

**INTEK**

Model No: 3391

Model No:

Drawing No:

Customer :

M-790 Plus

Rev,Date:

# M-790 Plus

# Service Manual

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## SPECIFICATIONS

### 1. GENERAL

Channels..... 400 Ch AM/FM 4W  
Frequency Range..... ..25.615 to 30.105 MHz  
Frequency Control.....PLL  
Operating Temperature Range.....-10° / +55°C  
DC Input Voltage.....13.2 V DC ±15%  
Size.....180(L) X 35(H) X 140(D) mm  
Weight.....0.850 kg

### 2. RECEIVER

Receiving System.....Dual Conversion Super Heterodyne  
Intermediate Frequency.....1<sup>st</sup> IF: 10.695 MHz, 2<sup>nd</sup> IF: 455 MHz  
Sensitivity.....0.5 µV for 20 db SINAD in FM mode  
Audio Distortion.....Less Than 8% @ 1 KHz  
Image Rejection.....65 dB  
Adjacent Channel Rejection.....65 dB  
Signal/ Noise Ratio.....45 dB  
Current Drain at standby.....325 mA

### 3. TRANSMITTER

Output Power.....4W @ 13.2 V DC  
Modulation.....FM: 1.8 KHz ±0.2 KHz  
Frequency response.....From 400 Hz to 2.5 KHz  
Output impedance.....RF 50 ohm Unbalance  
Signal/ Noise Ratio.....40 dB MIN  
Current Drain.....1300 mA

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## OPERATION INSTRUCTIONS

Having properly installed your batteries and hooked-up the antenna, you are now ready to operate your radio for optimum reception and voice transmission.

Turn the power "ON" with ON/OFF switch.

Set the desired channel.

Adjust the squelch control knob to reduce any undesirable background noise when no signal is being received. To do this, select a channel where no signal are present, or wait until signals cease on your channel. Then, rotate the squelch control knob clockwise to a point where the background noise disappears.

**Note:** When the squelch is set properly, the speaker will remain quiet until a signal is received. In order to receive weak signals, do not set the squelch too high.

Adjust the volume to the desired listening level.

### To Transmit

Press and hold the push-to-talk button. Speak slowly and clearly in a normal voice two to three inches from the microphone. A built-in modulation control circuit will automatically adjust the microphone input level. There is no need to speak loudly.

### To Receive

Release the push-to-talk button.

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## THEORY OF OPERATIONS

### TRANSMITTER

#### A. RF Amplification

The output of double AMP Q301 is fed through tuning IFT L301 and L302 to the base of pre driver AMP Q302. The output is then supplied through tuning circuit L303 to RF driver AMP Q303. The output of Q303 is supplied with tuning circuit L304 and C317,C315,C21 and goes to the base of final RF AMP Q304. The output of Q304 is supplied to the antenna through L-C tuning circuit.

#### B. Circuit for Suppression of Spurious Radiation

The tuning circuit between the output of final AMP Q304 and antenna, 4-stage "PHI" network L308, C324, C1, C327, L311, C337, C333, L312, C328, C334, C338, L313 serves as a spurious radiation suppressor . This network also serves to match the impedance between TX power AMP Q304 and the antenna.

#### C. Circuit for Limiting Power

After finished all alignment, the constant voltage supply circuit limits the available power 4 W or slightly less. RV1 and corresponding three transistors control supply voltage of RF amplifier and other circuits.

Tune all the trimmer parts for maximum indication of RF power meter and adjust RV1 to make 4 w indication of RF power meter.

The tuning is adjusted so that the actual power is from 3.8 to 4.0 W. There are no other additional controls for adjusting the TX output power.

#### D. Modulation Control

##### a. FM

The mic input is fed to mic audio amplifier IC KIA324 which drives modulation varicap diode D403 in the VCO circuit. RV401 limits the incoming modulation audio levels to inhibit over modulation. While reading the modulation factor on the modulation analyzing equipment, adjust RV401 shall not exceed  $\pm 1.8$  KHz/Dev. After 20 dB up from 1.25 KHz/1.2 KHz/Dev. Audio level

##### b. AM

Modulation signals are filtered with RC network and goes to the audio power AMP IC IC103 to make nominal signal level to achieve wanted modulation. To control incoming audio signal, diode D203 and corresponding ALC circuit limits the modulation shall not exceed  $\pm 80\%$  adjust RV201  $\pm 80\%$  modulation under 1.0 KHz AF 60% mod plus 20 dB of audio signal.

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### E. Receiver

CB receiver is dual conversion super-heterodyne type with the first IF 10.695 MHz and second IF 455 KHz. Receiver is separated two blocks, 1<sup>st</sup> IF section and 2<sup>nd</sup> IF section.

The PLL synthesizer supplies first local frequency 16.270 ~ 16.710 MHz.(for EU) and 16.90625 MHz ~ 17.29625 MHz (for UK) With the provided first local frequencies Q105,Q106 mixes the incoming RF signal to generate first IF signal. Mixed signals were filtered with the XF101 (10.695 MHz) crystal filter and other tuning circuits. Output signal of mixer is filtered with CF101 (455 KHz ceramic filter). The 455 KHz signal from the 2<sup>nd</sup> IF filter was amplified and limits internally. After amplification the signals fed the quadrature detector loop L104. Then we can see the recovered audio signals on Pin 11 for FM of IC102. With the amplitude of recovered signals, Q112 serves as an audio amplifier. For AM signal Will be pass filter CF101 and induced to Q116, Q117 respective and detected to voice signal by D111.

