

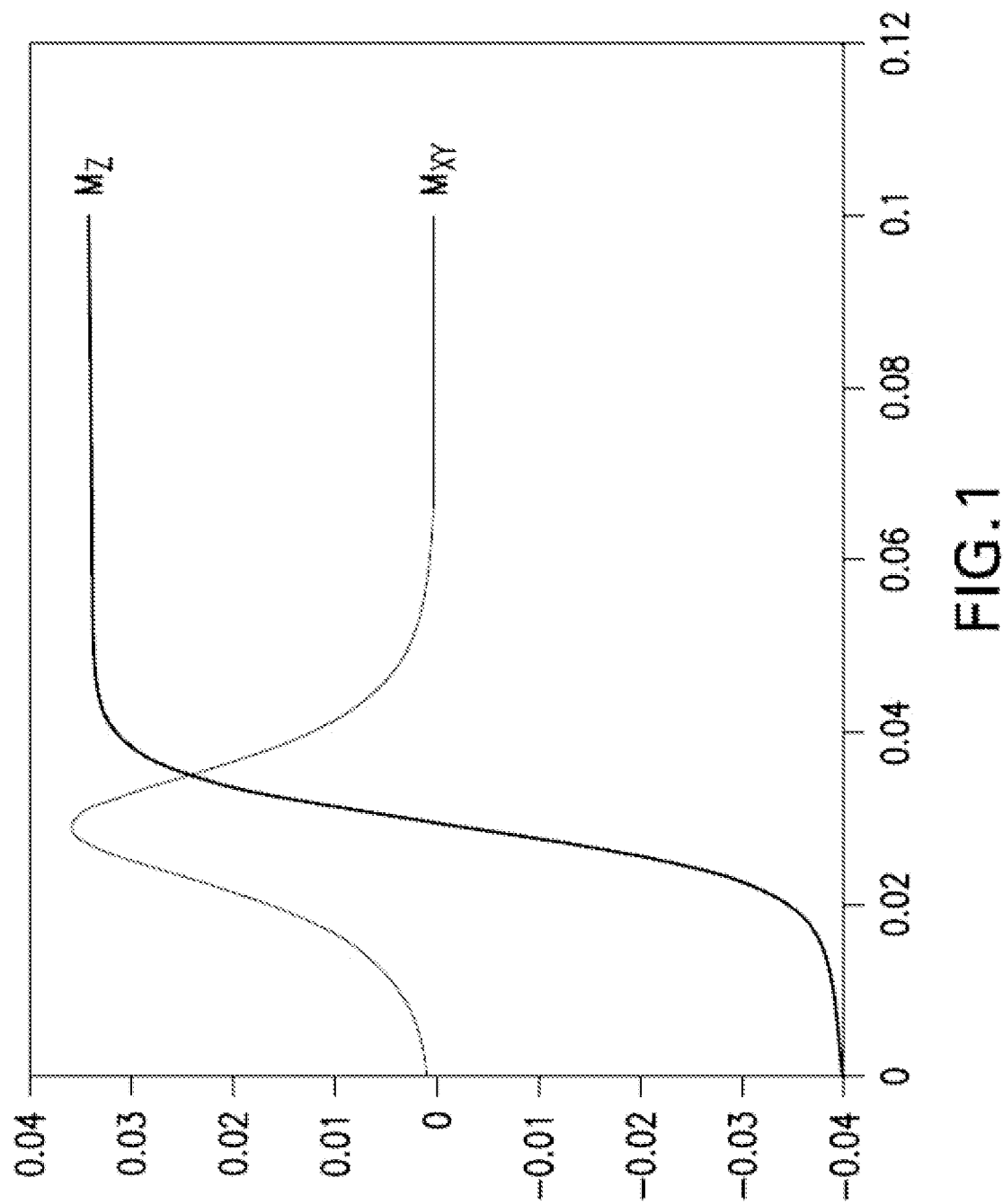
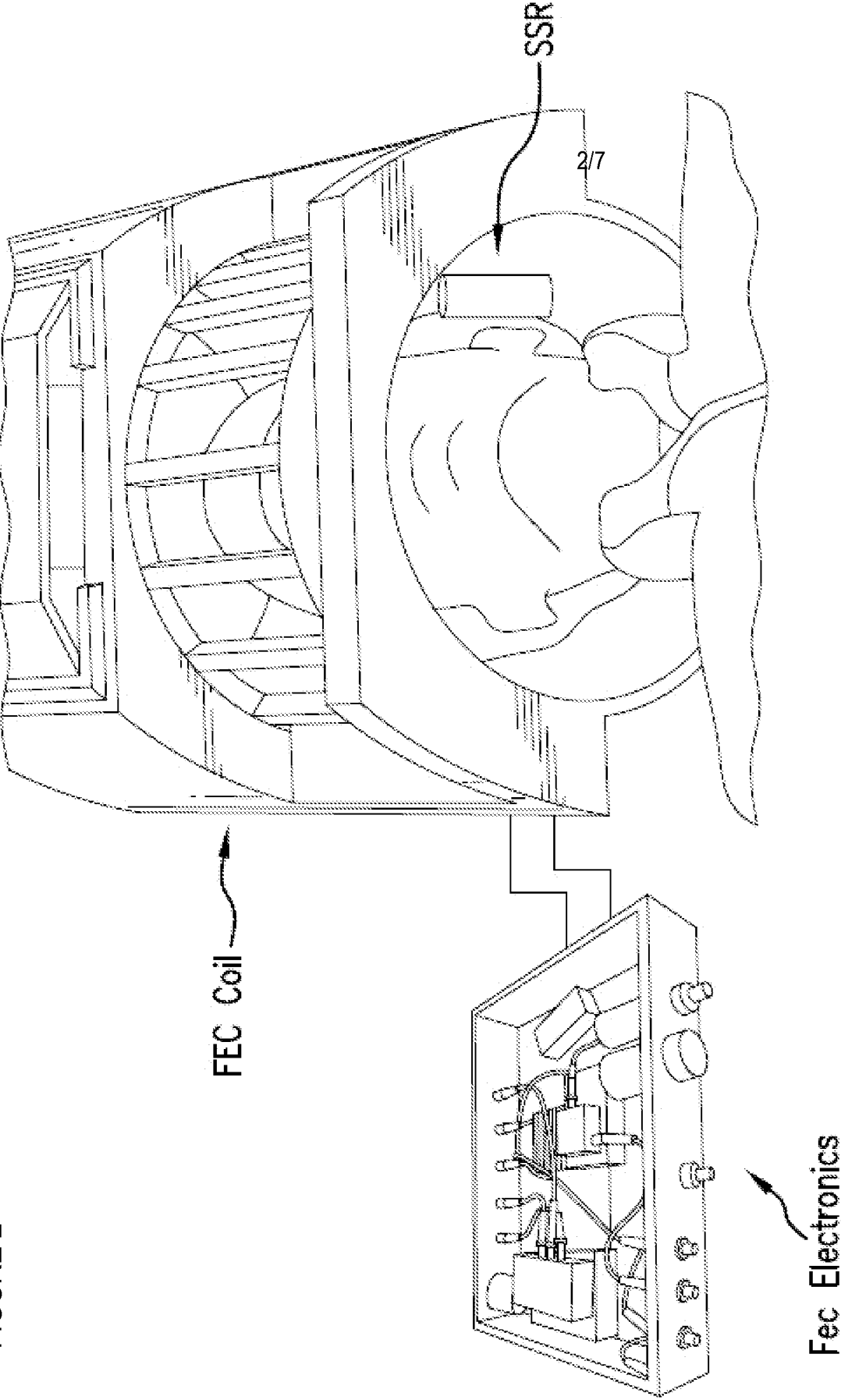


