



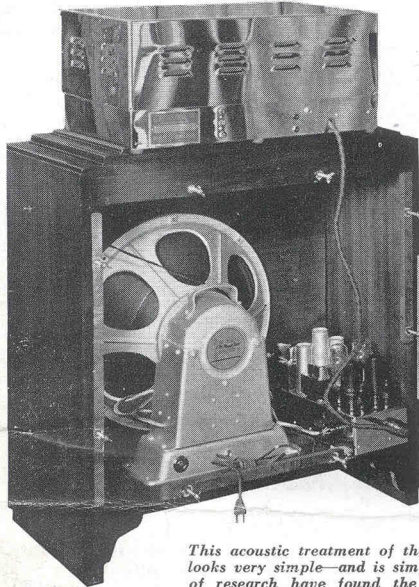
The Mc MURDO SILVER TIMES

Vol. 4

JANUARY, 1937

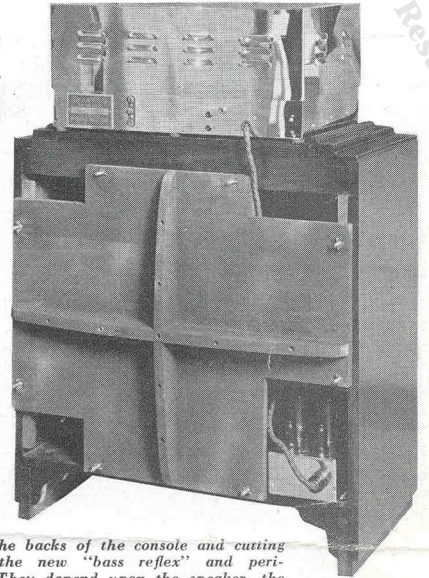
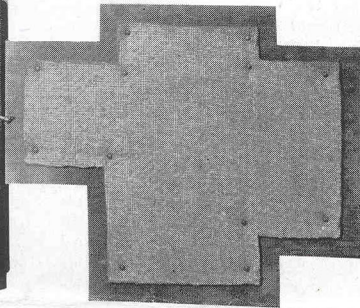
No. 8

Full Range Bass Reproduction Achieved for First Time in History!



This acoustic treatment of the distinctive Clifton console looks very simple—and is simple. After twenty-odd years of research have found the answer to full-range bass reproduction. Here the acoustically deadened back is shown removed to give access to the 18" 44 pound, super-giant speaker.

An invention by the Chief Engineer of the Jensen Speaker Company — Available with no other radio except the MASTERPIECE V.



No, just closing in the backs of the console and cutting slots doesn't give the new "bass reflex" and "peri-dynamic" benefits. They depend upon the speaker, the console size and construction and HOW the back is closed and the SIZE and ARRANGEMENT of the "bass reflex" parts.

Radio users have never heard real bass notes from any radio. The average quite large radio cabinet acting as a baffle for the loud-speaker it contains, cuts off usually at about 130 cycles. True, some notes below 130 cycles are partially reproduced where the speaker cone itself is quite large, and by virtue of cabinet resonance. The vertical, horizontal and depth dimensions of the cabinet, if different, will contribute resonance peaks which may often aid bass reproduction. Except in very heavy and solid cabinets, these resonances usually are so sharp as to cause annoying "boominess", and not true natural bass reproduction. In customary thin veneer cabinets they are very troublesome, as witness the use of "acoustic clarifiers" to absorb these annoying cabinet resonances in recent thin veneer cabinets.

For a loud speaker to actually reproduce down to 20 cycles, it would have to be mounted in the center of a 28.25 foot square baffle—the side of a house conveys a good idea of such an "infinite baffle", but is hardly ideal for one's living room. The mechanical design of the loud-speaker itself would have to be most unusual to get down below 30 cycles, even in such an ideal case.

Of late much study has been given to baffles, as evidenced by the labyrinthine folding back of a rear air-path on itself and the boxing in with tin vent pipes of loud speakers. Realizing that the true baffle is not the small board behind the grille in a cabinet to which a loud speaker is usually fastened, but is any means providing a long air path from front to back of the loud speaker (see ALL WAVE RADIO, January, 1937, issue, page 26), is the first requisite

The reproducer exceeding the performance possibilities of an infinite baffle, herein described in print for the first time, is a very major contribution to sound reproduction. Developed by Hugh S. Knowles, Chief Engineer of Jensen Radio Mfg. Co., and formerly of McMurdo Silver's engineering staff, it at last surmounts the barrier which has always stood between the listener and true full range reproduction of fundamental bass tones.

In line with the policy of being first in giving to our clients every worthwhile engineering development, we take pride in being first to offer radio consoles designed by Hugh S. Knowles and McMurdo Silver to give to MASTERPIECE owners the full benefits of the startling new "bass-reflex" and "peri-dynamic" principles which culminate in sound reproduction exceeding that possible from an "infinite baffle."

It is unnecessary for us to say that this is revolutionary—five papers already delivered by Mr. Knowles at the request of different chapters of the Institute of Radio Engineers and The Engineering Institute of Canada will prove conclusively that it is the most important single sound reproducing development since Peter Jensen's invention of the dynamic loud speaker.

Full range sound reproduction from 30 to 9000 cycles has never been heard before, even with a MASTERPIECE V. Through Silver pioneering it may now be anyone's pleasure.

for understanding what follows. The longer this front to back air-path, the lower down in the musical register will the loud-speaker reproduce. In one widely advertised construction this path is made long by folding it back on itself inside the back of the cabinet through an acoustic network or lengthened air-path. It is a considerable step in the right direction, even though it is mechanically difficult in the limited space available to fold the front to back air-path sufficiently upon itself to extend the bass response down to the deep fundamental bass tone.

In another case the usually open cabinet back is tightly sealed in. But, as something must happen to the air alternately compressed and rarefied inside the relatively small sealed cabinet as the speaker cone moves forward and backward in reproduction, tin vent pipes are placed over holes in the cabinet floor. These tubes may be proportioned to substantially resonate at several low frequencies, and coupled to the speaker diaphragm (cone) through the air in the cabinet, somewhat augment bass response.

Both the above developments are excellent steps forward toward true and not synthetic (if any) bass reproduction, but there has now been developed a more simple and completely effective solution on these stepping stones of engineering development.

The fundamental problem in finally attaining true and not synthetic reproduction of all bass tones below the unbelievable but never-the-less actual, average 130 cycle radio cabinet cut-off, and to extend the true tone range down to below the lowest 40 to 50 cycle notes handled by broadcast stations or

phonograph records, is to provide the loud-speaker with an infinite baffle. This is an obvious physical impossibility in terms of a flat baffle but actual performance in excess of that theoretically possible to an infinite baffle can be had if a large enough and heavy enough cabinet is had as a starting point.

