

MONTAGES

PURPOSE

Standard montage configurations ensure consistency of recordings and contribute to accurate interpretation of sleep studies.

POLICY

Procedures performed use standard montages which meet the AASM published guidelines version 2.4

PROCEDURE

Polysomnography Parameters Recorded

- Brain Waves - EEG – Electroencephalogram
- Eyes - EOG – Electrooculogram
- Chin – EMG – Electromyogram
- Airflow – Thermal and Pressure
- Snore – Piezo Crystal
- Heart – EKG - Electrocardiogram
- Effort – Abdominal and Thoracic Respiratory Inductance Plethysmography
- Leg – EMG – Electromyogram
- Oxygen Saturation – Pulse Oximetry and Pleth
- End Tidal CO₂
- Heart Rate – Pulse Oximetry
- Body Position and Movement - Video

Figure A. Technical and Digital Specifications for Routine PSG Recordings

A. Digital Specifications for Routine PSG Recordings^{N1}

1. Maximum Electrode Impedances: 5 K Ω ^{N2} **RECOMMENDED**

2. Minimum Digital Resolution: 12 bits per sample **RECOMMENDED**

3. Sampling Rates

	Desirable	Minimal	
EEG ^{N3,N4}	500 Hz	200 Hz	RECOMMENDED
EOG ^{N5}	500 Hz	200 Hz	RECOMMENDED
EMG ^{N6}	500 Hz	200 Hz	RECOMMENDED
ECG ^{N7}	500 Hz	200 Hz	RECOMMENDED
Airflow	100 Hz	25 Hz	RECOMMENDED
Oximetry, Transcutaneous PCO ₂ ^{N8}	25 Hz	10 Hz	RECOMMENDED
Nasal Pressure, End-Tidal PCO ₂ , PAP Device Flow ^{N9}	100 Hz	25 Hz	RECOMMENDED
Esophageal Pressure	100 Hz	25 Hz	RECOMMENDED
Body Position ^{N10}	1 Hz	1 Hz	RECOMMENDED
Snoring Sounds ^{N11}	500 Hz	200 Hz	RECOMMENDED
Rib Cage and Abdominal Movements ^{N12}	100 Hz	25 Hz	RECOMMENDED

4. Routinely Recorded Filter Settings

	Low-Frequency Filter	High-Frequency Filter	
EEG ^{N4,N13}	0.3 Hz	35 Hz	RECOMMENDED
EOG ^{N13}	0.3 Hz	35 Hz	RECOMMENDED
EMG ^{N6}	10 Hz	100 Hz	RECOMMENDED
ECG ^{N14}	0.3 Hz	70 Hz	RECOMMENDED
Oronasal Thermal Flow, Thoracoabdominal Belt Signals	0.1 Hz	15 Hz	RECOMMENDED
Nasal Pressure	Direct current (DC) or ≤ 0.03 Hz	100 Hz	RECOMMENDED
PAP Device Flow	DC	DC	RECOMMENDED
Snoring	10 Hz	100 Hz	RECOMMENDED

<u>Channel</u>	<u>Output</u>	<u>Sensitivity</u>	<u>Low Filter</u>	<u>High Filter</u>	<u>Width</u>
1	C4-M1	200µV	0.3Hz	35.0Hz	100%
2	O2-M1	200µV	0.3Hz	35.0Hz	100%
3	F4-M1	200µV	0.3Hz	35.0Hz	100%
4	F7-T3	200µV	1.0Hz	70.0Hz	100%
5	T3-T5	200µV	1.0Hz	70.0Hz	100%
6	T5-O1	200µV	1.0Hz	70.0Hz	100%
7	F8-T4	200µV	1.0Hz	70.0Hz	100%
8	T4-O2	200µV	1.0Hz	70.0Hz	100%
9	F3-C3	200µV	1.0Hz	70.0Hz	100%
10	C3-O1	200µV	1.0Hz	70.0Hz	100%
11	F4-C4	200µV	1.0Hz	70.0Hz	100%
12	C4-O2	200µV	1.0Hz	70.0Hz	100%
13	E2-AVG	200µV	0.3Hz	35.0Hz	100%
14	E1-AVG	200µV	0.3Hz	35.0Hz	100%
15	EKG1-EKG2		0.3Hz	70.0Hz	100%
16	HR				100%
17	Chin1-Chin2	200µV	10.0Hz	70.0Hz	100%
18	LLEG2-LLEG1	200µV	10.0Hz	70.0Hz	100%
19	RLEG2-RLEG1	200µV	10.0Hz	70.0Hz	100%
20	Snore	200µV	10.0Hz	100.0Hz	100%
21	CPres				150%
22	CFlow				150%
23	Leak				
24	Chest	2000µV	0.1Hz	15.0Hz	150%
25	Abd	2000µV	0.1Hz	15.0Hz	150%
26	SaO2				125%
27	Peth				125%

On the head box you will plug in:

F7 to 20

T3 to 21

T5 to 22

F8 to 23

T4 to 24

T6 will not be used as there are no more vacant channels on the head box.

