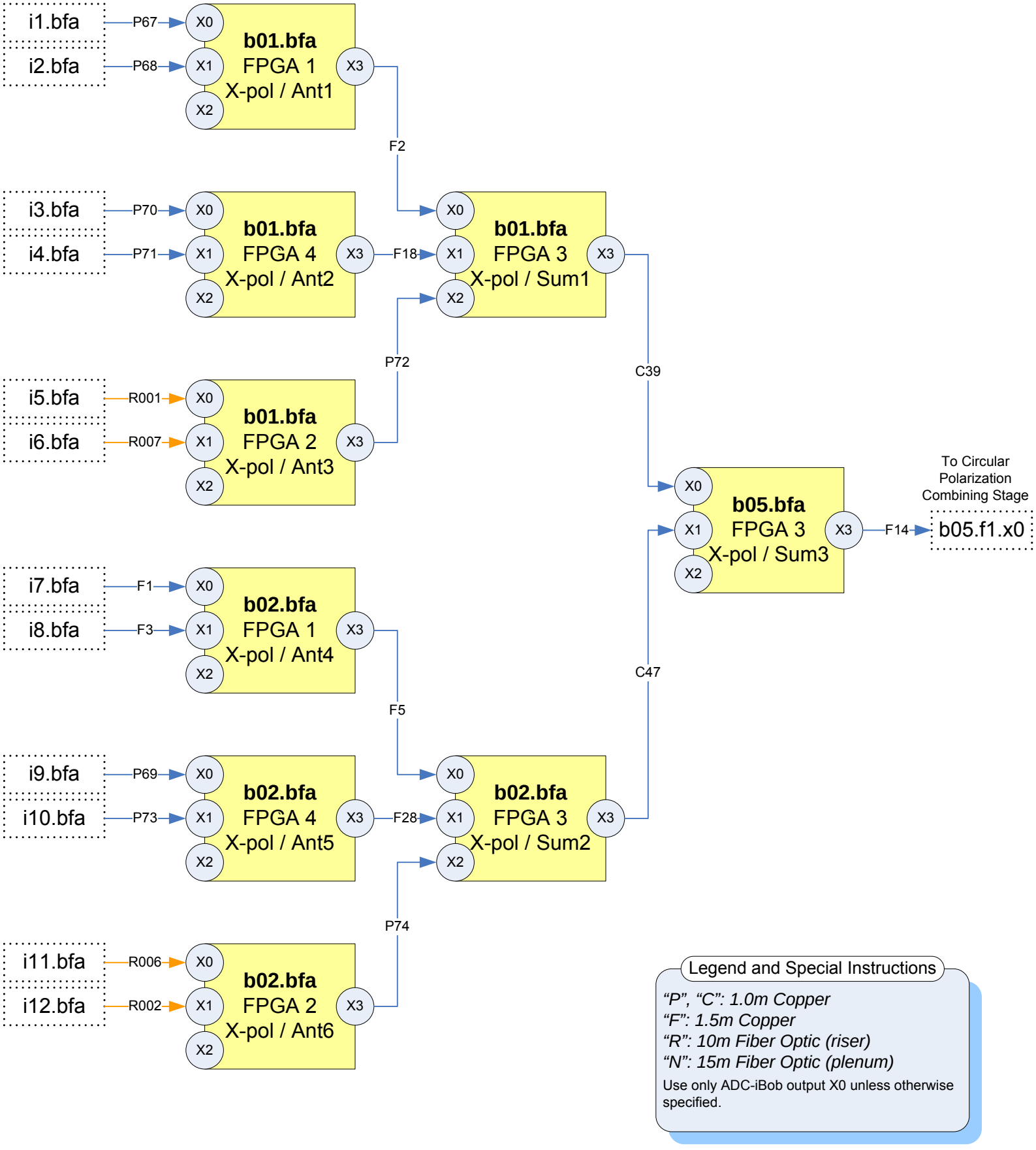
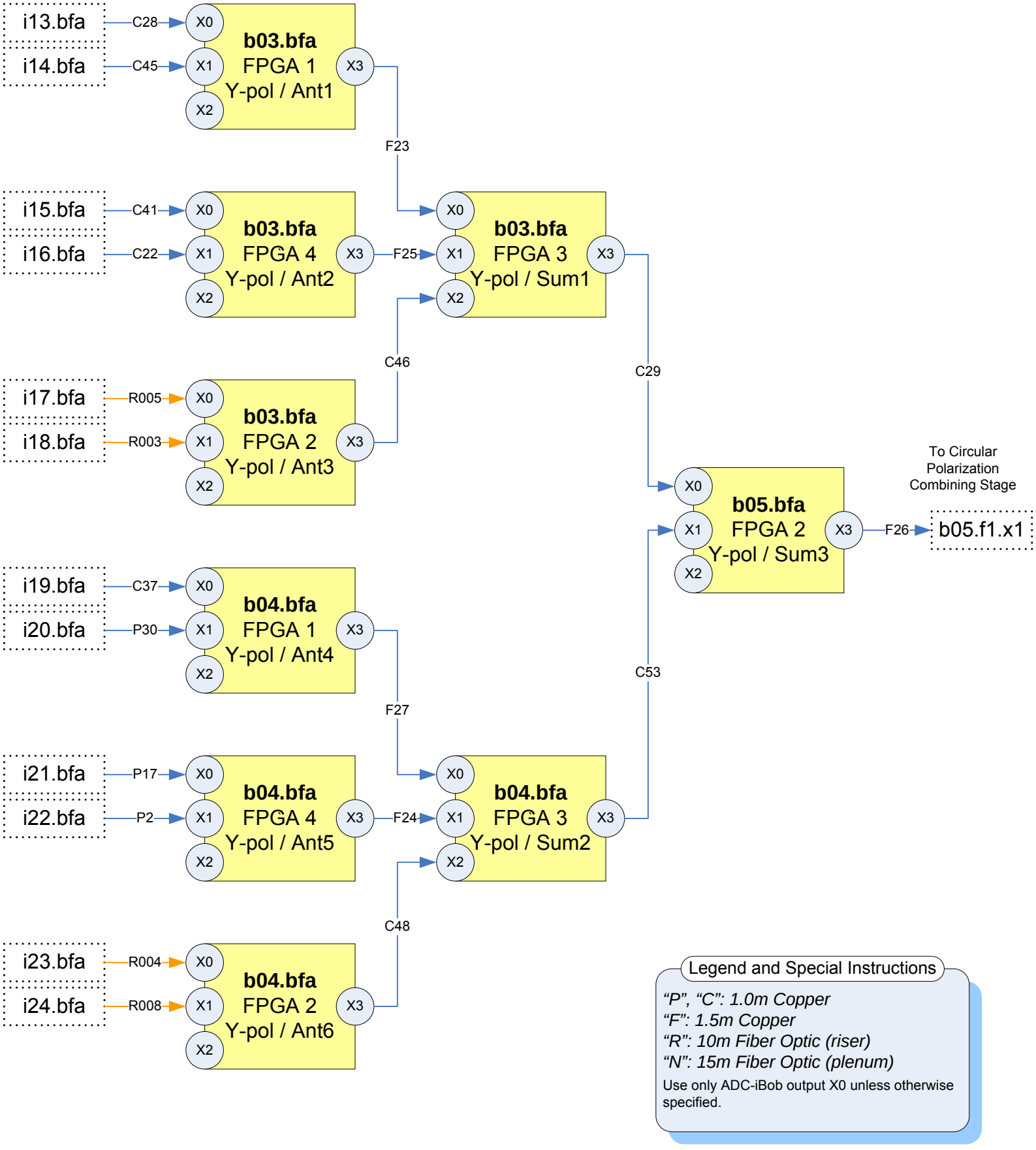
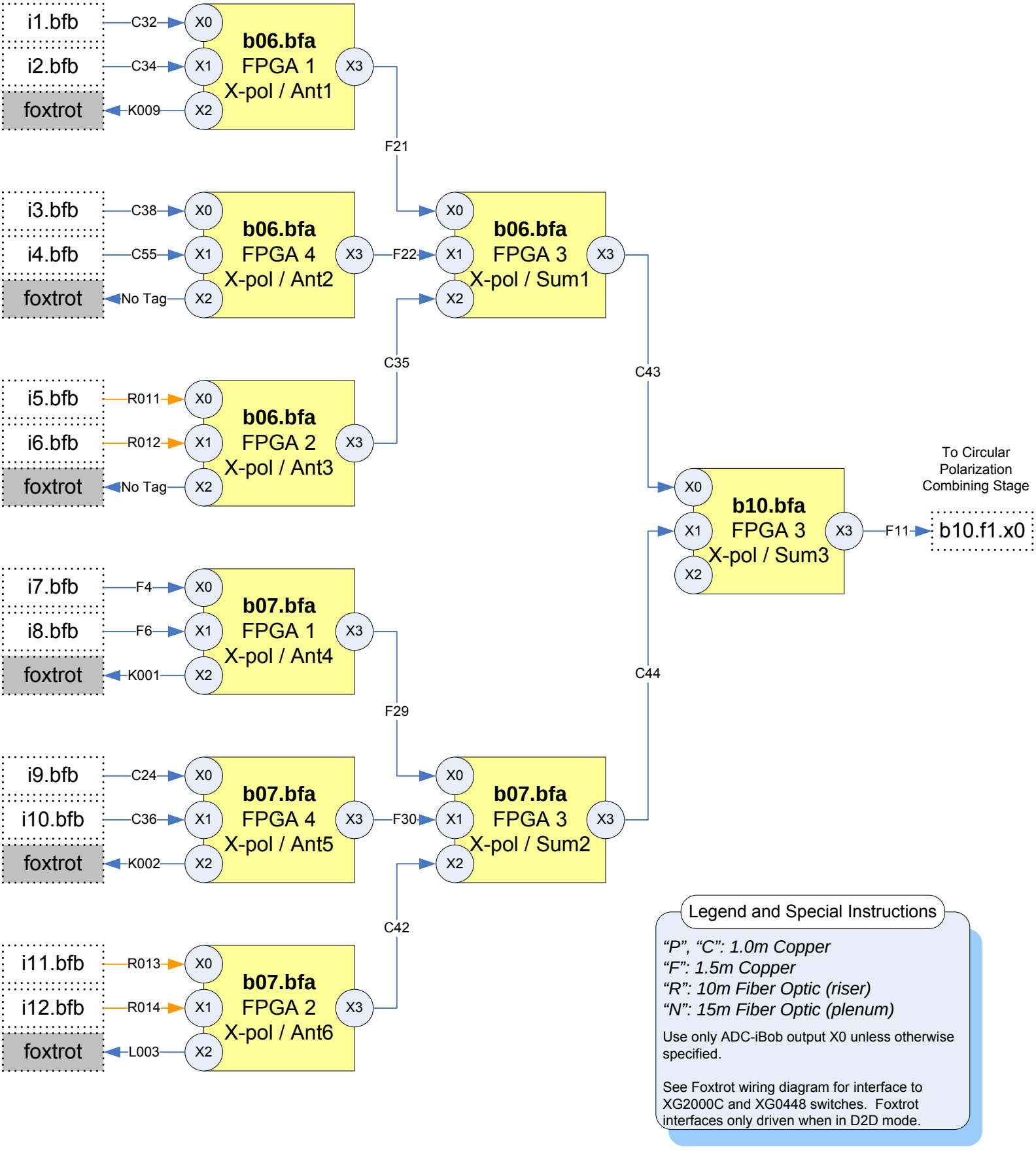
Beamformer Wiring (Beamformer #1):
X-Polarization BEE2 Cascade (Beam Proc #1)
March 25, 2009 (Matt Dexter, HCRO / wcb db)



