and a corresponding audio signal is induced in the coils;

The frame is a frame made of a non-magnetic material, or the frame and the bracket are integrated into an integral frame;

The magnetic circuit has coaxially installed upper pole plate and lower pole plate, and the pole plates have the same thickness and the same projected area and match a permanent magnet; the permanent magnet is one or more uniform-thickness, uniformly distributed, and axially charged permanent magnets which bind the upper pole plate and lower pole plate into an integrated magnetic core;

The bracket is a bracket made of a non-magnetic material, with an inwardly protruding circular platform arranged at its central axis part, the circular platform has a smooth and regular vertical circumferential face, with an annular groove arranged in the outer side of the vertical circumferential face, the annular groove has two or more evenly distributed air venting through-holes in its bottom, the outer side of the annular groove constitutes an open-end tubular thin wall of the bracket, a smooth and a regular horizontal positioning face and vertical positioning face are arranged on the inner circumferential face of the tubular thin wall at a corresponding height in axial direction or on its top, and the tubular thin wall of the bracket is arranged on its top with a flange extending outwards and coupled to the frame;

The upper pole plate, permanent magnet, and lower pole plate are fixed by bonding to the central axis part of the circular platform face of the bracket, a tubular magnetic yoke coaxially mounted with the upper pole plate, permanent magnet, and lower pole plate is flush-mounted or fixed by bonding to the inner circumferential face of the tubular thin wall of the bracket, and is positioned by bonding or fixed by coupling with the vertical positioning face and horizontal positioning face, the other end of the tubular magnetic yoke is embedded in the circular axial hole in the bottom of the frame and is fixed by binding or bonding to the frame, the two horizontal end faces of the tubular magnetic yoke go beyond the outer polar face of the upper pole plate and the lower pole plate by 0.5-20mm of value H respectively in axial height, two coaxial isodiametric annular magnetic gaps are formed between the inner circumferential face of the tubular magnetic yoke and the vertical circumferential face of the upper pole plate and the lower pole plate, two coaxial and isodiametric coils are inserted in the annular magnetic gaps, and the winding directions of the two coils and the directions of current flowing through the coils are governed, so that the coils generate electromotive forces F in the same direction at a working moment;

With the bisector axis X-X at half axial height of the permanent magnet as a horizontal symmetry axis and the central axis Y-Y of the upper pole plate, permanent magnet, and lower pole plate as a vertical symmetry axis, the dual magnetic gap and dual coil driver ~~unit 01~~ has two sets of magnetic

circuits with geometric shape and magnetic features in bilateral symmetry and vertical symmetry and two sets of coil circuits with geometric shape and electrical features in bilateral symmetry and vertical symmetry; the two coils have winding directions opposite to each other after they are connected in series, and have the same cross-sectional area of electromagnetic wire, the same number of winding turns, the same coiling width, the same coil resistance, the same absolute value of coil inductance, and the same tension when winding, and the inductances of the two coils and the back electromotive forces induced in the two coils during the reciprocating movement of the two coils offset each other due to the phase angle of 180 degree; thus, a first set of dual magnetic gap, dual coil, and inner magnet driver unit 01 having resistive load features or near-resistive load features is constituted;

A piece of coaxial circular or annular partition made of a non-magnetic material in appropriate thickness is bonded to the outer side of the lower pole plate of the first set of dual magnetic gap, dual coil, and inner magnet driver unit 01, and the other side of the circular or annual partition is fixed by bonding to the lower pole plate of a second set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 of the transducer; thus, two sets of dual magnetic gap, dual coil, and inner magnet driver unit 01 having mutually-repelling magnets are formed; in that way, another piece of coaxial circular or annual partition made of an non-magnetic material in appropriate thickness is bonded to the outer side of the upper pole plate of the second set of dual magnetic gap, dual coil, and inner magnet driver unit 01, and the other side of the circular or annular partition is fixed by bonding to the upper pole plate of a third set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 of the transducer; the first set, second set, third set, ……, of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 take the same central axis Y-Y as their vertical symmetry axis, and have the same coil framework, the same frame and bracket, the same tubular magnetic yoke, the circular or annular partitions in the same physical dimensions, four, six, or more annular magnetic gaps and four, six, or more coils matching the annular magnetic gaps; thus, a super-high sensitivity, high fidelity, and inner magnet multi-driver transducer having one or more pairs of mutually-repelling magnets, symmetrical magnetic circuits, and symmetrical coil circuits is constituted.

A multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits, comprising: magnetic circuits, and a frame and a bracket integrally bound to the magnetic circuits; coaxial and isodiametric magnetic gaps, and a coil framework inserted into the magnetic gaps, with mutually insulated wires wound in parallel on the coil framework which constitute coils; a vibrating diaphragm or planar sounding board bound to the coil framework and at least one damper, wherein, the vibrating diaphragm or planar sounding board is driven by the piston motion of the coil

annular magnetic gaps, and the winding directions of the two coils and the directions of current flowing through the coils are governed, so that the coils generate electromotive forces F in the same direction at a working moment;

With the bisector axis X-X at half axial height of the permanent magnet as a horizontal symmetry axis and the central axis Y-Y of the upper pole plate, permanent magnet, and lower pole plate as a vertical symmetry axis, the dual magnetic gap and dual coil driver unit has two sets of magnetic circuits with geometric shape and magnetic features in bilateral symmetry and vertical symmetry and two sets of coil circuits with geometric shape and electrical features in bilateral symmetry and vertical symmetry; the two coils have winding directions opposite to each other after they are connected in series, and have the same cross-sectional area of electromagnetic wire, the same number of winding turns, the same coiling width, the same coil resistance, the same absolute value of coil inductance, and the same winding tension, and the inductances of the two coils and the back electromotive forces induced in the two coils during the reciprocating movement of the two coils offset each other due to the phase angle of 180 degree; thus, a first set of dual magnetic gap, dual coil, and inner magnet driver unit having resistive load features or near-resistive load features is constituted;

A piece of coaxial circular or annular partition made of a non-magnetic material in appropriate thickness is bonded to the outer side of the lower pole plate of the first set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01, and the other side of the circular or annual partition is fixed by bonding to the lower pole plate of a second set of dual magnetic gap, ~~and~~ dual coil driver, and inner magnet driver unit 01 of the transducer; thus, two sets of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 having mutually-repelling magnets are formed; in that way, another piece of coaxial circular or annual partition made of an non-magnetic material in appropriate thickness is bonded to the outer side of the upper pole plate of the second set of dual magnetic gap, ~~and~~ dual coil and inner magnet driver unit 01, and the other side of the circular or annular partition is fixed by bonding to the outer side of the lower pole plate of a third set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 of the transducer; the first set, second set, third set, ……, of dual magnetic gap and dual coil driver unit 01 take the same central axis Y-Y as their vertical symmetry axis, and have the same coil framework, the same frame and bracket, the same tubular magnetic yoke, the circular or annular partitions in the same physical dimensions, four, six, or more annular magnetic gaps and four, six, or more coils matching the annular magnetic gaps; thus, a super-high sensitivity, high fidelity, and inner magnet multi-driver transducer having one or more pairs of mutually-repelling magnets, symmetrical magnetic circuits, and symmetrical coil circuits is

constituted.

A multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits,

coils are inserted in the annular magnetic gaps, and the winding directions of the two coils and the directions of current flowing through the coils are governed, so that the coils generate electromotive forces F in the same direction at a working moment;

