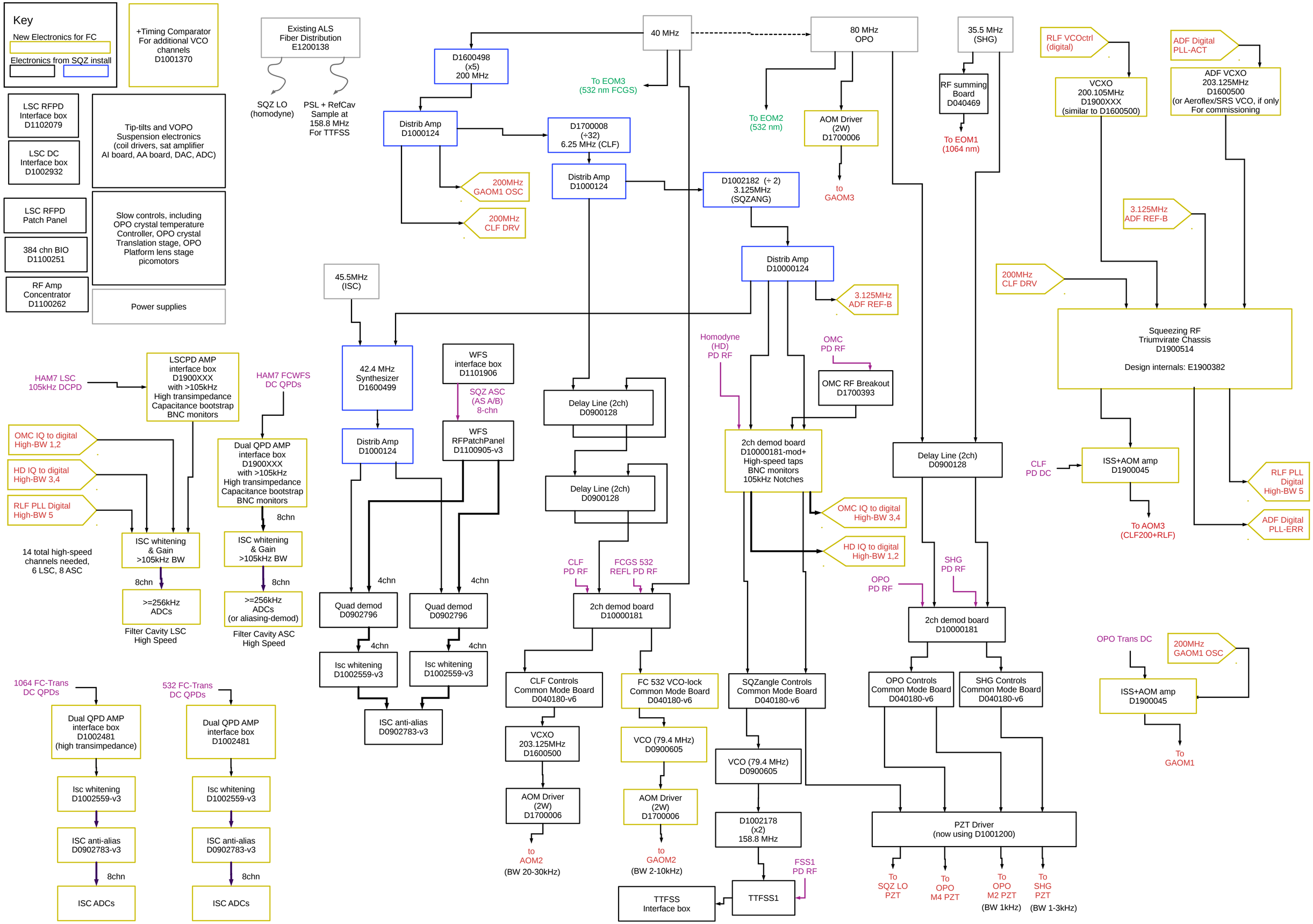
Key
New Electronics for FC
Electronics from SQZ install
+Timing Comparator For additional VCO channels D1001370
LSC RFPD Interface box D1102079
LSC DC Interface box D1002932
Tip-tilts and VOPO Suspension electronics (coil drivers, sat amplifier AI board, AA board, DAC, ADC)
LSC RFPD Patch Panel
384 chn BIO D1100251
RF Amp Concentrator D1100262
Slow controls, including OPO crystal temperature Controller, OPO crystal Translation stage, OPO Platform lens stage picomotors
Power supplies
Existing ALS Fiber Distribution E1200138
SQZ LO (homodyne)
PSL + RefCav Sample at 158.8 MHz For TTFSS
40 MHz
80 MHz OPO
35.5 MHz (SHG)
D1600498 (x5) 200 MHz
Distrib Amp D1000124
D1700008 (÷32) 6.25 MHz (CLF)
200MHz GAOM1 OSC
200MHz CLF DRV
To EOM3 (532 nm FCGS)
To EOM2 (532 nm)
AOM Driver (2W) D1700006
to GAOM3
RF summing Board D040469
To EOM1 (1064 nm)
RLF VCOctrl (digital)
ADF Digital PLL-ACT
VCXO 200.105MHz D1900XXX (similar to D1600500)
ADF VCXO 203.125MHz D1600500 (or Aeroflex/SRS VCO, if only For commissioning
3.125MHz ADF REF-B
D1002182 (÷ 2) 3.125MHz (SQZANG)
Distrib Amp D10000124
3.125MHz ADF REF-B
200MHz CLF DRV
Squeezing RF Triumvirate Chassis D1900514
Design internals: E1900382
45.5MHz (ISC)
42.4 MHz Synthesizer D1600499
Distrib Amp D1000124
WFS interface box D1101906
SQZ ASC (AS A/B) 8-chn
WFS RFPatchPanel D1100905-v3
Delay Line (2ch) D0900128
Delay Line (2ch) D0900128
Homodyne (HD) PD RF
OMC PD RF
OMC RF Breakout D1700393
2ch demod board D10000181-mod+ High-speed taps BNC monitors 105kHz Notches
OMC IQ to digital High-BW 3,4
HD IQ to digital High-BW 1,2
Delay Line (2ch) D0900128
CLF PD DC
ISS+AOM amp D1900045
To AOM3 (CLF200+RLF)
RLF PLL Digital High-BW 5