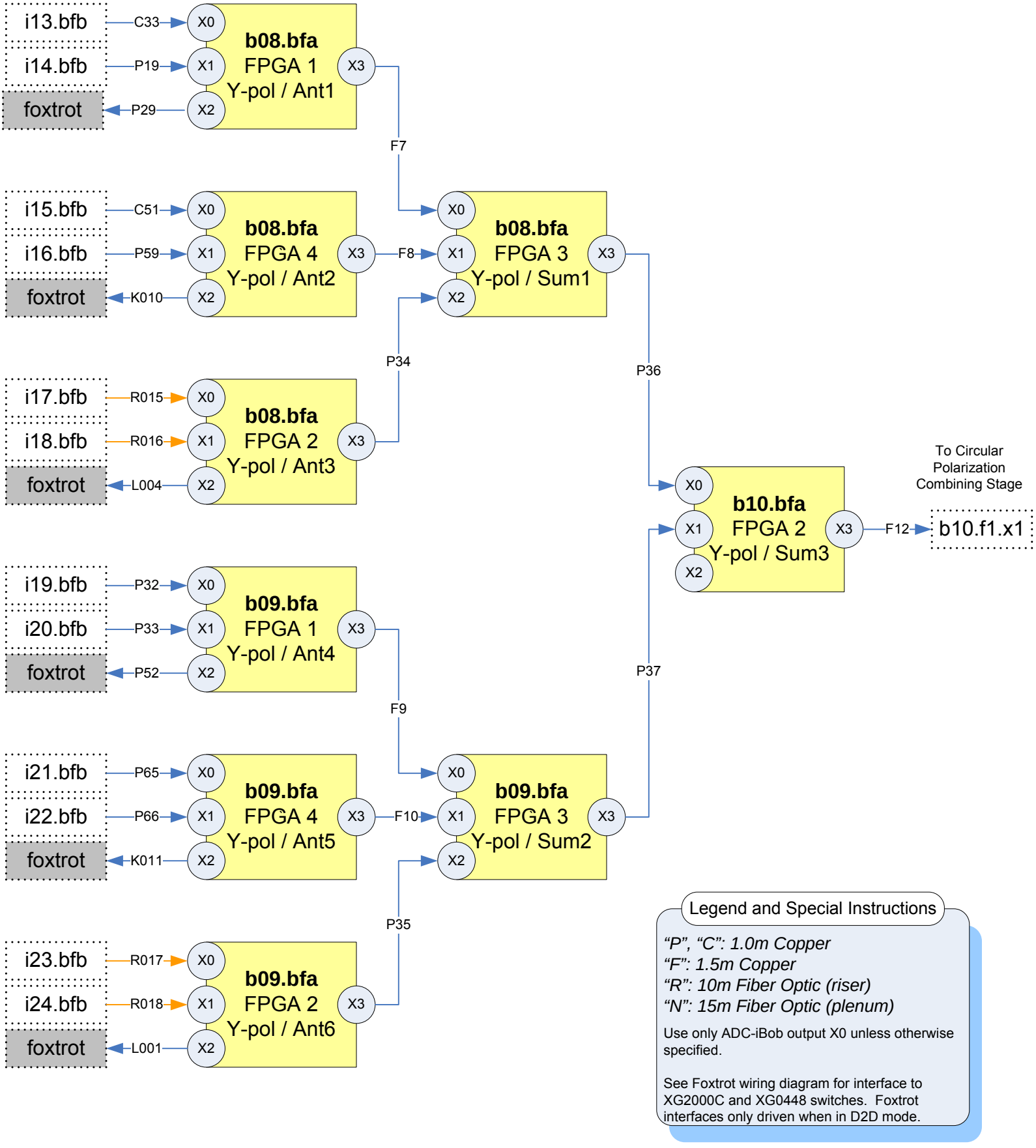
Beamformer Wiring (Beamformer #1):
Y-Polarization BEE2 Cascade (Beam Proc #2)
March 25, 2009 (Matt Dexter, HCRO / wcb db)



Beamformer Wiring (Beamformer #2):
X-Polarization BEE2 Cascade (Beam Proc #3)
Oct 10, 2012 (WCB/DB per EK/HCRO)



Beamformer Wiring (Beamformer #2):
Y-Polarization BEE2 Cascade (Beam Proc #4)
May 17, 2012 (WCB/HCRO)



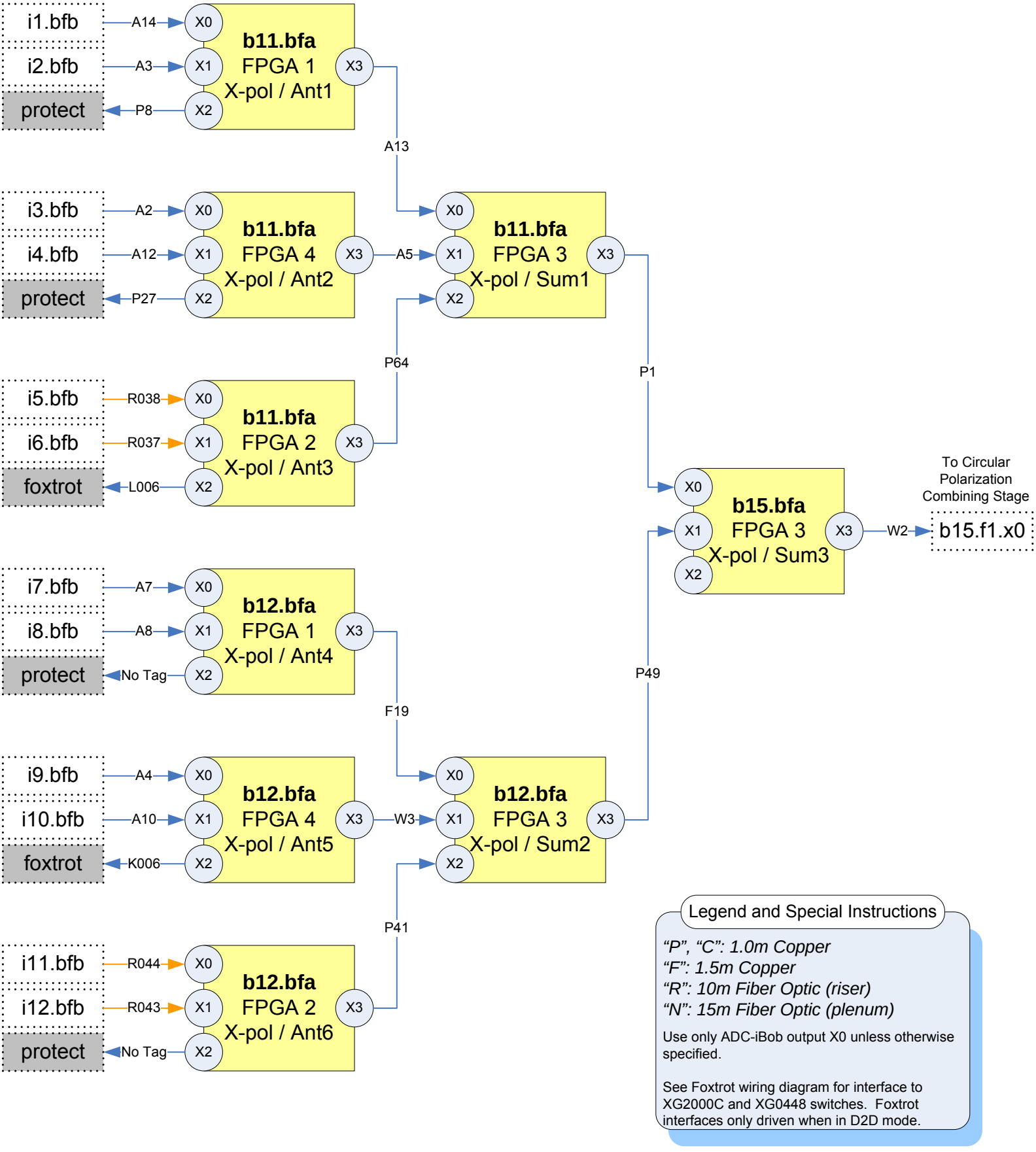
Legend and Special Instructions

"P", "C": 1.0m Copper
"F": 1.5m Copper
"R": 10m Fiber Optic (riser)
"N": 15m Fiber Optic (plenum)