It is vitally important that this cabinet have ample internal space. This will be eight cubic feet or more if, for example, it is to house the 18 inch Super-Giant loud speaker of the MASTERPIECE V, which it *must* if the combination is to get down to 30 cycles. It is equally important that this cabinet be non-vibratory, which means that it must be unusually solidly constructed of heavy well-seasoned and dried lumber from $\frac{7}{8}$ inch to $1\frac{1}{2}$ inch thick. Even such a solid assembly, which no ordinary radio cabinet even approaches, must have its own resonance further deadened by having discreet amounts of sound deadening material attached to its inside flat surfaces, for the cabinet absolutely must not vibrate when the speaker is in operation and the natural vibration of the air contained in it must be deadened. Side, top and bottom panel resonance must be eliminated by heavy construction, or spurious sound radiation will occur from these sources (of a tone-quality ruinous nature) in the form of transients from these secondary sound sources. Such a loud-speaker cabinet obtained, it is still only somewhat better than ordinary, and still reproduces little below the usual 130 cycle cut-off frequency, but performance not equaling, but exceeding, that possible to an infinite baffle is now within reach, thanks to the genius of Jensen loud-speaker engineers.

The long engineering story of how this was discovered, and the formulae governing every step of the specific designs is probably of little interest to the reader whose appetite has been whetted for this first ear-ful of true bass reproduction, so the engineering details will be skipped (they were contained in five papers delivered by Hugh S. Knowles before Rochester, Toronto, Cleveland and Chicago meetings of the Institute of Radio Engineers and the Engineering Institute of Canada quite recently). Assuming the reader now has a *solid* cabinet, the front of which is braced and deadened by a more than usually heavy speaker "baffle board", and the top, bottom and sides are so relatively small and thick that internal resonance can be deadened by tacked-on jute, the tight and firm attaching of a solid back to enclose and seal his cabinet will give the reader reproduction exceeding that of the theoretically ideal "infinite baffle."

But in the italicized word "solid" above will lie the success or failure of the endeavor. Since this cabinet back will be relatively large, and supported along only its edges, it *must be solid*. This means that it should be made of $\frac{7}{8}$ inch solid lumber, but as this isn't solid enough, and as the cabinet back

must be a minimum distance away from any wall, the back must be cross-braced by $\frac{7}{8}$ inch x $2\frac{1}{2}$ inch bracing beams, glued and screwed to the outside of the back. Placed from top to bottom and from side to side, and notched to cross in the middle, these cross braces are set on edge to completely stiffen the removable back, and to insure its being placed the required minimum distance away from the nearest wall.

Since the loud-speaker field, consuming appreciable power when in operation, will get warm, and since it would get hot if it were tightly enclosed, needed ventilation as well as basically new and important acoustic considerations, involving phase reversal of opposed front and back speaker sound radiation, so that both front and rear sound radiation *now add instead of cancel*, dictate the need for vent holes or cutouts in the cabinet back. These cut-outs may not be of haphazard size or placement, but must be of carefully determined size and location for acoustic reasons. Good ventilation dictates that at least one aperture be at the top and another at the bottom, since air heated by the speaker and power amplifier contained in the cabinet will rise. Thus a bottom port hole and another at the top will form a draft to conduct off heat generated in operation and so avoid excessive heating of the cabinet interior.

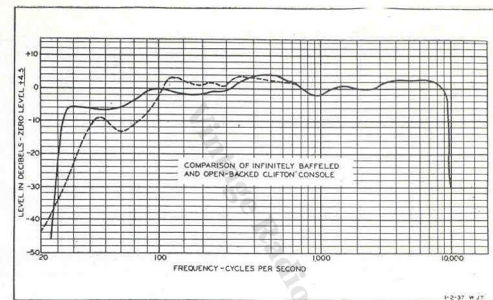
The improvement which these consoles, incorporating the new "bass reflex" (addition rather than usual opposition and cancellation of opposed front and back sound radiation) and "peri-dynamic" (enclosed speaker) principles, bring to sound reproduction cannot be visualized from the simple statement that, with a fine loud speaker, they only extend the tone range from an averaged 130 down to 30 cycles, for this does not describe an almost equally valuable distortion eliminating benefit. In the ordinary radio cabinet, used with a good loud speaker and amplifier which may go down to as low as 30 cycles if of unusually high quality, the bass notes such a system is called upon to reproduce will load up the amplifier and loud speaker, even though they are not heard as sound at their fundamental tones. They are not heard because of the inability of the small baffle to properly load the loud speaker cone, which results in its overload, or excessive excursions of the speaker cone even though the small baffle does not permit it to do any useful work at these low fundamental frequencies. This results in the strengthening (through distortion) of the harmonics of the low notes, and these are what the listener hears and has had to be satisfied with in place of fundamental bass notes every reproducer has lost.

The "bass reflex" principle properly loading the speaker cone at low frequencies, actually reproduces such low frequencies, and completely eliminates the usual excessively strong harmonics and their dis-

with "infinite baffle" for this development does *more* than an infinite baffle through *adding* previously wasted bass rear radiation to front radiation, and don't select "super infinite baffle", for while this is fairly descriptive, this new reproducer is not truly a baffle, which does not *add* front and back sound radiation for greater efficiency, but only kills and so loses the benefits of the back radiation which this new reproducer for the first time uses.

We've already thought of these two names, and want better ones, so put on your thinking cap and win a prize—it ought to be easy for you, for you're not so close to the forest that you can only see the trees, as are we who have worked day and night on the perfection of this revolutionary reproducer.

The cash prizes are waiting, the MASTERPIECE V will be custom-built for the winner, so mail your names to the editor of the TIMES. The contest closes midnight of March 31st.



The tremendous improvement in musical perfection which the principles herein described for the first time bring to radio reception is graphically shown by these curves. The dotted line shows the commercially unusually excellent response range of the Masterpiece V in its open backed Clifton, Oxford, Bristol or Norwich consoles. The solid line, run upon these same consoles after acoustic treatment, tells the story of the final attainment that radio and sound engineers have been working for ever since broadcasting began, and which Jensen-Silver engineering finally makes possible.

tortion. This results in a "cleaning up" of reproduced sound that is as startling in itself as is the new and at last natural concept of full range bass reproduction completely free of "boominess" which the cabinets illustrated now provide for the first time, bringing as they do to sound reproduction full, deep and round bass without customary "boominess" and barrel-like tone. Speech is as clear as music—full, complete, and without distorting emphasis employed to synthetically simulate previously missing bass tones.

The response curves herewith are for the CLIFTON, OXFORD, BRISTOL and NORWICH consoles. The dotted line shows the antenna to ear frequency response of the regular consoles with their open backs $2\frac{1}{2}$ " away from a wall. The tremendous improvement resulting from the acoustic treatment giving them the benefits of the "bass reflex" and "peri-dynamic" principles are shown by the solid line—tone quality never before obtainable from any radio—and tone today obtainable *only* from the MASTERPIECE V in one of these beautiful and now acoustically perfect consoles. Any one of them will bring to its user two or three octaves of deep, vibrant bass tones, between 30 and 130 to 180 cycles which he has never heard through any radio before. As such they are a most remarkable and beautifully simple contribution to the art of sound reproduction.

EVIDENCE

Further evidence of the superiority of the MASTERPIECE radios in use all over the world by every type of user from individuals to governments (Federal Communication Commission, for example) and engineering universities is hardly necessary, so widespread is their reputation.