### TROUBLESHOOTING HINTS

<i>Symptom</i>	<b>Probable Cause</b>	<b>Remedy</b>
Unit does not work at all	<ul style="list-style-type: none"> <li>Defective power switch VR102.</li> <li>Blown fuse.</li> <li>Broken DC power cord.</li> <li>Defective IC101.</li> </ul>	<ul style="list-style-type: none"> <li>Replace</li> <li>Replace</li> <li>Replace</li> <li>Replace</li> </ul>
No output from speaker at all	<ul style="list-style-type: none"> <li>Defective external speaker jack.</li> <li>Poor connection on microphone connector</li> <li>Defective push switch on microphone.</li> <li>Defective internal speaker.</li> <li>Defective VR102, IC103 other components.</li> </ul>	<ul style="list-style-type: none"> <li>Repair or replace</li> <li>Repair or replace</li> <li>Repair or replace</li> <li>Replace</li> <li>Replace the defective components.</li> </ul>
No noise on speaker	<ul style="list-style-type: none"> <li>Measure all the voltage of IC102 with voltage chart</li> <li>Defective squelch circuit components (RV102, VR1, IC102)</li> </ul>	<ul style="list-style-type: none"> <li>Replace</li> <li>Replace</li> </ul>
Squelch does not work	<ul style="list-style-type: none"> <li>Defective VR1, RV2, IC2.</li> </ul>	<ul style="list-style-type: none"> <li>Replace the defective components.</li> <li>Re-adjust</li> </ul>

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No modulation	<ul style="list-style-type: none"><li>• Defective microphone.</li><li>• Poor audio output and defective modulation microphone amplifier components (IC103).</li><li>• Defective microphone connector components.</li><li>• Defective ALC circuit D413, D414.</li></ul>	<ul style="list-style-type: none"><li>• Replace</li><li>• Replace the defective components.</li> <li>• Replace</li><li>• Replace the defective components.</li></ul>
LCD meter does not work	<ul style="list-style-type: none"><li>• Defective D5.D3</li><li>• Defective IC101.</li><li>• Defective RV101.RV202</li></ul>	<ul style="list-style-type: none"><li>• Replace</li><li>• Replace</li><li>• Replace</li></ul>
LCD display does not work	<ul style="list-style-type: none"><li>• Defective RED wire fuse.</li><li>• Defective IC101, Q414.</li></ul>	<ul style="list-style-type: none"><li>• Replace</li><li>• Replace</li></ul>
Channel selector does not work	<ul style="list-style-type: none"><li>• Defective IC101, SW105.</li></ul>	<ul style="list-style-type: none"><li>• Replace</li></ul>
EMG CH9.19 does not work	<ul style="list-style-type: none"><li>• Defective EMG SW.</li><li>• Defective IC101.</li></ul>	<ul style="list-style-type: none"><li>• Replace</li><li>• Replace</li></ul>

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## ALIGNMENT PROCEDURE

Step	Setting	Connection	Adjuster	Adjust for
1	Frequency adjustment MIC : Receive Volume : optional Squelch : optional CH selector : 19 EU CH9 : off	Frequency counter to dummy load (Figure 1).	CT201	27.185MHz±300Hz
2	VCO Voltage adjustment MIC : Receive Volume : optional Squelch : optional CH selector : 1A CH9 : OFF	Connect DC voltmeter between R406, C411 and GND. (Figure 2).	L501	1V at TX.

