

CONFIDENTIAL MASTERPIECE VI SPECIFICATIONS.

N E W T. R. F., SUPERHETERODYNE AND MULTIBAND CIRCUIT: Besides having two stages of tuned radio frequency amplification preceeding a perfected superheterodyne circuit, the new MASTERPIECE VI introduces the new MULTIBAND triple i. f. amplifier system, a totally new system of surprising performance. Two 6K7 tuned r. f. amplifier tubes from 140 to 19,000 kc. provide perfect image selectivity and supremely noise-free operation; the noiseless 6L7 first detector is fed by a specially stabilized and leveled 6J5 non-drifting oscillator of constant output. R. F. amplification is kept at maximum and overloading prevented by the first 6B8 r. f. pentode-diode tuned and amplified a.v.c. system. Three 6K7 i. f. amplifiers in the new MULTIBAND i. f. filter-amplifier give totally new and extraordinary selectivity. Fading is eliminated and volume held constant by the second 6B8 r. f. pentode-diode tuned and amplified i.f. a.v.c. system. This amplifier drives the 6G5 inertialess and trouble-free "magic eye" tuning meter tube. The new 6J5 infinite impedance TRULY LINEAR second detector handles all percentages of modulation without distortion, as can NO OTHER DETECTOR. The 6J5 beat oscillator locates short wave stations quickly and easily, and gives C. W. code reception. A 6J7 pre-amplifier is built in for direct crystal microphone operation. The 6L7 second audio amplifier gives distortionless electronic volume expansion in a new compensated circuit with the two 6J5 expansion-control amplifier and rectifier tubes, and feeds the 6J5 third audio driver stage. Through a tuned and hum balanced A-metal audio transformer this third audio amplifier drives two 6L6 beam power tubes in a stabilized inverse feedback power amplifier of almost unmeasurable distortion. Two 5Z3 rectifiers supply all power, in contrast to troublesome and short-lived 83V tubes. Working at peak efficiency these twenty-one tubes perform twenty-five distinct functions dependably and with that freedom from trouble which characterizes MASTERPIECE radios. The inevitable troubles of adding unnecessary tubes have been studiously avoided.

N E W PERFECT TONE: Fine as was the glorious tone of its predecessor, the new MASTERPIECE VI does the impossible and tremendously improves upon it through simplification, the avoidance of phase inverter tubes, new inverse feedback, and the new infinite impedance second detector. Total harmonic distortion has been so reduced as to be almost impossible of measurement! This absolutely unequalled tonal purity feeds the world's finest loud-speaker, the famous exclusive Super-Giant, and gives you tone from which the last trace of artificiality is stripped. No other radio equals this purity, perfection and honest full audible range of 20 to 9,000 or 16,000 cycles.

N E W SELECTIVITY: Spurning as have its two predecessors the old methods of side-band cutting V-shaped selectivity circuits, and lop-sided i. f. transformer broadening to get variable selectivity, the totally new MULTIBAND i. f. filter has been developed for the MASTERPIECE VI. This gives a maximum selectivity ratio over DOUBLE the next best, eliminates side-band cutting tone impairment, and banishes the lop-sided selectivity curves resulting from varying individual i. f. transformers. This new MULTIBAND filter uses six expensive dual air tuned i. f. transformers, the three sharp transformers 50% BETTER THAN THE NEXT BEST. These symmetrical transformers are switched in as desired, to vary selectivity from 32 kc. (16,000 cycles tone range), to 12 kc. (6,000 cycle tone range), to 8 kc. (4,000 cycle tone range), or to 4 kc. (2000 cycle tone range). This expensive new system gives ideal flat-topped, steep-sided, TRUE BAND PASS selectivity in four choices from broad to ultra sharp. No other radio can equal this entirely new conception of selectivity.

