



NX200 - Common
Main-Standby Transmitter
System

All India Radio (AIR)

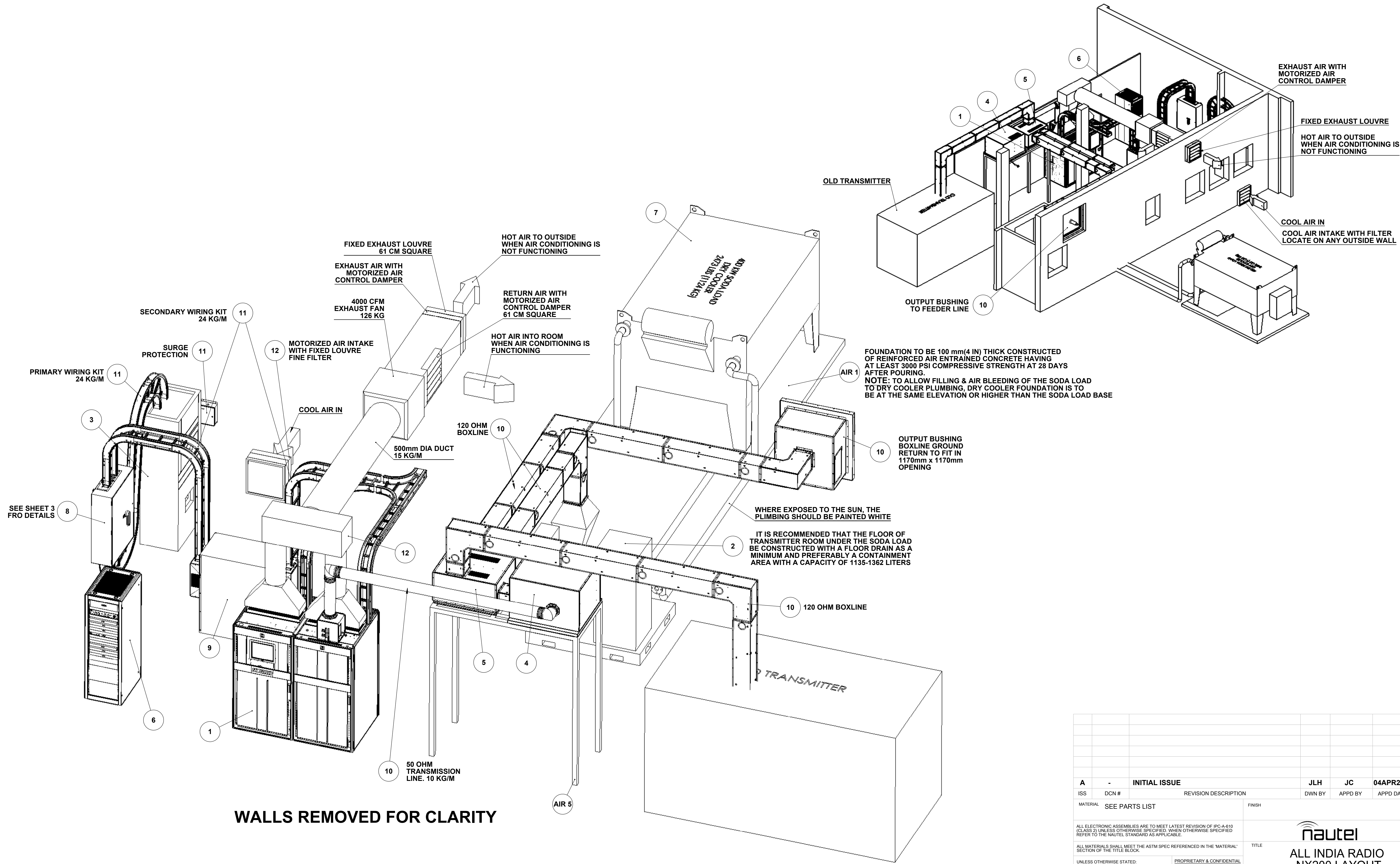
APPENDIX A SYSTEM LAYOUT DRAWINGS

Issue 0.110 January 2014

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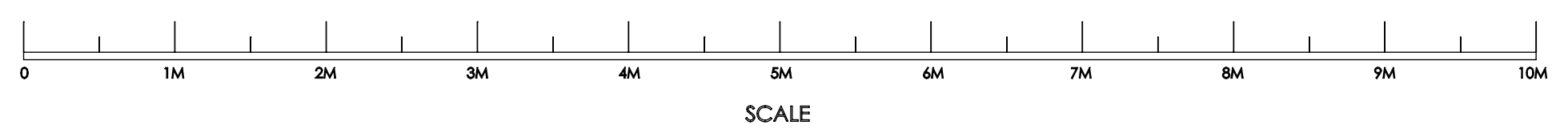
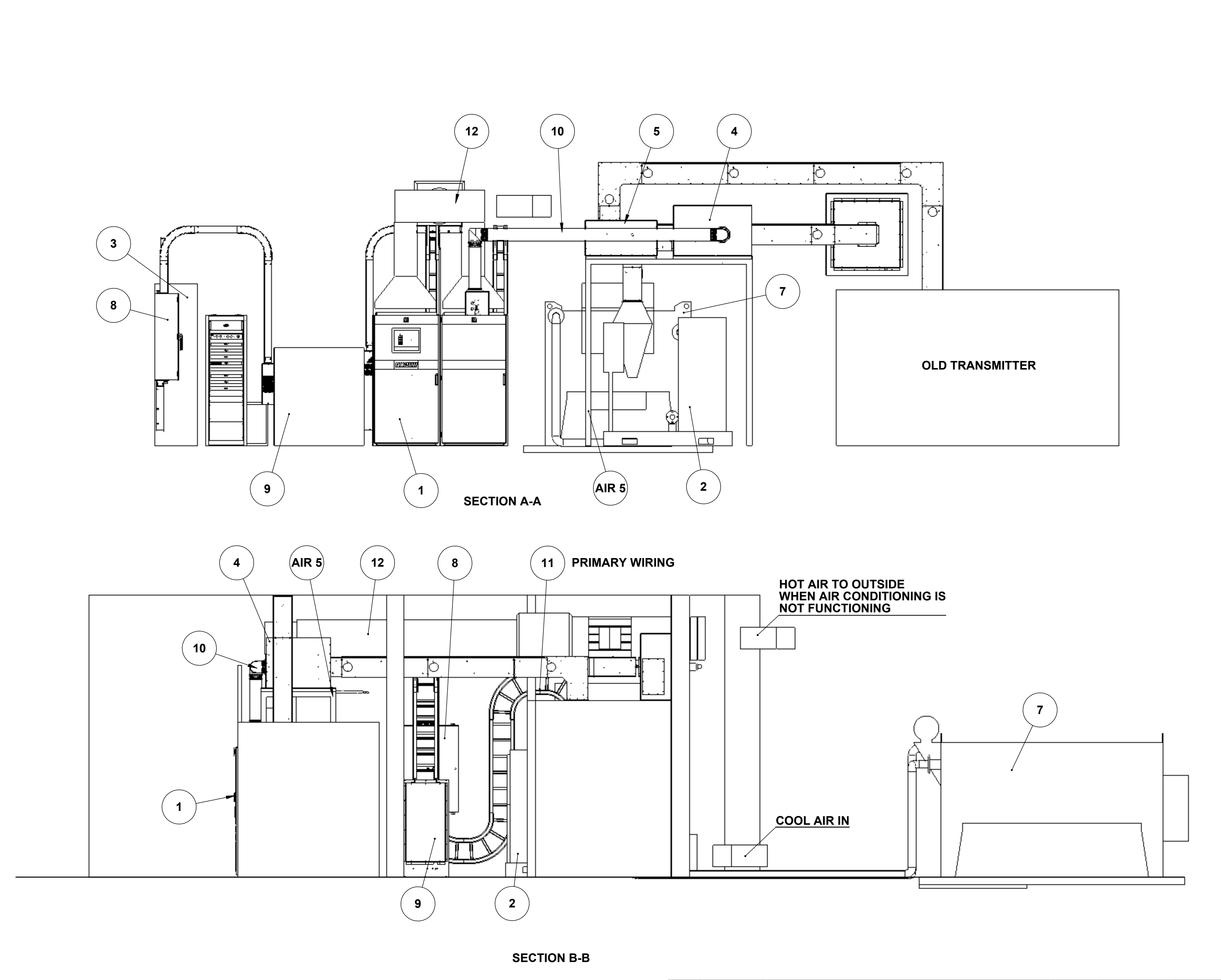
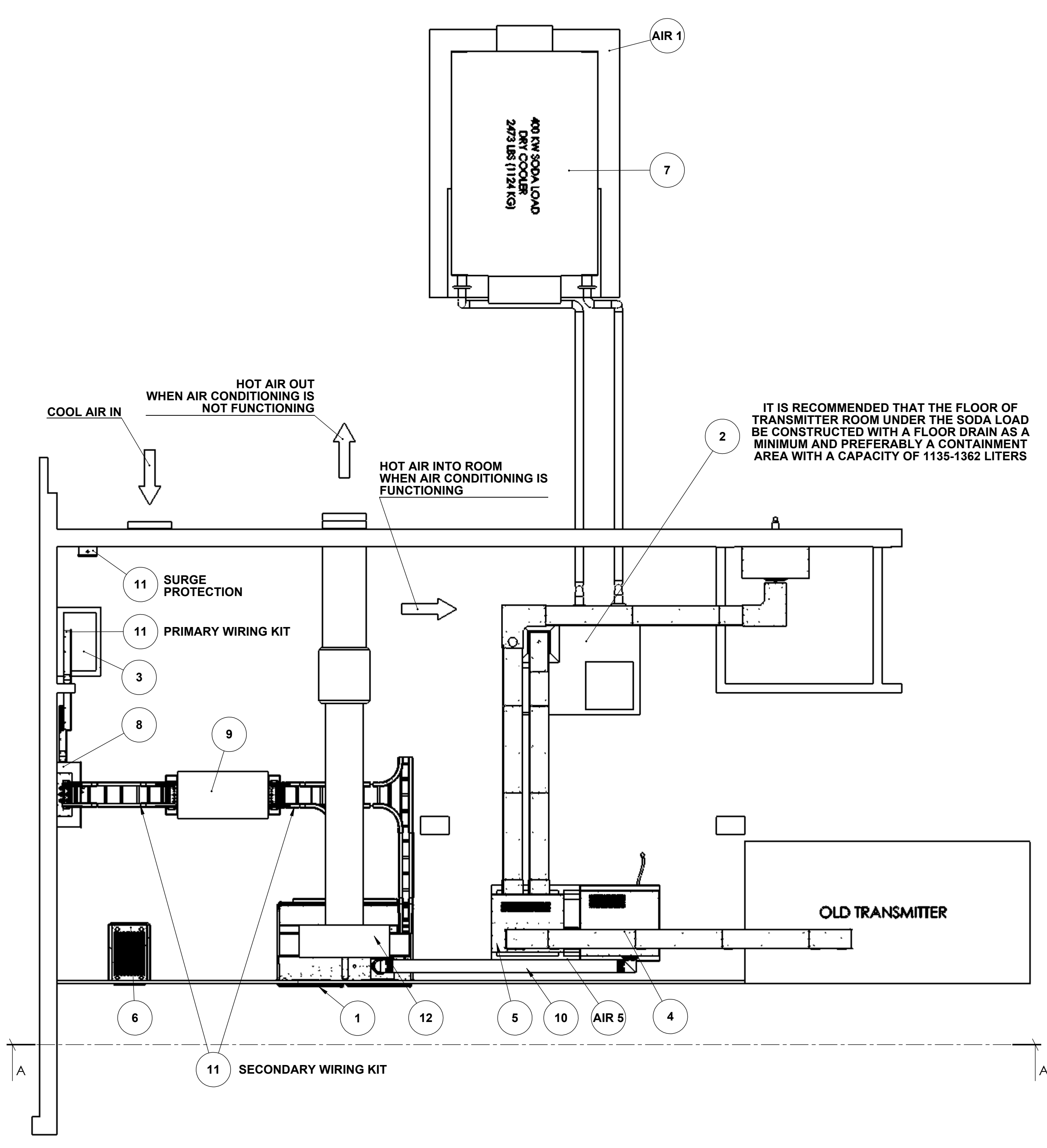


WALLS REMOVED FOR CLARITY

A - INITIAL ISSUE		JLH	JC	04APR2013
ISS	DCN #	REVISION DESCRIPTION	DWN BY	APPD BY
MATERIAL	SEE PARTS LIST	FINISH		
<small>ALL ELECTRONIC ASSEMBLIES ARE TO MEET LATEST REVISION OF IPC-A-610 (CLASS 2) UNLESS OTHERWISE SPECIFIED. WHEN OTHERWISE SPECIFIED REFER TO THE NAUTEL STANDARD AS APPLICABLE.</small>				
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		ALL INDIA RADIO NX200 LAYOUT		
SIZE	CODE IDENT NO	DRAWING NO		
D	37338	201-1321-02 SHT 1		
SCALE:	NTS	SHEET	1 OF 6	

ITEMS SUPPLIED BY ALL INDIA RADIO		
ITEM	DESCRIPTION	QTY
AIR 1	DRY COOLER FOUNDATION	1
AIR 2	SUPPORT HANGERS/STANDS FOR CABLE TRAYS, 120 OHM BOXLINES IMU, CHANGEOVER SWITCH & 50 OHM HARDLINE	A/R
AIR 3	SUPPORTS FOR LOAD HEAT EXCHANGER PIPING	A/R
AIR 4	FLOOR DRAIN & 1135-1362 (250-350 GAL) CONTAINMENT UNDER SODA LOAD (SEE NOTE)	1
AIR 5	2630 H x 2360 W x 1065 D mm (75x75x6 mm) ANGLE IRON PLATFORM FOR IMU/CHANGEOVER SWITCH	1
AIR 6	ATU HUT (NOT SHOWN)	1