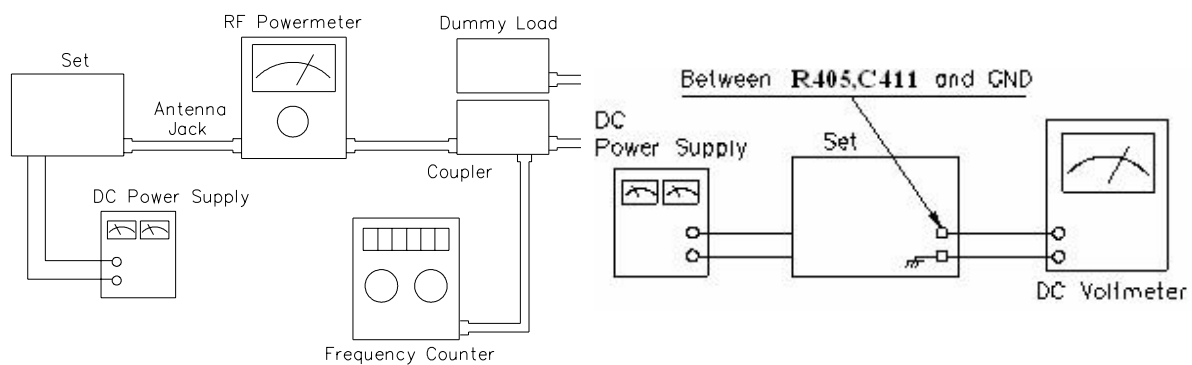


Figure 1

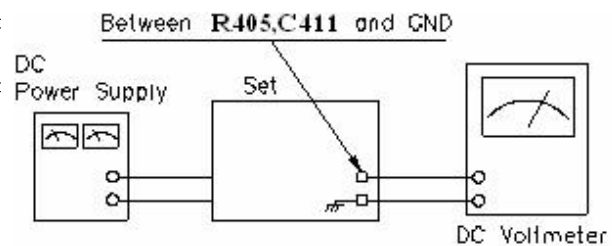


Figure 2





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## TRANSMITTER SECTION

### Test Equipment Required

- RF power meter (RF SSVM)
- 50 ohms dummy load (non-inductive)
- RF attenuator (50 ohms non-inductive)
- Oscilloscope
- Audio generator
- DC power supply (13.2 volt, 3 amp)
- Spectrum analyzer
- Frequency counter
- Coupler

### ALIGNMENT PROCEDURE

Step	Setting	Connection	Adjuster	Adjust for
1	RF power stage MIC : Transmit Volume : optional Squelch : optional CH : selector : 19 CH9 : OFF	Connect dummy load and RF power meter to the EXT-ANT jack on the set (Figure 3).	L301 L302 L303	Maximum indication on the power meter (4 watts). If indication is not in 4 watts range, adjust L301, L302, L303.
2	Second harmonic check MIC : Transmit Volume : optional Squelch : optional CH : selector : 19 CH9 : OFF	Connect RF power meter With dummy load to spectrum analyzer through coupler /-40 dB Attenuator to EXT-ANT jack on the set (Figure 4).		At no modulation, compare the level o fundamental frequency to the level of harmonic frequency. Suppression of the 2 <sup>nd</sup> harmonic frequency level must be lower than -60 dB. Check for the other channels.
3	Frequency check MIC : Transmit Volume : optional Squelch : optional CH : selector : 19 CH9 : OFF	Connect dummy load and frequency counter though coupler to RF powermeter. Connect RF powermeter to EXT-ANT jack on the set (Figure 5).	CT201	Be sure that the indication of the transmitter frequency is 27.185MHz±300Hz on the frequency counter.

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4	TX power level adjustment Volume : optional Squelch : optional CH : selector : 1 CH9 : OFF	Connect dummy load and oscilloscope through Coupler to RF powermeter connect audio generator to microphone jack (Figure 6).	RV202	Adjust until the 5 <sup>th</sup> bar appears on the channel display LCD.
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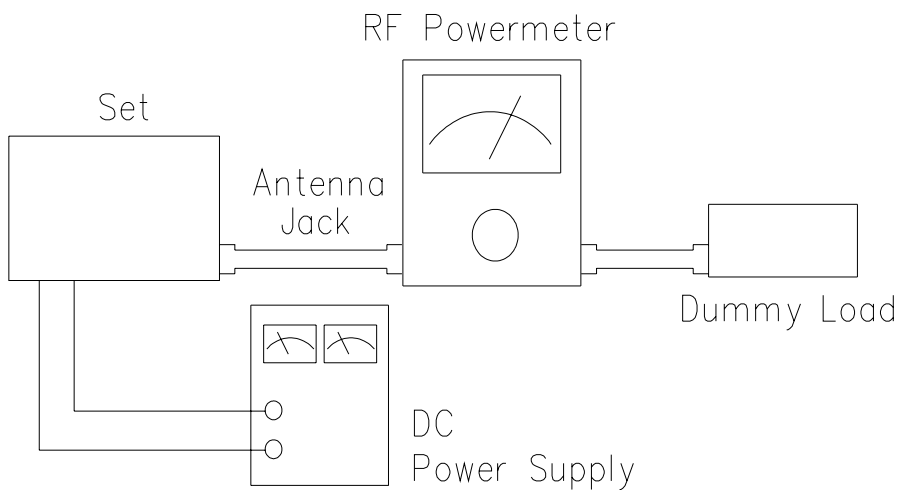


