

List of topics for Plan meet of 8th June 2011 (combination of topics covering receiver system works, operations and rfi) :

1. Follow-up on documentation on Plan website and making of internal technical reports.
2. FE & OF related :
 - 2.1 CSIRO feed : follow-up on latest results from FE group; 610 feed tests?
 - 2.2 Cone dipole feed : follow-up on results from new tests; multi-dump mode working?
 - 2.3 Update on W04 broadband link
 - 2.4 Status of test range
 - 2.5 Confirmation of results from signal flow analysis
 - 2.6 Environmental chamber : status update
3. Operations :
 - 3.1 Rabbit testing report
 - 3.2 Kontron order + update on Hyderabad company
4. RFI :
 - 4.1 Air Force RFI : detailed check for low level emission in RA bands done?
 - 4.2 150 MHz RFI problem : follow-up on action items
 - 4.3 Update on 610 MHz ambience study

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Minutes from Plan meet of 1 June 2011 :

1. General item :
 - 1.1 Updating of documents on Plan website : status was reviewed : FE and front-end look OK, others needs some work to fill in the information.
 - 1.2 Finalisation of documents to internal technical reports : template being made by library -- to be circulated; 2-3 member committe to be set-up for clearing the drafts to level of internal technical reports.
2. FE :
 - 2.1 CSIRO feed : summary report of tests circulated by ANR to be discussed (JNC) + follow-up action to be looked at ; to review tests with present 610 feed : data show random scatter (+ve and -ve) on different days; no evidence that feed has degraded in recent past ==> can put up on 2 ants (C11 & W1) with circular (pol in); in the interim try one more lab test (with rotation) to check if any systematic effect is seen; to complete 610 feed test.
 - 2.2 Eleven feed : to check about missing LNAs and plans for testing : 2 nos 100-500 MHz LNAs not found ==> new ones to be made and return to the matter in two weeks time
 - 2.3 Cone dipole feed : to check if new round of tests have been done or not: ABR measurements show no lines now; back-end tests need to be done; to try and get multi-dump mode working with 30-to-1 help.
3. OF :

Quick update on OF power level tests at W04 : 10 dB difference confirmed between the two chans -- FE problem (to be fixed) and recheck and get new bandshapes; 8 dB slope confirmed to be FE; 0.2-0.3 slope in OF.
4. FE + OF + BE :

To confirm if signal flow analysis gives acceptable result for 10 dB slope across the band : 1 jun APR to check thru entire chain incl ABR and confirm.
5. Operations :

- 5.1 Note summarising testing of Rabbit card on ethernet : due from Ops group: report now ready, will be circulated and put up on website.
- 5.2 RFI-quiet PCs in ABR (2 options) : update on indent by Ops group + check on 2nd option with SS and report back : Kontron ready for placing order; Hyd co : to follow-up with request for budgetary quote; SSK to visit set-up in Hyd.
- 5.3 Update on work on new MCM card population : still waiting for FRC conn and trimpots (one week time); may be working in 2 weeks time and can go for RFI testing.

6. RFI

- 6.1 Air Force RFI : current status and follow-up plan : to check carefully if any violations are there; if any skirt that we can go back to them with some follow-up.
- 6.2 Mobile phone RFI : current status vis-a-vis BSNL and Vodafone : two towers of Vodafone changed to 1800 MHz (one more coming up - to be checked); for BSNL letter getting ready (compliant with them) - 4 towers; Aircel may be coming up?
- 6.3 New sources of RFI coming up : 150 MHz problem : police wireless (now stronger; to check source of new transmitter); air traffic (same as before) ; TV leaking through notch filter ==> can we check the filter (take E06 as a case study); typically 9 PM to 12 PM ; to try test with 30 dB solar attn instead of 16 dB; try change in 1st stage amplifier of IF system (at E06).
- 6.4 RFI ambience : 610 MHz result : to mark all the lines seen; to compare with IF and BB output signals.