ITEMS SUPPLIED BY NAUTEL			
ITEM	DESCRIPTION	NAUTEL #	QTY
1	200 KW TRANSMITTER	NARA57B	1
2	SODA LOAD SYSTEM	228-8305-01	1
3	BREAKER PANEL	UE183	1
4	IMPEDANCE MATCHING UNIT	228-6050-**	1
5	4 PORT SWITCH SYSTEM (CHANGE OVER SWITCH)	228-8306-01	1
6	DRM SYSTEM	228-8370	1
7	DUMMY LOAD HEAT EXCHANGER	228-8305-01 (UP138)	1
8	800A DISCONNECT SWITCH	228-8422	1
9	TRANSFORMER	207-8452-04	1
10	TRANSMISSION LINE KIT	228-8307-01	1
11	MAINS EQUIPMENT	228-8309-01	1
12	VENTILATION SYSTEM KIT	228-8311-02	1



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TITLE				
ALL INDIA RADIO NX200 LAYOUT		CODE IDENT NO: 37338 DRAWING NO: 201-1321-02 SHT 2		
SIZE D	SCALE: SEE SCALE	SHEET		2 OF 6

Notes for NX200 Sites rev 1

1. The NX200 transformer assy (item 9) was moved to center of room to allow for connection access, wire & cable tray bend radius and ventilation
2. The plumbing kit for between Soda Load & Heat Exchanger consists of the necessary components required to implement what is shown on drawing 228-1321-01.
3. All wiring kits consist of appropriate lengths and sizes of wire along with cable trays, cleats, and terminations.
4. The IMU and 4 port switch have been equipped with mounting base plates for easy attachment to AIR supplied mounting frames.
5. The ventilation system allows for either closed loop air conditioning as well as venting to the outside when aircon fails. An inlet air vent (with supplied filter) must be installed to allow sufficient air (4000 CFM) to enter the room when external exhaust is in use. Suggested location shown on drawing 201-1321-01.
6. Correct soda load dimensions have been used in our layout, with the load oriented to allow viewing of the control panel and allow convenient plumbing.
7. The dry cooler is shown in the area your dwg suggested-plumbing to be completed by AIR. The plumbing kit supplied is 2.5 inch.
8. The ATU will be fitted with shorting switches on both the 120 ohm input and on the antenna feed. These will be interlocked with the transmitter and the ATU caged door. An additional brass lock will be provided to allow the "old" transmitter to be incorporated into the ATU safety scheme. It is AIR's responsibility to install and create lock out instructions to ensure safe operation. Two sets of keys are provided-BUT ONLY ONE SET SHOULD BE USED while the other set is locked away in case of loss of the original set.
9. A complete description of the interlock scheme is included, see below.
10. Nautel will supply the DOW SR-1 glycol heat transfer fluid (UE149) via COMCON. The coolant solution should be mixed 30% by weight with clean water to avoid freezing. Total system volume must be calculated including the pipes. The load plus dry cooler need 830 liters of the mixture.
11. DRM Rack must be a minimum of 36" (915 mm) from side of NX300 transmitter to accommodate NX300 combiner maintenance.
12. The ventilation system allows for local circulation in an air conditioned space under normal operation. When air conditioning fails, dampers need to change state to allow outdoor air to enter/exit the building.

Typical NX200 Interlock Key Sequence

02APR2013

The following sequence of Interlock key steps is to be followed to ensure safe access into the NX200 & ATU Tuning Hut.

NX200 Access Only

Step 1: Switch AC power off at the NX200 Main AC Cutoff Switch. Turn Interlock Key 'A' to lock AC power handle in the 'Off' position, releasing the 'A' key.

Step 2: Insert the 'A' key into the 'A' lock in the Nautel Antenna Ground Switch on top of the NX200 Output Cabinet. Turn the 'A' key, engage the antenna grounding handle, turn the 'B' key, locking the ground handle in place and pull out the 'B' key. This locks the antenna grounding switch in the grounded position and captures the 'A' key.

Step 3: Insert the 'B' key into the six key transfer case in the output cabinet of the NX200 which releases the five 'C' keys. Four 'C' keys allow access into NX200 through the rear doors and into the filter through the front inner doors. The fifth 'C' is required to unlock the ATU Tuning Hut.

Full System Access

Follow steps 1 thru 3

Step 4: Switch off AC power to old the transmitter at the Main AC Cutoff Switch. Install 'D' keyed padlock and lock AC power handle in the 'Off' position. This releases the 'D' key.

