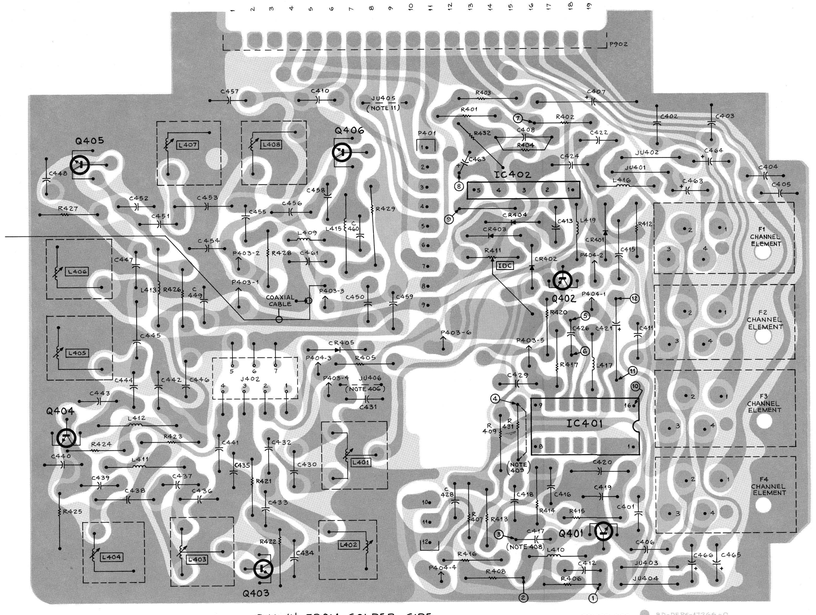
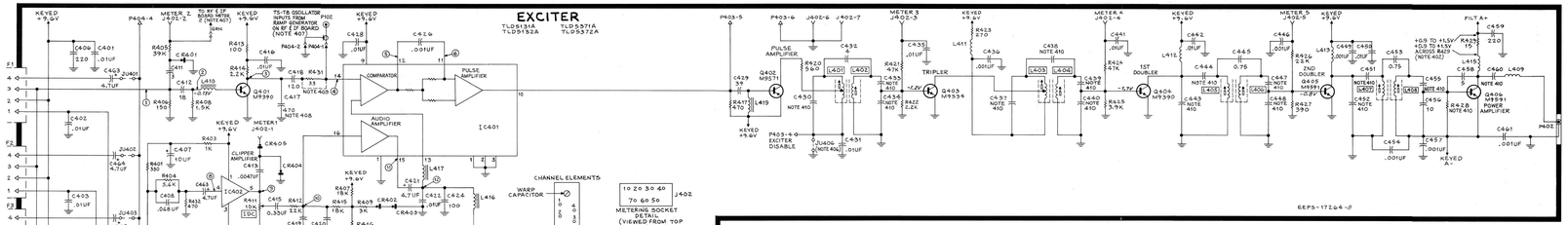


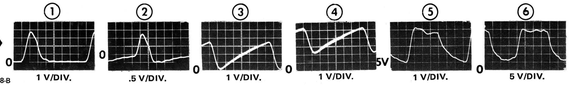


ALL RF WAVEFORMS TAKEN UNDER FOLLOWING CONDITIONS:

1. TO OBTAIN WAVEFORMS SIMILAR TO THOSE SHOWN, OSCILLOSCOPE MUST HAVE AT LEAST 50 MHz BANDWIDTH, 7 nanosec RISE TIME AMPLIFIER.
2. VERTICAL SENSITIVITY SHOWN UNDER EACH WAVEFORM.
3. VERTICAL INPUT = DC.
4. HORIZONTAL DEFLECTION = 10 nanosec/DIV.
5. TRANSMITTER KEYED.
6. NO MODULATION (REMOVE "VIBRA-SENDER" REED IN "PL" RADIO).

