

# RADIORAMA

INTERESSANTES FÜR RADIO- UND GRAMMOPHON-LIEBHABER

Nr. 2

## RADIOLA 28

Reg. U. S. Pat. Office

**SERVICE NOTES**  
*Instructions NS 28-1*  
(Battery Operated)



Interessantes Dokument, zur Verfügung gestellt von Horst Griese (Duisburg):  
Original-Service-Anleitung für den Radiofachhändler von 1925.  
...Confidential and to be used only by its authorised distributors and  
dealers in furnishing service in connection with its apparatus...

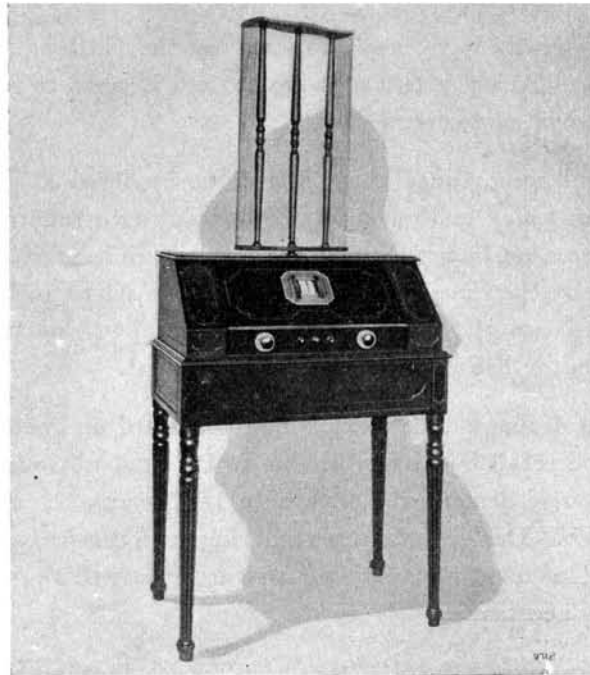
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## RADIO CORPORATION OF AMERICA

*Prepared By*

**NATIONAL SERVICE DIVISION**

**233 BROADWAY, NEW YORK CITY**

**DISTRICT SERVICE STATIONS**

**326 Broadway  
New York City**

**10 South La Salle Street  
Chicago, Ill.**

**28 Geary Street  
San Francisco, Cal.**

**3308 Fourteenth Street, N. W.  
Washington, D. C.**

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# A Word or Two About Service

Radiola 28 Service Notes have been prepared by the National Service Division of the Radio Corporation of America to assist Authorized Dealers to render a prompt and efficient service to the retail customer.

It is of paramount importance that Service be rendered at point of sale. It is obvious that where the dealer is thoroughly conversant with repairs to be made that a more prompt response to a customer's appeal for service can be given. The inconvenience to the customer caused by the time involved in returning a set to an RCA Service Station is only justifiable in the case of factory defective material or due to some trouble that the dealer or his distributor has not the facilities to adjust.

The value of direct dealer service to individuals is based on good will, and it is good will upon which all large retail businesses are built. It is also obvious that efficient dealer service assures for the wise dealer with an eye to the future, the replacement sales of Radiotrons and batteries. Dealers who are rendering such service soon become known in their localities by word of mouth advertising and are thus well rewarded with increased Radiola sales as well as accessories.

Service engineers at any of the RCA District Service Stations are ready at all times to assist National Distributors and Authorized Dealers in solving any service problems that may arise and to cooperate with them in their service work.

# Radiola 28 Service Notes

## (BATTERY OPERATED)

### INTRODUCTION

Servicing the Radiola 28 will be along the same general lines as the Radiola 25, as it contains much in common with this set and others of the Super-Heterodyne group. No attempt will therefore be made in this series of service notes to review the service data that applies equally as well to all Radiola Super-Heterodynes, confining our notes to conditions to be dealt with in the Radiola 28.

#### (1) SALIENT POINTS OF RADIOLA 28:

- (a) "Fundamental" Super-Heterodyne circuit employing 8 Radiotrons.
- (b) A stage of *tuned* Radio frequency amplification before the first detector.
- (c) Local stations may be heard at only two points of the Oscillator Drum Control.
- (d) Batteries in special compartment under set proper.
- (e) Left hand drum controls loop tuning condenser and tuned R.F. condenser which are mechanically and electrically synchronized. Right hand drum tunes oscillator coil as in Radiola 25.
- (f) Loop serially numbered to go with a particular set.
- (g) No Radiotrons reflexed.

#### (2) RADIOTRON SEQUENCE:

Counting from left to right, the input is brought into the third Radiotron, which is a stage of tuned Radio Frequency Amplification. The output of the third Radiotron then goes to the first tube on the left, this being the frequency combining tube or first detector. The output of the fifth tube which is the oscillator is also fed into tube number one. The intermediate frequency signal now passes through tube No. 2, which is the first stage of I.F. amplification hence through tube No. 4 which is the second I.F. Stage, skipping tube No. 3. From tube No. 4 the signal is fed into tube No. 6 (skipping No. 5) which is the demodulating tube or 2nd detector, hence through tubes No. 7 and 8 which are the first and second stages of audio frequency amplification respectively. Radiotrons UX-199 are used in the first seven sockets and the power amplifier Radiotron UX-120 in the 8th position.

