HAMILTON

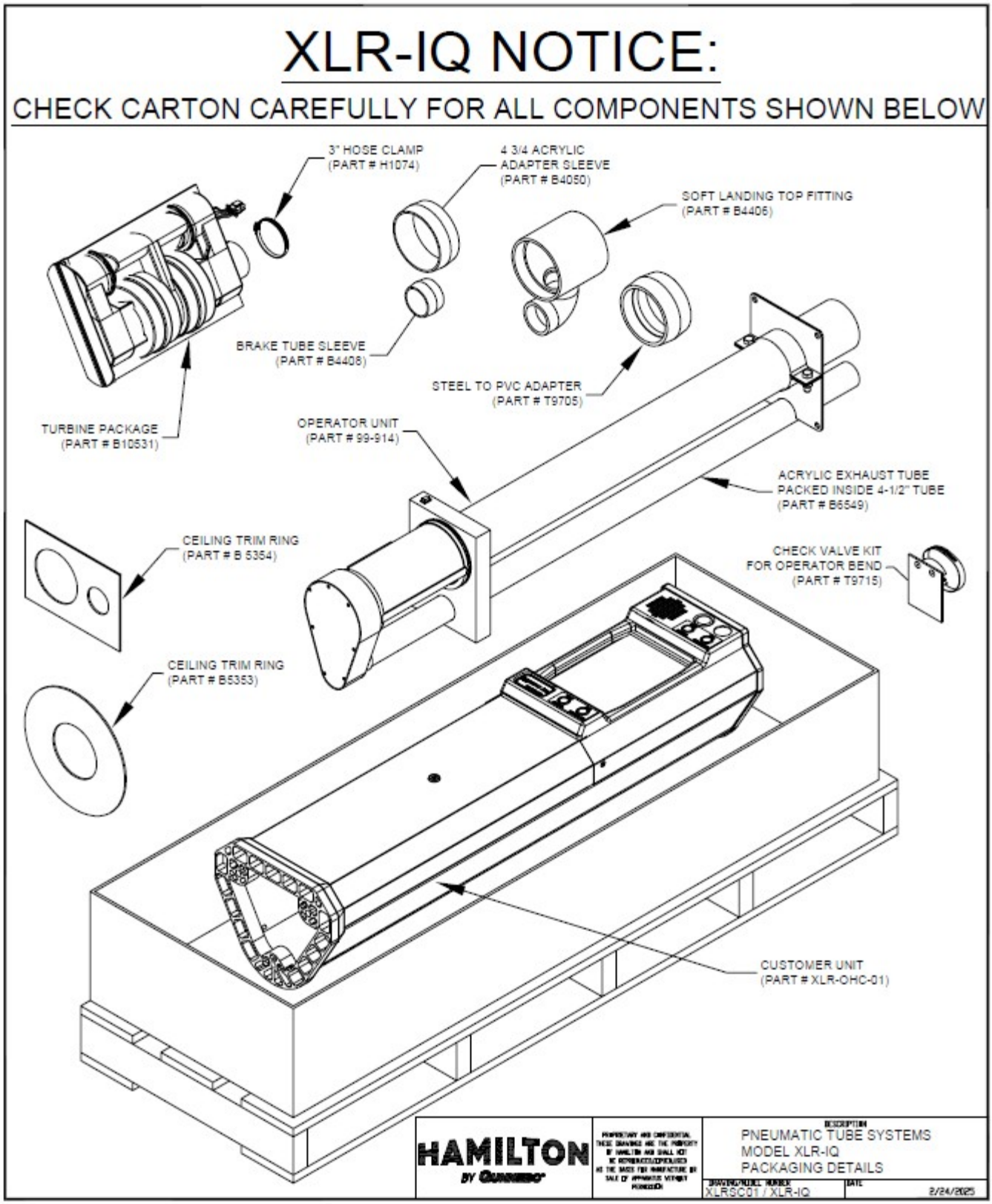
BY GUNNEBO®

Model XLR-IQ-4.5

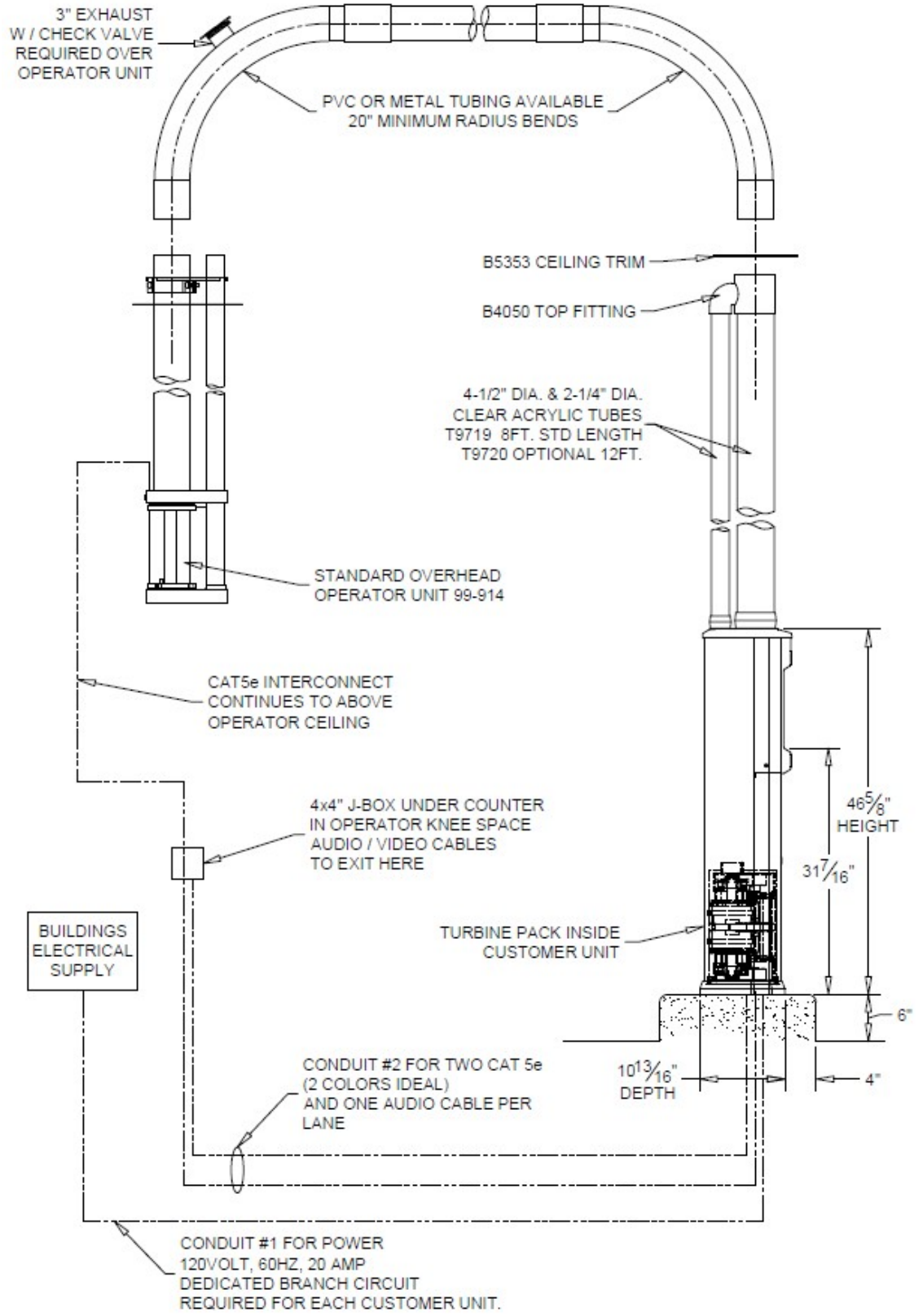
DOC. 08-436

Installation and Service Manual