FIG.1

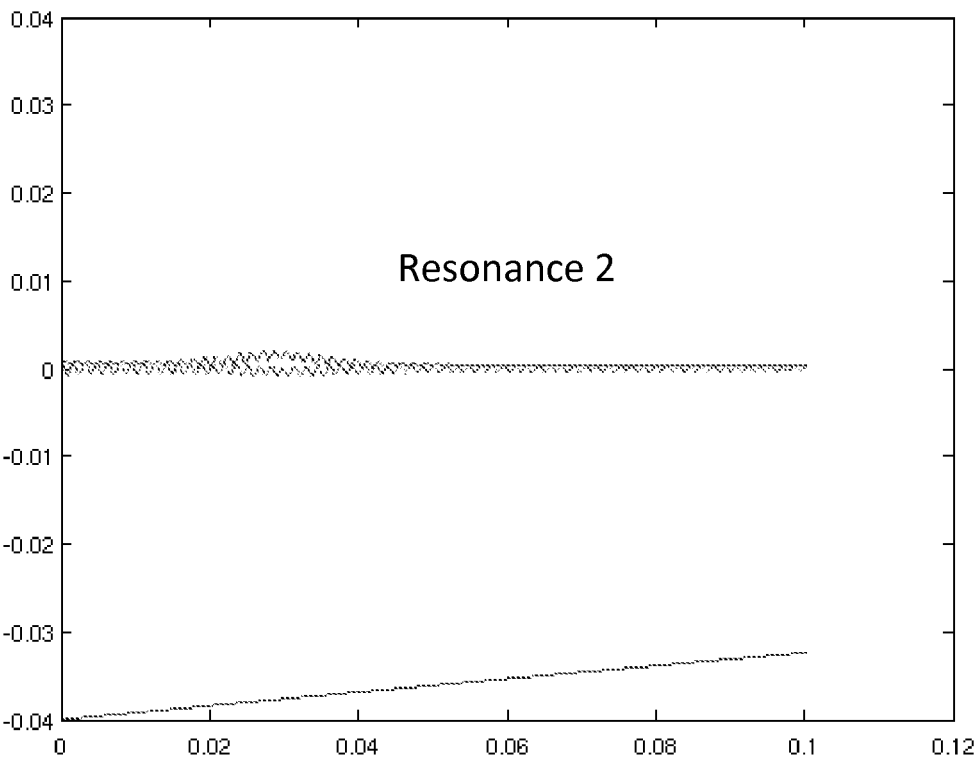
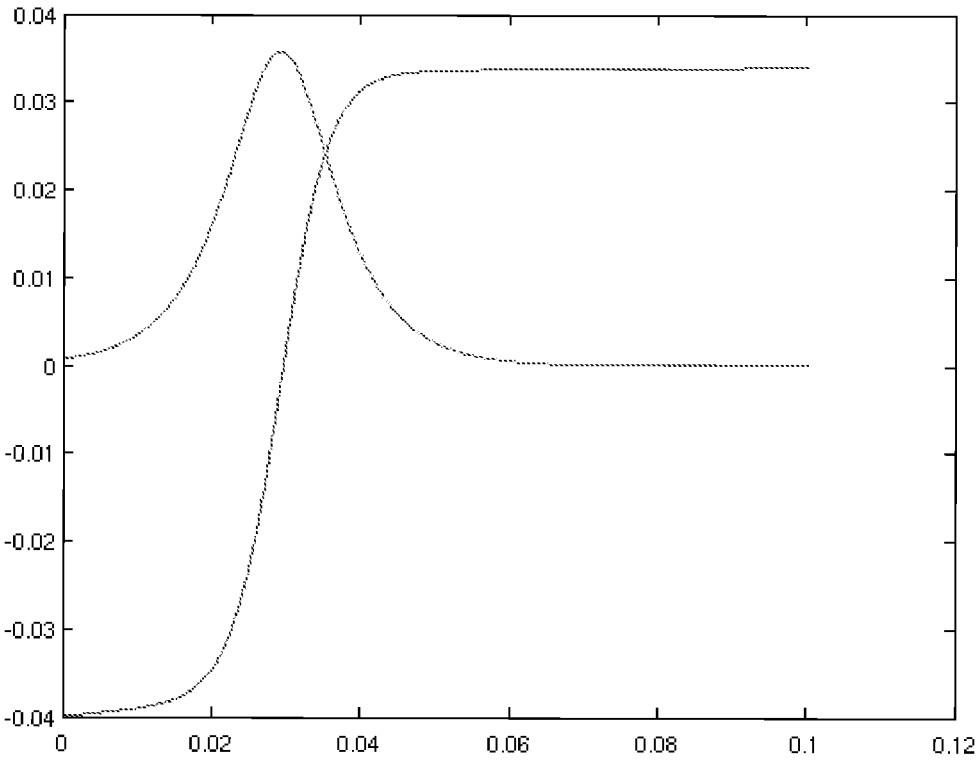
FIGURE 1 Example - Under SR conditions inverted magnetization returns to equilibrium in time $\ll T_1$ and produces a pulse of transverse magnetization M_{xy} (green line). Red line shows changes in M_z during pulse

