



WELCOME

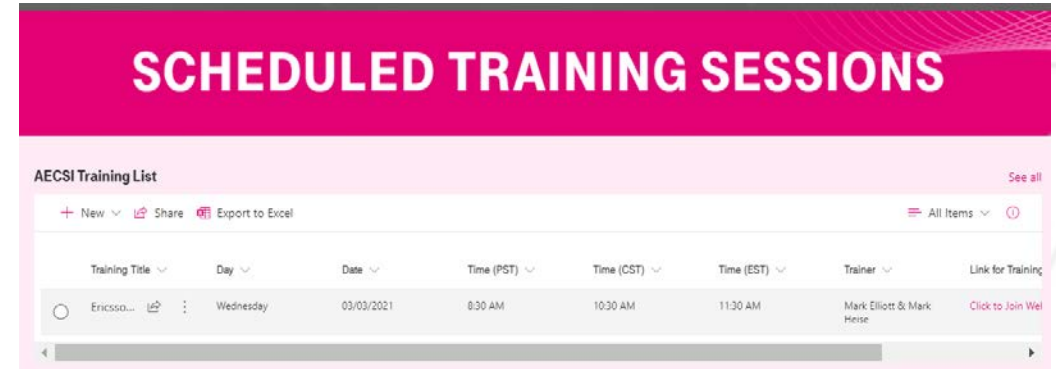
Host: [Leah Waymire](#)

Trainers: [Mark Heise](#) and [Mark Elliott](#)

WE BRING T-MOBILE & OUR NETWORK TO LIFE

PLEASE SAVE ALL QUESTIONS FOR THE Q&A SESSION AT THE END OF THE COURSE. YOU MAY ADD QUESTIONS DURING THE COURSE IN THE CHAT BOX.

Access issues, please contact [Caren Gray-wynn](#)



TRAINING DOCUMENTATION

Training

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Name	CDM	Document Type	Document Version	Document Sub Ty...	Equipment Type	Modified
Delta	Delta	Training	N/A			5 days ago
Epsilon	Epsilon	Training	N/A			January 26
Nickel	Nickel	Training	N/A			February 1
Purcell	Purcell	Training	N/A			3 days ago
Raynes	Raynes	Training	N/A			5 days ago

TRAINING FAQ

FAQ App Not Working? View List

FAQs

Search Items Filter

Cabinet
Can the E8160 support more than the E160 cabinet?

Cabinet
Do all three battery strings need to be installed in the E160?

Cabinet
Does the E8160 have a PDU?

Submit Question

National AE Construction Standards – (External)



ERC 6230 TRAINING GUIDE

Installation Training Guide for the ERC 6230 Indoor
Power Cabinet including accessory DC devices

Revision 1.4

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COURSE DESCRIPTION

This course is intended for all internal and external contractors, Ericsson and T-Mobile personnel who will be working with the deployment of the new Ericsson 6230 indoor power cabinet and its supporting devices.

Training will encompass the following:

- Bill of Materials - NTM & Sourced
- Cabinet and Power System overview
- System Diagram
- Equipment wiring and racking positions
- SPD and DC distribution devices and breaker assignments

This guide will be emailed following the Training.

T-MOBILE SUPPLIED MATERIALS

T-Mobile supplies the following kits, which contain most of the materials required for the installation of the 6230 cabinet.

Item #	SKU	Kit Name/Child PN	Description
1	34132	UTPSU4813DCBoostMU	Voltage Booster PSU4813 Main Unit
2	34135	UT-PSU4813-HPM-KIT	PSU4813 Install Kit for E6160/P6230
3	34112	UT-1RU-DCDU-9-CB	1RU DCDU - Breaker Expansion for E6160/P6230
4	34032	UT6230POWER	Ericsson Power 6230 (Indoor) Kit
5	34131	UT6230SPDBOX	Standalone SPD Box Kit for 6230
6	33139	12545-300NTM	<i>19"x72" Self-supporting two post Equipment Rack- Only order if existing site rack cannot support the new equipment.</i>

GPS SKUs TBD

GENERAL CONTRACTOR SUPPLIED MATERIALS

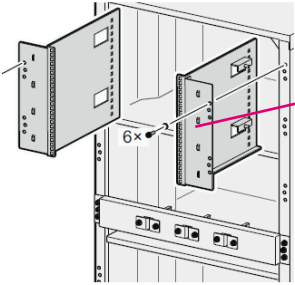
The GC will need to procure the materials shown in this table

Item #	Description	Use Case	Qty
1	Cat5/6 Ethernet jumper	SCU to IXRe-Alarm Cable	Site Specific for distance run
2	Alarm Wire-Single pair	DCDU to P6230 IB2 module	Site Specific for distance run
3	IXRe DC input Power Cables	IXRe to DCDU	2x for distance run
4	DCDU DC Input Power Cables	DCDU to P6230 DC Distro.	2x for distance run
5	1/4x20, 5/8 spacing two-hole lug for item #4 cable	Lugs for DCDU and P6230 power cable	4
6	J-Box, THHN and conduit - Service Panel to J-Box, 9 Circuit Breakers 25A-DP	AC power for P6230	Site Specific
7	Fiber Management BOX	Fiber Management in equipment rack or cable ladder	Site Specific
8	Cable Ladder/Lacing Bar	Cable management for each device	1 per Racked device
9	Burndy YA25L4TCG1 (1/0)	Terminate existing SPD boxes to P6230	2 per SPD Box
10	Burndy YA26L4TCG1 (2/0)	2 x Lugs supplied in kit SKU34131 (SNG 818 13/2)	Extra if Needed
11	Burndy YA27L4TCG1 (3/0)	Terminates 6201 power cables to P6230	2 per 6201
12	3 Port wire connector-16-12 AWG (Wago) [Optional]	IXRe Y cable connector; Used Only when second circuit is not available	2 per IXRe
13	14AWG stranded wire Blue/Black [Optional]	IXRe Y cable; Used Only when second circuit is not available	Site Specific

