John Meck Industries, Inc.

	Model: F.M. Converter	Chassis:	Year: Pre 1950
	Power:	Circuit:	IF:
	Tubes:		
	Bands:		

Resources
Riders Volume 19 - MECK 19-1
Riders Volume 19 - MECK 19-2

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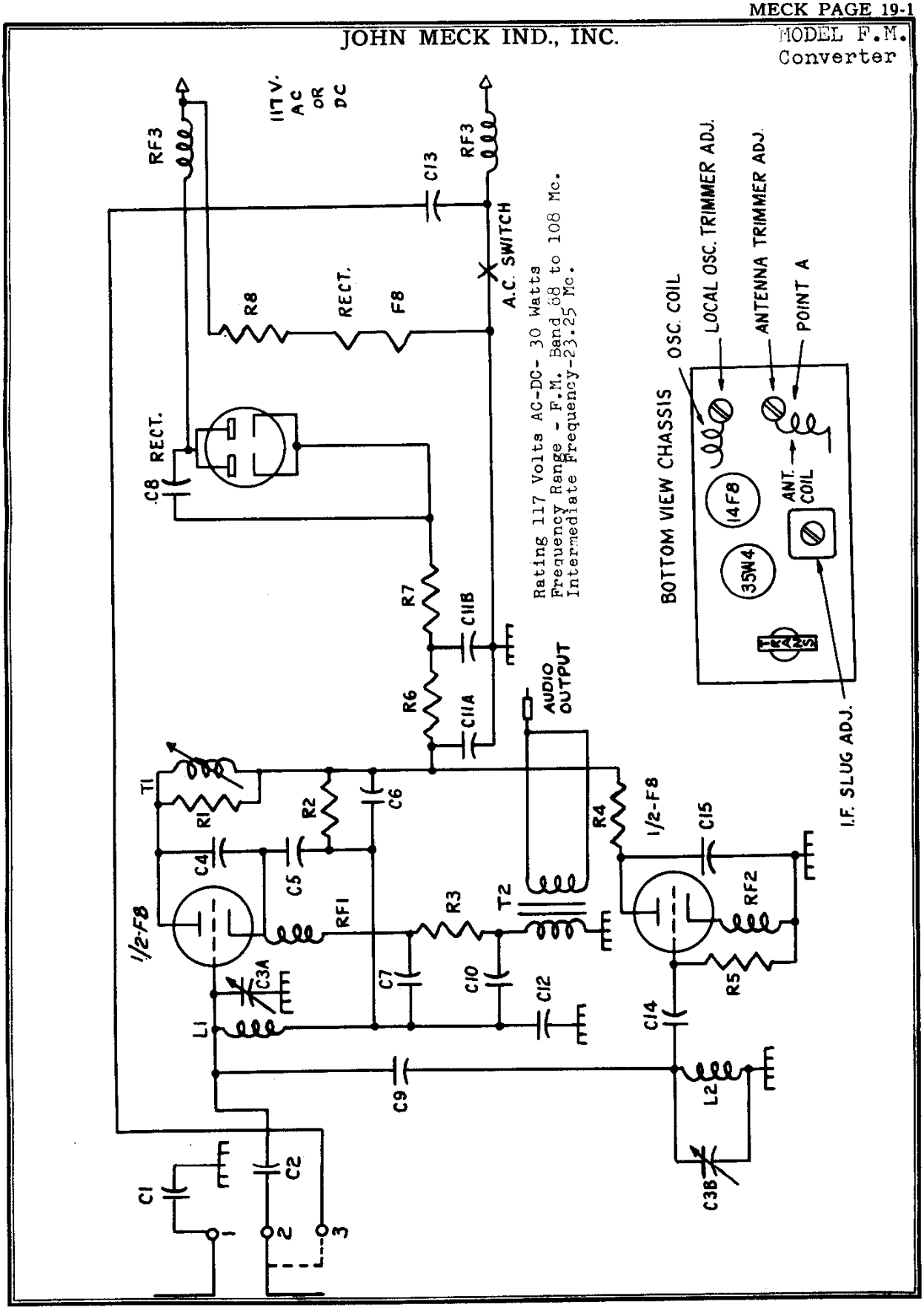
JOHN MECK IND., INC.