NOISE ELIMINATION: Not through much touted and practically valueless trick circuits, but through over twenty-five years in radio and the experience of having designed and built probably more different radios than any other man in America, comes the sound and sensible engineering that has always made MASTERPIECES the quietest radios of their day. Painstaking refinements of circuit design, and a minimum of tubes coupled with

new high r. f. amplification and low i. f. amplification, make the MASTERPIECE VI from 10 TO 100 TIMES freer of noise in distance reception than any other radio built. The MASTERPIECE VI replaces usual noise with clear foreign reception.

N E W VARIABLE R. F. and I. F. SELECTIVITY: R. f. selectivity in the MASTERPIECE VI is varied simultaneously and automatically in exactly the right ratio with r. f. selectivity. In wide-band high fidelity reception when ANY r. f. circuits, however broad, will impair tone, the r. f. circuits of the MASTERPIECE VI are switched out, and added into circuit by the FIDELITY knob only as they become necessary. This system lets r. f. amplifier circuits be permanently set for maximum results, and selected as needed. It gives an entirely new conception of wide-range high-fidelity reception, and eliminates the lop-sided dy-sometry of the compromise of varying individual transformer selectivity. The variable selectivity system of the MASTERPIECE VI eliminates all compromise to solve the problem in a direct, straightforward manner, spurning the cost-cutting performance sacrifices of other radios.

N E W ISOLANTITE WAVE-BAND SWITCHES, SOCKETS AND INSULATION: High grade Bakelite insulation is entirely satisfactory up to 5,000 to 10,000 kc., and it is usable at even higher frequencies. Isolantite has much lower losses. So the MASTERPIECE VI uses Isolantite wave changes switches and high frequency tube sockets. With this ALONE, customary Bakelite gang condenser insulation would destroy the benefits. So MASTERPIECE VI condenser insulation is Mycalex, the plastic counterparts of ceramic Isolantite in complete freedom from the unavoidable losses of Bakelite on short waves. These guarantees of finer short wave performance are exclusive to the MASTERPIECE VI. Wave band knob changes nine circuits by means of nine separate Isolantite and silver-to-silver switches which are absolutely dependable over many years use. ALL unused r. f. transformers are short-circuted, not just partially shielded, to prevent absorption losses.

N E W BALANCED AUTOMATIC TONE COMPENSATION: McMurdo Silver introduced tone compensating circuits to radio in 1931, to adjust for changing human ear response at different volume levels. A new dual system has been developed for the MASTERPIECE VI which automatically holds reproduction of bass, middle and treble notes in uniform relation to your ear at all volume levels, and which frees the BASS TONE knob to do its own job of adjusting bass response exactly as you desire.

N E W DUAL TONE CONTROL: A new and simplified system of the separate and individual control of bass and treble tones so necessary for perfect musical reproduction in YOUR home has been developed for the MASTERPIECE VI. Frequency response can be set flat from 30 to 16,000 cycles by the two tone knobs, or bass or treble ranges independently accentuated or attenuated at will. Bass range is from plus 12 db. to minus 20 db. and treble range from plus 8 db. to minus 30 db. These exclusive separate tone controls enable the MASTERPIECE VI to give perfect tonal balance under any and all conditions of home acoustics.

TREMENDOUS SENSITIVITY: The MASTERPIECE VI is the world's most sensitive radio. Precisely adjusted to better than 1/2 microvolt absolute from 140 to 19,000 kc., and 2.0 microvolts or better from 19,000 to 70,000 kc., its distance range is unequalled. But this sensitivity is increased effectively 2.65 times by the unequalled 35% efficiency of the great Super-Giant speaker. Coupled with the supremely low tube and circuit noise of the MASTERPIECE VI, this magnificent instrument leaves far behind the distance limitations of all other radios, and stands supreme as the world's greatest distance getter.