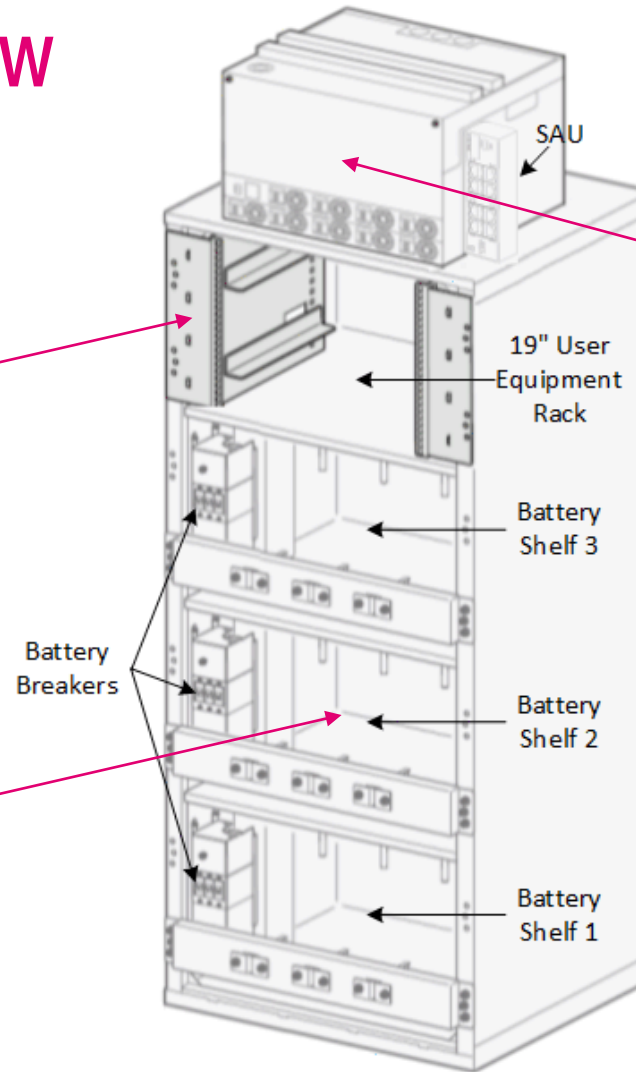
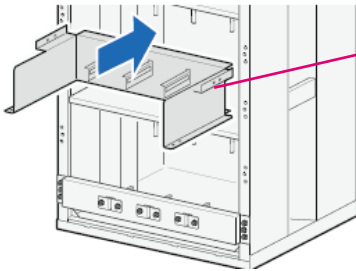
A pre-site walk is highly recommended to identify the quantity of these materials.

6230 CABINET OVERVIEW

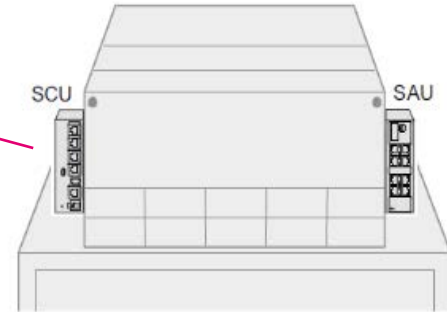
Equipment Rack for
RAN/Network devices



Optional 100Ah Battery Block



P6230 Rectifier Plant
w/SCU & SAU

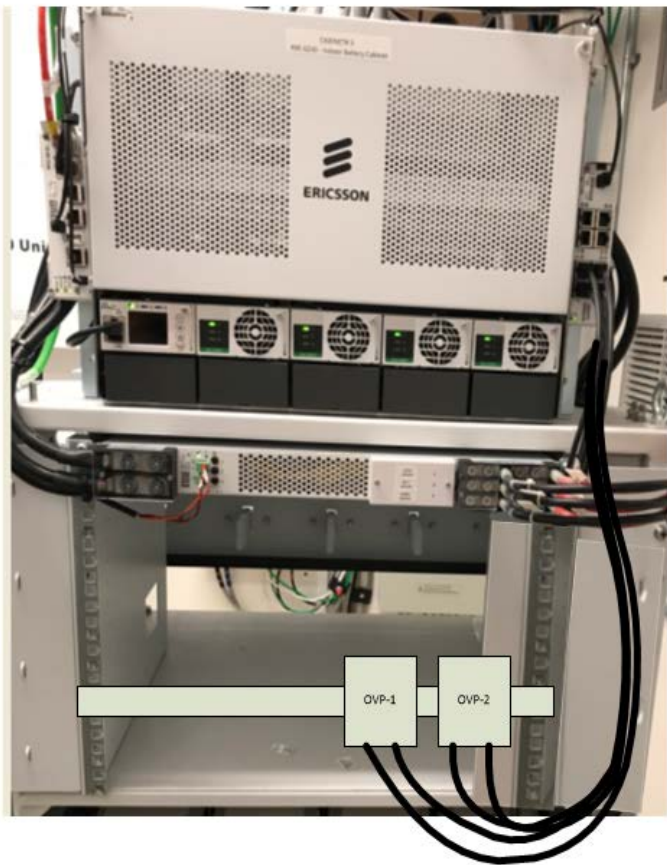


Total Cabinet/PP Weight = 343 lbs
Excluding Batteries

Detailed Equipment and A&E drawings are available on the
[National AE Construction Standards - \(External\)](#) website.