With the bisector axis X-X at half axial height of the permanent magnet as a horizontal symmetry axis and the central axis Y-Y of the upper pole plate, permanent magnet, and lower pole plate as a vertical symmetry axis, the dual magnetic gap and dual coil driver unit has two sets of magnetic circuits with geometric shape and magnetic features in bilateral symmetry and vertical symmetry and two sets of coil circuits with geometric shape and electrical features in bilateral symmetry and vertical symmetry; the two coils have winding directions opposite to each other after they are connected in series, and have the same cross-sectional area of electromagnetic wire, the same number of winding turns, the same coiling width, the same coil resistance, the same absolute value of coil inductance, and the same winding tension, and the inductances of the two coils and the back electromotive forces induced in the two coils during the reciprocating movement of the two coils offset each other due to the phase angle of 180 degree; thus, a first set of dual magnetic gap, dual coil, and outer magnet driver unit 02 having resistive load features or near-resistive load features is constituted;

A piece of coaxial circular or annular partition made of a non-magnetic material in appropriate thickness is bonded to the outer side of the lower pole plate of the first set of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02, and the other side of the circular or annual partition is fixed by bonding to the lower pole plate of a second set of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02 of the transducer; thus, two sets of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02 having mutually-repelling magnetic features are formed; in that way, another piece of coaxial circular or annual partition made of an non-magnetic material in appropriate thickness is bonded to the outer side of the upper pole plate of the second set of dual magnetic gap, ~~and~~ dual coil , and outer magnet driver unit 02, and the other side of the circular or annular partition is fixed by bonding to the upper pole plate of a third set of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02 of the transducer; the first set, second set, third set, ……, of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02 take the same central axis Y-Y as their vertical symmetry axis, and have the same coil framework, the same frame and bracket, the same tubular magnetic yoke, the circular or annular partitions in the same physical dimensions, four, six, or more annular magnetic gaps and four, six, or more coils matching the annular magnetic gaps; thus, a super-high sensitivity, high fidelity, and outer magnet multi-driver transducer having one or more pairs of mutually-repelling magnets, symmetrical magnetic circuits, and symmetrical coil circuits is

constituted.

In the multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits, the thickness of the coaxial circular or annular partition made of a non-magnetic material and fixed by bonding to the outer side of the lower pole plate of the two sets of dual magnetic gap ~~and,~~ dual coil, and inner magnet driver unit 01 or dual magnetic gap, dual coil, and outer magnet driver unit 02 should ensure that the two sets of dual magnetic gap ~~and,~~ dual coil, and inner magnet driver unit 01 or dual magnetic gap, dual coil, and outer magnet driver unit 02 having mutually-repelling magnetic features still have two sets of magnetic circuits with geometric shape and magnetic features in bilateral symmetry and vertical symmetry and two sets of coil circuits with geometric shape and electrical features in bilateral symmetry and vertical symmetry.

In the multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits, the tubular magnetic yoke can be bound with two or more sections of tubular magnetic yokes that are in the same axial height, coaxial and isodiametric with each other in relation to the vertical symmetry axis Y-Y, and one or more coaxial circular or annular partitions made of an non-magnetic material in appropriate thickness into an integral assembly.

In the multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits, the air venting through-holes arranged in the annular groove of the bracket, which are configured to vent the heat generated by the magnetic circuits and coil circuits and reduce the air damping of the vibrating system of the transducer, and each of which should have the same projected area that is as large as possible, provided that the physical dimensions and structural strength of the bracket permit; the circle center or center line of the air venting through-holes is arranged on the circumference of the projected circle of the coil framework or the coaxial and isodiametric coils, and the coil circuits are always kept in the bilateral symmetry state when the vibrating system of the transducer vibrates up and down.

In the multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits, a flange is arranged on the bottom of the bracket, one end of a frame made of a non-magnetic material is fixed by coupling to the flange, the other end of the frame is arranged with a flange that has a diameter larger than the diameter of the damper, an inwardly protruding platform is arranged at the central axis of the larger flange, an inwardly protruding column is arranged at the central axis of the inwardly protruding platform, the tubular magnetic yoke is flush-mounted or fixed by bonding to the inwardly protruding column of the flange; thus, a coaxial and isodiametric annular magnetic gap is formed; a damper is fixed by bonding to the annular platform face of the frame, and both the frame and the flange have evenly distributed heat and air venting spaces.

