Minutes of Plan meet of 2 Jan 2013 (follow-up of some pending topics from different areas) :

1. Documentation related :

1.1 Documentation : follow-up on level 2 (ITR) -- from 12 Dec & earlier : conversion of older reports : BE has completed pulsed noise source report; FE to update status of 250-500 LNA report (ANR). Also, status update on ITR for 250-500 BPF (ANR/Imran) design.
==> working is ongoing; to check after couple of weeks.

1.2 Documentation : SoP for antenna base work -- from 21 Nov (SSK/ANR/HRB) : updated version to be made ready for (i) installation of upgrade systems and (ii) ensure proper working of existing systems.
==> no / very slow progress on this; to break into smaller pieces : separate check-list for feeds, FE, OF etc. to be made; to check again after couple of weeks.

2. FE & OF related :

2.1 Update on results from test range -- from 12 Dec (GSS/SSK) :
(i) status of improvements : filters, Sirenza amplifier etc
==> some changes tried with filters and Sirenza, but 20 dB range of response is now compressed to 10 dB ! need to check the entire pipeline this week; to check the status after 2 weeks.
(ii) phase centre tests for CSIRO feed to compare with 550-900 CDF
==> not done yet; waiting for above set-up to be stable.
(iii) phase centre tests for 250-500 CDF
==> not done yet; will do this first and then go to (ii).
To review the status of all these items after 2 weeks.

2.2 Mass production of 250-500 FE system -- from 12 Dec & 27 Nov (ANR/SSK) :
(i) status update on development of notch filters for 243 military satellite and 540 TV line.
==> 243 filter prototype developed and tested : 10 dB at 241 and 270; to be tested by putting at rx room or antenna base; 540 TV filter may be of two different kinds -- one for 250-500 and one for 550-900 band -- with different cut-off frequencies : FE team to send the specs for these; prototype units being assembled and tested; Additional item : 1800 MHz LPF being tested; can check status after 2 weeks.
(ii) status update on production of main BPF system.
==> 12 units for 6 antennas done; order for trimmer caps yet to go and then mass production can be streamlined (can borrow some caps from IF group for present?); can check the status after one month.
(iii) finalisation of the FE box for 250-500 system : FE team to circulate first version of block diagram of final propsed system.
==> not done yet; to be followed up again after 2 weeks; can be coupled with signal flow analysis of 250-500 MHz system.
(iv) check status of C6 system : restored and working OK?
==> tested on bench with new unit of 250-500 CDF ok; will go on antenna this

week; check after 2 weeks.
(v) related item : one new feed (from out source production) is available; can go on C10, alongwith new FE box; follow-up after 2 weeks.

2.3 Polarisation performance of 250-500 feed -- from 27 Nov (SK/DVL/YG) : to report on polarisation calibration comparison of narrow-band vs broad-band feeds.
==> no new results; check again next week.

2.4 Developments for 130-260 feed -- from 12 Dec & 31 Oct (HRB/GSS) : feed with improved mechanical design of dipole etc to be ready and tested.
==> work requisition has been given, but there are some doubts about the drawing that need clarification -- to be done this week; follow-up after 2 weeks.

2.5 New LNA for 130-260 system -- from 12 Dec & 23 Oct (VBB/SSK) : FE team to report about new LNA on modified substrate and testing of same.
==> PCBs have come; Bhalerao has started assembling; waiting for chassis to come; follow-up after 2 weeks.

Reminder item : to check about results from NK's tests.

2.6 Status of improved 500-1000 MHz cone-dipole -- from 21 & 27 Nov (HRB/GSS/SSK) :
(i) comparison of ver 1 and ver 2 of CDF feed, including testing ver 1 dipole in ver 2 cavity etc.
==> there was a problem as ver2 cavity was not fabricated at all (!); small change in height of ver2 dipole has also been done -- fabrication is on for these; to test after they come back. To modify with short stub welded to cavity instead of full length pipe and then have separate pipe section for adjustability; status check after 2 weeks.
(ii) comparison of measured parameters with simulations; also effect of solid vs perforated cone.
==> no action on this for present.
(iii) difference in sensitivity of CDF and CSIRO feeds : could be filters, could be perforated cavity, could be focus offset -- any updates on these aspects?
(iv) results from test range
==> to try one adhoc expt of shortening stool by 11-12 cm for ver1 design and test on C10, with 2 mobile notch filters and 1800 LPF; check after 2 weeks.

2.7 Follow-up on delivery of 550-900 MHz filters -- from 12 Dec & before (ANR/SSK) : delivery of prototype meeting full specs -- update from vendor.
==> latest update : vendor will send measured results (with new PCB and new box) by 7th Jan; check after 2 weeks.

2.8 Mass production of 250-500 feeds -- from 5 Dec (HSK) : to report progress on in-house and outsourced units and expected delivery schedules.
==> first feed from one outsourcing party (M/s Fabromech) has been delivered to GMRT; one unit (from M/s Somwanshi) will come by 2nd week of Jan; third unit (from M/s Quality Engr) is expected in 3rd week of Jan; in-house production : now in spot welding stage for 2 nos -- expected to be ready by 17th Jan; how is quality control / check for outsourced items being carried out? follow-up 2 weeks from now.

2.9 Work orders for CSIRO feed with 2 parties -- from 19 Dec (HSK/JNC) : status update about delivery.
==> both parties have made some progress; one party reports problem of porosity in the feed -- requires a visit by HSK; follow-up after one month.

2.10 Fabrication of spare L-band feed -- from 19 Dec (SSK/HSK) : to check status on quotes to be obtained from vendors for fabrication, and order to be placed.
==> still waiting for quotes -- reminders have been sent; may need to look into in-house fabrication option? check again after 2 weeks.

2.11 Filters at different stages of receiver chain -- still pending from 12 Dec and before (SSK) : to check if first order skeletal version is ready.
==> to be tried by next week.

2.12 Finalisation of design for temperature detectors for FE system -- from 12 Dec and before (SSK) : results from prototype unit using TC1047 to be reported.
==> PCB has come; tests results may be available next week; need to worry about separating the PCBs (which have got integrated right now with LNA !); follow-up after 2 weeks.

2.13 Finalisation of design for total power detector for FE boxes -- from 12 Dec (ANR/SSK) : results from tests of prototype unit to be reported.
==> needs modification of PCB as older version with correction is not working; will go for manufacture next week; to check status after 3 weeks.

2.14 OF systems -- from 12 Dec (SSK/PAR)
(i) Plans for further systems : component ordering for WDM and pig tails etc; delivery of PIUs etc.
==> WDM coupler is at order stage; pig tails is at stock taking stage and indent will follow-up after that; PIUs for all 30 ant system are now in hand; chassis for ampl, coupler are still delayed; can check after 2 weeks.
(ii) Follow-up on characterisation of new OF systems -- status of fixing the problems seen in first round of measurements.
==> not able to get fully reliably results even with L-band system as the test signal; trying with injected signal at RF in to characterise and fix the system; then use the results to feed back into fixing of L-band systems where needed; follow-up after 2 weeks.
Addtionally : tests for new laser : temp stability, wavelength shift, noise performance (10 to 40 deg OK for new laser -- same as old laser) -- all tests meet expectations so far.

2.15 Modification for attenuation control in new OF systems for ALL antennas -- from 21 Nov (SSK/CPK) : OF group to confirm if remaining 3 antennas (C9, C11, E6) with old systems have been upgraded to new system and working OK now.
==> stuck because of one kind of chassis (only waiting for drilling / tapping); to check with HSK and follow-up after 2 weeks.