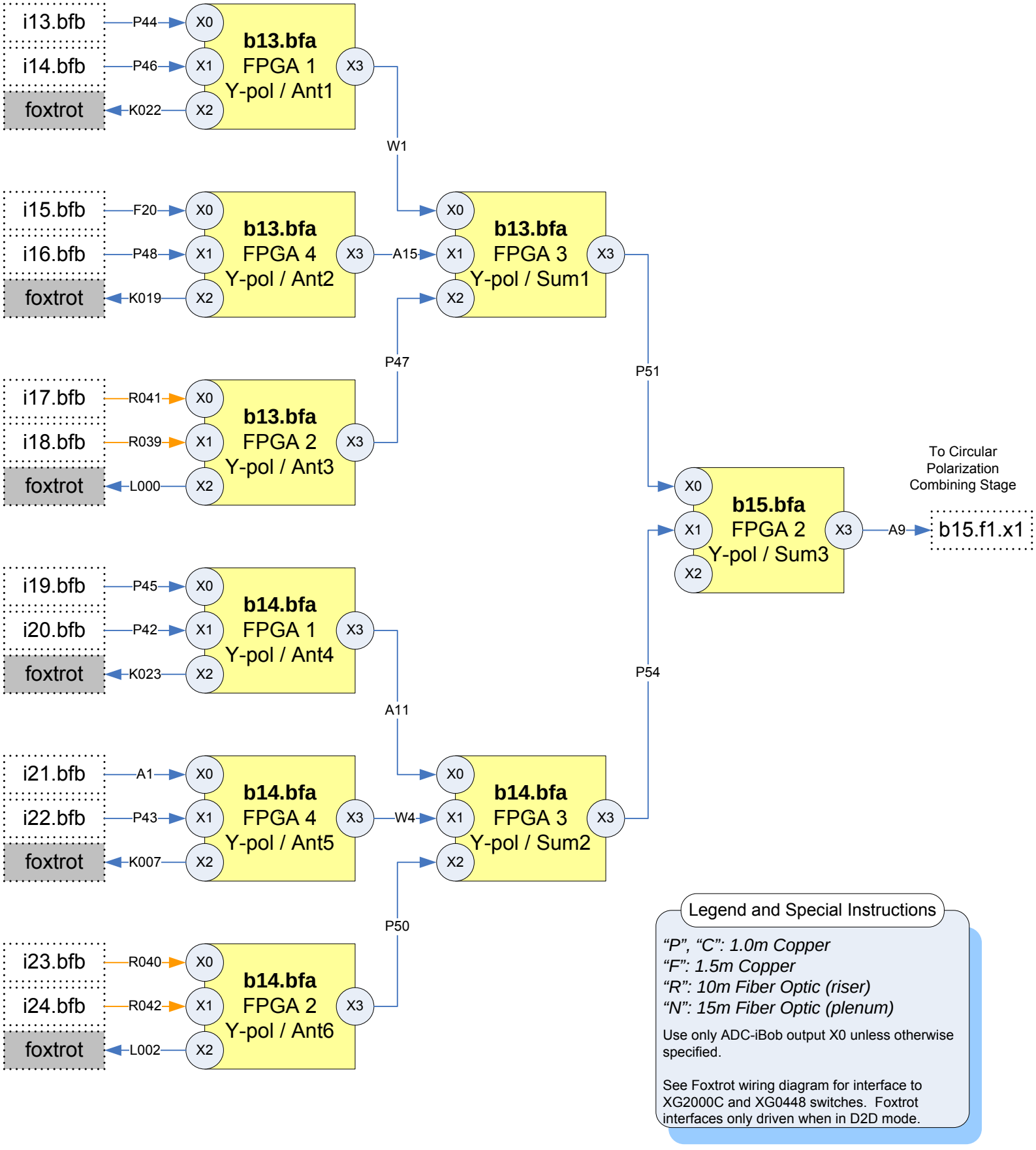
Use only ADC-iBob output X0 unless otherwise specified.

See Foxtrot wiring diagram for interface to XG2000C and XG0448 switches. Foxtrot interfaces only driven when in D2D mode.

Beamformer Wiring (Beamformer #3):
X-Polarization BEE2 Cascade (Beam Proc #5)
Oct 12, 2012 (WCB/HCRO/DB)



Beamformer Wiring (Beamformer #3):
Y-Polarization BEE2 Cascade (Beam Proc #6)
Oct 10, 2012 (WCB/DB & EK/HCRO)



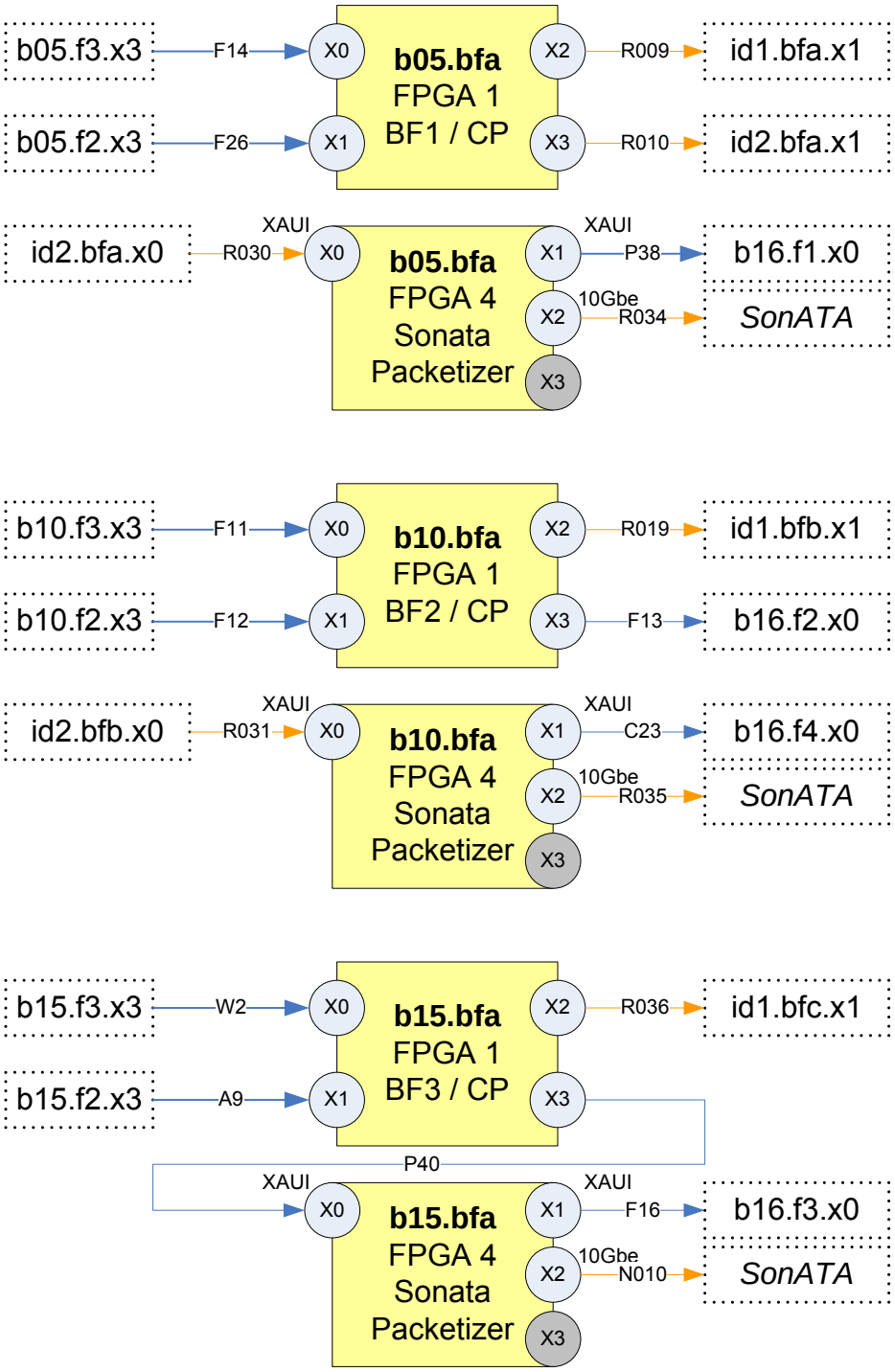
Legend and Special Instructions

"P", "C": 1.0m Copper
"F": 1.5m Copper
"R": 10m Fiber Optic (riser)
"N": 15m Fiber Optic (plenum)

Use only ADC-iBob output X0 unless otherwise specified.

See Foxtrot wiring diagram for interface to XG2000C and XG0448 switches. Foxtrot interfaces only driven when in D2D mode.

Beamformer Wiring (Beamformer #1, #2, and #3):
Circular Polarization Combiner Stages
And Packetizers
January 20, 2010 (WCB/DB via JER/HCRO)

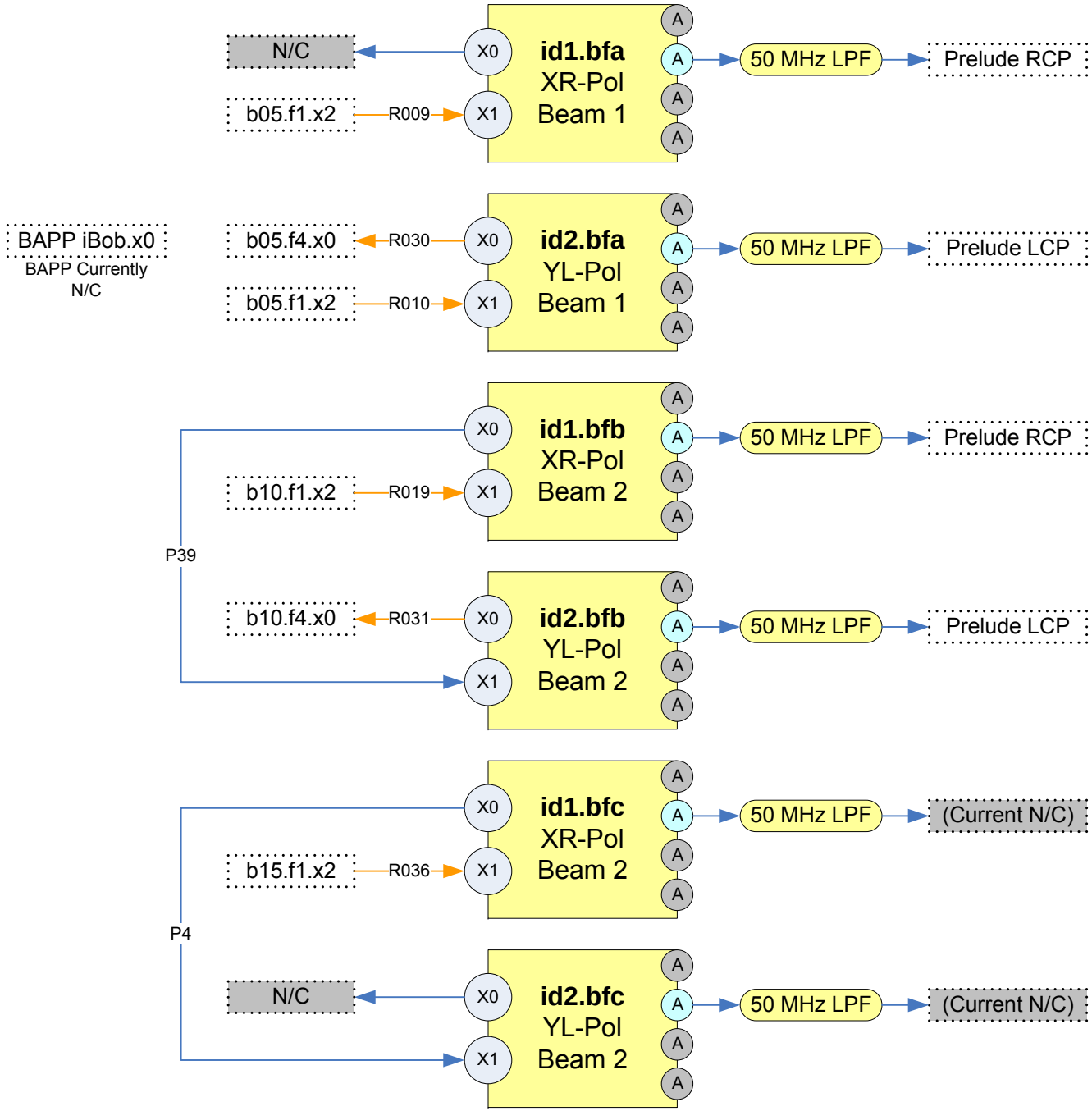


Legend and Special Instructions

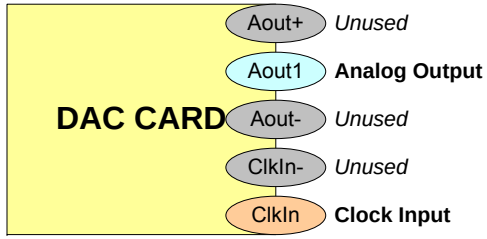
"P", "C": 1.0m Copper
"F", "A", "W": 1.5m Copper
"R": 10m Fiber Optic (riser)
"N": 15m Fiber Optic (plenum)

Use only ADC-iBob output X0 unless otherwise specified.