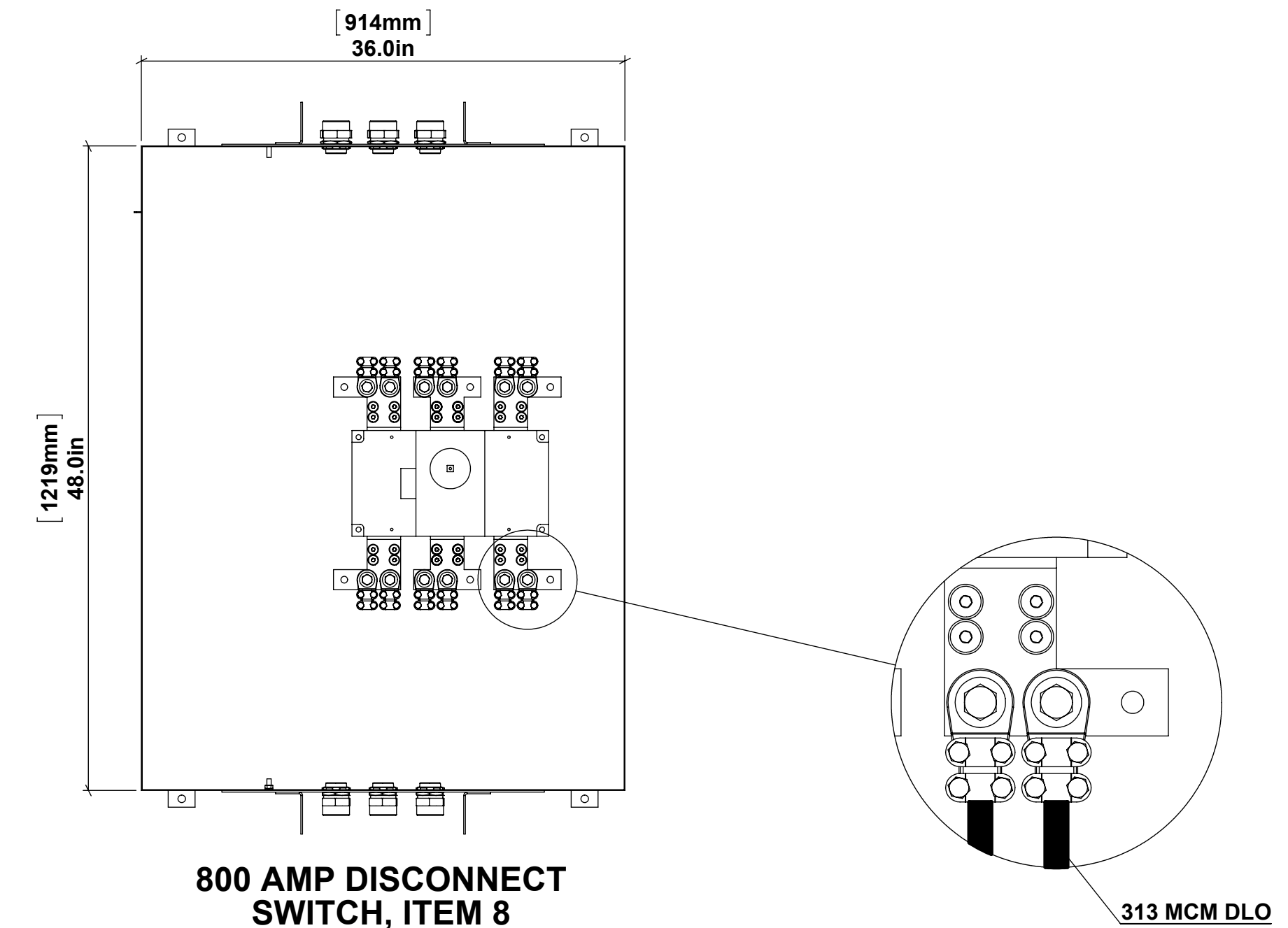
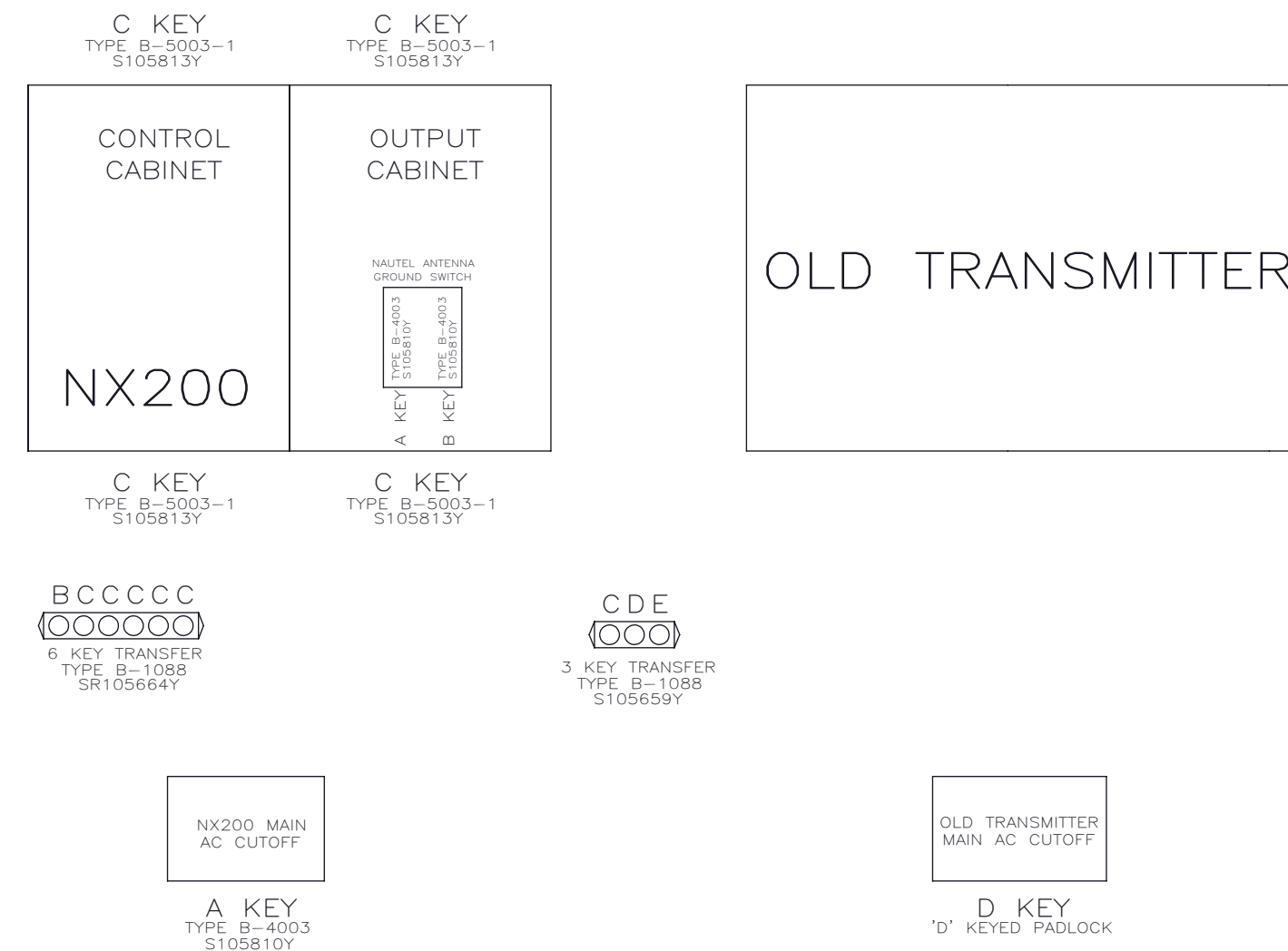
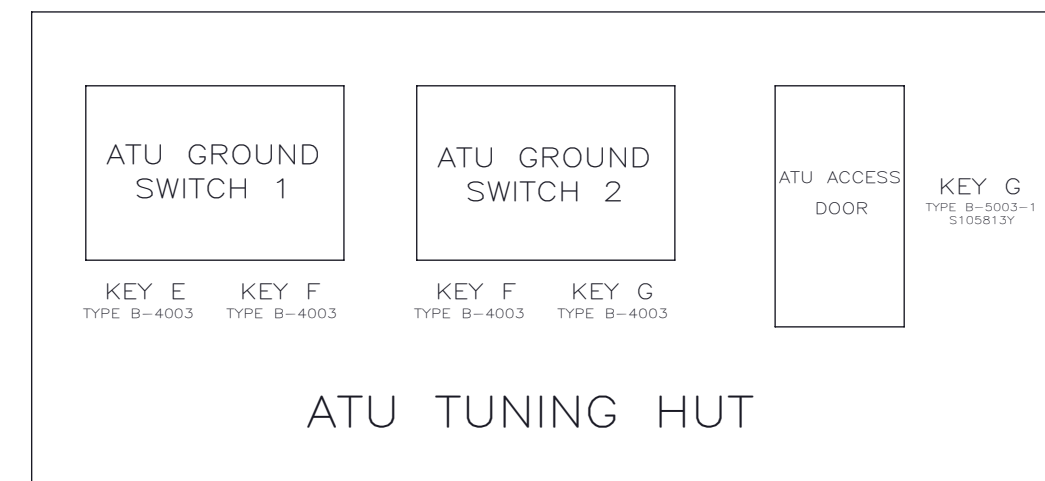
Step 5: Insert a 'C' key from the NX200 six key transfer case and the 'D' key from the Old Transmitter Main AC Cutoff Switch padlock into the three key transfer case (mounted on a wall). Turn the two 'C' & 'D' keys which captures them in place and releases the 'E' key.

