

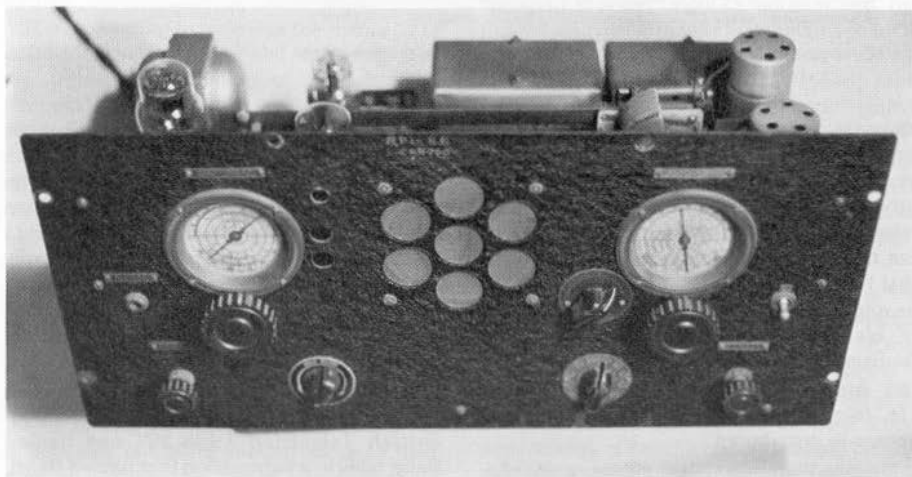
The COMMUNICATION RECEIVER

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TYPE H.R.O. RECEIVER

A 1936 REGENERATIVE RECEIVER ... THE SARGENT MODEL 11



In July, 1936, a relatively unknown and small West Coast company (in those days most radio companies were still small), the E. M. Sargent Company of Oakland, California, announced a new regenerative receiver, the Model 11. The circuit consisted of a tuned R.F. stage followed by a regenerative detector and two audio stages. A break-in feature and a built-in loudspeaker were included along with separate band-set and band-spread dials. The AC versions had a built-in power supply and the frequency range was an astonishing 9.5 to 20,000 meters.

As I examined the Sargent ads in the pages of *QST*'s of the mid 1930's, the obvious question arose, "Why attempt to market a regenerative receiver in 1936?" After all, this was the era of the big superhet, the HRO, the Super-Pro, and the Hallicrafters Ultra Sky-rider, to name a few. The competition included the two receiver greats, Hammarlund and National, as well as Hallicrafters, RCA and a host of other companies.

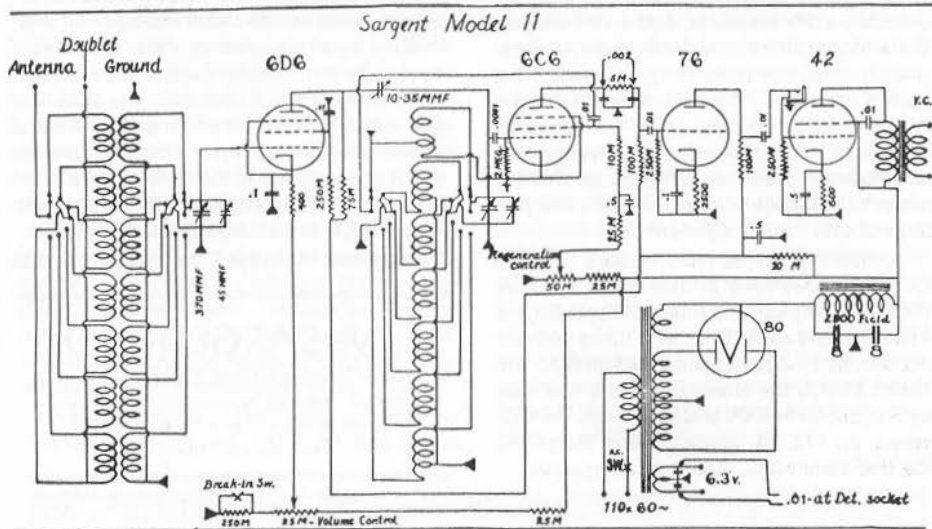
However, the arguments were persuasive

and logical. The E. M. Sargent Company was not a total unknown, having already marketed a somewhat similar receiver, the Model 10, which was still available for \$37.50 with power supply, tubes, and speaker. Various versions of Model 11 for a wide variety of power sources, either AC or DC, were available, so that was no difficulty. The extra tuned circuits of the RF stage apparently enabled the set to tune the full range of 15 kc to 34 mc without dead spots or skips, usually a problem with regens. The established characteristics of good regenerative circuits, low noise and high sensitivity, were present.

