

# Philco News

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# PHILCO NEWS

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Articles, photographs and drawings are invited. Please send to Editor.

## EDITORIAL

There is no substitute for quality. It makes little difference if we are speaking of people, of homes, of service, or of merchandise. By and large, most people look for quality in people and things.

Elsewhere in this edition of THE PHILCO NEWS there is an article about our Quality Control System. In a product, such as a radio set, that is so close to our every-day enjoyment that through its constant use it becomes a real essential to us, we look for and expect perfect performance always.

Good design is necessary; perfect engineering is essential; economical manufacture is vital; yet without the maintenance of high quality standards all other functions would lose their real importance.

The fact that at present there exists throughout the country a seller's market should only further increase our efforts to produce merchandise of higher quality than that of our competitors.

One of the reasons Philco out-sold all competitors in the radio field for many years was because of the quality built into Philco sets. We have established a reputation for quality which we must always maintain.



THE COVER—"Suddenly It Was Spring" at Philco and the thoughts of the men and women at lunch time went toward outdoor sports, new hats, cool food, gardening—and the threat of April showers.

## Higher Tonal Fidelity Achieved for Home Radio-Phonographs

Development of the new Philco Dynamic Reproducer a midget electro-dynamic generator that makes possible professional quality reproduction of recorded music in the home for the first time, has been announced by Palmer M. Craig, chief radio engineer for Philco.

In demonstrating this new moving-coil velocity type pickup, Mr. Craig showed how this feature makes a home radio-phonograph reproduce recorded music with the tonal fidelity and freedom from noise of major broadcast studio equipment.

"The Philco electronic research and engineering laboratories have spent many thousands of man-hours to develop a lightweight, trouble-free Dynamic Reproducer that would bring professional standards of record performance into the home," Mr. Craig states. "We now have a reproducer that applies only 3/4 ounce pressure on the record, about half that applied by previous reproducers. Also the Dynamic Reproducer includes a flexibly mounted jewel and is designed to achieve the best tracking possible and thus bring out every shading of tone from your favorite records.

"A further advantage of the Philco Dynamic Reproducer includes the fact, proved by laboratory life tests, that phonograph record life is greatly lengthened because of the lighter pressure and free tracking. Also, the Dynamic Reproducer is unaffected by moisture and is the ideal device for humid climates and seasons which seriously affect the performance and life of other types of phonograph pickups.

"These benefits of dynamic reproduction have been made available in seven models of the new Philco Radio-Phonograph, in a wide variety of modern and classical cabinet styles. We believe that the music-loving public will quickly appreciate the added tonal beauty and convenience provided by the new Dynamic Reproducer for enhanced enjoyment of recorded music."

JOSEPH GILLIES, Vice-President in Charge of Radio Production at Philco, explains the workings of the final radio test assemblies to W. J. Blackwell, general manager of Dominion Radio and Electrical Corporation, Ltd., of Auckland, New Zealand, Philco representative there.



## PHILCO RECEIVES SAFETY AWARDS FOR ACCIDENT REDUCTION IN 1945

The Radio Division of Philco has received the grand award of the Philadelphia Safety Council for the greatest percentage reduction in accident frequency in Philadelphia per million man-hours worked in 1945.

An award for its outstanding safety record in 1945 was also presented to the Metal Division of the Company.

John Ballantyne, president, received the award for the Radio Division from George E. Whitwell, chairman of the Philadelphia Chamber of Commerce's executive committee, at a meeting at the Benjamin Franklin Hotel. Charles H. Godschall, manager of the Metal Division, accepted the award for his division. Joseph M. Transue is Philco safety director.

The Company ranked highest among 137 plants employing 123,106 persons in the five counties in the Philadelphia area included in the 1945 Inter-Plant Accident Reduction Contest.

In three years these plants reduced accident frequency so greatly as to save 47,975 days' production time. Philco's contribution was a total of 11,108,712 man-hours worked with a frequency of .54 accident per each million man-hours worked.