3. RFI related matters :

3.1 Follow-up on UPS RFI -- from 12 Dec (SSK/PAR) :
(i) results from tests of Miltech's improved 1 kVA unit at GMRT.
==> no improvement with modified cable -- to give feedback to Miltech and see what further can be done.
(ii) follow-up on procurement of 3 kVA unit from Miltech.
==> to check with electrical -- RVS to follow-up for indenting with Miltech.
(iii) follow-up on procurement of 1 unit from Consul and RFI tests of the same.
==> was to come last week, but has not come -- to check with electrical -- expected by next week.

(iv) Possibility of getting 3 kVA shielded UPS sample from Ador for testing being followed-up by RVS.
To check all items after 2 weeks.

3.2 Miltec PC RFI testing & improved report -- from 5 Dec, 21 Nov & 7 Oct (SSK/PAR) :
(i) shielded serial port and ethernet tests need some more work : to try with Rabbit card as the terminating load and some other arrangement for serial port.
(ii) test results from use of shielded connectors obtained from vendor.
==> items being installed on the unit and will be tested alongwith the loads and terminations as above.
(iii) plans for updated report : to fold in all the new tests and results and give detailed comparison with earlier measurements (from March 2012).
Can review the status after 2 weeks.

3.3 Ethernet switches for antenna base -- from 5 & 19 Dec (SN/BAK/SSK) : RFI tests on integrated system with OF transceiver + switch + Miltech PC + MCM cards have been done; report needs to be completed & circulated.
==> will circulate older results and then redo with new configurations; software disable for ports not available on this switch, but ports not expected to transmit / radiate unless connected; can follow-up after 2 weeks?

3.4 Mobile phone RFI -- from 27 Nov and earlier (SSK/PAR) :
(i) updates on characterisation of the effect at E6 from far away towers (pending for a long time)
==> results from E6 testing : max power ~ -22 dBm at RF o/p -- to summarise the results and then approach the main offenders with request to shift to 1800.
(ii) discussion about how to identify frequency, location and power of operators.
==> network monitoring phones/app from Nokia (used by network operators) -- to try and get it going for us; meanwhile, to try and see if we can work with a friendly operator to try out.
Review the status after 2 weeks.

4. Operations :

4.1 PCs in antennas for testing M&C softwares -- from 27 Nov and before (JPK/SN/RVS): Ops group to check overlap of antennas with eth and UPS and report back with plans for installation of the PCs. Need update on this matter.
==> list of antennas with UPS has been obtained from electrical -- there is overlap of about 4-5 antennas with broadband link (eth) connectivity; eth links to be tested and activated; follow-up after 2 weeks.

4.2 Using new MCM card on ethernet of PC for upgraded analog backend -- from 12 Dec and before (JPK/CPK/BAK) :
(i) completion of s'ware for all commands and tests in receiver room
==> online to rabbit card connectivity is tested; now ready for test of full integrated system; all control commands have been implemented; monitoring commands remain to be done -- agreed that this can be done in rx room directly, instead of in the lab first. Can review after 2 weeks.
(ii) schedule for implementing in 8 antenna system.
==> to complete (i) above and then take this up for discussion.

4.3 Development of M&C software -- from 19 Dec (JPK/RU/SN/NGK/YW) :
(i) update on SACE related development with TCS (JPK/SN)

==> information from all engg stakeholders has been obtained (except GCC) + astronomers (may need some more interaction) + management; use cases : list has been identified (31, may go up to 40 !); typically one use case per day (!); requirements to be derived from the use case; non-functional requirements also to be done; project may take 2 weeks extra (on the original timeline of 8 weeks). To review status after 2 weeks.

5. Back-ends :

5.1 Release of analog FE mass production for 8 ants, dual pol -- from 12 Dec (BAK) : to check if 8 ant system with static control set-up fully released and usable.
==> tests with connection to packetised design going on; some minor bugs found and being corrected -- problems with 2 MCM cards, LO power level adjustments etc; may be all OK by next week.
New item : will need equivalent of power equalise code for this system !
Review status after 2 weeks.

5.2 Final online control for GPU corr -- from 21 Nov & before (SSK/JPK/NR) : follow-up on long-term items like stable performance, provision for control of FPGA and other peripherals for different modes, full operation of GUI etc.
==> no updates as SSK not available; URGENT ! to check again next week.

5.3 GPU corr status -- from 19 Dec & before (SHR/BAK) : updates on following items:
(i) release of 4 node, 8 input, 200/250 MHz version and 8 node, 16 input, 150 MHz version -- current status to be reported.
==> basically, all modes are ready for release without online control (SoPs have also been tested); to decide next week about how to handle.
(ii) update on testing of K10 system of nvidia.
==> not much update, but may need to code separately for 2 GPUs of K10 -- maybe best to fork 2 threads at the host itself... follow-up needed.
(iii) follow-up from testing of Supermicro system.
==> next round of testing will resume from 15th onwards; can we get a tower kind of machine? what kind of tests were done in UK and what kind of changes have been made and why? BAK to approach Boston about it.
(iv) test of time slicing dynamically on FPGA or while transferring to PCs.
==> basic design has been done by IITB student -- tested using GULP (some packet loss); in main correlator design : packet number is cycling on too short a time scale... properties of suitable switch : need some more work / investigation (size of buffer to be determined for this model and for other models).
(v) plans for walk through the code for further optimisation, improvements, rationalisation and documentation.
==> no updates; to plan for a meeting next week; K20 option etc to be looked into...

5.4 Packetised corr -- from 12 Dec & earlier (SCC/BAK) : to confirm a stable working pipeline for analysis of data, along with a SoP for the same.
==> no updates, to be taken up with Sanjay Kudale next week.

5.5 8 antenna back-end plans for further astronomical tests -- from 12 Dec (DVL/YG) : implementation plan of tests proposed by DVL to be drawn up with BE team.
==> to be discussed next week.

5.6 Power and cooling requirements for projected back-end systems -- from 19 Dec & earlier (BAK/RVS/YG) : report on results of first round of tests to be circulated

by electrical team; follow-up discussion to take place next week.
==> basic tests have been done; load went to 20 kW in the tests after some gas charging was done in the AC plant; there are some details that need to be understood; report from electrical is awaited and then a second round of tests need to start; follow-up after 2 weeks.

6. Other items :

6.1 Plans for jobs at TIFR -- from 5 Dec (HSK/SKG) : (i) confirm about retrieval of jobs completed (ii) to decide future course of action : to continue or not?
==> 40 nos of chassis (for backend group) have been retrieved and given for in-house drilling/tapping work; TIFR has agreed to take up pending jobs (lot of 300 nos?) in last week of Jan; need to explore future options with them; follow-up after 2 weeks, with a review of requirements of various groups etc.

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Minutes of Plan meet of 9 Jan 2013 (follow-up of some pending topics from different areas) :

1. Documentation related :

1.1 Follow-up on level 3 (NTR) -- pending for long : from 19 Dec & before (SSK/DO): To check status of report on design of OF system.
==> information is being collected as part of gearing up. To check one month later.

1.2 Detailed design doc -- pending for long : from 19 Dec & before (SSK/BAK) : follow-up on subsystems to be converted : (i) OF Rx system completed? (ii) OF Tx to be started (iii) analog BE system to be completed.
==> not much progress; to check again with both groups 2 weeks from now.

