The measurement check list is intended to help a new user to start the measurements at AMI Centre.

☐ Safety course

A new user has to pass AMI Centre's safety course, which includes a video lecture, hands-on demonstration at the scanner, and examination. The safety course is organized several times per year. The safety course and rigorous MR safety procedures has kept us free from any MRI-related medical emergencies since the inauguration of AMI Centre (2002).

☐ Read AMI Centre’s Safety and Operations instructions

A new user has an obligation to become acquainted with AMI Centre’s Safety and Operations instructions.

☐ Research permission (https://www.aalto.fi/services/advanced-magnetic-imaging-centre)

Obtain a supporting statement from appropriate ethics committee (e.g. Aalto, HUS, UH, etc.)

- Aalto, https://inside.aalto.fi/display/AboutAalto/Research+Ethics+Committee (requires Aalto account)

☐ Secure funding

☐ List the persons who can reserve scanner

- They must have passed safety course
- They must be listed in the research permission as well

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
<th>Affiliation</th>
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☐ MRI protocol


- 32-channel, best general-purpose research coil
- 30-channel, recommended for eye tracking, very wide binocular field of view
- 20-channel, for simultaneous EEG measurements, slightly larger inner dimensions (note head size)

Select fMRI sequence

- EPI, MPRAGE, DTI, etc.
- Note limitations in sequences applicable with EEG and Sensimetrics headphones
fMRI / DTI / MPRAGE etc. parameters

Coil
Sequence
Orientation
TR
TE
Slices
Slice thickness
Dist. Factor (Gap)
Phase enc. dir.
FOV read
FOV phase
Averages
Flip angle
Fat. Suppr.
Base resolution
Phase resolution
Time points
PAT (Grappa)
SMS acc.
Other parameters

☐ Stimulus equipment

☐ Software (version, etc.)

Presentation
E-Prime
Matlab
PsychoPy
Psychttoolbox

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
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Stimuli

Are the default settings fine for your experiment? If you have particular requirements for the stimuli, please contact Tuomas Tolvanen (tuomas.j.tolvanen@aalto.fi).

☐ Visual stimuli

Default and recommended settings for visual stimuli

- Resolution 1920x1080
- Frequency 120 Hz
- Screen dimensions 33.5 cm x 21.0 cm
- Viewing distance 35–39 cm

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<tr>
<th>Resolution</th>
<th>Frequency</th>
<th>Screen dimensions</th>
<th>Viewing distance</th>
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</table>

NOTE! Large stimulus size -> head movement possible

☐ Auditory stimuli

- Measure dB levels before measurements
- Check default sound volume for your stimuli

☐ Sensimetrics (headphones are not applicable with all sequences, e.g. DTI)
☐ ADU headphones

https://ani.aalto.fi

Response devices

- Lumitouch – left and/or right hand buttons
- FORP – left and/or right hand buttons, joystick, trackball, grip force
- Optical microphone

<table>
<thead>
<tr>
<th>Device</th>
<th>Handheld</th>
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Monitoring systems

- EEG
- Pulse
- ECG
- Respiratory bellows
- GSR
- Eye tracking
- Face camera (movement/gesture)
- Accelerometers

Piloting

- With a phantom or a human subject
- Free with phantom, contact Toni Auranen (toni.auranen@aalto.fi)
- Human piloting is subject to a charge
- Check timing with stimuli etc.
- Prepare your MRI imaging protocol
- Develop your own measurement procedure!

Other

- Get Aalto key card from NBE HR Coordinator
- External users please ask instructions from Rami Kunnas (rami.kunnas@aalto.fi) at AMI Centre
- Get access to MRI from Toni Auranen (toni.auranen@aalto.fi) at AMI Centre

Data transfer

- Ask for a AMI user id from Petteri Räisänen (petteri.raisanen@aalto.fi) at the Department of Neuroscience and Biomedical Engineering, Aalto University School of Science
- Ask detailed instructions from Tuomas Tolvanen (tuomas.j.tolvanen@aalto.fi) at AMI Centre.

NOTE! Please note, that you have to move your data to your own data servers/backups within 2 weeks from your respective measurement time. After the 2-week grace period, the data can be removed from AMI server without notice due to disk space limitations!
Else

- EEG settings
- BIOPAC settings
- Presentation settings
- Data folder on amiserver
- Eyelink settings
- Stimulus folder
- E-Prime settings
- dB levels
- Face camera settings
- PsychoPy settings
- FORP settings
- Optical microphone settings
- Psychtoolbox settings
- Data folder on amiserver