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List of topics for Plan meet of 15th June 2011 (back-end systems + follow-up of some pending topics) :

1. Documentation on Plan website : reminder check
2. FE & OF related :
 - 2.1 Slots for CSIRO feed testing
 - 2.2 Multi-dump mode ready or not
 - 2.3 Update on W04 broadband link
 - 2.4 Confirmation from signal flow analysis
3. Update on RFI friendly PC for antenna base
4. Updates on pending matters : AF data checks, BSNL letter follow-up, 150 MHz action items
5. Back-end systems :
 - 5.1 Status update on analog section, including synthesisers, filters etc
 - 5.2 Updates on broadband link power levels
 - 5.3 Status of pocket correlator design : delay, rate of change of delay, fringe corrections -- all working or not
 - 5.4 Status update on packetized correlator design
 - 5.5 Status update on GPU correlator and future plans
 - 5.6 ADC board input levels
 - 5.7 Noise source updates
 - 5.8 SFP converter design status
 - 5.9 Ordering of new Rb and related items

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Minutes from Plan meet of 7 June 2011 :

1. Follow-up on documentation on Plan website and making of internal technical reports : BE to update contents; to check/remind servo, mech etc; report screening committee to be finalised.
2. FE & OF related :
 - 2.1 CSIRO feed : follow-up on latest results from FE group; 610 feed tests? sky tests of CSIRO : rotation by 90deg does not show any clear systematic pattern; changes may be within error bars; can go ahead with putting on the two antennas; Ops group look for some non 235 slots in near future. 610 feed test -- still waiting for unit to be ready.
 - 2.2 Cone dipole feed : follow-up on results from new tests -- back-end tests done but data quality is dubious (maybe RFI), looks like antenna base measurements were done or not; current status -- one channel is down, unit to be repaired and fresh tests to be scheduled (NKankear); multi-dump mode -- initial testing done with modified 30-to-1 setup, needs some more interactions with Ajith's team.
 - 2.3 Update on W04 broadband link : FE person not clear about status of W04 FE system; to check and inform OF team for remeasurement, follow-up on 15th.
 - 2.4 Status of test range : basic rotating platform ready, including motor; gearbox to be fitted - mid-June; to install rx system on terrace of e-lab; tx system on either hostel or residential bldg; equipment to be made ready; to use existing desktop machine to get going.
 - 2.5 Confirmation of results from signal flow analysis : no updates; follow-up next week (15th June).
 - 2.6 Environmental chamber : status update from OF lab -- order ready to go; unit supports +10 to +60 deg C; 1 deg /

min rate fastest; with humidity control; connector panel for DAS system; 300 cft volume; will need distilled water set-up; other effort for better temp range unit (by ANR etc) ongoing -- to follow-up later on.

3. Operations :

3.1 Rabbit testing report : will be circulated and put up on web page this week; need for 3-pin SPI from BE group (can output pins be reconfigured for this? will be at cost of no of digital output pins) -- Ops group to look into it.

3.2 Kontron order + update on Hyderabad company : Kontron -- RFI team to look at folder and then clear order; Miltec (Hybad) -- contact made, not clear if PC+enclosure meets the requirements; SSK visit to facility. Follow-up next week (15th).

4. RFI :

4.1 Air Force RFI : detailed check for low level emission in RA bands done? : new data shows some evidence for signal skirt entering protected band. To follow-up and set-up a meeting with AF officials.

4.2 Vodafone : 2 towers at 1800 confirmed; new one is at 950 -- follow-up needed. BSNL letter has gone -- needs follow-up next week.

4.2 150 MHz RFI problem : follow-up on action items : E6 : police wireless stronger; TV leaking through filter. follow-up for RFI team : to try with 30 dB solar attenuator; to contact local police ; FE team to look at filter; BAK to look at 1st stage IF amplifier option.

C6 antenna : DC power cable of elevation encoder found faulty -- producing radiation at 150 MHz; needs some more follow-up.

610 ambience : follow-up reiterated (to mark all known lines, and map to IF & BB outputs); also BE group is doing reverse exercise, but at 1280 Mhz.

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List of topics for Plan meet of 22th June 2011 (follow-up of some pending topics) :

1. Documentation on Plan website : check for new updates
2. FE & OF related :
 - 2.1 Slots for CSIRO feed testing -- done or not?
 - 2.2 Multi-dump mode -- is it working OK?
 - 2.3 Eleven feed : 100-500 MHz LNAs were being tried
 - 2.4 Update on W04 broadband link -- action pending with FE group.
 - 2.5 Confirmation from signal flow analysis -- APK to confirm.
 - 2.6 Update on study / report on cross-dipole noise radiation scheme -- APK.
3. Update on RFI friendly PC for antenna base : Kontron update from SSK/RBS; Miltec status update (including visit) by SSK/RBS.
4. Updates on RFI matters :
 - 4.1 Air Force follow-up.
 - 4.2 150 MHz RFI latest update, following 30 dB solar attenuator test.
 - 4.3 Update on 610 ambience study -- identification of lines and mapping of lines to IF & BB output.
5. Operations:
 - 5.1 Update on new MCM card and RFI testing of the same.
5. Back-end systems :
 - 5.1 Reminder about note from BAK on proposed scheme for LO scheme for new analog system. Also Spanwave follow-up update.
 - 5.2 Update on pocket correlator problem of fringe update
 - 5.3 Update on packetized correlator with corr_package