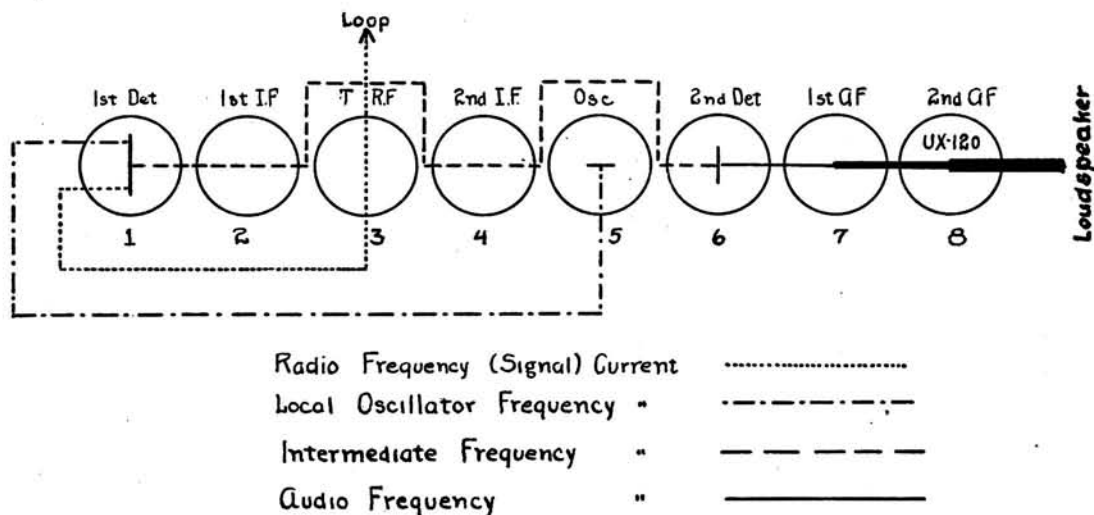


Fig. 1

### (3) OPEN LOOP:

The symptoms of an open loop circuit in Radiola 28 are somewhat different than those manifested by other Radiola Super-Heterodynes using the six tube catacomb. In the latter type of Radiolas an open loop circuit or broken pig tail of the left hand condenser causes selector No. 1 to have no apparent effect on tuning. Local stations may be received however when selector No. 2 is in the proper position for a certain station.

In Radiola 28, however, the loop may be entirely removed from the set and nearby local stations heard when both the left and right hand drum control wheels are in their normally proper position for a given local station. In this case, the windings of the tuned Radio Frequency circuit act as a small loop, furnishing the necessary pickup.

It will be somewhat difficult, therefore, to tell whether or not the loop circuit is open without testing it for continuity. In general, if the center contact of the loop plug were open very little effect on local stations would be noted. If either leg of the loop were open signal strength from local stations would be cut approximately in half. It is doubtful whether stations over 50 miles away would be heard at all.

The complete loop circuit may be tested for continuity with a battery in series with a lamp, voltmeter or headphone. Remove loop, lift cover and reseat loop. Place one battery lead on terminal 9, counting left to right on the catacomb terminal strip, and the other on first terminal No. 6 and then on No. 8. Terminal No. 9 goes to the center tap of the loop and terminals 6 and 8 to opposite sides of the compensating condenser connected directly across the loop. If test from 9 to 8 or 9 to 6 shows open, look for:

1. Open at point where loop leads connect with loop plug contacts.
2. Dirty connections between loop plug and loop socket.
3. Broken leads between loop socket and catacomb terminal board.
4. Broken condenser pig tail.

### (4) LOOP SOCKET:

Care should be taken to see that the loop is firmly seated in its socket as under certain conditions the "A" and "C" batteries may become short circuited by the contact spring of the loop *plug* shorting the contact spring of the *socket* to the metal collar of the socket if the loop plug is not properly seated. It will be noted that there are three prong contacts in this socket instead of two as in the Radiola 25.

### (5) LOOP NOT VERTICAL WHEN SEATED:

To correct this condition remove loop and open lid. Loosen the four machine screws that hold the loop socket collar assembly in place on the horizontal platform of the frame. It will be noted that the construction of the upper and lower portions of the loop socket assembly is similar. When loosening these four screws, hold the nuts from turning. Having loosened the screws the entire loop socket assembly may be rotated in an area sufficient to enable the centering of it directly below the bezel ring in the lid of the cabinet. With the lid closed insert the loop and force it into a vertical position by applying pressure to the centre spindle. When a vertical position is thus attained, remove loop from the socket taking great care not to move the socket assembly from its new position. The four screws may now be tightened and the loop will remain vertical providing the new position of the socket assembly was not altered when removing the loop.

## **(6) RADIOTRON SOCKETS:**

In placing Radiotrons in the gang sockets care should be exercised to make certain that the two large pins and two small pins of the Radiotrons are placed into the two large and two small holes respectively of the sockets. If a Radiotron will not fit into a socket without considerable pressure being applied, the trouble is probably due to excessive solder on one or more of the prongs. This may be removed with a file or knife. Never try to force one in as the design is such that they should fit in snugly without force being necessary. It might be possible by exerting considerable pressure, to force the prongs into the wrong holes, resulting in a filament burnout.

## **(7) PROTECTIVE LAMP LIGHTS WITH NO APPARENT GROUND:**

If after properly connecting the batteries the UV-877 protective lamp lights and no apparent ground to the catacomb or metal frame can be located, carefully note whether or not any of the metal marker tags on the battery cables are touching the catacomb frame. These tags are clamped to the wires and occasionally a sharp burr on the clamp may pierce the insulation and make contact with the wire itself. If such a marker on a B battery lead should come into contact with the frame or catacomb the protective lamp would light.

## **(8) LOOSE RHEOSTAT CONTACTS:**

To get at this source of trouble, open lid and remove the battery terminal strip from the catacomb by loosening the screws that hold it. Close lid and lift set back on its hinges. Remove the four screws in the bottom of the cabinet and return the set back to its natural position. The set may now be removed from the cabinet by opening lid and applying pressure at the back until panel moves forward sufficiently to enable the service man to support it with his fingers. It may now be gently pulled out taking care not to permit the metal frame work to mar the finish by riding on the front base of the cabinet.