FIGURE 2



Example – Simulation Of A Subject Inside A FEC Coil With SSR Volume Included Next To Him. The FEC Electronics Can Be Located Outside The MR Suit

FIGURE 3



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FIGURE 4

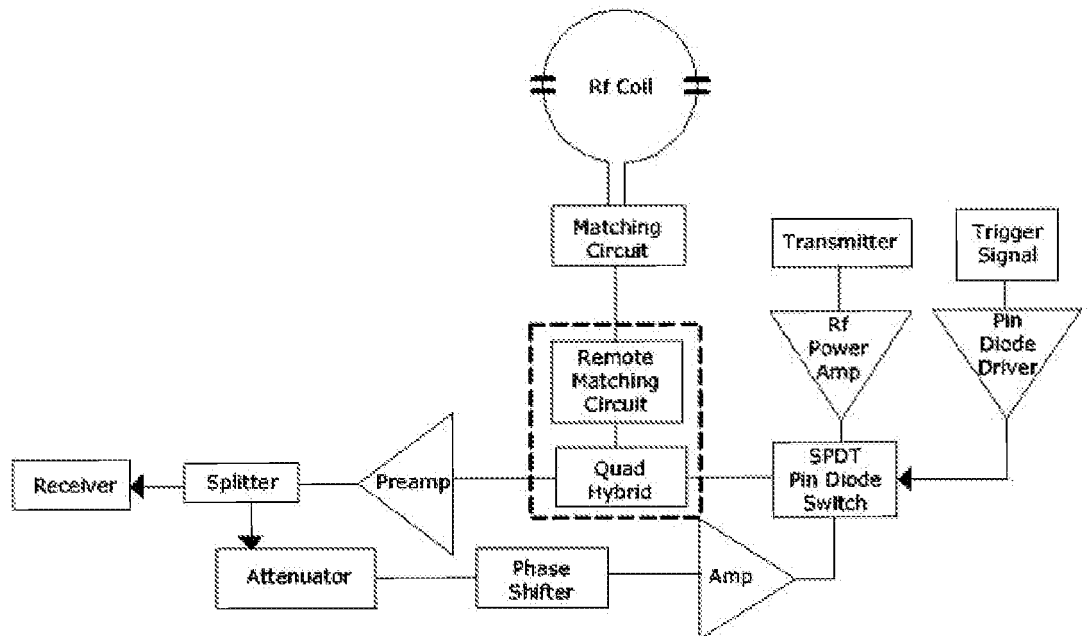


FIGURE 4A: circuitry of FEC electronics. Phase angle of the feedback field can be adjusted, either manually or via computer control, by adjusting the Phase Shifter. Gain of the field is manipulated by changing the attenuator