Figure 3

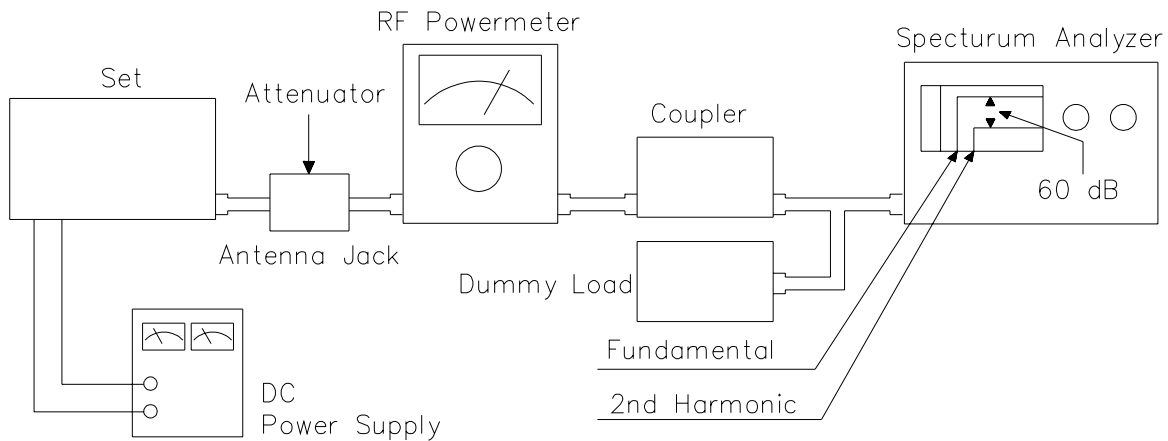


Figure 4

## RECEIVER SECTION

### Test Equipment Required

- RF Signal generator (RFSG)
- SSVM
- Distortion meter
- DC power supply

### ALIGNMENT PROCEDURE

Step	Setting	Connection	Adjuster	Adjust for
1	Audio output adjustment MIC : Receive Volume : Fully clockwise Squelch: Turn to- Counter clockwise CH selector : 19 RF gain : Fully clockwise CH9 : OFF RFSG:27.185 MHz,1kHz 1 $\mu$ V , 1.2 K Dev.	Connect RF signal generator to EXT-ANT jack. Connect SSVM and distortion meter with 8 ohm dummy load (Figure 7).	L101 L102 L103 L104 L106 L401 L402 L403	Maximum indication on SSVM. Reduce output from RFSG until the audio output becomes about 500mW (2V).

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2	Squelch adjustment MIC : Receive Volume : 50mW (2V) Squelch : Clockwise CH selector : 19 RFSG:27.185MHz, 1kHz 1mV, 1.2K DEV.	Connect RF signal generator to EXT-ANT Jack. Connect SSVM and distortion meter to EXT speaker jack with 8 ohm dummy load (Figure 7).	RV1	Adjust until the audio output appears.
3	RF signal meter adjustment MIC : Receive Volume : 500mW (2V) Squelch : Fully counter Clockwise RFSG: 27.185 MHz, 1kHz, 1μV, 1.2K Dev.	Connect RF signal generator to EXT-ANT Jack. Connect SSVM and distortion meter to EXT speaker jack with 8 ohm dummy load (Figure 7).	RV101	Adjust until the 3 <sup>rd</sup> LED on the S/RF meter lights up.

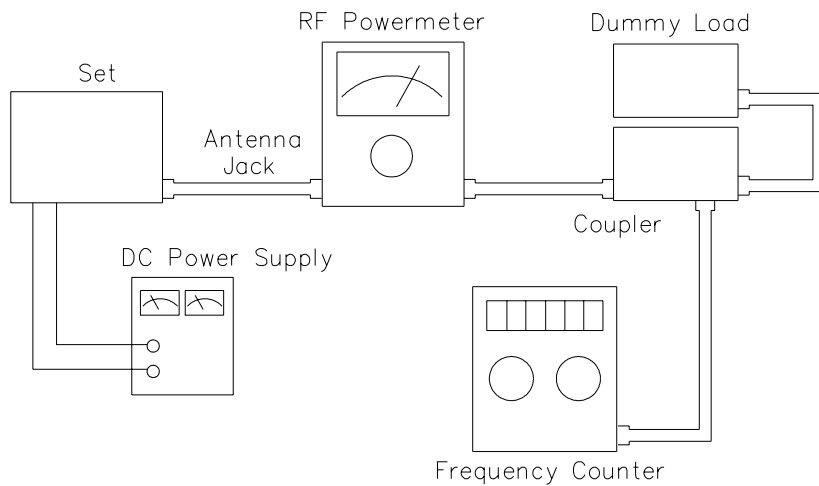


Figure 5

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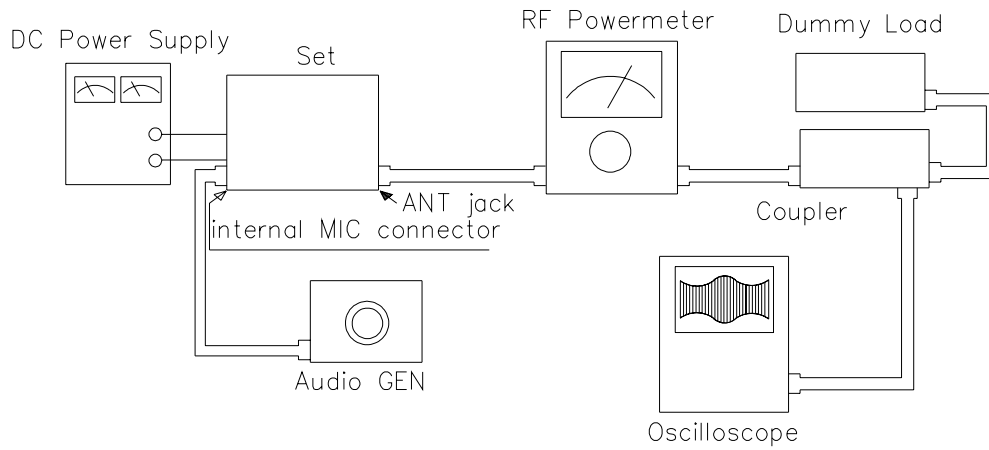