Typical Packaging Details



System Details



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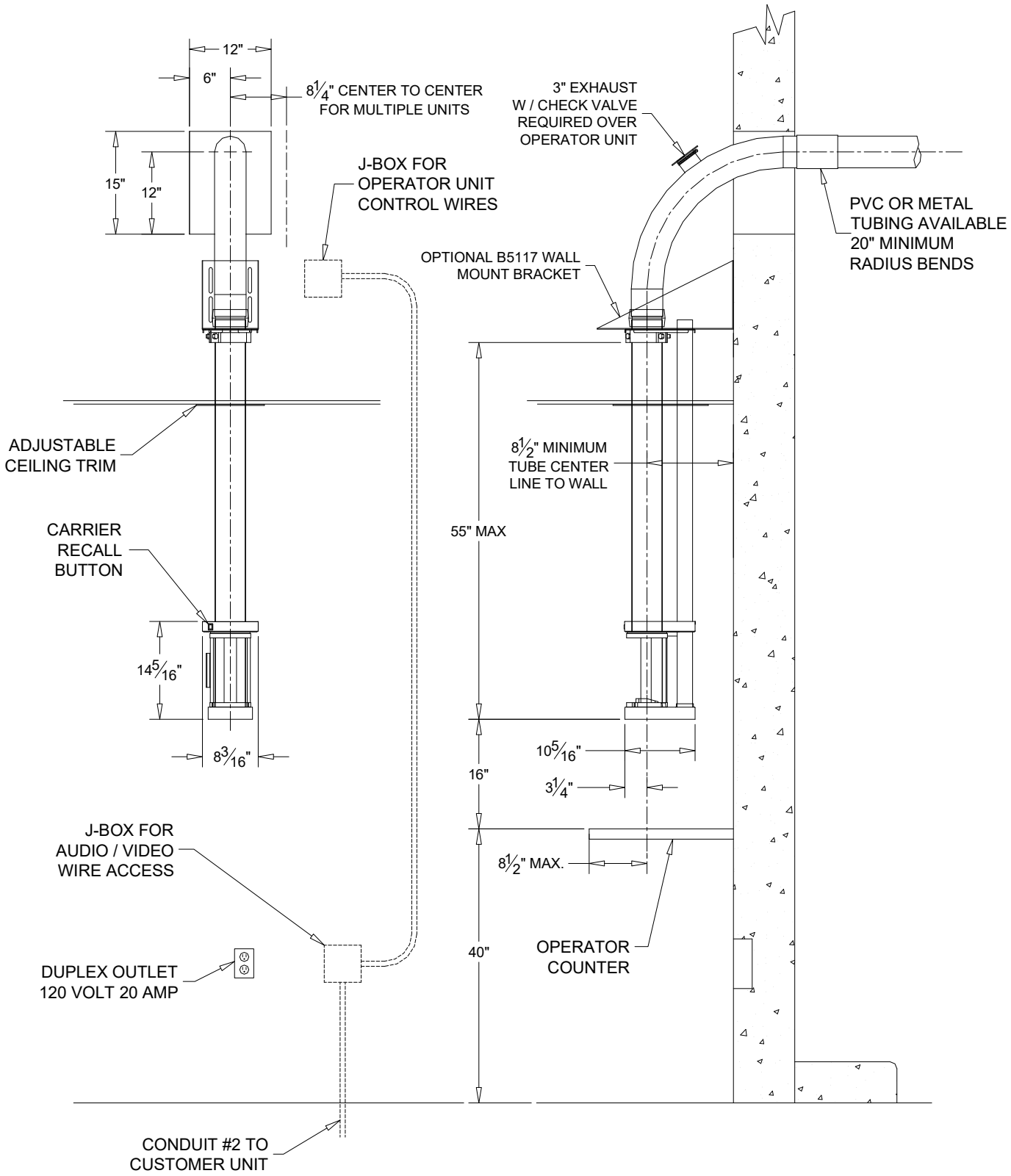
Operator Unit Details