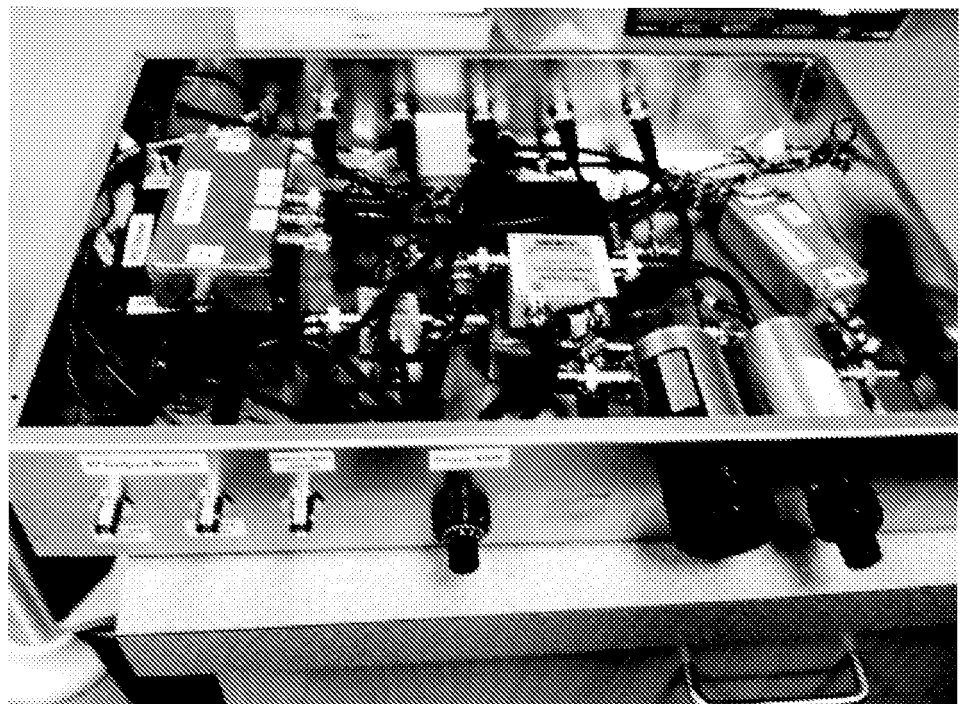


FIGURE 4B: example of prototype FEC electronics box

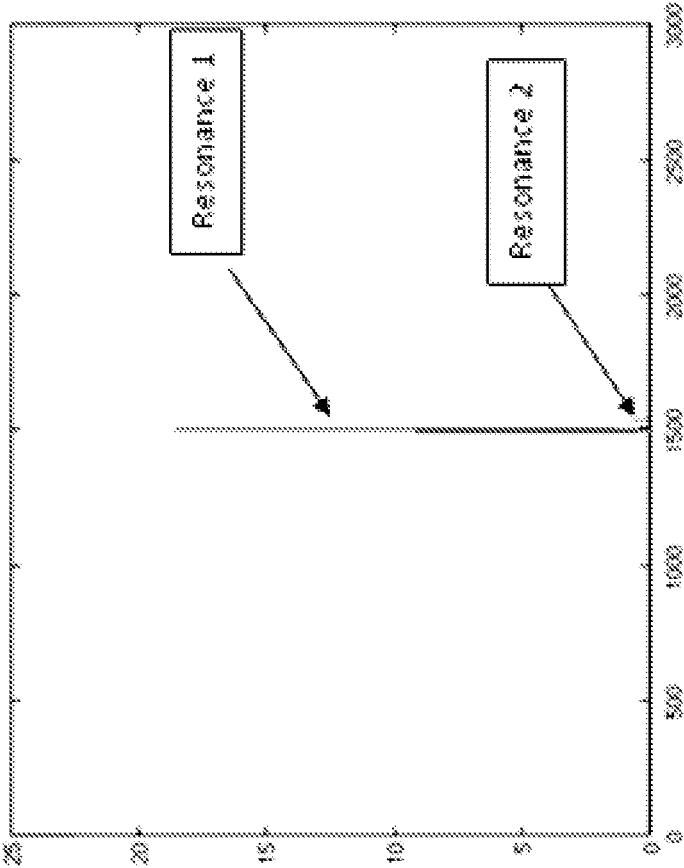


Figure 5: Fourier Transform of a simulated SR pulse carried out on two resonances 10 ppm apart. In a standard NMR protocol the peaks would be equal in height as the simulation sets equal amounts of resonances 1 and 2 in the "sample". The ratio of the peak heights in the data shown is ~ 3:1. As can be seen, resonance 1 has been highlighted and resonance 2 suppressed. The data shown is taken only from "the sample" and does not include any signal from the simulated SSR which was set to contain a large amount of resonance 1. The y axis is in arbitrary units and the x axis in frequency units.