The square headed set screw holding the rheostat arm to the shaft may now be loosened and the contact arm readjusted or removed and bent so that it will make positive contact with the resistance strip, making certain that the resistance strip is clean where contact is made. Tighten set screw and replace set in cabinet.

## **(9) OUTER EDGE OF DRUM CONTROL WHEEL SCRAPING AGAINST ESCUTCHEON PLATE OF PANEL:**

This condition may be due to two causes:

(1) *Warped control wheel.* Check by placing a straight edge on the outer flat surface of the knurled control wheel and noting any irregularity of movement by slowly rotating the wheel.

(2) *Condenser improperly aligned.* To correct this condition remove front panel as previously instructed and adjust the mounting screws of the condenser. The two mounting screws that hold the back end plate of the condenser pass through elongated holes in the aluminum platform thus allowing a degree of play sufficient for adjustment purposes.

## **(10) DRUMS FAIL TO HOLD POSITION:**

(a) Remove set from cabinet and readjust tension screw on the inside of the drum. Some Radiola 28s have only one counter weight, relying on a friction shoe to hold the

opposite drum from slipping. Sets now in production, however, are equipped with a counterweight on both condensers, the friction shoe only serving the purpose of holding the opposite condenser in relative position when one is moved. The tension screw referred to controls the pressure of this friction shoe against the inside of the opposite drum. If one drum turns too hard when the other is held, the tension screw may be slightly loosened.

(b) Should the wave length range be off calibration, ascertain whether or not the drum control is in proper relation to the condenser plates. When the drum control is set for minimum frequency (maximum wave length) the rotor plates of the condenser should be entirely inside the stator ones. Provision is being made in new production to key the drums to the condenser plates, thus eliminating the possibility of incorrect frequency calibration due to slipping of the drum control on the condenser shaft.

#### **(11) D.C. BUS BAR ON REAR OF CATACOMB:**

The screws holding this bus bar must always be kept tight, otherwise intermittent reception or complete failure to operate may result. This bus bar is a vital part of the filament circuit, connecting the filaments in parallel for dry battery operation. Occasionally the screws holding it in place will work loose in shipment.

#### **(12) OSCILLATION:**

Should a Radiola Super-Heterodyne oscillate, causing squeals, it is usually an indication that the battery potential at the filament terminals is in excess of 3 volts. Not only does this cause poor reproduction but if excessive voltage is continued the normal operating life of the Radiotrons will be greatly reduced.

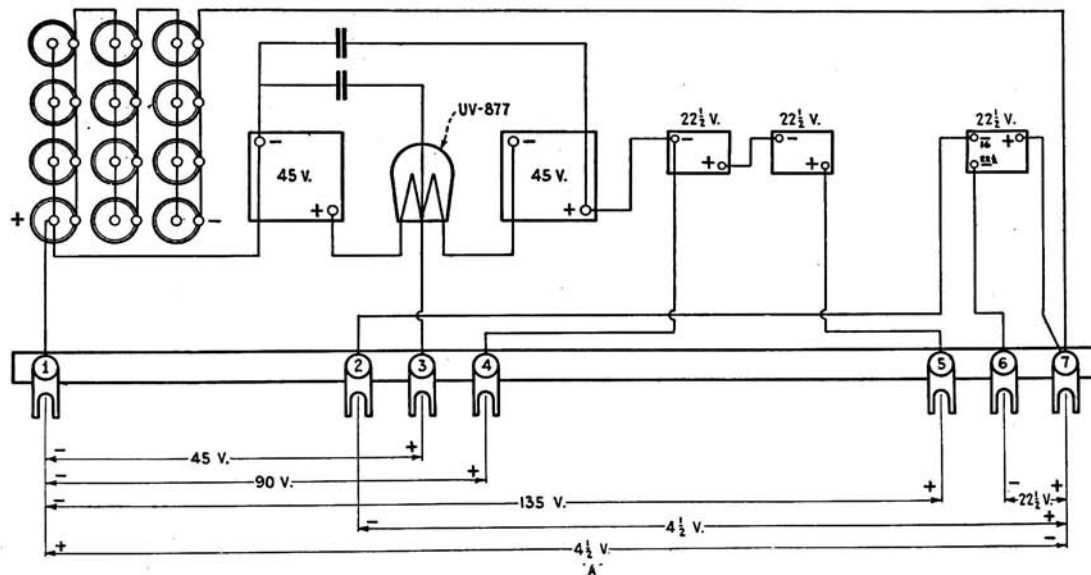
To check the filament voltage the service man may insert the leads of a high resistance type voltmeter into the pin jacks in the center of the control panel directly above the battery switch.

#### **(13) PROTECTIVE RADIOTRON UV-877:**

This protective tube is incorporated in the circuit to prevent filament burn-outs due to short circuit of the 45 volt or 90 volt B batteries to the filament circuit. If this lamp lights it is an immediate indication that either the B batteries are improperly connected or a short circuit is present. In either case do not attempt to operate the set until the source of trouble has been located and rectified. This protective Radiotron is provided with a double filament and is so connected that there is a filament in series with the 45 volt and 90 volt battery leads. It is therefore possible for one filament to burn out, opening the 90 volt B battery circuit without affecting the 45 volt circuit. In an emergency if no spare UV-877 Radiotron is available, the three connections to the UV-877 may be tied together.

#### **(14) TEST FOR PROPER BATTERY CONNECTIONS:**

Disconnect battery connection strip from the catacomb terminal board by loosening the screws holding it in place. Battery readings may then be taken directly across the various battery terminals by a high resistance type voltmeter. If the batteries are properly connected and in good condition the following voltmeter indications should be obtained with the correct polarity.