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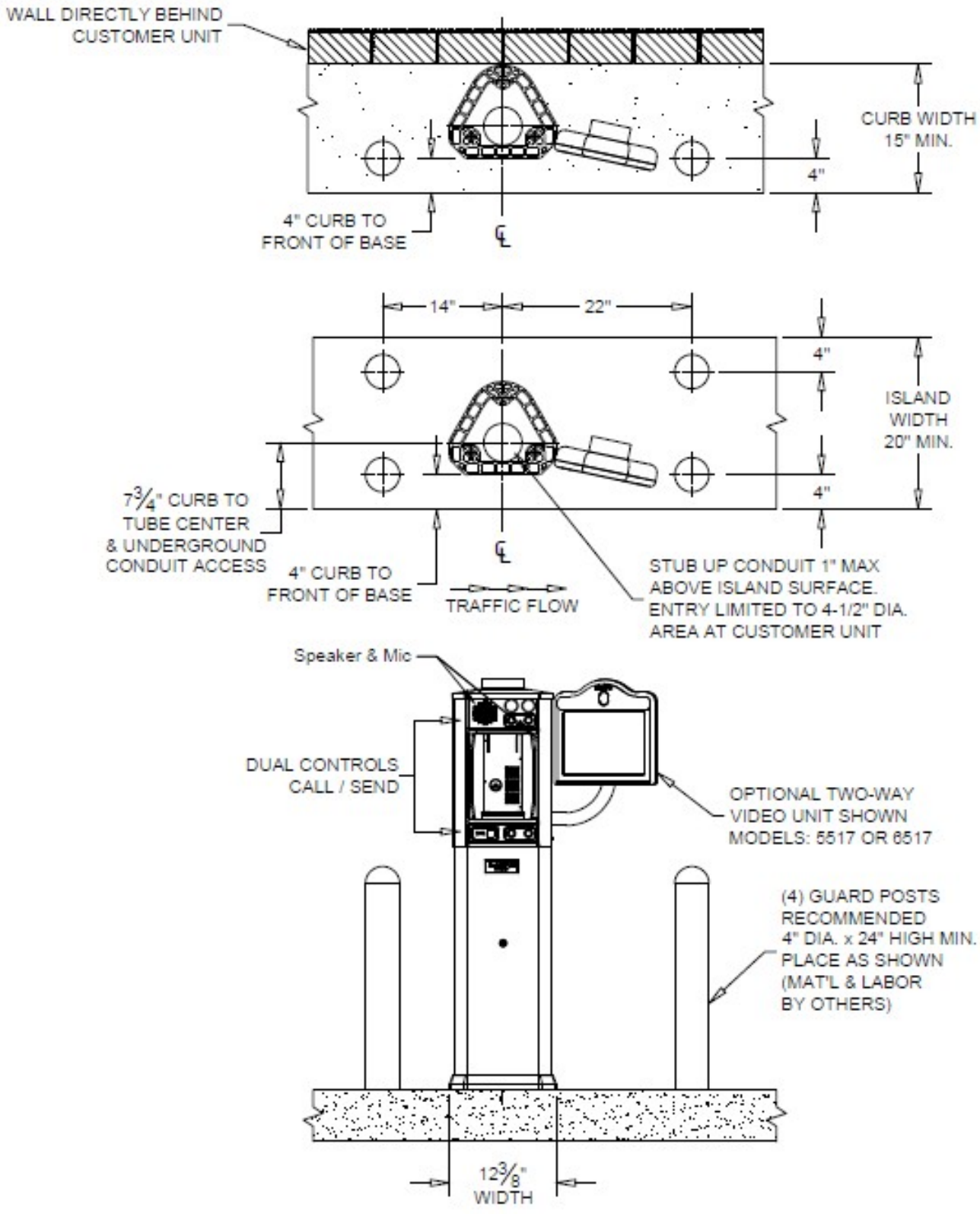
Customer Unit Details



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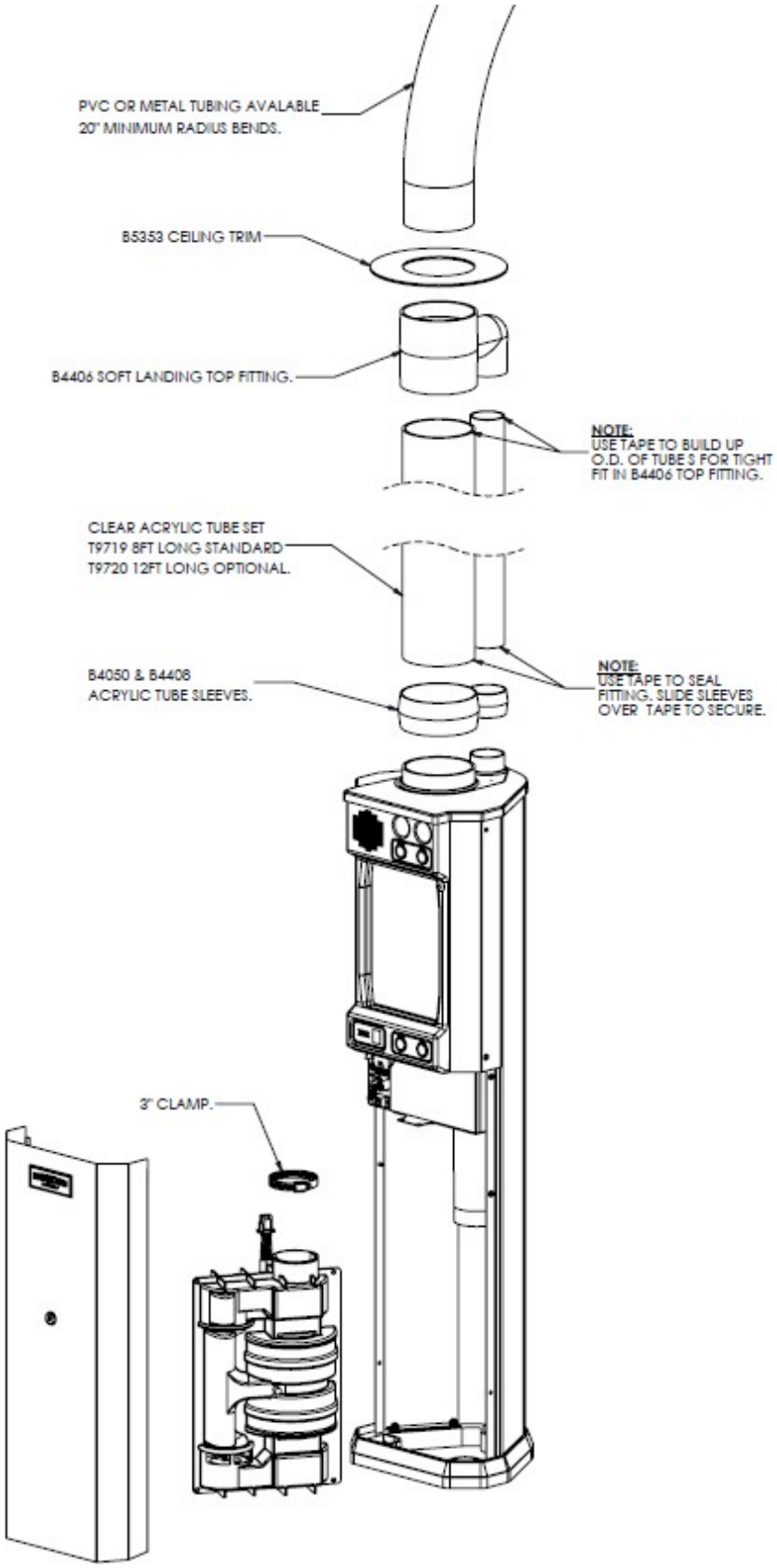
Customer Unit Connections



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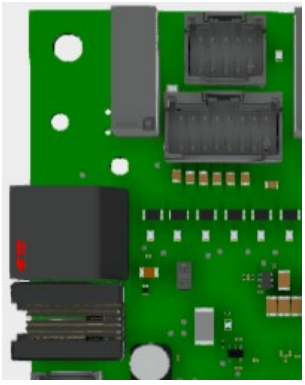
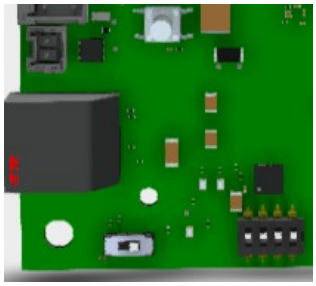
Customer Unit Control Board Connections



Operator Interconnect (Manual Teller) Expansion Connector (J6)

CAT5 Ethernet Cable Wiring

The XLR-IQ main board requires a CAT5 ethernet cable to connect the system to the local service panel AND/OR the online Safe Control IQ dashboard.



