

# TUBE COLLECTOR

TUBE COLLECTORS ASSOCIATION

"HISTORY • PRESERVATION • APPLICATION"

Vol. 13 No. 4

August, 2011



**TUBE COLLECTOR**  
**TUBE COLLECTORS ASSOCIATION, INC.**  
 PO Box 636, Ashland, OR 97520, USA



The Tube Collectors Association is a nonprofit, noncommercial group of individuals active in the history, preservation, and use of electron-tube technology. *Tube Collector*, its bulletin, appears six times per year.

**Officers and Staff**

**President:** Ludwell Sibley, KB2EVN, (541) 855-5207, [tubelore@jeffnet.org](mailto:tubelore@jeffnet.org)  
**Vice President:** Norm Wilson, N6JV, (916) 689-3534, [N6JV@N6JV.com](mailto:N6JV@N6JV.com)  
**Secretary-Treasurer:** Bob Deuel, K2GLO, (541) 482-8752, [k2glo@jkasystems.com](mailto:k2glo@jkasystems.com)  
**Editor:** Ludwell Sibley, as above  
**Webmaster:** Norm Wilson, as above  
**Awards Administrator:** David Kraeuter  
**Directors:**  
 Jim Cross (chairman) Jerry Vanicek  
 Joe Knight Norm Wilson, N6JV  
 Ron Lawrence, W4RON

**Honorary Members:** Bob Deuel, K2GLO; Bro. Patrick Dowd, W2GK; Al Jones, W1ITX; Ludwell Sibley, KB2EVN

**Web Site:** [www.tubecollectors.org](http://www.tubecollectors.org)

**email Reflector:** [tubecollectorsassociation@yahoogroups.com](mailto:tubecollectorsassociation@yahoogroups.com)

To subscribe: send a blank, untitled email to [tubecollectorsassociation-subscribe@yahoogroups.com](mailto:tubecollectorsassociation-subscribe@yahoogroups.com)

To unsubscribe: send a blank, untitled email to [tubecollectorsassociation-unsubscribe@yahoogroups.com](mailto:tubecollectorsassociation-unsubscribe@yahoogroups.com)  
 Group moderator: Ron Lawrence, W4RON, [w4ron@carolina.rr.com](mailto:w4ron@carolina.rr.com)

To join TCA: annual dues is \$20.00 (in North America; \$25.00 elsewhere), to the address above. Please make checks payable to "Tube Collectors Association." Payment by PayPal is welcomed, to [tca@jkasystems.com](mailto:tca@jkasystems.com). The membership year runs January-through-December. Those joining after February receive the year's back issues of TCA publications. Multi-year membership is invited, at: in North America, \$37 for two years or \$54 for three; elsewhere, \$49 for two years or \$73 for three.

Articles on tube topics are welcomed. Editorial correspondence should go to the editor at [tubelore@jeffnet.org](mailto:tubelore@jeffnet.org) or 102 McDonough Rd., Gold Hill, OR 97525.

Renewals, changes of address, and other membership business should go to Bob Deuel at [tca@jkasystems.com](mailto:tca@jkasystems.com) or PO Box 636, Ashland, OR 97520.

Unless copyrighted by an author, this material is available for attributed reproduction.

**FRONT COVER:** Massive "Club 30" TV receiver "designed for use in public places, such as schools, clubs, hospitals, and restaurants" (gin mills not mentioned) using the big new 30BP4 picture tube. Adapted from the July 1950 issue of the *Du Mont Raster*.

*Photo: Wm. Wade, Jr.*

**REAR COVER:** "Du Mont Tubes for Science, Industry, The Military," from a 1965 catalog: power triodes, vacuum diodes, scan converters, vacuum gauges, night-vision converters, photomultipliers, and, of course, cathode-ray tubes.

*Image: Fairchild Du Mont Laboratories*

**MICROPHONICS FROM THE EDITOR**



**2011 MEMBER MEETING**

We again enjoyed the hospitality of the Michigan Antique Radio Club, meeting just before their annual "Extravaganza" event on July 7. The site was the Causeway Bay Inn in Lansing. Our meeting was in the usual small-but-intense format, with attendance in the 20s.

Bob Deuel reported on the state of membership. As of June 30, it was 382 953 foreign, down from 398 (54 foreign) at the end of 2010. (Membership always continues to rise as the year goes along, and it has done so as of press time.)

Bob also gave the state of income and expenses. The figures were preliminary – they had to be assembled a few days before the end of the fiscal year on June 30. The initial results were: receipts, \$11,762 (overwhelmingly from dues); expenses, \$11,305 (the bulk being printing and postage).