Step 6: At the ATU Tuning Hut, insert & turn the 'E' key in ATU Grounding Switch '1' which releases the grounding arm mechanism. Operate the grounding arm. Once in position, engage bolt of key mechanism 'F' locking the grounding arm in the grounded position. This releases the 'F' key.

Step 7: Insert & turn the 'F' key in ATU Grounding Switch '2' which releases the grounding arm mechanism. Operate the grounding arm. Once in position, engage bolt of key mechanism 'G' locking the grounding arm in the grounded position. This releases the 'G' key.

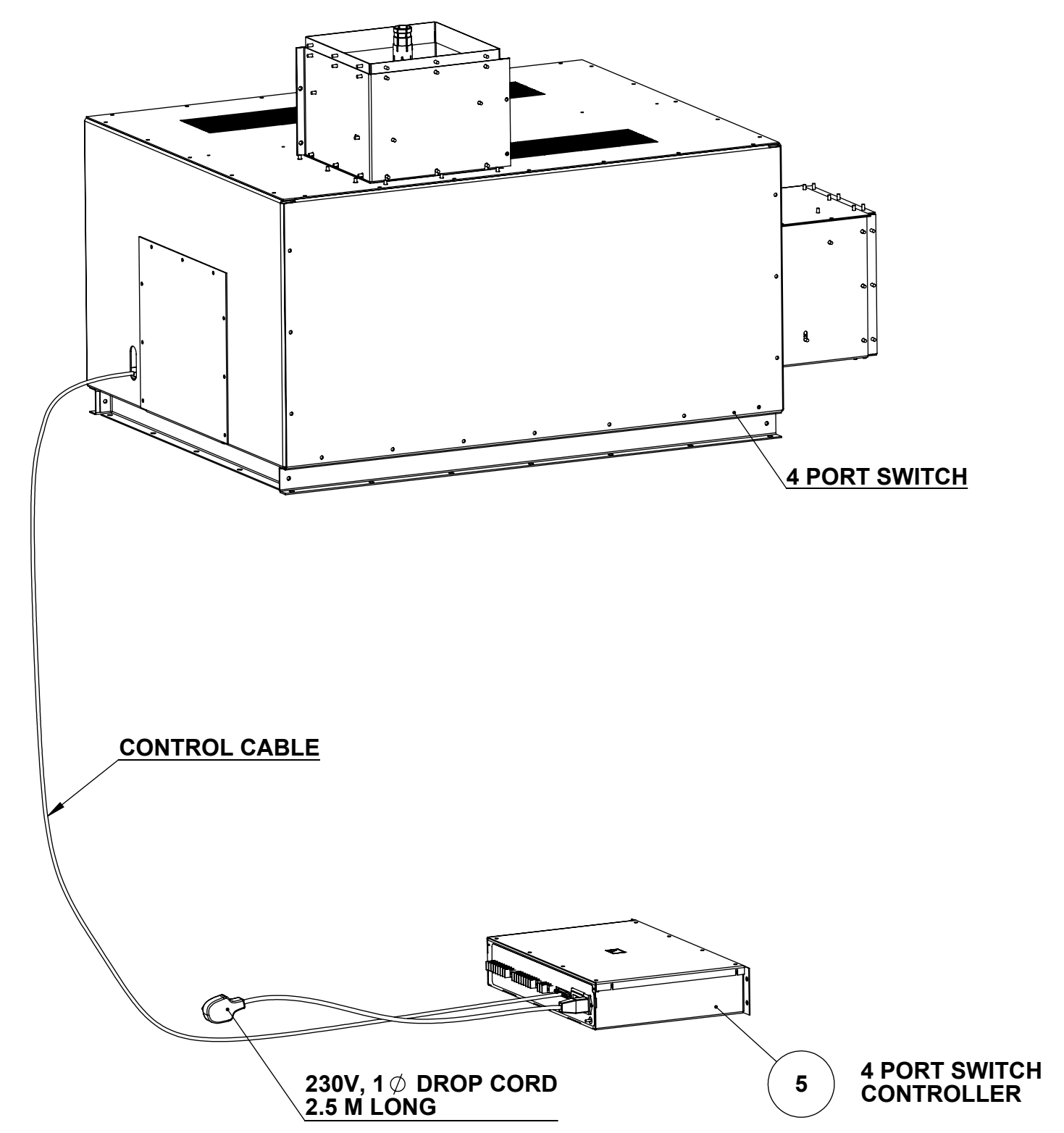
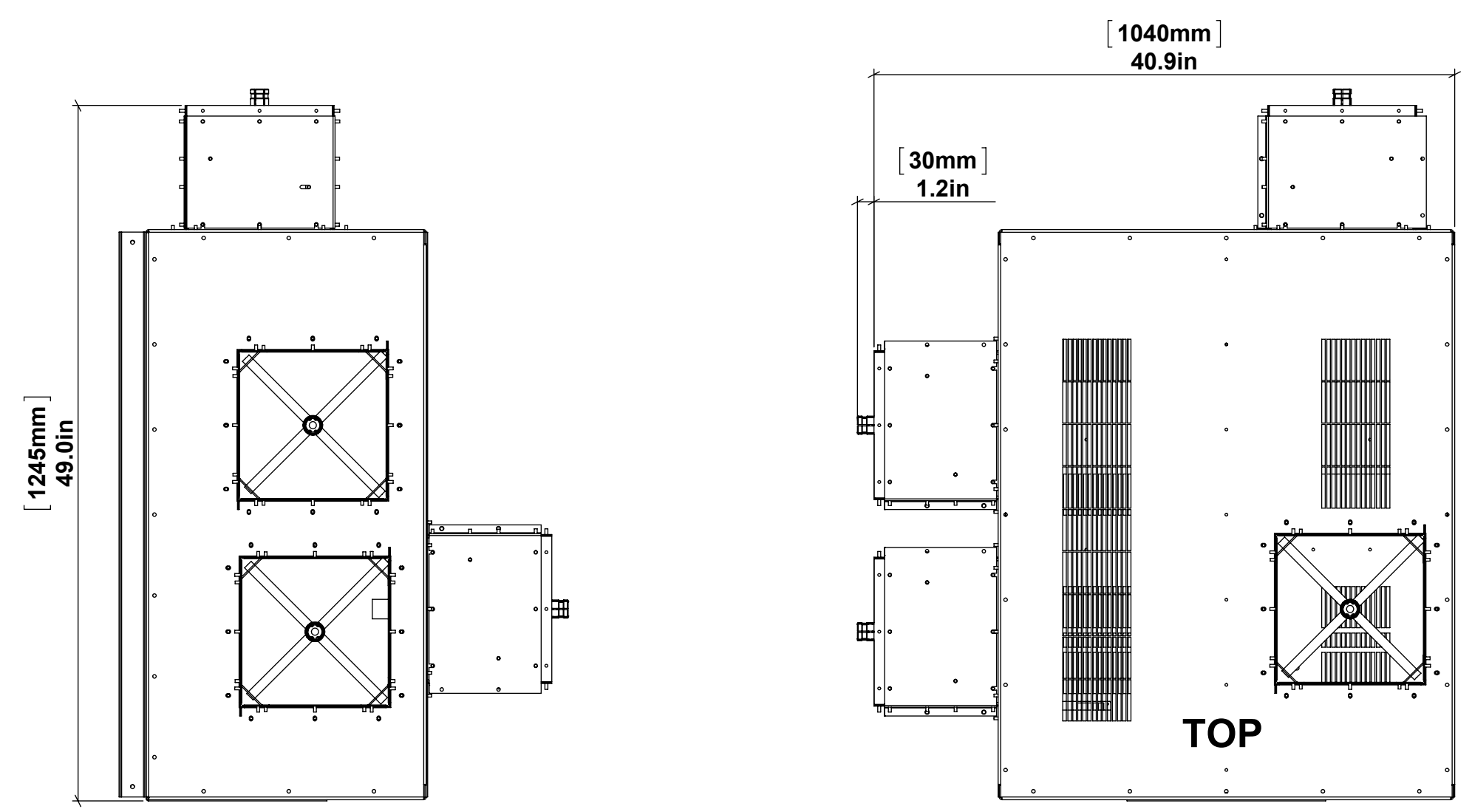
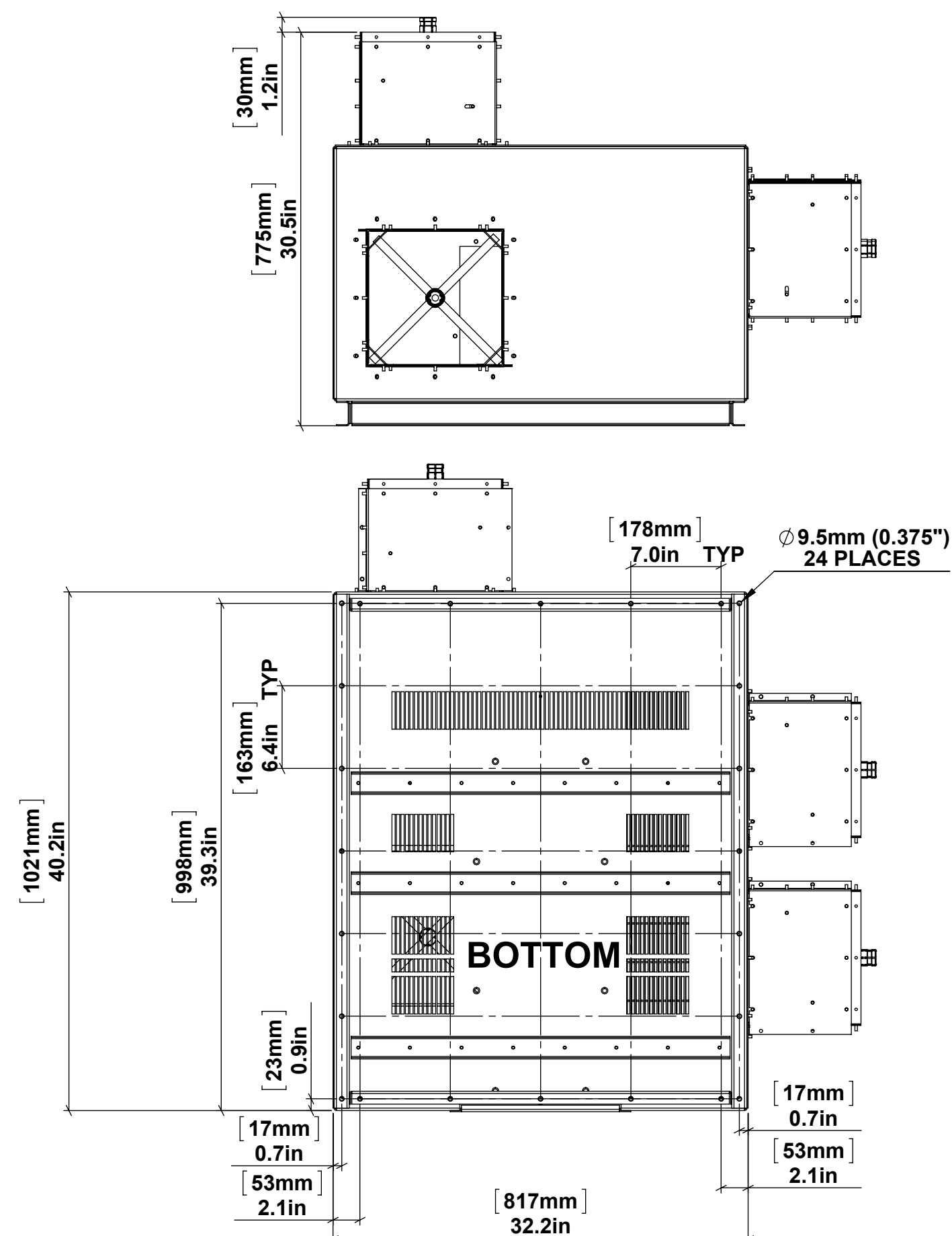
Step 8: Insert & turn the 'G' key in ATU Access Door, releasing the door. The 'G' key will be captured in the key mechanism until the door is closed and locked.