RAN/NETWORK EQUIPMENT LAYOUT

6230 Cabinet



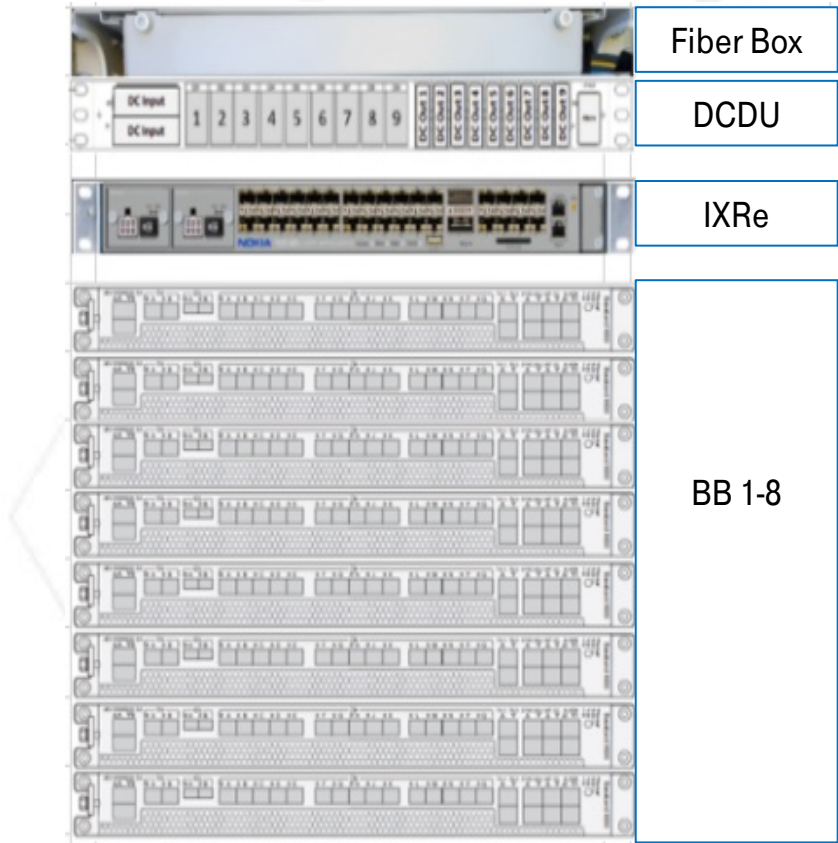
P6230 AC & DC
Distribution

REC Module
Shelf

PSU 48 13

OVPs (Future)