**Fig. 2**

*Correct voltage readings across battery terminal strip*

### (15) COMPENSATING CONDENSER:

This condenser is connected in shunt to the loop and loop condenser and is used to add capacity to the loop circuit to compensate for distributed capacity in the Radio Frequency Windings. It is adjusted at the factory to properly balance a particular loop and should therefore **NOT BE TOUCHED UNDER ANY CIRCUMSTANCES** unless proper testing equipment is at hand for making correct adjustment. The construction of this compensating condenser is such that when adjusted at the factory the possibility of its changing is remote and consequently **SHOULD NOT BE TAMPERED WITH UNLESS PROPER FACILITIES ARE AVAILABLE FOR ADJUSTING.**

### (16) NEUTRALIZING CONDENSER:

Between terminals 7 and 8 of the catacomb terminal board there is a tubular neutralizing condenser. Should a soldered connection break due to vibration in shipping care should be taken to resolder the broken connection in such a manner that the capacity is not changed. Replace lead exactly where it was and make it fast by applying heat to the old solder at the former joint.

### (17) WEAK SIGNALS DUE TO HIGHLY SHIELDED LOCATION:

There may be found an occasional location, as was noted with Radiola Super-Heterodyne, so badly shielded that an external pickup will be necessary. Installations in steel buildings are at times troubled with this shielding effect. Should this phenomenon manifest itself, a short antenna, not over 25 or 30 feet in length must be erected outside of the building. Insulated wire should be used and may be conveniently hung out of a window although it would of course be better to get it away from the absorbing effect of the building, if possible. This antenna should be inductively coupled to the loop of Radiola 28 by winding a few turns of the lead-in, which should preferably be a continuation of the antenna itself, to a diameter of eight or nine inches, placing this coil at rear of set in inductive relation to the loop. Enough wire should be left over after form-



ing this coupling coil to serve as a ground lead, connecting same preferably to a cold water pipe by means of an approved ground clamp. It will be noted that no connections whatsoever are made in this length of wire from the far end of the antenna until connected to ground. Thus installed we have a low resistance antenna conveying the Radio waves to an aperiodic coupling coil, to be picked up by the loop of Radiola 28 and transmitted to the set in the usual manner. The loop of course loses its directional effect but the loop tuning condenser calibration remains unchanged.

### (18) LOUD SPEAKER POLARITY:

In Radiolas employing Radiotron UX-120 in the last audio amplification stage it is very important that the loud speaker be so connected that the magnetic field generated by the relatively large plate current from the 135 volt B battery will not oppose the permanent magnetic field of the speaker pole pieces. In present production Radiola UZ-1325 loud speakers one of the leads is brown, the other black with a brown tracer. The solid brown lead should be connected to the *tip* of the phone plug and the black lead with brown tracer to the *sleeve* of the phone plug. In Radiolas it is standard practice to connect the phone jack in such a manner that the tip of the phone plug will go to the plate of the audio amplifying Radiotron and the sleeve to the positive (+) B battery terminal. If electromagnetic speakers similar to the UZ-1325 are incorrectly connected, they will soon lose their sensitivity through a weakening of the permanent magnetism of the pole pieces. When the leads are properly connected, the magnetic field generated by the steady plate current in the speaker coils intensifies the permanent magnetic field of the pole pieces and maintains the permanent magnetism.

If there is doubt of the correct connection, loud speakers with metallic diaphragms such as UZ-1325 should be so adjusted that the diaphragm just strikes the actuating magnets or pole pieces as will be evidenced by a clattering noise when loudest notes are played. Reversing the loud speaker leads will either accentuate or lessen the clattering. That connection which gives greatest clattering is the correct one to use. The speaker should then be readjusted so that no clattering occurs on the greatest volume desired.

In Radiola loud speakers models 100, 102 and 104, however, the polarity is not an important factor. They should accordingly be connected in the manner that gives the most pleasing reproduction.

### (19) CONTINUITY OF CIRCUIT TEST:

The following test will show complete continuity for both the external connections to the catacomb and the internal connections.

Both filament control and volume control rheostats should be adjusted so that half the resistance is in the circuit, the battery switch should be closed as is the case when operating the set, the loop removed and the battery cable disconnected from the terminal strip at the rear of the catacomb.

A pair of headphones with at least 4½ volts in series or a voltmeter with voltage sufficient to give full scales deflection when connected directly across battery terminals should be used in making this test. This arrangement will be found to be very sensitive in checking voltage drop in various circuits.

The contacts of the test equipment should be placed across the terminals indicated under the column marked "terminal" and the results should be as indicated under the column marked "effect." If the results are negative the cause of such negative effect will be found in the last column under the heading "defect." The first column indicates the circuit under test.

