Instructions for joint VLBA + Effelsberg observing with the RDBE

For HSA observations using Effelsberg, see also: Observations using Effelsberg as part of the High Sensitivity Array (HSA)

1. Proposals must be submitted using the NRAO web proposal tool. (Select VLBA and EB in the HSA section)
2. Use the Walker/NRAO SCHED program for making the observing schedule, available from anonymous ftp at: ftp.aoc.nrao.edu Directory: pub/sched
   The SCHED manual can be read at: http://www.aoc.nrao.edu/~cwalker/sched/sched.html
   A special section on the RDBE at: http://www.aoc.nrao.edu/~cwalker/sched/RDBE_system.html
3. Effelsberg recordings will be made using the RDBE terminal and a MK5 disk recorder. Effelsberg has SCHED station name 'EB_RDBE'.
   For further details regarding the RDBE, consult:
   https://science.nrao.edu/facilities/vlba/docs/manuals/oss/sig-path/rdbe
4. Deposit the schedule for EB_RDBE on the ASPEN file-server in Socorro, as for the VLBA schedule; the deadline is 2 weeks before the observation. The Effelsberg schedule will be retrieved from ASPEN by Effelsberg staff.
   - The Effelsberg Observing Friend, Uwe Bach (ubach<at>mpifr-bonn.mpg.de) must be notified if any emergency changes are made to the schedule after that time.
5. Frequency agility in Effelsberg is limited to those receivers mounted at the secondary focus (0.7, 1.3, 2, 4, 6, 13, 4/13 cm); changing between these receivers takes about 40 secs. All other receivers are mounted at the prime focus, where frequency agility is not possible.
   Note that observations at 3 mm are only supported during Global 3mm VLBI Array Sessions (see http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm).
   All receivers are dual RHC/LHC polarisation, except 13 cm which is RHC only. For further details consult: Receivers for the Effelsberg 100-m Telescope
6. Phase-cal tones are injected for all secondary focus receivers (and for the 3mm receiver). There is no phase-cal signal for the 18/21cm or other prime focus receivers.
   Note, also, that the phase of the phase-cal signal is not recovered after switching receivers during receiver-agile observations.
7. The Effelsberg drive speed is slower than for VLBA antennas - currently 25 deg/min in azimuth and 15 deg/min in elevation.
   Note also that observations at low elevation are restricted by the surrounding hills.
8. As the Effelsberg antenna beamwidth is ca. 4 times smaller than those of VLBA antennas, periodic pointing checks are essential, especially during short wavelength observations. Observers should leave frequent gaps in their VLBI schedules (~10 mins each) to allow the telescope operators to make these checks. They should be about every two hours at 4cm, and more frequently at shorter wavelengths.
9. Observers using NON-STANDARD frequency set-up files (i.e. not one supplied with the current version of SCHED) should contact the Effelsberg technical friend, Uwe Bach, well before the observations so that any special files can be made in good time.
   Technical friend e-mail: ubach<at>mpifr-bonn.mpg.de