JOHN BALLANTYNE (second from left) receives the grand award of the Philadelphia Safety Council for Philco's Radio Division from George E. Whitwell, chairman of the executive committee, Chamber of Commerce and Board of Trade, as Gavin W. Laurie and E. L. Hallstrom look on.

### A-BOMB TO BE TELEVISED

Philco Television Station WPTZ will join with other public information media in covering the atom bomb test, "Operation Crossroads," off Bikini Atoll some time in July. Television companies have received permission from Joint Task Force One to send a motion picture cameraman to the scene of the A-bomb tests to film the entire proceedings for television viewers.

All film taken by the television cameraman will be forwarded through official channels to the U. S. Navy Photo Science Laboratories in Anacostia, D. C., for developing and security screening.

### WPTZ Adds New Facilities as Telecasts Are Resumed

Philco Television Station WPTZ, first in Philadelphia, recently returned to the air on a new frequency channel with plans for a greater variety of telecasts than ever before, including studio programs, remote pickups of sports and news events, and relay telecasts from New York.

A new television studio has been set up on the top floor of the Architects Building, 17th and Sansom Streets, in the heart of downtown Philadelphia. From there will be presented dramatic, variety, musical, educational and news telecasts, utilizing new television cameras, control and monitoring equipment developed by the Philco Research Laboratories.

The Philco mobile television unit, which has televised more than 50 football games during the past six years, will include wrestling, boxing, ice hockey, baseball and other sports events among its remote pickup telecasts.

The Philco television transmitter at Wyndmoor, which went off the air temporarily to effect necessary technical changes, is now operating on the new Channel 3, 60-66 megacycles, assigned by the Federal Communications Commission.



**NOTHING TO WORRY ABOUT**—Etta Lou Wright, Quality Control, drops a packaged radio receiving set to the concrete floor of Plant 2 . . . but it is for testing on the efficiency of the packaging, cabinet and chassis structure. Daily, Miss Wright removes current models from the radio production line for inspection as to their appearance, sensitivity, tone, selectivity, dial operation and distortion.

# PHILCO *Factory Engineering*

is unique and capable of performing a wide variety of measurements.

Quality Control Engineers also use these laboratories for "life testing" radio receivers during production. These radios are turned on for 8 hours, off 16 hours; and, once a week, complete electrical measurements are made on each receiver. These tests enable Philco to keep up its high standards of quality.

Meanwhile, the Factory Engineering Machine Shop, known as Department 18, starts the design of tools, jigs, and fixtures necessary for the mass production of radios on moving conveyors. All the tools required for the assembly of components into sub-assemblies, and sub-assemblies or units into completed assemblies, are designed and 95 per cent are constructed by the Machine Shop. This shop also maintains the only complete mechanical measurements laboratory in Philco. Among the many devices contained in this laboratory are some of the most precise pieces of measuring equipment available, including complete X-ray equipment.

All materials required for manufacturing radio sets are ordered from Process Sheets issued by the Factory Engineering Department. These process sheets are a formulation of the material lists and blueprint information received from the Research Engineering Department. They are the guide for ordering; routing of material to proper store rooms, and the building up of components into completely packed radio receivers ready for shipping.

Philco long ago learned that thorough inspection actually saves time, material, and money. The Factory Engineering Department therefore maintains not only an "Incoming Inspection Department" (to keep defective material from getting into the production lines), but it also uses a group of supplier contact engineers. These contact men follow through with every supplier whose production falls below Philco inspection standards. These men work with buyers of the Philco Corporation Purchasing Department on a most important phase of radio manufacturing—the procurement of quality parts and sub-assemblies.

Any parts rejected by the Incoming Inspection Departments are returned to the suppliers with a complete explanation of the rejection. There are times, of course, when the returning of material (even though the material is not up to standards) would seriously delay production. Therefore, the Incoming Inspection Department maintains a reprocessing section. This group of employees is well trained and expert at reprocessing any rejected material. There are many times when the production lines are kept rolling due to the excellent work done by this section in revising defective material or by bringing up-to-date materials made obsolete by design changes.

