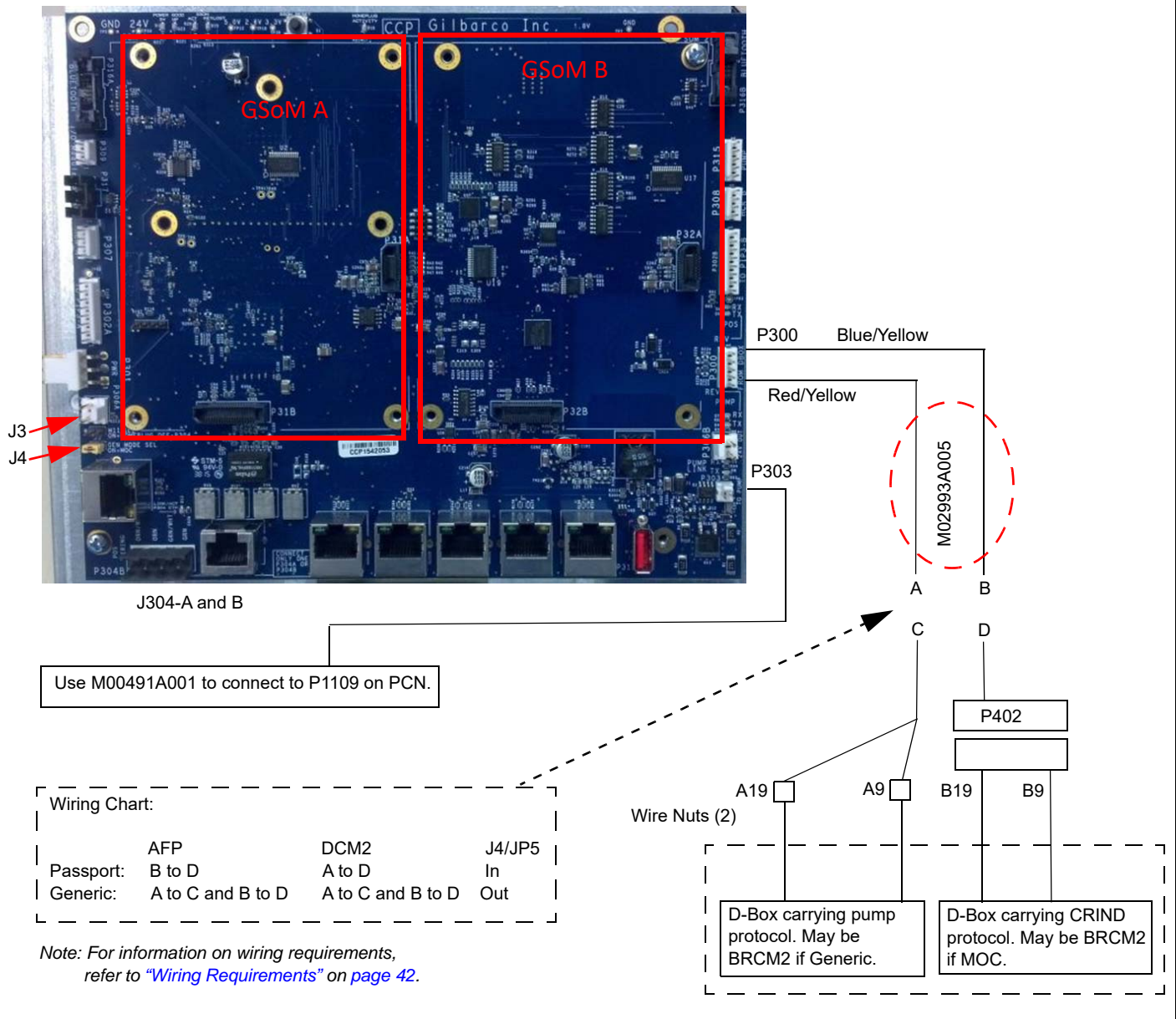
Note: [Figure 14](#) displays DCM2 but applies to DCM2.2 also.



SECTION 4 - INSTALLATION

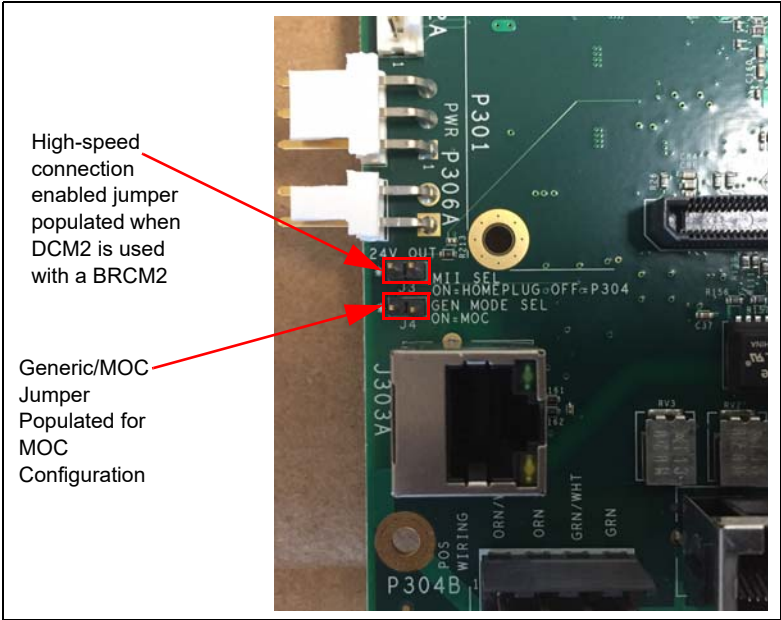
Figure 15: Wiring Diagram for Factory-installed Conduit Wiring (AFP/DCM2.2)

Note: Figure 15 displays DCM2 but applies to DCM2.2 also.