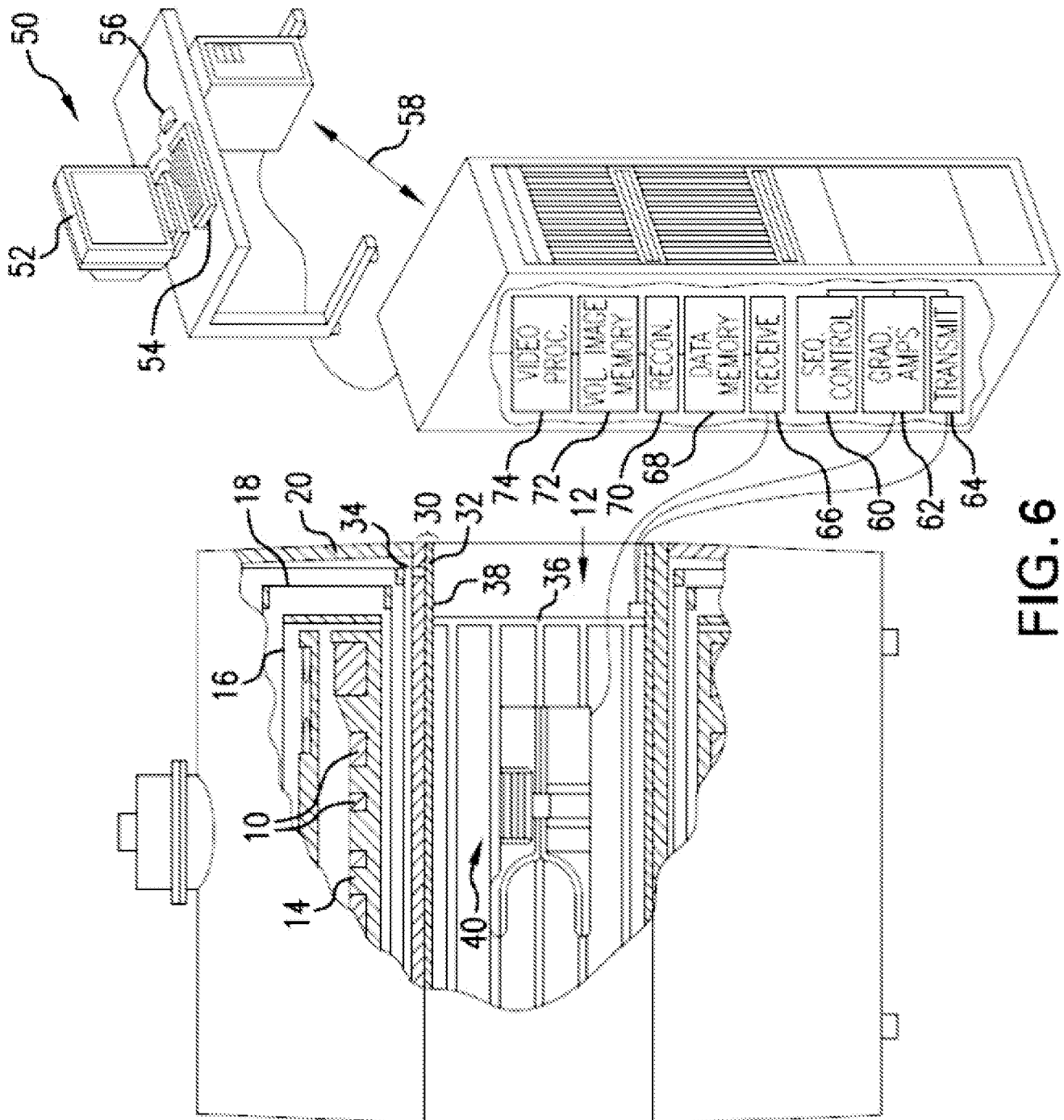
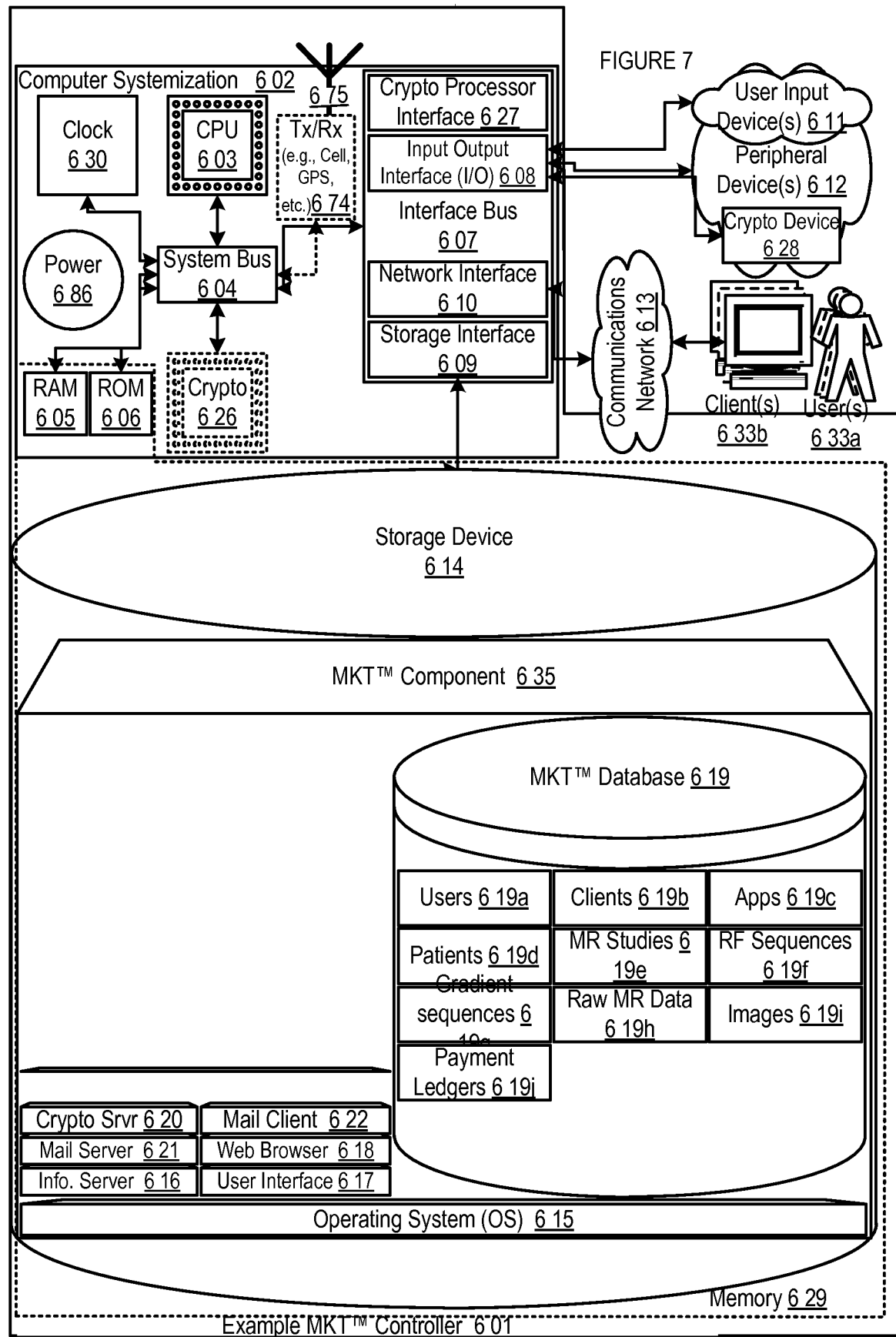