Furthermore, the company presented the Model 11 as a companion or stand-by receiver for the "big superhet", on the basis that no ham station was completely equipped for emergencies without coverage of 600 meters, the airplane beacon waves, the longer Navy wavelengths, time signals, and the press waves. This set would give all that for a price of \$75.00, complete with all tubes and built-in speaker and ready to use. And in spite of the

insuring isolation from chassis eddy currents. The rest of the coils were mounted under the chassis.

The band-spread mechanism was unique, to say the least. The main tuning dial on the right was separated from the bandspread dial on the left by 10", but only one two-gang capacitor was used. When the main dial was tuned, the rotor moved in the conventional manner; however, on bandspread, the rotor remained stationary and the stator was moved.



The two friction-drive dials were linked by a 12" cam-operated, spring-loaded arm. The spring strongly resembled one of the old screen door types, 8" long and coiled. The cam, in turn, was provided with three adjustments to vary the tuning rate at the discretion of the operator.

Since the receiver had had replacement electrolytics installed, and with the permission of the owner, it was fired up and given a try-out. It worked well on all the lower frequency bands, including phone and CW, up through 40 meters. Above that the tuning began to get tricky, which was to be expected. SSB signals could be tuned in by careful use of the regeneration, RF gain, and antenna trimmer controls. Considerable interaction among these controls was noted. Strong SSB signals did overload the receiver, but this was also to be expected, since a long antenna was used for all tests.

Sargent offered three AC and five DC models

(Continued on next page)

to accommodate all possible voltage sources. Refer to Figure 2 for details. Note that one of the AC models was for 25 cycles 110VAC, still in common use at that time, especially in the Ontario and western New York area serviced by the Niagara Power Commission. The AC models used a 6D6 RF, a 6C6 detector, a 76 first audio, and a 42 2nd audio, with an 80 rectifier. The Model 11 for 110 and 220 VDC substituted a 43 for the output, and the 6 VDC battery model used a 41 output tube.

The 2 and 3 volt models used a 34 RF, a 32 detector, a 30 1st audio, and a 1F4 output. Dynamic speakers were used on the AC sets, while permanent magnet types graced the battery receivers. The power supplies in the AC models, by the way, were advertised as "humless". The company also claimed that the Model 11 was "*as selective as the big superhets without crystal filters*", and performed with "*quiet efficiency*".

Comparing prices, the Newark Electric Company advertised in July 1936 *QST* an RME 69, complete with tubes and speaker, for \$134.90, and an HRO Jr. with tubes and one set of coils for 2 ham bands, for \$99.00. The Model 11-AA, the amateur version, was sold by Sargent for \$46.00 and the 11-UA, the Universal, for \$75.00, although later the prices did rise somewhat. Again, see Figure 2.

Restoration of the Sargent Model 11 follows the usual procedures of cleaning and lubrications, followed by obvious repairs to the mechanical and electrical systems and components. It should be emphasized that with this type of circuit a single bad component can seriously compromise performance, so care is indicated. If the set is to be used (it is a good candidate for the AWA OT contests, and besides, it is a lot of fun), all resistors should be checked to see that they fall within range. It is recommended that all by-passes be replaced, since accumulated leakage can overload the small transformer. Note that there is a paper by-pass inside of one of the coil compartments. Experiment with the 6C6 and 6D6 tubes to find ones which go in and out of regeneration smoothly. The only change which is suggested is the replacement of the original 8 mfd electrolytics with 20 mfd cartridge units; the set works much better.

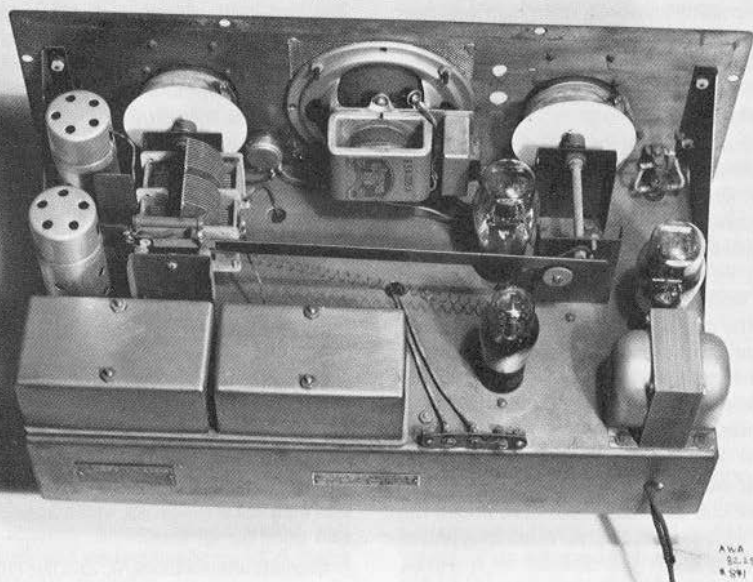
Alignment is simple ... set the BC band to