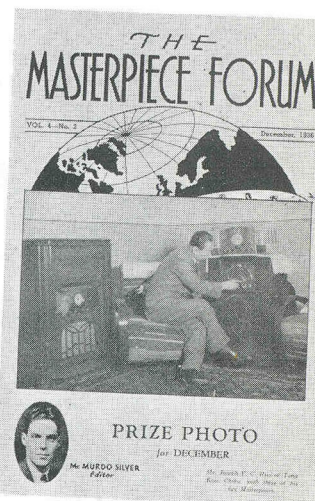
Besides the many comments of owners published in every issue of the TIMES, unmatched "evidence" of their daily performance all over the world is published monthly in the FORUM, a free reception service to owners. If you want evidence, fresh from satisfied owners, and none of it old or out of date, we will be glad to mail you a copy of the FORUM. It is most convincing evidence of the wisdom of buying only the finest radio—the MASTERPIECE V.

A MASTERPIECE V AND CASH JUST FOR A NAME

The sound reproducing development described for the first time in this TIMES is so new and revolutionary that we can't think of a name to describe it.

So we are offering as first prize a MASTERPIECE V complete with acoustically treated CLIFTON console, \$50.00 as a second prize, \$25.00 as a third, \$15.00 as a fourth and \$10.00 as a fifth prize for names for it. Any one except our employees is qualified to submit names, ties will each receive equal prizes, and decisions of the judges will be final. Judges are Lieut. Commander R. H. G. Mathews, co-founder of Zenith Radio Corporation and Central Division Director of the Amateur Radio Relay League, and McMurdo Silver.

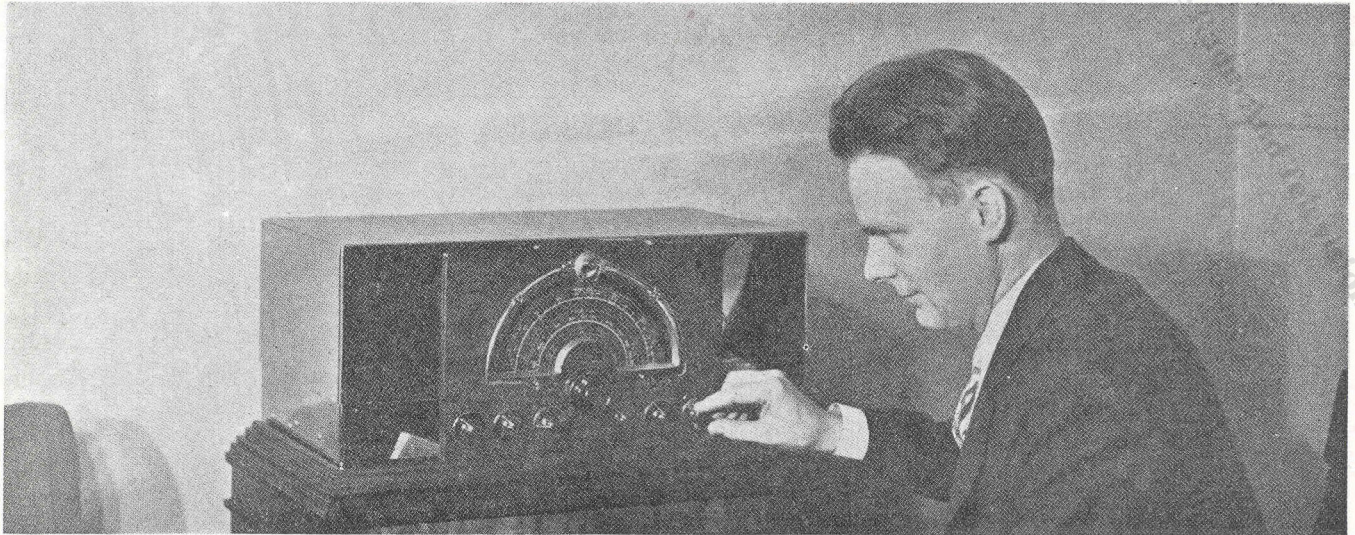
In attempting to choose a name, don't start



This "Proving Post" report reproduced from the December 1936 ALL WAVE RADIO MAGAZINE, is far from the usual publicity "puff". Zeh Bouck, well known engineer who wrote it, is unusually hard boiled, and not inclined to express unjustified favorable opinions, as his recent engagement by an independent organization to test a large number of radios proves.

His opinion of "value well in excess of that measured in terms

of ordinary satisfactory performance" is the praise that is daily echoed by hundreds of not just satisfied, but enthusiastic, owners. He includes with his praise a criticism of the size of the numerals on the dials. We would be glad to change the dials to conform with his suggestion but, having received hundreds of letters of compliment on that very point, we are inclined to believe that Mr. Bouck is outvoted. His suggestion of a larger band spread dial we can satisfy with a 2½" micrometer dial for \$1.00 net extra.



THE SILVER MASTERPIECE V

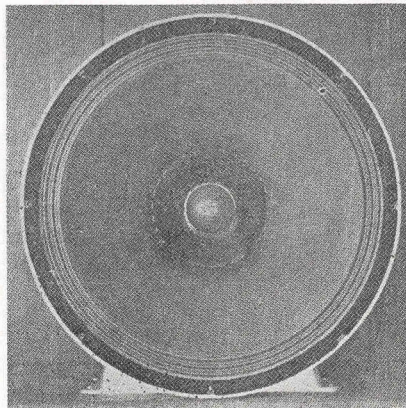
THE principal technical aspects of the Silver Masterpiece V have been covered by its designer in his article appearing in the September issue of ALL-WAVE RADIO. Therefore in this review, with the exception of an occasional keyed (road map style) reference to the diagram of Fig. 1, we shall confine ourselves largely to the special considerations which justify the building and purchase of an expensive receiver. In other words, we shall focus the laboratory upon this receiver from the point-of-view of a prospective owner.

"Distance" and "Price"

It may seem inconsistent with this purpose to say little or nothing in reference to the stations logged during the three weeks this receiver has been under test. Ability to receive dx is no criterion of a set's excellence in price brackets above \$75. There are other and equally important factors. As was pointed out in this department for November, the curve of merit as based on sensitivity and selectivity, rises very slowly as the number of tubes is increased above the reasonably efficient minimum of six. This is particularly true of sensitivity. While the sensitivity of the Masterpiece V may be described as more than adequate, its performance, as far as reaching out for stations is concerned, has been simultaneously duplicated in our laboratory with

receivers costing considerably less. The only qualification here is the fact that the superior AVC action of the set under consideration was evident on several occasions. These air tests were made under a variety of receiving conditions—good, bad and average. However, it is of course possible that under some circumstances the extreme sensitivity of this receiver might show to an advantage over a receiver having less tubes contributing to radio-frequency (r.f. and i.f.) amplification. But this difference definitely does not justify the cost of high price sets.

There are twenty tubes in the Master-



Showing the multiple-cone feature of the 18-inch dynamic speaker used with the Masterpiece V.

piece V. By investigating the functions of those tubes other than the fundamental six we shall go far toward understanding the type of superiority that can be engineered into a high priced receiver.

Sensitivity and Selectivity

The six essential tubes in any good superheterodyne comprise one stage of r-f amplification, detector-oscillator, one i-f tube, second detector, power amplifier and rectifier. Of the extra fourteen tubes in the Masterpiece V, only three contribute to sensitivity—the additional r-f tube (B6) and the two additional i-f tubes at B8 and B10 (which, incidentally, are cut out for local high-fidelity reception). The additional r-f stage increases the usable sensitivity of the receiver. However, its principal function is that of pre-selection with the virtual elimination of image frequency effects. With all three i-f stages functioning (sharp tuning) sensitivity is at maximum, and the receiver tunes very sharply. However, excellent quality may still be had by means of the treble control and by switch elimination of the 6000-cycle cut-off circuit in the speaker. These adjustments operate on the principle of the Stenode in which it is maintained (still a moot point in engineering) that sidebands can be cut and the high notes compensated without bringing up heterodyne

or side-band interference to the same degree. We have at this point done as much for sensitivity as the present stage of the art permits in a home receiver, and have, as it were, a nine-tube job.

