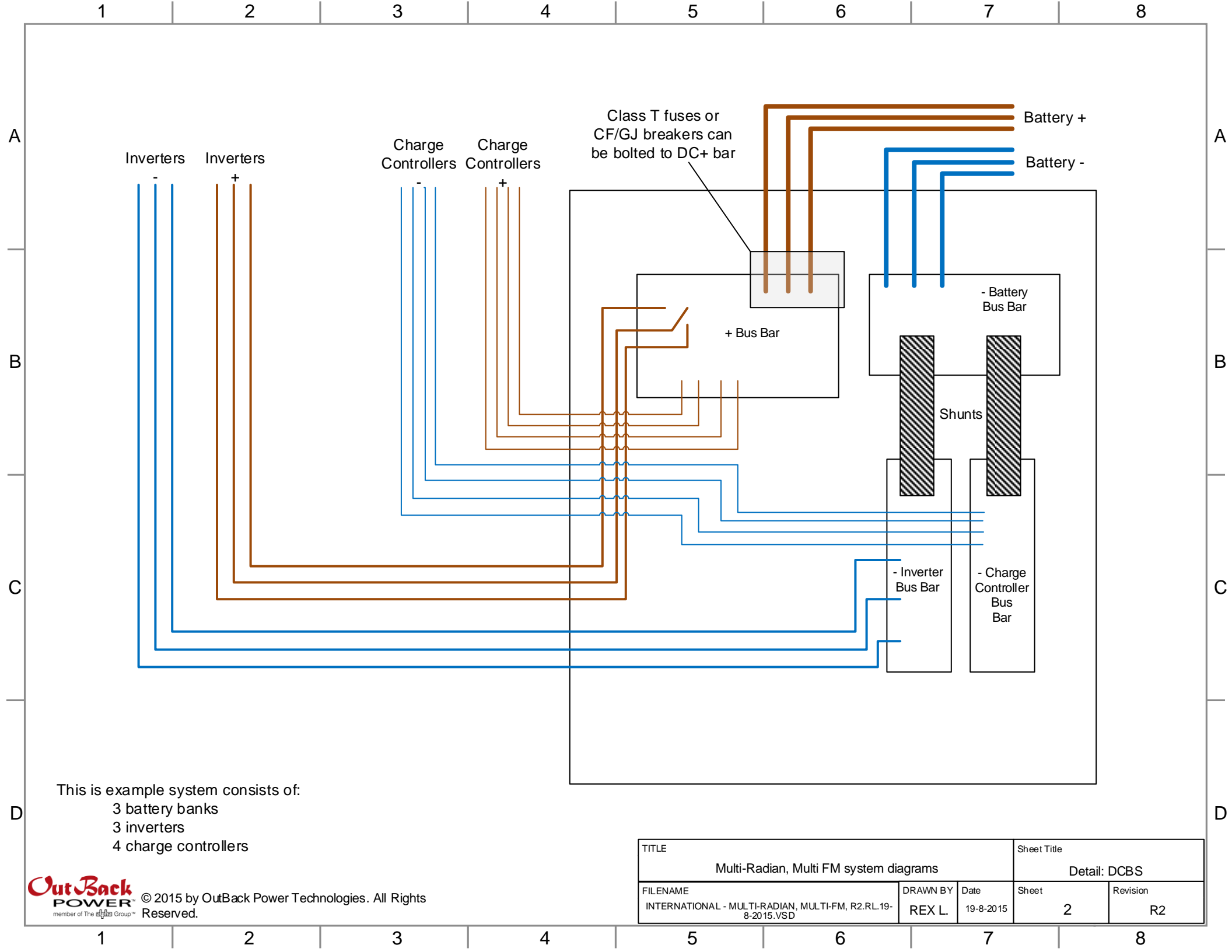


FM80 DC- and DC+ outputs are routed (1) to GSLC's for GFDI and OCPD breakers, then routed to DCBS (2). If a DC Panelboard is used (Page 3) only DC- needs to be routed to GSLC's for the GFDI's.

- Notes:
- A) GSLCs:
 - A1) have breaker spaces for up to four charge controllers
 - A2) are used as a raceway for AC in and AC out conductors
 - A3) house each inverter's:
 - a) AC input breakers
 - b) AC output breakers
 - c) battery DC breakers
 - A4) house the FNDC battery monitor if the system has one
 - B) Bypass switch
 - B1) Rated for 50A x QTY of inverters.
 - B2) Requires a single pole for 230V systems and 3 poles for 230V/400V systems.