Channel	Output	Sensitivity	Low Filter	High Filter	Width
1	C4-M1	200µV	0.3Hz	35.0Hz	100%
2	O2-M1	200µV	0.3Hz	35.0Hz	100%
3	F4-M1	200µV	0.3Hz	35.0Hz	100%
4	F7-T3	200µV	1.0Hz	70.0Hz	100%
5	T3-T5	200µV	1.0Hz	70.0Hz	100%
6	T5-O1	200µV	1.0Hz	70.0Hz	100%
7	F8-T4	200µV	1.0Hz	70.0Hz	100%
8	T4-O2	200µV	1.0Hz	70.0Hz	100%
9	F3-C3	200µV	1.0Hz	70.0Hz	100%
10	C3-O1	200µV	1.0Hz	70.0Hz	100%
11	F4-C4	200µV	1.0Hz	70.0Hz	100%
12	C4-O2	200µV	1.0Hz	70.0Hz	100%
13	E2-AVG	200µV	0.3Hz	35.0Hz	100%
14	E1-AVG	200µV	0.3Hz	35.0Hz	100%
15	EKG1-EKG2		0.3Hz	70.0Hz	100%
16	HR				100%
17	Chin1-Chin2	200µV	10.0Hz	70.0Hz	100%
18	LLEG2-LLEG1	200µV	10.0Hz	70.0Hz	100%
19	RLEG2-RLEG1	200µV	10.0Hz	70.0Hz	100%
20	Snore	200µV	10.0Hz	100.0Hz	100%
21	PTAF				150%
22	Therm	1000µV	0.1Hz	15.0Hz	150%
23	Chest	2000µV	0.1Hz	15.0Hz	150%
24	Abd	2000µV	0.1Hz	15.0Hz	150%
25	SaO2				125%
26	Peth				125%
27	EtCO2				100%
28	CO2				100%
29	Resp				100%

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F8 to 23

T4 to 24

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SEIZURE Treatment Montage EtCO2

<u>Channel</u>	<u>Output</u>	<u>Sensitivity</u>	<u>Low Filter</u>	<u>High Filter</u>	<u>Width</u>
1	C4-M1	200µV	0.3Hz	35.0Hz	100%
2	O2-M1	200µV	0.3Hz	35.0Hz	100%
3	F4-M1	200µV	0.3Hz	35.0Hz	100%
4	F7-T3	200µV	1.0Hz	70.0Hz	100%
5	T3-T5	200µV	1.0Hz	70.0Hz	100%
6	T5-O1	200µV	1.0Hz	70.0Hz	100%
7	F8-T4	200µV	1.0Hz	70.0Hz	100%
8	T4-O2	200µV	1.0Hz	70.0Hz	100%
9	F3-C3	200µV	1.0Hz	70.0Hz	100%
10	C3-O1	200µV	1.0Hz	70.0Hz	100%
11	F4-C4	200µV	1.0Hz	70.0Hz	100%
12	C4-O2	200µV	1.0Hz	70.0Hz	100%
13	E2-AVG	200µV	0.3Hz	35.0Hz	100%
14	E1-AVG	200µV	0.3Hz	35.0Hz	100%
15	EKG1-EKG2		0.3Hz	70.0Hz	100%
16	HR				100%
17	Chin1-Chin2	200µV	10.0Hz	70.0Hz	100%
18	LLEG2-LLEG1	200µV	10.0Hz	70.0Hz	100%
19	RLEG2-RLEG1	200µV	10.0Hz	70.0Hz	100%
20	Snore	200µV	10.0Hz	100.0Hz	100%
21	CPres				150%
22	CFlow				150%
23	Leak				
24	Chest	2000µV	0.1Hz	15.0Hz	150%
25	Abd	2000µV	0.1Hz	15.0Hz	150%
26	SaO2				125%
27	Peth				125%
28	EtCO2				100%
29	CO2				100%
30	Resp				100%

On the head box you will plug in:

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T6 will not be used as there are no more vacant channels on the head box.