FIG. 6

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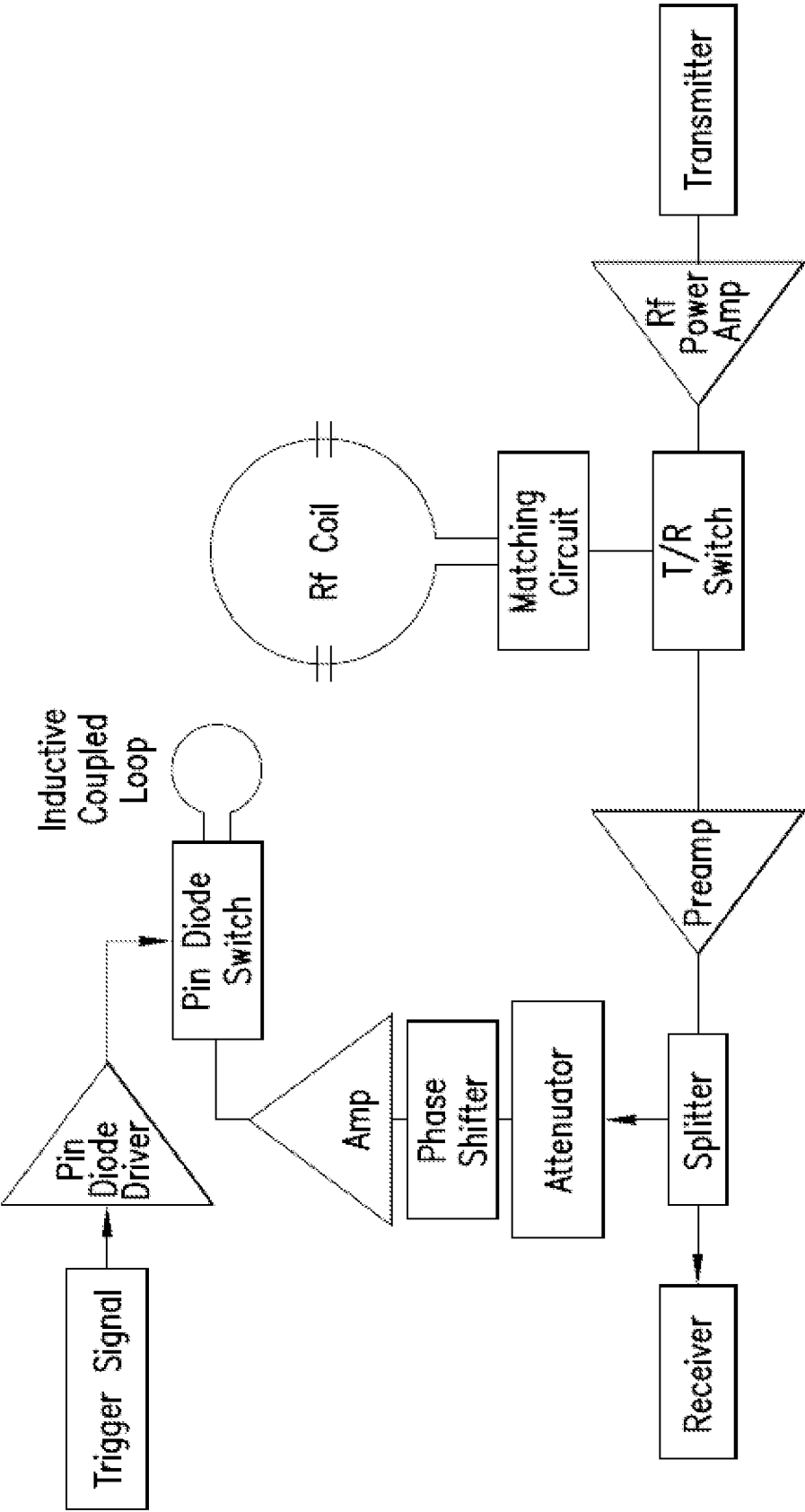