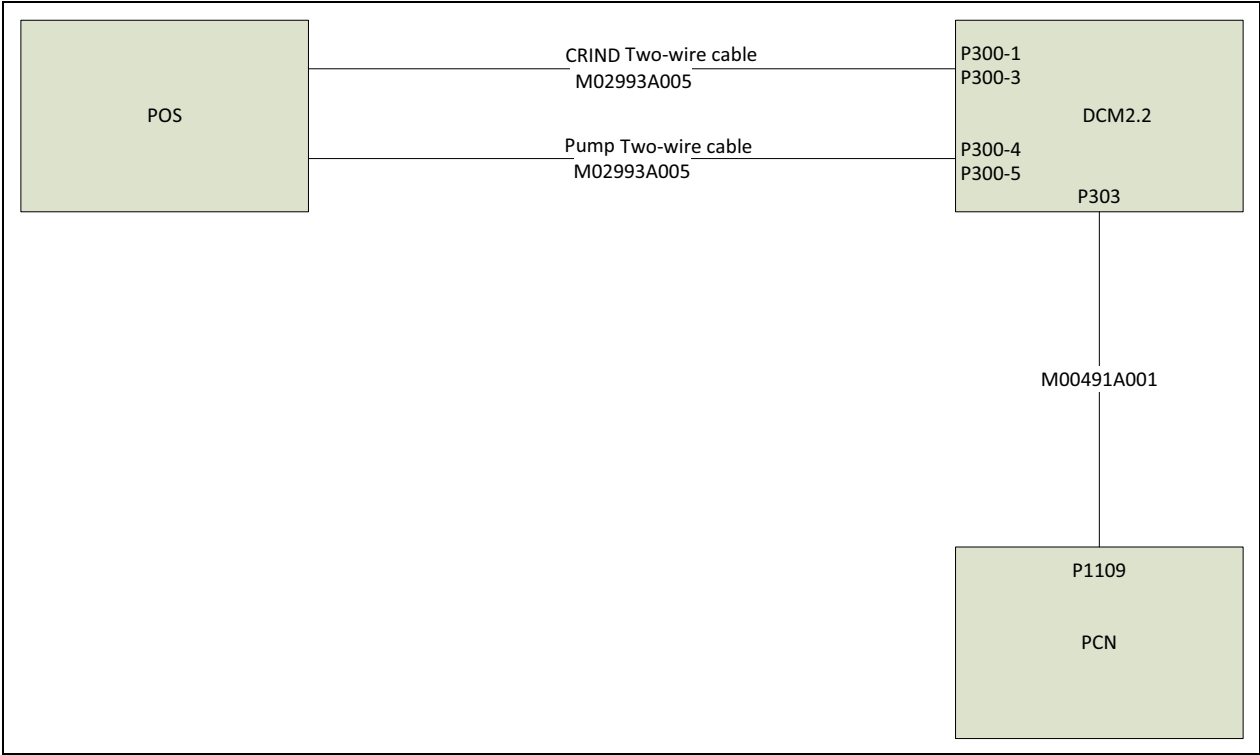
SECTION 4 - INSTALLATION

Figure 16: Generic/MOC Header Location



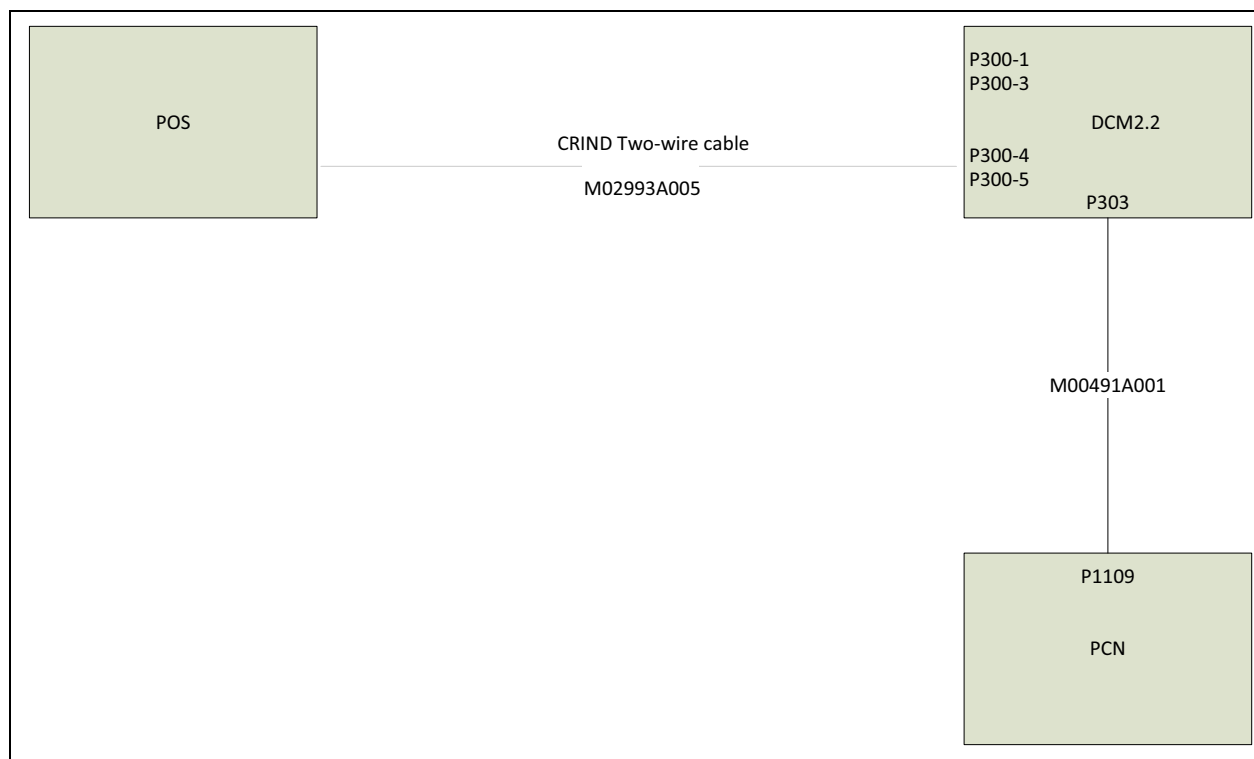
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Figure 17: DCM2.2 Board Wiring Block Diagram (Generic)



SECTION 4 - INSTALLATION

Figure 18: DCM2.2 Board Wiring Block Diagram (MOC)

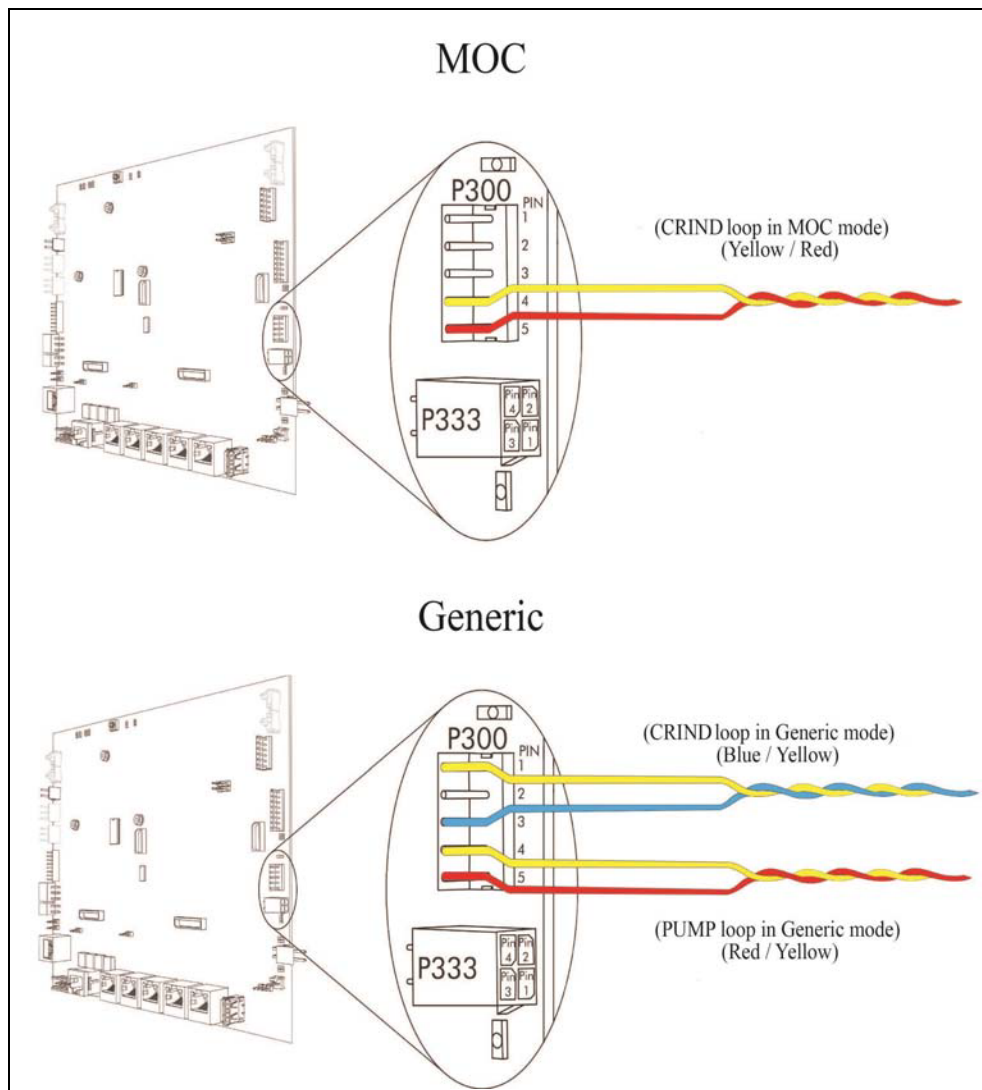


SECTION 4 - INSTALLATION

Non-Dedicated High-Speed Field Wiring

If you are not using the dedicated high-speed connection, refer to the following diagram (see [Figure 19](#)).