Beamformer Wiring:
DAC Chassis (all DAC iBobs)
May 17, 2012 (WCB/HCRO)



Blue "A" Port indicates analog output Aout1. When viewing DAC board, be informed that there are five SMA connections. These are outlined below:



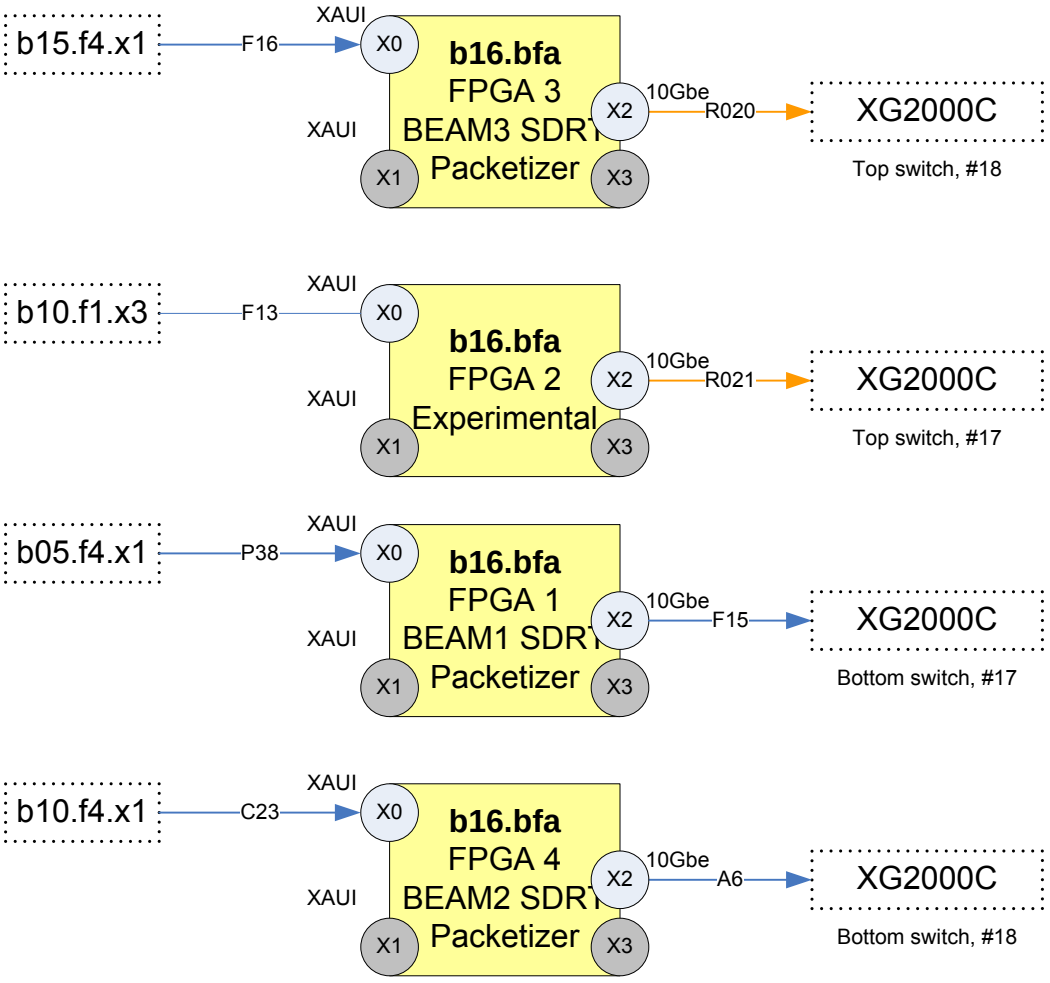
Legend and Special Instructions

"P", "C": 1.0m Copper
"F": 1.5m Copper
"R": 10m Fiber Optic (riser)
"N": 15m Fiber Optic (plenum)

Final beam signals may be "daisy chained" through the DAC's X0 port.

Note that all DAC input/Daisy output streams contain concatenated beam and refant data

Beamformer Wiring – Auxiliary Processor (B16)
May 17, 2012 (WCB/HCRO)



Matt Dexter reports b16 F2 X0 does not properly power active CX4. Not a problem in this case.

Note: Foxtrot 10GbE Switches are XG2000C x2. These switches each have 16 CX4 connections, of which 12-per are dedicated to D2D inputs ad 2-per are dedicated to the cross-bar (19/20). This leaves 2-per for client connections (total of 4), of which the beam inputs take 3 and the experimental takes 1.

__BEAM INPUTS SHOULD BE ON PORTS 17/ 18 OF XG2000 SWITCHES ONLY____

USE 1.5m CABLES OR F.O. AS INTERCONNECTS.

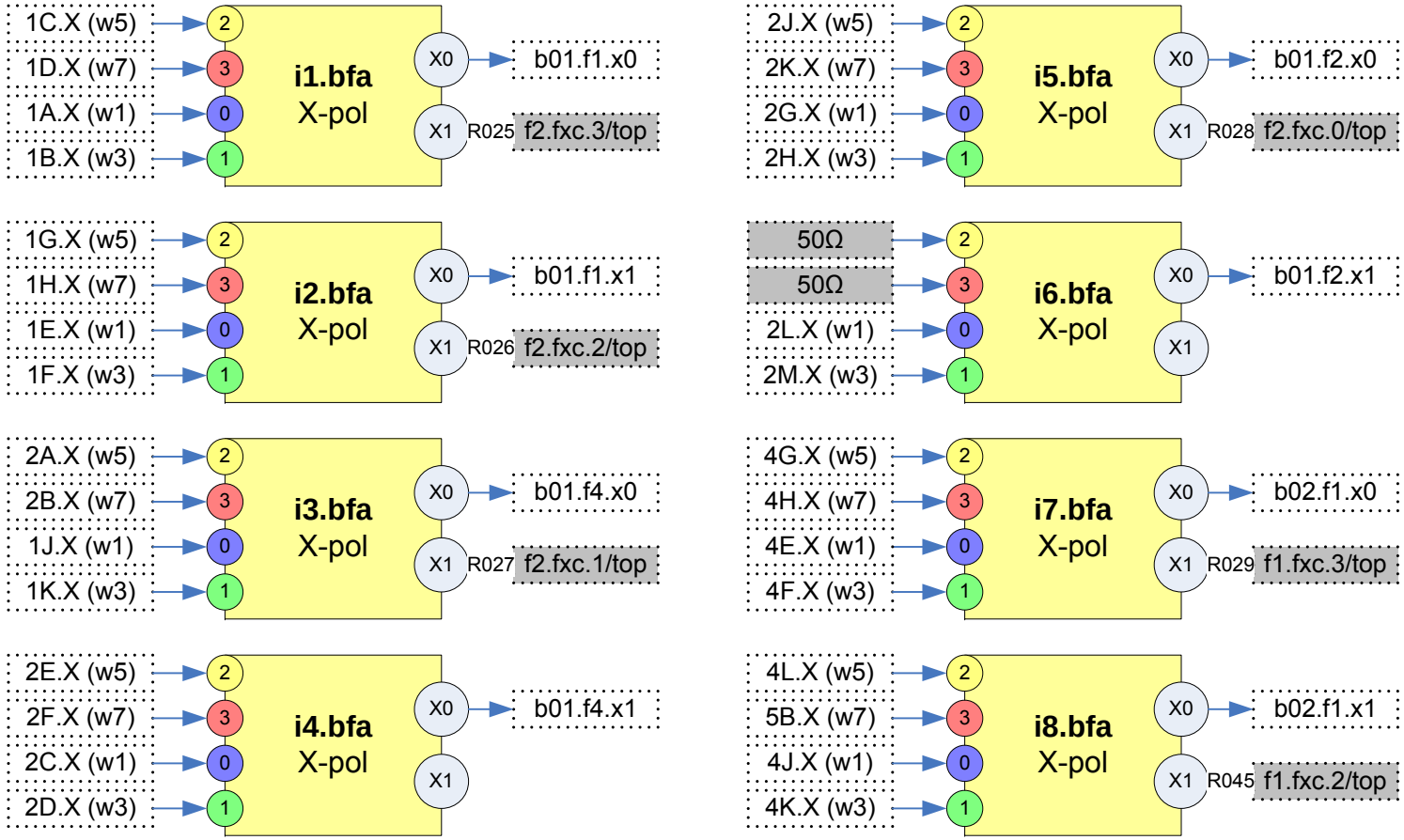
Legend and Special Instructions

"P", "C": 1.0m Copper
"F": 1.5m Copper
"R": 10m Fiber Optic (riser)
"N": 15m Fiber Optic (plenum)

Use only ADC-iBob output X0 unless otherwise specified.

Beamformer Wiring (BF#1):
Top Chassis iBobs (i1 – i8)
May 17, 2012 (WCB/HCRO)

Notes: Only the X0 outputs of the iBobs should be used. The X1 outputs have been shown to be less reliable.

