SynAmps RT Technical Specifications

**Maximum Sampling Rate:** 20,000 Hz per channel, all channels driven.

**Digital (TTL) Inputs:** 8 Bit Stimulus, 8 Bit Response TTL, 3 nV/bit.

**CMRR:** >100 dB.

**Input Impedance:** >1 G ohms.

**A/D Resolution:** 24 Bit.

**Bandwidth:** DC to 3500 Hz.

**High Level Channel Count:** 4 per headbox, 16 per system unit.

**Bipolar Channel Count:** 64 per headbox, up to 512 channels.

**Monopolar Channel Count:** 2 per headbox, 8 per system unit.

**High Level Input Range:** 0 to ±10VDC at 100mA.

**Digital Filters:** 100 Hz, 300 Hz, 500 Hz, 1K Hz, 2K Hz, 4K Hz, 10K Hz, 40K Hz, 100K Hz, 200K Hz, 350K Hz, 1M Hz.

**Ultra Low Noise:** 1 nV RMS DC to 200Hz, <1.5 nV RMS DC to 2500Hz.

**Gain:** 0 to 20,000.

**Input Range Options:** 1K Ohm to 200K Ohm, 1K Ohm to 200K Ohm.

**System Specifications:**
- **Environment:** Indoor, temperature range 0°C to +40°C, humidity 5% to 95% non-condensing.
- **Portability:** Designed to be portable, easily transportable for use in different locations.
- **Integration:** Can be used in conjunction with the SCAN software, providing a complete acquisition and analysis system, or with the MagLink RT system.
- **Safety:** Meets safety standards including: EN 60601-1, EN 60601-1-1, EN 60601-1-2, EN 60601-1-4, and more.
- **Interoperability:** Supports a wide range of interfaces, ensuring compatibility with various systems and devices.

**Feature and Function Summary:**
- **Safe Operation:** Designed for safe operation, minimizing the risk of injury or damage.
- **Advanced Performance:** Advanced performance features, including high sampling rates and low noise levels.
- **Flexibility:** Flexible with a range of input options and settings for various applications.
- **Ease of Use:** User-friendly interface, allowing for easy setup and operation.

**Technical Information:**
- **Technical Specifications:** Detailed overview of functionality and system specifications.
- **Safety Information:** Detailed information on safety standards and certifications.
- **Application Notes:** Guidelines for optimal use in different environments and applications.

**Contact Information:**
- **SynAmps Australia:**
  - Flockhart Street, Abbotsford VIC 3067, Australia
  - Ph: +61 3 8420 7300
  - Fax: +61 3 8420 7399
  - Free Call: 1800 651 751
- **SynAmps USA, Limited:**
  - 30-40 Flockhart Street, Abbotsford VIC 3067, Australia
  - Ph: +61 3 8420 7300
  - Fax: +61 3 8420 7399
  - Free Call: 1800 651 751
- **SynAmps Germany:**
  - Josef-Schüttler-Strasse 2, D-78224 Singen, Germany
  - Ph: +49 7731 79 76 9-0
  - Fax: +49 7731 79 76 9-99

**Technical Information:**
- **Medical Electrical Devices - General Requirements:**
  - EN 60601-1
- **Medical Electrical Devices - Specific Requirements for Electroencephalographs:**
  - EN 60601-2-26
- **Medical Electrical Devices - General Requirements for Electromagnetic Compatibility:**
  - EN 60601-1-2
- **Medical Electrical Devices - Collateral Standard - Programmable Systems:**
  - EN 60601-1-4

**Additional Resources:**
- **FDA Product Code:** GWQ, GWP, GWF, GWE, GWJ
- **Technical Support:** Available for further information and assistance.

**Website:**
- [www.synamps.com](http://www.synamps.com)
Detailed Overview of Functionality

SynAmps RT is the latest in EEG and ERP amplifier technology, ensuring increased patient safety and providing a more complete recording experience. Its capabilities include:

- **Active Noise Cancellation:** Ensures high-quality recordings by eliminating noise associated with the MRI, which oscillate at MHz frequencies.
- **Grid, Depth, and Microelectrodes:** Integrates with simple electrode placement or accepts touch-proof electrodes, allowing for greater flexibility in use.
- **System Suitability:** Provides a complete acquisition and analysis system, with SynAmps RT as the recommended platform for recording in the MRI, as well as for (20,000 Hz) Auditory Brain Stem recordings and Spike Spindles.
- **High Sampling Rates:** Faster sampling rates allow for more accurate sampling of the analog data being recorded, essential for accurately obtaining the artifact associated with the MRI.
- **Increased Resolution:** These faster rates benefit from increased resolution. These faster rates are also essential for accurately obtaining the artifact associated with the MRI, which oscillate at MHz frequencies.
- **DC Amplifier Requirements:** Many slow potentials (i.e., P300, MMN, CNV) have components that can only be measured accurately using a DC amplifier. DC amplifiers are required when measuring differences in amplitude to be measured accurately.
- **500 Channel Recording:** The same amplifier used in standard recording environments can be used in fMRI environments, allowing for the recording of 500 channels.
- **Artifact Removal:** The artifact and ensure the EEG is left intact.
- **Integration with MagLink RT System:** The same amplifier used in standard recording environments can also be used with the STIM 2 system for integration with the MagLink RT System.

System Specifications

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<tr>
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<td><strong>Input Noise</strong></td>
<td>3 nV/bit</td>
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<tr>
<td><strong>CMRR</strong></td>
<td>+/- 5 V</td>
</tr>
<tr>
<td><strong>Input Impedance</strong></td>
<td>1 K Ohm to 200K Ohm</td>
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<td><strong>A/D Resolution</strong></td>
<td>20,000 Hz</td>
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<td><strong>Amplification Mode</strong></td>
<td>Digital</td>
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<td><strong>High Level Channel Count</strong></td>
<td>64 Monopolar, 4 Bipolar, 2 High Level</td>
</tr>
<tr>
<td><strong>Bipolar Channel Count</strong></td>
<td>200 Monopolar</td>
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For more information, please contact:

SynAmps RT Technical Specifications

- For more information, please contact SynAmps RT Technical Support:
  - Email: sales@compumedics.com
  - Phone: +61 3 8420 7300
  - Fax: +61 3 8420 7399
  - Address: 30-40 Flockhart Street, Abbotsford VIC 3067, Australia

SynAmps RT sets a new standard for amplifier design, both in terms of increased patient isolation, ensuring safety even in the FDA's class IIa environment, and in terms of increased patient safety and providing a more complete recording experience. Its capabilities include:

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