To power up requires the reverse of the above steps.

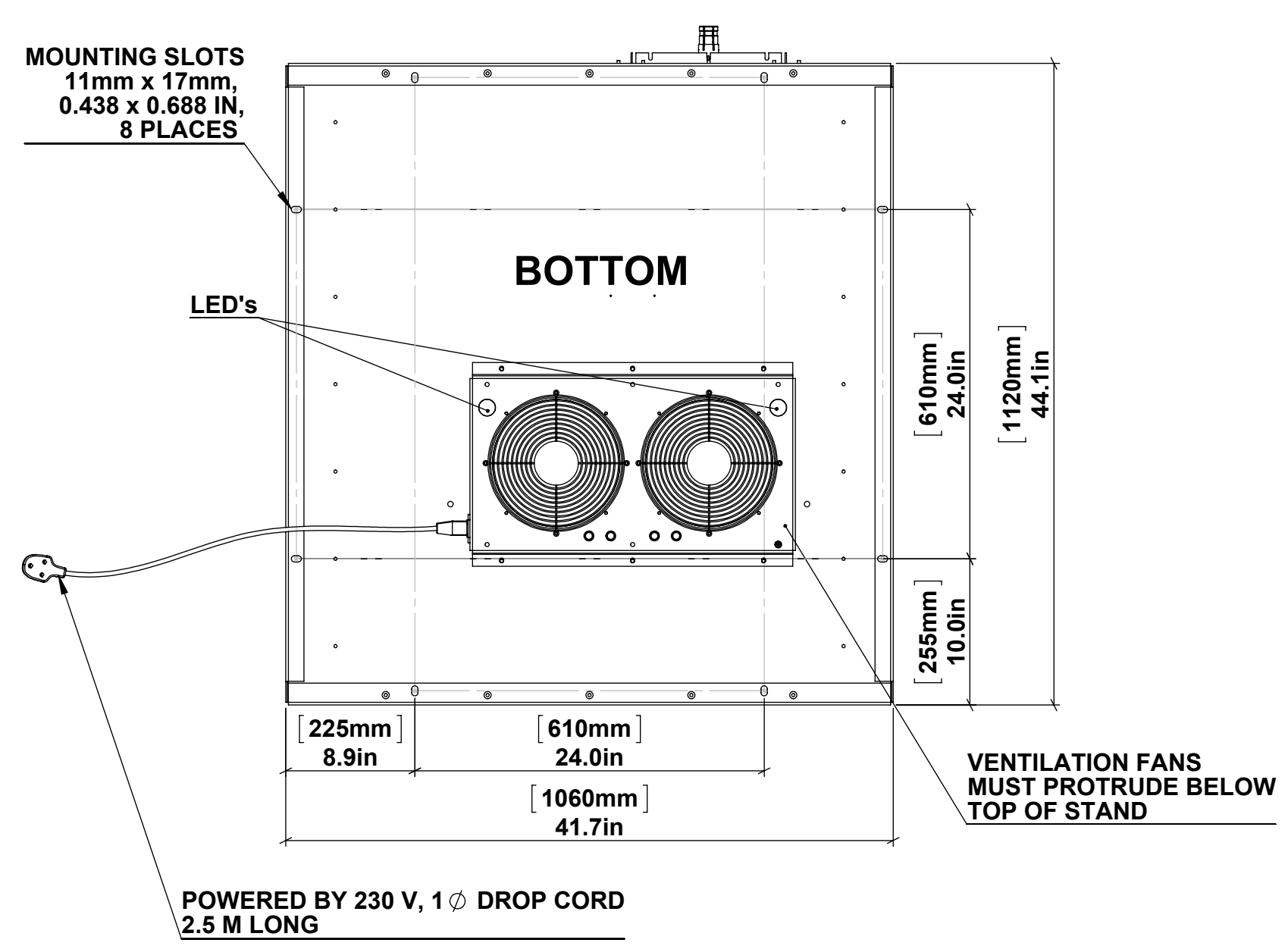
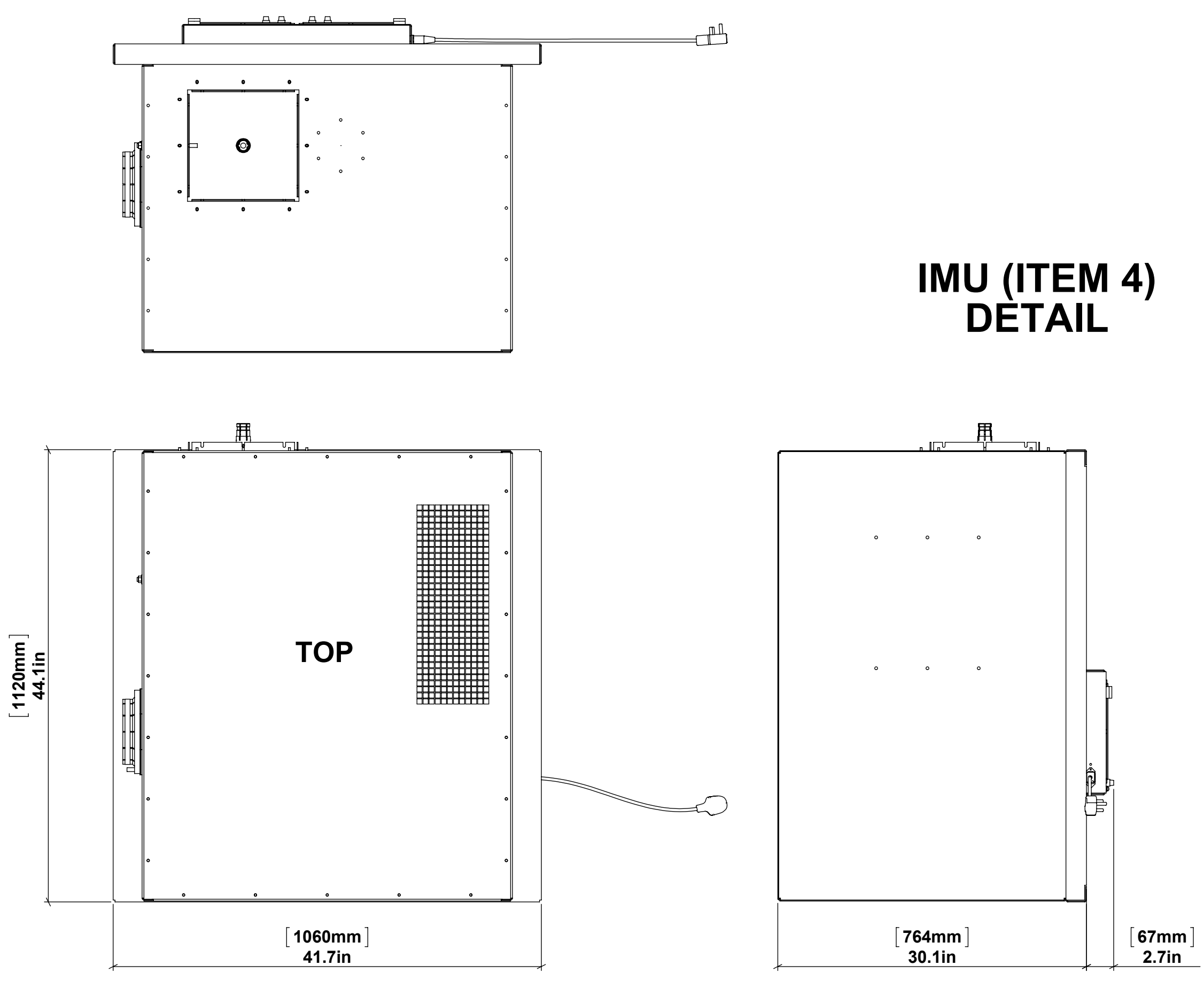


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4 PORT SWITCH (ITEM 5) DETAIL

