



# Old to new receiver fleet transition

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# Old to New receiver fleet transition

- The three new receivers might be not ready together.
- possible operational scenarios for the transition.
- Scientific implications.

# Scenarios: (1) PAF up first

- PAF up first
  - MB-20 replaced
  - 20 cm centre beam with lower sensitivity
- options
  - 1) Similar to current arrangement (receiver changes):
    - PAF up all the time,
    - 10/50cm up most of the time,
    - receiver changes for high frequencies
    - 20 cm observations have lower sensitivity (is this acceptable by, e.g., the PPTA?)
  - 2) PAF in campaign mode.
    - PAF up to 3(?) months
    - The other months 10/50cm + H-OH and other receivers (with receiver changes)

# Scenarios: (2) UWBL up first

- UWBL Low up first
  - MB-20 available
  - Not an option to have an old receiver next to UWBL (?)
- options
  - 1) Similar to current arrangement:
    - MB-20 always up
    - UWBL receiver changes as for 10/50cm (does this rx like frequent thermal cycles?)
    - receiver changes for high frequencies
    - Is this reasonable from an operational perspective?  
(UWBL uses a different platform, replacing it with old receivers would require replacing also the platform?)
  - 2) MB-20 + UWBL permanently up
    - No other receivers available during the transition (1 year? 2 years? 3 years?)
    - No VLBI except in L and S-band
  - 3) MB-20 campaign mode.
    - UWBL permanently up
    - MB-20 up to for 3(?) months only
    - The other months: high frequency receivers up replacing MB-20
    - VLBI not possible when MB-20 is up (except in L and S-band)

# Scenarios: (3) UWBH up first

- UWB High up first
  - MB-20 available
  - Not an option to have an old receiver next to UWBH (?)
- options
  - 1) Similar to current arrangement:
    - MB-20 always up
    - receiver changes like now, with UWBH receivers up when high freq observations scheduled.
    - 10/50cm needs to be up at least once every ~3 weeks.
    - Is this reasonable from an operational perspective? (see Scenarios (2) )
  - 2) MB-20 + UWBH permanently up
    - Not an option, 10/50cm required regularly
  - 3) MB-20 campaign mode.
    - UWBH permanently up
    - MB-20 up to for 3(?) months only
    - It does not look a realistic option, it does not allow 10/50cm and H-OH up together for PPTA.

# Scenarios: (4) UWBL + UWBH up together

- To wait that both receivers are ready.
  - UWBL developed
  - UWBH developed using the current LNA technology (but new feeds to cover the new bands)
  - Stage 2 UWBH development for final LNAs (if required)
- Options
  - 1) MB-20 + UWBL + UWBH permanently up
    - No receiver change required
    - Full flexibility

# Thank you

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