A separate tube is used as an oscillator—a 6J7, located on the diagram at L6—rather than combining the functions of first detector and oscillator as is done in the fundamental six-tube super. This results in greater stability and a better conversion factor—and brings us to the ten-tube stage. There is nothing unusual about the second detector—the 6Q7 at B14—except that it performs the dual function of demodulating and acting as a beat-frequency oscillator when the control switch is so set. The 6L7 first audio tube (B16) also performs a double function by means of its two independent grids—that of straight audio-frequency amplification and as a volume-expansion control when the expander is cut into the circuit.

Volume Expansion

The theory and practice of volume expansion has been gone into rather

thoroughly in the Queries Department of this issue and repetition is unnecessary here. The degree of expansion on the Silver Masterpiece V is completely controllable and can be used on both radio and record reproduction. It accounts for two additional tubes, bringing the total number so far to thirteen—that is, thirteen highly useful tubes as contrasted with the theoretical minimum of six. The reduction in background noise when volume expansion is employed is satisfactorily demonstrated on the Masterpiece V.

Automatic Volume Control

Amplified automatic volume control provides a consistency in signal level that demands two more tubes—and gets them in this set. They are the 6K7 avc amplifier (at E12) and the 6H6 avc rectifier (E13).

These plus the 6G5 tuning indicator justifies, at the present count, nine tubes more than the six with which we started. In passing, it might be mentioned that the 6G5 "magic eye" in the Masterpiece is particularly effective, and makes pos-

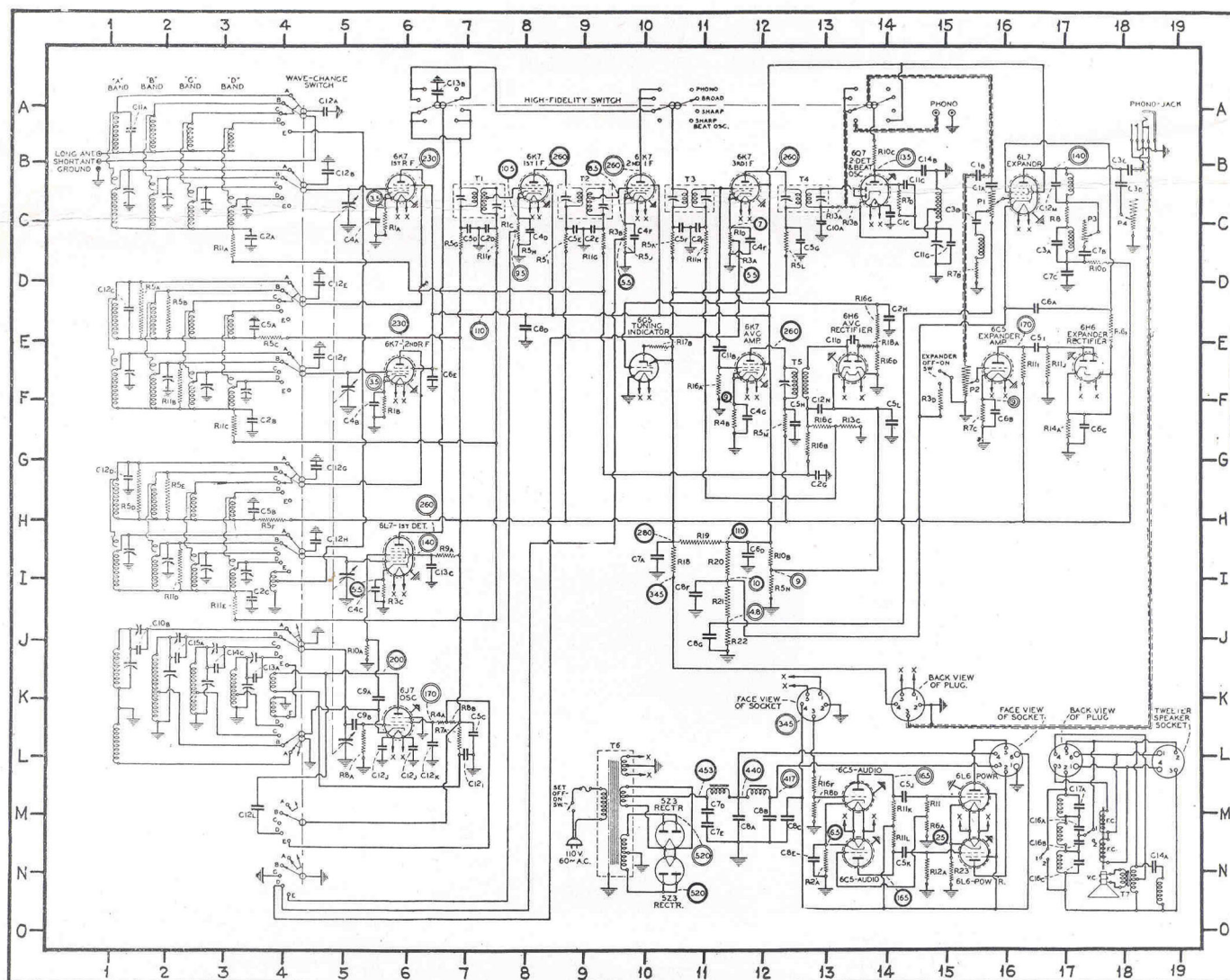
sible silent tuning even on very weak stations—merely by turning down the volume and tuning for the least iris angle.

The Audio Amplifying System

The 6L7 tube is resistance coupled to the two 6C5's (M and N14) which in turn are resistance coupled to the 6L6 power tubes (M and N16), the output of which is plugged into a super-dynamic speaker with a 16-inch cone (18 inches frame diameter). The speaker is a combination of bass and treble cones, which, in conjunction with the receiver controls, can be made to respond with any reasonable degree of frequency partiality from 20 to 10,000 cycles. Oscillator tests demonstrated an excellent 9000-cycle response.

Two full-wave rectifying tubes are employed in the power supply. Allowing for one rectifier and one power tube in our original and hypothetical six-tube receiver, we arrive at the full complement of twenty tubes in the Masterpiece V—all performing definitely useful duties.

[Continued on page 592]



Road-map circuit diagram of the Silver Masterpiece V receiver.

MASTERPIECE V

[Continued from page 569]

Controls

The controls from left to right are: Volume—Beat-Oscillator, sharp, high-fidelity and phono—Volume Expansion—Tuning—Bass Compensation—Band Change (five bands—140 to 70,000 kc)—Treble Compensation.

The tuning control is of the dual-ratio, single-knob type, supplying a very smooth vernier action for one turn in a direction reverse from that in which the knob is moved in rough tuning. The scale is easily read and the pointer set with reasonable accuracy. The receiver is accurately calibrated. A small micrometer dial is mounted behind the tuning knob for precise logging—an arrangement that works beautifully. The approximate megacycle reading is noted on the main dial, and the reading on the small dial added—such as 15.5 plus 22. This setting can be returned to at any time—precisely on the button—greatly facilitating the identification of foreign stations once a creditable list has been logged.