GREATER POWER: 32 watts at never over 2% TOTAL harmonic distortion is developed by the efficient and tube economizing power amplifier of the MASTERPIECE VI. 30 watts

are actually fed to the Super-Giant speaker, through a large 90% efficient output transformer such as is not found in other radios. An effective sound power of 10.5 acoustic watts is provided - or over twice as much useful power as is developed even by 60 watt amplifiers feeding conventional and habitually inefficient loud speakers. Efficiency and sensible engineering provides, through a minimum of tubes driving an EFFICIENT speaker, actual audible sound power such as no other radio in the world develops.

N E W DISTORTION ELIMINATION: The distortion of practically all radios is rated on the basis of their power output stage ONLY, and ingenuously ignores that contributed by other audio circuits and tubes. A recent test revealed that one radio rated at very low distortion on the basis of its power stage only, actually measured over 20% total distortion! We believe the MASTERPIECE VI alone is rated on the basis of ALL CIRCUITS AND TUBES. It shows NO MEASURABLE DISTORTION at up to 5 watts, or more than home volume, rises slowly to 1% TOTAL distortion at 20 watts output, and then to 2% at 32 watts output. No other radio is so free from distortion.

UNEQUALLED SUPER-GIANT SPEAKER: The Super-Giant stands alone as the World's finest loud speaker. 44 pounds of copper and steel, and a diameter of 18 inches makes it average 7 TIMES HIGHER efficiency than any other radio loud speakers. Its exclusive double cone (patents pending) make it two speakers in one single super-efficient unit. Through this exclusive cone and diffuser cap it alone covers the full range of 20 to 9,000 cycles, as much or more than can be used in present day broadcast reception. It cannot be overloaded and damaged, as can ordinary speakers when driven by 30 to 40 watt amplifiers, and produces tone utterly without equal at low, medium or high volume. It is exclusive to the MASTERPIECE VI.

N E W INFINITE IMPEDANCE LINEAR DETECTOR: Every fine radio today uses a diode second detector. No diode detector so used can handle the 100% modulation peaks encountered in every program you listen to. Distortion is the invariable result. The new infinite impedance linear second detector developed for the MASTERPIECE VI handles all modulation from zero to 100% without distortion. Unlike diodes, it does not dampen the i. f. transformer feeding it, and so ruin its selectivity. This new detector eliminates the unavoidable distortion of all diode detectors found in other radios.

SIMPLIFIED PRECISION TUNING: Avoiding the frequent breakage and stretching of the belts or cords of popular "air-plane" dials, the MASTERPIECE VI improves upon the positive and proven trouble-free dial of its predecessor by using only positively meshed gears and no belts or cords. Its 9 inch scale carrying the five accurately calibrated tuning bands is large and easy to read, and gives large space to the short wave bands so crowded on other radios using smaller dials. It is being widely copied today. At its lower center, illuminated through a window, is the band-spread dial which expands the dial pointer movement SEVENTEEN TIMES. On this illuminated band spread dial each wave band covers OVER SIX FEET OF DIAL SCALE, making sharp short wave tuning extremely easy, and absolutely accurately relogging. Automatically selected tuning knob ratios of 17 to 1 and 85 to 1, without any trace of slippage, backlash or wear, make short wave tuning as easy as the rankest novice could ask for - as positive as the expert can demand.

COMPLETE WAVE LENGTH RANGE: The MASTERPIECE VI tunes from 2150 to 732 and from 555 down to 4.287 meters. This range gives you everything - long-wave European and U. S. airports, regular and all short wave broadcasts down to television wave lengths. It is your guarantee the broadcast station wave length changes will not obsolete your MASTERPIECE VI - that you can hear every broadcast service on the air.