RJ-45 Ethernet Connector (J7)

The ethernet pinouts are standard.

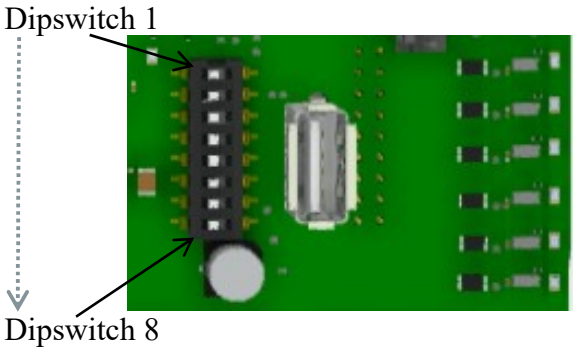
Note: The ethernet AND operator interconnect cable are both CAT-5 cables using identical RJ45 connector styles. Please connect the correct cable to the correct location.

Switch Settings

Configuration Dipswitches

There are 12 configuration dipswitches contained on the XLR-IQ main control board: an 8-position dipswitch and a 4-position dipswitch. These 12 dipswitches determine the configuration options for how the XLR-IQ will operate.

The 8-position dipswitch pack definitions are as follows.

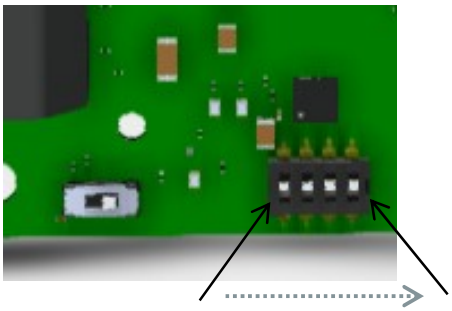


(Push the dipswitch RIGHT towards the USB connector to turn the feature ON)

Switch #	Name	States	Description
1	Unit Selection 1	-	See Unit Selection Details Below
2	Unit Selection 2	-	See Unit Selection Details Below
3	Unit Selection 3	-	See Unit Selection Details Below
4	Auto Door Close	Off - Disable On - Enable	Closes the Door if The Carrier is at the Customer side for 3 minutes or greater with the door open. Hit the Customer Send button or Call Button to open again.
5	Early Pressure	Off - Disable On - Enable	Turns on the pressure motor 1 second before the door closes on the carrier being sent in
6	Multi-board System	Off - Disable On – Enable	Turn on when interfacing to a motorized teller
7	Airflow	Off - Disable On – Enable	Turn on to enable airflow. Airflow is a built-in feature on the XLR-IQ main control board.
8	Call on Vehicle Detect	Off - Disable On – Enable	Turn on to enable sending a customer call button press when a vehicle is detected (requires optional vehicle detector)

Unit selection Details	(Dipswitch 3	Dipswitch 2	Dipswitch 1)
XLR Customer Unit:	Off	Off	Off
XLR Motorized Teller:	Off	Off	On
Audio (Future):	Off	On	Off
HA33 Customer Unit (Future):	Off	On	On
Reserved 1:	On	Off	Off
Reserved 2:	On	Off	On
Reserved 3:	On	On	Off
Reserved 4:	On	On	On

The 4-position dipswitch pack definitions are as follows.



Dipswitch 1 Dipswitch 4

(Push the dipswitch UP towards the center of the board to turn the feature ON)

Switch #	Name	States	Description
1	UV Light Clean	Off – Disable On – Enable	Turn On to enable the UV Light Cleaning Kit
2	Airflow Thermostat Usage	Off – Disable On – Enable	When enabled, the Airflow will not turn on when the thermostat temperature is above 40. When disabled, Airflow turning on is independent of temperature. Airflow is an automatic operation on the XLR-IQ Motor Control board. No external components are required. The thermostat is built into the board.
3	Mute Microphone	Off – Disable On - Enable	Will enable a Relay to mute the microphone while the vacuum or pressure motor is turned on.
4	Thermal Protection	Off – Disable On – Enable	Will enable the thermal protection Relay 4 on the HUBS12 board when the temperature sensor drops below 40 degrees F.

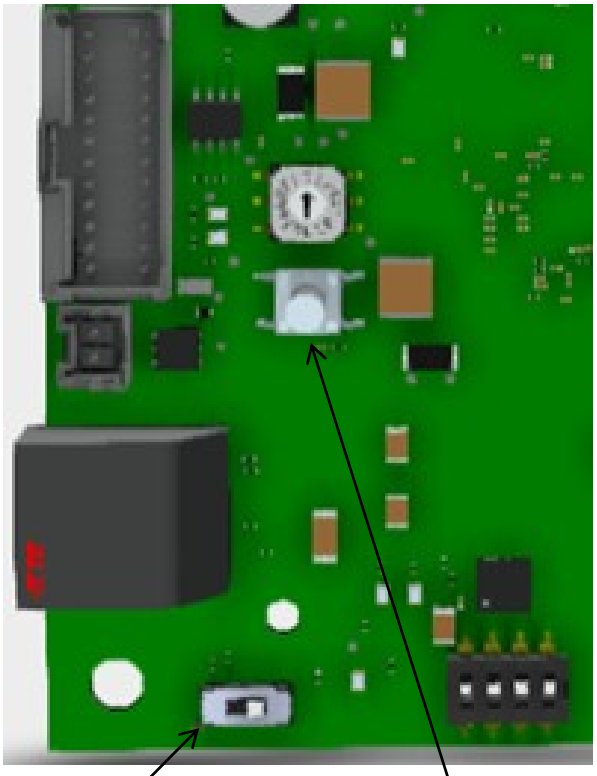
Defaulting Run-times and Error Codes

The XLR-IQ automatically learns turbine and door run-times. These run-times adjust automatically over time as conditions slowly change. The calculated run-times are stored on the board and will not be lost when the board loses power.

The XLR-IQ also keeps track of system errors and warnings. These codes are also stored on the main board along with the run times.

The XLR-IQ provides a way to default the run-times and reset all error codes. This is something that should be done at install time, when changing hardware (motors, turbines, boards…), or sometimes when servicing the equipment.

To default the data *press and hold pushbutton SW5* for > (greater than) 1.5 seconds and slide the slide switch to the opposite state at the same time. It does not matter which direction the slide switch is moved. Be sure to continue holding the pushbutton while sliding the switch. The pushbutton SW5 may be released after sliding the switch.



Night Lock Switch on Overhead Operator Unit

Night lock operation.

The night lock function is used to turn the lane off for the night or whenever the lane will not be used. The night lock function will close the customer unit and call the carrier inside, if needed, to prevent outside use of the lane. If there is a video monitor connected to the control circuit, the night lock function will also turn the video monitor off for this lane. When the night lock function is turned off the carrier will automatically be sent back to the customer unit.

