



MRI COMPATIBLE AUDIO SYSTEM

FS/MRI/AU-0124



Frankshields over-ear MRI headphones and headset offer next generation sound attenuation without the need for ear buds. Built specifically for diagnostic imaging patients, these headphones remain comfortable even after extended periods of wear.

The MRI compatible audio system is a pneumatic audio system composed of both MRI safe and MRI- conditional components.

It is critically important that only MRI-safe and MRI-conditional components be taken into and installed in the MRI suite.

When installed correctly, the MRI audio system is MRI-compatible and will produce high quality audio for patients undergoing MRI scans.

Standard components of the Frankshields MRI compatible audio system includes the following: -

- MRI compatible audio system
- BNC bulkhead connectors 1 No
- Audio amplifier 1 no
- Audio transducer 1 no
- Speaker (control Room)
- Over- ear headphone 29dB with pneumatic tubing 1 No
- Cable set

SYSTEM OVERVIEW



**OVER-EAR
HEADPHONES**



**OVER-EAR
HEADPHONES**



AUDIO TRANSDUCER



CABLE



AMPLIFIER



MICROPHONE



**BNC BULKHEAD
CONNECTORS**

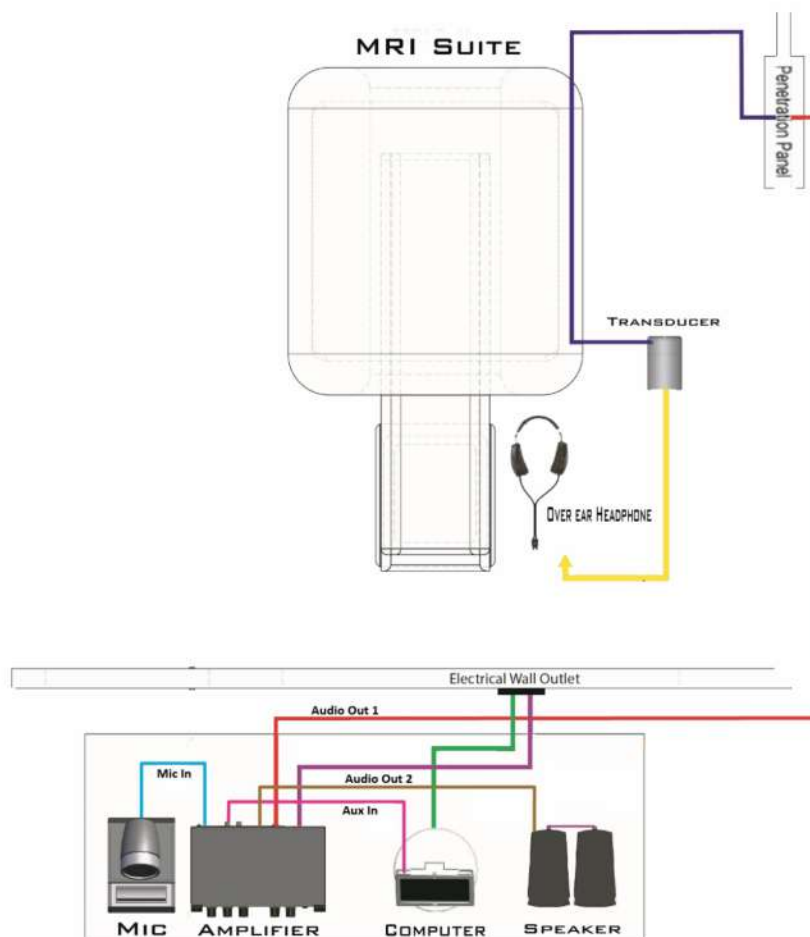


**SPEAKER
(CONTROL ROOM)**

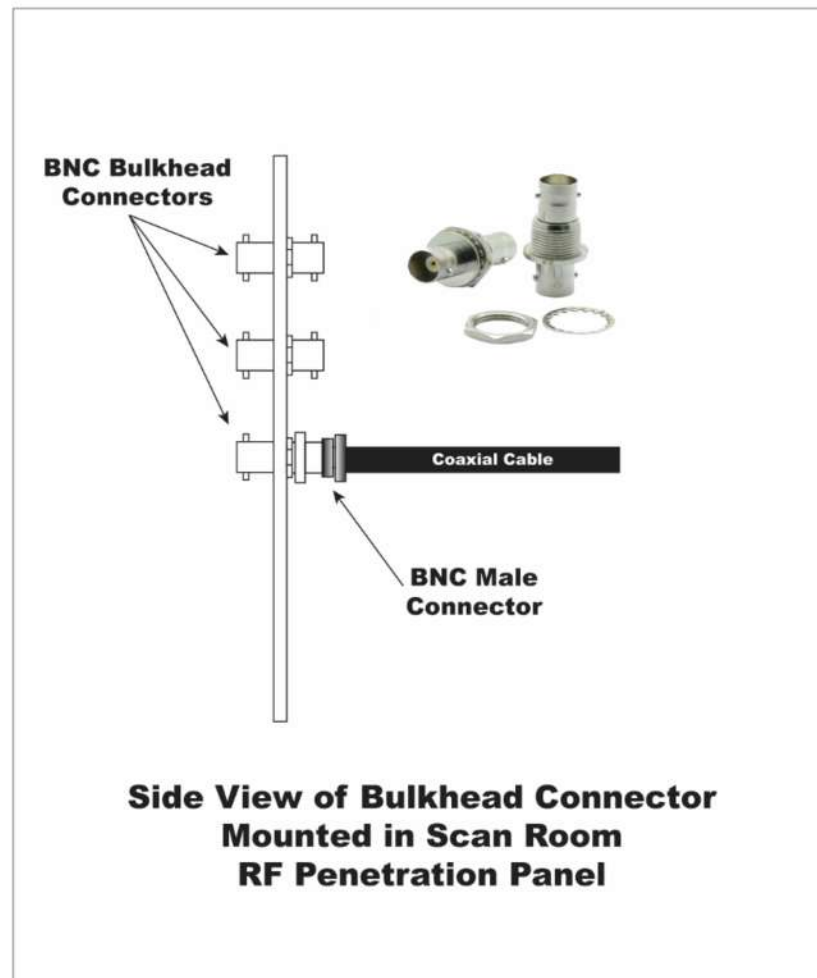
SYSTEM MAP

(OVER EAR HEADPHONE)

The following illustration shows the layout plan of the MRI compatible sound & music system in the MRI scan room. They connect to BNC connectors on the RF penetration panel and go down to the floor and over to the front of the magnet as shown below. Our standard size cable is 10m. There is a 20m cable to go from the amplifier Unit to the penetration panel in the technical room.



RF PENETRATION PANEL



- Mounts on RF penetration panel
- Maintains grounded shield integrity while passing audio signals into MRI scan room
- Most MRI systems typically have spare connectors such as these

INSTALLATION