A pilot run of sample sets is produced on every model before the mass production of radio receivers begins. Again the Factory Engineering Department

Philco's Factory Engineering Department is a vital link between the laboratories of our design engineers and the production departments where radio receivers are manufactured. However, this department of the Philco Radio Division is actually far more than a liaison group.

For a preview of this section of the radio division, let's follow an engineering model into the departments under the direction of Joseph A. Lagore, manager of the Factory Engineering Department.

The first job of this department is to lead off in getting production lines set up to produce radio receivers in quantity, therefore Factory Engineering checks to make sure that the engineering model is actually ready for mass production. Upon receiving the first engineering model, the wiring sample group of the department immediately calls a meeting of representatives of Industrial Engineering; Production; Factory Engineering; and Quality Control, as well as representatives of the Research Engineering Department. This group examines every detail of the engineering model in an effort to discover any items that do not conform with good wiring or assembling practices or which might retard high-speed production. If, as an outcome of this meeting, there are any suggested changes or criticisms, these are sent for further consideration to the Engineering Department.

At this point, the Test Engineering Section (which has several special laboratories, drafting rooms, and model shops) starts the design of special production test apparatus necessary for the testing of components and completed radio receivers.

Items such as Meters, Signal Generators, Attenuators, Amplifiers, Distribution Systems, Oscilloscopes, and other complicated mechanisms necessary for exact testing are designed and constructed by the Test Equipment Section. All of this equipment is also installed and maintained by the Test Equipment Maintenance Section. The Test Engineering Section also has almost entirely designed and constructed a type testing laboratory, staffed by expert radio technicians. This components testing laboratory contains an imposing array of test equipment, most of which



# ering: Vital Link Between Radio Design and Production

comes into the picture. A group of Factory Project Engineers is located in each Production Department. These Engineers work with the production superintendents in setting up sub-assemblies and unit production lines for manufacturing. They are ever alert in searching for "bugs" which might delay production.

An inefficient design or location of a part; a sub-assembly that is too complicated; a part too hard to reach for servicing—these must be corrected in the run of sample sets. The Factory Engineer knows that every improvement, however small, that can be made now, may save hundreds of dollars and man-hours when mass production starts.

These Factory Engineers also prepare complete Manufacturing Test Specifications. These test specifications must be laid out in such a way that each operation is relatively simple and can be handled rapidly on a moving conveyor line. The work of the Factory Engineers continues through the production of the model. It is their job to keep those production lines rolling. If any mechanical or electrical problem

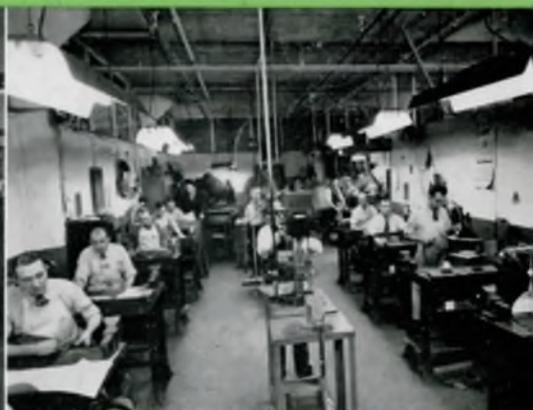
arises that threatens to shut down a line, it is their job to find the answer to keep the conveyors moving.

Maintaining Philco high quality is the sole responsibility of the Quality Control Section of the Factory Engineering Department. Located in each of the Production areas are special "Broadcast Test Booths." These soundproof rooms are the listening rooms for quality control inspectors. These highly trained inspectors "jump check" radio receivers taken from the production lines before they are packed for shipment. The technicians serve two general purposes: first, they work in the interest of the customer who might otherwise receive unsatisfactory goods; and secondly, their work indicates points in the factory processes at which some control is failing to act and correction is needed. Thus, we see that from the time the Research Division has designed a model until the time the last set of that particular model has been packed and ready for shipment, the Factory Engineering Department must not relax its efforts to maintain the vital position it holds between design and production.

