CLAIMS

WHAT IS CLAIMED IS:

1. A downhole ranging tool, comprising:

a tubular string having a bottomhole assembly ("BHA") comprising a drive system and a drill bit; and

one or more ranging magnets positioned along the tubular string, wherein at least one of the one or more ranging magnets is positioned between a drill bit box and push pads of the drive system,

wherein the downhole ranging tool is configured to alter at least one magnetic field frequency of the one or more ranging magnets by changing between multiple rotation methods, comprising:

rotation of the tubular string alone,

rotation of the drive system alone, and

a combination of the rotation of the tubular string and the device system.

2. The downhole ranging tool as defined in claim 1, wherein the one or more ranging magnets comprises two or more ranging magnets, and wherein:

at least one of the two or more ranging magnets is positioned in pad assembly of the drive system or above the pad assembly of the drive system; or

at least one of the two or more ranging magnets is positioned on a stabilizer sleeve of the drive system; or

at least one of the two or more ranging magnets is positioned in a drill box of the drive system .

3. The downhole ranging tool as defined in claim 1, wherein the one or more ranging magnets comprises two or more ranging magnets, and wherein:

at least one of the two or more ranging magnets is positioned on a flex collar of the drive system; or

at least one of the one or more ranging magnets is positioned in a flex collar positioned above a stabilizer sleeve.

4. The downhole ranging tool as defined in claim 1, wherein the drive system is a push-

the-bit rotary steerable system ("RSS").

5. The downhole ranging tool as defined in claim 5, wherein the one or more ranging magnets comprises two or more ranging magnets, and wherein at least one of the two or more magnets is positioned in a collar above the RSS.

6. The downhole ranging tool as defined in claim 1, wherein the drive system is a downhole motor assembly.

7. The downhole ranging tool as defined in claim 7, wherein the magnets are positioned on a bit box, a drive shaft, a bearing assembly, a bent housing assembly, or a stator tube of the downhole motor assembly.

8. The downhole ranging tool as defined in claim 1, wherein at least one of the one or more magnets is embeddedin pocket of side wall of the tubular string, the pocket being offset from a center line of the tubular string.

9. The downhole ranging tool as defined in claim 9, wherein the pocket is oriented laterally with respect to an axis of the tubular string.

10. The downhole ranging tool as defined in claim 1, wherein the one or more ranging magnets comprises two or more ranging magnets, and wherein:

the two or more ranging magnets are located in two or more subs positioned above and below the drive system; and

a frequency of the subs is altered through rotational engagement and disengagement of the subs, thereby altering the frequency of magnetic fields generated by the subs.

11. A downhole ranging method, comprising:

generating, by way of two or more ranging magnets positioned along a tubular string in a first wellbore, one or more magnetic fields

measuring the one or more magnetic fields using one or more sensors in second wellbore; and

determining, from the measuring of the one or more magnetic fields, distance of the first wellbore relative to the second wellbore, wherein:

one or more of the ranging magnets are located between a drill bit box and push pads of a

drive system;

at least one frequency of the one or more magnetic fields is based on rotation of the tubular string in combination with rotation of the drive system.

12. The downhole ranging method as defined in claim 12, wherein:

at least one of the two are more ranging magnets is positioned in a drill bit box of the drive system; or

at least one of the two or more ranging magnets is positioned between a drill bit box and push pads of the drive system of the tubular string.

13. The downhole ranging method as defined in claim 12, wherein:

at least one of the two or more ranging magnets is positioned in or above a pad assembly of a drive system of the tubular string; or

at least one of the two or more ranging magnets is positioned on a stabilizer sleeve of the drive system of the tubular string.

14. The downhole ranging method as defined in claim 12, wherein:

at least one of the two or more ranging magnets is positioned on a flex collar of a drive system; or

at least one of the two or more ranging magnets is positioned in a flex collar positioned above a stabilizer sleeve, the flex collar being a rigid sub.

15. The downhole ranging method as defined in claim 12, wherein the drive system is a push-the-bit rotary steerable system ("RSS") or a downhole motor assembly.

16. The downhole ranging method as defined in claim 16, wherein at least one of the two or more ranging magnets is positioned in a collar above the RSS.

17. The downhole ranging method as defined in claim 12, wherein at least one of the two or more magnets is positioned on a bit box, a drive shaft, a bearing assembly, a bent housing assembly, or a stator tube of a downhole motor assembly.

18. A downhole ranging tool, comprising;

a tubular string having a bottomhole assembly ("BHA") comprising a drive system and a drill bit; and

one or more ranging magnets positioned along the tubular string,

wherein at least one of the one or more ranging magnets is positioned between a drill bit box and push pads of a steering collar, and

wherein the drive system comprises a push-the-bit rotary steerable system.

19. The downhole ranging tool of claim 25, wherein at least one of the ranging magnet is positioned in a bore machined into a body of the tubular string.

20. The downhole ranging tool of claim 25, wherein at least one of the one or more ranging magnet is positioned along a drive motor.