E. M. SARGENT CO.

212 Ninth Street, Oakland, California, U. S. A.

MANUFACTURERS OF INTERNATIONALLY KNOWN
AMATEUR AND SHORT WAVE EQUIPMENT

CABLE ADDRESS, "EMSCO"



AWA
82-15
8-591

Net Prices Model 11

Operating Voltage		Amateur Tuning Range 9.5-550 Meters			Marine Tuning Range 9.5-3750 Meters			Universal Tuning Range 9.5-20,000 Meters		
		Cat. No.	Price	Code Word	Cat. No.	Price	Code Word	Cat. No.	Price	Code Word
110 Volts 50/60 cycles A. C.	11-A	11-AA	\$52.00	ELAAA	11-MA	\$57.00	ELMMA	11-UA	\$77.00	ELUUA
110 Volts 25 cycles A. C.	11-A	11-AB	51.00	ELAAB	11-MB	59.00	ELMMB	11-UB	79.00	ELUUB
220 Volts 50/60 cycles A. C.	11-A	11-AC	51.00	ELAAC	11-MC	59.00	ELMMC	11-UC	79.00	ELUUC
110 Volts D. C.	11-A	11-AD	62.00	ELAAD	11-MD	65.00	ELMMD	11-UD	85.00	ELUUD
220 Volts D. C.	11-A	11-AE	62.00	ELAAE	11-ME	65.00	ELMME	11-UE	85.00	ELUUE
6 Volt Storage Battery	11-A	11-AF	51.00	ELAAF	11-MF	59.00	ELMMF	11-UF	79.00	ELUUF
135-180 Volt B.	11-A	11-AG	61.00	ELAAG	11-MG	69.00	ELMMG	11-UG	89.00	ELUUG
3 Volt Air Cell Battery***	11-A	11-AJ	61.00	ELAAJ	11-MJ	69.00	ELMMJ	11-UJ	89.00	ELUUG
3 Volt Wet Cell Battery***	11-A	11-AJ	61.00	ELAAJ	11-MJ	69.00	ELMMJ	11-UJ	89.00	ELUUG
128-180 Volt B.										

*** Lowest wavelength 15 meters.

Figure 2.

1400 kc and adjust the trimmer on the side of the tuning capacitor. The antenna trimmer should be in the center of its range. Unfortunately, the combination of the small dials and the lack of individual trimmers on the coils makes it almost impossible to set up a frequency with any accuracy, and an external frequency standard is a must.

Summing up, this is a "rare" item for the collector. It is unusual, and compared to the more popular superhets of the day there certainly was a limited production. On the other hand, the writer knows of at least two and has been told of others (not necessarily for sale), and one did change hands at the 1985 AWA Conference for a reasonable sum.

Was there room in the short-wave receiver market of 1936 and 1937 for this set of

"obsolete" design? On the surface it appeared that there was, since it was a versatile, well-made receiver which turned in a very credible performance at a very affordable price. Granted that it required the deft touch of a skilled operator to realize its real potential, but then most hams of that day were just that. Nevertheless, possibly bowing to the inevitable, in November 1936 the E. M. Sargent Company announced the Model 21 Super-Het receiver (which, by the way, boasted a regenerative RF amplifier). And almost as quietly as it arrived, in January 1937 the Model 11 left the pages of *QST*. The writer has been unable to find any further mention in *QST* of this unique receiver, and if any reader has follow-up knowledge of the company or any of its products, a letter would be appreciated.

-- K3ZJW

POSTER IN AWA MUSEUM

Visitors to the AWA Museum have admired a large poster, which hangs in the 1925 Radio Store, showing an attractive *flapper* (of the 1920's) who holds a radio tube. Unfortunately, few can read German. Here is the translation:

50 YEARS OF RADIO BROADCASTING IN GERMANY.

Special exhibition of the German Broadcasting Museum, at the Radio Tower in Berlin, on the occasion of the International Radio Fair 1973.

Open from Tuesday to Sunday - 10 AM to 5 PM

The attractive poster was purchased by Max DeHenseler on a German trip and donated to the AWA Museum. Recognize the tube? It is a Loewe, similar to the one on the June '85 *OTB* cover.

