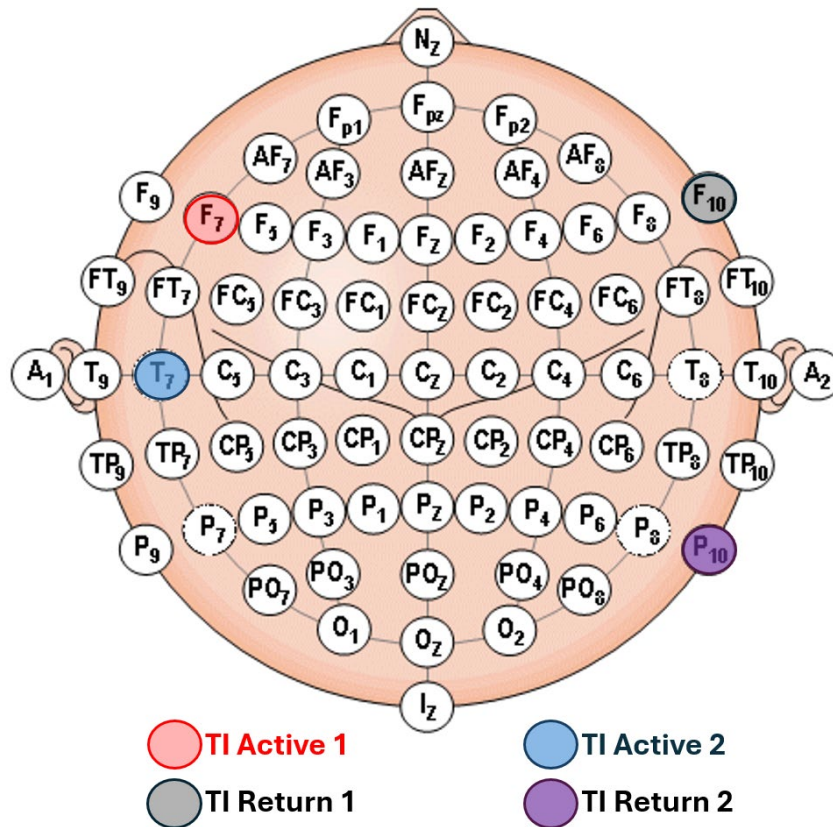


# TI Stimulation Human Deployment

## Setup: Electrode Placement



If locating electrodes manually:

Measure the distance from nasion inion to inion.

Distance in cm:

Find and mark halfway along this distance in the nasion-inion axis.

Measure the distance from pre-auricular to opposite pre-auricular.

Distance in cm:

Find and mark halfway along this distance in the pre-auricular to opposite pre-auricular axis.

The intersection between marked points is the vertex, Cz.

Find and mark the TI stimulation electrodes using the 10-10 positioning system. (Move in increments of 10% Nasion-Inion distance from front to back, and 10% of pre-auriculars distance from side to side).

## Electrode Contact Test

### Stimulation Parameters:

<b>I1</b>	
Frequency (Hz)	2000
Amplitude (mA)	0.5
<b>I2 OFF</b>	
Frequency (Hz)	N/A
Amplitude (mA)	N/A

Make ramp-time sufficient to minimise sensation (~5s) and stimulation time long enough to record voltage/impedance (~5-10s).

*Record the measurement voltage (target: << Compliance Voltage)*

*Calculate the load Resistance from recorded voltage and set current amplitude (target: < 5kOhm)*

### Stimulation Parameters:

<b>I1 OFF</b>	
Frequency (Hz)	N/A
Amplitude (mA)	N/A
<b>I2</b>	
Frequency (Hz)	2000
Amplitude (mA)	0.5

Make ramp-time sufficient to minimise sensation (~5s) and stimulation time long enough to record voltage/impedance (~5-10s).

*Record the measurement voltage (target: << Compliance Voltage)*

*Calculate the load Resistance from recorded voltage and set current amplitude (target: < 5kOhm)*

# Participant Sensation Test

## Stimulation Parameters:

I1	
Frequency (Hz)	2000
Amplitude (mA)	0.5
I2 OFF	
Frequency (Hz)	2005
Amplitude (mA)	0.5

Make ramp-time sufficient to minimise sensation (~5s) and stimulation time long enough to record voltage/impedance (~5-10s).

Ask Participant which applies (record the selection):

Current (mA)	0.5							
No Sensation								
Mild sensation (tolerable)								
Painful or Significant discomfort								

Mitigate if painful or significant discomfort

- Press problematic electrode(s)
- Reapply problematic electrode(s)

If participant has no sensation or mild, increase current amplitudes in both channels by ~10% of target amplitude.

# tACS Contrast Test

## Stimulation Parameters:

I1	
Frequency (Hz)	20
Amplitude (mA)	0.1
I2 OFF	
Frequency (Hz)	N/A
Amplitude (mA)	N/A

Make ramp-time sufficient to minimise sensation (~5s) and stimulation time long enough to record voltage/impedance (~5-10s).

*Record the measurement voltage (target:  $\ll$  Compliance Voltage)*

*Calculate the load Resistance from recorded voltage and set current amplitude (target:  $< 5k\Omega$ )*

*Ask Participant which applies (record the selection):*

No Sensation
Mild sensation (tolerable)
Painful or Significant discomfort