In the opinion of the present reviewer, the splitting up of the conventional tone control into two *independent* bass and treble compensators represents a most noteworthy advance in tonal practice. Only by separate variation of low and high characteristics is it possible to bring in all radio programs and reproduce every record with the highest possible fidelity or with the desired tonal effect. No two programs and no two records have identical audio characteristics, and only by individual bass and treble compensation can these differences be corrected.

Mechanical Characteristics

In justifying the purchase of a receiver in the higher price range, the mechanical construction of the set cannot be overlooked. Certainly it will not be overlooked in the Masterpiece V, as one's first impression of the set is invariably of clean-cut chassis work. As far as the eye can judge (and the ear for that matter) there has been no compromise with quality. The controls work smoothly, without binding, and with adequate leverage.

Summation

Three weeks of experimentation with the Masterpiece V have amply demonstrated that value well in excess of that measured in terms of ordinarily satisfactory performance, can be engineered and built into a receiver. In the tests mentioned, the speaker was mounted behind a four-foot square baffle. (The independent bass and treble controls make it possible to correct the speaker response for any cabinet or any size baffle. Excellent quality can be obtained without baffle of any kind, though there is a danger of overloading the speaker when so

MENTION ALL-WAVE RADIO

Says the Veteran Who Made This Test



Zeh Bouck
Middleburg, N.Y.

November 14th
1936

My dear Silver:

I have had one of your Masterpiece V receivers in the laboratory for test purposes during the last two months. Having been with radio since 1909, I am necessarily somewhat biased on the subject -- but I must admit an unusual amount of enthusiasm as far as your receiver is concerned.

On more than one occasion I'm afraid I was guilty of turning off the oscillator and disconnecting the db meter in favor of the sheer joy of listening to some good foreign or domestic program.

Frankly, I have wasted more damn time with that receiver -- if entertainment can be called a waste -- than was warranted by the work I was supposed to do on it. This holds for both radio reception and recordings.

Aside from the definitely superior performance of the receiver as a whole, I should like to comment upon two features -- the mechanical excellence of the job and the independent completely variable bass and treble controls. I have always maintained that individual bass and treble control (continuously variable) was essential to obtaining the finest quality from every program and record, no two of which have the same tonal balance.

Sincerely,

McMurdo Silver, Esq.
2900 South Michigan Avenue
Chicago
Ill.

operated). The output of the 6L6s is rated practically distortionless at 30 watts—which represents the power of a good public-address system. (Incidentally, the set can be so used in conjunction with a crystal microphone and crystal pick-up. No additional amplifier necessary.)

Our complaints are minor ones. We'd prefer larger lettering on the small con-

trol dials, and a more easily read micrometer dial behind the main tuning knob.

"BEYOND ALL EXPECTATIONS"

MASTERPIECE V received and duly assembled—and produces music far beyond my expectations. I am well pleased with it, have heard English, also German stations, Mexican and South American stations by the bushel—will do better when I receive MASTERPIECE FORUM—then I will know where to look for them.

G. S. Low,
Chambly Canton, Quebec, Canada.

We were able to obtain this photo, with credit to the New York Sun, of the famous writer and engineer Zeh Bouck at work in his testing laboratory, with the cover shield of the MASTERPIECE V he was testing removed. His contemplative attitude bespeaks unusual interest in this particular one of many radios he was engaged to test. We were the only custom builder who has so far dared to submit our product to his rigorous and factual analysis—see his blunt treatment in his article from the December 1936 issue of All Wave Radio reproduced here-with, indeed an extraordinary and exclusive endorsement of the MASTERPIECE V.

OLIVER AMLIE, WORLD'S CHAMPION DX'er RECOMMENDS MASTERPIECE V



FAMOUS MICHAEL PUPIN'S* ASSISTANT PRAISES HIS MASTERPIECE V

Users of MASTERPIECE V's range from "just ordinary folk" who are extra-ordinary in their appreciation of really superb radio reception, to musicians who insist upon more perfect tone than can be had from any other radio or phonograph, on to universities, governments and engineers.

Julius Gourgues Aceves is not as generally known as he should be, avoiding as he does the fanfare of publicity. Examining the 25th Anniversary Year Book of the Radio Club of America, we find that he was research assistant to the world-famous Prof. Pupin at Columbia University from 1912 to 1929, was before that research engineer at the Bell Telephone Laboratories, and is today a member of the consulting engineering firm of Amy, Aceves and King, of New York City, who have developed, and hold many patents in the field of noise reducing antennas. Dr. Aceves has a number of patents to his credit, numbering among the purchasers thereof R. C. A. His exceptional competence has been established over nearly three decades, and his capacity as consulting radio engineer to some of the largest interests in America gives special weight to his opinions.

The simple routine purchase of a MASTERPIECE V for his laboratory work in no way necessitated an expression of opinion, even though it was an evidence of competent selection. Yet this famous engineer long associated with the great inventor Michael Pupin, was so favorably impressed by the MASTERPIECE V that, without any need whatsoever except to commend praiseworthy effort, he took the time to write us the letter quoted from herewith.

Such thoroughly competent endorsement and praise is an assurance of satisfaction which is given you *only* with the MASTERPIECE V.

NO DUES, (WORLD'S ONLY INTERNATIONAL HONORARY CLUB) NO FEES



Official Organ
Radio News, N. Y.

BROADCAST-SHORT WAVE AMATEUR CLUB

Directors of Programs
Irvin Goodeve, Mich.
Oliver Amalie

HEADQUARTERS: 56th City Line Avenue, Overbrook, Philadelphia, Pennsylvania, U.S.A.

WORLD CHAMPION INTERNATIONAL DX CONTEST 1937 to 1939

OFFICIAL STATIONERY

Mr. McMurdo Silver Corp
2900 South Michigan Avenue
Chicago, ILL

November 26th, 1936

Dear Readers:

The MASTERPIECE V is the best receiver today on the market; to make it more plain, in the world, I have very reason to say this about this WORLD FAMOUS CUSTOM BUILT RECEIVER, being President of the International 6000 to 12,500 Mile All Wave Club, and handling thousands of verifications monthly, one of Mr. Silvers MASTERPIECE V owner sent me 41 verified reports of reception over the 6000 mile mark, this man was Mr. Robert Rossi of Philadelphia, Pa, and because he was a PROUD owner of a Masterpiece V, he became the second best DX'er in the Club, remember there were many hundred ahead of him, but because he was the PROUD OWNER of a Masterpiece V, he had a receiver with speed, and could reach out for those hard to get stations.

I believe when I speak of the Masterpiece V in this fashion, I believe I know the radio receivers very well, being in the game since 1919, and today am the WORLDS GREATEST DX'ER, holding the only HONOR at both sides of the earth, the below will prove this, and am willing to stake \$10,000 that every word below or above is a true fact, and can prove my statements.

What Australia gave me, and this is the first time I ever have made this public in any publication, here is the HONOR Australia gave me:
Amalgamated Wireless Australia Limited January 30th, 1936
Dear Mr. Amalie:

We wish to advise that with the receipt of the reports contained in your letter, you have sent-in more reports on the transmissions of our two stations VK2ME-3ME ending 31st of December 1935 than any other individual.