Note: if multiple lanes are installed, each lane will have its own separate night lock switch.

Night lock switch
located under left front edge.

The night lock switch is shown pushed to the back which is the normal run position.

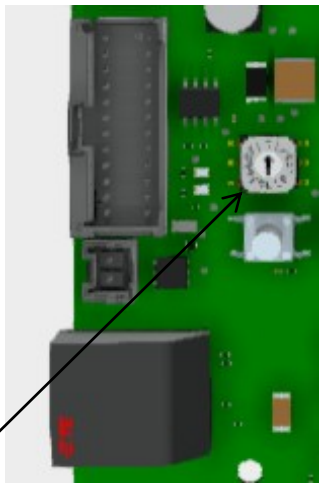
Pulling the switch forward will put the lane in the night lock mode.

Basic Installation Procedures

1) Locate the customer unit where it will be mounted, as shown in customer unit details. Mark the three mounting hole locations through the base. Use the appropriate anchors for the material and location of installation. (Typically, a drop-in concrete anchor or sleeve anchor is used. See local building codes for requirements in your area.)
2) Level the customer unit using shims under the base befothe anchors. Use shims of a material that will not corrode or decompose (Stainless Steel or Plastic shims recommended) Shim under the anchor points as close to the anchors as possible to avoid deforming the base. This may damage the base and/or make further assembly difficult.
3) Connect tubing as shown in customer unit connections. The acrylic tubes may need to be longer or shorter in order to reach the ceiling. These acrylic tubes come standard eight feet long but are available as an option twelve feet long.
4) Mount and connect operator unit per the instructions included with the operator unit.
5) Connect interconnection cable between customer and operator units. The interconnection page in this manual shows the CAT5 cable details. The cable will plug into the customer unit control board and the operator unit board.
6) Connect options like audio and video systems. Refer to the instructions included with these systems for installation details.
7) Connect power to the customer unit. A qualified technician should make all electrical connections. Each customer unit requires a **dedicated branch circuit**, 120volt, 60Hz, 20 amp. The customer unit electrical box details drawing shows the power connection locations.

Initial Startup Procedures

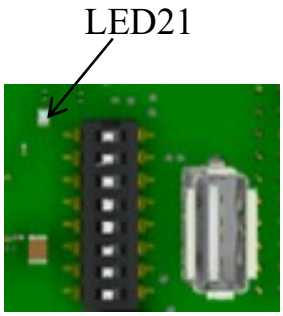
1) Check all connections, electrical and tubing.
2) Set the lane number using SW4. SW4 is a 16-position rotary switch labeled 0-9 and A-F that is used to select the pneumatic lane number. Location 0 should NEVER be used. **PRIOR to the first-time power-up of a lane**, set the position of this switch to how the lanes should be numerically ordered. 1 = Lane 1, 2 = Lane 2, and so on. A = Lane 10, B = Lane 11, and so on. This selection will affect BOTH the Service Panel and the online Safe Control IQ dashboard user interface.



SW4, Lane Selection Rotary Switch

3) Turn on power to customer unit.
4) Verify power indicators, LED19 and LED20, are lit. (Note: LED20 being dimmer than LED19 is normal).

5) Verify LED21 is periodically blinking. This blinking LED indicates the XLR-IQ main board is communicating with the Motor Control Board (MCB) that controls the turbines. The delay between blinks should never be more than 20 seconds.



6) The customer door will close if not already closed after the control board is fully started. It takes five to ten seconds for the control board to fully start.
7) Default the run-times and error codes using the procedure outlined in *Defaulting Run-times and Error Codes*. This will guarantee that all learned data is defaulted.
8) Perform all "normal" operator and customer functions including a Customer Send, Teller Send, Teller Recall, and Auto-door closed (if enabled). If any of these functions does not perform correctly then:
    a. Troubleshoot and resolve the errors
    b. Repeat steps 6 and 7 again

    Note: Performing all the "normal" operator and customer functions multiple times will guarantee the system is functioning as expected.
9) To check the safety features of the XLR-IQ block the customer door as it is closing with something (a pencil is recommended). The blocked door should be recognized, stop, and then reopen. Note: the XLR-IQ does not have "safety bar". Safety events are recognized differently than older Hamilton units.
10) If the XLR-IQ is connected to a local Service Panel, verify the status of all connected lanes are OK on the local LCD panel.
11) If the XLR-IQ is connected to the Safe Control IQ Online Dashboard, then login and verify communications are occurring and up to date. Note: the online dashboard may be behind the on-site Service Panel by a few minutes.

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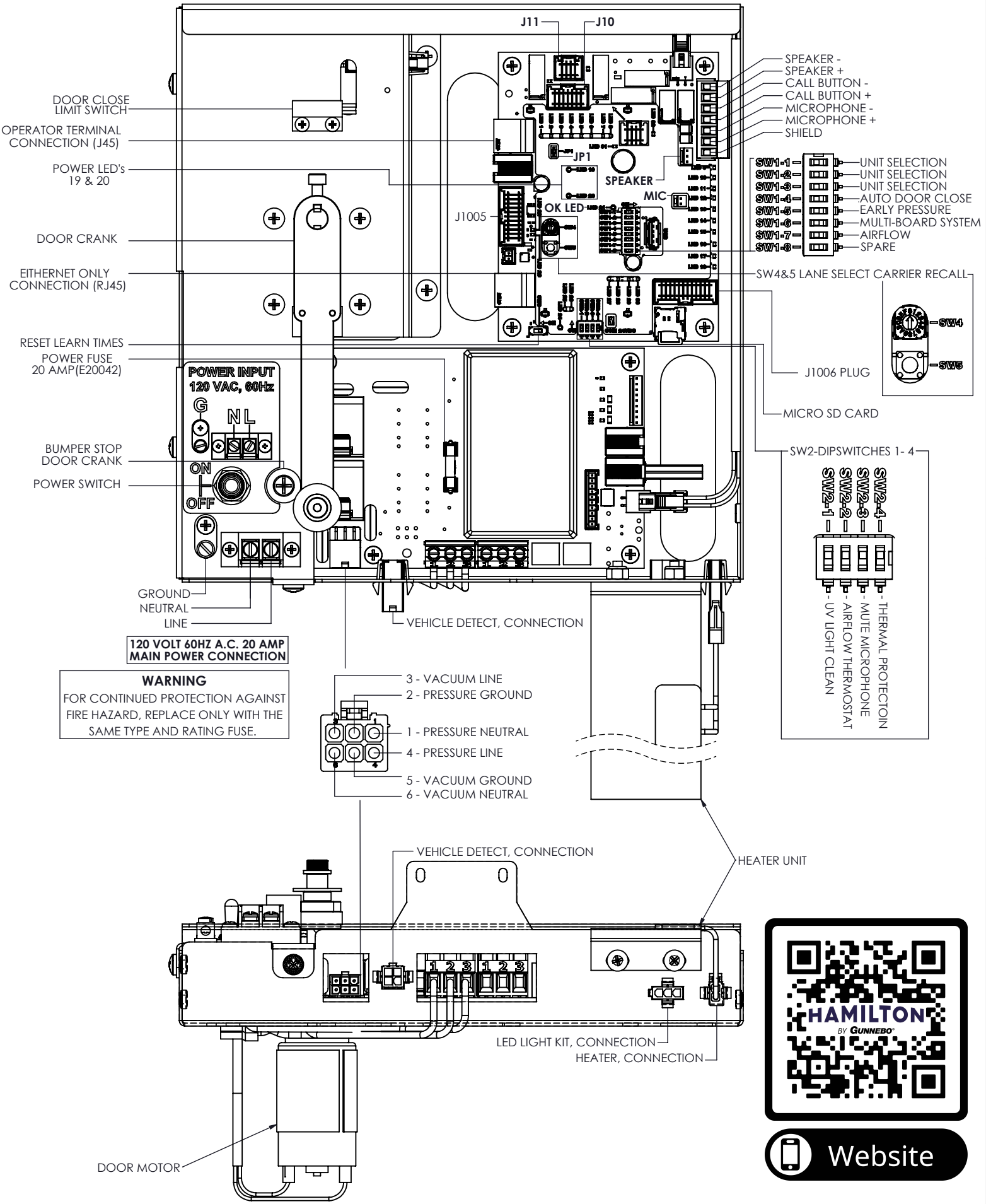
TITLE
XLR-iQ Electric Panel Assembly