Figure 6

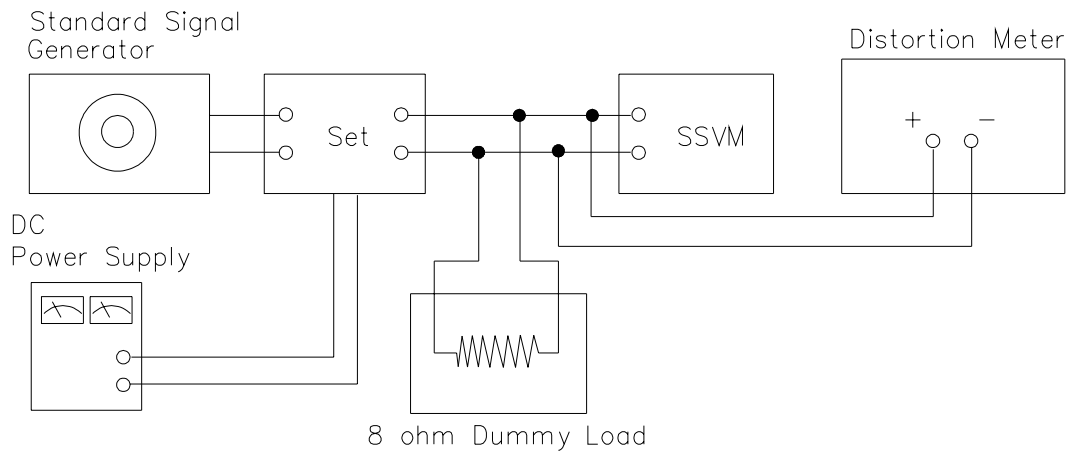
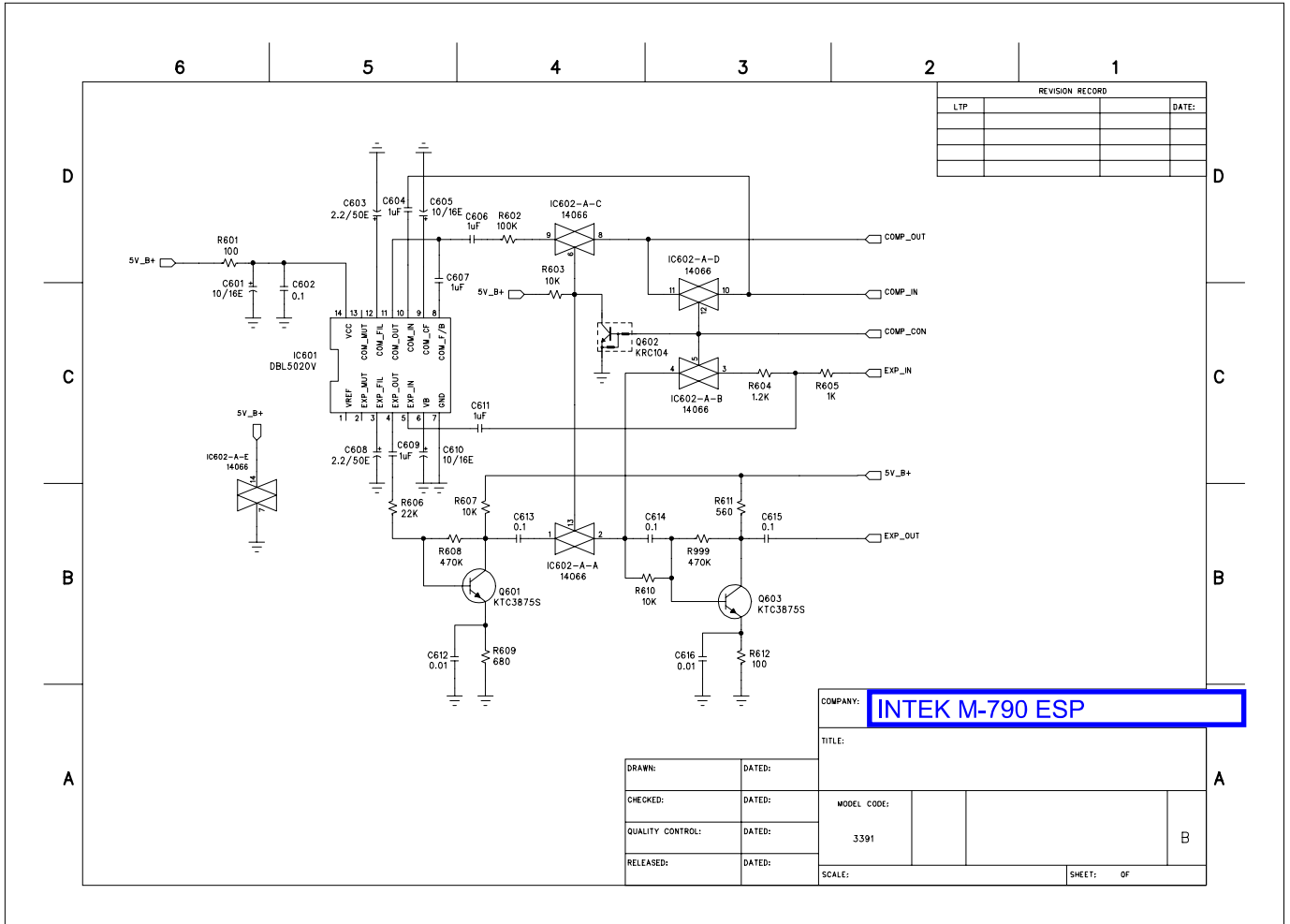