No one else in the HISTORY of our two stations has EXCELLED YOUR FINE RECORD, and once again we wish to compliment you on your consistent and PERSEVERING EFFORT.

We of the International 6000 to 12,500 Mile Club more than APPRECIATE the fine SPORTSMANSHIP of Mr. McMurdo Silver for his donation of one of his MASTERPIECE V as first prize in our ROUND THE WORLD CHAMPIONSHIP CONTEST which will take place soon, see Radio News for details, we hope some MASTERPIECE V will win the world championship record, and with this, the MASTERPIECE V will then become the world champion receiver, but as it is, it is a WORLD CHAMPION receiver in it' self. Mr. Silver deserves a lot of credit for his wonderful receiver, and it's workmanship.

WITH ASSOCIATE CLUBS, OUR RADIO STRENGTH 450,000

Cordially yours *Oliver Amalie* Oliver Amalie

CHICAGO STUDIOS OPEN MONDAY, WEDNESDAY AND FRIDAY TO 9:00 P. M.

Nov. 17, 1936

"Dear Mr. Silver:

Just a line to let you know how pleased we are with the MASTERPIECE V recently purchased for use in our laboratory.

Personally, as a lover of music, and an amateur pianist and organist, I have found in your receiver something lacking in others; the ability to control tone quality, volume, and rate of volume change (expander).

As a research engineer, I would like to know all the intricacies of the various elements in the expander and other parts of the set with the idea of using this beautiful instrument to full advantage in my work. . . .

Very sincerely,

J. G. Aceves (Signed)
Amy, Aceves & King, Inc.
Research Laboratories
132 Nassau Street
New York City."

* The name of Michael Pupin is a house-hold word in technical circles, both for his remarkable biography "From Emigrant to Inventor" and as the inventor who made modern radio and electricity possible.

"\$600 HAS BEEN WELL SPENT"

I want to take this opportunity to thank you for sending me the MASTERPIECE FORUM, which I look forward to so much. Do you know that I have been a Silver Marshall owner for many years with the plug in coils, and now the MASTERPIECE II which went ahead bringing in every station on long and short waves, and I have most of the stations you put in your FORUM. There is no set in the world like it, and my £-120 has been well spent. So with the best of luck to you and all MASTERPIECE owners, (from one in far away New Zealand).

A. Goodall,
86 Riddiford St., Petown, Wellington, N. Z.

BETTER TIMES SPELL HIGHER PRICES

We all know that general business is much better than it has been for many years past. Employment is increasing and wages and salaries are rising along with general business. Prosperity is no longer around the corner—it is here and with us today. It will be with us, except for essentially minor set-backs that few of us as individuals will ever know of, on through the next four or five years at least.

History tells us that during good business prices of all commodities rise, while they drop only when business falls off. The single consideration of greater employment and higher wages explains why prices rise when business is good, for most of the value in everything we buy and use is human labor. When labor receives higher wages we must pay more for its products.

This means that the cost of a MASTERPIECE V is less today than it will be soon—very soon indeed. Knowing that prices were bound to rise (compare your this year's meat and grocery bills with those of just a year ago) we have sought protection in the only way possible—advance purchase of raw materials. As our advanced commitments are used up, we must pay more for materials to build new radios—and, as a result, must charge you more.

Those who ordered their MASTERPIECE V's in December benefited greatly. Our September commitment for Oxford cabinets has just lasted us to January 5th, 1937 and cost us just exactly 25% less than these same cabinets, reordered in the middle of December, cost us now. Between September and December cabinet labor and material costs rose 25% on the average—so that you who didn't order an Oxford before January 5th, 1937 now must pay the increased price that we are forced to pay—25% increase, or \$10.00 net wholesale cost rise.

We are still protected into February on Clifton, Bristol and Norwich consoles. New February cuttings for March delivery, our cabinet makers tell us, will advance 25% in cost—and price to you.

We do not know definitely what our cost increases on the MASTERPIECE V itself will be, but we do know that in February we shall have to increase its price. How much we can only guess now on the basis of present costs, which will be higher then. Today it looks as though we shall have to increase our price from 20% to 25%—a sizeable number of dollars you can save by ordering now.

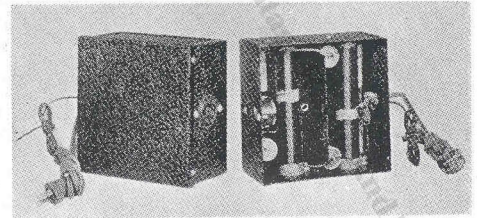
It is not our desire to seem to scare our many friends, but long threatened material and labor costs are now very tangibly with us, and we feel that it is only fair to tell you that very soon, probably next month, the self-same MASTERPIECE V you can buy today may cost you considerably more.

Already its cost has increased appreciably from December to January, but this, unfortunately is only the beginning.

The MASTERPIECE V has proven itself in direct competitive tests against the world's finest radios to be outstandingly the best radio that can be built today, and so we shall continue building it—the very finest radio you can buy at any price, and an investment which serving you faithfully for years to come, will pay for itself several times over, and during its long life bring to you the world's finest entertainment.

We do not expect to bring out a new model for we do not know how to improve on the MASTERPIECE V—and no other maker knows how to equal it, as its "hands-down" winning of all competitive tests to which it has been subjected has so conclusively proven.

POWER LINE NOISE FILTER THAT REALLY CUTS DOWN NOISE



Here at last is a real power line noise filter such as is used in laboratory "screen rooms" for sensitive receiver measurement. Its four inductance—six capacity filter kills power line noise and is a tremendous help, especially with the R9+ antenna, to quiet reception of stations so weak as usually to be lost in noise.

Power line noise is still one of radio's greatest handicaps. This noise is of two kinds, what we may call r-f. or "surface" noise, as produced by turning on and off nearby small appliances and small motors, and that produced by turning on and off large, heavy duty motors and electrical equipment. This second type of noise representing a major charge in power line voltage, cannot be eliminated in any practical manner, but fortunately it is not frequently encountered in residential locations, being the concomitant of heavy factory power equipment.

The first type, "surface" noise, is plenty difficult to eliminate except in quiet home locations. So we answer its ever-recurring question by suggesting the use of a pair of 1.mfd. 400 volt paper condenser connected in series across the a.c. power line at the radio, with the link connection between the two condensers connected to a good but separate ground from that used for the radio.

Of course even this system, in addition to the occasional electro-static shielding found in power transformers, is not really effective on very noisy lines, yet it is about all that has been practical. We know how to do a much better, in fact an almost complete, job of line noise elimination, but it's too expensive and complicated to suggest for general use. This is the balanced multi-section filter we use on our own screen rooms where we must have QUIET for final receiver tests.

A few months ago this device was finally perfected for home use. Exhaustive tests have proved it thoroughly practical. So we are pleased to offer a limited quantity of these MASTERPIECE power line noise filters with the full knowledge that they will really do the job. It is a balanced filter containing noise-blocking-inductances and noise-by-passing capacities, the whole balanced to ground for really effective noise elimination. To use this filter, it is only necessary to plug it in between your radio and the power line socket with the plug, cord and socket supplied, connect a wire from its binding post to a good water-pipe ground, and the job is done. After which the filter can be placed in the radio's cabinet, on the bottom shelf beside the speaker, and forgotten.