MODEL F.M. Converter



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INSTRUCTIONS

Alignment Notes

GENERAL DESCRIPTION:

In addition to functioning as a converter-oscillator in a superheterodyne circuit, one section comprising of pins 1 - 3 - 4 of the #14F8 double triode, as used in the MECK F.M. Converter, is functioning as super-regenerative detector and I.F. amplifier. Since the super-regenerative amplification is at the intermediate frequency, relatively little energy is radiated from the antenna. Pins 5 - 6 - 8 is the triode section of the #14F8 that is used as a local oscillator for normal superheterodyne action. Detection of the frequency modulation is accomplished by the signal being normally resident on the side of the selectivity curve. This is the reason it is necessary to slightly mistune the received signal for best F.M. reception.

CIRCUIT SYMBOL	PART NUMBER	DESCRIPTION
C1, C12, C13, C15	CC-15501	Condenser, Ceramic, 500 Mmf.
C2, C9	CC-1520	Condenser, Ceramic 2 Mmf.
C3A, C3B	CV-10014	F.M. Variable
C4, C5	CC-15300	Condenser, Ceramic, 30 Mmf.
C6	CP-12502	Condenser, Paper .005 Mf.
C7	CP-12522	Condenser, Paper, .0025 Mf.
C8	CP-12103	Condenser, Paper, .01 Mf.
C10	CL-10011	Condenser Elect. 8 Mfd.
C11A, C11B	CL-10007	Condenser, Elect., 30/50 Mfd.
C14	CC-15200	Condenser, Ceramic, 20 Mmf.
R1	RC-26802	Resistor, Carbon 68,000 ohm 1/3 Watt
R2	RC-21503	Resistor, Carbon, 150,000 ohm, 1/3 Watt
R3	RC-21501	Resistor, Carbon, 1,500 ohm 1/3 Watt
R4	RC-21000	Resistor, Carbon, 100 ohm 1/3 Watt
R5	RC-22202	Resistor, Carbon, 22,000 ohm 1/3 Watt
R6	RC-22001	Resistor, Carbon 2,000 ohm 1/3 Watt
R7	RC-21001	Resistor, Carbon, 1,000 ohm 1/3 Watt
R8	WP-10003	Line Cord Resistor
L1	TRF-10009	F.M. Antenna Coil
L2	TRC-10010	F.M. Osc. Coil
RF1	TSP-10016	Choke (Inside I.F. Can) & (T1)
RF2	LG-10002	12 Uh. Choke
RF3	LG-10001	Line Cord Inductor
T2	TO-10009	Audio Transformer

The super-regenerative circuit is inherently self-regulating; that is, it acts as if it had good automatic volume control. This super-regenerative circuit has the added feature of an automatic regeneration control, applied to the quench-oscillator Capacitor C-7 and the Resistor R-3, in the cathode controls the quench wave shape, selectivity, and is the quench pulse width control. While the Resistor R-2 and the Capacitor C-6 in the plate circuit regulate the average grid current repetition rate and so controls the regeneration automatically.

The Converter contains a built-in antenna system which is internally connected to Terminal #3. To use the built-in antenna, connect together Terminals #2 and #3, with a short length of wire. In locations unfavorable to F.M. Reception, improved results will be obtained by using an inside or outside dipole antenna. This antenna must be carefully installed and connected to Terminals #1 and #2.

ALIGNMENT CHART

Use A.M. or F.M. Signal Generator

Alignment made with output meter across voice coil of speaker to which the converter is connected.

CIRCUIT ALIGNED	DIAL POINTER	SIGNAL GENERATOR 30% Modulation Freq. Connection	TRIMMER OR SLUG ADJUSTMENT	PROCEDURE
I.F.	108 Mc.	23.25 Mc. through .01 Capacitor to Point A or Pin #1 or F8 Tube	Bottom slug I.F. Can	Adjust for maximum output.
R.F.	105 Mc.	105 Mc. through 300 ohms to Terminal #1 and Terminal #2	Local Osc. Trimmer	Adjust for maximum output.
R.F.	105 Mc.	105 Mc. through 300 ohms to Terminal #1 and Terminal #2	Antenna Trimmer	Adjust for maximum output while rocking variable condenser

ALIGNMENT OF F.M. STATION:

If you do not have the equipment to make the necessary alignment adjustments, the R.F. section may be easily aligned on a local station. With the proper antenna attached, tune in an F.M. station, preferrably between 97 and 108 Mc. Note any difference in calibration and correct accordingly with the local oscillator trimmer. Then adjust the antenna trimmer for maximum output while rocking the variable condenser.