Mike Dale, tube wizard for the Michigan club, demonstrated an extensive collection of foreign and domestic tube cartons which he later entered in the MARC equipment contest. He also gave a talk on tastes and trends in the area of tube audio.

Deuel also indicated that, while ballots for the Board election were still coming in, Jerry Vanicek was holding a strong lead. We'll finalize all this in the October issue.

Ludwell Sibley gave a status report on the publications program. There is much material available for *TC*, and two Special Publications are in fairly advanced form. They had to be delayed somewhat in favor of the production and distribution of the "adder" disc for the TCA Data Cache (see below).

Sibley put out advance word of a new and highly comprehensive DVD compendium on Western Electric tubes, a produc-

tion of Jim Cross' Vacuum Tubes Inc. that is expected to be available in the Fall. It will have never-before-seen material from at least four tube libraries.

It has not been feasible to hold this year's Board meeting, but that is expected in August, and results will be reported in *TC*.

Sibley covered the situation as to litigation over theoretic asbestos emerging from tube bases. The activity has apparently died down in the last year or so. Bob Dobush mentioned (and this has later been heard elsewhere) of a suit against tube vendors based on hypothetical mercury vapor escaping from tubes.

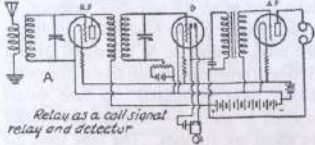
As for the TCA awards for the year, the Stokes Award (documentation) goes to Ed Lyon, co-editor of *Radio Age* (Mid-Atlantic Antique Radio Club). The immediate cause is his recent "Tube Topix" articles, but he has been writing on tube matters for years. The Schrader Award (collecting) belongs to Thomas Rapp for his on-line tube museum, available at [www.roehren-museum.de](http://www.roehren-museum.de).

Sibley showed slides of the Ohtsuka tube collection as displayed in the museum of the University of Electro-Communications in Tokyo. This display has continued to advance, lately being supplemented with an LRS Relay and matching amplifier.

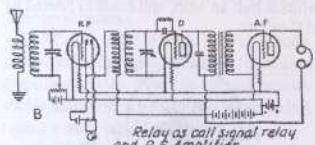
**IN THIS ISSUE**

<b>Very-High-<math>\mu</math> Power Beam Tubes</b>	
Joe Sousa .....	3
<b>Weird Tube of the Month – The Ruben Electron Relay</b>	
Ludwell Sibley .....	7
<b>A Tour of the S. A. I. R. A. Valve Factory</b>	
Abel Santoro .....	6
<b>A Monode VHF Oscillator</b>	
GE "Tele-Clue" .....	13
<b>Du Mont – The Man, the Tubes, the TV Sets, the Network</b>	
Ludwell Sibley .....	15
<b>Du Mont on Wikipedia</b>	
Ludwell Sibley .....	25
<b>Recent eBay Results</b> .....	31

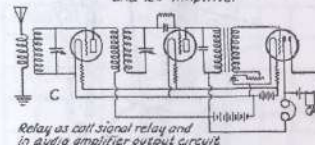
in the *Journal of the American Institute of Electrical Engineers* on the relay.



Relay as a coil signal relay and detector



Relay as coil signal relay and R.F. Amplifier



Relay as coil signal relay and in audio amplifier output circuit

**Three ways to apply the tube**

It would be pleasing to find out if any sample of the tube has survived in a collection. Two major collections are known not to have one!

**MORE ON RUBEN**

While the inventor is known mainly for

electrochemical devices (the mercury battery, the dry electrolytic capacitor, the copper sulfide / magnesium rectifier, a direct-indicating meter for measuring the salinity level of boiler water, etc.), he was also a "tube man." In response to the short and inconsistent life of RCA's first AC-heated tubes (they used a ceramic rod with lengthwise holes threaded with the heater wire), he devised a "modern" coated-wire version that became the much-promoted Arcturus seven-second "quick heater." He also invented a photovoltaic cell, intended for sound-movie projectors and said to be less noisy than the usual alkali-metal phototube. It was marketed (briefly) as the Arcturus Photolytic Cell.

He published five books, mainly on electrochemistry.

**THANKS**

To Dr. Ed Taylor for bringing up this matter.

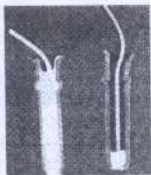
**REFERENCES**

1. Robert S. Kruse, A Direct Radio Control Relay, *QST*, January, 1927, pp. 19-21.
2. Samuel Ruben, *Necessity's Children - Memoirs of an Independent Inventor* (Portland, OR: Breitenbush Books, 1990), pp. 30-33.