Figure 19: Block Diagram for DCM2.2 Two-wire Configuration (Non-Dedicated)



Note: Do not use the BRCM in passthrough mode with a Fuel Controller. Use D-Box instead.

SECTION 4 - INSTALLATION

Dedicated High-Speed Field Wiring (Non-POS) Instructions (DCM2.2 only)

For the case where the high-speed signal is merged with the pump loop, use P300.
The P300 connector carries the following signals:

- Pins 1 & 3: CRIND current loop. (yellow/blue)
- Pins 4 & 5: Pump current loop with high-speed signal. (yellow/red)

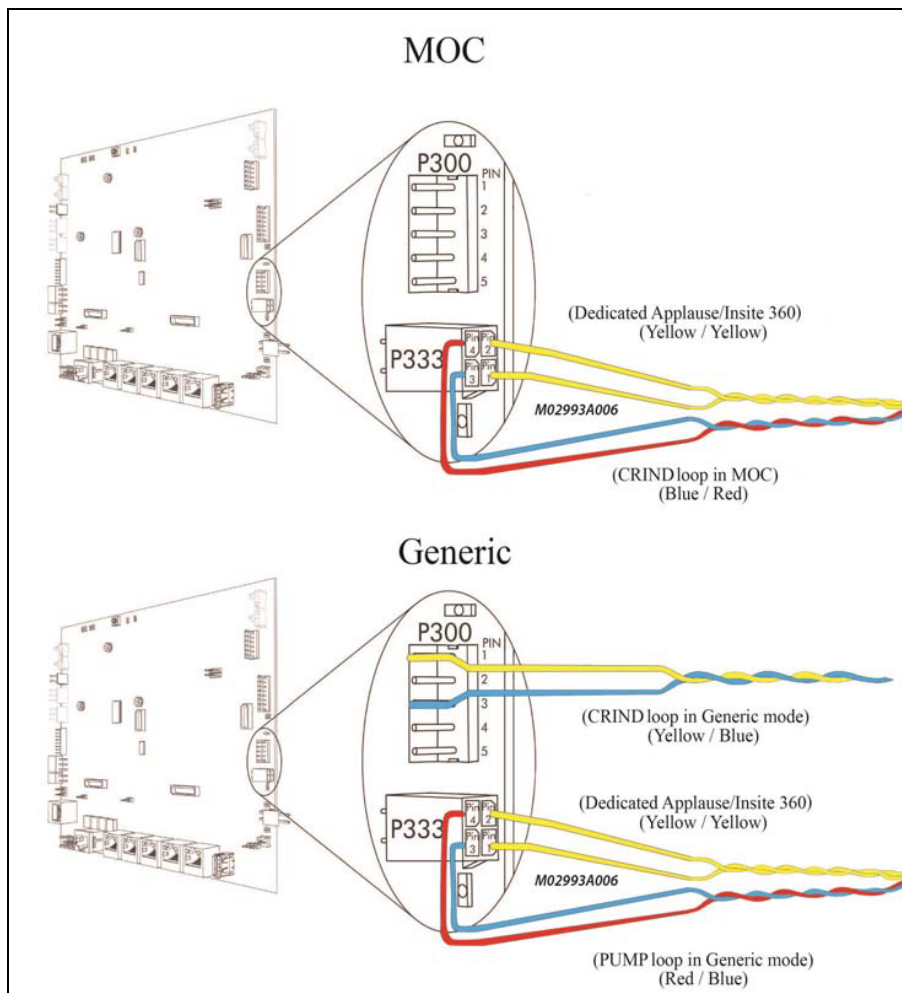
For the case where the high-speed signal is separate from the pump, use P333.
The P333 connector carries the following signals:

- Pins 1 & 2: High-speed signal only (yellow/yellow)
- Pins 3 & 4: Pump current loop

MOC

If you are using the dedicated high-speed connection (MOC configuration), refer to the following:

Figure 20: Block Diagram for DCM2.2 Two-wire Configuration (Dedicated)



SECTION 4 - INSTALLATION

The following table lists wiring details for MOC mode:

Cable Part	Connector	Color	Description
M02993A006	P333.1	Yellow	High Speed
M02993A006	P333.2	Yellow	High Speed
M02993A006	P333.3	Red	CRIND+
M02993A006	P333.4	Blue	CRIND-

Generic

If you are using the dedicated high-speed connection (Generic type configuration), refer to the following:

Connect the M02993A006 Dedicated High-Speed Cable (M02993A006) from P333 on DCM2.2 to the dedicated high-speed connection from the back room as shown in [Figure 20](#) on [page 48](#).

The following table lists wiring details for Generic mode:

Cable Part	Connector	Color	Description
M02993A005	P300.1	Red	CRIND+
M02993A005	P300.3	Yellow	CRIND-
M02993A006	P333.1	Yellow	High Speed
M02993A006	P333.2	Yellow	High Speed
M02993A006	P333.3	Red	Pump+
M02993A006	P333.4	Blue	Pump-