<p>Document description: This drawing set is a guide for wiring for up to ten Radian inverter/chargers. PV charge controller wiring is also shown on its own sheet. Always check with AHJ for specific installation requirements.</p>			<p>Sheet list: 1) System single line & cover sheet 2) Three line: DC bussing using components 3) Three line: DC bussing using DC panelboard 4) Three line: AC combining panels and bypass switches 5) Three line: GSLC 230V 6) GSLC DC Wiring 7) HUB wiring</p>	
TITLE			Sheet Title	
Multi-Radian, Multi-FM system diagrams			System Block Diagram	
FILENAME	DRAWN BY	Date	Sheet	Revision
INTERNATIONAL - MULTI-RADIAN, MULTI-FM, R2.RL.19-8-2015.VSD	REX L.	19-8-2015	1	R2



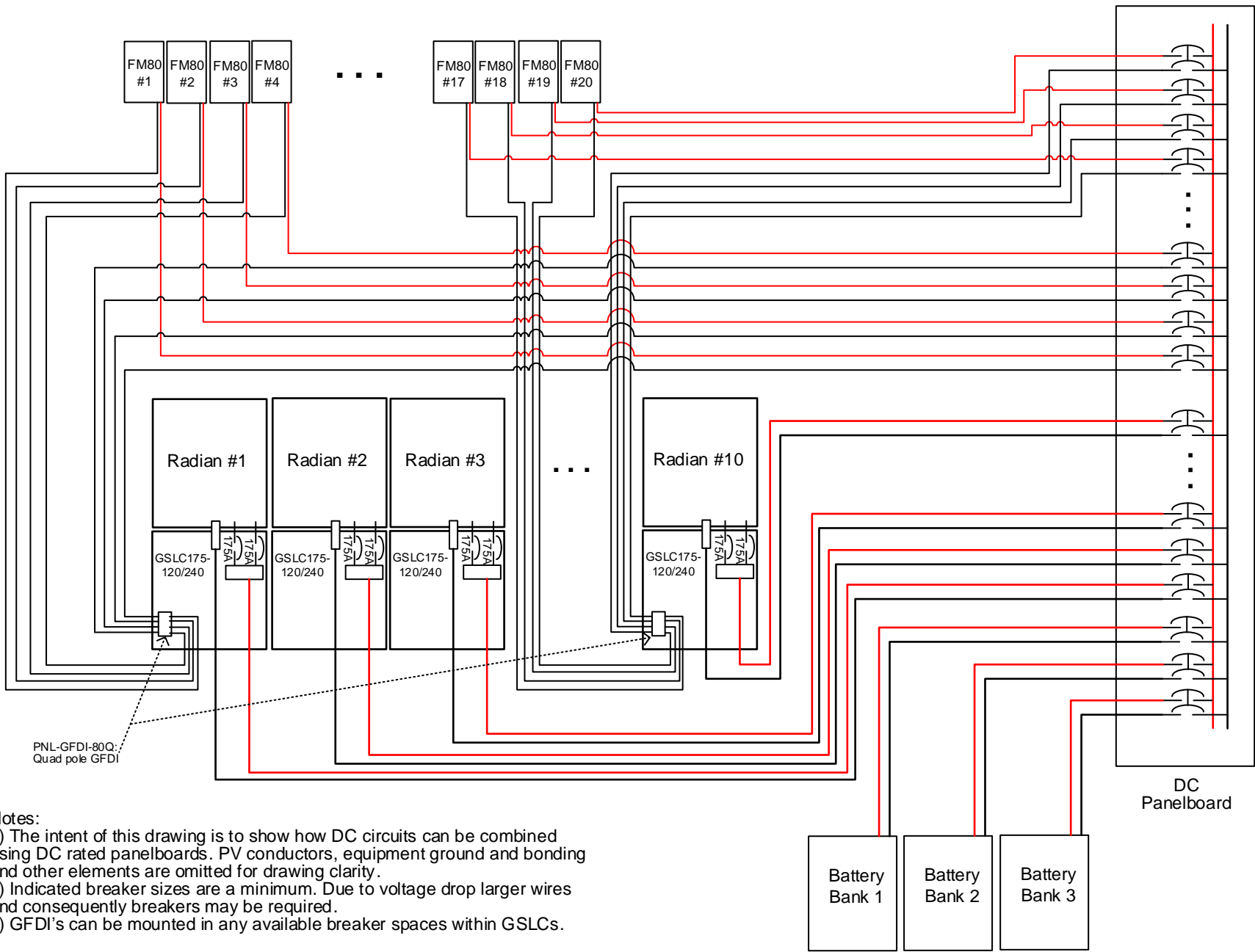
This is example system consists of:

- 3 battery banks
- 3 inverters
- 4 charge controllers



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TITLE			Sheet Title	
Multi-Radian, Multi FM system diagrams			Detail: DCBS	
FILENAME	DRAWN BY	Date	Sheet	Revision
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PNL-GFDI-80Q:
Quad pole GFDI

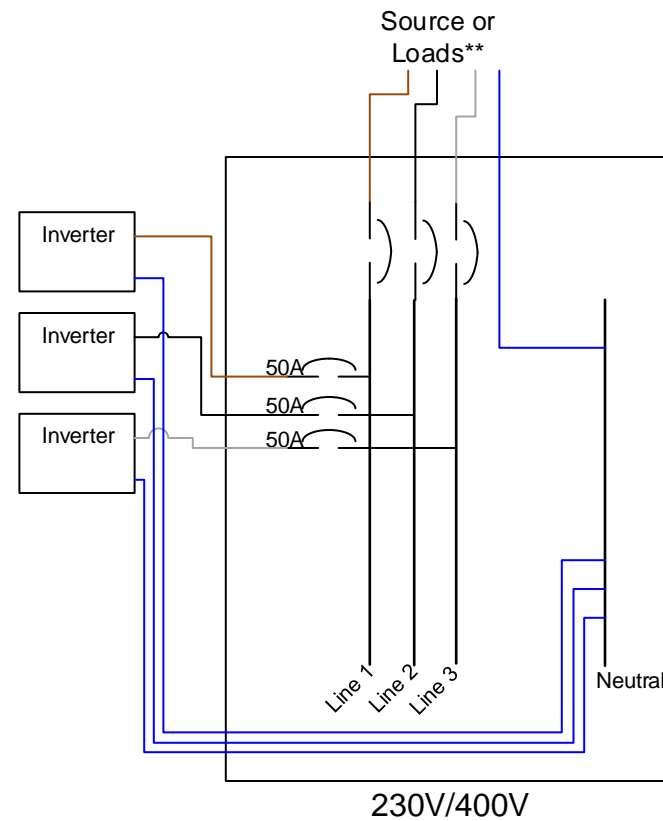
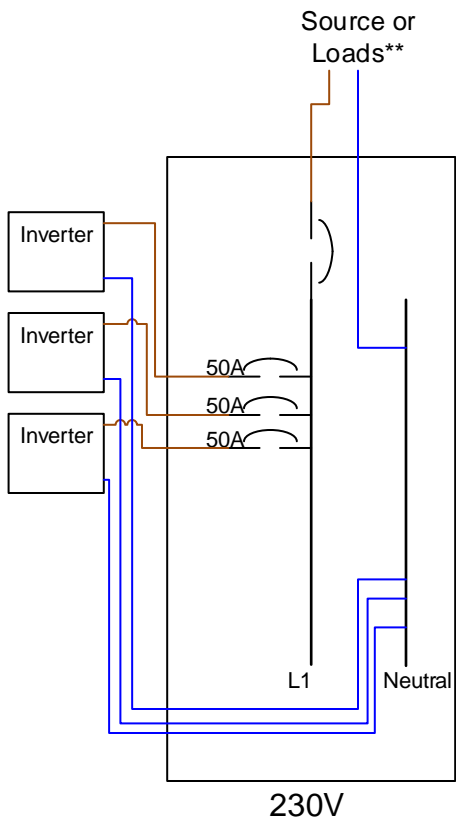
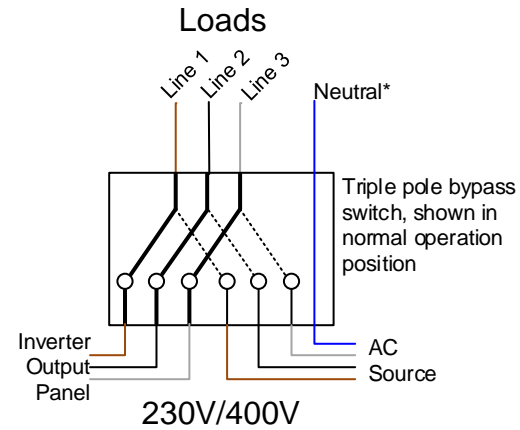
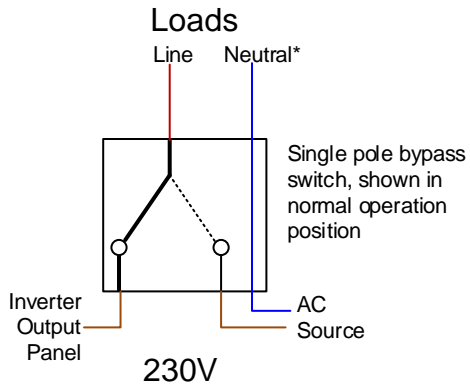
Notes:

- 1) The intent of this drawing is to show how DC circuits can be combined using DC rated panelboards. PV conductors, equipment ground and bonding and other elements are omitted for drawing clarity.
- 2) Indicated breaker sizes are a minimum. Due to voltage drop larger wires and consequently breakers may be required.
- 3) GFDI's can be mounted in any available breaker spaces within GSLCs.

TITLE Multi-Radian, Multi FM system diagrams			Sheet Title Three line: DC bussing using DC panelboard	
FILENAME INTERNATIONAL - MULTI-RADIAN, MULTI-FM, R2.RL.19-8-2015.VSD	DRAWN BY REX L.	Date 19-8-2015	Sheet 3	Revision R2



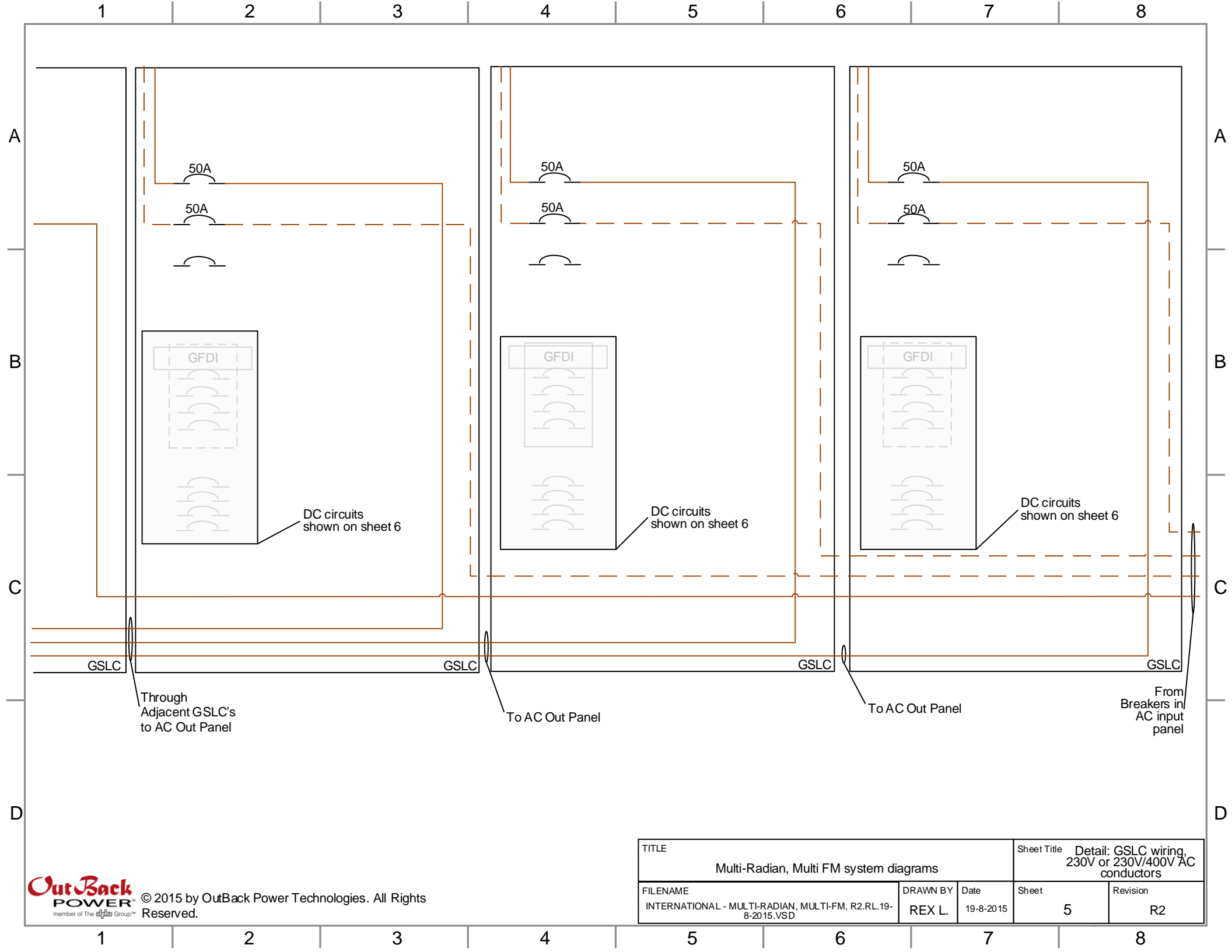
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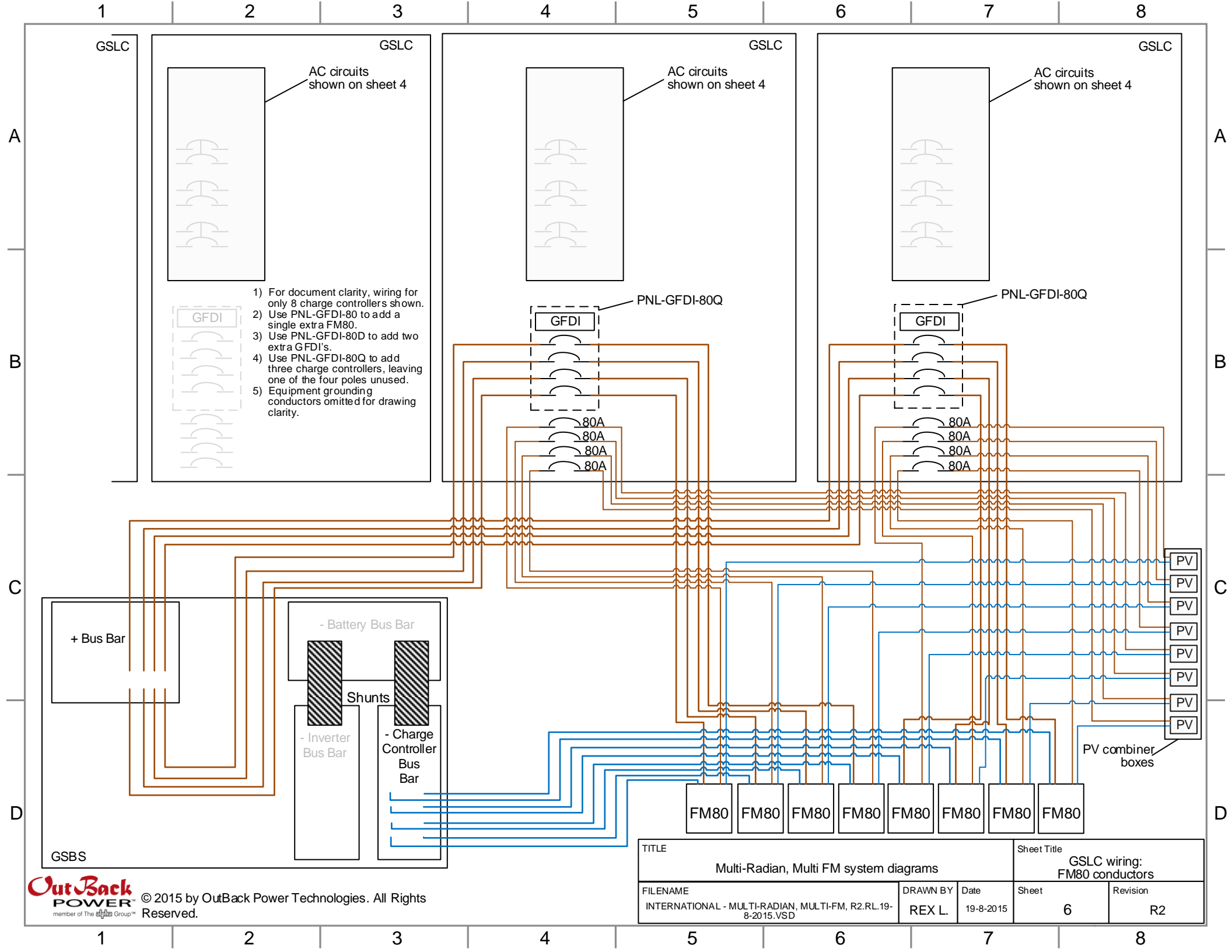
3-phase systems must have inverter quantities in multiples of three