EPS-6178-B

EXCITER RF WAVEFORMS (12.5-14.5 MHz)

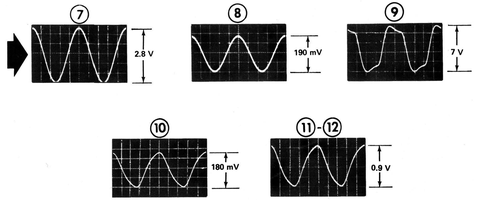


EXCITER AUDIO WAVEFORMS

ALL AUDIO WAVEFORMS TAKEN UNDER FOLLOWING CONDITIONS:

1. VERTICAL INPUT = AC.
2. HORIZONTAL DEFLECTION = 0.2 msec/DIV.
3. 1000-Hz 1-VOLT rms (2.8 V P-P) AUDIO AT MICROPHONE INPUT
4. "IDC" POT SET FOR +5 kHz DEVIATION

EPS-17813-O



EXCITER COMPONENT VALUE TABLE

REFERENCE SYMBOL	1–4 FREQUENCY TLD5131A 132–150.8 MHz	1–4 FREQUENCY TLD5132A 150.8–174 MHz	1–8 FREQUENCY TLD5371A 132–150.8 MHz	1–8 FREQUENCY TLD5372A 150.8–174 MHz
C417	43	43	OMIT	OMIT
C430	150	120	150	120
C433	330	240	330	240
C434	240	180	240	180
C437	51	39	51	39
C438	1.5	1.0	1.5	1.0
C439	75	51	75	51
C440	130	120	130	120
C443	51	39	51	39
C444	40	34	40	34
C447	36	24	36	24
C448	57	43	57	43
C451	16	11	16	11
C452	20	18	20	18
C455	11	8	11	8
C460	150	120	150	120
R416	1.8k	1.8k	2.7k	3.3k
R428	22	39	22	39
R431	JUMPER	JUMPER	33	33

NEPS-17265-A

CONNECTIONS TO EXTERNAL CIRCUITRY

P401. "PRIVATE-LINE" ENCODER ("PL" MODELS) OR DIGITAL "PRIVATE-LINE" ENCODER (DPL MODELS).

P402. BANDPASS FILTER (NARROW SPACED TRANSMITTER MODELS). WIDE SPACED MULTIPLIER BOARD (WIDE SPACED TRANSMITTER MODELS).

P403. WIDE SPACED MULTIPLIER BOARD (WIDE SPACED TRANSMITTER MODELS).

P902. CONTROL BOARD

P102. RECEIVER RF & IF BOARD (5- TO 8-FREQUENCY MODELS).

EXCITER NOTES

401. TRANSMITTER FREQUENCY CALCULATION:
$f_0 = \frac{f_c}{12}$ WHERE f_0 = CHANNEL ELEMENT FREQUENCY AND f_c = CARRIER FREQUENCY

402. WHERE ONLY ONE DC VOLTAGE READING IS SHOWN, USE ONLY A HIGH IMPEDANCE (11 MEGOHM) VOLTMETER. WHERE TWO READINGS ARE SHOWN, THE TOP VALUE IS MEASURED WITH A HIGH-IMPEDANCE VOLTMETER AND THE BOTTOM VALUE IS MEASURED WITH A 20,000 OHM-PER-VOLT METER.

403. UNLESS STATED OTHERWISE, VOLTAGES AND WAVEFORMS ARE MEASURED WITH RESPECT TO CHASSIS GROUND.

404. VOLTAGES WILL VARY SLIGHTLY IF +9.6 VOLT SOURCE IS ABOVE OR BELOW NOMINAL VALUE. NORMAL VARIATION FROM RADIO TO RADIO IS 9.1 TO 10.1 VOLTS REGULATED.

405. UNLESS STATED OTHERWISE, RESISTOR VALUES ARE IN OHMS AND CAPACITOR VALUES ARE IN PICOFARADS.

406. P403 IS USED AND JU406 IS REMOVED ONLY WHEN RADIO USES A WIDE-SPACE MULTIPLIER.

407. USED IN 5- TO 8-FREQUENCY MODELS ONLY.

408. USED IN 1- TO 4-FREQUENCY MODELS ONLY.

409. R431 IS REPLACED BY A JUMPER IN 1- TO 4-FREQUENCY MODELS.

410. REFER TO EXCITER COMPONENT VALUE TABLE.

411. USED IN CARRIER SQUELCH RADIOS ONLY.

NEPS-17762-O

EXCITER

PARTS LIST SHOWN ON BACK OF THIS DIAGRAM

TLD5371A, TLD5372A
TLD5131A, TLD5132A Exciter Boards
Schematic Diagram and Circuit Board Detail
Motorola No. PEPS-17270-B
10/14/76-UP