DOCUMENT NUMBER
08-433

DRAWN BY	DATE	CHECKED BY	DATE	REVISION
WHD/DPC	8/8/2024			--



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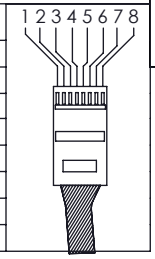
Website

INTERCONNECT CABLE: CAT5e CABLE WITH RJ45 CONNECTORS ON BOTH ENDS WIRED IN THE STRAIGHT THROUGH DESIGN AS SHOWN

J6 - RJ45 INTERCONNECT

WIRE	PIN #	CONNECTIONS
WHITE / ORANGE	1	24VDC, JP1 CONTROLLED
ORANGE	2	NIGHTLOCK
WHITE / GREEN	3	OPERATOR CARRIER ARRIVAL
BLUE	4	OPERATOR RECALL
WHITE / BLUE	5	OPERATOR SEND
GREEN	6	GROUND
WHITE / BROWN	7	CAN P
BROWN	8	CAN N



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TITLE
XLR-iQ INSTRUCTIONS

DOCUMENT NUMBER
08-433

DRAWN BY	DATE	CHECKED BY	DATE	REVISION
WHD/DPC	8/8/2024			

CONTROL BOARD COMPONENT DESCRIPTION AND FUNCTION

SW1-1 **UNIT SELECTION** "OFF" FOR TYPICAL XLR CUSTOMER UNIT
SW1-2 **UNIT SELECTION** "OFF" FOR TYPICAL XLR CUSTOMER UNIT
SW1-3 **UNIT SELECTION** "OFF" FOR TYPICAL XLR CUSTOMER UNIT
SW1-4 **AUTO-DOOR CLOSE** "ON" CLOSES DOOR AUTOMATICALLY AFTER 3 MINUTES OF INACTIVITY. PRESSING CUSTOMER SEND OR CALL WILL OPEN THE DOOR
SW1-5 **EARLY PRESSURE** "ON" ACTIVATES THE PRESSURE MOTOR 1 SECOND BEFORE THE DOOR IS COMPLETELY CLOSED
SW1-6 **MULTI-BOARD SYSTEM** "ON" ONLY WHEN CONNECTED TO A UNIT WITH ITS OWN CONTROL BOARD
SW1-7 **AIRFLOW** "ON" ENABLES AIRFLOW OPERATION SEE MANUAL FOR OPERATION DETAILS
SW1-8 **CALL ON VEHICLE DETECT** "ON" ENABLES AN AUDIO CALL WHEN A VEHICLE IS DETECTED BY OPTIONAL SENSOR
SW2-1 **UV LIGHT CLEAN** SEE UV LIGHT OPERATION MANUAL
SW2-2 **AIRFLOW THERMOSTAT** "ON" WILL LIMIT THE AIRFLOW OPERATION UNTIL THE TEMPERATURE IS BELOW 40F
SW2-3 **MUTE MICROPHONE** "ON" WILL MUTE THE CUSTOMER MICROPHONE WHILE TURBINE MOTORS ARE RUNNING
SW2-4 **THERMAL PROTECTION** "ON" WILL OPERATE UNIT HEATER WHEN TEMPERATURES ARE BELOW 40F
SW3 **SLIDE SWITCH** SEE "RESETTING LEARNED DATA" BELOW
SW4 **LANE SELECTION ROTARY SWITCH DO NOT USE "0" POSITION** PRIOR TO FIRST POWER UP, SELECT LANE NUMBER
SW5 **PUSH BUTTON** MOMENTARILY PRESSING SWITCH RECALLS CARRIER TO THIS END OF THE SYSTEM
JP1 **24VDC JUMPER** "ON" PUTS 24VDC ON J6: PIN #1 MUST BE "OFF" IN MULTI-BOARD SYSTEMS

GENERAL STARTUP:

PRIOR TO POWER UP:
CONNECT CAT5e INTERCONNECT CABLE FROM CUSTOMER UNIT TO OPERATORS UNIT
CONNECT CAT5e CABLE FROM CUSTOMER NETWORK CONNECTION TO NETWORK SWITCH
CONNECT AUDIO CABLE FROM CUSTOMER UNIT TO AUDIO MATRIX
SET JP1 JUMPER, "ON" WITH MANUAL OPERATORS UNIT, "OFF" WITH PCB CONTROLLED OPERATORS UNIT
SELECT LANE POSITION FOR CUSTOMER UNIT USING SW4 ROTARY SWITCH
SET OPERATION OPTIONS USING SWITCHES IN CUSTOMER UNIT
POWER UP:
CONNECT 120VAC 20A POWER TO CUSTOMER UNIT
CYCLE ALL WORKFLOWS:
- CUSTOMER SEND
- OPERATOR SEND
- OPERATOR RECALL
- NIGHT LOCK
- AUTO-DOOR CLOSE

USB AND MANUAL SOFTWARE UPDATES:

THE HUBS12 BOARD IS EQUIPPED WITH A USB-A CONNECTOR.
THIS USB INTERFACE IS USED FOR MANUAL, LOCAL SOFTWARE UPDATES.