Figure 7



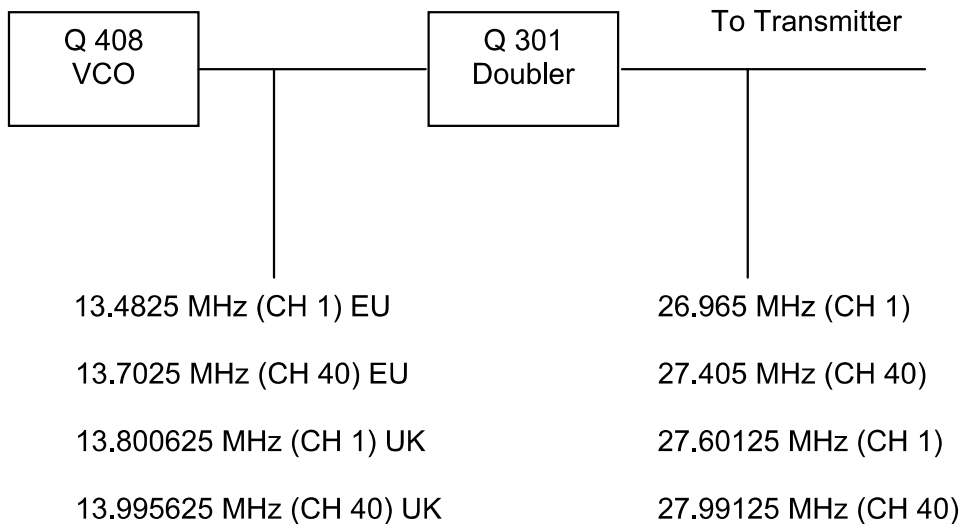


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## PLL CIRCUIT BLOCK DIAGRAM

### 1. INTRODUCTION

The frequencies for transmitter and receiver first local frequencies are all derived from a single 4.5 MHz crystal by means of a phase locked loop. The first local oscillator frequencies are 16.270 MHz (CH 1) to 16.710 MHz (CH 40) for EU and 16.90625 MHz (CH 1) to 17.29625 MHz (CH 40) for UK . The second local frequency is fixed at 10.240 MHz to generate second IF 455 KHz. During transmit, The VCO of the PLL operates 13.4825 MHz (CH 1) to 13.7025 MHz (CH 40) for EU ,13.800625 MHz (CH 1) to 13.995625 MHz (CH 40) for UK the VCO frequency goes to the double circuit Q301,L301,L302 which doubles the frequency to generate 26.965 MHz (CH 1) to 27.405 MHz (CH 40) for EU and 27.60125 MHz (CH 1) to 27.99125 MHz (CH 40) for UK



The VCO operating frequency for the receiver is 16.270,16.90625 MHz (CH 1) to 16.710,17.29625 MHz (CH 40) as the first local oscillator, injected through the buffer AMP Q506 into the first fed balanced mixer Q107,Q108

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## 2. BASIC SYNTHESIZER SCHEME

The crystal frequency (4.500 MHz) is divided by 1800 times to make 2.5 KHz which is fed to one side of the phase detector. The VCO output is divided by a programmable divider, and fed to other side of the phase detector Pin 75 of IC101. The feedback loop is closed by passing the phase detector output through an active low pass filter and using the output to control the VCO frequency through varicap diode D503,D504

Under locked conditions, both of phase detector input signal must be indential at 2.5 KHz. The VCO frequency is then given by:

$$FVCO / N = 0.0025 \text{ MHz} \quad \text{or} \quad FVCO = 0.0025 \times N \text{ MHz}$$

Since "N" is an integer, the VCO frequency can be stepped up with 2.5 KHz increments. By suitable choice of "N" the desired output frequency can be obtained.

	Channel 1		Channel 40		Function
	N	FVCO	N	FVCO	
Transmit	5393	13.4825	5481	13.7025	EU
Receive	6508	16.2700	6684	16.7100	
Transmit	5520.25	13.800625	5598.25	13.995625	UK
Receive	6762.50	16.90625	6918.5	17.29625	

(SEE TABLE FOR OTHER CHANNELS)