Existing Site Cabinet



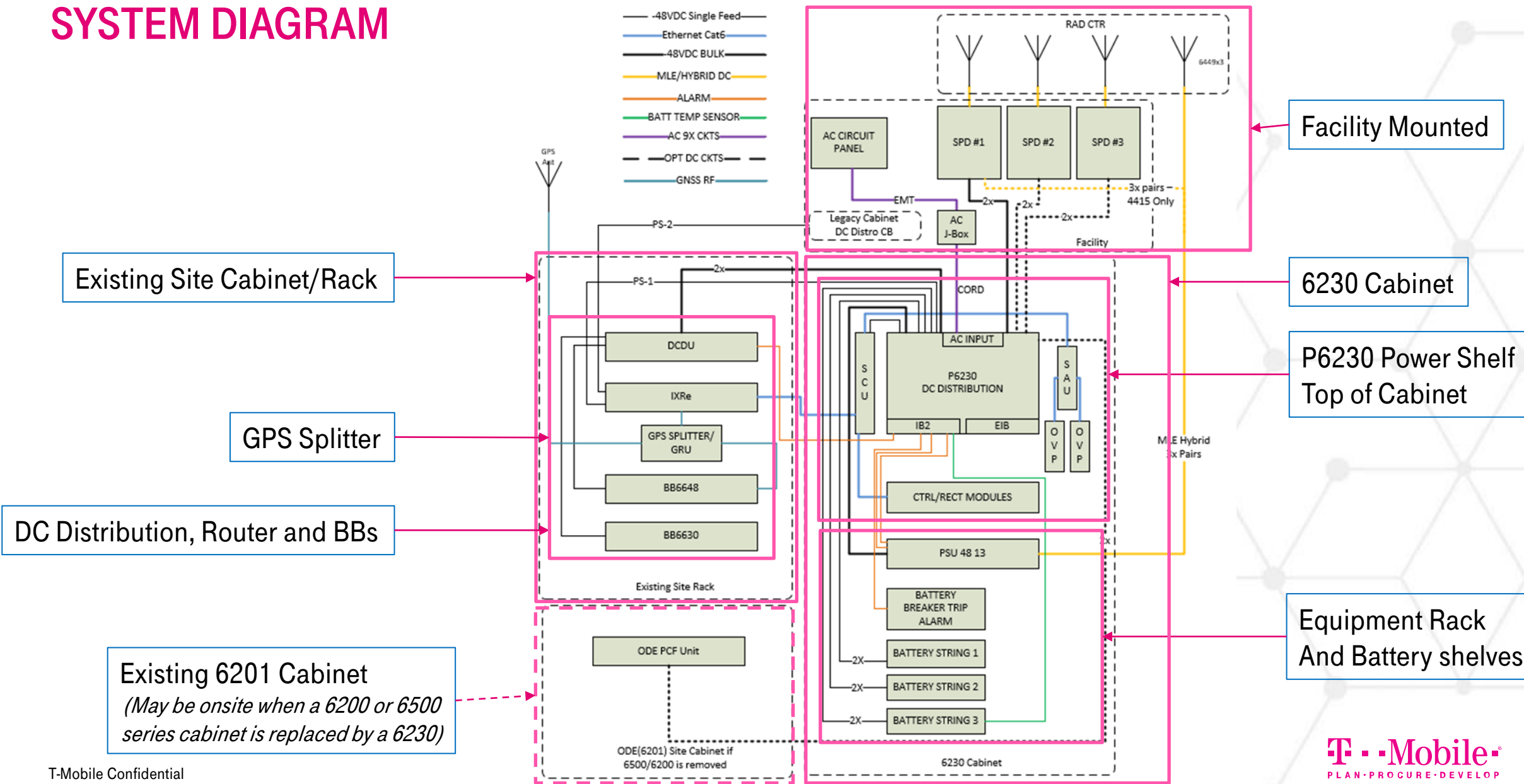
Fiber Box

DCDU

IXRe

BB 1-8

SYSTEM DIAGRAM



AC ROUTING

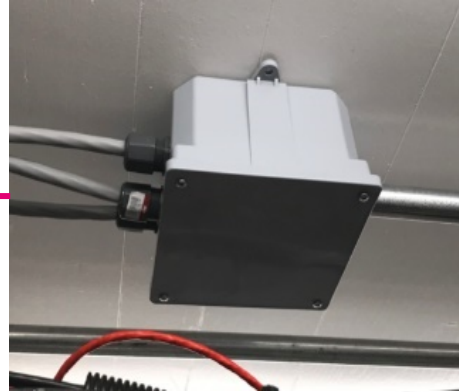
P6230 Power Shelf



12AWG

Multi Cond Cord

J-Box above 6230

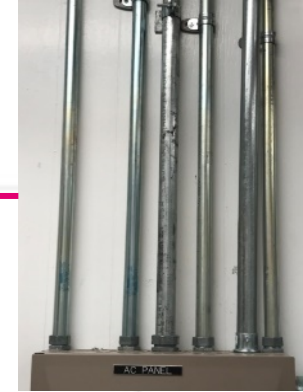


10AWG THHN

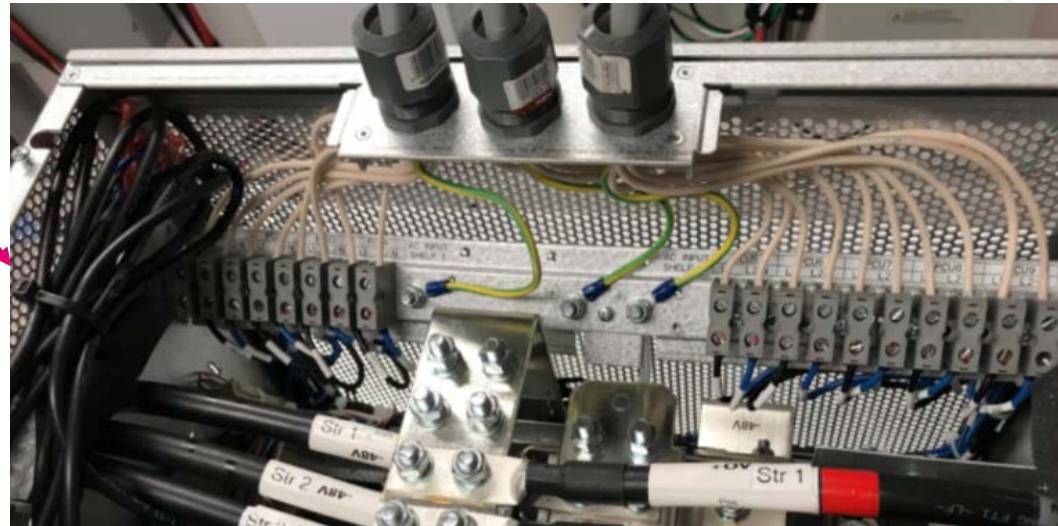
EMT

AC Panel

9x 25A breakers (208-240VAC)
Install sub-Panel if existing panel
is circuit constrained.



P6230 Power Shelf-Top down view



CIRCUIT BREAKER ALLOCATIONS

This table identifies the equipment circuit locations in the rectifier DC distribution, DCDU and SPDs for Anchor or NSB sites.

The alternate breaker column is for the sites that require additional PSU 4813s vs. additional SPD boxes.

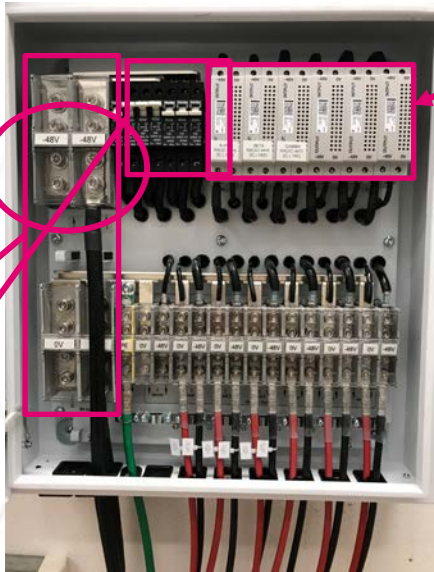
Only install breakers which are being used, otherwise it will be in an alarm state.

LVD=Low Voltage Disconnect relay

RECTIFIER SHELF CIRCUIT				6230 Device Name				
CB SLOT	Ckt #		CB SIZE (A)		w/o DCDU	w/ DCDU		
1	LVLD1 47.0V	1	See Breaker Table		Future/Router PS-2			
2		2	Model Specific		Future			
3		3	200		PSU 4813 Expansion (B41 or B25/B66 Radio 1641)			
4		4						
5		5	200		PSU 4813 Primary (B41)			
6		6						
7	LVLD2 45.1V	1	200		SPD Box Primary (B71/12)	OR	6201 (B71/12)	
8		2						
9		3	200		SPD Box Expansion (B25/66)			
10		4						
11		5	Model Specific		Future			
12		6	Model Specific		Future			
13	BLVD 43.2V	1	See Breaker Table		Router PS-1			
14		2	See Breaker Table	200	BB1	SPD Box Primary (B25/B66)	OR	PSU 4813 Primary (B25/B66)
15		3	See Breaker Table					
16		4	See Breaker Table	200	BB3	SPD Box Expansion (B25/B66)	OR	PSU 4813 Expansion (B25/B66)
17		5	See Breaker Table					
18		6	See Breaker Table	200	Future	SPD Box Future	OR	PSU 4813 Future
19		7	See Breaker Table					
20		8	See Breaker Table	100	Future DCDU	DCDU		
21		9	See Breaker Table		SCU			

