= JBL Paragon =

The JBL D44000 Paragon is an iconic one @-@ piece stereo loudspeaker created by JBL that was introduced in 1957 and discontinued in 1983 ; its production run was the longest of any JBL speaker . At its launch , the Paragon was the most expensive domestic loudspeaker on the market .

Designed by Arnold Wolf from a concept elaborated by Richard Ranger , it is almost nine feet long and requires over a hundred man hours of hand @-@ finishing by a team of dedicated craftsmen . Resembling less a conventional loudspeaker than an elegant sideboard , it is a landmark product for the company that was sought after by the well @-@ heeled and celebrities . With estimated total production of about 1 @,@ 000 units , it is highly sought after by collectors to this day .

= = History = =

The Paragon is a horn @-@ loaded , stereo speaker system housed within a two piece (Three piece including the slot in reflector panel) 9 @-@ foot (2 @.@ 7 m) cabinet with a . It is based on a diffusion principle developed by Richard Ranger as consultant to JBL . Launched in 1957 , the Paragon is the world 's earliest production stereo loudspeaker for home use , and also the most expensive speaker at the time . As the flagship JBL product , it cost $ 1 @,@ 830 (£ 650) ? equivalent to more than $ 15 @,@ 000 in 2013 terms . The " Paragon " is the product with the longest production run of all JBL loudspeakers . It was produced continually until it was discontinued in 1983 , when it was replaced by a product line named " Everest " .

= = = Design = = =

Since even the early days of stereophonic sound , designers were faced with the issue of directionality and the listener who was not located exactly in between the two speaker units . Col. Richard R. Ranger , a pioneer of stereophonic sound in the film industry , conceptualised the solution to the problem of reproducing stereo sound for all and not just the centrally @-@ positioned listener . He devised a loudspeaker system where the sound from the speaker drive units would be refracted against curved surfaces (wood panels) within a cabinet to create a wide , uniform stereo image that would hold stable in any location within the listening room . Ranger elaborates on the JBL @-@ Ranger Radial Refraction system of stereophonic reproduction thus :

... only along this axis of symmetry that the two speakers have consistently equal effect . As soon as the listener moves off axis , the speaker toward which he moves takes predominance . Sound intensity decreases rapidly with distance and the more distant speaker quickly loses out to the nearer .

This can be avoided by projecting the sound from each speaker against a curved surface which acts as a convex lens for the sound and directs it more strongly to the side opposite the speaker than it does to its own side . The convex refractor thus eliminates the sharp axis of symmetry where the slightest movement of the listener is so disturbing .

In the listening area in front of the integrated speaker system , the energy from the two stereo channels builds up a full front of sound which can readily be appreciated by more than one person . So the axis of symmetry no longer exerts its unstable equilibrium on the critical listener .

The term " unstable equilibrium " is not mere whimsy . In stereo reproduction , it is customary for the soloist to appear in the center . Then , certain sections of the accompanying music are positioned right or left ; but it is most important that wherever they are , they STAY THERE . Uncertain movement of the apparent sound source gives a very queasy feeling .

Once it became possible to hold monaural sound to the center , it was found that with regular stereo everything fell into its proper place ... A whole curtain of sound was opened up .

Ranger 's 9 @-@ foot prototype of the product , with plenty of right angles and shiny black Micarta skin , was bulky , imposing , and visually unattractive . Arnold Wolf was called in as the industrial design consultant to this project in early 1957 . Wolf , who would later become president and chief executive of JBL , was initially asked to produce a shell version for dealers ' shops . Due to

transportation and installation constraints , it was decided that the speaker would be split into three components ? the left and right channel enclosures , and the curved radiator panel ? that could be easily re @-@ assembled with a screwdriver . To support the weight and prevent deforming , the design called for six feet , of which four are height @-@ adjustable . Instead of producing detailed drawings , Wolf worked with scale models . First , he created a 1 : 4 model in plastic , after which he made others . He ended with a 1 : 12 scale model that would show how it could be disassembled and reassembled . During the design phase , the relationship between Wolf and Ranger became very tense , and the project nearly collapsed . The parties came together over the month of June , and agreed on the definitive production specification for the Paragon . This would be a 2 @-@ way design .