N E W BIFARIAN INFINITE BAFFLE: No chain is stronger than its weakest link. No

radio tone is better than its loud speaker. No loud speaker is better than its baffle. Exactly as no other loud-speaker made today can equal the Super-Giant, it deserves the opportunity to perform 100%. If it is to reproduce the 16 foot and 32 foot pipes of the great cathedral organ, even it cannot do so in an ordinary open-backed radio cabinet. So each MASTERPIECE console is treated to be acoustically bigger than an infinitely big baffle. Each console has the new BIFARIAN Baffle - big enough to honestly reproduce every note down to 20 cycles. It reinforces bass notes by reversing and adding the ordinarily wasted or bass-tone-cancelling backward sound radiation of ALL open-backed consoles. The MASTERPIECE VI is the ONLY radio giving you full tone range, for only it uses the loud speaker and acoustic console design necessary for honest full range reproduction. Its tone is completely free of "boominess", fuzziness and "potato mouth" sounds.

NEW COMPENSATED DUAL VOLUME EXPANDER: The MASTERPIECE VI introduces a new electronic volume expander restoring original natural volume range to classical and symphonic music and operating as an excellent noise suppressor in noisy locations. This new system eliminates all traces of distortion at low or high expansion levels, does not drop volume as it is cut in, does not allow the audio amplifier to be overloaded at maximum expansion, and is non-critical of tubes. Its dual control is operated by the single EXPANDER knob.

COMPLETE "STUDIO" CONTROL PANEL: The control panel of the MASTERPIECE VI is as flexible and complete as the control rooms of the great broadcasting stations - for it MUST be to undo what their monitoring operators do to each and every program before you hear it. Whatever the broadcast, whatever alteration has been made to permit it to be broadcast, you can turn your MASTERPIECE VI control knobs to exactly reverse the station monitoring and so recreate each program exactly as the microphone hears it, recreating it exactly as you desire it. Every one of the seven knobs of the MASTERPIECE VI is calibrated, not left "blind". Each one can be reset by eye to precisely duplicate previous results. These knobs, left to right, are: Volume control, combined fidelity-phonograph-microphone-beat oscillator, volume expansion, fast and slow tuning knob, bass tone control-noise reducer, 5-band Isolantite wave-change switch, and treble tone control. On the amplifier is the on-off switch on cable for mounting in side of cabinet.

AMPLIFIED AND CALIBRATED "MAGIC EYE": The "Magic Eye" cathode ray tuning indicator of the MASTERPIECE VI is amplified by the high-gain i. f. A. V. C. amplifier and actuated by its rectifier. It guarantees accurate tuning on all signals from the very weakest to the strongest. A tuning beacon at the top center of the big dial, it is also a meter to measure signal strength. Watching the "Magic Eye" stations may be tuned in silently, for its closing light area registers correct tuning. Weak foreign station strength may be read directly from its calibrated scale.

COMPLETE SHIELDING: Every circuit of the MASTERPIECE VI is double shielded either by aluminum shields above the chassis, by segregation into different "shielded rooms" below the chassis and by the cover shield. Each delicate circuit is shielded so perfectly and without the field linkage of continuous unbroken r. f. and i. f. shields, that instability of interference cannot occur. Losses cannot be introduced into sensitive r. f. or i. f. transformer coils from usual steel shielding, for only low loss large aluminum shields are used on such circuits. The complete tuner chassis is extra shielded by a polished chromium cover shield, which keeps out all noise and interference. No other broadcast receiver is so completely shielded.

TWO SELECTIVE HIGH-GAIN TUNED R. F. STAGES: MASTERPIECE VI gives you two tuned r. f. stages. Unlike ordinarily relatively broad or dampened r. f. amplifiers used only to get image selectivity, these two, instead of usual one, stages are adjusted for

maximum selectivity. This permits its superb adjacent channel and image selectivity on long and short waves, and with the exclusive MULTIBAND i. f. filter, of its supreme signal to noise ratio, which is unequalled by any other radio whatsoever.