2. FE & OF related :

2.1 Update on RF dump tests for new feeds -- from 19 Dec & before (HRB/GSS/SSK)
(i) new data and results for 130-260, 250-500, 550-900 (HRB/SSK)
==> TBD ; to check after 2 weeks.
(ii) matlab procedure for ON/OFF and (ON-OFF)/OFF calculatsion (HRB)
==> almost ready, can be released in 2 weeks after testing internally, with a short report; follow-up after 2 weeks.
(iii) scheme for (re)calculation of expected values across the broad bands to be finalised (and added to measured curves) -- (SSK and team).
==> some discussion about how best this can be done; can have a follow-up discussion between SSK, YG, APK as needed, and also appropriate input from astronomer; follow-up after 2-3 weeks.

2.2 Signal flow analysis related items -- from 19 Dec and before (GP/ANR/SSK)
(i) cross-check addition of refinements in the new analysis (from 19 Dec)
==> most of these refinements have been done.
(ii) add effect of couplers for power monitoring and redo analysis (19 Dec)
==> TBD and then release ver 1 (in 2 weeks); then do tests in the lab with one feed and then on antenna to cross-check the nos and then release ver 2 of report (in one month); follow-up after 2 weeks.
(iii) to try system with extra amplifier in the OF Rx & measure the performance for checking the 6 dB margin (from 23 Oct)
==> to take a final decision about the amplification after checking the status of results from the present set of 12 antennas (see corresponding item in OF section); follow-up after 2 weeks ?
(iv) plans for trying analysis of 250-500 system
==> some work going on in parallel ; can check after 2 or 4 weeks.

2.3 Polarisation performance of 250-500 feed -- from 27 Nov (SK/DVL/YG) : to report on polarisation calibration comparison of narrow-band vs braod-band feeds.
==> analysis procedure now running properly; follow-up tests scheduled this week; can check status next week.

2.4 Directional coupler for 250-500 FE system -- from 12 Dec and before (ANR/SSK) :

update on final design and tests to see if the design can be frozen.
==> waiting for PCB to arrive and chassis to be ready; to check after 2 weeks.

2.5 Spares for L-band FE electronics -- from 12 Dec (ANR/SSK) :
(i) RFCM-type card status.
==> 2 parallel tracks : new design has been done and schematic needs to be verified before PCB can be made; old layout is being looked at to see if it can be resurrected.
(ii) LNA tuning results and generation of spares.
==> 2 units tuned for use in 15m chain; Gopi can now take up this item for GMRT systems and then take up for new units.
(iii) filters : need chassis and connectors.
==> still waiting for workshop to deliver.
(iv) noise gen : has to be assembled.
==> TBD : all components are there.
(v) post-ampl and phase switch also need to be checked.
==> TBD : all components available, except chassis (in workshop)
(vi) timescale for integeration?
==> individual modules testing could start by next month; after feeds come, integration and testing can be done.
Overall follow-up after one month.

2.6 Walsh switching arrangement in FE -- from 19 Dec (SSK) : results from new discussions (19 Dec) and lab tests planned on new L-band system.
==> TBD; as the feed under repair is being tested, this can be taken up; can check after 2 weeks.

2.7 Filters at different stages of receiver chain -- still pending from 12 Dec and before (SSK) : to check if first order skeletal version is ready.
==> first version has been worked out, different kinds of filters may be needed at RF vs at antenna base. Skeletal outline to be circulated shortly.
Check next week.

3. RFI related matters :

3.1 Effect of military satellite RFI in 243 band -- still pending from 31 Oct (PAR/SSK) : first version of report has been realeased -- to be taken up for discussion.
==> 240-270 MHz range covered by 44 satellites (20 in Indian Ocean region), with channel BWs of 4.4 to 150 kHz; different ownerships : US, Russia, UK, Italy... geosynchronous (but not geostationary?); got information on 11 of 20 satellites (due to visibility from GMRT site); 5 main bands covering 240 to 270; max pwr in 300 kHz resolution BW is ~ 0 dBm and higher for the strongest 6 satellites; not clear how it drops as antenna moves away from it.
2 action items : to do beamshape kind of study during quiet time of satellite; check status after 2 weeks.

3.2 Radiation from CAT5 cable -- from 27 Nov, but matter dragging from 25 Jul onwards ! (SSK/PAR): RFI group to report results from tests with sample shielded units obtained by them.
==> to buy either RSN product at 250/- per item or others and test and report.
Check after one month.

4. Operations :

4.1 Monitoring of 3-phase power at each antenna -- from 5 Dec (SN/RVS) : Ops group to report on progress of home made design.
==> design being put on general purpose PCB; to coordinate with electrical for identifying suitable 3phase power point for testing. Check after 4 weeks.

5. Back-ends :

5.1 Analog back-end beyond 8 antennas -- from 12 Dec (BAK) : plan to be presented and reviewed.
==> space crunch related : possibility of moving existing BB system into LO racks + one more rack -- to work out the details for this and show if feasible or not; order for missing components, cables and connectors : list ready, indent soon, should come by March; chassis work ongoing; ethernet switches : specs to be worked out (in consultation with comp group), can work with borrowed switch till ~ 20 antenna system. Update on proposal for space usage and ethernet switch identification : 2 weeks; components and chassis follow-up after 1 month.

5.2 Finalisation of design for temperature detectors for BE system -- from 19 Dec (BAK) : final report on working of the unit pending from BE group : matter can be closed after that.
==> draft note / report is there; needs to be converted to ITR; check after 2 weeks.

5.3 Final online control for GPU corr -- from 2 Jan, 21 Nov & before (SSK/JPK/NR) : follow-up on long-term items like stable performance, provision for control of FPGA and other peripherals for different modes, full operation of GUI etc.
==> basic set-up is ready, but running from GUI interface not yet completed; need to check again next week -- URGENT !!

5.4 GPU corr status -- from 19 Dec & before (SHR/BAK) : updates on following items:
(i) release of 4 node, 8 input, 200/250 MHz version and 8 node, 16 input, 150 MHz version -- current status to be reported.
(ii) update on testing of K10 system of nvidia.
(iii) follow-up from testing of Supermicro system.
(iv) test of time slicing dynamically on FPGA or while transferring to PCs.
(v) plans for walk through the code for further optimisation, improvements, rationalisation and documentation.
==> updates in some areas, but detailed back-end group discussion tomorrow can add some light; can follow-up again next week, as needed.

5.5 Packetised corr -- from 12 Dec & earlier (SCC/BAK) : to confirm a stable working pipeline for analysis of data, along with a SoP for the same.
==> no updates available; to check again next week.

5.6 Packetised corr -- from 19 Dec & earlier (SCC/BAK) :
(i) updates on antenna tests of 2K and 4K pt FFTs (with full delay).
==> not tested yet.
(ii) 10 Gbe link in pkt design (to allow integration with GPU design) -- to check status planned tests.
==> some work has been done, but not tested yet.

5.7 8 antenna back-end plans for further astronomical tests -- from 12 Dec (DVL/YG) : implementation plan of tests proposed by DVL to be drawn up with BE team.
==> not taken up as online control not released.

5.8 Power and cooling requirements for projected back-end systems -- from 19 Dec & earlier (BAK/RVS/YG) : report on results of first round of tests to be circulated by electrical team; follow-up discussion and plans for further tests.
==> report has been circulated; basic results are positive (full desired load could be achieved), but a few different issues need detailed study and further testing before finalisation; follow-up after one month; meanwhile, electrical team to convert the report into ITR format.

5.9 User SoPs for new back-end systems -- from 19 Dec (IMH/DVL/BAK) : updates on testing of multi-node version -- has this been tested and can be finalised now?
==> TBC and close the matter if appropriate; check after 2 weeks.