= = = Construction = = =

As can be seen from the diagram , the unusual shape of the Paragon made it very complicated to build . Engineering and factory translated the design into one executable on the shop floor . After overcoming the manufacturing challenges posed by the curved refractor panels and the cabinet legs , the speaker entered production in late 1957 .

The original 2 @-@ way design consisted of two 150 @-@ 4C bass drivers with 4 @-@ inch coils , and two H5038P @-@ 100 elliptical horns . The 5038s are essentially midrange drivers that start rolling off at 15 kHz . In 1960 , after feedback from foreign distributors , the Paragon was made into a 3 @-@ way loudspeaker by adding two 075 ring radiators (tweeters) mounted in the back of the cabinet and aimed at the central ' sweet spot ' . Bass ? mid crossover was at 500 Hz and mid ? treble frequencies crossed over at 7 kHz .

The Paragon much resembles a sideboard , measures 106 × 33 @.@ 75 × 24 @.@ 5 inches (269 × 86 × 62 cm) , and weighs 850 pounds (390 kg) according to the product brochure . Standard finishes include korina , birch , mahogany and ebony ; premium wood finishes included light and dark walnut , oak , teak , rosewood ; a piano lacquer finish would cost extra . A team of six worked on each unit , spending an estimated 112 to 125 @-@ man @-@ hours to complete a single unit , most of it spent on finishing of the woodwork . After assembly , eight hours would be needed just for sanding down the entire enclosure . Then , several coats of varnish are applied by hand , allowed to dry , and then smoothed down by further rubbing .

= = = Product revisions = = =

The components used in the Paragon went through numerous changes over the years .

1957 ? Paragon 44000 launched (" domestic " and " industrial " variants) .

1960 ? the 075 tweeter driver added .

Early 60s ? the 150 @-@ 4C bass driver replaced by the LE15A .

Early 60s ? SE408S power amplifier launched , and available for integration with Paragon as powered speakers (removed by the 1970s) .

1979 ? use the new drivers employing ferrite magnets instead of Alnico V ? the LE15A bass driver replaced by the ferrite LE15H ; the 375 midrange driver replaced with the Alnico 376 .

1983 ? Paragon discontinued .

= = = Reception = = =

Partick Vercher at L 'Audiophile said that the ideal listening position is at least 3 metres away , and 40 ? 50 cm lower than a normal seated position ; alternatively the speaker needs to be hoisted up by that amount for a comfortable sound . The sound itself is described as possessing " unshakeable dynamics " when turned up loud , pacey without any sign of fatiguing distortion , and with an impressive separation of instruments . Sonic Flare describes the sound of the Paragon as possessing well @-@ integrated " liquid highs , excellent midrange and bass " , and proverbially worth dying for . There are rumours that Frank Sinatra and Dean Martin acquired three Paragons

each ? one for each of left , center and right channels ? with which they used to monitor their recordings from master tapes .

Only about a thousand units were ever produced over its 25 @-@ year life . At the height of production , five units left the factory each week . In 2000 , units in mint condition would fetch upwards of $ 20 @,@ 000 on the second hand market . It has featured in museum exhibitions , namely one held at Los Angeles County Museum of Art in 2011 ? 12 entitled " California Design , 1930 ? 1965 : Living in a Modern Way . "

= = = Spin @-@ offs and legacy = = =

In 1960 , JBL launched a smaller and less elaborate 3 @-@ way sideboard speaker , measuring 73 @.@ 7 × 30 × 22 @.@ 5 inches (187 × 76 × 57 cm) , named the " C45 Metregon " . Self powered Paragons and Metregons employing the JBL SE @-@ 408S stereo amplifier were optional . A miniature version , the C46 Minigon was also available in the early 1960 's .