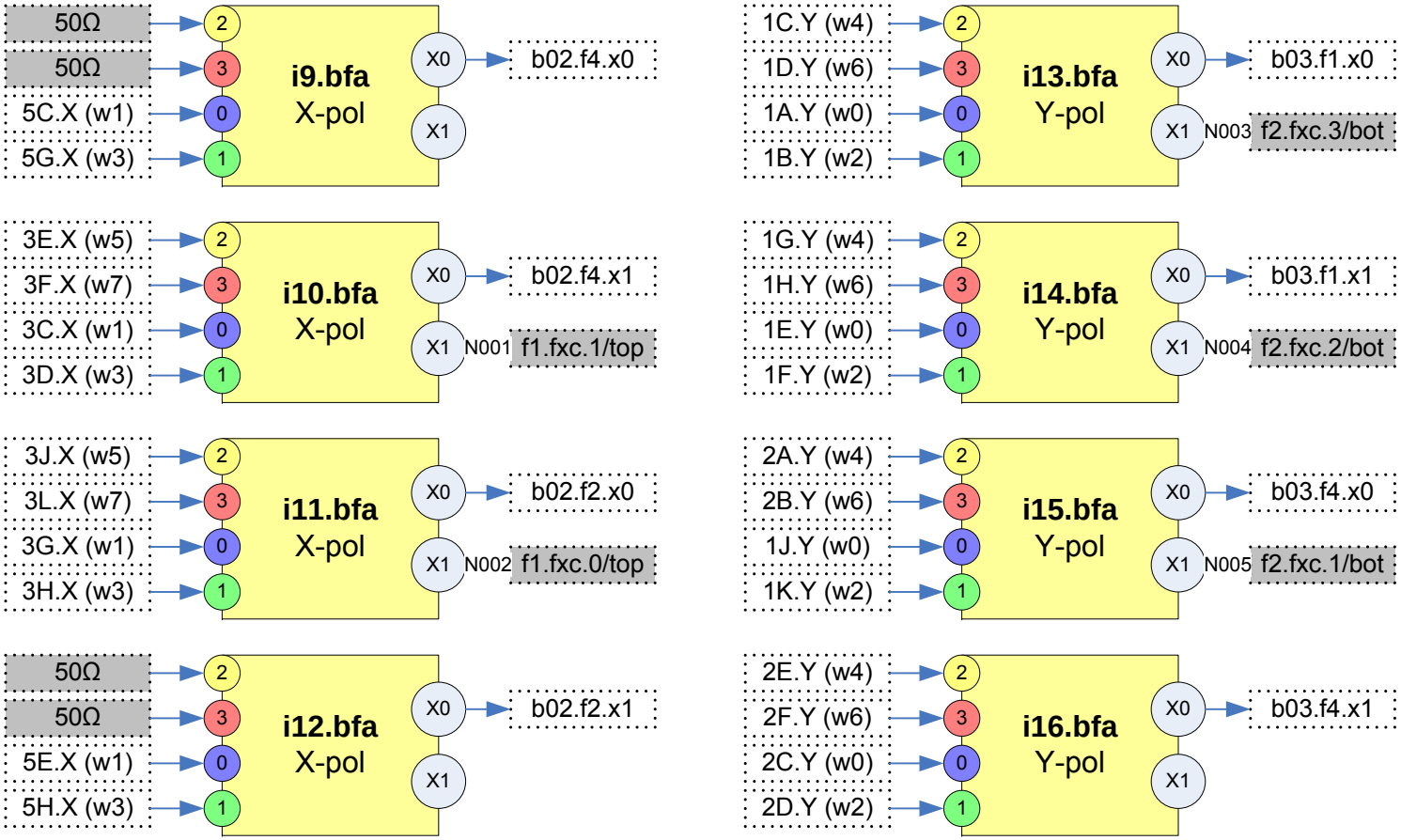


Legend and Special Instructions

All antenna inputs use the RFCB "C" tuning. Shaded inputs have no ant-pol input. Instead, the inputs are 50-ohm terminated.

Use only ADC-iBob output X0 unless otherwise specified.

Beamformer Wiring (BF#1):
Middle Chassis iBobs (i9 – i16)
May 17, 2012 (WCB/HCRO)

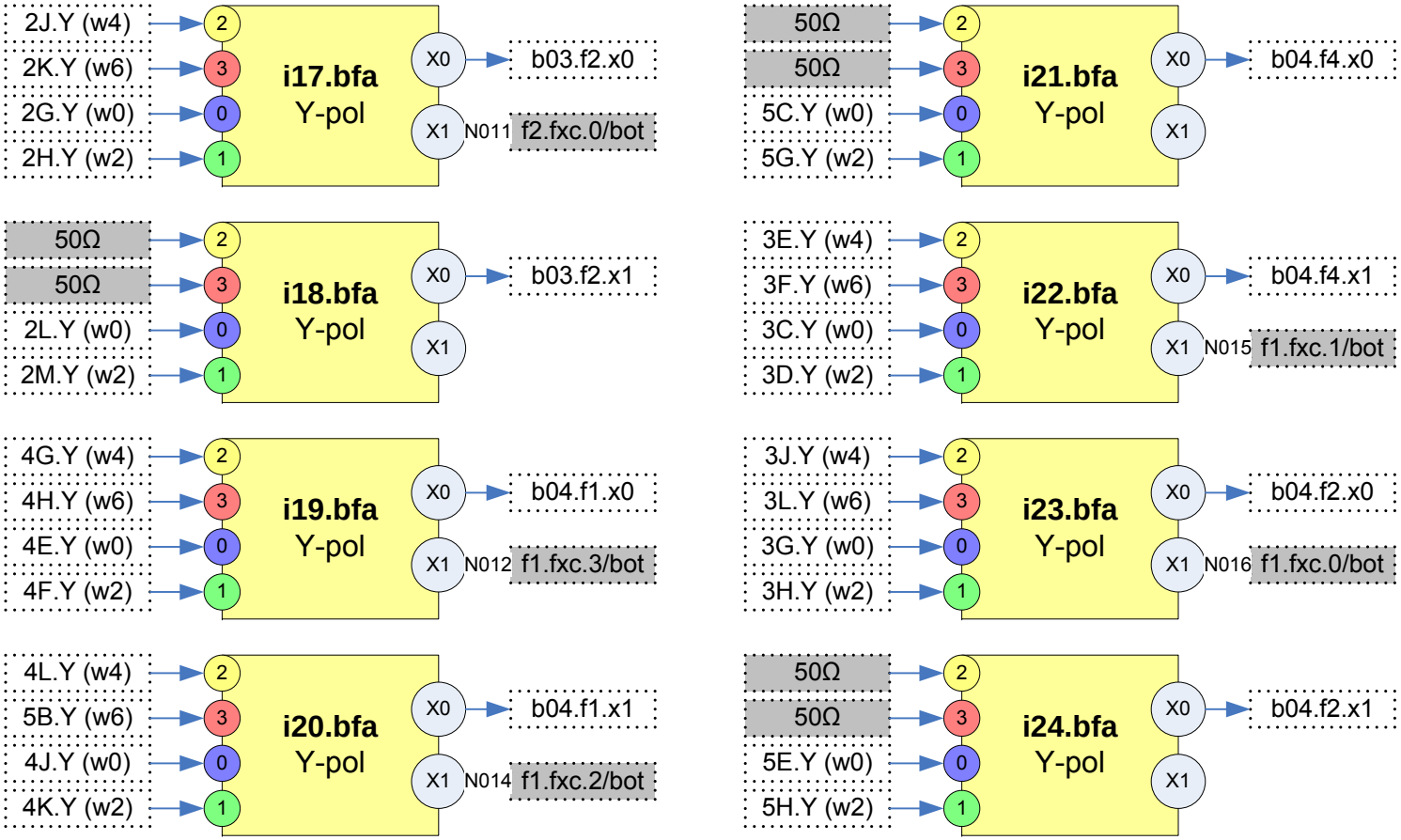


Legend and Special Instructions

All antenna inputs use the RFCB "C" tuning. Shaded inputs have no ant-pol input. Instead, the inputs are 50-ohm terminated.

Use only ADC-iBob output X0 unless otherwise specified.

Beamformer Wiring (BF#1):
Bottom Chassis iBobs (i17 – i24)
May 17, 2012 (WCB/HCRO)



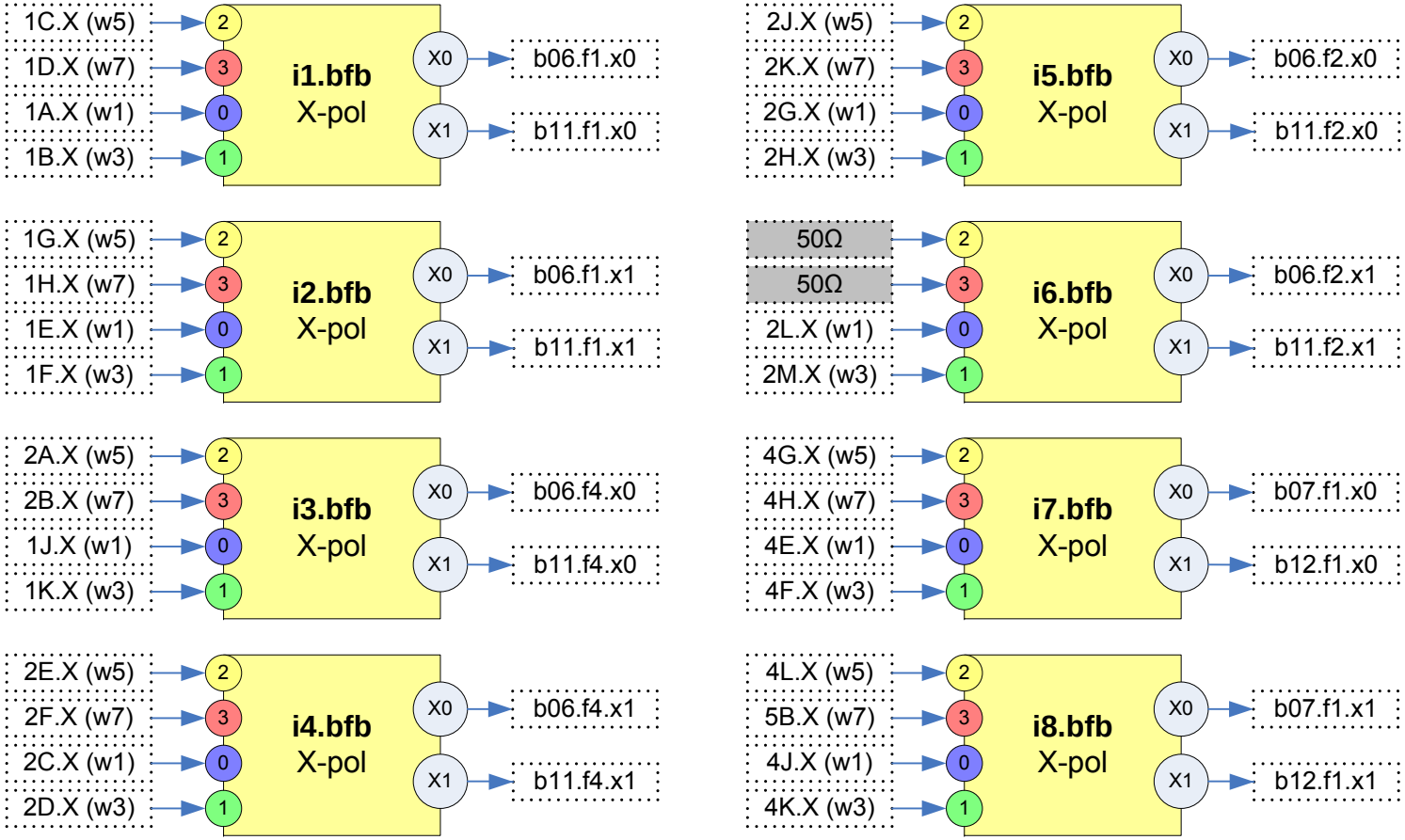
Legend and Special Instructions

All antenna inputs use the RFCB "C" tuning. Shaded inputs have no ant-pol input. Instead, the inputs are 50-ohm terminated.

Use only ADC-iBob output X0 unless otherwise specified.

Beamformer Wiring (BF#2):
Top Chassis iBobs (i1 – i8)
July 8, 2009 (WCB/ HCRO)

Notes: Only the X0 outputs of the iBobs should be used. The X1 outputs have been shown to be less reliable.