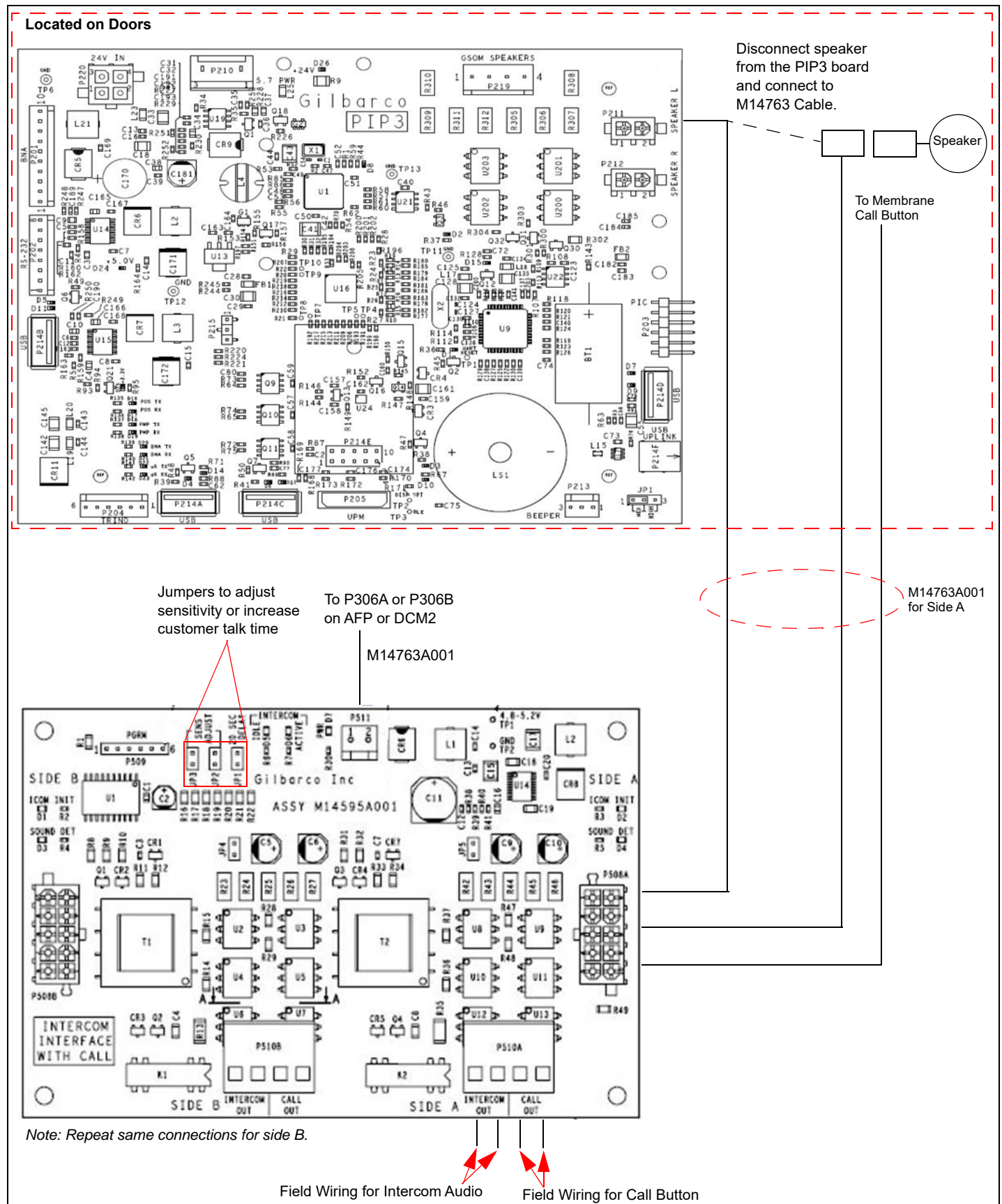
Intercom PCA with Call Interface (M14595A001)

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 PIP3.
- 3 Connect M14762A001 Cable to P506A on the M14595A001 Intercom Board. Make the other three connections as shown in [Figure 21](#) on [page 50](#).
- 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.)

SECTION 4 - INSTALLATION

Figure 21: Connections between PIP3 PCA (M13987A00X) and M14595A001 Intercom Board



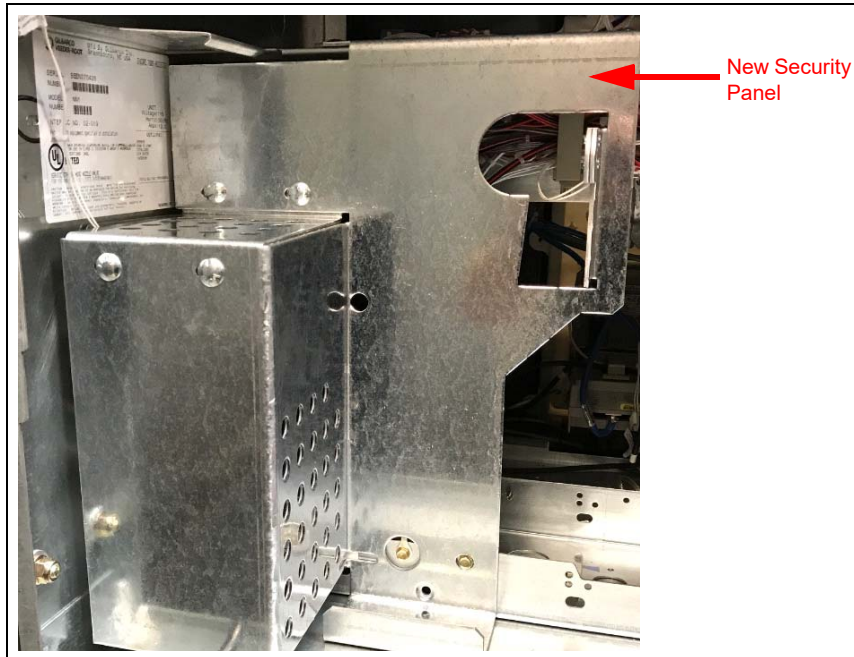
SECTION 4 - INSTALLATION

Alphanumeric Security Shield

To install the alphanumeric security shields, proceed as follows:

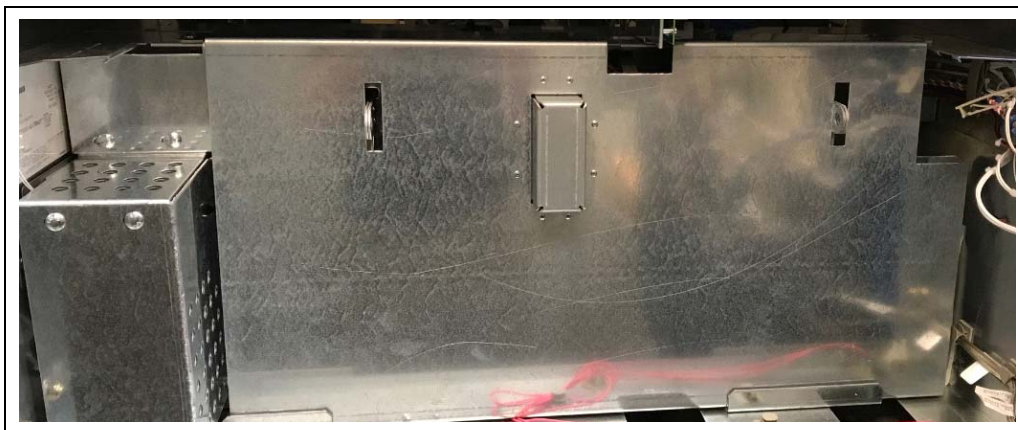
- 1 If no new printer, reuse old left security panel. For new printer option, install new M16052A001 Left-side security panel using the mounting hardware removed in step 2 on [page 25](#).

Figure 22: Installing New Left-side Security Panel



- 2 Install center security panel.

Figure 23: Installed New Center Security Panel



SECTION 4 - INSTALLATION

Completing Installation

To complete installation:

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

IMPORTANT INFORMATION

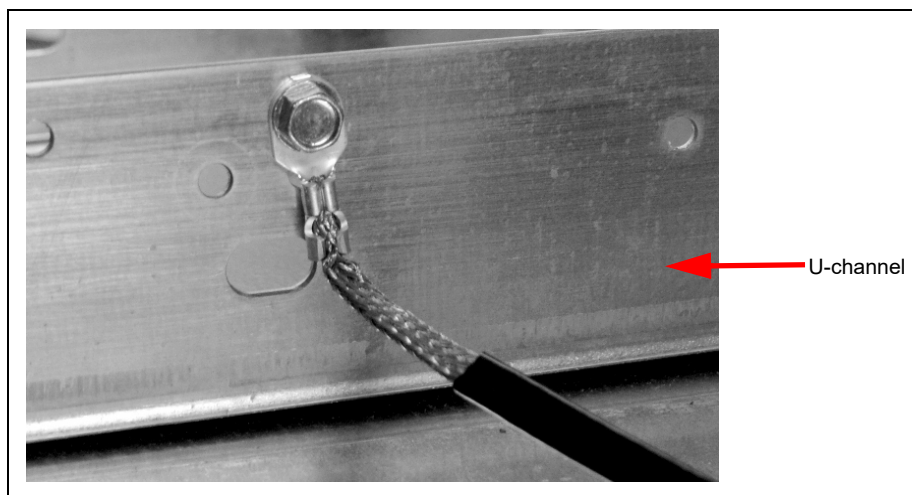


Cable routing is critical. It is very important to route and dress the cables properly. Exercise care in routing the cables, keeping in mind that the door(s) opens and closes for service. The cables must be dressed neatly. Ensure that there is no interference after the cables are connected and routed. ESD ground straps can be bundled together, but need to be separated from data and power cables. ESD ground straps should be fastened to the U-channel with separate bolts (see [Figure 24](#)).