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Minutes from Plan meet of 15 June 2011 :

1. Documentation on Plan website : reminder check -- done for mech and servo; template discussed briefly -- comments welcome; needs follow-up in next couple of weeks.
2. FE & OF related :
 - 2.1 Slots for CSIRO feed testing -- JNC to identify; follow-up in next meeting
 - 2.2 Multi-dump mode ready or not -- HRao + SSK looking into it; check if working or not.
 - 2.3 Update on W04 broadband link -- action pending with FE group; follow-up next week.
 - 2.4 Confirmation from signal flow analysis -- pending with APK to confirm by next week.
 - 2.5 OF laser order : gone, delivery time to be checked.
3. Update on RFI friendly PC for antenna base : Kontron order -- option for shielded connectors not there -- SSK is following up to see if they can give with shielded conn -- update by today or so; Miltec -- appears to be 20 dB better than class B (which is what Kontron meets) EMI/EMC testing is done at BEL, B'lore -- can they do mass prodn of our designs; can come with other products for testing at GMRT (small PCs, LCD monitors etc); quote is available for ABR PC option, some issue about connector types -- RBS & SSK to follow-up; visit to be arranged around 21st to 26th.

4. Updates on pending RFI matters : AF data checks, BSNL letter follow-up, 150 MHz action items : to get a stable pattern for AF lines and see if clear band can be identified at 325; to check 243 band also; BSNL follow-up needed this week; 150 MHz : new device for IF system -- needs new PCB, not clear how much headroom is needed; hence 30 dB solar atten test can be tried; TV filter also to be checked.

5. Back-end systems :

5.1 Status update on analog section, including synthesisers, filters etc : one set of prototypes ready, PIUs ready, small mods in 2 PCBs given for new version; can try to put one proto unit in actual antenna path; single synthesiser per antenna ==> LO > 600 MHz only (upto 1700 MHz). Plus common source for all antennas which can be set from 100 MHz upwards. BAK to produce a note about proposed scheme with all the details which is to be circulated for approval. Filters : problem with spanwave -- YG and BAK to follow-up, and then check if L2 can be tried; ICON order by FE -- going for design phase, can go to production afte that.

5.2 Updates on broadband link power levels -- W04 action ongoing; S2 will have new ampl this week.

5.3 Status of pocket correlator design : delay, rate of change of delay, fringe corrections -- all working or not : 2 ant design, delay, rate of change of delay working OK -- 4 hrs on long baselines; fringe correction still giving problem on long baselines -- it may be due to less or more than 360 deg per sync pulse, GSJ to look at block; to think about 100 MHz BW version for 4 ants

5.4 Status update on packetized correlator design : problem with corr_package still remains -- debugging going on to make it compatible with xau based design.

5.5 Status update on GPU correlator and future plans -- ampl problem has been fixed, to confirm with astro tests this week, to try further optimisastions as per disc with xilinx

5.6 ADC board input levels : to take fresh data with corrected GPU code

5.7 Noise source updates : variable corrln coeff version working in PoCo design -- to be fully tested and released

5.8 SFP converter design status : MTE to send final schematic and then confirmed before going to PCB manufacturing; 2 chips from Dan, our order may take 14 weeks -- try to speed up.

5.9 Ordering of new Rb and related items : 2 units, delivery by August end.

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List of topics for Plan meet of 6th July 2011 (follow-up of some pending topics from different areas, including mechanical) :