<i>Circuit</i>	<i>Terminal</i>	<i>Effect</i>	<i>Defect</i>
Plus filament	1 to all F plus Plus filament grounded to can	Closed direct	Broken connection or loose screw in D.C. bus bar
Neg. filament	22 to F1 neg.	} Closed direct	Broken connection or loose screw in D.C. bus bar
	22 to F3 neg.		
	22 to F4 neg.		
	22 to F5 neg.		
	22 to F6 neg.		
	22 to 5	Closed direct	Broken connection or loose screw
	22 to F2 neg.	Closed thru res.	Defective volume control, loose screw
	22 to 21	Closed direct	Defective battery switch
<i>Grid</i>	1 to G6	Closed thru res.	Coil No. 6 open—open grid leak
	20 to G8	Closed thru res.	Coil No. 10 open
	9 to G7	Closed thru res.	Coil No. 8 open
	9 to G5	Closed thru res.	Coil No. 12 open terminals No. 12, No. 14 loose connection
	9 to center loop	Closed direct	Broken connection
	9 to G4	Closed thru res.	Coil No. 4 open
	9 to G2	Closed thru res.	Coil No. 2 open
	9 to G1	Closed thru res.	Coil No. 13 open
	6 to G3	Closed direct	Broken connection
	6 to side loop	Closed direct	Broken connection
	8 to side loop	Closed direct	Broken connection
	8 to 7	Open	Neut. cond. shorted
	8 to 6	Open	Loop cond. shorted Comp. cond. shorted
	<i>Plate</i>	18 to P8	Closed direct
18 to 19		Open	Shorted 2nd tel. jack
11 to 17		Closed thru res.	Coil No. 9 open
11 to 16		Closed thru res.	Coil No. 9 open Def. 1st tel. jack
11 to P7		Closed thru res.	Def. 1st tel. jack Coil No. 9 open or broken connec- tion
11 to 13		Closed thru res.	Coil No. 11 open
11 to P5		Closed thru res.	Coil No. 11 open or broken connec- tion
11 to P4		Closed thru res.	Coil No. 5 open
11 to 7		Closed thru res.	Coil No. 14 open
11 to P3		Closed thru res.	Coil No. 14 open or broken connec- tion
11 to P2		Closed thru res.	Coil No. 3 open
10 to 15*		Closed thru res.	Coil No. 7 open
10 to P6		Closed thru res.	Coil No. 7 open
10 to P1		Closed thru res.	Coil No. 1 open

\*There is no external connection to terminal No. 15.

#### *Fixed Condensers*

Gnd. to P7	Open	Cond. No. 1 shorted
22 to G7	Open	Cond. No. 2 shorted
22 to P6	Open	Cond. No. 3 shorted
1 to P6	Open	Cond. No. 4 shorted
P2 to G2	Open	Cond. No. 5 shorted

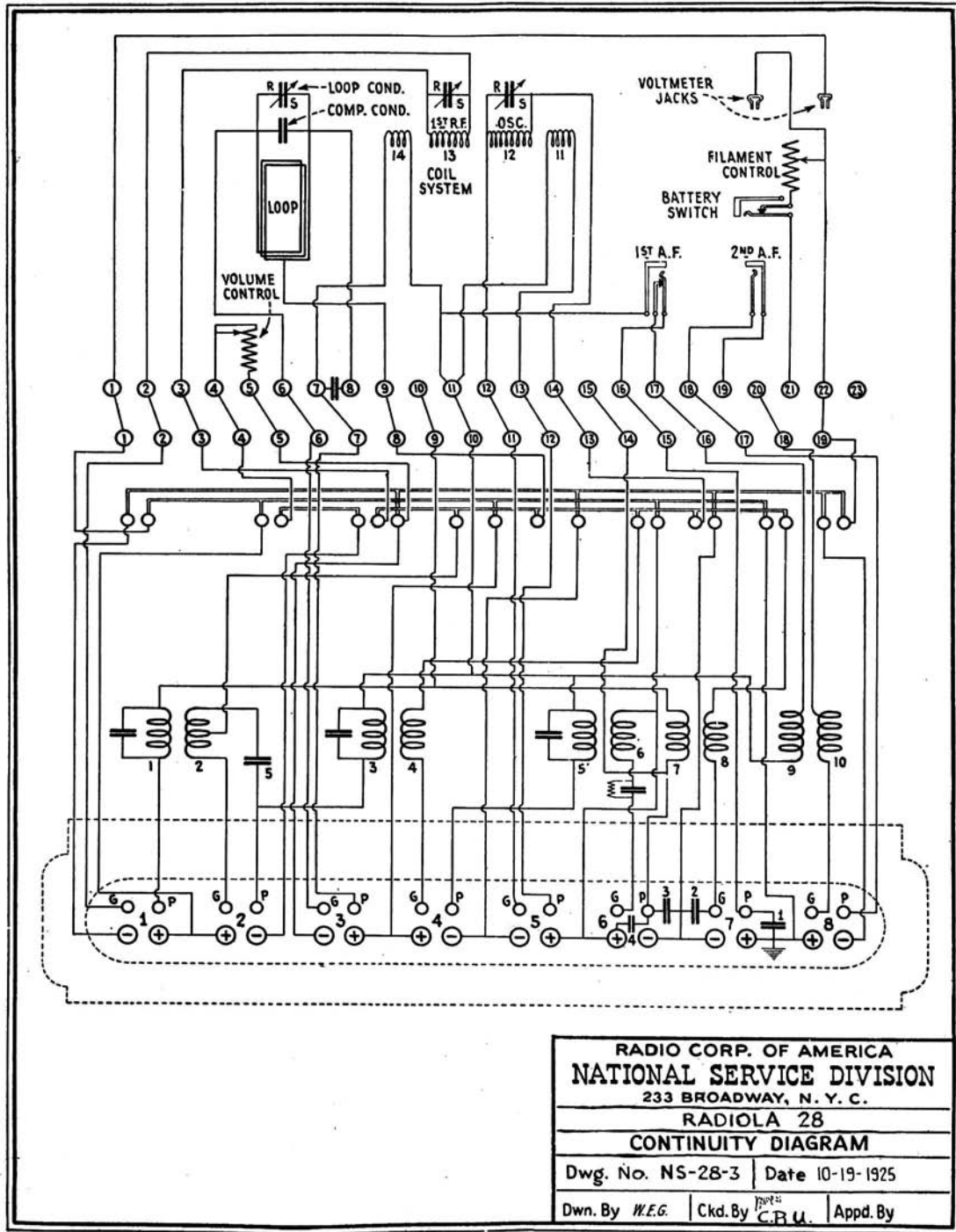
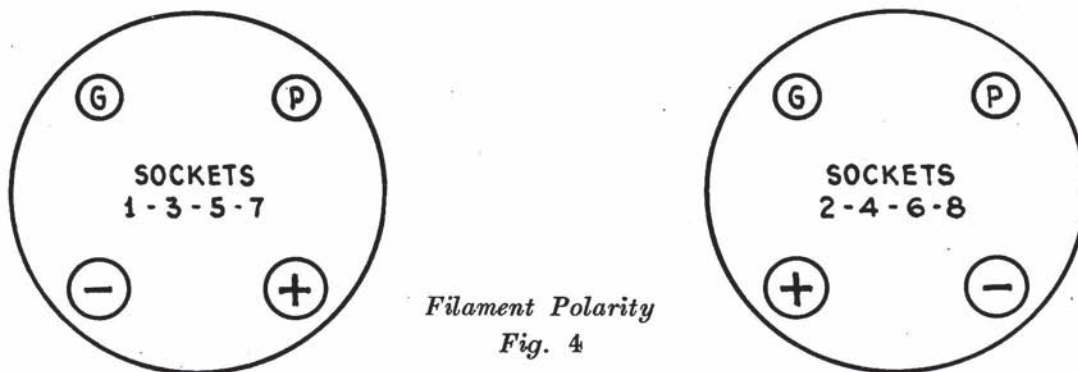