6. Other items :

6.1 Status update on 15m related items (JNC) :
FE issues : mobile phone RFI (950 & 1700) stronger than anticipated & saturating; retuning of the amplifiers and replace MAR with Sirenza done -- now can see the noise source switching on and off, but still some intermodulation products present, may need a narrow band feed (e.g. crossed dipole).
Testing of 1 to 3 GHz feed on test range : problems with intermodulation products -- may needs more filters.
Servo : cable wrap limit switch did not operate and caused an accident (due to combined failure of toggle switch and limit switch), may need more redundancy in the interlocks?

6.2 Updates and plans for FPA system (JNC/YG) :
Powered up and tried getting data -- looked like some connections not proper; MCB frequently tripping -- may be fixed by now. JNC will try this week & report if data coming from system and bigger discussion can be scheduled next week accordingly. Can follow-up after 2 weeks.

6.3 Equipment requirement for the different groups -- from 21 Nov (SSK/BAK/etal): to discuss and decide course of action.
==> FE group has projected requirements for couple of Sp An for field work and also repair of existing R&S units to be looked into. BE group does not need any new Sp An rigth now; processing of indents of FE group can start, and matter can be closed for now.

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Minutes of Plan meet of 16 Jan 2013 (follow-up of some pending topics from different areas) :

1. Documentation related :

1.1 Documentation : follow-up on level 2 (ITR) -- from 2 Jan & earlier : conversion of older reports : BE has completed pulsed noise source report; FE to update status of 250-500 LNA report (ANR). Also, status update on ITR for 250-500 BPF (ANR/Imran) design.
==> report almost ready ; will be released by this week; can follow-up after 2 weeks ?

1.2 Documentation : SoP for antenna base work -- from 2 Jan & before (SSK/ANR/HRB) : updated version to be made ready for (i) installation of upgrade systems and (ii) ensure proper working of existing systems.
==> no progress ; agreed to try organic approach with 4 persons : one for feeds (HRB), one for FE, one for CB and one for OF...; follow-up after 2 weeks.

2. FE & OF related :

2.1 Update on results from test range -- from 2 Jan (GSS/SSK) :
(i) status of improvements : filters, Sirenza amplifier, compression effect etc
==> items are in hand, but not installed yet as tests for 250-500 are going on (same applies for funny compression problem).
(ii) phase centre tests for CSIRO feed to compare with 550-900 CDF
==> TBD after (iii) -- will need extra mechanical support during hoisting and installation : to check with mechanical about the same.
(iii) phase centre tests for 250-500 CDF
==> tests are not giving stable response; to check if using 250-500 BPF helps the situation.
Follow-up on all matters after 2 weeks.

2.2 Mass production of 250-500 FE system -- from 2 Jan, 12 Dec & 27 Nov (ANR/SSK) :
(i) status update on development of notch filters for 243 military satellite and 540 TV line, and LPF filter for 1800 MHz.
==> sample new designs discussed (in conjunction with item 2.11), but not clear if we will have them ready in time for installation in the systems getting ready now.
(ii) finalisation of the FE box for 250-500 system : FE team to circulate first version of block diagram of final proposed system.
==> work in ongoing, coupled with signal flow analysis for this system. Can be taken up together with that next week.
(iii) check status of C6 system : restored and working OK?
==> not confirmed to be OK, though FE had tested and put back about 10 days ago; this needs to be followed up next week to clear the matter.
(iv) installation of new feed with new FE Box on C10
==> completed and can be closed, unless problems are reported with performance of the antenna.

2.3 Mass production of 250-500 feeds -- from 2 Jan (HSK) :
(i) to update on delivery schedule
==> email update from HSK : 2 nos of feeds from in-house production will be ready by end of this week and sent to GMRT; outsourced units : first unit from 2nd vendor (M/s Somwanshu Udyam) expected by the end of this week; 3rd vendor (M/s Quality Engg) is delaying delivery and will be given a warning.
(ii) quality check on outsourced units (matching of holes etc) on in-house and outsourced units.
==> FE team to send a set of quality checks that they would like; to discuss with mech to see how to resolve "matching holes" case; meanwhile, mechanical to provide fixtures to vendors to avoid such problems.
Follow-up after one month.

2.4 Developments for 130-260 feed -- from 2 Jan, 12 Dec & 31 Oct (HRB/GSS/HSK) : feed with improved mechanical design of dipole etc to be ready and tested.
==> item still in workshop -- to follow-up with mechanical; check again after 2 weeks.

2.5 New LNA for 130-260 system -- from 2 Jan, 12 Dec & 23 Oct (VBB/SSK) : FE team to report about new LNA on modified substrate and testing of same.
==> circuit being assembled on PCB and waiting for chassis. Can check after 2 weeks to see if it has been delivered and tested by FE team.

2.6 Tests of 130-260 system -- from 2 Jan : updated from tests by Nissim Kanekar (NK)
==> no updates; YG to follow-up : email update from NK saying that analysis for 235 band has been done, but data for 150 band was junk -- appears to be some kind of setting problem; will repeat the tests next week; can check for an update next week or 2 weeks later.

2.7 Status of improved 500-1000 MHz cone-dipole -- from 2 Jan & before (HRB/GSS/SSK) :
(i) comparison of ver 1 and ver 2 of CDF feed, including testing ver 1 dipole in ver 2 cavity etc : results from testing of ver1 system with reduced stool height (and filters for mobile and 1800 LPF) to be reported.
==> not done yet ! FE team to initiate the action !! (to try for shortening the legs on the CDF feed); to check after 2 weeks.
(ii) comparison of measured parameters with simulations; follow-up from discussions with Yogesh Karandikar
==> discussed in some detail; 3 action items regarding simulations agreed upon: 1. higher density and more plates to be tried for convergence; 2. discontinuities in impedance to be clarified to YK; 3. focus offset predictions to be compared in more detail with physical location and test range results and summary sent to him. Follow-up on all items 2 weeks later.

2.8 Follow-up on delivery of 550-900 MHz filters -- from 2 Jan & before (ANR/SSK) : delivery of prototype meeting full specs -- update from vendor.
==> results were expected by last week; no further updates available; to check again 2 weeks later.

2.9 Fabrication of spare L-band feed -- from 2 Jan & 19 Dec (SSK/HSK) : to check status on quotes from vendors for fabrication, and order to be placed.
==> email update from HSK : quotes have been received, estimates range from 3.8 to 4.3 lakhs; indent being raised by HSK. Can follow-up after 4 weeks.

2.10 Finalisation of design for temperature detectors for FE system -- from 2 Jan

and before (SSK) : results from prototype unit using TC1047 to be reported; final choice of system and PCBs to be made.
==> both devices show same slope with 0.5 V DC offset; agreed that we can use TC1047 ckt but with some amplification to match MCM range of +/- 5 V; FE team to go ahead with the final design; to follow-up after 2 weeks.

2.11 Filters at different stages of receiver chain -- still pending from 12 Dec and before (SSK) : to check if first order skeletal version is ready.
==> first order blk diagram for filters at antenna base shown and discussed : provision for switch 1:6 can be made 1:8; add a provision for additional filters in series with the above (always present in the path); try to organise 2 nos of notch-type filters for each GMRT band with possibility of any combination to be switched in; all these filters may be broader than in-band notch filters and may be more useful for out-of-band rejection -- this idea can be an interesting one to try; to have an updated version of this diagram; and also similar diags for filters in FE boxes; follow-up in 2 weeks time.

2.12 OF systems -- from 2 Jan (SSK/PAR) :
(i) Follow-up on characterisation of new OF systems -- status of fixing the problems seen in first round of measurements.
==> 2 more antennas remaining to be done; summary to be made and circulated to see what follow-up action is to be taken. Can check after 2 weeks.

