

# W ! ... the N Screen Grid O W A R D

## Triumph of twenty years In Radio Engineering

WHAT is Screen Grid, anyway?—  
ing about it—everybody wants it—but  
know what it really is?

— in simple language, Screen Grid  
which employs the new super-amplifying

re fact that a radio receiver does em-  
tubs doesn't necessarily make it a  
ver. Quite the contrary is true, unless  
especially and accurately designed to  
tubes properly.

green grid tubes amplify four to five  
the usual types of tubes makes it abso-  
that the receiver of which they are to  
ant part must be scientifically designed

aneous noises which may be minor  
mstances are also amplified to an  
ee, and the selectivity of the set is

ion Screen Grid eliminates these noises,  
antage of the greater amplification and  
tional selectivity which has ever been  
OWARD quality.

In HOWARD Precision Screen Grid receivers, each of  
the four condensers, as well as the screen grid tubes  
themselves, are individually shielded.

— and there's where the difference comes in!

— it is the difference between perfect reception and  
that which fails to give the listener faithful reproduction  
of the broadcast.

1 1 1 1

IN the new 1930 Howard, the fullest amplification of  
screen grid tubes is obtained without oscillation or distortion of the tone quality.

Due to the wonderful sensitivity of screen grid tubes and  
Howard precision and scientific construction, a very  
short aerial permits long distance reception even in localities where many high-powered stations are broadcasting.

### You Simply Must See and Hear the New Howard

Always a leader, Howard Radio is today an outstanding example of what constant progress, honest craftsmanship, conscientious effort and a thorough knowledge of Radio science can create and produce.

Again let us say—you must see and hear Howard Precision Screen Grid Radio. It will be a revelation to you.

This announcement will be of special interest to thousands who now own Howard Receivers made during the past five years. The new Precision Screen Grid Howard is Howard's highest achievement. To Howard owners this statement tells more than all the other words on this page.

## EGMAN RADIO CO.

AND ASSOCIATE DEALERS

Lincoln 8928

Playing in the Radio Listeners' Contest. See the Howard to Be Given  
Away and the Other Models in the Lyric Ballroom.

RD PRECISION SCREEN GRID Speaks for Itself — You Simply Must See and Hear It

Call for Home Demonstration

Liberal Terms—Liberal Trade-In

on the New

**HOWARD**  
PRECISION SCREEN-GRID RADIO

*The Ideal Christmas Gift*

**C. E. BURKE**

Hardware—RADIO—Plumbing

650 E. 49th St.—Near College

HU. 2212

Call for Home Demonstration

on the New

**HOWARD**  
PRECISION SCREEN-GRID RADIO

So That You May Know Perfect  
Radio Reception—Call Us for a  
Demonstration Before You Buy!

**FEDERAL**  
AUTO SUPPLY CO.

515 N. Capitol Ave.

LI. 2863

Call for Home Demonstration

*You Should See and Hear the*

**HOWARD**  
PRECISION SCREEN-GRID RADIO

In cabinets that grace a home as  
a beautiful piece of furniture. The  
tone is what you would expect  
from so beautiful an instrument  
and the price is no higher than so-  
called "cheap sets."

**Broeking Furniture Co.**

"The Irvington Furniture and Radio Shoppe"

5614 E. Washington St.

IR. 4133

Call for Home Demonstration

Liberal Terms—Liberal Trade  
on the New

**HOWARD**  
RADIO

Precision building of Radio means  
perfect Reception. Howard is really  
Precision built.

**MAPLE ROAD SERVICE**

MAPLE ROAD AT COLLEGE AVENUE

WA. 4000

Engaged?



Doris Hill

*By United Press*  
HOLLYWOOD, Cal., Dec. 4.—The engagement of Doris Hill, motion picture actress, to James L. Sunston of Kentucky, was rumored here today. The actress soon will announce the date of the wedding, it was said.

**RECEIVE LETTERS**

Cathedral High Will Give  
Play and Program.

Monogram night, when football players receive letters, will be celebrated at Cathedral high school tonight. The Cathedral Dramatic Club will present "The Goose Hangs High," a play in three acts.

The play cast includes the following characters: Robert Mobley, Robert Loonan, Jack Connor, John Stunkard, Arthur Hearn, John Scherer, John Hahn, Vincent Munnier, Herbert Kistner, Robert Mynahan, Tom Biggans, Charles McDermott and Paul Hoffman.

Monogram sweaters will be awarded the following football players after the play: George Pfeiffer, Joe Spalding, Joe Bingham, Paul Logan, Al Smith, Steve Bubric, Joe Ford, Robert Sweeney, Robert Minton, Jerry Saine, John Ashcraft, John McCreary, John Ford, Jim Guttell, Nicholas Connor and William Gaughan.

**DETROIT FACES CRISIS  
IN AUTO DEATH TOLL**

**Mayor Calls on Citizens to Help  
Reduce Traffic Fatalities.**

*By United Press*  
DETROIT, Dec. 4.—This motor capital of the world, which owes its prosperity to the automobile industry, faces a crisis brought by the same vehicle. Mayor John Christian Lodge declared in calling upon all citizens to help reduce automobile fatalities.