Fig. 8

The numbers of the terminals referred to in the foregoing apply to the terminals on the connecting strip at the rear of the catacomb frame assembly. The terminals are numbered from right to left when facing the front of the set. The designation "P" and "G" refer to plate and grid contacts of the socket indicated by the following number. For example G2 would indicate the grid contact of the second socket. P7 would indicate the plate contact of the seventh tube socket. In the same way the indication "F" denotes the filament contact of the tube socket indicated by the number. The filament contacts are also noted as minus and plus. The coil numbers referred to in the right hand column will be found in Fig. 3. The designation of the socket contacts are shown in the following diagram, Fig. 4.



If the catacomb fails to pass any of the above tests it should be removed from the panel and replaced by a new one. Under no circumstances should the lead seals on the cover plate be broken. No marks of any kind should be made on the catacomb. Some of the service men have made a practice of indicating the defect in the catacomb by marking same on the catacomb cover. To indicate the defect in the catacomb for future reference, attach tag to catacomb and note thereon observed defect.

## (20) CONCLUSION:

In placing these service notes on Radiola 28 in your hands, it is assumed that you have had previous experience in servicing Radiola Super-Heterodyne and Super VIII. Service data, therefore, common to Radiola 28 and Radiola Super Heterodynes employing the six tube Catacomb has not been reviewed in these notes.

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1925:  
 Der mit der aufgesetzt drehbarer Rahmen-Antenne wohl etwa mannshohe Radiola 28. Ein imposantes Möbelstück, das ausserdem noch einen Lautsprecher erfordert. Viel Aufwand für einen Mittelwellenempfänger.



Radiola Lautsprecher Modell 104



Modell 100A

Fünfzig Jahre später steckt man's in die Hosentasche, der Lautsprecher ist eingebaut...

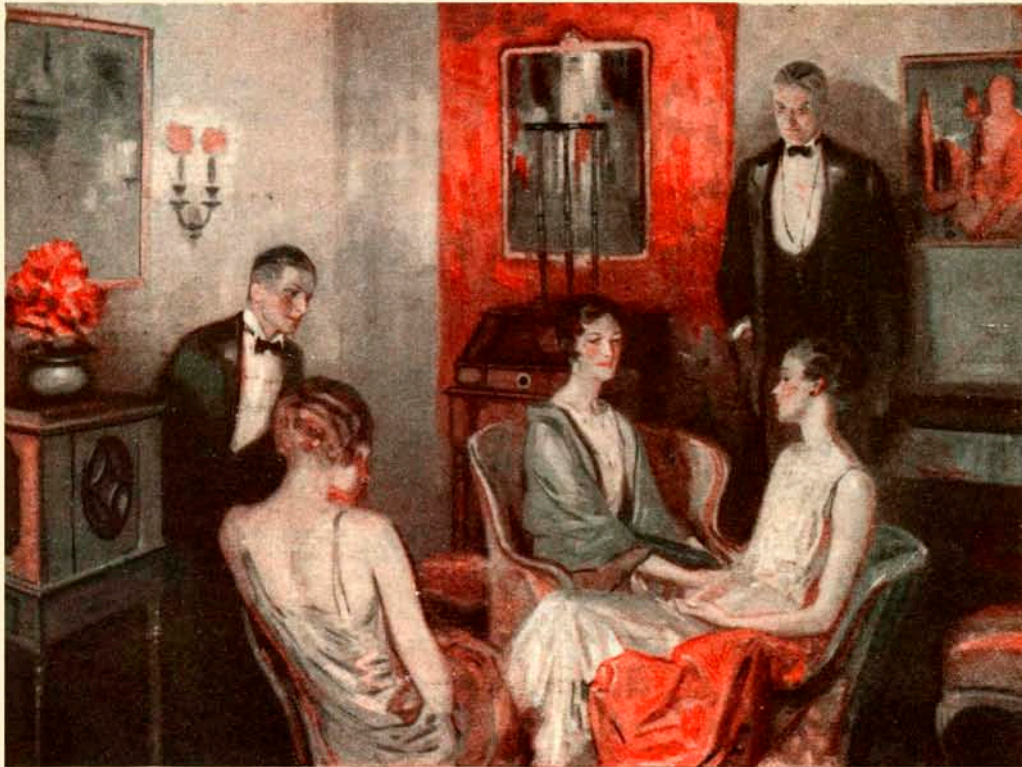


Sanyo Taschenradio Mod. 6C-64  
 6 Transistoren, B/H/T 91 x 58 x 26 mm  
 Gewicht ca. 150 Gramm