TO UPDATE A HUBS XLR USING THE PCB PUSHBUTTON PERFORM THE FOLLOWING STEPS:
1. REMOVE POWER FROM THE HUBS12 BOARD.
2. INSERT THE USB DRIVE INTO THE USB-A CONNECTOR.
3. HOLD DOWN THE SW5 PUSHBUTTON.
4. POWER ON THE HUBS12 BOARD AND CONTINUE TO HOLD THE BUTTON DOWN FOR 3 ADDITIONAL SECONDS.
5. REMOVE YOUR FINGER FROM THE BUTTON, THE UPDATE WILL START. BE SURE TO LEAVE THE USB DRIVE INSERTED. (USING A USB STICK WITH AN ACTIVITY LIGHT IS A GOOD WAY TO SEE THE UPDATE FILE(S) ARE BEING FLASHED TO THE PCB.)
6. AFTER APPROX. 30 SECONDS - 1 MINUTE LED 21 WILL BLINK 3 TIMES AS LONG AS THE PCB HAS AN SD CARD INSERTED AND THE VERSION UPDATED WAS NEWER THAN THE PRIOR VERSION. IF EITHER IS NOT TRUE, THEN LED 21 WILL NOT BLINK 3 TIMES. REMOVE THE USB STICK AT THIS POINT OR WAIT 2-3 MINUTES AS IF THE DEBUG LED DOES NOT BLINK.

NOTE 1: REMOVING THE USB STICK EARLY WILL RESULT IN THE CORRUPTION OF THE REQUIRED UPDATE FILES AND PERFORMING THE UPDATE AGAIN WILL MOST LIKELY BE REQUIRED.
NOTE 2: THE UPGRADE PROCESS WILL TYPICALLY TAKE AROUND 1 MINUTE.

RESETTING LEARNED DATA:

SW3 IS A SLIDE SWITCH THAT, WHEN USED IN CONJUNCTION WITH THE PUSHBUTTON SW5, WILL ERASE ALL THE LEARNED DATA STORED IN THE HUBS12 BOARD. LEARNED DATA INCLUDES CARRIER TRAVEL TIMES, CUSTOMER DOOR TRAVEL TIMES, CURRENT ERROR/WARNING STATUS CODES, AND SO ON.

TO ERASE ALL THE LEARNED DATA PRESS AND HOLD PUSHBUTTON SW5 FOR > (GREATER THAN) 1 SECOND AND SLIDE THE SWITCH TO THE OPPOSITE STATE AT THE SAME TIME. IT DOES NOT MATTER WHICH DIRECTION THE SLIDE SWITCH IS MOVED. BE SURE TO CONTINUE HOLDING THE PUSHBUTTON WHILE SLIDING THE SWITCH. THE PUSHBUTTON SW5 MAY BE RELEASED AFTER SLIDING THE SWITCH.

NOTE: THE OPERATION TO ERASE ALL LEARNED DATA SHOULD BE DONE ANY TIME ANY HARDWARE IS REPLACED ON A HUBS ENABLED PNEUMATIC SYSTEM. THIS INCLUDES BOARDS, MECHANICAL DEVICES, SEALS, AND SO ON. RESETTING THE DATA WILL ENSURE THE SOFTWARE "LEARNS" FROM THE LATEST CONFIGURATION OF THE HARDWARE.

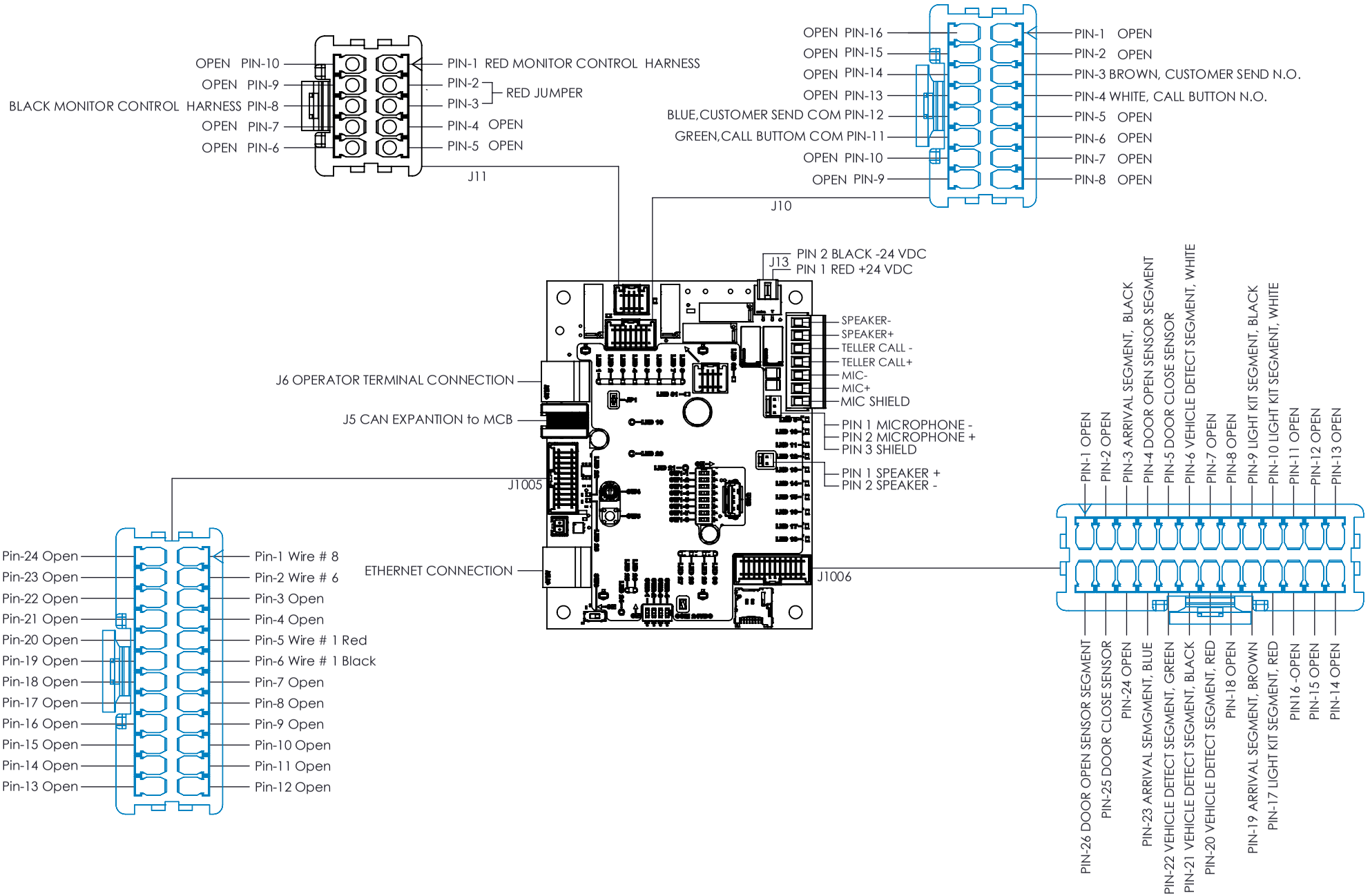
TROUBLE SHOOTING SHOULD BEGIN AS FOLLOWS:

1. Check to ensure the the power LED's 19&20 are on.
2. Check that the **"OK"** LED 21 is blinking (once every 15-20 seconds).
3. Once all workflows (Customer Send, Teller Send, Teller Recall, Auto-door Close, Night Lock) have been run successfully then the errors will be cleared from the Lane. A technician can be 100% certain the problem has been resolved in one of two ways:

1. Check the service panel screen inside the bank and verify that the Lane status is "GREEN" (OK). This is usually the easiest way.
2. Login to Safe Control IQ and make sure that the Lane status has returned to Online (OK). This also works but it can take up to 15 minutes for the status to change with the online dashboard.