"When traffic deaths mount from 26 to 72 a month with 1,371 persons maimed and cut in 3,482 accidents as was the case last month, the combined resources of money, industry and education should unite to bring the increase of traffic slaughter to a stop," Mayor Lodge declared.

The mayor has appointed a committee of prominent citizens to coordinate in lowering traffic deaths.

**CHINA WILL OUTLAW  
OLD LUNAR CALENDAR**

Documents to Be Illegal, Unless New  
Dates Are Used.

*By United Press*  
SHANGHAI, Dec. 4.—Documents dated by China's old-style lunar calendar will not be valid after Jan. 1, 1930, according to a mandate issued by the national government.

It is hoped that if the government can compel business houses to follow the "foreign style calendar," the general public will do so likewise.

Previous efforts at modernizing the calendar have met with scant success, and Chinese New Year was duly celebrated throughout the country this year in spite of official prohibition.

**Woman Wins Sales Honor**  
*By Times Special*  
GREENCASTLE, Ind., Dec. 6.—Miss Mary Case of the local Chevrolet sales force is the first woman in Indiana and second in the United States to qualify for the Hundred Car Club, membership in which requires the sales of 100 cars.

**RADIO FADING IS  
NOT CAUSED BY  
VOLT VARIATION**

Breaking Tube Filaments  
Usually Are to Blame  
For Trouble.

BY JOHN T. HAWKINS  
Times Radio Editor

Many complaints have been received by this department lately regarding excessive fading on radio sets at night. The theory has been advanced that voltage variations on the Indianapolis Power and Light Company circuits are responsible.

This is true in some localities of the city, where at times the voltage falls so low as to fail to light an ordinary light bulb to normal brilliance, but is not responsible for the greater amount of program fading.

**Two Routes Used**

As far as is known in radio engineering, radio waves are propagated or transmitted by two distinct routes. The first is the ground wave, the signal that follows the ground and which is extremely limited in range. The other is the ether route, making use of that intangible quantity in space called ether.

Transmission in this medium, according to present theory, is dependent on the Heaviside layer, a strata of complex composition in the upper atmosphere. This Heaviside layer is supposed to act as a great reflecting mirror for radio waves in the same manner as an ordinary mirror is to sunlight.

The whole theory of fading in radio receivers is based on the reflecting properties of this layer in the upper atmosphere. It can be seen readily that if the Heaviside layer is in such position as to be reflecting a radio signal at a certain spot, the signal will vary in strength as the layer moves up or down.

In other words, your antenna will be out of focus, if the term may be used, as the radio signal is reflected back and forth by the movement of the Heaviside layer.

**Layer More Pronounced**

At certain seasons of the year and during changing weather conditions, this layer seems to be more pronounced in its movement and at the present time, it seems to have reached a peak in its activity. This explanation of fading does not take into account, however, those individual cases where defective tube type a. c. tubes are being used in the radio set.

Laboratories of the Radio Corporation of America during the last six months have brought out five different designs in the familiar UX 227 heater type vacuum tube. The reason for this is breaking of the filament in use due to strains imposed on it. The tubes apparently will be functioning all right and then the filament will go out.

The elements in the tube will cool slightly and the tube again will light, repeating this cycle of operation as long as the set is turned on. The broadcast listener notices only one thing, however, the program keeps coming in and dying out.

The action of the tube in this case is due to the filament expanding and breaking its connection and the cooling and making the connection again.

**SODA FOUNTAINS GET  
\$700,000,000 YEARLY**

**Statistics Show Decline of Heavy  
Lunches Among Men and Women.**

**NEW YORK, Dec. 4.—**Americans spend \$700,000,000 annually at the soda fountains. Approximately \$250,000,000 more is spent each year at these counters for sandwiches and luncheons, representing a little more than 2 per cent of this country's retail trade. These figures have just been made public by William J. Baxter, director of the chain store research bureau of New York City.

New York City consumers alone eat approximately 2,000,000 sandwiches a day, the report continues. The chain stores now report from 50 to 60 per cent of fountain sales in luncheon items. People don't eat as they did ten or fifteen years ago, especially at noon, this research bureau concludes. The sandwich and salad are fast replacing the steak and pudding.

The number of men eating a heavy noon meal has decreased. The number of women eating their noon meal outside the home has greatly increased, due to their employment in industry.

**BRITISH LIKE DOLORES**

**Del Rio Favorite Screen Actress;  
Colman Leads Men.**

*By Times Special*  
NEW YORK, Dec. 4.—They have their own ideas about who's who in the movies over in merry old England. Photoplay Magazine this month publishes the results of a London film popularity contest in which 25,000 fans voted. In the order of their popularity, the stars selected are: Actresses—Dolores Del Rio, Betty Balfour (English), Clara Bow, Esther Ralston, Vilma Bánky, Florence Vidor, Mary Pickford. Actors—Ronald Colman, Richard Dix, Douglas Fairbanks, Adolph Menjou, Syd Chaplin, Charles Chaplin.

**FOR CHRISTMAS  
CROSLEY**

**Screen Grid Radio**

"The Newest in Radio at  
New Reduced Prices"

See Your Nearest CROSLEY Dealer