The present invention has the following beneficial effects:

inner circumferential face of the tubular magnetic yoke 113, four coaxial and isodiametric coils 109 are inserted in the annular magnetic gaps 110, and the winding directions of the two coils 109 and the directions of current flowing through the coils in each set of dual magnetic gap, dual coil, and inner magnet driver unit 01 are governed, so that the coil 109A and coil 109B generate electromotive forces F in the same direction at a working moment.

Thus, two sets of magnetic circuits with geometric shape and magnetic features in bilateral symmetry and vertical symmetry and two sets of coil circuits with geometric shape and electrical features in bilateral symmetry and vertical symmetry, with a pair of mutually-repelling magnets, are formed, with the bisector axis W-W at half axial height of the circular partition 1020 as a horizontal symmetry axis and the central axis Y-Y of the upper pole plate 103A, permanent magnet 102, and lower pole plate 103B as a vertical symmetry axis. As described in the embodiment shown in Fig. 1, in each set of symmetrical coil circuits, the two coils 109A and 109B have winding directions opposite to each other after they are connected in series, and the two coils have the same cross-sectional area of electromagnetic wire, the same number of coil turns, the same coiling width, the same coil resistance, the same absolute value of coil inductance, and the same tension when winding; finally, the two sets of symmetrical and serially connected coil circuits are connected in parallel (not shown in this embodiment), and thus the two sets of dual magnetic gap, dual coil, and inner magnet driver unit 01 constitute an inner magnet four-driver loudspeaker, ……, that have a pair of mutually-repelling magnet and resistive load features or near-resistive load features, with the back electromotive forces in each set of serially connected coil circuits offsetting each other; in that way, another coaxial circular or annular partition 1020 made of a non-magnetic material in appropriate thickness is bonded to the outer side of the upper pole plate 103A of the second set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01, and the other side of the circular or annular partition 1020 is bonded to the outer side of the upper pole plate 103A of a third set of dual magnetic gap and dual coil driver unit 01 of the transducer; thus, three or more sets of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 having mutually-repelling magnets are formed, and the first set, second set, third set, ……, of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 take the same central axis Y-Y as a vertical symmetry axis, have the same coil framework, the same frame and bracket, the same tubular magnetic yoke, four, six or more coaxial isodiametric annular magnetic gaps 110 and four, six or more coaxial and isodiametric coils 109 matching the four, six or more coaxial isodiametric annular magnetic gaps 110; thus, an inner magnet multi-driver transducer having one or more pairs of mutually-repelling magnets, symmetrical magnetic circuits, and symmetrical coil circuits are formed.

It should be noted particularly that the thickness of the circular or annular partition 1020 made of a

via bonding the vertical positioning face and horizontal positioning face or fixed via fitting by the vertical positioning face and horizontal positioning face, the other end of the tubular magnetic yoke is embedded in the circular axial hole in the bottom of the frame and is fixed by binding or bonding to the frame, the two horizontal end faces of the tubular magnetic yoke go beyond the outer polar face of the upper pole plate and the lower pole plate by 0.5-20mm of value H respectively in axial height, two coaxial isodiametric annular magnetic gaps are formed between the inner circumferential face of the tubular magnetic yoke and the vertical circumferential face of the upper pole plate and the lower pole plate, two coaxial and isodiametric coils are inserted in the annular magnetic gaps, and the winding directions of the two coils and the directions of current flowing through the coils are governed, so that the coils generate electromotive forces F in the same direction at a working moment;

e. with the bisector axis X-X at half axial height of the permanent magnet as a horizontal symmetry axis and the central axis Y-Y of the upper pole plate, permanent magnet, and lower pole plate as a vertical symmetry axis, the dual magnetic gap and dual coil driver ~~unit 01~~ has two sets of magnetic circuits with geometric shape and magnetic features in bilateral symmetry and vertical symmetry and two sets of coil circuits with geometric shape and electrical features in bilateral symmetry and vertical symmetry; the two coils have winding directions opposite to each other after they are connected in series, and have the same cross-sectional area of electromagnetic wire, the same number of winding turns, the same coiling width, the same coil resistance, the same absolute value of coil inductance, and the same tension when winding, and the inductances of the two coils and the back electromotive forces induced in the two coils during the reciprocating movement of the two coils offset each other due to the phase angle of 180 degree; thus, a first set of dual magnetic gap, dual coil, and inner magnet driver unit 01 having resistive load features or near-resistive load features is constituted;