SPD BOX

Supplied bus bar must be installed on the -48VDC bus between LI and LII



SPDs

SPD Box 1 --> BMG907052/5		
CB #	CB SIZE (A)	CIRCUIT ALLOCATION
I-DEVICE	16	AAV/NID
I-LOAD 1	30	RRH-B66/25 alpha
I-LOAD 2	30	RRH-B66/25 beta
I-LOAD 3	30	RRH-B66/25 gamma
II-LOAD 4	50 or 32	Future or RRH-B66/25 delta
II-LOAD 5	50	FUTURE
II-LOAD 6	50	FUTURE



An SPD Box is to be installed at all sites, regardless if PSU 4813 is used. Future Use

EXISTING SPD AND/OR 6201 CONNECTIONS TO P6230



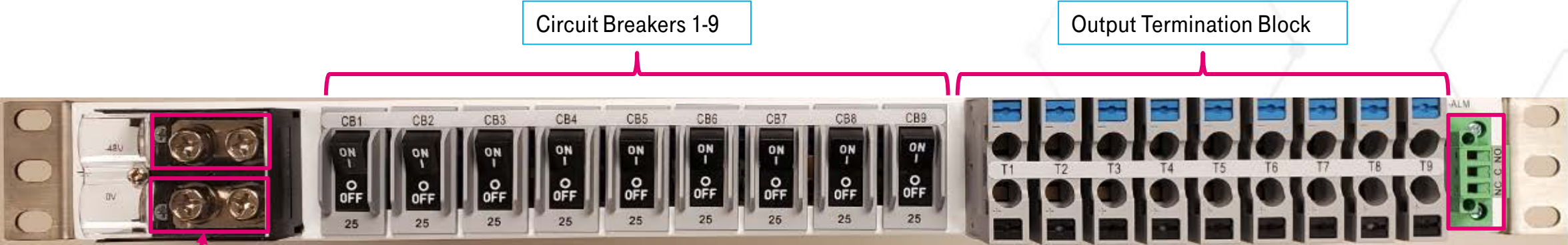
RBS 6200

RBS 6201

6200 SPD & 6201 Connections



DCDU CHASSIS DETAILS

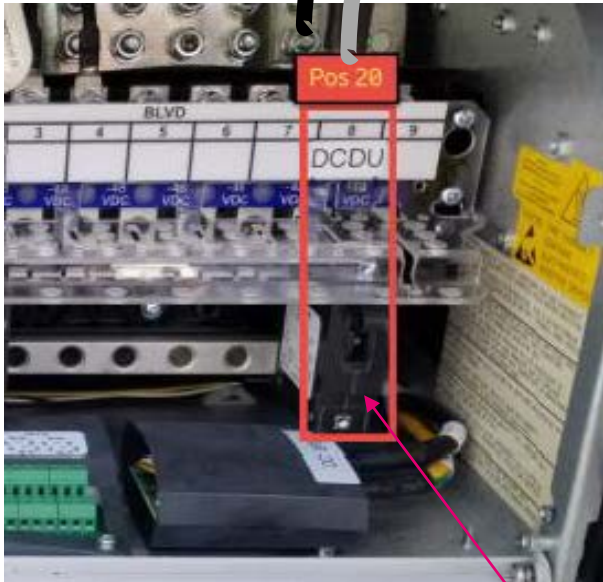


DC Input Terminals connect to CB Slot 20-100A breaker

1RU-DCDU-9-CB		
CB#	CB Size (A)	Circuit Allocation
1	25	BB#1
2	25	BB#2
3	25	BB#3
4	25	BB#4
5	25	BB#5
6	25	BB#6
7	25	BB#7
8	25	BB#8
9	25	BB#9 or AAV