2.13 Modification for attenuation control in new OF systems for ALL antennas -- from 2 Jan (SSK/CPK) : To confirm if chassis are available now to complete job of upgrade on remaining 3 antennas (C9, C11, E6).
==> chassis now gone for screen printing; can check after 2 weeks.

3. RFI related matters :

3.1 Miltec PC RFI testing & improved report -- from 2 Jan, 5 Dec, 21 Nov & 7 Oct (SSK/PAR) :
(i) shielded serial port and ethernet tests need some more work : to try with Rabbit card as the terminating load and some other arrangement for serial port.
(ii) test results from use of shielded connectors obtained from vendor.
(iii) plans for updated report : to fold in all the new tests and results and give detailed comparison with earlier measurements (from March 2012).
==> see 3.2 below (can integrate this topic with 3.2 into one consolidated item?).

3.2 Ethernet switches for antenna base -- from 2 Jan + 5 & 19 Dec (SN/BAK/SSK) : RFI tests on integrated system with OF transceiver + switch + Miltech PC + MCM cards to be done; review of first ver of report and results from new tests.
==> shielded RJ45 connectors and CAT6 cable from local market; tests expected to be done in next few days; can check 2 weeks later.

3.3 Mobile phone RFI -- from 2 Jan, 27 Nov and earlier (SSK/PAR) :
(i) follow-up on characterisation work at E06 (2 Jan) with mobile operators.
==> see below.
(ii) discussion about how to identify frequency, location and power of operators: follow-up on discussions of 2 Jan.
==> one nokia phone that shows freq & power & delay -- distance can be calculated from it; will use this to try and identify operators to specific towers and then initiate discussion. Follow-up after 4 weeks.

4. Operations :

4.1 PCs in antennas for testing M&C softwares -- from 2 Jan and before (JPK/SN/RVS): Follow-up on identification of antennas with eth, UPS etc, testing the facilities, and plans for installation of PCs.
==> list to be finalised (3-4 antennas) and scheme for connectivity between antennas and CEB to be spelt out. To check after 2 weeks.

4.2 Miltec PC purchase related -- from 19 & 12 Dec (CPK/JPK/SN) : follow-up on order for 2 nos of i7 model from vendor, with improved RFI characteristics.
==> to check on delivery status with Miltech and update; can follow-up after 2 weeks.

4.3 Mass production of Rabbit MCM cards -- from 19 Nov (CPK/SN) :
(i) status of testing of cards to be reported.
==> 17 cards (out of 120?) ready and tested; going at ~ 5 cards per week; will need to take a decision at some time for ordering about 80 more cards (~45 needed by rx room and ~ 4 per antenna + 20% spares, adds up to a total of about 190 cards); h'ware status can be checked after one month; some software changes due to analog back-end requirement will be done/needed -- can check this after 2 weeks.
(ii) release of SoP for testing procedure (to be shared with other groups) to be confirmed.
==> can check after one month.

4.4 Development of M&C software -- from 2 Jan and before (JPK/SN/YW) :
(i) update on SACE related development with TCS
==> work going on for URS document : use cases, leading to system requirements + other docs : target is 20 Jan for first release (for TCS internal review) + some refinement in 2nd round; by 25th to NCRA for our review; final by 1st Feb. Also, some decisions about broad policy for new M&C systems needs to be taken for discussion; follow-up next week to see if things are on track.

5. Back-ends :

5.1 Release of analog FE mass production for 8 ants, dual pol -- from 2 Jan (BAK) :
(i) to check if 8 ant system with static control set-up fully released and usable.
==> looks like in a stable state now; matter could be closed.
(ii) development of power equalisation routine to be taken up.
==> agreed to pursue two options : one with detectors in GAB (BAK to follow-up with GAB team members) and one with digital output from correlator (SKS to follow up with Nilesh Raskar for a scheme for doing this); can check status after 2 weeks.

5.2 Final online control for GPU corr -- from 2 Jan, 21 Nov & before (SSK/JPK/NR) : follow-up on long-term items like stable performance, provision for control of FPGA and other peripherals for different modes, full operation of GUI etc.
==> GUI version is almost ready but having one small bug ; can release a manual version; also little more work is needed to run with main online alongwith GSB; for now, can be released with standby online ==> we need a SoP for manual mode with standby online -- SSK to release by end of this week. Can check status next week for release of first version; long-term issues can be taken up one month later.

5.3 GPU corr status -- from 19 Dec & before (SHR/GSJ/BAK) : updates on following items:
(i) release of 4 node, 8 input, 200/250 MHz version and 8 node, 16 input, 150 MHz version -- current status to be reported.
==> modes are ready; waiting for online control; to add one extra PC needed as a host for online interface; check status next week.
(ii) update on testing of K10 system of nvidia : should we consider K20 ?
==> some tests have been done; single GPU test done -- SSK to circulate the bench mark values and compare with single Fermi. Then to try our code on K20 with Pradeep and report the performance; check after 1 or 2 weeks.
(iii) follow-up from testing of Supermicro system -- what m/c is coming, when?
==> modified m/c not available right now; will inform likely date by this week-end or Monday; to check after 1 or 2 weeks.
(iv) testing of IB system on 2 nodes or more.
==> two DELL machines populated with cards and tests ongoing -- can be cleared this week. Then test alongwith switch to be done; after that, can go for 8 ports directly; to check status next week.
(v) next generation host machines :
==> to check DELL m/c specs and see if we can indent for 2 nos; follow-up after 2 weeks.
(vi) plans for walk through the code for further optimisation, improvements, rationalisation and documentation.
==> no action; to see how best to tackle this; follow-up after 4 weeks.

5.4 Packetised corr -- from 12 Dec & earlier (SCC/SSK/BAK) : to confirm a stable working pipeline for analysis of data, along with a SoP for the same.
==> Basic pipeline is ready; SKS to issus a SoP. Can check after two weeks.

5.5 Packetised corr -- from 19 Dec & earlier (SCC/BAK) :
(i) updates on antenna tests of 2K and 4K pt FFTs (with full delay).
==> 4K pt not giving full correlation : needs to be debugged !
(ii) 10 Gbe link in pkt design (to allow integration with GPU design) -- to check status.
==> not yet working; needs a bit more testing... Check after 2 weeks.

5.6 8 antenna back-end plans for further astronomical tests -- from 12 Dec (DVL/YG) : implementation plan of tests proposed by DVL to be drawn up with BE team.
==> To follow-up next week, if first version of online control is ready & released.

6. Other items :

6.1 Jobs at TIFR -- from 2 Jan (HSK/SKG) : plans for future works at TIFR to be discussed : users requirements, possible schedule at TIFR etc.
==> email update from HSK : Mr. Arora has confirmed that TIFR will take up the remaining jobs from end-Jan onwards; to check after 2 weeks and see if work has resumed and if more jobs need to be sent to TIFR.

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Minues for Plan meet of 23 Jan 2013 (follow-up of some pending topics from different areas) :

1. Documentation related :

1.1 Detailed design doc -- pending for long : from 19 Dec & before (SSK/BAK) : follow-up on subsystems to be converted : (i) OF Rx system completed? (ii) OF Tx to be started (iii) analog BE system to be completed.
==> no progress reported; discussed various issues related to possible causes etc; agreed to try OF Rx with Satish Lokhande; to check again after 2 weeks.