f. a piece of coaxial circular or annular partition made of a non-magnetic material in appropriate thickness is bonded to the outer side of the lower pole plate of the first set of dual magnetic gap, dual coil, and inner magnet driver unit 01, and the other side of the circular or annual partition is fixed by bonding to the lower pole plate of a second set of dual magnetic gap ~~and~~, dual coil, and inner magnet driver unit 01 of the transducer; thus, two sets of dual magnetic gap, dual coil, and inner magnet driver unit 01 having mutually-repelling magnets are formed; in that way, another piece of coaxial circular or annual partition made of an non-magnetic material in appropriate thickness is bonded to the outer side of the upper pole plate of the second set of dual magnetic gap, dual coil, and inner magnet driver unit 01, and the other side of the circular or annular

partition is fixed by

bonding to the upper pole plate of a third set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 of the transducer; the first set, second set, third set, ……, of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 take the same central axis Y-Y as their vertical symmetry axis, and have the same coil framework, the same frame and bracket, the same tubular magnetic yoke, the circular or annular partitions in the same physical dimensions, four, six, or more annular magnetic gaps and four, six, or more coils matching the four, six, or more annular magnetic gaps; thus, a super-high sensitivity, high fidelity, and inner magnet multi-driver transducer having one or more pairs of mutually-repelling magnets, symmetrical magnetic circuits, and symmetrical coil circuits is constituted.

2. A multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits, comprising: magnetic circuits, and a frame and a bracket integrally bound to the magnetic circuits; coaxial and isodiametric magnetic gaps, and a coil framework inserted into the magnetic gaps, with mutually insulated wires wound in parallel on the coil framework which constitutes coils; a vibrating diaphragm or planar sounding board bound to the coil framework and at least one damper, wherein, the vibrating diaphragm or planar sounding board is driven by the piston motion of the coil framework to vibrate and give off sound, or the vibrating diaphragm detects sound pressure variation and a corresponding audio signal is induced in the coils, wherein:

a. the frame is a frame made of a non-magnetic material, or the frame and the bracket are integrated into an integral frame;

b. the magnetic circuit has coaxially installed upper pole plate and lower pole plate that have at least one axial center hole respectively, and the pole plates have the same thickness and the same projected area and match a permanent magnet; the permanent magnet is an annular permanent magnet with an axial center hole or one or more uniform-thickness, uniformly distributed, and axially charged permanent magnets which bind the upper pole plate and lower pole plate into an integrated magnetic core;

c. the bracket is a bracket made of a non-magnetic material, with an inwardly protruding circular platform arranged at the central axis part, the circular platform has a axial center hole that matches the upper pole plate, permanent magnet, and lower pole plate, and has a smooth and regular vertical circumferential face, with an annular groove arranged in the outer side of the vertical circumferential face, the annular groove has two or more evenly distributed air venting through-holes in its bottom, the outer side of the annular groove constitutes an open-end tubular

f. a piece of coaxial circular or annular partition made of a non-magnetic material in appropriate thickness is bonded to the outer side of the lower pole plate of the first set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01, and the other side of the circular or annual partition is fixed by bonding to the lower pole plate of a second set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 of the transducer; thus, two sets of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 having mutually-repelling magnets are formed; in that way, another piece of coaxial circular or annual partition made of an non-magnetic material in appropriate thickness is bonded to the outer side of the upper pole plate of the second set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01, and the other side of the circular or annular partition is fixed by bonding to the outer side of the lower pole plate of a third set of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 of the transducer; the first set, second set, third set, ……, of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 take the same central axis Y-Y as their vertical symmetry axis, and have the same coil framework, the same frame and bracket, the same tubular magnetic yoke, the circular or annular partitions in the same physical dimensions, four, six, or more annular magnetic gaps and four, six, or more coils matching the four, six, or more annular magnetic gaps; thus, a super-high sensitivity, high fidelity, and inner magnet multi-driver transducer having one or more pairs of mutually-repelling magnets, symmetrical magnetic circuits, and symmetrical coil circuits is constituted.