FIG. 8

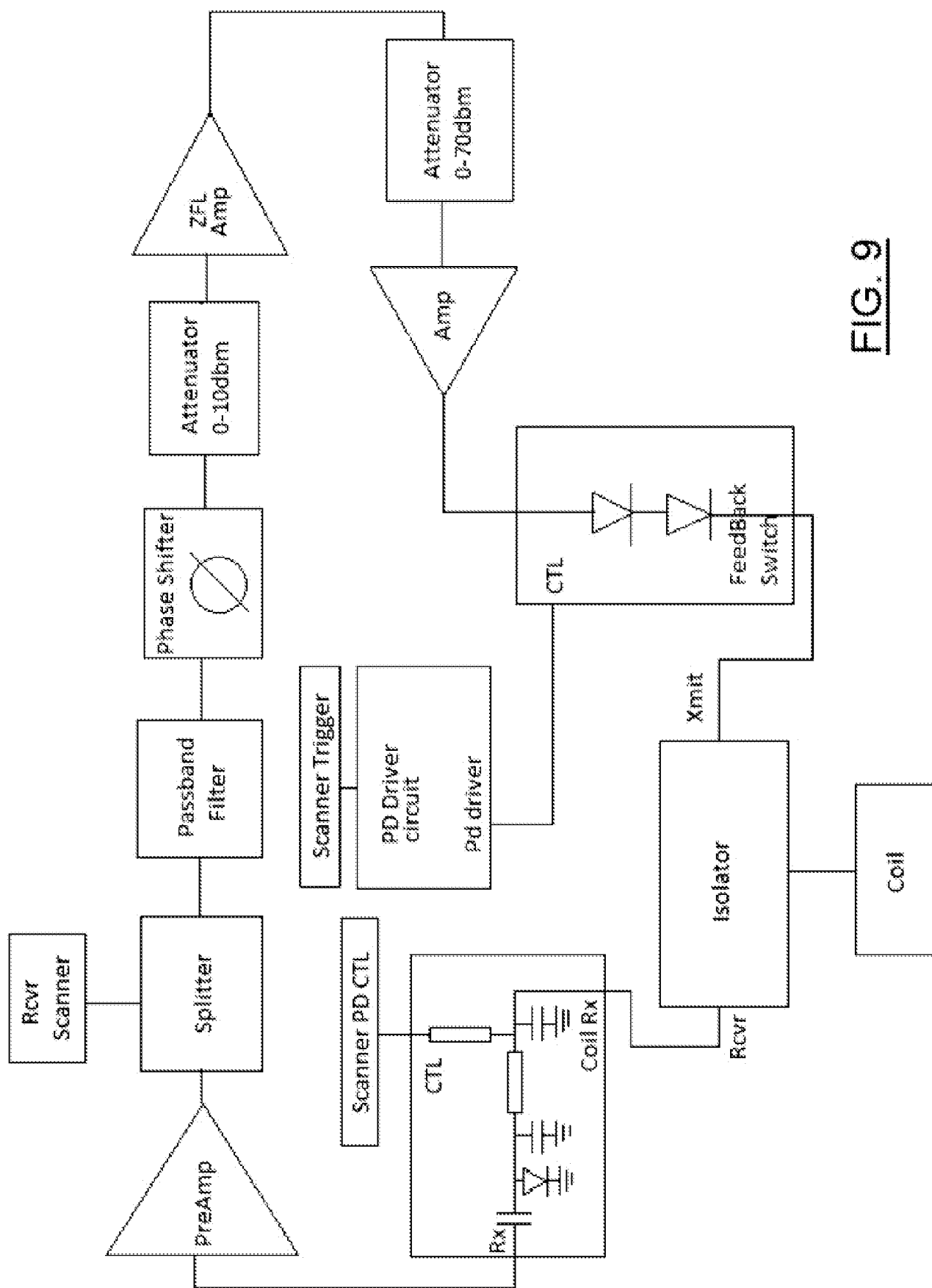


FIG. 9

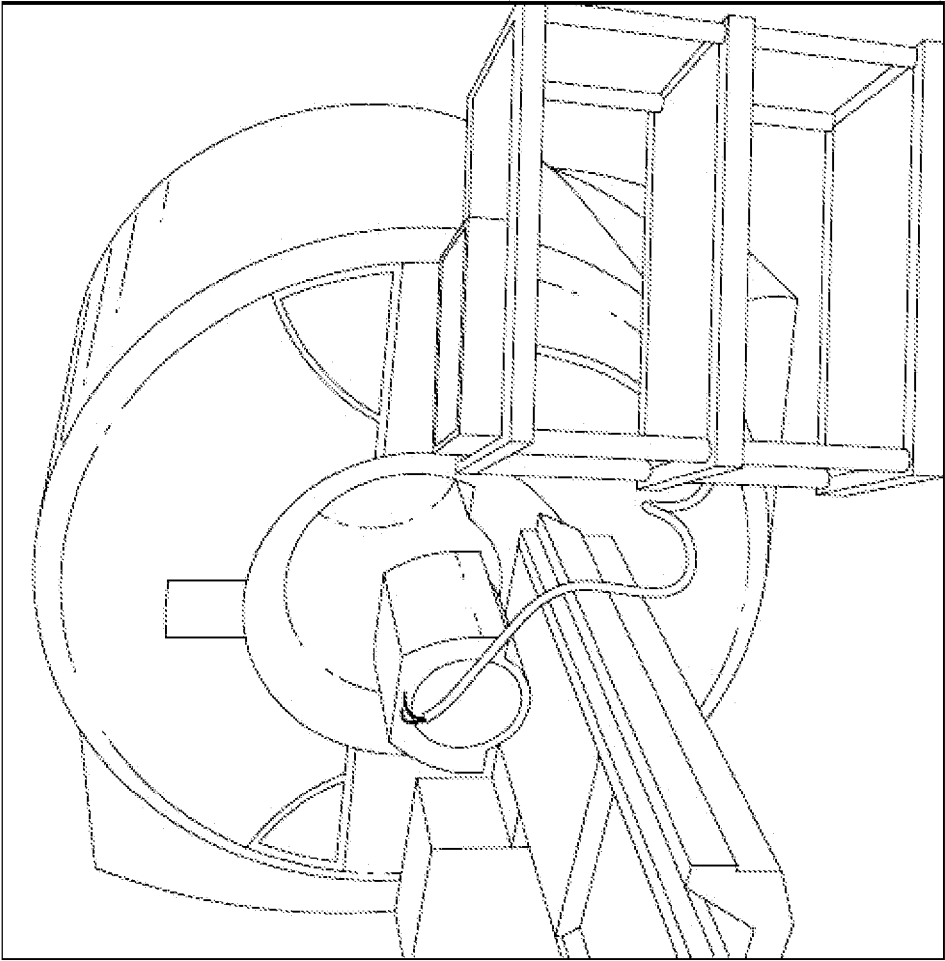


FIG. 10A

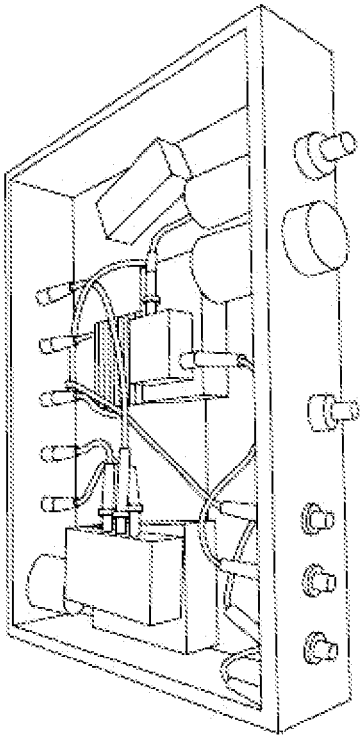