Alarm Output Terminal to IB2-DI3

DCDU POWER



P6230

100A BKR

1m = 6AWG	5m = 1/0
2m = 4AWG	6m = 2/0
3m = 2AWG	7m = 3/0
4m = 1/0	9m = 4/0

Cable Sizing Table

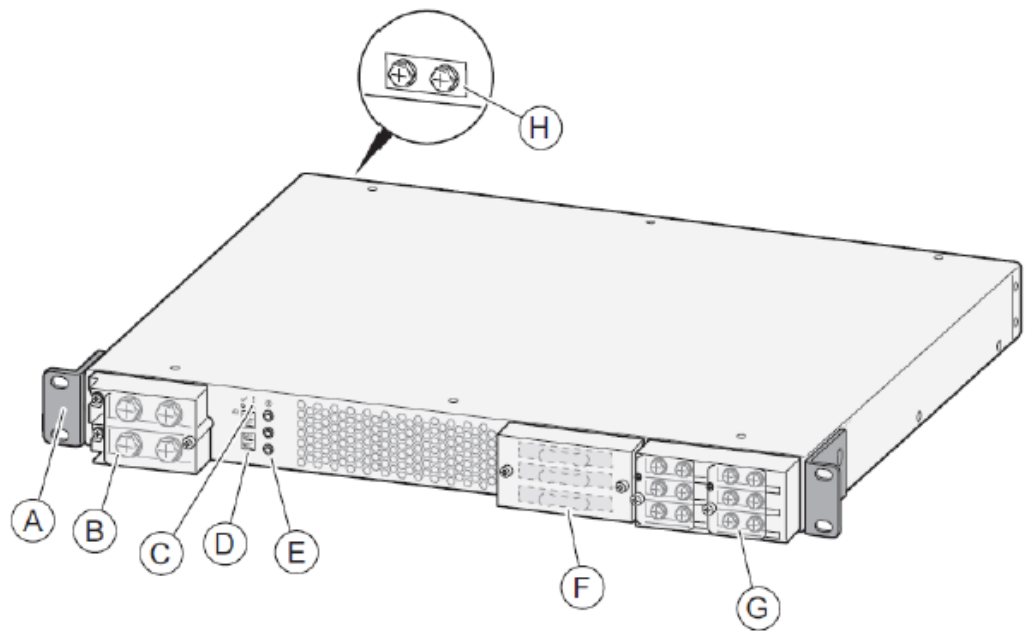


DCDU in Existing site rack

-48VDC Top Lug

0VDC Lower Lug

PSU 48 13 DESCRIPTION



Key	Name of Unit	Description
A	Bracket	Bracket for 19" Rack installation. The bracket can be reversed
B	DC power input connectors	Interface for connecting power cables from the power distribution. Protected by a cover
C	Optical Interface	The optical indicators indicate the status of the unit
D	Alarm connectors	Interface for connecting alarm cables to the alarm interface of the enclosure. DC and SPD alarm connectors.
E	Power buttons	Buttons for switching on the power of the corresponding DC output
F	Fuse connectors	For installation of fuses for corresponding DC output. Protected by a cover
G	DC power output connectors	Interface for connecting power cables to power consuming units outside the enclosure. Protected by a cover
H	Ground Connector	Optional ground connector

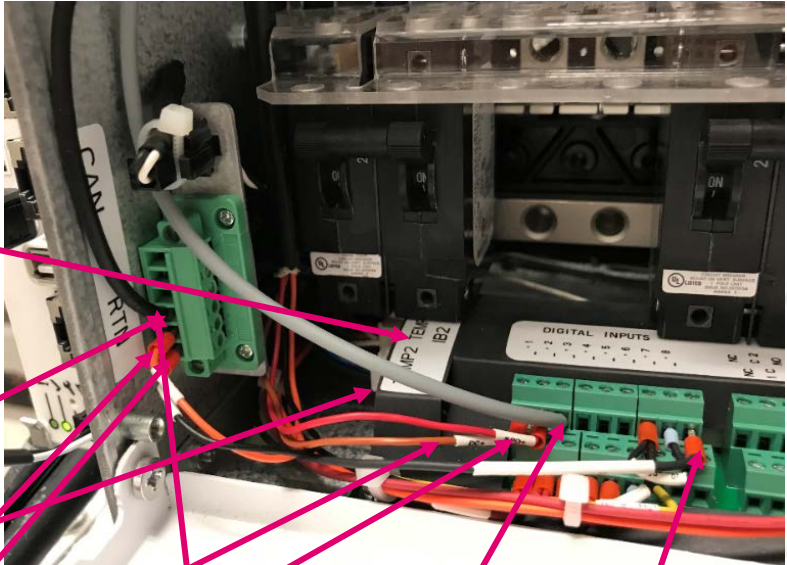
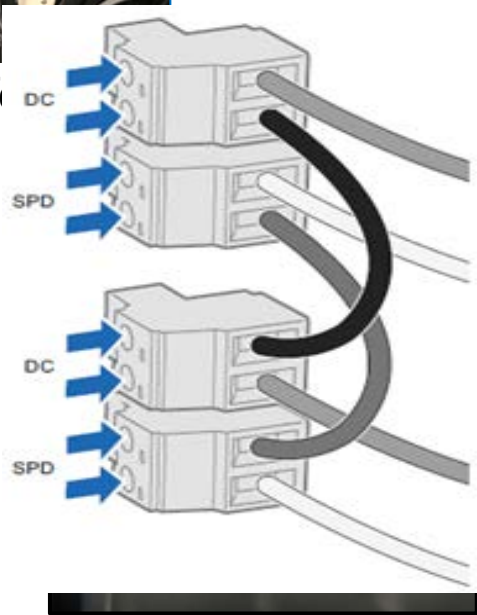
DCDU/4813 ALARMS

P6230 DC Distro Shelf IB-2 Module



Multiple 4813 Alarm Configuration

Battery Termination

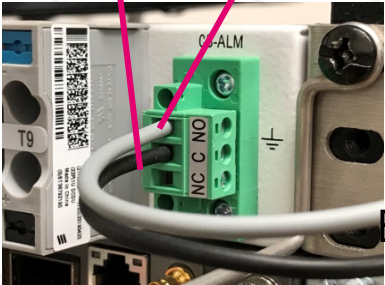


IB2 Alarm Table

Interface Board	Position	Alarm
IB2	★ DI 1	Power Rack Fuse Fault DC (DC+ on 4813)
IB2	★ DI 2	Power Rack SPD Fault DC (SPD+ on 4813)
IB2	★ DI 3	EXT DCDU
IB2	DI 4	Expansion Unit SPD Fault DC
IB2	DI 5	Smoke Detected
IB2	DI 6	SPD Fault AC
IB2	DI 7	System Fuse Fault
IB2	★ DI 8	Battery Fuse Fault
RTN	★ All	On left side wall of rectifier shelf by IB2 module. This is a bussed terminal block. (DC- and SPD- from 4813 termination point)