The audio transducer is placed in front of the MRI scanner, right next to the MRI bed at a distance of 3 ft.

Following the patient wearing the MRI compatible headphone type headset, acoustic sound system is completed by connecting the pneumatic pipe to the pneumatic female connectors of the audio transducer.

One end of the sound transmission cables shown is connected to the audio transducer, and the other is connected to the BNC bulkhead connector located at the penetration panel.

Electrical sound cable connects to the female end of the filter, whereas other male edge connects to the MRI amplifier unit as shown at control room.
6 mm jack at the end of the MRI microphone connects to the microphone input of the MRI amplifier unit.

3.5 mm jack edge connects to the computer, whereas the other RCA edge connects to MRI amplifier aux input.

Through the power cable the amplifier unit is connected to the AC and the system is ready to be used.

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MRI AMPLIFIER UNIT

Through easy and accessible controls, the amplifier unit offers one-way patient communication and full flexibility of audio settings.

Thanks to its two input channels, it allows to connect a wide variety of audio devices through 3.5 mm mini jack. Onboard MP3 circuit allow technician directly play MP3 and control audio records from USB disk or via bluetooth, easily switch the audio input source.

There are two additional speakers that can be connected to the amplifier unit which allows the technicians to hear the sound/music given to the patient.

MRI room's sound level and technician room's sound level can be controlled separately.

There is a mute circuit in the amplifier to stop the music automatically and allow the patient to hear the technician's instructions given via microphone when the technician turns the microphone on.





Thank You



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