2. FE & OF related :

2.1 Update on RF dump tests for new feeds -- from 9 Jan & before (HRB/GSS/SSK)
(i) new data and results for 130-260, 250-500, 550-900 (HRB/SSK)
==> some data taken for C10 130-260 and 250-500.
(ii) matlab procedure for ON/OFF and (ON-OFF)/OFF calculations (HRB)
==> procedure now takes care of feedback; new results to be presented in this format and discussed 2 weeks later.
(iii) scheme for (re)calculation of expected values across the broad bands to be finalised (and added to measured curves) -- (SSK and team).
==> agreed that 10 MHz spacing is enough; DVL to help with providing the Tsky values for the entire broadband range; follow-up after 2 weeks.

2.2 Signal flow analysis related items -- from 9 Jan and before (GP/ANR/SSK)
(i) cross-check addition of refinements in the new analysis (from 19 Dec)
==> this has been done and can be closed.
(ii) add effect of couplers for power monitoring and redo analysis (19 Dec)
==> this has been done and no measurable change in basic results of the analysis is seen; new version can be released after one test with lab tests on L-band system; can check after 2 weeks.
(iii) to try system with extra amplifier at receiver room & measure the performance for checking the 6 dB margin (from 23 Oct)
==> TBD -- new amplifier being assembled; need to solve the problem of mounting inside the PIU and then test; can check 2 weeks later.
(iv) plans for trying analysis of 250-500 system; also generating a first cut block diagram of the 250-500 MHz receiver.
==> work has started to collect data and run the analysis and tests against one system on the bench. Can check 2 weeks later.

2.3 Mass production of 250-500 FE system -- from 16 Jan (ANR/SSK) :
(i) check status of C6 system : restored and working OK or not ?
==> some difficulty in availability due to painting : to try and see if it can be done on the day painting is off. To check next week.

2.4 Directional coupler for 250-500 FE system -- from 9 Jan and before (ANR/SSK) : update on final design and tests to see if the design can be frozen.
==> Agreed to freeze the design; ANR to produce an ITR on the design and results from prototype and if possible, repeatibility from 8 units that are assembled;

to check status after 2 weeks.

2.5 Polarisation performance of 250-500 feed -- from 9 Jan (SK/DVL/YG) : to report on polarisation calibration comparison of narrow-band vs braod-band feeds.
==> results discussed; the scheme shows promise of comparison of polarisation properties across the band at few percent level of accuracy; shows reasonable results for 250-500 feed; needs some repeat measurements and analysis to be done; will benefit significantly from availability of polar mode in broadband backend; to work on the follow-up plans and report after one month.

2.6 Developments for 130-260 feed -- from 16 Jan (HRB/GSS) : to confirm status of job in workshop : work ongoing or not ?!?
==> work order now identified and work has started on dipole and support member; reflector and ring to be done after that; need an estimate for completion; follow-up after 2 weeks.

2.7 Tests of 130-260 system -- from 2 Jan : updated from tests by Nissim Kanekar (NK)
==> brief update by YG; one more repeat test due this week; can check status next week.

2.8 Walsh switching arrangement in FE -- from 9 Jan (SSK) : results from new discussions (19 Dec) and lab tests planned on new L-band system.
==> not done yet; planned for next week; to check after 2 weeks.

2.9 Finalisation of design for total power detector for FE boxes -- from 2 Jan & 12 Dec (ANR/SSK) : results from tests of prototype unit to be reported.
==> new PCB layout to be checked and sent for fabrication; will take more than 2 weeks; to check after 3-4 weeks.

2.10 Calibration scheme with radiator at apex of antenna -- from 19 Dec and before (SSK/PAR/SRoy/DO/YG): follow-up from second round of test results.
==> preliminary results from follow-up repeat tests shown; scheme appears to be promising for addressing a few different aims and issues; detailed discussion later in the day identified a few specific follow-up items; DO to produce a quick summary and list of action items; follow-up after 3 weeks.

2.11 OF systems -- from 2 Jan (SSK/PAR)
(i) Plans for further systems : component ordering for few items; completion of chassis etc to be looked into.
==> WDM delivery expected next month; fibre pig-tails indent has been raised; to aim for order by 1st week of Feb; chassis : 50 nos have been delivered ; 300 more from the TIFR work; will need more after that -- to look at TIFR option.
(ii) Final results from testing of new lasers etc : generation of brief report.
==> Work ongoing to produce the report; can check after one month.

3. RFI related matters :

3.1 Effect of military satellite RFI in 243 band -- from 9 Jan (PAR/SSK) : follow-up on two action items, including beam shape measurements.
==> not done yet; to check after 2 week.

3.2 Follow-up on UPS RFI -- from 2 Jan & 12 Dec (SSK/PAR/RVS) :
(i) update on feedback to Miltech about improvements in 1 kVA unit tried at GMRT.

==> SSK to check with vendor; can check next week; if needed, YG to follow-up with a phone call to Miltech head.
(ii) follow-up on procurement of 3 kVA unit from Miltech (RVS).
==> no updates; YG to check with RVS.
(iii) follow-up on procurement of 1 unit from Consul and RFI tests of the same.
==> no updates; YG to check with RVS (it appears that a unit had been sent by Consul to the Pune agent, but it could not be delivered to GMRT ?)
(iv) follow-up on possibility of getting 3 kVA shielded unit from Ador (RVS)
==> Ador unit will come within a week; should look for test report next week.

4. Operations :

4.1 Using new MCM card on ethernet of PC for upgraded analog backend -- from 2 Jan and before (JPK/CPK/BAK) : (i) completion of s'ware for all commands and tests in receiver room (ii) schedule for implementing in 8 antenna system.
==> not discussed due to shortage of time; can be taken up next week.

4.2 Development of M&C software -- from 19 Dec & 2 Jan (JPK/RU/SN/NGK/YW) :

(i) update on in-house development efforts (RU/SN)
==> 3 main areas of focus for in-house effort ; desktop appl : RU, web-based appl : SNK, h'ware aspects : CPK + NS (also, examining options for choice of ABC -- see item (iii) below); will have some new features (e.g. web-based monitoring), and will be a bit more general than present online (will have some more facilities) e.g. UI based input, interface with digital back-ends etc.; aim to have first version of software in Oct 2013 and another one year for further refining of the same; intermediate milestones : not very clear, mayb get specified a bit later; will be making a lab set-up for testing : CEB, ABC, MCMs + some peripherals like sentinel systems; can get an update on some of the short-term matters after one month (27th Feb).

(ii) update on SACE related development with TCS (JPK/SN)
==> URS work ongoing with TCS : use case writing going on for deriving the requirements; first phase completed earlier this week; given for internal review in TCS, will come to NCRA for review by next week : JPK to check with SN if stake-holders can look at relevant sections to give their comments on whether their expectations are met.

(iii) discussion regarding decision items put up by JPK (all team members)
==> one item discussed : various choices for ABCcom presented and discussed; telemetry group presented 3 options, which need to be discussed and deliberated in detail from various points of view; to look for a slot when this discussion can be scheduled; check status after one month.

5. Back-ends :

5.1 Analog back-end beyond 8 antennas -- from 9 Jan (BAK) : plan for space usage to be reviewed.
==> not done yet; to be taken up again after 2 weeks.

5.2 User SoPs for new back-end systems -- from 9 Jan (IMH/DVL/BAK) : updates on testing of multi-node version -- has this been tested and can be finalised now

and matter can be closed?
==> to be clubbed with testing of SoP for online release, for clearing.

5.3 Final online control for GPU corr -- from 16 Jan, 2 Jan, 21 Nov & before (SSK/JPK/NR) : status of release of first version -- should have been done last week.
==> no update available; matter needs to be resolved by next week -- URGENT !