FIG. 10B

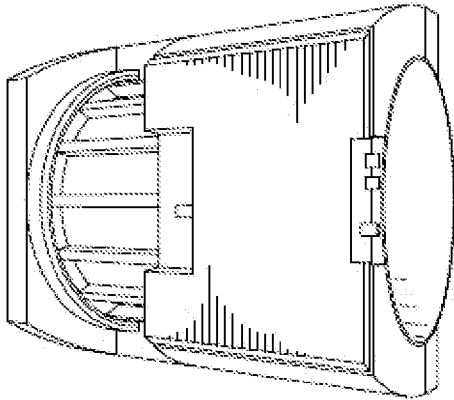


FIG. 10C

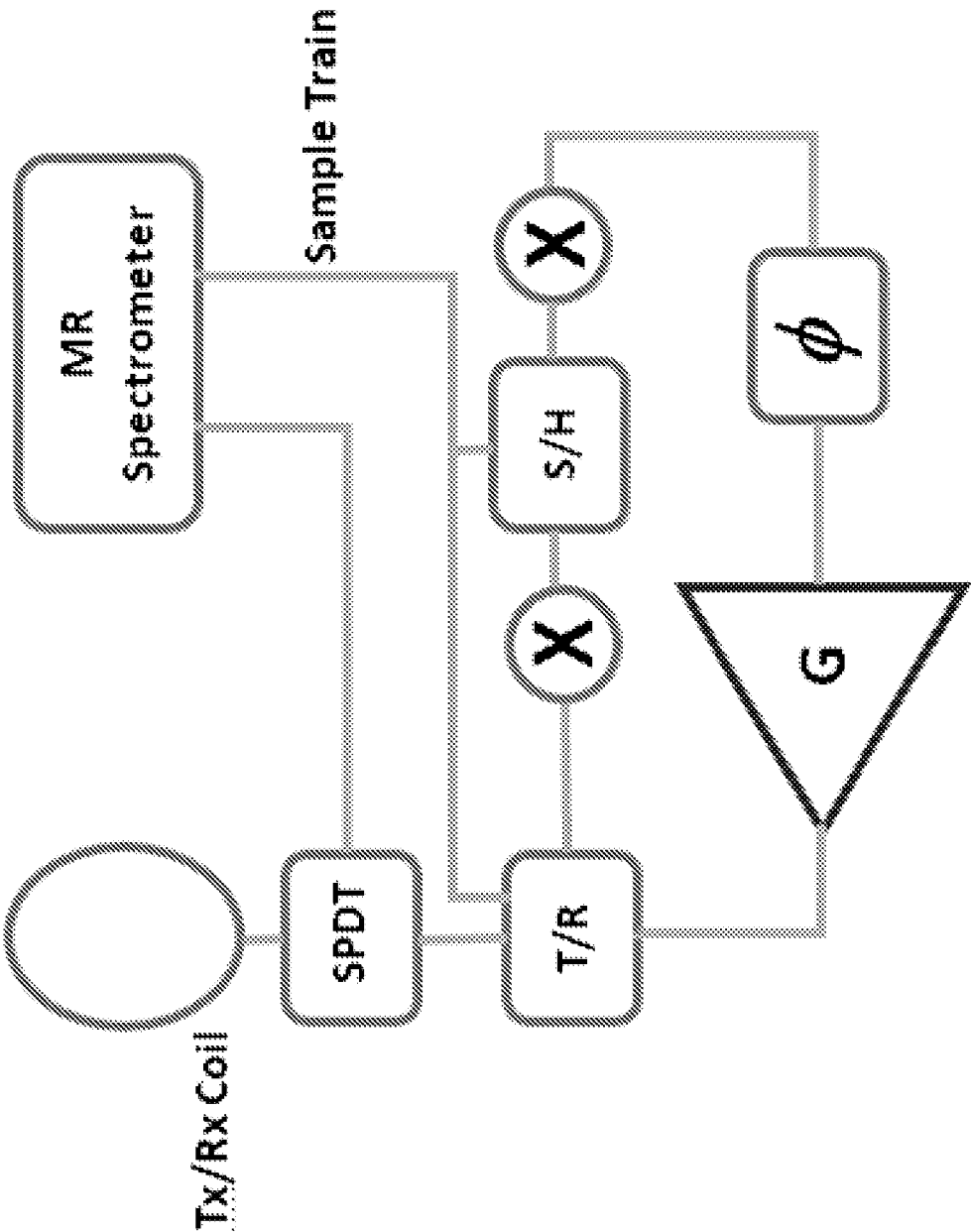


FIGURE 11