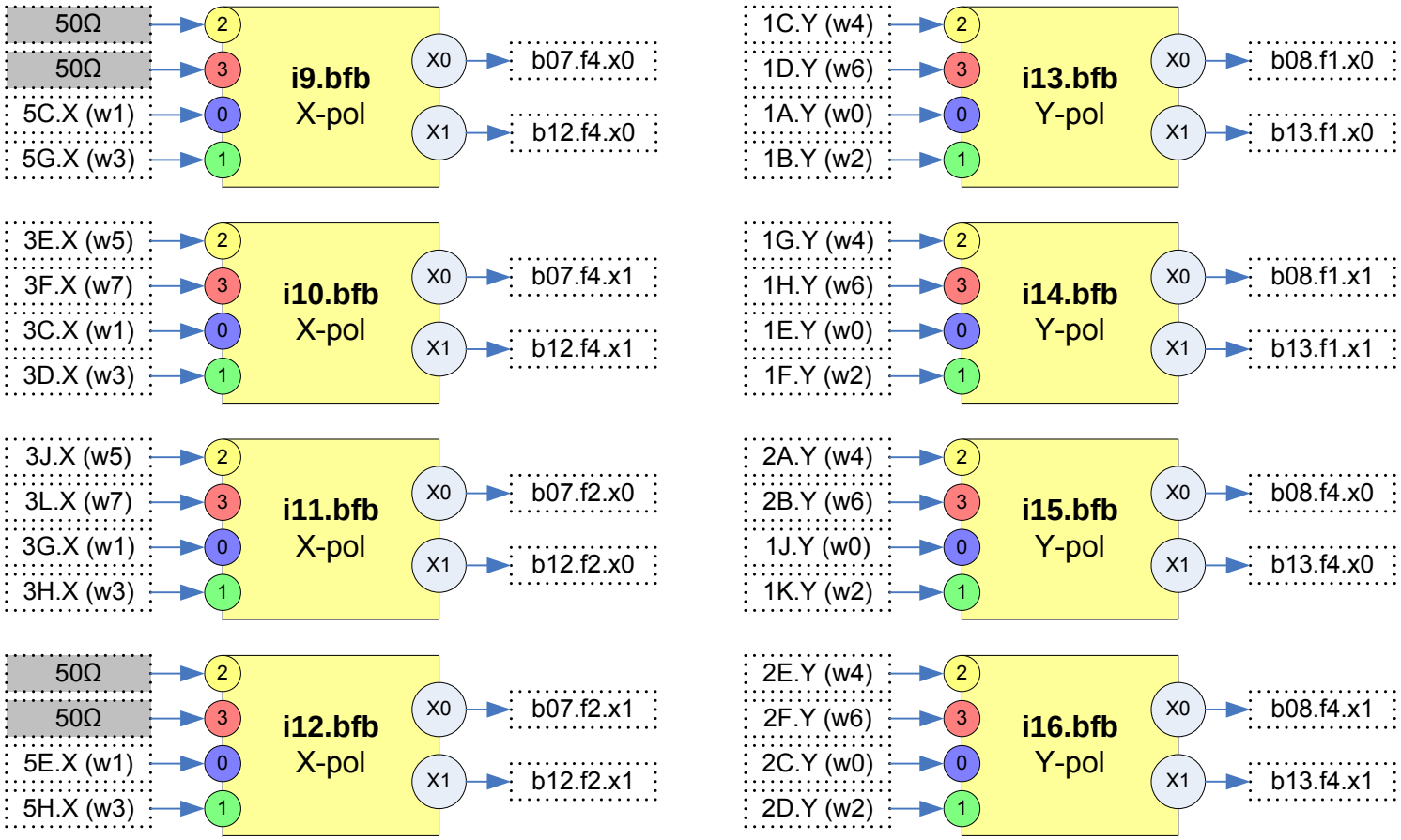


Legend and Special Instructions

All antenna inputs use the RFCB "D" tuning. Shaded inputs have no ant-pol input. Instead, the inputs are 50-ohm terminated.

Use only ADC-iBob output X0 unless otherwise specified.

Beamformer Wiring (BF#2):
Middle Chassis iBobs (i9 – i16)
July 8, 2009 (WCB/ HCRO)

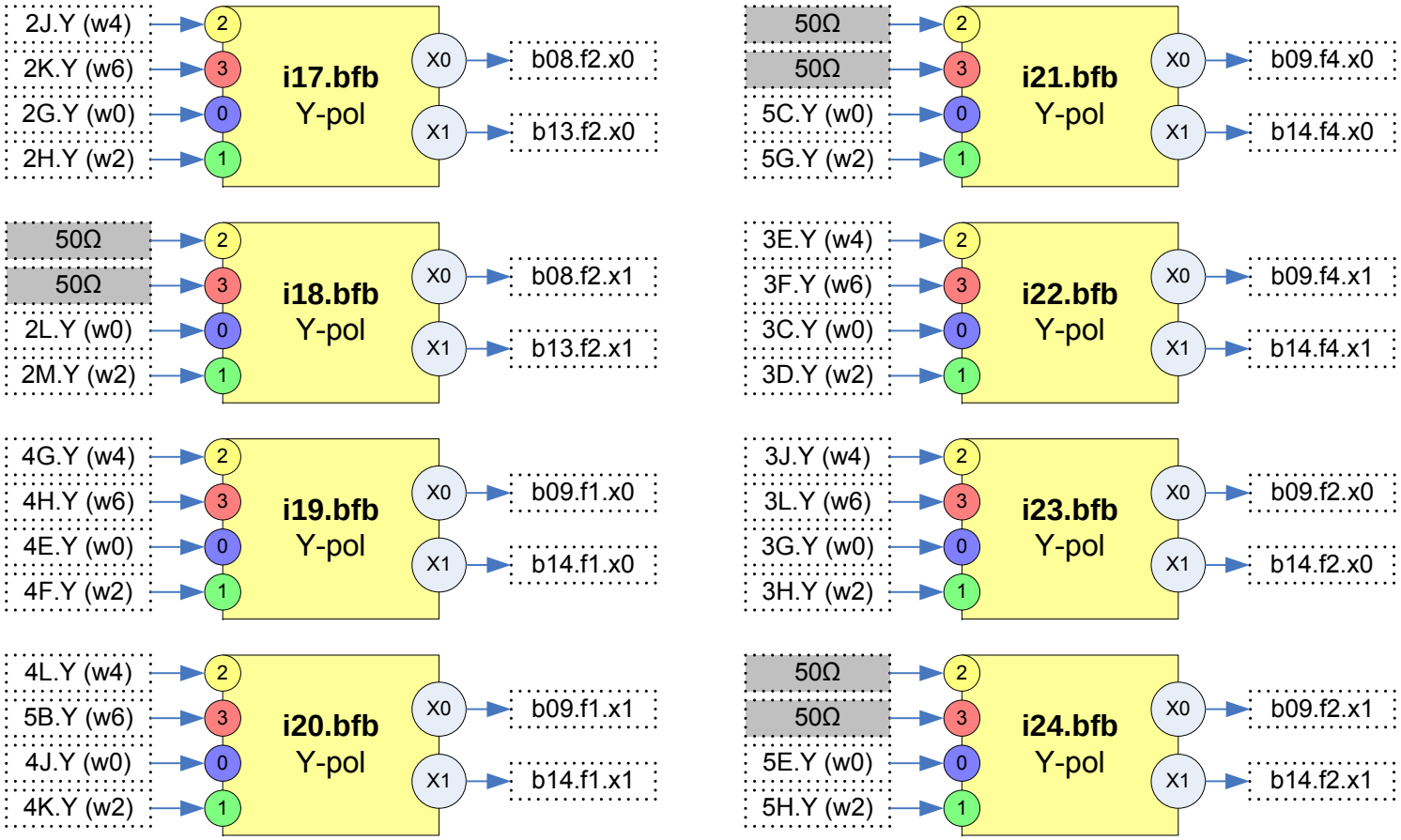


Legend and Special Instructions

All antenna inputs use the RFCB “D” tuning. Shaded inputs have no ant-pol input. Instead, the inputs are 50-ohm terminated.

Use only ADC-iBob output X0 unless otherwise specified.

Beamformer Wiring (BF#2):
Bottom Chassis iBobs (i17 – i24)
July 8, 2009 (WCB/ HCRO)

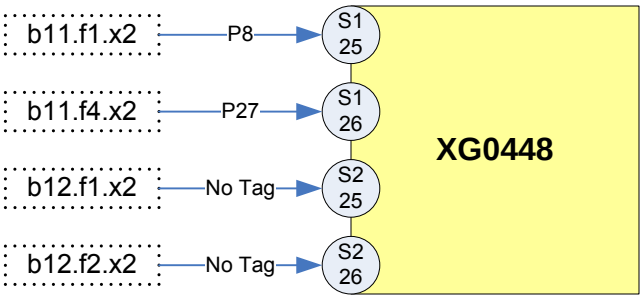


Legend and Special Instructions

All antenna inputs use the RFCB “D” tuning. Shaded inputs have no ant-pol input. Instead, the inputs are 50-ohm terminated.

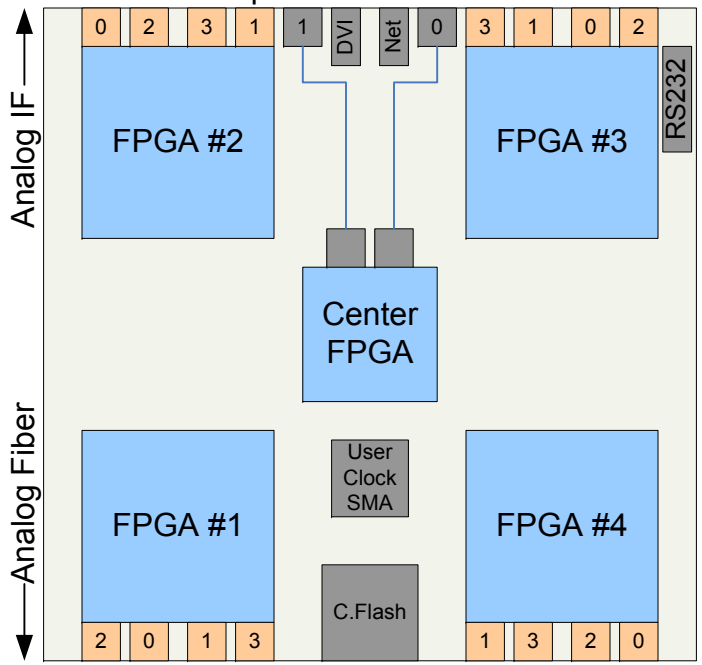
Use only ADC-iBob output X0 unless otherwise specified.