This filter is equally effective in killing radiated r.f. noise from nearby electric motors. It is only necessary to similarly install it between the motor and the power line connection, and presto, the old "rock-crusher" noise is dead forever. This treatment of electric fans, oil-burner motors, electric ice-box motors and vacuum cleaners spells instant death to their noise, and is the only completely effective noise elimination method known today, that of killing noise at its source.

Thousands of you have asked us for the answer. Here it is at last, our laboratory screen room line filter simplified and perfected so you can use it—and so you can buy this "good news" for only \$7.20 net. It will kill power line noise beautifully, but it can't kill the internal noise of ordinary radios, nor can it eliminate static your antenna picks up.

"VERY SATISFACTORY"

Since your letter of October 29th, I have received my line filter and it has proved to be very satisfactory.

After receiving a first class phono pick-up I have excellent results with the phonograph. I shall give you a complete report on the set soon. . . .

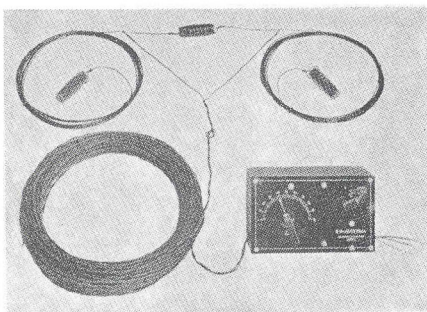
P. Chr. Klintman, Andian Natl. Corp.
Apartado 130, Cartagena, Colombia, S. A.

"ELIMINATED THE DEVILS GROWL"

The line filter has been able to eliminate the "devil's growl" so now you had better send me an R9+ antenna to reach out for some "cosmic harmony!" The MV seems to be able to reach out and get almost anything wanted with my old antenna, so no doubt with a new R9+ I will be able to bring in a symphony of cosmic rays.

Dr. C. W. Schwartz
149 Mamaronck Road, White Plains, N. Y.

R9+ ANTENNA WILL BOOST SHORT WAVES



When the R9+ tuned short-wave antenna finally emerged from our research laboratories, and was ready to be offered to MASTERPIECE owners, we anticipated an enthusiastic response. We have not been disappointed, but even more important, many hundreds of users who have installed these antennas have been enthusiastically pleased.

Exactly as it is a known fact that a properly tuned circuit produces a louder signal than does an untuned circuit, so it is well known that tuning an antenna produces louder signals than can an untuned antenna. But because the tuning of an antenna which may have to be coupled to widely different types of receivers is anything but simple and easy, it remained for Silver engineering research to invent a way of doing just this without having the antenna tuning so upset a receiver as to destroy any benefits gained from antenna tuning. This is the reason that no actually tuned antennae have been made and sold before. Other antennae are either untuned, or only approximately tuned by virtue of their physical length. This is some help, but only a half-way solution, and often times not even that because the tuning anticipated by virtue of physical length is upset by peculiar conditions from place to place of erection. Even some radios advertised this past year as having

antenna tuning only approximately tune their antennae, but do not and cannot precisely tune them to each and every short wave broadcast band as does only the R9+ antenna.

The R9+ antenna is the only antenna made today which gives the full benefits of increased weak signal volume by actual, precise, antenna tuning, and it does this by a new coupling system that does not upset or detune the receiver with which it is used. Thus on short waves it gives as much actual amplification as an extra stage or two of r.f. amplification added to a receiver. Even where the receiver has an unusually good automatic volume control such as has the 1937 MASTERPIECE V, which prevents an increase in signal strength increasing volume except on very weak signals indeed, proper adjustment of the R9+ tuner box dial produces a decrease in noise interference far greater than can be had on any ordinary noise reducing antennae.

From reports from users, our original predictions of three to six times greater signal volume, or three to six times decrease in noise interference were fully justified. All in all, the R9+ antenna costing only \$8.85 net wholesale completely soldered and connected, ready for installation, is the best dollar investment the owner of an all-wave receiver in a noisy location can make, and many hundreds will go up between now and next summer when long distance short wave reception again comes fully back into its own.

We are grateful for the enthusiastic reception given the R9+ antenna by our many friends. It is today in use not only by short-wave listeners, but by engineers, engineering schools, universities and governments—the U. S. Navy and the U. S. Coast Guard Service are among our customers.

"SURELY A WONDERFUL INSTRUMENT"

My MASTERPIECE V is surely a wonderful instrument. Am getting the very best results on the broadcast band and have heard some real music from Germany and England. More later.

Gustave Anderson,
2309 Clermont St.,
Denver, Colorado.

"TO ASK THE MAN WHO OWNS ONE— IS TO BE THE MAN WHO OWNS ONE"



Jacob H. Y. Hsui, Societe Navigation De Tangkou, Taouku, China, operating his fifth consecutive MASTERPIECE.

BOTH GET WHAT THEY WANT IN THE MASTERPIECE V.

4:10 P. M. and Buenos Aires Arg. LRX is coming in strong. Of course lots of static at this time of day. It's not a good radio day, static every place, but the music is overriding the static.

Say, Mr. Silver, I have never seen anything in your literature telling of the prettiness of the dial on your MASTERPIECE V. Its different colored figures and lines, etc. Everybody that sees it says "Isn't that a pretty dial."

You know, Mr. Silver, a lot of these wives are boss when it comes to buying furniture for the house, and all they think of is "Oh what a beautiful piece of furniture." If they only knew when buying a MASTERPIECE V they are getting just as lovely and beautiful piece of furniture as anyone can buy. She, the wife, can have her beautiful piece of furniture. He, the husband, can have everything he wants in Radio—distance, Tone—in fact anything he wants.

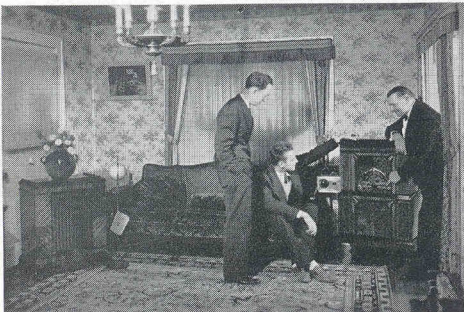
You certainly told me the truth when you told me I had now bought a radio. It is. It's a REAL RADIO!

And I again thank you and with best wishes, I am

F. C. Huffman,
2909 Preston Avenue, Houston, Texas.

P. S.: Just have to tell you at 5 P. M. Central Time Houston Time WHO Des Moines, Iowa, was roaring in.

Right now, 5:30 P. M., XEW, Mexico City, is roaring in with the most beautiful music you ever heard.



Lester W. Clark of Amarillo, Texas, puts his MASTERPIECE V thru its paces for T. Duncan Stewart, Director of the Amarillo Philharmonic Orchestra, and G. S. Cooch, radio technician.