**A NEW DESIGN** phonograph model is studied by Joseph A. Lagore, Manager, Factory Engineering Department, with (left to right) J. J. Heins, Jr., E. S. Bretzman, H. Seher, W. G. Oliver, H. H. Harris and W. J. Brecht looking on.

**ACCEPTANCE TESTS** on newly designed and constructed equipment are made by technicians.

**METAL-WORKING SECTION** of the test equipment construction shop.



**INSPECTION DEPT.**—All materials used in manufacturing radio receivers pass through this department.

**MECHANICAL MEASUREMENTS LABORATORY**—This laboratory is equipped with all types of precision mechanical measurements equipment.

**DEPARTMENT 18 MACHINE SHOP**—Tools, gauges, jigs and fixtures for production are constructed here.

**KOREAN GREETINGS** from her husband are examined by Mrs. Dorothea Chipley, Dept. 84. Pvt. Walter Chipley, who has been in the Army stationed in Korea for the past eight months, sent along a translation of the Korean words. Mrs. Chipley has worked at Philco for the past three years.

**RECENT BRIDE**—The former Miss Bettye Mayer, cashier in Plant 2 Cafeteria, is now Mrs. Joseph Fitzpatrick.



**BRIDE-TO-BE**—Sabina Tyl, Croydon Plant, will be married April 27 at St. John Cantius Church, Philadelphia, to John Curran, of Fond-du-Lac, Wisconsin. Miss Tyl has been secretary for the past six years for Del Kusma, General Superintendent of Plant 20.



# PHILCO



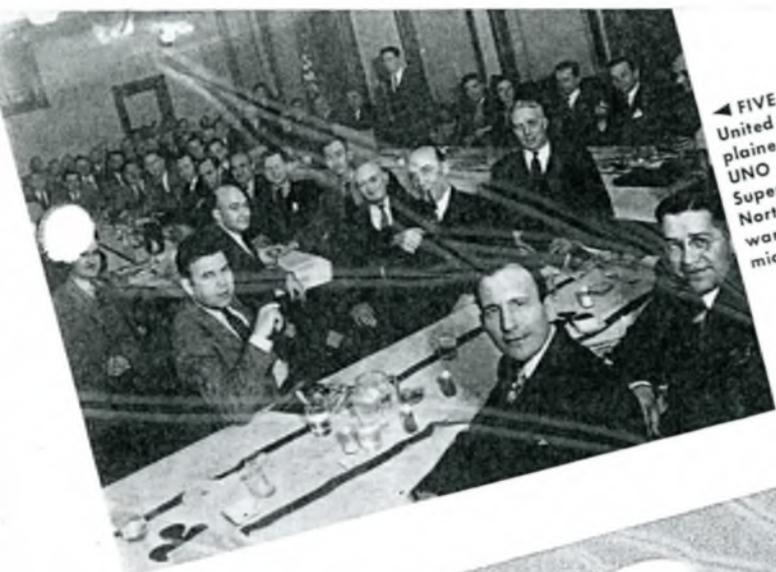
**MEMBERS OF THE PHILCO BAND**, with Herbert N. Johnston, conductor, on the podium, pause between numbers at the recent band concert and entertainment sponsored by the Big Four Fathers' Association of Philadelphia at Olney High School. Many Philco employees and officials were in the enthusiastic audience of 1,500 persons who heard the band.



**TAKE PART IN NATIONAL TOURNAMENT**—Philco bowlers from the Accounting Department who took part in the national tournament at Buffalo recently are (left to right, front row): Frank Reed, Don Jones (captain), Curt Koeneke; (rear): Gus Anzur and Bill Heiligman. Richard Jones (not in the photograph) also bowled.