Auf den zwei folgenden Seiten aus dem «American Magazine» → begegnet uns Werbung für den Radiola 28 als Netzgerät «hooked up with the power of the lighting circuit...» und (nicht ganz dazu passend!) Reklame für »Burgess Radio Batteries»

*The high sweetness of the violins carries the theme; the deep drums beat the rhythm; a great symphony holds a million audiences in its spell.*



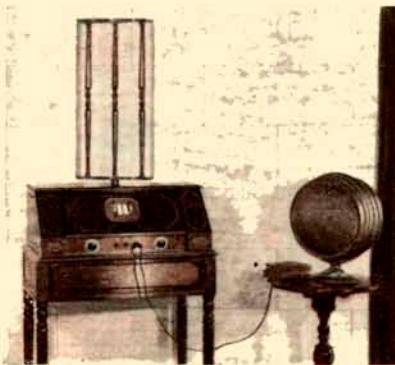
## RCA has made radio *not only greater — but simpler*

EVERY RCA Radiola shows this trend toward simplicity—combined always with new achievements in performance.

Consider the eight tube super-heterodyne, Radiola 28. It is the culmination of twenty-five years of radio development—a remarkable instrument of music and of radio. Yet it stands as a simple, charming piece of furniture, and captures the magic of distant music with the turn of a single control!

In the RCA Radiolas of today, single control has been tried and proved . . . it is no experiment. With these same Radiolas, operation from the lighting socket has had many months of testing and perfecting. They have shown the remarkable musical possibilities of radio when hooked up with the power of the lighting circuit.

*The new RADIOLAS that are such remarkable MUSICAL achievements are at the same time the SIMPLEST of musical instruments.*



*Radiola 28, eight tube super-heterodyne single controlled. With 8 Radiotrons . . . \$260  
RCA Loudspeaker 100 . . . \$35*

And practically every new feature that is heralded in radio today was first developed by RCA engineers—or by their associates in the General Electric and Westinghouse laboratories. In RCA Radiolas, modern radio has had the “road test” of experience and there is nothing to compare with them in tone or in performance.

They have made the old type radio obsolete, and have brought a new conception of radio—and of music—to thousands of homes. Whatever price you plan to pay for radio, be sure to hear the RCA Radiolas. From the least expensive Radiola to the most remarkable “electrical” model, each represents the most advanced radio of today—and the most thoroughly tried and proved.

Buy with confidence  where you see this sign

RADIO CORPORATION  
OF AMERICA

**RCA Radiola**  
MADE BY THE MAKERS OF THE RADIOTRON

NEW YORK · CHICAGO  
SAN FRANCISCO



## The "Mountie" isn't lonely any more

WHEN the supply ship steams south from the last outpost of northern civilization in September, not to return until the following July, loneliness will never again beset the lives of the Royal Canadian Mounted Police who patrol that vast, wild area.

Radio is now brightening the long winter nights with music, special programs, messages and greetings from their "home folks."

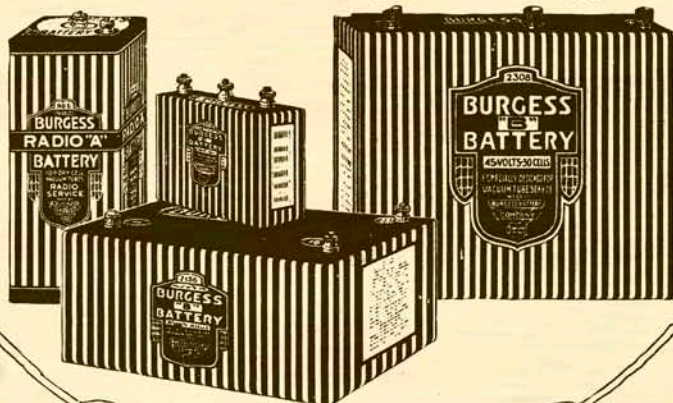
And in the receiving sets of the "Mounties" is the best equipment obtainable. The batteries they use *must* be dependable. They *must* serve until new supplies are brought in a year later.

*Ask Any Radio Engineer*

### BURGESS BATTERY COMPANY

GENERAL SALES OFFICE: CHICAGO

Canadian Factories and Offices: Niagara Falls and Winnipeg



# BURGESS RADIO BATTERIES

tion. In the summer of 1926 the deal was consummated.

Thus it was that George B. Dealey, who was employed originally because he was the office boy's little brother, passed into financial—as well as executive—control of the property he has had so important a part in building and molding.

"There is just one more question," I said to Mr. Dealey, as I rose to go. "Do you find that the David Crockett picture really has an influence?"

"Oh, of course it has an influence," answered Mr. Dealey. "There is no magic in it. It is not a talisman. But it does call to mind the principle that Davy stood for. I have had many of the men speak of it as a useful reminder. Only the other day one of the departments got into a bad jam, and the men responsible for it were called on to thresh the problem out. I happened to be passing down the hall as the conference adjourned, and one of the men stopped me and said, 'Well, we're back on sound footing now. For a while it was rather delicate going; but there was old Davy looking down on us, and he straightened us out.' No one can come to work here without being confronted by that picture. Inevitably he asks 'Whose picture?' and 'Why?' When he is told, the impression is far more effective and lasting than it would be if I printed Davy's precept on poster sheets in jumbo type and plastered them all over the office walls."