"KEEN ENTHUSIASM OF NEWNESS DOESN'T WEAR OFF"

Today is the first day since I've had the MASTERPIECE V that I could really give it a chance at all hours of the day—for I work seven days a week—so my dial twisting had to be confined to a few minutes in early morning and an hour or two in later afternoon and evenings. During the short intervals I have logged all the VKs in Australia as well as Java, Japan, China and, in fact, any morning catch that I read anyone else has received, is mine by adjusting a couple of dials. Today, so far, and I have 6 more hours to go, I've logged Germany, England, France—beautiful reception from TFC in Ireland. Bulgaria, Italy and probably several others for foreign stations are becoming commonplace, adding their delightful and educational programs to the large list of "locals" here at home. It's very exceptional when the Europeans, as well as Asiatics, are not heard as well as our own U. S. A. stations and sometimes better. This MASTERPIECE V is the only radio that the keen "enthusiasm of newness" doesn't seem to wear off.

L. L. Groves,
78 Bay State Ave., Somerville, Mass.

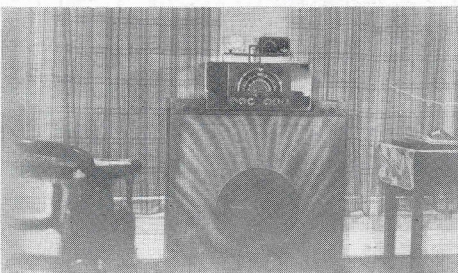
"MY FIRST REAL RADIO"

After three months with a MASTERPIECE V it is necessary that something be said.

First, I have owned several different kinds of "Boxes" containing tubes, speaker, etc., called radio but this is my first real radio. Here in the west radio is not always the best and what is more disgusting than not to get your favorite program, and can honestly say have not missed yet. Surely must be partly the set, as can't believe have had three months of perfect reception.

Then to the short waves, don't want to take up your time and space telling of the stations logged, so much simpler those have not. All the more important stations take as a matter of fact, when VK3LR, PCJ, VK2ME, 2RO and the Daventry, with only half the volume on the loud speaker. Oh well, what's the use—everybody knows it can't be equalled. Just one suggestion should name it "The Masterpiece of Radio" instead of just "MASTERPIECE". Just about time to take my trip around the world to hear the latest, so with best of wishes for the New Year and surely hope it is a MASTERPIECE year for many, I am

F. H. Beckley,
557 Main Street,
Sheridan, Wyoming.



The attractive MASTERPIECE installation of Chas. Gordon, 129 Norwood Ave., Buffalo, N. Y. Mr. Gordon writes that he is glad to "show off" his radio to any one interested.

"NEVER ANY DOUBT"

Enclosed find card of request for 5-year guarantee on the MASTERPIECE V which I have recently purchased. Today is the 10th day I have had the MASTERPIECE V and there never was any doubt in my mind as to my keeping it. I have just found out what real radio reception is, especially on the Broadcast Band. Around this locality, WJZ is a favorite station in daytime and it was always noisy for me on any radio I ever owned. But not on the MASTERPIECE V. It comes in now like a local.

As far as other stations are concerned I have picked up WSM, WGN, WMAQ, WLW, WJR and many more in the daytime, all with good volume. I consider this pretty good. This set sure is a marvel for its quietness. The reason I know it is because I have a Schick electric razor. While I was shaving and my old radio was playing it made a terrible noise and the only thing to do was turn to a local station to get away from the noise. But now while the razor is running any station can be tuned in without the trace of any interference. I think that's saying a lot for the MASTERPIECE V.

Yours truly,
Luther Hiler,
1624 Berryhill St., Harrisburg, Pa.

20 FOOT ANTENNA BRINGS WORLD TO U. S. NAVY OFFICER

I have received and set up the MASTERPIECE V. To be frank I was quite skeptical as to its ability to function under the conditions here.

After some experimenting I came to the conclusion that all the noise was being picked up by the short length of wire inside the ship. Therefore I used shielded No. 14 wire (grounded), from the antenna post to the end of the 4' rod which extends out from the side of the ship and supports the vertical wire mentioned above. This seemed to be the answer. Bound Brook, W2XE, W3XAL, W8XK, and W1ZK come in like locals at various times of the day. Germany, Japan, England and Australia come in well now and then. Russia is consistent though weak, and Japan is usually discernible. The most gratifying part is the power of the U. S. stations in the daylight hours.

The tone of the receiver is better than anything I have ever heard and the speaker can handle the full 30 watts without a rattle or a squeak.

I would greatly appreciate any suggestions you may make concerning the antenna situation. I fully realize that I am not and cannot give the receiver a "break". My 20' wire is probably not equivalent to more than 3' ashore because it is so close to the steel side of the ship. After our next cruise the set will have gone through the most difficult conditions existent for radio reception, and I will be able to tell definitely whether the problem has been solved. Thus far it appears that if the antenna situation can be solved, or its equivalent maintained by some presentable looking rig, the receiver will come through with flying colors.

Lt. Paul L. Stahl,
U.S.S. Wright,
San Diego, California.

"DISASTROUS TO OVERBID"

Have been on your mailing list for past two years, also * * * so am fully conversant with limits of fine engineering standards offered by your companies.

When I received "open letter" from * * * I wondered if he presumed that regimentation had reached such a high level that selectivity of thought, at its best, could not be controlled beyond range of high fidelity, thereby causing many minds to wonder and resultant Q. R. M. (taking the stand that printed matter forwarded by the custodian of mails, Mr. Farley, could not afford to deviate from the truth, so the conclusion was as true as the print). But now you have met the enemy, thereby calling a spade a spade and thereby setting the north player, geographically speaking, and showing the gallery of prospects that it is far-reaching and disastrous to overbid one's hand, especially when one resorts to such tricks.

You may wonder why I have spoken to such a degree—the truth is I wrote to, let us say, open letter writer and sublimely accepted the facts as truths and received the following reply, quote: "It was nice of you to write and tell us you enjoyed the open letter to Mr. Silver. While such a thing as this was greatly against . . . wishes, he felt that things had just come to the point where some explanation was due . . . owners and prospective owners. Below 19 megs. and down to 70 megs. outside of 4 or 5 high fidelity around 30 megs. i.e., two stages of T. R. F. handle readily, the balance of U. H. F. are mostly hams and experimental, the I. F. stages are not required."

(If correctly quoted, this doesn't make sense.—Ed.)

But apparently the product having as its sponsor, the ill-advised "open letter" effrontery, not able to make one stage of T. R. F. equal two has found a much easier and less costly method and apparently greater sensitivity by adding a . . . antenna coupling system, by reducing antenna lead-in pick-up approximately 1000 to 1, and thereby doubles effective sensitivity to weak distant stations, over all present all wave antennas even to such a great extent that Violet Ray machine or spark coil Q. R. M., although within two feet of this receiver is null and void to 99%, the mere 1% being thereby the minority, the conductive propagation of resultant wave only having authority.

To so effectively damp out such a monster and through the use of said coupler, still produce only 1% sound effects at A. F. input to speaker, with two to one signal-noise level should result in the awards of 1937 none other than the Nobel Prize for controlling such undamped electronics of unwanted radiation!

I am not a radio engineer but have a somewhat analytical mind and started with a three slide tuner, peroxide of lead detector and single head phone in the fall of 1914 . . .

A. S. Hughes,
7390 Maple Avenue,
Maplewood, Missouri.



Mrs. S. B. R. Cooke and her cat of Rolla, Mo., seem to enjoy Mr. Cooke's MASTERPIECE IV as much as does he.

CHICAGO STUDIOS OPEN MONDAY, WEDNESDAY AND FRIDAY TO 9:00 P. M.