Beamformer Wiring (10GbE Backbone to Foxtrot-Quito)
Beamformer #3 Rack
May 17, 2012 (WCB/HCRO)

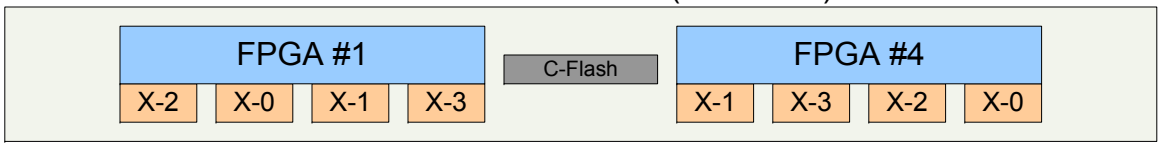


Beamformer Wiring:
BEE2 FPGA Physical Layout
July 28, 2008: WCB / HCRO

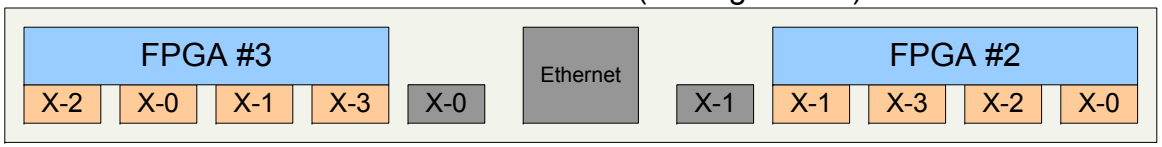
Top View of the BEE2



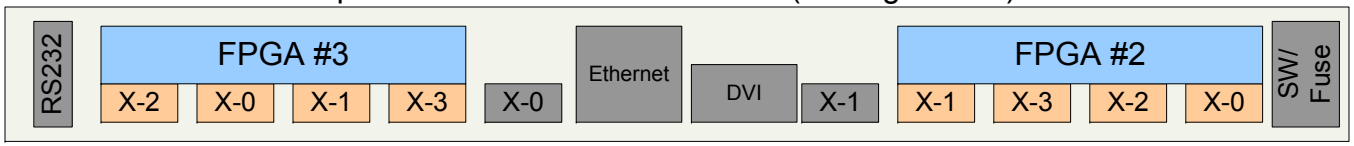
Front View of the BEE2 (Fiber-side)



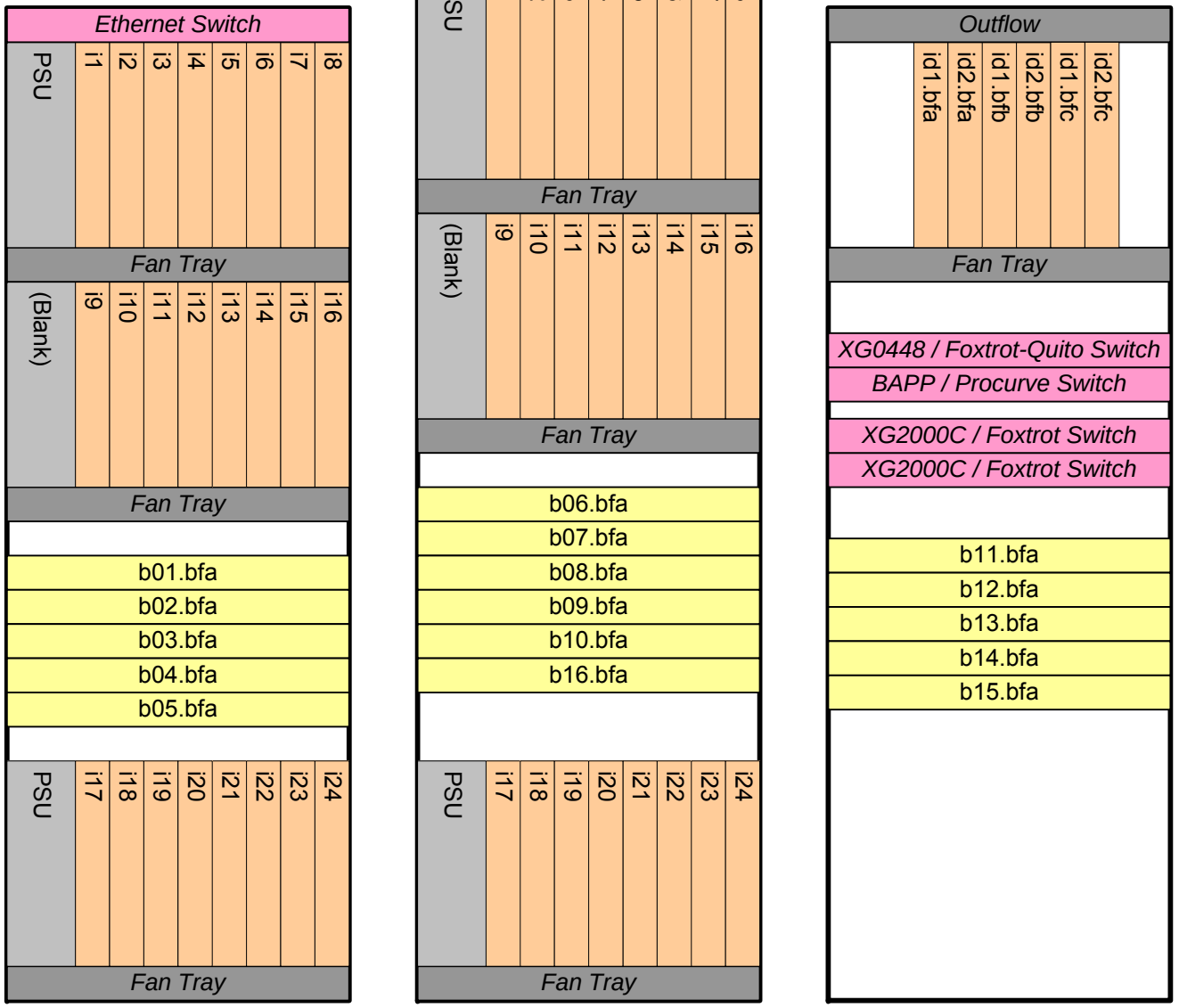
Back View of the BEE2 (Analog IF side)



Expanded Back View of the BEE2 (Analog IF side)



Beamformer Rack Layout
Front (Analog RF) View
May 17, 2012 (WCB/HCRO)