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.

[Figure 24](#) 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).*

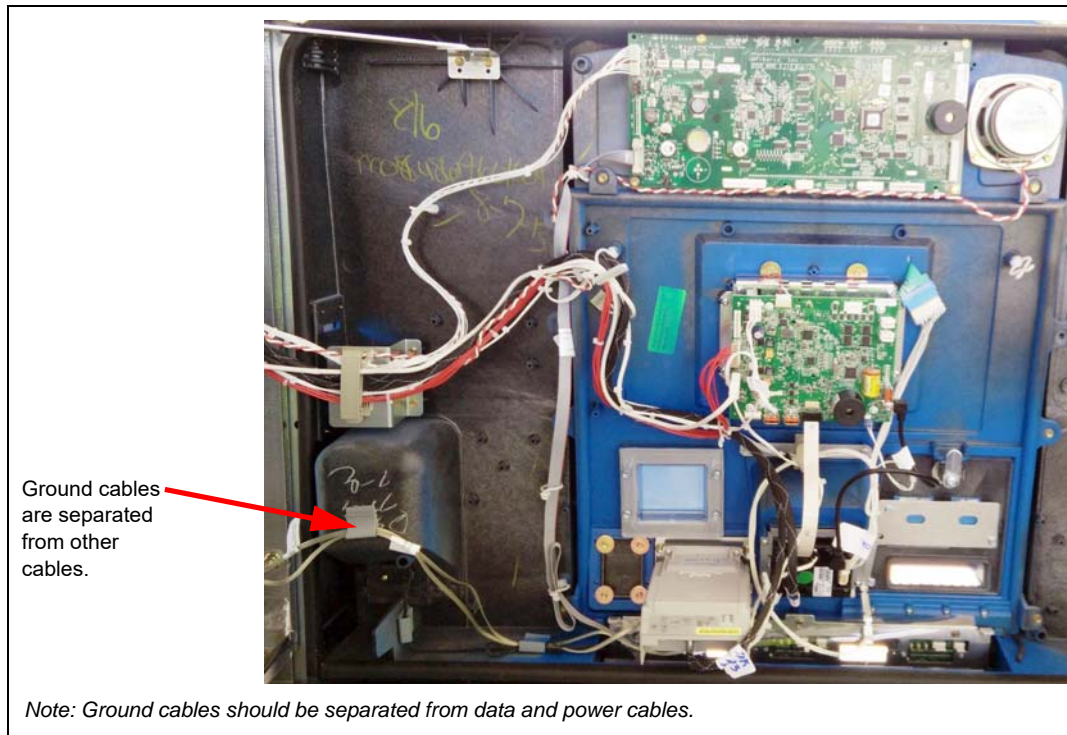
Figure 24: Ground Wire Connected to Chassis



SECTION 4 - INSTALLATION

Figure 25 shows an example of good cable routing (cables secured with cable clamps and cable-ties).

Figure 25: Example of Good Cable Routing



For start-up and configuration instructions for FlexPay IV CRIND, refer to *MDE-5221 FlexPay IV CRIND Start-up Manual*.

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. The kit model number is EPK M7 E-CIM.
- Note: Registering the kits ensures that proper warranty is applied.*

SECTION 4 - INSTALLATION

4

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SECTION 5 - REFERENCE INFORMATION

Related Documents

Document No.	Title
MDE-3804	Encore and Eclipse Start-up/Service 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)] and Encore S/Encore 500 Units
MDE-4699	Applause Media System Installation, Service, and Parts Manual
MDE-4736	FlexPay EPP Heater Kit (M08631K001) and Card Reader Heater Installation Instructions
MDE-4902	Encore 700 S Start-up, Service, and Remote Key Loading (RKL) Manual
MDE-4917	FlexPay Connect Distribution Box Installation Manual
MDE-5221	FlexPay IV CRIND Start-up Manual
MDE-5223	FlexPay IV CRIND Service/Troubleshooting Guide
MDE-5227	M7 Maintenance Tool User Guide
MDE-5314	Insite360 Encore Remote Management Installation, Start-up and Service Manual
MDE-5349	Insite360 Encore Power Supply Retrofit Kit Installation Instructions
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
AFP	Auxiliary Feature PCB
ASC	Authorized Service Contractor
BNA	Bank Note Acceptor
BOM	Bill of Materials
BRCM	Back Room Communication Module
CAT5	Category 5
CCN	CRIND Control Node
CD	Computer Display
CPU	Central Processing Unit
CRIND	Card Reader in Dispenser
D-Box	Distribution Box
DCM	Dispenser Communication Module
DSL	Digital Subscriber Line
E-CIM	Enhanced Customer Interface Module
EMV	Europay®, MasterCard®, and Visa®
EPP	Encrypting PIN Pad
ESD	Electrostatic Discharge
FCB	FlexPay Control Board
GSoM	Gilbarco Systems on Module
HIP	Hub Interface PCB

SECTION 5 - REFERENCE INFORMATION

Term	Description
I/O	Input/Output
JSA	Job Safety Analysis
MOC	Major Oil Company
MTA	Mass Terminal Assembly
NGP	Next Generation Payment
OLC	Over Legacy Cable
OSHA	Occupational Safety and Health Administration
PCA	Printed Circuit Assembly
PCB	Printed Circuit Board
PCI-PED	Payment Card Industry PIN Entry Device
PCN	Pump Control Node
PIP	Peripheral Interface PCB
PPU	Price per Unit
POS	Point of Sale
RKL	Remote Key Loading
SPOT	Secure Payment Outdoor Terminal
SSoM	Secure System on Module
TRIND®	Transmitter/Receiver in Dispenser
W&M	Weights and Measures
UPM	Universal Payment Module
USB	Universal Serial Bus

SECTION 6 - APPENDICES

Appendix A: Peripheral Options

PIP3 Board Connections

The following table lists the connections on the PIP3 board:

Connector	Port Number	Function	From	To
8-pin MTA	P202A	RS-232 Pump and CRIND data from AFP	P202A	P302A/B
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 IN	P214A	USB Expand
USB	P214B	USB Out	P214B	USB Expand
USB	P214C	USB Out	P214C	USB Expand
USB	P214D	USB Out	P214D	USB Expand
USB	P214E	SS Flash Drive (optional)	P214E	SS Flash Drive
4-pin MTA	P219	Speaker Input from AFP	P219	GSoM P219 L and R
2-pin Mat-n-Lok	P211	Audio to Left Speaker	P211	Left Speaker
2-pin Mat-n-Lok	P212	Audio to Right Speaker	P212	Right 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
3-pin	JP1	Drive for Beeper		Jumper
10-pin	P208	10.4" Backlight	P208	10.4" Backlight
3-pin	P210	5.7" Backlight	P210	5.7" Backlight Leads