## The Heir at Law

(Continued from page 14)

"Did my brother ever consult you about a will?"

"He did not."

"Or in any manner about the distribution of his estate at death?"

The questions were volleyed at the lawyer.

And again Colonel Braxton answered with his formula:

"He did not."

Lurty relaxed, and for a moment his heavy body seemed to heap up in the chair as though devitalized. He was like one escaped out of a peril, and breathless from it. This was the thing he feared. This was the thing that alone concerned him. This was the reason for his message to the man before him. It was to make certain whether or not his brother's lawyer had any knowledge of a will! And now that he was certain, the pressure of fear lying on his back was lifted.

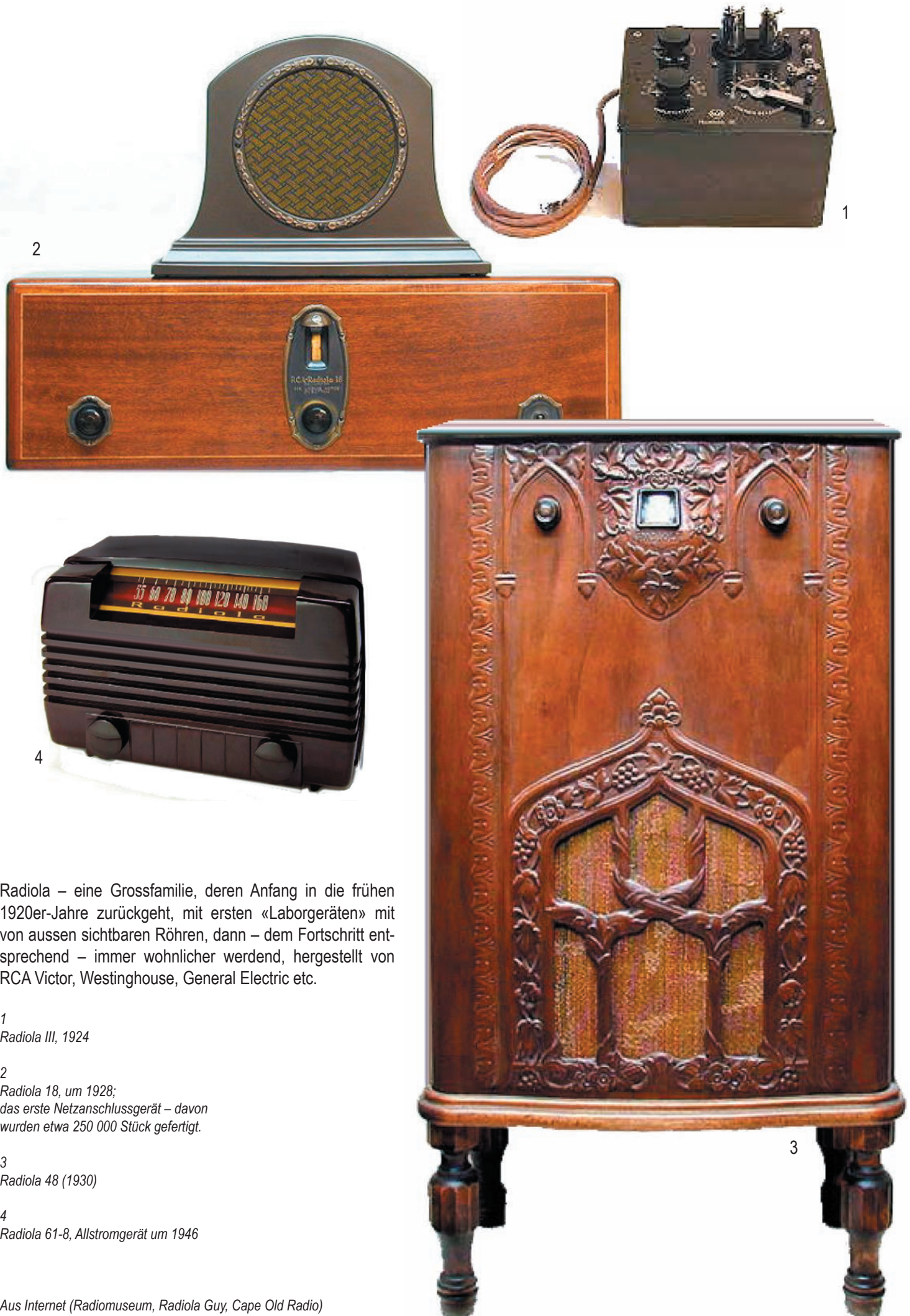
He was free!

He had hesitated before an irrevocable act, lest in this attorney's hands there might be collateral evidence. Counselor to doubtful enterprises, as the dead man had defined him, he was habituated to an excess of caution. He knew that when an irrevocable act was done, it could not be undone. But when one knew, indirections could be given up. One could go forward with a decisive unconcern.

He now spoke sharply and with decision:

"Then my brother's estate descends to me by operation of law, and I take it."

He got on his feet firmly, like a man ashore out of treacherous waters.



Radiola – eine Grossfamilie, deren Anfang in die frühen 1920er-Jahre zurückgeht, mit ersten «Laborgeräten» mit von aussen sichtbaren Röhren, dann – dem Fortschritt entsprechend – immer wohnlicher werdend, hergestellt von RCA Victor, Westinghouse, General Electric etc.

1  
Radiola III, 1924

2  
Radiola 18, um 1928;  
das erste Netzanschlussgerät – davon  
wurden etwa 250 000 Stück gefertigt.

3  
Radiola 48 (1930)

4  
Radiola 61-8, Allstromgerät um 1946

Aus Internet (Radiomuseum, Radiola Guy, Cape Old Radio)