5.4 GPU corr status -- from 16 Jan & before (SHR/GSJ/BAK) : updates on following items:
(i) release of 4 node, 8 input, 200/250 MHz version and 8 node, 16 input, 150 MHz version -- current status to be reported.
==> status quo, still waiting for online interface.
(ii) update on testing of K10 / K20 system of nvidia
==> first tests on K20C at nvidia done this week; 130 s now down to 95 s ==> about 30% improvement; may need to fine tune the number of threads / block and number of blocks for better performance; needs urgent follow-up.
(iii) follow-up from testing of Supermicro system -- what m/c is coming, when?
==> no updates; needs follow-up.
(iv) testing of IB system on 2 nodes or more.
==> tested on 2 nodes; getting 3 GBytes/sec one way and double of that for 2 way which is as per the specs (though much less than expected of a 40 Gbps system! -- this needs to be cross-checked); for full 32 node system this performance leads to an extrapolation of 60% spare capacity; to be confirmed with careful checking; also tests now to move to actual correlator code.
(v) plans for purchase of couple of machines : to be finalised by next week.
==> work is underway; can check next week.
(vi) plans for walk through the code for further optimisation, improvements, rationalisation and documentation.
==> not discussed.

5.5 8 antenna back-end plans for further astronomical tests -- from 12 Dec (DVL/YG) : implementation plan of tests proposed by DVL to be drawn up with BE team.
==> waiting for online version to be released; to take up again next week.

5.6 Finalisation of design for temperature detectors for BE system -- from 9 Jan (BAK) : report in ITR format to be released and see if matter can be closed.
==> need to finalise from first draft and move it along. Also to pick up other report needing modification; to check after 2 weeks.

5.7 Next-gen time & frequency standards -- from 21 Nov (NDS/BAK) :
(i) completion of tests at GMRT.
==> not done yet; to check again after 2 weeks.
(ii) plans for visit to NPL in Jan 2013 or so.
==> to start the dialogue; check after 2 weeks.
(iii) looking into OCXOs from Oscilloquartz.
==> no action; could be taken up during / after NPL visit.

6. Other items :

Nothing specific here this week !

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Minutes of Plan meet of 30 Jan 2013 (follow-up of some pending topics
from different areas) :

1. Documentation related :

1.1 Documentation : follow-up on level 2 (ITR) -- from 16 Jan & earlier :
conversion of older reports : to check if FE has released 250-500 LNA report
and status of 250-500 BPF report (ANR/Imran); to check if some more reports
can be identified for conversion.
==> LNA report under preparation and expected soon; can follow-up after 2 weeks.

1.2 Documentation : SoP for antenna base work -- from 16 Jan & before (SSK/ANR/HRB) :
updated version to be made ready for (i) installation of upgrade systems and
(ii) ensure proper working of existing systems. To check if work on part (i)
has started for (a) feeds (HRB) (b) FE boxes (ANR) (c) Common Box (SSK) and
(d) OF system (PAR)
==> no progress; reminders to (a) and (d) during meeting; to follow-up after
2 weeks.

2. FE & OF related :

2.1 Update on results from test range -- from 16 Jan & before (GSS/SSK) :
(i) phase centre tests for 250-500 CDF : any convergence after using 250-500 BPF?
==> some update form GSS in earlier email; but no fresh updates available.
(ii) phase centre tests for CSIRO feed to compare with 550-900 CDF : plans for
extra mechanical support during hoisting to be finalised with mechanical.
==> no updates available.
(iii) status of improvements : filters, Sirenza amplifier, compression effect etc
==> no updates available.
Need follow-up next week.

2.2 Mass production of 250-500 FE system -- from 19 & 2 Jan, 12 Dec & 27 Nov (ANR/SSK) :
(i) testing of new feeds delivered & status of FE boxes to go with them
==> 3 new feeds, 2 are only cavity (waiting for dipoles), 3rd one also is not OK..
(to sort out with mechanical) and one more full feed will come from outsourced party
by fist week of Feb.
FE boxes : 2nd one is getting ready (1st one is installed on C10), will have new
noise coupler added. Follow-up after 2 weeks.
(ii) status update on production of main BPF system.
==> 12 nos of filters completed; shortage of capacitors : quotes have come, will
be processed now; meanwhile, other option for getting capacitors to be checked.
Follow-up after 2 weeks.
(iii) status of development of notch filters that may need to go with FE boxes
==> FE group needs some more time to work out details. Follow-up after 2 weeks.
(iv) to confirm status of C6 system : restored & working or not ?!?
==> C6 found to be in saturation; follow-up and debugging required; to check
if new changes in C10 250-500 FE box are making any difference or not... This
problem needs to be understood and tackled -- follow-up next week.

2.3 Status of improved 500-1000 MHz cone-dipole -- from 16 Jan & before (HRB/GSS/SSK) :

(i) results from testing of ver1 system with reduced stool height (and filters for mobile and 1800 LPF) to be reported -- pending for long time !
==> unit went up on C10 (but without filters) and no significant change in deflection reported.
(ii) status of manufacture and testing of ver2 system (with different cone angle and modified dipole design?) to be reported.
==> feed ready for testing (with same stool) on C10; problem with power supply unit now fixed after changing regulator; can check next week.
(iii) comparison of measured parameters with simulations : follow-up on interaction with Yogesh Karandikar : update on 3 action items discussed in 16 Jan meeting to be reported.
==> no action taken yet; HRB to send initial update asap and then look into higher density and more plates related issue; GSS to be urged to summarise new results and share; follow-up next week.

2.4 Follow-up on delivery of 550-900 MHz filters -- from 16 Jan & before (ANR/SSK) : delivery of prototype meeting full specs -- update from vendor.
==> email update from SSK : vendor now getting proper filter responses, but needs to solve problem of loss in switching network; can check status after 2 weeks.

2.5 New LNA for 130-260 system -- from 16 Jan & before (VBB/SSK) : FE team to report if new LNA on modified substrate integrated with chassis and tested ?
==> still waiting for chassis -- maybe by next week; can check after 2 weeks.

2.6 Developments for 130-260 feed -- from 23 Jan (HRB/GSS) : to confirm status of job in workshop : work ongoing or not ?!?
==> work in progress...; delivery by around 15th Feb; follow-up 2 weeks from now.

2.7 Tests of 130-260 system -- from 23 Jan : updates from tests by Nissim Kanekar (NK)
==> still waiting to complete second round of tests; can check next week for an update.

2.8 Work orders for CSIRO feed with 2 parties -- from 2 Jan (HSK/JNC) : status update about delivery.
==> With 1st party : job almost finished; with 2nd party : work is ongoing; expect first unit by 15th Feb; can check status after one month.

2.9 Finalisation of design for temperature detectors for FE system -- from 16 Jan and before (SSK) : final design using TC1047 + amplification scheme to be ready for discussion.
==> email update from SSK : work in progress; layout of new PCB completed; modification for additional amplification to use entire voltage range being studied by VBB; can check status after 2 weeks.

2.10 Filters at different stages of receiver chain -- from 16 Jan & before (SSK) :
(i) to follow-up on improvements to basic design of scheme for antenna base.
==> modified scheme presented which has some of the desired flexibilities; sample fabricated design for FM filter discussed -- may need some more improvement to pass beyond 1 GHz; sample fabricated unit for 1800 GSM also discussed -- looks acceptable (1710 and 1880 for 3 dB cut-off); follow-up after 2 weeks.
(ii) to check if first order skeletal versions are ready for FE box.
==> no update on this; follow-up after 2 weeks.

2.11 Characterisation of new OF systems -- from 16 Jan & before (PAR/SSK) :

to update if remaining 2 antennas have been done and summary of results has been circulated : if yes, then discussion of follow-up action to be taken up.
==> work has been completed; results to be circulated and follow-up action on problematic antennas to be discussed and initiated; follow-up next week.