SECTION 6 - APPENDICES

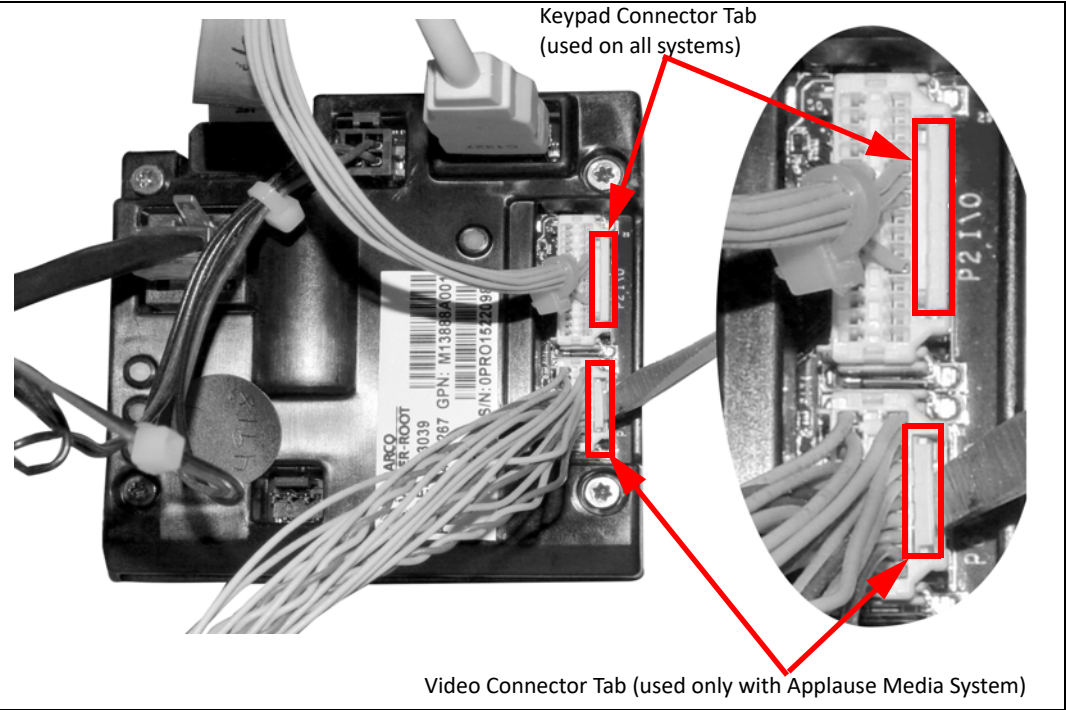
UPM Board Connections

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 softkey 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



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	PIP3 - (P213), softkeys, door node (P2111), door switch (192), ADA, call	Input/Output (I/O) to multiple CRIND functions: <ul style="list-style-type: none">• Softkeys• ADA• Door switch• Beeper
P3	AFP - Side A or B J303B/ J305A, J305B, or J305C	Ethernet to the AFP board
P4	PIP3 - USB uplink	USB uplink to the PIP3
P5	PIP3 - P205	Video out
P6	GSoM - P406 Applause Media System video input	Video input from the GSoM

SECTION 6 - APPENDICES

The following table lists the peripherals for the cables:

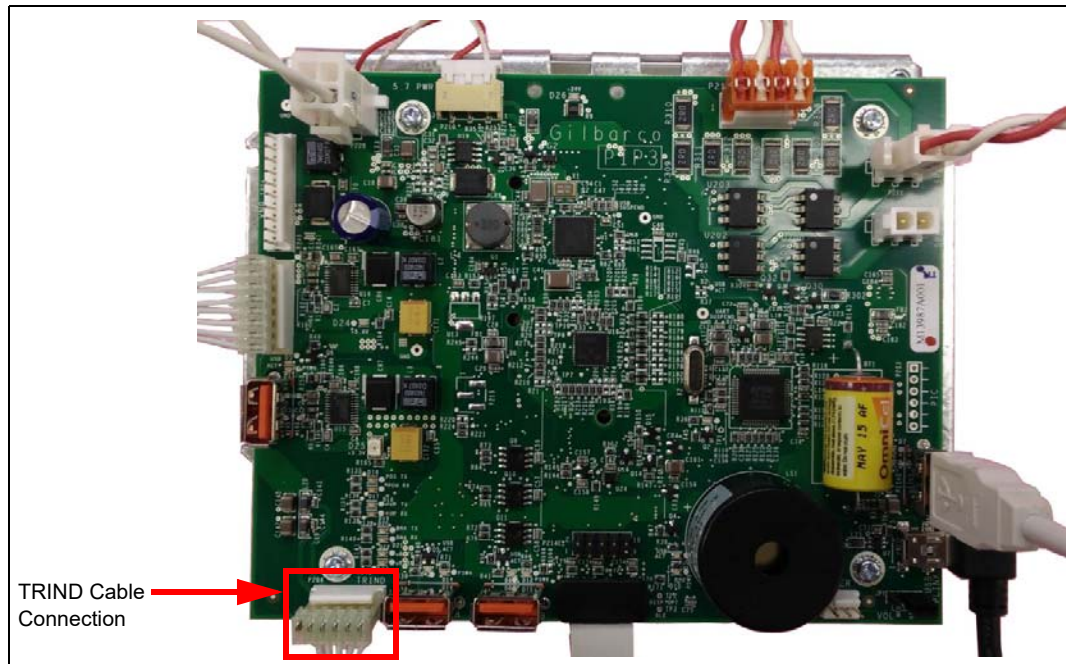
Part Number	Port Number	Function
M03184A00X	P201	Cash Acceptor
R20773-GX	P204	TRIND
M09267A00X	P213	BEEP Connector
M09794A00X	P220	24 VDC Power In
M14337A001	P1	UPM Heater Cable

TRIND

To install the TRIND:

- 1 Remove the TRIND Light Indicator Assembly (M06143A00X) from the old E-CIM door.
- 2 Reattach the TRIND light indicator assembly to the new E-CIM door provided in the kit.
- 3 Connect the PIP3 using the TRIND Cable (R20773-G10). Connect the J204 to P204.

Figure 2: Connecting TRIND Cable



SECTION 6 - APPENDICES

Installing Cabinet Heater for 10.4-inch Display

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

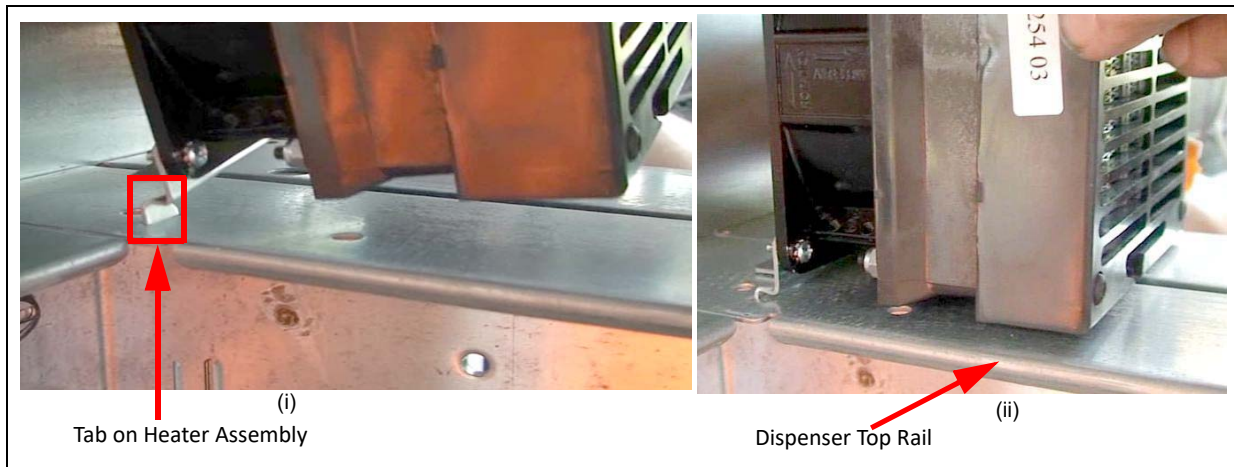
To install the cabinet heater:

- 1 Insert the tab on the heater onto the top rail in the unit (see [Figure 3](#)).
- 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.