Notes:
* Since neutral is not switched, it passes through input to loads, regardless of bypass switch position.
**For input panels, breakers distribute source power to inverters. For output panels, breakers consolidate inverter outputs into a single output.

TITLE			Sheet Title	
Multi-Radian, Multi FM system diagrams			AC combining panels	
FILENAME	DRAWN BY	Date	Sheet	Revision
INTERNATIONAL - MULTI-RADIAN, MULTI-FM, R2.RL.19-8-2015.VSD	REX L.	19-8-2015	4	R2



TITLE Multi-Radian, Multi FM system diagrams			Sheet Title Detail: GSLC wiring, 230V or 230V/400V AC conductors	
FILENAME INTERNATIONAL - MULTI-RADIAN, MULTI-FM, R2.RL.19-8-2015.VSD	DRAWN BY REX L.	Date 19-8-2015	Sheet 5	Revision R2



GSLC

GSLC

GSLC

GSLC

AC circuits shown on sheet 4

AC circuits shown on sheet 4

AC circuits shown on sheet 4

- 1) For document clarity, wiring for only 8 charge controllers shown.
- 2) Use PNL-GFDI-80 to add a single extra FM80.
- 3) Use PNL-GFDI-80D to add two extra GFDI's.
- 4) Use PNL-GFDI-80Q to add three charge controllers, leaving one of the four poles unused.
- 5) Equipment grounding conductors omitted for drawing clarity.