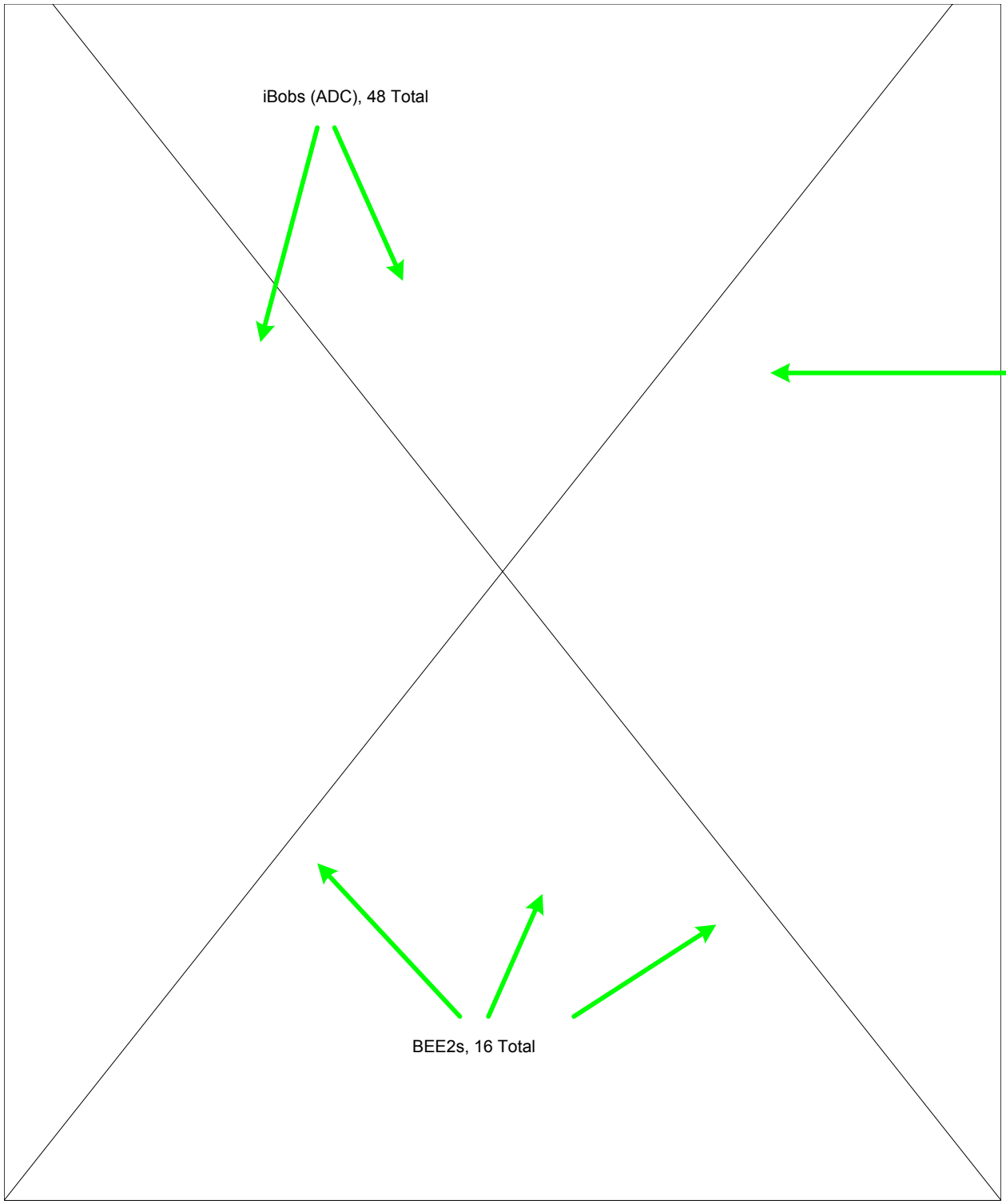


Beamformer #1
Tuning C

Rack Layout
Front (Analog IF) View

Beamformer #2
Tuning D
Auxiliary Processor B16

Beamformer #3
Tuning D
DAC Outputs

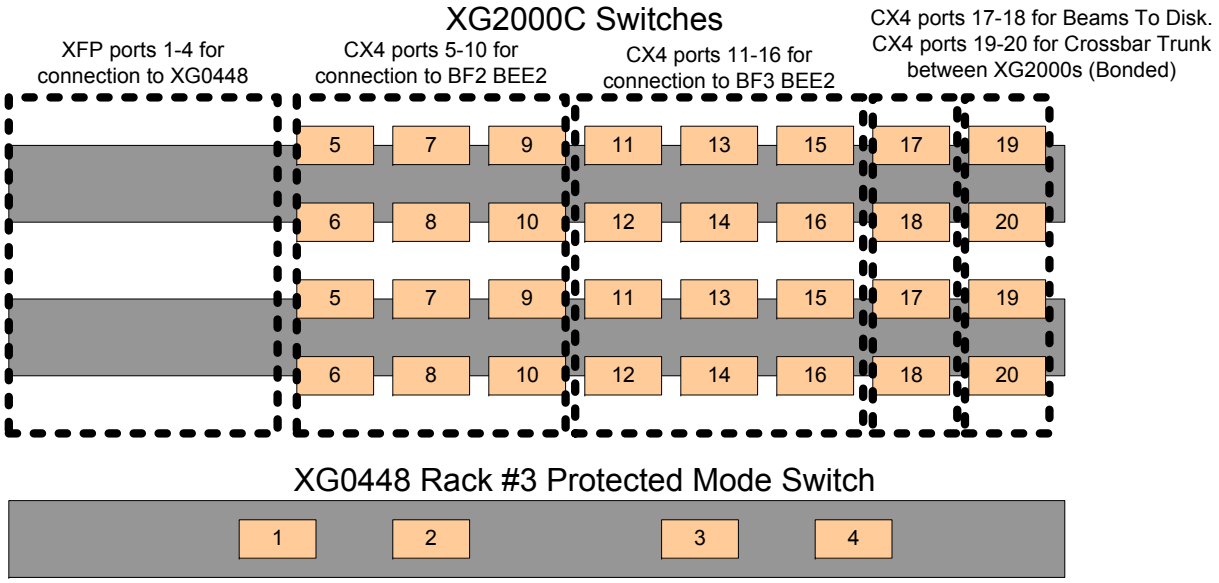

iBobs (ADC), 48 Total
iBob
BEE2s, 16 Total

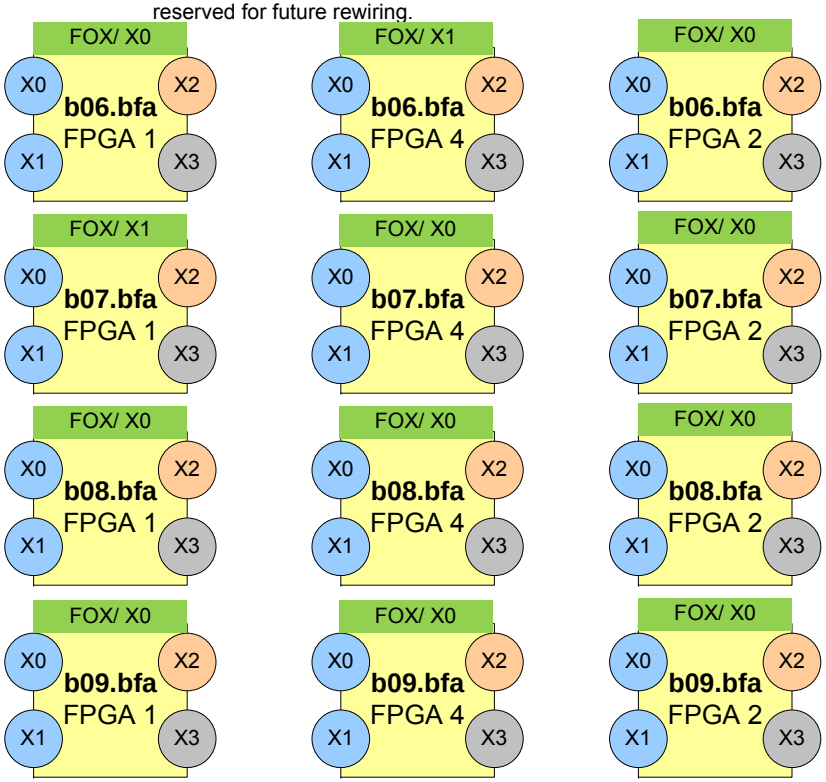
Beamformer Wiring: Foxtrot Wiring Summary ALL FT CABLES ON X2 Oct 12, 2012 (WCB/DB)

See Beamformer wiring for mapping of XAUI inputs to iBobs. XAUI2 ports are outputs on packetizers.

Wiring FPGAs to the XG2000 switches (XG2000A, on top, XG2000B, on bottom) should follow logical arrangement shown here, for example:
B06.fpga1.X2 -> XG2000A.5
B08.FPGA2 -> XG2000B.9
Use new CX4 cables. Label cables on each-end with permanent marker prior to installation.

NOTE: Protected mode FPGAs are attached to XG0448. The corresponding ports for the XG2000 should be left unconnected and reserved for future rewiring.

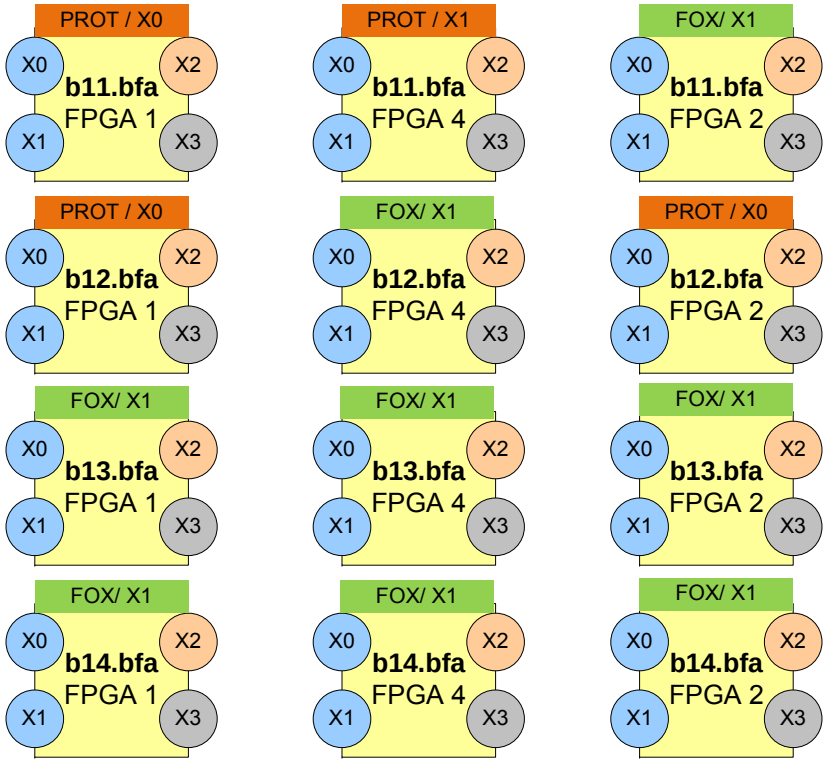




Use 1m cable for “front” side FPGAs 1 and 4

2m cable for FPGA2

Beamformer 2 BEE2s



Use 1m cable for “front” side FPGAs 1 and 4

2m cable for FPGA2

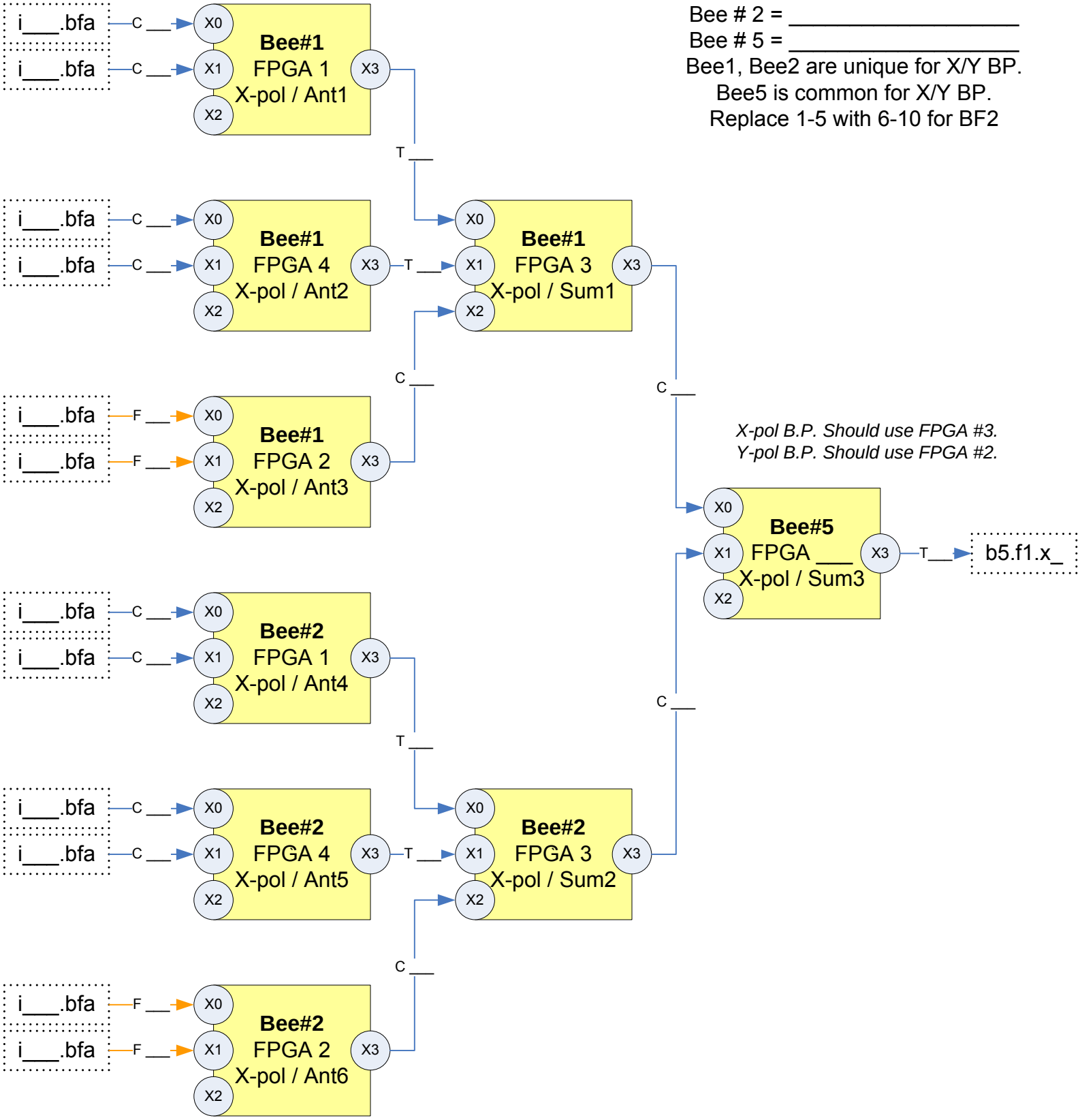
Beamformer 3 BEE2s

Beamformer Wiring:
18-FPGA Bee2 “Beam Processor” cascade
For note-taking only.

iBob sets are i1-i12, i13-i24
i25-i36, and i37-i48 ONLY!

Notes:

Bee # 1 = _____
Bee # 2 = _____
Bee # 5 = _____
Bee1, Bee2 are unique for X/Y BP.
Bee5 is common for X/Y BP.
Replace 1-5 with 6-10 for BF2



Beamformer Wiring (Beamformer #1 and #2):
Circular Polarization Combiner Stages
For rewiring (PLANNING ONLY)