ADF Digital PLL-ERR
HAM7 LSC 105kHz DCPD
LSCPD AMP interface box D1900XXX with >105kHz High transimpedance Capacitance bootstrap BNC monitors
HAM7 FCWFS DC QPDs
OMC IQ to digital High-BW 1,2
HD IQ to digital High-BW 3,4
RLF PLL Digital High-BW 5
Dual QPD AMP interface box D1900XXX with >105kHz High transimpedance Capacitance bootstrap BNC monitors
8chn
14 total high-speed channels needed, 6 LSC, 8 ASC
ISC whitening & Gain >105kHz BW
ISC whitening & Gain >105kHz BW
8chn
8chn
>=256kHz ADCs
>=256kHz ADCs (or aliasing-demod)
Filter Cavity LSC High Speed
Filter Cavity ASC High Speed
4chn
4chn
Quad demod D0902796
Quad demod D0902796
4chn
4chn
Isc whitening D1002559-v3
Isc whitening D1002559-v3
ISC anti-alias D0902783-v3
CLF PD RF
FCGS 532 REFL PD RF
2ch demod board D10000181
OPO PD RF
SHG PD RF
2ch demod board D10000181
OPO Trans DC
200MHz GAOM1 OSC
ISS+AOM amp D1900045
To GAOM1
1064 FC-Trans DC QPDs
532 FC-Trans DC QPDs
Dual QPD AMP interface box D1002481 (high transimpedance)
Dual QPD AMP interface box D1002481
Isc whitening D1002559-v3
Isc whitening D1002559-v3
ISC anti-alias D0902783-v3
ISC anti-alias D0902783-v3
8chn
8chn
ISC ADCs
ISC ADCs
CLF Controls Common Mode Board D040180-v6
FC 532 VCO-lock Common Mode Board D040180-v6
SQZangle Controls Common Mode Board D040180-v6
OPO Controls Common Mode Board D040180-v6
SHG Controls Common Mode Board D040180-v6
VCXO 203.125MHz D1600500
VCO (79.4 MHz) D0900605
VCO (79.4 MHz) D0900605
AOM Driver (2W) D1700006
AOM Driver (2W) D1700006
to AOM2 (BW 20-30kHz)
to GAOM2 (BW 2-10kHz)
D1002178 (x2) 158.8 MHz
FSS1 PD RF
TTFSS Interface box
TTFSS1
PZT Driver (now using D1001200)
To SQZ LO PZT
To OPO M4 PZT
To OPO M2 PZT (BW 1kHz)
To SHG PZT (BW 1-3kHz)