Figure 3: 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.

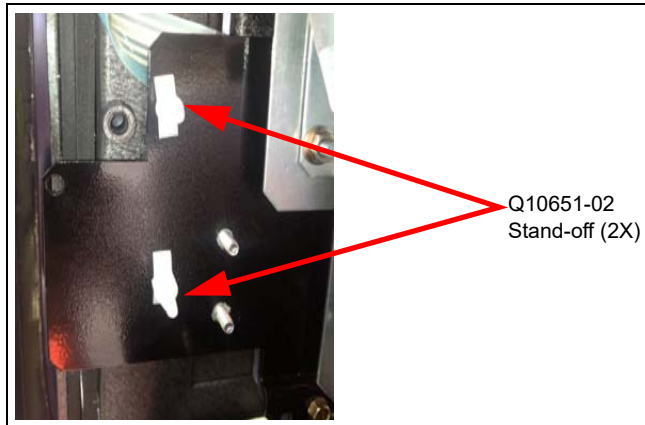
SECTION 6 - APPENDICES

Call Button

To install the call button:

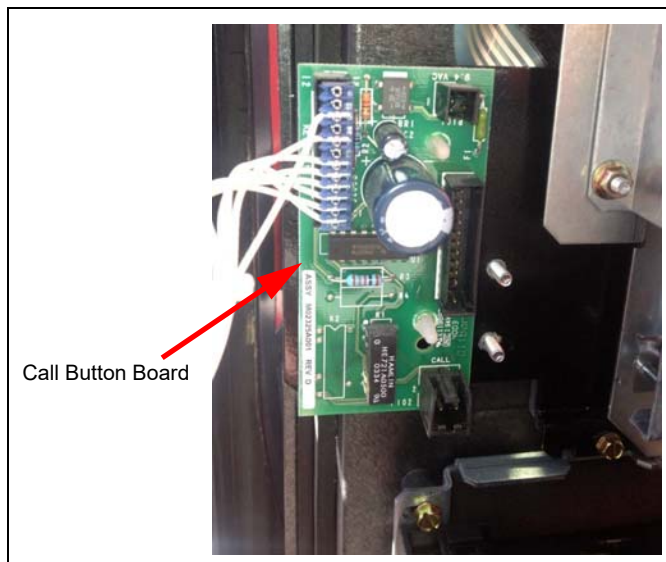
- 1 Install the two Q10651-02 Stand-offs on the FCB bracket [to the left of the FCB (see [Figure 4](#))].

Figure 4: Installing Stand-offs



- 2 Install the call button board.

Figure 5: Installing Call Button Board

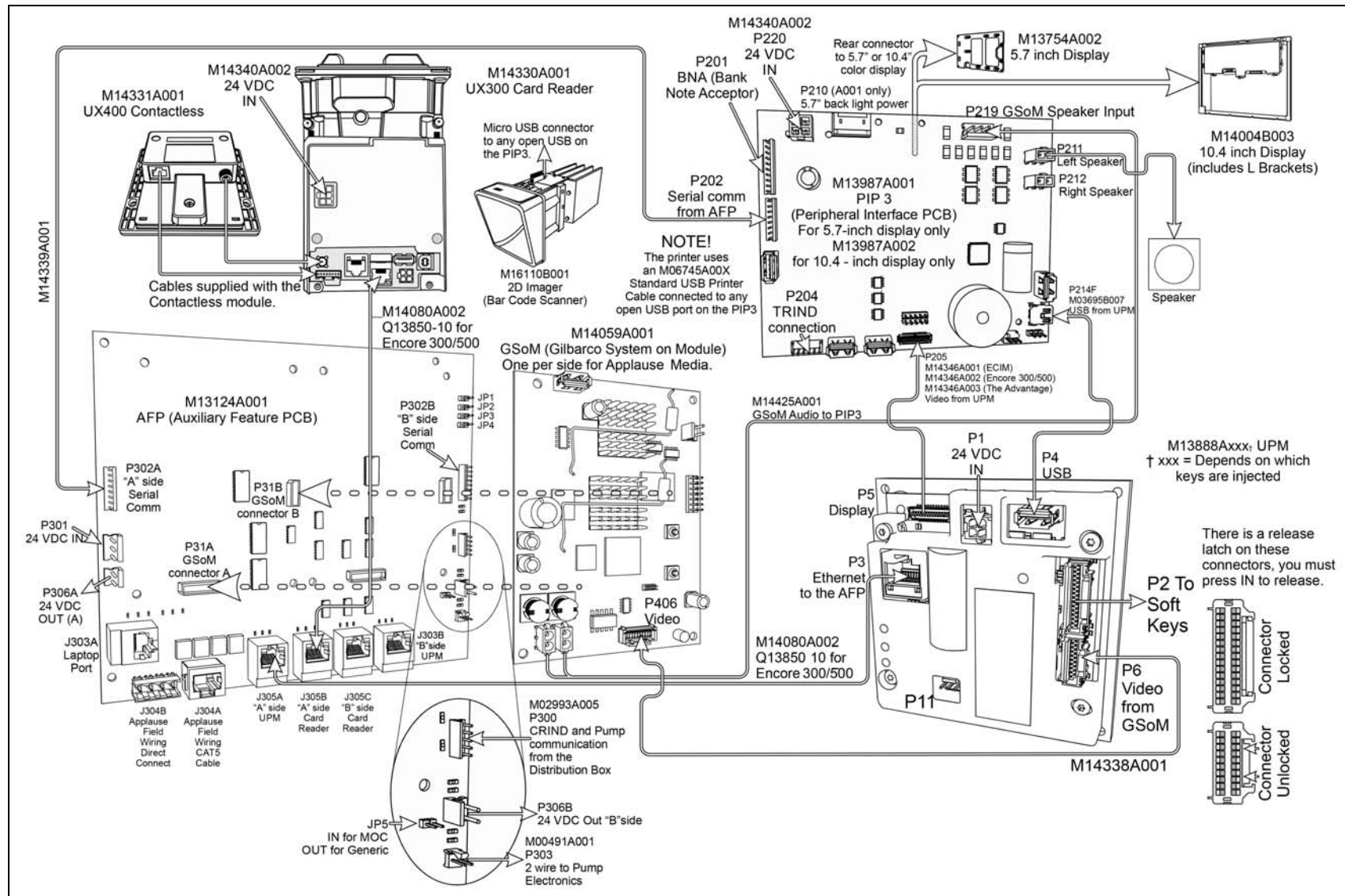


- 3 Make the required connections to P902C.