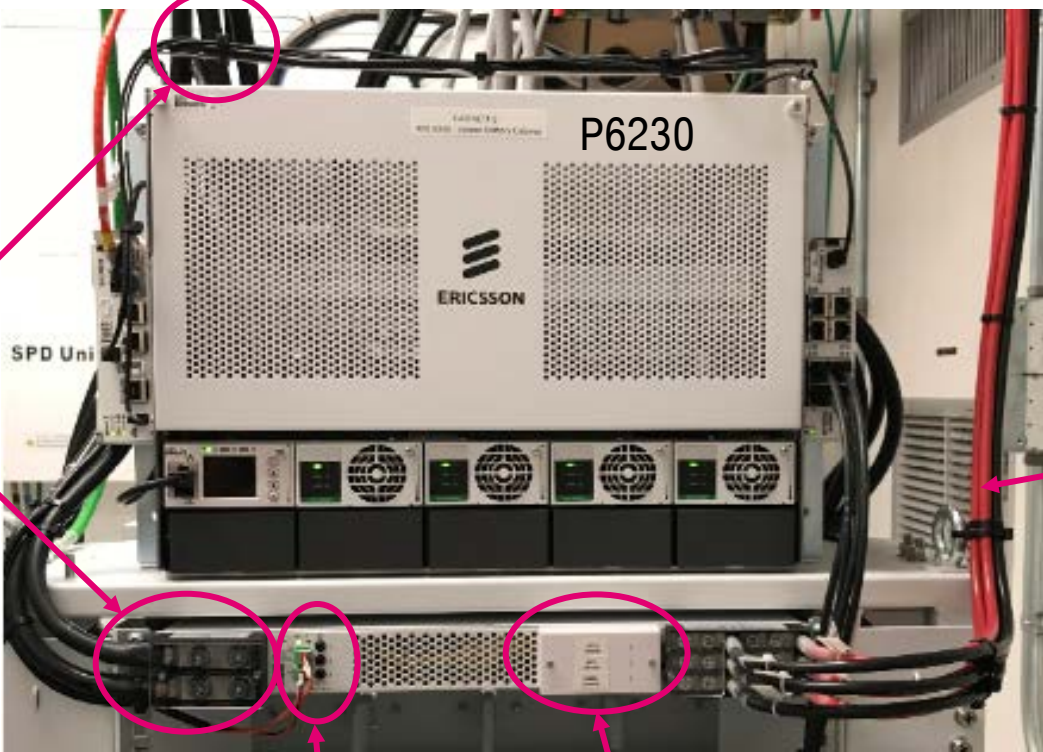


Battery Breaker/Fuse ALM



DCDU

PSU 48 13 POWER



Ext ALM

Hybrid Power Cables

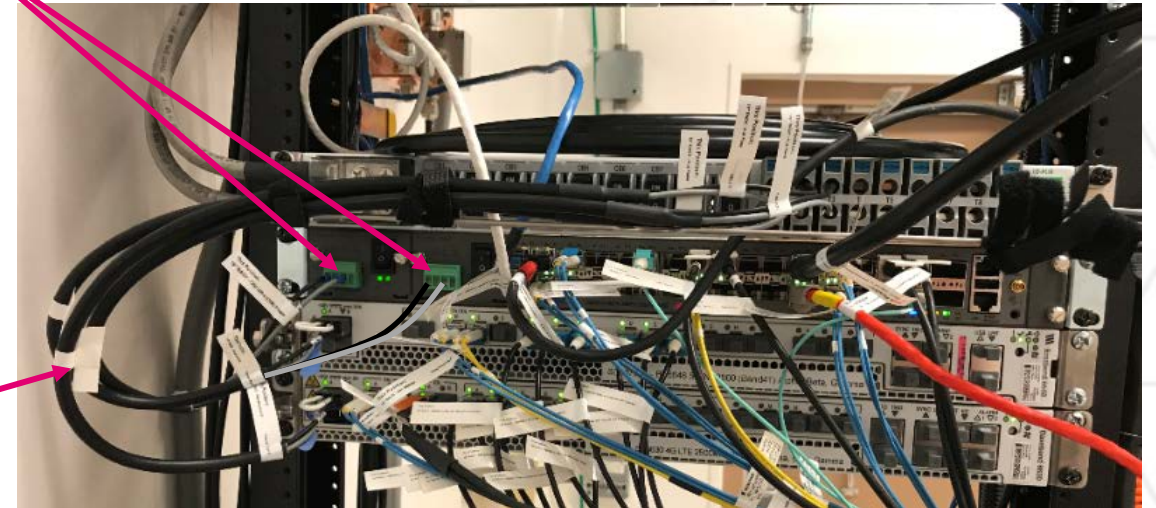
PSU 4813 #1		
CB #	CB SIZE (A)	CIRCUIT ALLOCATION
1	50	RRH-B41 alpha
2	50	RRH-B41 beta
3	50	RRH-B41 gamma

NETWORK EQUIPMENT POWER CABLING

The IXRe DC power cable sizing shall be equal to or greater than the ampacity of the associated breaker for the cable run.
GC procured. One pair per PSU -
Black/Blue.

BB power jumpers with space
connectors-supplied in BOM-
Cut to length on power side.

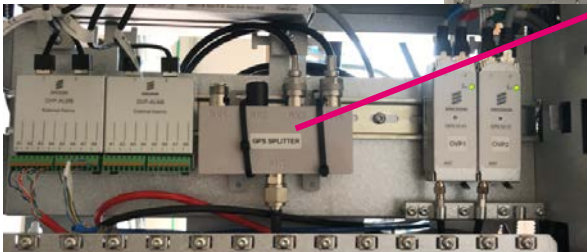
Racked network equipment in existing rack.



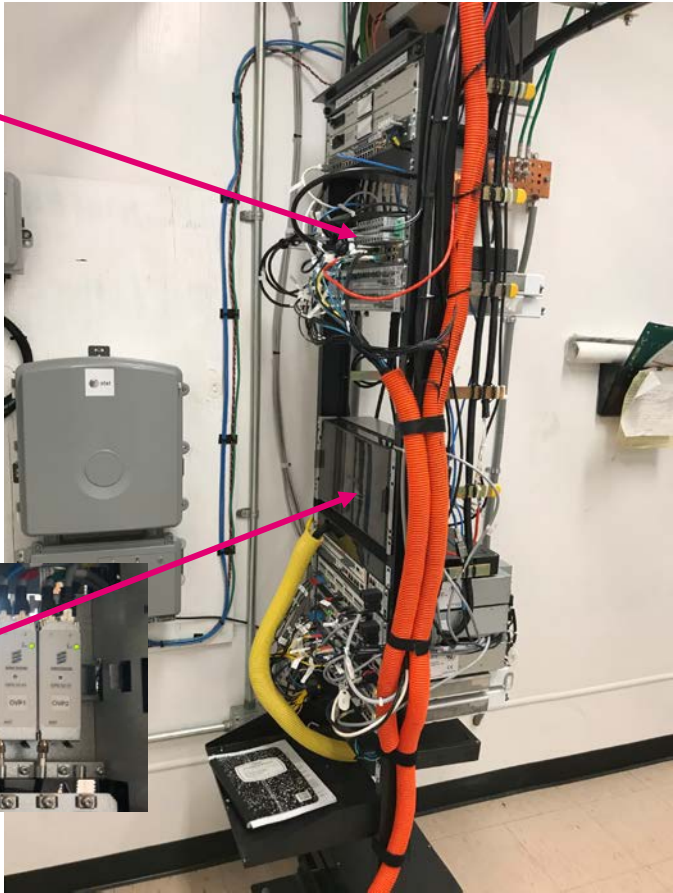
EQUIPMENT INSTALLATION EXAMPLES

Existing Equipment Rack

RAN/Network Equip.

