

## ELECTRODE LEADS

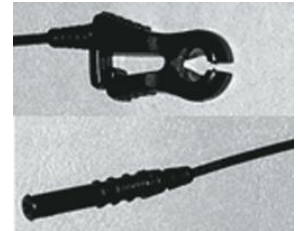
LEAD108 Series: LEAD108 and LEAD108A — MR CONDITIONAL/RADIOTRANSLUCENT LEADS FOR EL508/509

**These items are discontinued—shorter leads are recommended for MRI use.**

- See LEAD108B (15 cm) or LEAD108C (30 cm)

LEAD108 (1.8 m) and LEAD108A (3.6 m) unshielded radiotranslucent clip leads terminated in 1.5 mm female Touchproof sockets and were used with disposable EL508 MR Conditional, radiotranslucent electrodes or EL509 radiotranslucent dry electrodes.

**SHORTER LEADS ARE RECOMMENDED FOR MRI USE.**



**MRI Use:** Conditional—**Important!** LEAD108 and LEAD108A are discontinued, use LEAD108B or LEAD108C

**Condition:** Up to 9T, any scanning sequence, use with EL508 or EL509 MRI/RT electrodes only

**Lead108 Components:** Polyvinyl chloride (PVC) plastic, carbon fiber leadwire, tinned copper connectors (Touchproof socket), electrode clip (carbon filled ABS plastic)

### Specifications

Construction:	Carbon fiber leadwire and electrode snap
Leadwire Diameter:	1.5 mm
Leadwire Resistance:	156 Ohms/meter
Leadwire Length:	<b>LEAD108 1.8 m, LEAD108A 3.6 m</b> SHORTER LEADS ARE RECOMMENDED

### MRI Lead Guidelines

For MRI use, shorter leads are better...specifically, keeping lead lengths much shorter than the wavelength of the Larmor frequency (42.6 MHz/T) is critical. For a 3T machine, this is the speed of light divided by (42.6\*3\*1E6) or 2.34 meters. As field strengths increase, then lead lengths should continue to shorten. To record ECG, or any other biopotential signal, in MRI, short leads such as LEAD108B (15 cm) and LEAD108C (30 cm) are recommended; do not use 2-meter or 1-meter leads for biopotential signals in MRI.

- *Recommended reading:* Thoralf Niendorf, Lukas Winter and Tobias Frauenrath (2012). **Electrocardiogram in an MRI Environment: Clinical Needs, Practical Considerations, Safety Implications, Technical Solutions and Future Directions**, Advances in Electrocardiograms - Methods and Analysis, PhD. Richard Millis (Ed.), ISBN: 978-953-307-923-3, InTech, DOI: 10.5772/24340.

See [BIOPAC MRI Guidelines](#) for additional details.