**NEW PROCESSING TECHNIQUE IMPROVES PICTURE-TUBE BASE-PIN SOLDERING**

Sylvania has just recently put into effect a new processing technique which assures complete pin solder penetration and good electrical contact between the stem leads and the base pins. A practical demonstration of the excellent solder penetration now being achieved is shown in Figure 1 which compares the new base pin on the left with an earlier type pin on

*Sylvania News*, Summer 1961 the right. The base pin samples illustrated here were selected at random



from production, inserted in a colored potting compound, cut and polished.

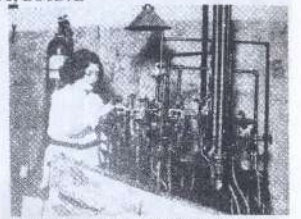
Note particularly the solder-filled cavity of the base pin itself. The joint formed is both electrically and physically sound.

This new processing technique is another example of how Sylvania's continual surveillance of field requirements results in highly improved products - which, of course, means better satisfied customers and fewer callbacks to the serviceman.

**A TOUR OF THE S. A. I. R. A. VALVE FACTORY**

Abel Santoro, LU8DXI

The Sociedad Anónima Industrial Radiotelefónica Argentina (Argentine Radiotelephone Industrial Corporation), abbreviated S. A. I. R. A., was the first tube factory in the country. Founded on November 28, 1933, it produced its first valve on July 20, 1934. This company was created by a group of businessmen dedicated to radio in Buenos Aires. One of these was Mr. Teodoro Prieto, founder and company president.



Woman operating a rotary stem machine.



Teodoro Prieto



Joining bulbs to finished tube mounts. The observers are the engineers O'Dwyer and Noizeux and managers M. Leoni and A. Cosentino.

S.A.I.R.A. was an up-to-date factory with modern machinery for the time. The workforce was mostly women. Production of this factory reached 1,200 valves a day in September of 1936.

The photos provide a tour inside this Argentine valve factory. They were taken about 1935.

Acknowledgement: To *Revista Telegráfica Electrónica*, editorial Arbó, Buenos Aires.

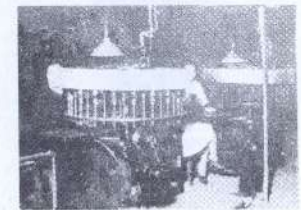
(Author Santoro indicates that S. A. I. R. A. advertising stopped about 1940, and that the facility became a holding of Philips. A brief item on the company on [www.radiomuseum.org](http://www.radiomuseum.org) reports that the initial product line comprised the 43, 47, 57, 58, 77, 80, and 2A5 tubes. - Ed.)



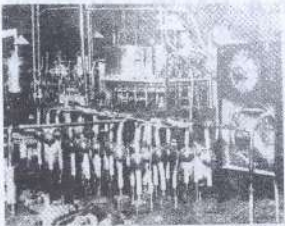
Spot-welder operators.



Cutting glass tubing to make valve stems. 9



Two sealax machines and their operators.



One of the vacuum stations, with two sealex machines operated by two men.



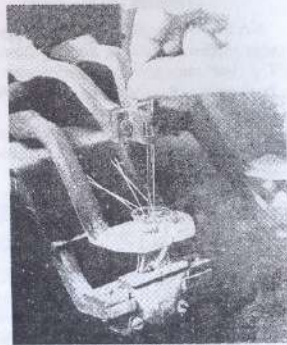
Mount-assembly section of the factory.



Making stem presses.



A preliminary test bench.



Detail view of the above.



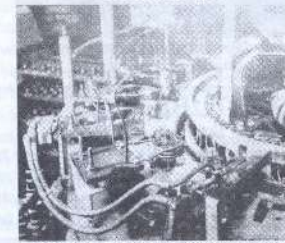
A worker inspecting the valves.



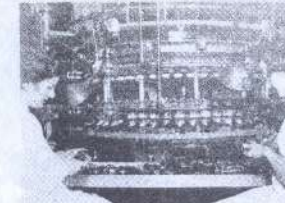
Mount-assembly benches.



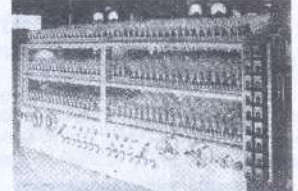
A sealex machine.



Type 43s undergoing radio-frequency heating during pumpdown on the sealex.