GFDI PNL-GFDI-80Q

GFDI PNL-GFDI-80Q

80A
80A
80A
80A

80A
80A
80A
80A

+ Bus Bar

- Battery Bus Bar

- Inverter Bus Bar

- Charge Controller Bus Bar

Shunts

PV combiner boxes

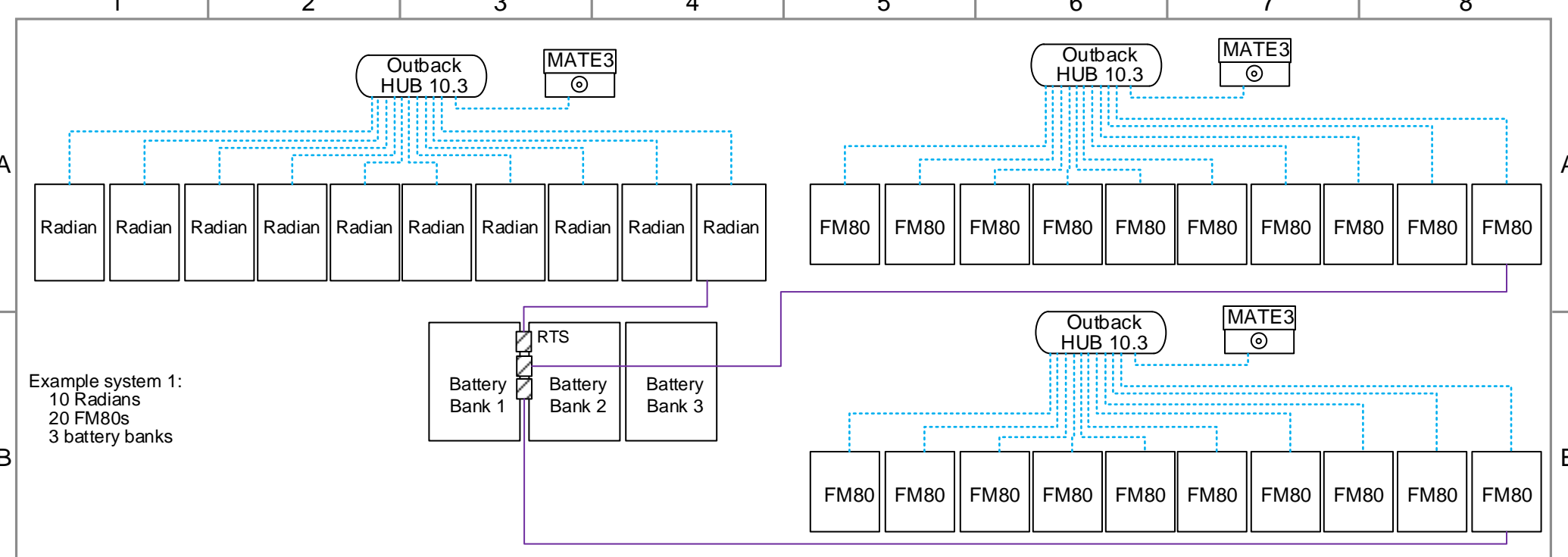
FM80 FM80 FM80 FM80 FM80 FM80 FM80 FM80

GSBS

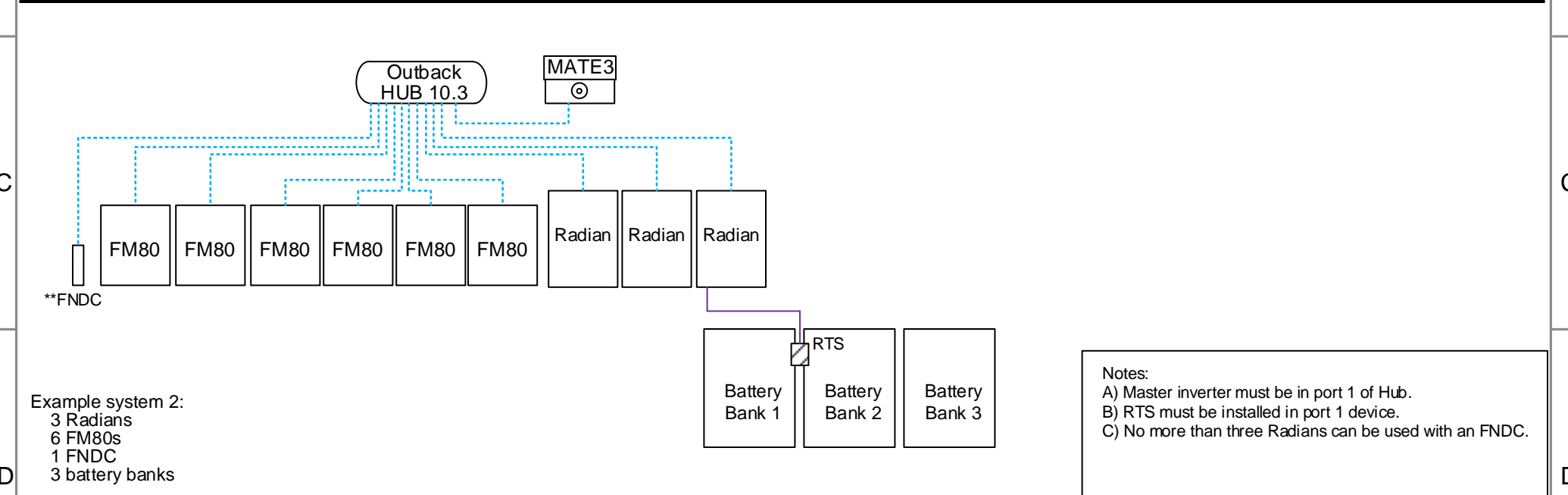
TITLE Multi-Radian, Multi FM system diagrams				Sheet Title GSLC wiring: FM80 conductors	
FILENAME INTERNATIONAL - MULTI-RADIAN, MULTI-FM, R2.RL.19-8-2015.VSD	DRAWN BY REX L.	Date 19-8-2015	Sheet 6	Revision R2	



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Example system 1:
 10 Radians
 20 FM80s
 3 battery banks



Example system 2:
 3 Radians
 6 FM80s
 1 FNDC
 3 battery banks

Notes:
 A) Master inverter must be in port 1 of Hub.
 B) RTS must be installed in port 1 device.
 C) No more than three Radians can be used with an FNDC.

TITLE				Sheet Title			
Multi-Radian, Multi FM system diagrams				Communications wiring			
FILENAME	DRAWN BY	Date	Sheet	Revision			
INTERNATIONAL - MULTI-RADIAN, MULTI-FM, R2.RL.19-8-2015.VSD	REX L.	19-8-2015	7	R2			