1. Documentation on Plan website : check for new updates from groups, including servo, mechanical, electrical and civil.
2. FE & OF related :
 - 2.1 Cone-dipole feed : (i) beam shape plots from NK/JNC ; updates on (ii) wider band (250 to 500 MHz) filter; (iii) new box with linear poln (iv) measures for suppressing electro-static build-up.
 - 2.2 Eleven feed : 100-500 MHz LNAs + broadband 180 hybrid to be tried.
 - 2.3 Update on W04 broadband link -- ripple-free system with equal power levels to be confirmed by FE group; verification of full chain (till CEB) has for proper level and band shapes
 - 2.4 Confirmation from signal flow analysis -- APK to add a note in the existing signal flow analysis document.
 - 2.5 Update on study / report on cross-dipole noise radiation scheme -- reminder for short update document from APK.
3. Update on RFI friendly PC for antenna base : (i) Kontron -- update on MOQ quantity for new unit; (ii) Miltec -- update from Pune visit of 27th; (iii) update on interactions with Advantec.
4. Operations :
 - 4.1 Update on new MCM card completion and testing
 - 4.2 Update on purchase of serial port laptops
5. Back-ends :
 - 5.1 Note from BAK on proposed scheme for LO in new analog system
 - 5.2 Update on pocket correlator fringe setting problems
 - 5.3 Update on packeized correlator testing with corr_package
6. Mechanical :
 - 6.1 Update on purchase of milling m/c, drilling m/c and tapping m/c
 - 6.2 Update on purchase of tensionometer
 - 6.3 Update on joystick and potientometer problem
 - 6.4 Update on final version of steel theodolite mount
 - 6.5 Managing workshop jobs : is it completely computerised now?

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Minutes from Plan meet of 22 June 2011 :

1. Documentation on Plan website : still pending updates from some groups.
2. FE & OF related :
 - 2.1 Slots for CSIRO feed testing : 2nd feed will be ready by end of this week; both can be put up by next week, with polariser; JNC to start looking for slots from middle of next week, avoiding clash with 235 MHz.
 - 2.2a Multi-dump mode -- is it working OK?
 - 2.2b Cone-dipole feed : new results look reasonable -- cone dipole is giving acceptable (and better) performance over 300 to 500 MHz, compared to modified Kildal ring and original 325 feed; there are small differences in the deflection plots between ABR and Back-end data -- noted, and need to be understood; meanwhile, new steps to be taken : to get beam shape cuts for circular poln data; to make a wider band filter 250 to 500 MHz; to try techniques for suppression of electro-static build-up; to make another box that can support linear poln.
 - 2.3 Eleven feed : 100-500 MHz LNAs were being tried -- no progress so far; follow-up needed ; missing LNAs have

been found; broadband 180 hybrid to be taken from FE stock.

2.4 Update on W04 broadband link -- action pending with FE group : it appears that 8-10 dB power difference is no longer there between two pols; ripple is definitely there which needs to be fixed; then full chain has to be verified for proper level and band shapes; slope across 400 MHz band at L-band confirmed to be 8 dB.

2.5 Confirmation from signal flow analysis -- APK to confirm; cable loss used

for the 100 MHz BW case is taken to be at 1390 (16 dB) and worst case loss (@1500) is only .8 dB more -- hence, analysis holds for top end of the band also; APK to add a note in the existing signal flow analysis document .

2.6 Update on study / report on cross-dipole noise radiation scheme -- APK.

Matter discussed in some detail (from previous minutes); agreed to have short document updating various aspects of it.

3. Update on RFI friendly PC for antenna base : Kontron update from SSK/RBS; Miltec status update (including visit) by SSK/RBS. Kontron product now stated to be obsolete ; for other option still need modified connectors etc, but parent company not ready for single unit -- to get MOQ. For Miltec, they will be coming to Pune on Monday with 3 items (PC, monitor + compact computer) -- RFI testing will be done; new item : Advantec also contacted -- EMI-EMC details and budgetary quote asked for.

4. Updates on RFI matters :

4.1 Air Force follow-up : no evidence for unwanted signals in 325 protected band during AF flying; to check 235 band also; to produce small documentation

showing the records, for future reference; a final winding up letter to AF to be drafted for that.

4.2 150 MHz RFI latest update, following 30 dB solar attenuator test : IM products vanish when 30 dB attenuator is used ==> saturation in either CBox amp or first stage of IF section; or IF mixer section -- not clear what is the best way to proceed; TV line is not at centre of notch -- FE to try with wider filter.

4.3 Update on 610 ambience study -- identification of lines and mapping of lines to IF & BB output.

5. Operations:

5.1 Update on new MCM card and RFI testing of the same : one connector without latch; test card will be ready by end of this week; testing likely by next week.

5. Back-end systems :

5.1 Reminder about note from BAK on proposed scheme for LO scheme for new analog system. Also Spanwave follow-up update : YG to talk to them today or tomorrow.

5.2 Update on pocket correlator problem of fringe update : adhoc change of RF from 1400 to 1399 stabilises the fringe problem -- needs follow-up

5.3 Update on packetized correlator with corr_package : new package now working with the design; lab tests to start with noise source.

1. Documentation on Plan website : reminder check -- done for mech and servo; template discussed briefly -- comments welcome; needs follow-up in next couple of weeks.

2. FE & OF related :

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