LED LIGHT IDENTIFICATION

LED #	Description (Customer Unit with Manual Operator)
1	Nightlock
2	Operator Carrier Arrival
3	Operator Recall
4	Operator Send
5	Saftey Bar
6	Customer Carrier Arrival
7	Solid state output 1
8	Solid state output 2
9	UVCR On Light Kit LED
10	Follows Nightlock
11	Spare
12	Spare
13	Spare
14	Vehicle Detector
15	Customer Door Closed
16	Customer Door Open
17	Customer Send
18	Customer Call
19	3.3VDC power
20	1.8VDC power
21	Blinks when the HUBS12 board is communicating with an expansion Motor Control Board (MCB).
22	DC Door Motor Control-Door Open
23	DC Door Motor Control-Door Close
24	Indicates that the I/O Expander chip on the board has been initialized.
25	Ethernet LINK
26	Ethernet SPEED
27	UV Light Relay Control
28	Thermal Heat Relay Control
29	Briefly lights when the call button relay is energized to indicate a customer call button press
30	Mic mute when lit
31	Relay 2 indicator
32	Relay 1 indicator



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DESCRIPTION
Control Board Assembly with Indicator

DRAWING/MODEL NUMBER	DATE
25-104 /XLR-IQ	2/25/2025

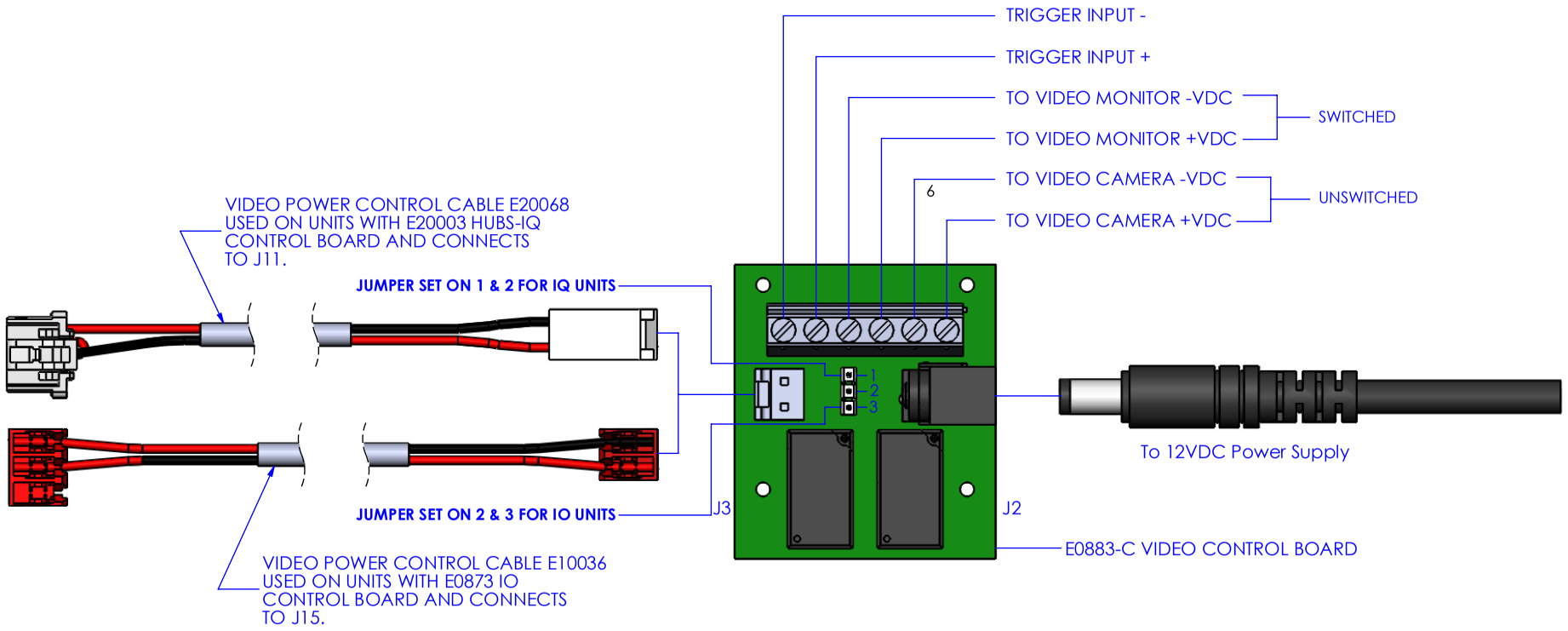
Optional Video Power and ControlNote, Only used with Hamilton 5517two -way video units.

E10036 Video Power Control Cable Installation: Used only for 5517 video units when pneumatic tube systems use E0873 IO Control Board.

E20068 Video Power Control Cable Installation: Used only for 5517 video units when pneumatic tube systems use E20003 HUBS IQ Control Board.

NOTE: CONNECTIONS MARKED TRIGGER ON THE E0883-C BOARD ARE NOT USED WHEN E10036 OR E20068 VIDEO CONTROL CABLES ARE CONNECTED. CONNECTIONS TO THESE TERMINALS WITH EITHER CABLE CONNECTED COULD RESULT IN DAMAGE TO THE 5517 VIDEO UNIT OR THE CONTROL BOARDS.

OPERATION: VIDEO POWER WILL BE CONTROLLED WITH THE PNEUMATIC UNITS NIGHTLOCK SWITCH. WHEN THEUNIT IS IN NORMAL OPERATING MODE. THE 5517 VIDEO UNITS MONITOR SHOULD BE SUPPLIED POWER. WHEN THE PNEUMATIC UNITS NIGHTLOCK SWITCH IS TURN ON THE SWITCHED MONITOR POWER WILL BE TURNED OFF.



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DESCRIPTION: E0883-C VIDEO CONTROL BOARD CONNECTION INSTRUCTION.

DRAWING/MODEL NUMBER	DATE
08-437	2/28/2025