TWO SEPARATE R. F. AND I. F. A. V. C. SYSTEMS: Two separate and distinct A. V. C. systems are used. Each is tuned and amplified through a 6B8 r. f. pentode feeding a diode rectifier. One complete system is a duplicate of that of the MASTERPIECE V and operating on the i. f. amplifier, not as the off-shoot of a combined second detector a.v.c. tube but as a completely separate tuned and amplified a.v.c. system, holds received signals varying over the range of 100,000 to 1 at the same volume to your ear. The second and duplicate a.v.c. system operates to hold r. f. amplification at peak at all times except for signals so strong as to overload the first detector with consequent loss of selectivity and distortion. This system makes the two stage r. f. amplifier operate at full amplification for weak signals, so that its gain will swamp out the converter noise of receivers having but one r. f. stage and a single a.v.c. system, yet prevents local stations as strong as 5 volts overloading the converter tube and destroying selectivity on channels adjacent to such strong stations.

SEALED AIR TRIMMERS: The MASTERPIECE VI has all r. f., oscillator and i. f. transformers aligned by absolutely stable and sealed air dielectric condensers. Other radios use cheaper compression mica trimmers (padder condensers) which vary capacity with temperature and humidity. Thus the dial readings of the MASTERPIECE VI do not change, shift or drift throughout the years to come, its selectivity, sensitivity and tone do not fail, for its alignment CANNOT shift and change from day to day or week to week. It is stable and permanent as only MASTERPIECE radios are, for it uses, not ordinary, but the best air trimmer condensers money can buy.

BEAT OSCILLATOR: For easy short wave station finding and C. W. telegraph reception. Coupled to second detector at critical value for maximum signal strength.

HEADPHONE JACK: On left rear of tuner is the headphone jack. Inserting standard phone plug connect headphones to third audio driver stage for quiet personal reception at ample volume and automatically cuts out loudspeaker.

N E W PERMALOY HUM BALANCED A. F. DRIVER TRANSFORMER: In expensive broadcast station installations where cost is no object, sensitive audio transformers are of the balanced type which is insensitive to a. c. induction hum. Radio receivers use ordinary shell type transformers, hum sensitive and bulky because of low-permeability iron cores. The MASTERPIECE VI, designed for reception so distortionless as to be FINE ENOUGH FOR RE-BROADCASTING, uses the finest and most expensive audio driver transformer to be had today. Its core is of so called Permaloy or A-metal, a very special high-permeability magnetic steel. Hum-balanced windings and construction render it impervious to A. C. hum. Sealed in pitch to withstand immersion in salt water, and to give a lifetime of use in the humid tropics, it is shielded in a solid steel case. It is just another of those refinements exclusive to the MASTERPIECE VI.

COMPLETE PUBLIC ADDRESS SYSTEM: Built into the MASTERPIECE VI is a high gain 6J7 microphone pre-amplifier giving a total of 95 db. gain at a turn of the FIDELITY knob when you want to connect a crystal microphone and use the superb audio amplifier as a super-power 32 watt P. A. system. So used, its voice (or radio or phonograph music) can be heard a mile away - through the exclusive 18 inch, 44 pound, Super-Giant speaker you can cover at plenty of volume 20,000 people indoors or outdoors.

PHONOGRAPH OPERATION: The unequalled audio amplifier of the MASTERPIECE VI

is ready to recreate for you the immortal music of the masters as it is available on phonograph records upon the addition of a phono motor and pickup. But it won't be "phonograph" music you will hear - it will be the full-bodied music of the masters themselves brought to life at your beck and call, music such as they would play for you if you could call them to your fireside in person - music untarnished, unaltered and undefiled, not an imitation but life itself. Through the new compensated volume expander needle scratch is completely eliminated without impairing tone.

CIRCUIT ISOLATION: Each individual r. f. and i. f. circuit is isolated with resistance and capacity filters, as well as complete shielding and short "hot" wiring for complete and absolute stability. This guarantee of static, noise free and oscillation-free reception is exclusive to the MASTERPIECE VI.