2.12 Modification for attenuation control in new OF systems for ALL antennas -- from 16 Jan (SSK/CPK) : To confirm if chassis are available now to complete job of upgrade on remaining 3 antennas (C9, C11, E6).
==> wiring of PIUs is gonig on; can check status after 2 weeks.

3. RFI related matters :

3.1 RFI testing of Miltech PC -- from 16 Jan & earlier (pending for long!) (PAR/SSK): tests with peripherals using new shielded ports, connectors, cables + Rabbit card etc as termination loads : new results to be reported and plans for finalisation of comprehensive report (with comparison with older tests) to be discussed.
==> test with shielded eth connector did not work; result from unshielded is available; Ops group to coordinate with comp and RFI groups for testing different kinds of switches. Follow-up after 2 weeks.

3.2 Follow-up on UPS RFI -- from 23 Jan & earlier (SSK/PAR/RVS) :
(i) update on feedback to Miltech about improvements in 1 kVA unit tried at GMRT (SSK/PAR).
==> no clear updates; SSK to visit Miltech this week; need follow-up next week.
(ii) follow-up on procurement of 3 kVA unit from Miltech (RVS).
==> verbal update from RVS : indent not placed yet; need to get the specs (from the indent for the 1 kVA unit) and place indent asap; follow-up 2 weeks later.
(iii) follow-up on procurement of 1 unit from Consul and RFI tests of the same (RVS/PAR).
==> verbal update from RVS : not getting response from local party; to try with main party in Mumbai and report back; check after 2 weeks.
(iv) results from tests on Ador unit (PAR)
==> tests done; further improvement is possible from vendor -- to be done by next week.
Need status check on all of the above in next week's meeting.

3.3 RFI tests of ethernet switches for antenna base -- from 16 Jan & earlier (SN/BAK/SSK): RFI tests on integrated system with OF transceiver + switch + Miltech PC + MCM cards using shielded RJ45 connectors and CAT6 cables to be done and results reported.
==> see item 3.1 above; budgetary quote for different kinds of L3 switches : basic L3 to full; matter needs detailed follow-up. To check after 2 weeks.

4. Operations :

4.1 Using new MCM card on ethernet of PC for upgraded analog backend -- from 2 Jan and before (JPK/CPK/BAK) : (i) completion of s'ware for all commands and tests in receiver room (ii) schedule for implementing in 8 antenna system.
==> no updated due to priority for other tasks; to be taken up 2 weeks later.

4.2 Development of M&C software -- from 23 Jan (JPK/RU/SN/NGK/YW) :
(i) update on SACE related development with TCS (JPK/SN)
==> 2 use cases remaining from NCRA ; meeting tomorrow to review the status and take the document from TCS; follow-up next week.

4.3 PCs in antennas for testing M&C softwares -- from 16 Jan and before (JPK/SN):

Finalisation of 3-4 antennas to be used and scheme for connectivity to CEB for these to be discussed.
==> C11, C10 and W1 identified; 2 of 4 PCs to be used in 2 antennas and 1 in the lab and one spare; detailed plan for usage to be given in 2 weeks time.

4.4 Miltec PC purchase related -- from 16 Jan (CPK/JPK/SN) : follow-up on delivery status of 2 nos of i7 model from vendor, with improved RFI characteristics.
==> delivery expected around 11th Feb; can follow-up after 2 weeks.

4.5 Mass production of Rabbit MCM cards -- from 16 Jan (CPK/JPK/SN) : follow-up on software changes required due to analog back-end requirements.
==> changes not done yet (CPK clarified : s'ware will provide GUI where one can select desired settings / levels); can check when Rabbit h'ware status is checked next time.

5. Back-ends :

5.1 Final online control for GPU corr -- pending for a long time, now VERY URGENT (SSK/JPK/NR) :
(i) release of first version -- overdue !!
==> can be released with alternate online and not full GUI support; with one compute node acting as host; to convert to main online : 2 changes needed -- cmode and ant mask for subsets; making it fully GUI compatible to happen in parallel -- 2 weeks time required for this; also to activate the external node feature; clarified that no extra work needed for using the 4 transient pipeline nodes; next follow-up 2 weeks from now.
(ii) SoP for first verson to be tested (along with other remaining SoPs of new back-ends).
==> SOP will be released today by KS; DVL to try and report back by next week.

5.2 Power equalisation schemes for new back-end system -- from 16 Jan (SKS/NSR/BAK):
(i) option 1 : using detectors in GAB and local feedback loop.
==> BAK still to look at it; check again after 2 weeks.
(ii) option 2 : using correlator self outputs and computing gain corrections -- SKS to work out scheme for NSR to implement.
==> SKS to discuss with NSR; follow-up after 2 weeks.

5.3 GPU corr status -- from 23 Jan & before (SHR/GSJ/BAK) : updates on following items:
(i) release of 4 node, 8 input, 200/250 MHz version and 8 node, 16 input, 150 MHz version -- current status to be reported.
==> OK, waiting for online version to be released; can now be tested by DVL et al. follow-up next week.
(ii) update on testing of K10 / K20 system of nvidia
==> waiting for cluster access. meanwhile can see if some simple follow-up things can be tried on single node m/c; follow-up next week.
(iii) follow-up on testing of Supermicro machines -- what m/c is coming, when?
==> vendor says he will send soon.
(iv) testing of IB system on actual correlator code
==> no progress in solving the problem of IB code on GMRT machines; performance of 1/3rd when configured for 10Gbe (which is slightly better than pure 10 Gbe connection).
(v) plans for purchase of couple of host machines : follow-up on current status
==> work ongoing, needs to be followed up, including meeting with Dell.

(vi) plans for walk through the code for further optimisation, improvements, rationalisation and documentation.
==> not discussed

5.4 8 antenna back-end plans for further astronomical tests -- from 12 Dec (DVL/YG) : implementation plan of tests proposed by DVL to be drawn up with BE team.
==> can be taken up next week.

5.5 Packetised corr -- from 16 Jan & earlier (SCC/SSK/BAK) : to confirm a stable working pipeline for analysis of data, along with a SoP for the same.
==> SKS and SCC to sit together and write the SOP that can be used by DVL and clear the matter; follow-up next week.

5.6 Packetised corr -- from 16 Jan & earlier (SCC/BAK) :
(i) updates on antenna tests of 2K and 4K pt FFTs (with full delay).
==> initial problem lower cross counts now solved; DVL to follow-up with SCC for sky test.
(ii) 10 Gbe link in pkt design (to allow integration with GPU design) -- to check if testing completed or not.
==> no update available.

6. Other items :

6.1 Jobs at TIFR -- from 16 Jan (HSK/SKG) :
(i) to check if pending jobs have been taken up at TIFR
==> our jobs have NOT been taken up at TIFR so far.
(ii) to discuss what further jobs can be given to TIFR
==> HSK to follow-up with Sangam Sinha via formal email.
To check after 2 weeks.

6.2 Updates on FPA related activities (JNC/YG) :
==> Demo + discussions took place the week before; basic performance of unit, including getting spectra of individual units checked; possible options for testing of the unit with test source discussed -- SSK to try with a source that can simulate L-band levels similar to that seen at 15m dish to check saturation effects; to start looking at the beamforming part in detail; JNC to check for detailed information about connectivity and signal flow through the existing processing boards and circulate the same; YG to initiate discussion about possibility for using existing casper boards for processing; to follow-up on a suitable date (likely to be 27th Feb).

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