



# EL 5-460, 461 SERVICE DATA 1940-41

This six tube superheterodyne receiver is of a new design which can be operated either as a portable battery set or as an AC-DC set obtaining power from an outlet of 105-125 volts 25, 60 cycle or direct current.

On battery operation the 35 volt tubes are not used and the remaining four tubes function in the ordinary manner, the ITSG feeding the complete primary of the output transformer.

I.F. transformer and first I.F. transformer in that order. Screws in the filter coil core limit oscillation or severe swish resonance. Then readjust the first I.F. transformer again for maximum output (do not touch second stage transformer). If the receiver becomes unstable again, screw in the filter core a little further. These operations should be repeated until maximum sensitivity with good stability is obtained. The same adjustments should hold for battery operation.

On AC-DC operation the power switch connects the four 1.4 volt tube filamentations in series between the cathode of the 3516GT tube and "B" negative. This supplies the bias for the 3516GT as well as the filament current for the other tubes. The switch also disconnects the 1T15G screen grid, rendering it inoperative and the output transformer is fed at the low impedance tap from the plate of the 3516GT. The circuit is otherwise the same as on battery operation.

may be peaked to the oscillator circuit and will not therefore be disturbed when the back is removed to replace batteries or the AC cord.

The chassis must be removed from the case for alignment. To do this pull off the three knobs, disconnect the AC plug and batteries and remove the three screws under the plug chassis shelf. The speaker cord is long enough to allow the chassis to be slid out of the case far enough for alignment.

No.	Dummy Antenna	Connection of Signal Generator to Receiver	Signal Generator Frequency	Receiver Dial Setting	Trimmer to be Adjusted	Description of Adjustment
1.	.1 mfd condenser	1A7G grid cap	455 kc	High frequency end	Core on top of 2nd I.F. transformer	Peak for maximum output (with the filter coil core (1A5) screwed well out)
2.	.1 mfd condenser	1A7G grid cap	455 kc	High frequency end	1st I.F. trimmers	Peak for maximum output
3.	.1 mfd condenser	1A7G grid cap	455 kc	High frequency end		Screw in L5 core until there is no oscillation, squeal or excess switch
4.	.1 mfd condenser	1A7G grid cap	455 kc	High frequency end		
5.	.1 mfd condenser	1A7G grid cap	455 kc			Repeat operation 3
6.	.1 mfd condenser	1A7G grid cap	1550 kc	High frequency end	Trimmer on oscillator (front) section of gang Condenser	Adjust to bring in signal
7.	Tune in a weak broadcast station between 1450 and 1500 kc					Peak for maximum output while rocking section of gang condenser and forth

C13. This filter has a very low impedance at the I.F. frequency and renders the complete circuit quite stable during operation. The adjustment of this filter circuit is quite simple. First unscrew the core of the filter coil a few turns to the left. Then after aligning the second

with alignment as follows using the weakest possible signal that will give readable output and having the volume control full on. It is preferable to align the chassis on AC-DC because under these conditions the tuned filter (L5) adjustment will be proper for battery operation also.

**NOTE:** This last operation should be performed with the chassis replaced in the case in its normal operating location.

**NOTE 2:** When replacing the chassis make sure that the speaker leads are kept clear of the speaker cone but at the same time well toward the front corner of the case and away from the 115G grid lead.

**NOTE 3:** In order to obtain correct calibration on the dial scale the red pointer line on the pointer disc should be set just above the horizontal position when the range condenser is fully meshed.

# STEWART-WARNER

# DATA SHEET 90