NO MICROPHONIC HOWLING: The tuner chassis is floated upon pure gum rubber cushions, the four gang condenser on similar pure gum cushions. All tuning and trimmer condensers of special anti-microphonic design. Amplifier chassis cushioned on gum rubber cushions, with filter chokes similarly cushioned. This COMPLETE cushioning coupled with flat-topped band-pass selectivity instead of usual side band cutting V-shaped selectivity eliminates entirely microphonic howling. This is exclusive to the MASTERPIECE VI.

POWER SUPPLY, FILTER AND HUM: Very large and heavy power transformer of the solid, four bolt, flat mounting type. Two filter chokes of similar type cushioned on pure gum rubber to prevent the slightest vibration impairing high fidelity reception. Two 5Z3 rectifiers eliminate 83V tube trouble and give long life. Three section filter for absolutely hum-free operation. Eighty-three microfarads of 475 volt automatically self-healing wet electrolytic capacity guarantees perfect filtration with absolutely no AC hum whatsoever and no breakdowns.

ANTENNAE: Separate antenna primary windings for all five bands are successively switched to two antenna binding posts, allowing most efficient use of any available special noise reducing, doublet or single wire antennae, as you prefer. Even antenna binding posts are shielded, so that even they cannot pick up usual noise!

POWER CONSUMPTION AND FUSING: Draws 200 watts from any 110 to 125 volt, 50 to 60 cycle power line. Operating costs less than 2¢ per hour. Can be had for other voltages and frequencies. Power supply fused by standard 6 amp. automobile fuse accessible beneath amplifier chassis for complete safety.

DIMENSIONS AND WEIGHT: Three units; tuner, power amplifier, and Super-Giant speaker. Tuner 21 1/4 inches long, 13 inches deep behind panel, 9 1/4 inches high. Power amplifier, larger than most complete radios, is 14 inches long, 5 1/4 inches wide, and eight inches high over its four tubes. Super-Giant speaker 18 inches in diameter and 10 inches deep. Optional tweeter speakers (two, for very wide angle sound diffusion, as in long and very narrow room, or for added tone range from 9,000 to 16,000 cycles), 5 1/2 inches in diameter and 4 inches deep. Tuner weights 51 lbs., amplifier 30 lbs., Giant-Super speaker 44 lbs., and tweeters 5 lbs. each.

SUPER QUALITY PARTS: The highest and most expensive quality of specially prepared and tested parts are use, with never less than 25% to 50% safety factor in all circuits. Our 1935-36-37 records show less than 1/10 of one percent failures! By-pass condensers of specially selected solid moulded type having lowest losses, or of highest grade specially treated paper types triply impregnated and hermetically sealed against tropical moisture. Transformers and chokes vacuum impregnated in wax and varnish, sealed

with varnish or pitch against tropic moisture. Even hook-up wire has special acetate impregnated silk insulation. Through output limited to truly custom built proportions where each receiver may be individually adjusted, measured and finally tested for its owner by McMurdo Silver personally, inspection and quality are held to more severe and rigid limits than in any other laboratory or factory in the United States

FINISH: Triple plated and polished chromium finish tuner and amplifier. Finely figured non-warping micarta (not thin wood) front panel of natural butt walnut grain, with satin chrome escutcheons. Solid chassis of 14 gage steel 3/32 inches thick, cannot be twisted or strained to upset delicate circuits.

SERVICE: One year free service at the laboratories, if ever needed. Complete service data on tuner cover. Free subscription to the "MASTERPIECE FORUM", published once a month with up-to-date schedules of foreign short wave stations ACTUALLY BEING HEARD by MASTERPIECE owners, with operating tips and experiences of brother owners the world over.

RESULTS GUARANTEED: GUARANTEED TO EXCELL ANY OTHER RADIO RECEIVER SOLD TODAY IN EVERY POSSIBLE FEATURE AND DEGREE OF PERFORMANCE. All parts guaranteed against defects for five years. If unsatisfactory for any reason whatsoever may be returned undamaged for refund of purchase price at expiration of home trial period.