3. A multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits, comprising: magnetic circuits, and a frame and a bracket integrally bound to the magnetic circuits; coaxial and isodiametric magnetic gaps, and a coil framework inserted into the magnetic gaps, with mutually insulated wires wound in parallel on the coil framework which constitute coils; a vibrating diaphragm or planar sounding board bound to the coil framework and at least one damper, wherein, the vibrating diaphragm or planar sounding board is driven by the piston motion of the coil framework to vibrate and give off sound, or the vibrating diaphragm detects sound pressure variation and a corresponding audio signal is induced in the coils, wherein:

a. the frame is a frame made of a non-magnetic material, or the frame and the bracket are integrated into an integral frame;

b. the magnetic circuit has coaxially installed annual upper pole plate and lower pole plate, and the pole plates have the same thickness and the same projected area and match a permanent magnet; the permanent magnet is an annular permanent magnet or one or more uniform-thickness,

uniformly distributed, and axially charged permanent magnets which bind the upper pole plate and lower pole plate into an integrated magnetic core;

of dual magnetic gap, dual coil, and outer magnet driver unit 02 having resistive load features or near-resistive load features is constituted;

f. a piece of coaxial circular or annular partition made of a non-magnetic material in appropriate thickness is bonded to the outer side of the lower pole plate of the first set of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02, and the other side of the circular or annual partition is fixed by bonding to the lower pole plate of a second set of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02 of the transducer; thus, two sets of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02 having mutually-repelling magnetic features are formed; in that way, another piece of coaxial circular or annual partition made of an non-magnetic material in appropriate thickness is bonded to the outer side of the upper pole plate of the second set of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02, and the other side of the circular or annular partition is fixed by bonding to the upper pole plate of a third set of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02 of the transducer; the first set, second set, third set, ……, of dual magnetic gap, ~~and~~ dual coil, and outer magnet driver unit 02 take the same central axis Y-Y as their vertical symmetry axis, and have the same coil framework, the same frame and bracket, the same tubular magnetic yoke, the circular or annular partitions in the same physical dimensions, four, six, or more annular magnetic gaps and four, six, or more coils matching the four, six, or more annular magnetic gaps; thus, a super-high sensitivity, high fidelity, and outer magnet multi-driver transducer having one or more pairs of mutually-repelling magnets, symmetrical magnetic circuits, and symmetrical coil circuits is constituted.

4. The multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits according to claim 1, 2, or 3, wherein, the thickness of the coaxial circular or annular partition made of a non-magnetic material fixed by bonding to the outer side of the lower pole plate of two sets of the dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 or dual magnetic gap, dual coil, and outer magnet driver unit 02 ensures that the two sets of dual magnetic gap, ~~and~~ dual coil, and inner magnet driver unit 01 or dual magnetic gap, dual coil, and outer magnet driver unit 02 having mutually-repelling magnetic features still have two sets of magnetic circuits with geometric shape and magnetic features in bilateral symmetry and vertical symmetry and two sets of coil circuits with geometric shape and electrical features in bilateral symmetry and vertical symmetry.

5. The multi-driver transducer having symmetrical magnetic circuits and symmetrical coil circuits according to claim 1, 2, or 3, wherein, the tubular magnetic yoke can be bonded with two or

more sections of tubular magnetic yokes that are in the same axial height, coaxial and isodiametric with each other in relation to the vertical symmetry axis Y-Y, and one or more coaxial circular or annular partitions made of an non-magnetic material in appropriate thickness into an integral assembly.