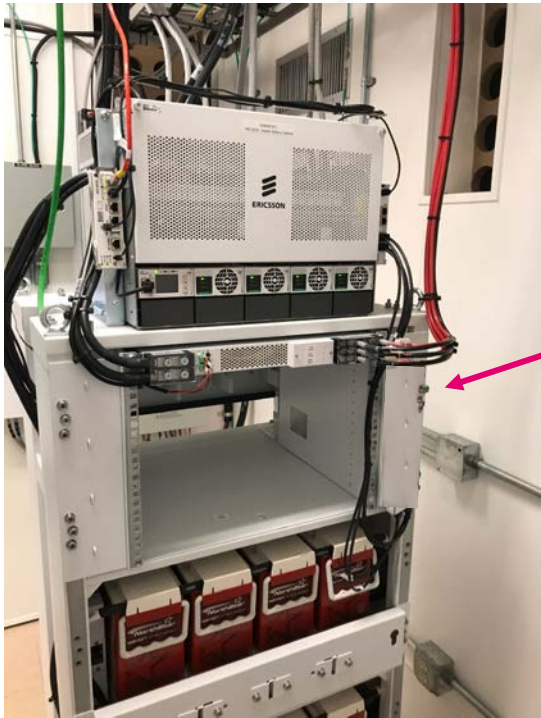
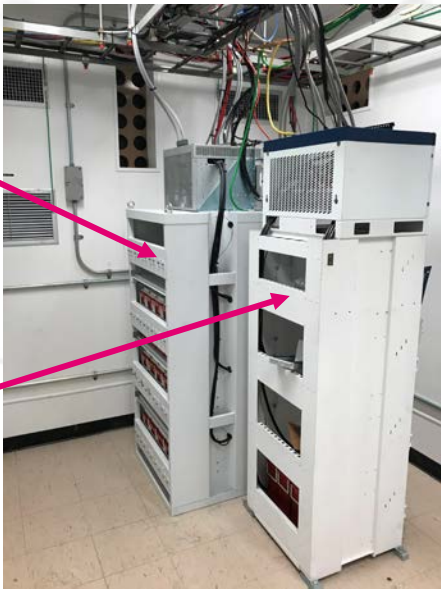


GPS Splitter



Rear of 6230

Rear of PBC6200



Front View
completed
Install

INSTALL ISSUES



Battery bracket not adjusted to support battery strings.



Poor Cable Management-needs lacing brackets for cable support



QUESTION AND ANSWER TIME

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TOP 5 TAKEAWAYS

1. Perform a pre site walk to identify all GC related site specific BOM materials.
2. All AC circuits (9x) are to be wired from the AC panel to the P6230. Only power up those circuits used -1x per rectifier module provided.
3. DCDU to be racked in the existing cabinet/rack for the BB/network equipment power.
4. Don't forget to install the three appropriate PSU 48 13 fuses.
5. The training guide including reference document links (internal and external) will be emailed following this training.

SUPPORTING DOCUMENT LINKS

1. [Ericsson Indoor 6230 Document Folder](#)
2. [T-Mobile - PSU 48 13 Voltage Booster Design](#)
3. [T-Mobile - DCDU Installation Guidelines](#)
4. [NOKIA IXR-e Product Guide](#)
5. [Ericsson 6230 Design Specification - \(Internal\)](#)
6. [AE-CSI CAD Drawings](#)
 - a. [Ericsson PSU 48 13 Drawing](#)
 - b. [Ericsson DCDU \(PDU\)](#)
7. [National AE Construction Standards - \(External\)](#)
8. [National AE Construction Standards - \(Internal\)](#)
9. [RAN Equipment Definitions](#)
10. [SCU Integration MOP](#)

Please reach out to [Caren Gray-wynn](#) if you are having issues accessing these documents.

Note: Ctrl + Click to activate embedded link

SCOPE OF WORK

Item No.	Service Description
1	Install supplied 6230 Cabinet as per Ericsson Installation document in Conjunction with T-Mobile Guidelines and CD. Inclusive of the battery bay 4 equipment rack and SAU/SCU bracket and modules.
2	Install supplied SPD Box and sourced J-box
3	Install EMT between AC Panel and J-box above 6230
4	Install, pull, and terminate the appropriate AC cable needed from AC Panel to 6230, as per Ericsson Installation document.
5	Install and terminate the appropriate DC cable needed between the 6230, SPD box and existing site rack, as per Ericsson and T-Mobile Installation document.
6	Install, pull, and terminate all required Ethernet and Fiber cables from and to inside the cabinet/rack.
7	Install the appropriate breakers at the AC Panel x9.
8	Tag and label all AC, DC, Ethernet, and Fiber cables appropriately per standard.
9	Dress, groom, and secure AC/DC cables by way of lancing.
10	Dress, groom and secure all ethernet and Fiber cable by using Velcro straps.
11	Remove and clean all debris and unwanted materials.



THANK YOU

How to reach us?

AE-CSI Home Page Link

Slack Channel : #aecsi-support

Contacts: Mark Elliott, Mark Heise or Jayden Chavez

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