Basing machine. The bases were molded in the Bakelite section of the plant.



An aging rack.



One of the three test benches.



S. A. I. R. A. management staff. Standing: Messrs. Schulman, B. Pojomovsky, Schroeder, D. Mollo and R. Méndez. Seated: Messrs. A. Trabanco, P. Caccia, Teodoro Prieto (president) and E. Galli.



S. A. I. R. A. carton design. The lid was sealed shut, comparable to American practice of the time.

Use  
con orgullo  
las válvulas  
"SAIRA"  
SON ARGENTINAS  
IGUALES A LAS MEJORES  
"Use SAIRA tubes with pride - they're  
Argentine - equal to the best."



SAIRA es el símbolo del empujante del comercio exterior y el desarrollo de la industria argentina.  
(The S. A. I. R. A. logo looks like a precursor of the San Francisco "psychedelic" rock-concert poster art of 30 years later - "Jefferson Airplane Now Appearing at the Fillmore Auditorium" - Ed.)



"The marvelous flower of the Argentine radio industry."

## WITH OR WITHOUT TUBES?

Radio Industries, November, 1929

Many sets are still supplied with tubes by the manufacturers, as a hang-over from the days of the Clause 9 enforcement. [Clause 9 was the part of RCA's license contract requiring the licensee manufacturer to supply RCA tubes with the radio. - Ed] Is this good practice? Or is it bad practice?

The final criterion is the public, and the next best, which is easier to reach for securing an opinion, is the retailer. We have asked dealers what they think of this practice, for there has been much howling about the autocratic methods of set manufacturers forcing certain makes of tubes on the jobber and dealer. Much to our surprise, most dealers and jobbers prefer to have sets with tubes. In the first place, they state, it assures tubes for every set bought, which is an important considera-

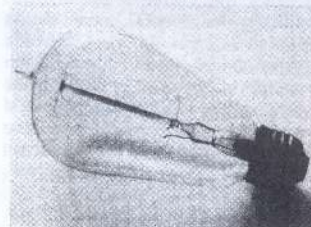
tion when we recall the seasons when tubes were lacking and sets remained unsold. Then there is the guarantee of good tubes, for the set manufacturer must stand back of the tubes. Still again, there is assurance of having tubes match the set, for the set manufacturer has no alibi when his set will not work with the tubes he has himself selected and supplied. Lastly, the dealer and jobber pay for the tubes supplied, and it's six in one hand and half dozen in the other as to where they buy tubes, everything else being equal.

And so the practice seems to be growing in favor. The Clause 9 agitation, once subjected to so much harsh criticisms and threats and legal actions, is now being hailed in many quarters as a mighty fine practice. What a strange business!

12

## A MONODE VHF OSCILLATOR

In the early years of TV broadcasting, there was a notorious source of nasty horizontal-bar interference to reception: tungsten-filament light bulbs of a specific obsolete construction. The matter got written up in the "repair" magazines. Additionally, General Electric gave a rather complete description of the matter in its "Tele-Clue" reference binder on troubles in sets and reception. TCA member Paul Weidenschilling has suggested that this might be of general interest, so the GE sheet is reproduced here. - Ed.

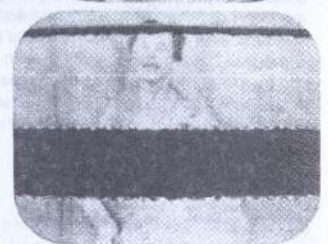


Tele-Clue No. J97. This is a photograph of a typical straight-wire incandescent lamp, which may cause interference in the 60 to 70 megacycle frequencies (Channels 2, 3 and 4). Lamps of this type have not been manufactured since about 1925, however, a considerable number are still in use in such places as attics, fruit cellars, closets, etc. It is very rare for a modern General Electric lamp to cause interference; however, the type shown above may produce a high-frequency oscillation. The main points of identification are the filament shape, the clear glass bulb and the tip.



Tele-Clue No. J98. This shows one type of interference pattern produced by the lamp shown in Tele-Clue No.

J97. Due to these lamps being used intermittently in such places as porch lights, closets, etc., they may be rather difficult to locate. Another factor is that this type of interference may cover a radius equivalent to two city blocks, particularly in low-signal areas. In some cases the interference pattern may move either up or down on the screen until it is no longer visible. The radiation from a lamp of this type can be shielded or dissipated by use of metal reflectors but no one recommendation will apply to all installations. Therefore, the simplest remedy is to find and replace the guilty lamp.



Tele-Clue Nos. J99 and J100. Two more interference patterns produced

13