SECTION 6 - APPENDICES

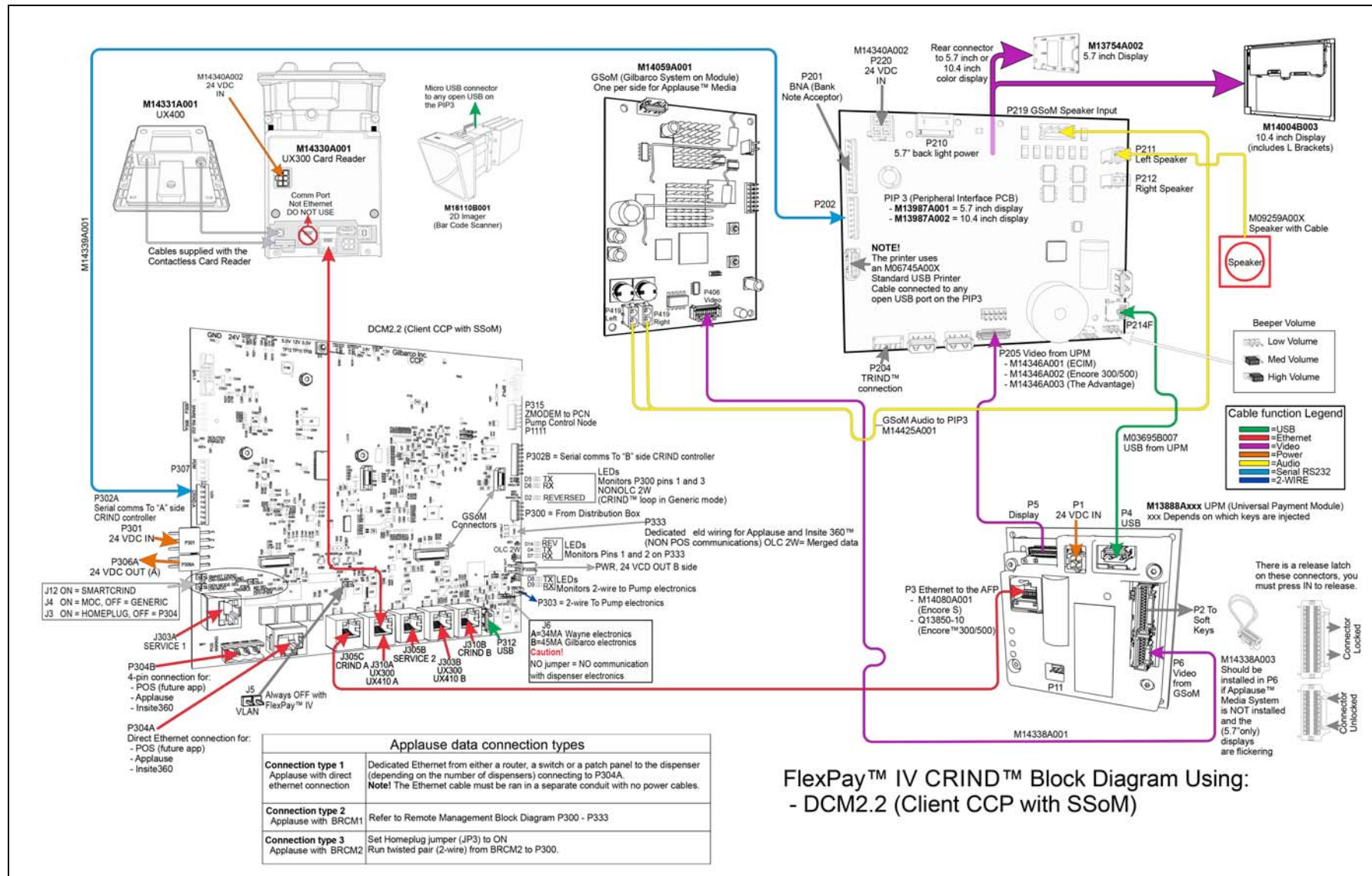
Appendix B: Block Diagrams

Figure 6: Cable Block Diagram for FlexPay IV CRIND



SECTION 6 - APPENDICES

Figure 7: Cable Block Diagram for FlexPay IV DCM2.2



SECTION 6 - APPENDICES

Appendix C: Verifying Cable Connections

Cable Connections on Display Assembly

Figure 8 shows the cable connections on the display assembly.

Figure 8: Cable Connections on Display Assembly



To verify the cable connections:

Power Cabling

Ensure that the power cables are connected as follows:

- 1 **PIP board:** P220 port is connected to +24 V Cable (M14340A001).
- 2 **UPM board:** P1 port is connected to +24 V cable.
- 3 **AFP board:** P301 port is connected to +24 V cable.

PIP3 Board Cabling

Ensure that the PIP3 board cables are connected as follows:

- 1 PIP3 USB uplink port is connected to the USB Cable (M03695B004) and connected to the P4 port on the UPM.
- 2 P213 port of PIP3 is connected to the M13119 Cable, which connects to the UPM P2.
- 3 P211 port is connected to the Speaker Cable (M09259A004) and to the left speaker.
- 4 P212 port is connected to the Speaker Cable (M09259A004) and to the right speaker (if equipped).

SECTION 6 - APPENDICES

- 5 P205 port is connected to M14136A00X Cable and to UPM P5.
- 6 P206 port is connected to 10.4-inch LVDS Cable (M13722A002) and to 10.4-inch display.
- 7 P207 port is connected to 5.7-inch Parallel Cable (M9224B001) and to 5.7-inch display.
- 8 P209 port is connected to 10.4-inch Backlight Cable (M9224B001) and to 10.4-inch display.
- 9 P210 port is connected to 5.7-inch backlight leads from the 5.7-inch display.

UPM Cabling

Ensure that the UPM cables are connected as follows:

- 1 P1 port is connected to 24 V Power Cable (M14340A001).
- 2 P2 port of Softkey Cable (M13119AXXX) is connected to the softkeys, P213 of PIP3 for the beeper, J2111 for the door node, and J192 for the door switch.

CAUTION

You must depress and hold the tab on the side of the UPM softkey connector to remove it. If you do not depress the tab, you are very likely to pull out the wire from the connector.

- 3 P3 port of Ethernet Cable (Q13850-XX) is connected to P303A/B on AFP board.
- 4 P4 port of USB Cable (M03695B007) is connected to USB UPLINK on PIP3 board.
- 5 P5 port of LVDS Cable (M14136A00X) is connected to P205 on PIP3 board.
- 6 P6 port of LVDS Cable (M14338A001) is connected to P606A/B on UPM board.
- 7 Earth Ground Cable (M04431A002) is connected to the U-channel running across the bottom of the unit cavity. These need to be mounted with separate bolts and not together.

Intercom System

Ensure that the intercom system is connected as follows:

- 1 Speaker Cable (M09259A004) is connected to the speaker located on the door.
- 2 Intercom Cable (M11870A003) is connected to P505 port on side A and side B.
- 3 Red and white (Speaker + and Speaker -) cables are connected to the intercom system.

SECTION 6 - APPENDICES

UX300 Card Reader Cabling

Ensure that the card reader cables are connected as follows:

- 1 P1 port is connected to 24 V Power Cable (M14340A001).
- 2 LAN port of Card Reader Cable (M13443B006) is connected to J305X on the AFP. This connection is to the UX300 contact card reader.
- 3 Connections 3 and 4 are from the UX400 contactless to the UX300.
- 4 If UX400 is present, connect the cables from the UX400 RF port to the UX300 and from the power/data port to the UX300.
- 5 Connect the earth ground cable that was provided from the UX300 card reader to the U-channel.

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