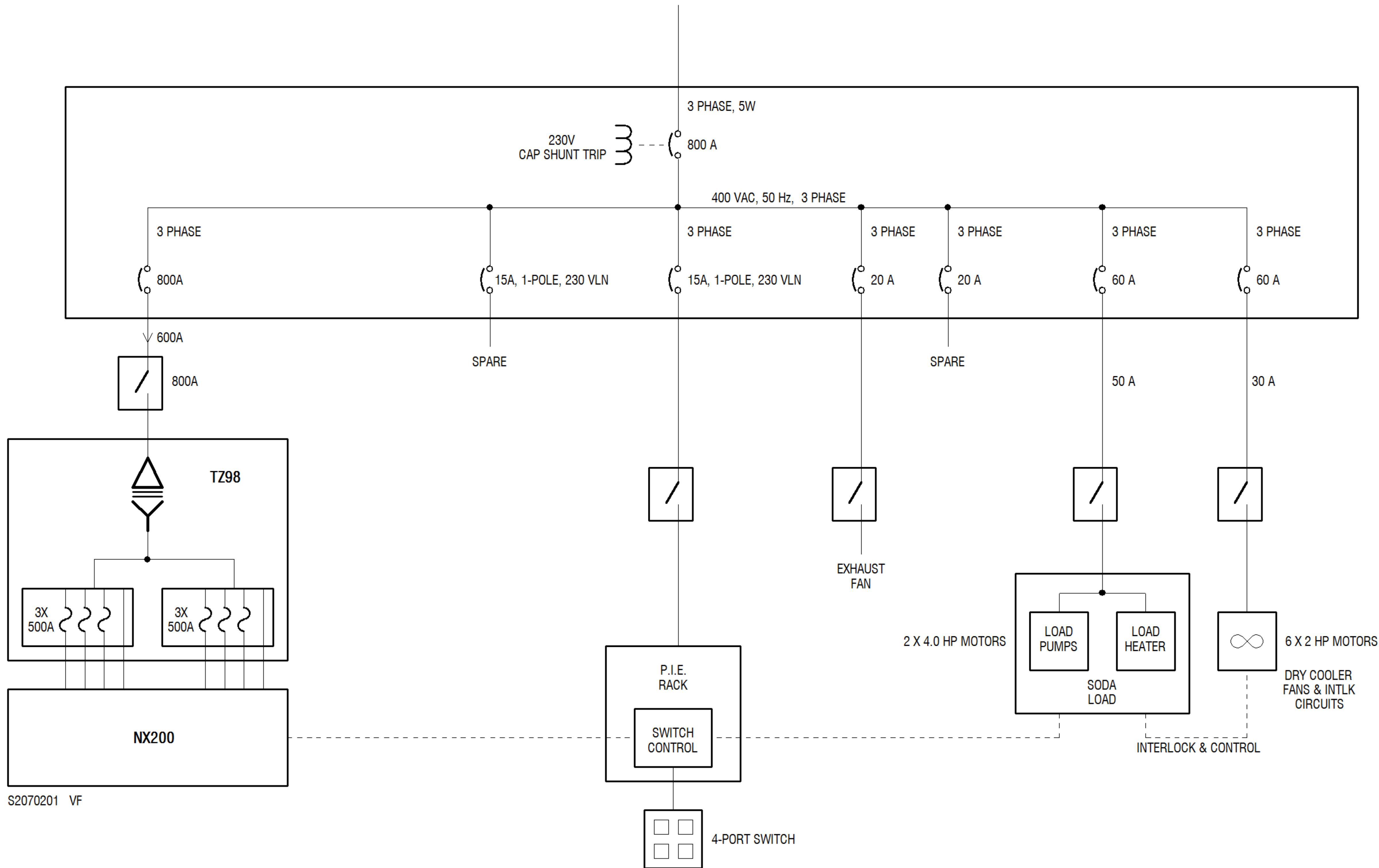


IMU (ITEM 4) DETAIL



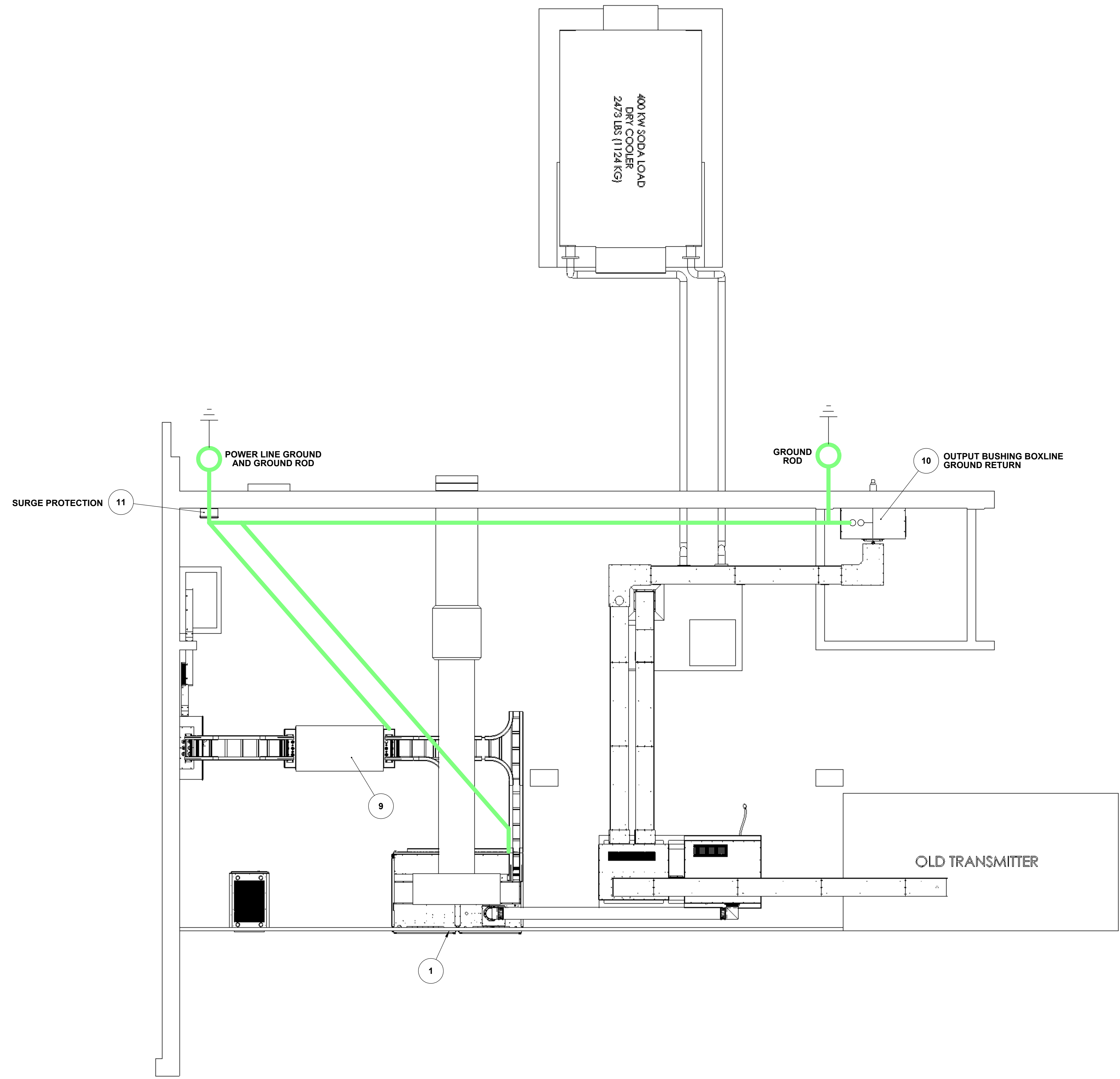
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SIZE	CODE IDENT NO	DRAWING NO			
D	37338	201-1321-02 SHT 4			
SCALE	1:10	SHEET	4 OF 6		

A.I.R. NX200 SITE ONE LINE



S2070201 VF

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		TITLE ALL INDIA RADIO NX200 ONE LINE DRAWING		
SIZE	CODE IDENT NO	DRAWING NO		
D	37338	201-1321-02 SHT 5		
SCALE	NTS	SHEET	5 OF 6	



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SCALE	1:1	SHEET	6 OF 6		