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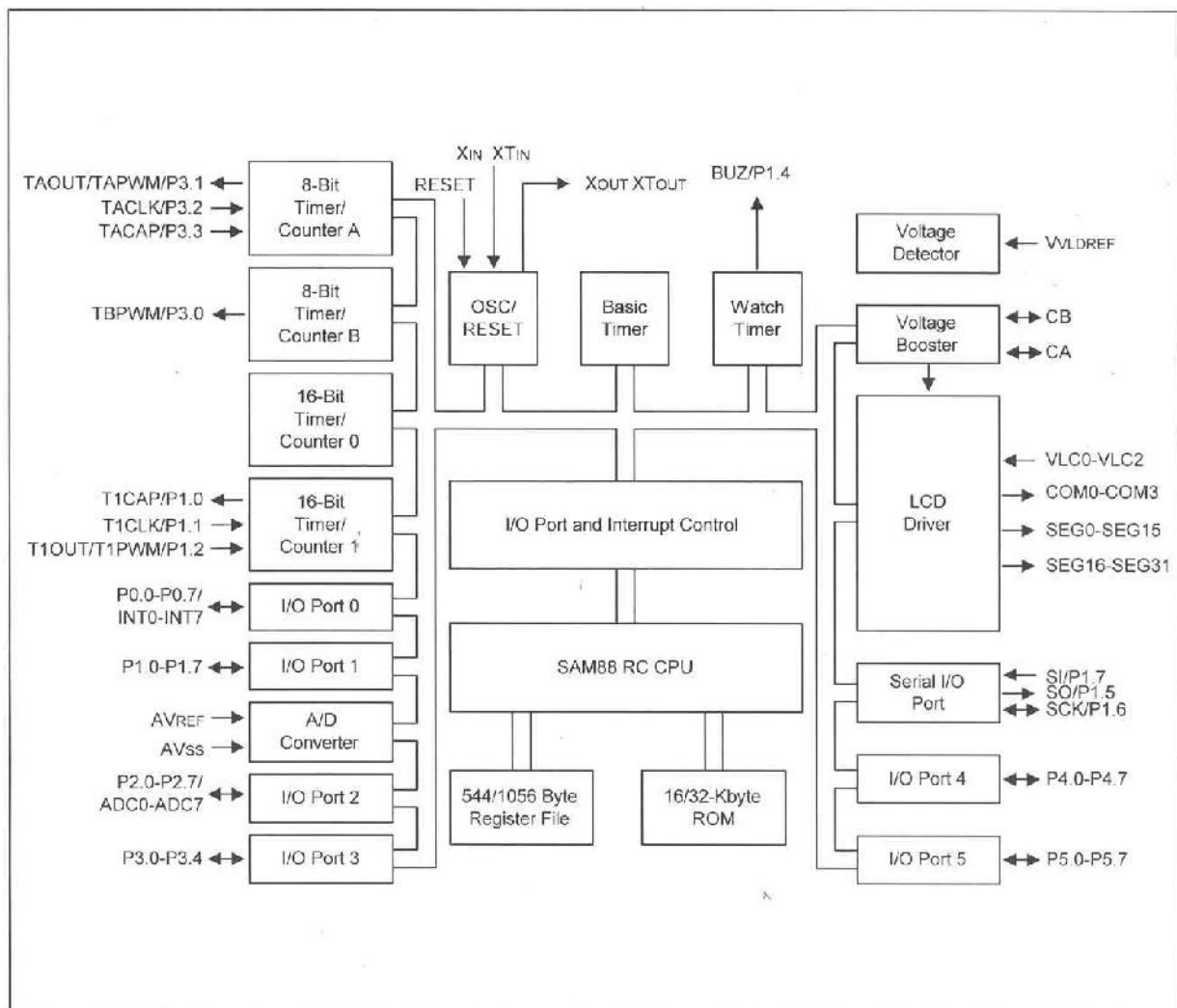


The VCO frequency goes to the double circuit, which doubles the incoming signals.

		Double output Frequency
Transmit _____	CH 1, 13.4825 MHz CH 1, 13.800625 MHz	26.965 MHz 27.60125 MHz
Transmit _____	CH 40, 13.7025 MHz CH 40, 13.995625 MHz	27.405 MHz 27.99125 MHz

Since all frequencies are obtained from the crystal controlled PLL oscillator, all outputs are coherent with the crystal oscillator frequency and maintaining the same percentage accuracy.