**ST. PATRICK'S DAY** is observed by Dept. 84 by the wearing of the traditional green in hair ribbons and dresses. In a number of instances the celebrants had special box lunches for the occasion.



▲ FIVE SPEAKERS from the United Nations Council explained the workings of the UNO at a meeting of the Supervisors' Club at the North Branch Y.M.C.A. Edward Gillies presides at the microphone.

DISPLAYS HEIRLOOM—Catherine Johnson, Dept. 24, who collects fans as a hobby, shows a rare old one left to her by her grandmother.



# Pictorial Parade



▲ CITY CHAMPS—Leon Seneca, Dept. 80, and Mrs. Seneca recently won top honors in the 8th annual city roller skating contest conducted by The Daily News. The Senecas held the title for four years—1942, 1943, 1945 and 1946. They were runners-up in 1944.



▲ HONORS FOR GUARD—George Smith, Plant Protection, displays some of the medals and diplomas he has received for life saving while a seaman. He is credited with saving 23 persons from drowning. He has also served in the honor guard for Kings Edward and George and was personally commended by King George for his life-saving record. While at Philco he has won a number of suggestion awards.



▲ WOMEN DO UNDERSTAND BASEBALL—Edith Houghton, formerly of Dept. 33, proves that she is familiar with the game as she marks a diamond diagram. Miss Houghton has just been signed as a scout for the Phillies, the first woman to be given such a contract by a major league. She joined the Waves in 1942 and was a chief storekeeper at the time of her discharge.

Philco  
Inaugural  
Photo



**WILLIAM H. CHAFFEE** receives the Legion of Merit from Maj. Gen. Edward M. Powers.

The Legion of Merit Citation was recently presented to **WILLIAM H. CHAFFEE**, Dept. 02, Purchasing, by Major General Edward M. Powers. Mr. Chaffee, a major in the Army before his recent discharge, received the citation for exceptionally meritorious conduct in the performance of outstanding services in the field of radio and radar at Headquarters, Army Air Forces, from 23 October 1942 to 31 August 1945. The citation lists his outstanding services as comprising "the world-wide change-over of airborne radar equipment from the compromised Mark II (IFF) to Mark III; the introduction, theater by theater, of the VHF communication equipment used for command purposes; the setting up of the airborne and ground Loran equipment in India and China; and committee and administrative services resulting in practical and realistic intra-Allied policies for the production and distribution of radio and radar equipment and maintenance spares."

## GI NEWS • • • Here and There

### HOSPITAL CHEER TO CONTINUE

Nearly \$500 has been contributed by members of Departments 80, 81 and 85 for distributing cigarettes, smoking tobacco and other gifts to veterans at the Philadelphia Naval Hospital. There is a small balance in the treasury and solicitations will be made to augment this so that additional baskets may be taken to the hospital, according to Edward Confair, chairman and treasurer. Members of his committee are Bertha Zwier, A. McHenry and A. Lewis, secretary.

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**PVT. FRANCIS J. KING**, Dept. 3840, writes that his address is 38th Company, 1st Platoon, V.T.G., A.S.F.T.C., Camp Lee, Va. He expects to embark for an overseas assignment soon.



**PVT. WILLIAM H. WEBB** (left)

**PVT. WILLIAM H. WEBB**, Dept. 25 (left), on a recent visit to his father, William Webb, Dept. 14. Pvt. Webb, who is stationed at the Aberdeen Proving Ground, Md., enlisted for eighteen months in February. His brother is Leroy M. Webb, also of Dept. 14.

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An early trip home is anticipated by **ARCHIE J. BREWER, JR.**, SK 3/c, Dept. 75. There's romance in the air for Archie, according to his letter.

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Life in the Navy is appreciated by **WILLIAM GOODYEAR**, Dept. 24. He is acquiring a southern accent while being stationed at Camp Peary, Virginia.

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Best wishes to friends in the Metal Division are extended by **PHILIP J. FRECH**, MoMM 1/c, Dept. 64, writing from Wakayama, Japan.