## INTERNAL BLOCK DIAGRAM





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**DIVIDE RATIO, VCO RX/TX FREQUENCIES FOR EACH CHANNEL OF "EU"**

Channels	Frequencies (MHz)	RX		TX	
			Frequencies MHz		Frequencies MHz
1	26.965	6508	16.27	5393	13.4825
2	26.975	6512	16.28	5395	13.4875
3	26.985	6516	16.29	5397	13.4925
4	27.005	6524	16.31	5401	13.5025
5	27.015	6528	16.32	5403	13.5075
6	27.025	6532	16.33	5405	13.5125
7	27.035	6536	16.34	5407	13.5175
8	27.055	6544	16.36	5411	13.5275
9	27.065	6548	16.37	5413	13.5325
10	27.075	6552	16.38	5415	13.5375
11	27.085	6505	16.39	5417	13.5425
12	27.105	6512	16.41	5421	13.5525
13	27.115	6516	16.42	5423	13.5575
14	27.125	6524	16.43	5425	13.5626
15	27.135	6528	16.44	5427	13.5675
16	27.155	6532	16.46	5431	13.5775
17	27.165	6536	16.47	5433	13.5825
18	27.175	6544	16.48	5435	13.5875
19	27.185	6548	16.49	5437	13.5925
20	27.205	6552	16.51	5441	13.6025
21	27.215	6608	16.52	5443	13.6075
22	27.225	6612	16.53	5445	13.6125
23	27.255	6624	16.56	5451	13.6275
24	27.235	6616	16.54	5447	13.6175
25	27.245	6620	16.55	5449	13.6225
26	27.265	6628	16.57	5453	13.6325
27	27.275	6632	16.58	5455	13.6375
28	27.285	6636	16.59	5457	14.6425
29	27.295	6640	16.60	5459	13.6475
30	27.305	6644	16.61	5461	13.6525
31	27.315	6648	16.62	5463	13.6575
32	27.325	6652	16.63	5465	13.6625
33	27.335	6656	16.64	5467	13.6675
34	27.345	6660	16.65	5469	13.6725
35	27.355	6664	16.66	5471	13.6775
36	27.365	6668	16.67	5473	13.6825

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37	27.375	6672	16.68	5475	13.6875
38	27.385	6676	16.69	5477	13.6925
39	27.395	6680	16.70	5479	13.6975
40	27.405	6684	16.71	5481	13.7025

**DIVIDE RATIO, VCO RX/TX FREQUENCIES FOR EACH CHANNEL OF “UK”**

Channels	Frequencies (MHz)	RX		TX	
			Frequencies MHz		Frequencies MHz
1	27.60125	6546.5	16.90625	5412.25	13.800625
2	27.61125	6766.5	16.91625	5522.25	13.805625
3	27.62125	6770.5	16.92625	5524.25	13.810625
4	27.63125	6774.5	16.93625	5526.25	13.815625
5	27.64125	6778.5	16.94625	5528.25	13.820625
6	27.65125	6782.5	16.95625	5530.25	13.825625
7	27.66125	6786.5	16.96625	5532.25	13.830625
8	27.67125	6790.5	16.67625	5534.25	13.835625
9	27.68125	6794.5	16.98625	5536.25	13.840625
10	27.69125	6798.5	16.99625	5538.25	13.845625
11	27.70125	6802.5	17.00625	5540.25	13.850625
12	27.71125	6806.5	17.01625	5542.25	13.855625
13	27.72125	6810.5	17.02625	5544.25	13.860625
14	27.73125	6814.5	17.03625	5546.25	13.865625
15	27.74125	6818.5	17.04625	5548.25	13.870625
16	27.75125	6822.5	17.05625	5550.25	13.875625
17	27.76125	6826.5	17.06625	5552.25	13.880625
18	27.77125	6830.5	17.07625	5554.25	13.885625
19	27.78125	6834.5	17.08625	5556.25	13.890625
20	27.79125	6838.5	17.09625	5558.25	13.895625
21	27.80125	6842.5	17.10625	5560.25	13.900625
22	27.81125	6846.5	17.11625	5562.25	13.905625
23	27.82125	6850.5	17.12625	5564.25	13.910625
24	27.83125	6854.5	17.13625	5566.25	13.915625
25	27.84125	6858.5	17.14625	5568.25	13.920625
26	27.85125	6861.5	17.15625	5570.25	13.925625
27	27.86125	6866.5	17.16625	5572.25	13.930625
28	27.87125	6870.5	17.17625	5574.25	13.935625
29	27.88125	6874.5	17.18625	5576.25	13.940625
30	27.89125	6878.5	17.19625	5578.25	13.945625

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31	27.90125	6882.5	17.20625	5580.25	13.950625
32	27.91125	6886.5	17.21625	5582.25	13.955625
33	27.92125	6890.5	17.22625	5584.25	13.960625
34	27.93125	6844.5	17.23625	5586.25	13.965625
35	27.94125	6898.5	17.24625	5588.25	13.970625
36	27.95125	6902.5	17.25625	5590.25	13.975625
37	27.96125	6906.5	17.26625	5592.25	13.980625
38	27.97125	6910.5	17.27625	5594.25	13.985625
39	27.98125	6914.5	17.28625	5596.25	13.990625
40	27.99125	6918.5	17.29625	5598.25	13.995625

### 3. DESCRIPTIONS OF EACH BLOCK

#### A. Introduction

The synthesizer is implemented with the following

Components:

PLL IC (IC6)

X-TAL (X2)

VCO, VARICAP DOIDE (D402,D403)

IC101 is a cmos LSI that includes most of PLL block and driver, the Q401-Q406, C412, C415, C416, C417 and L501, Varicap diode D402,D403 are clapp oscillator circuit to operate as a VCO of the IC101. Q406 is a switching transistor to connect or disconnect the tuning capacitor in the VCO oscillator tank circuit for transmitter or receiver. Q408 works as a buffer AMP for RX local frequencies (16 MHz) and TX generating frequencies (13 MHz).

#### B. Reference frequency

The crystal, X2 (4.500 MHz) and other components at PIN 1 and 80 of IC101 can make a reference frequency oscillator with internal amplifier.

#### C. VCO

Q503 and surrounding parts are consisting a clapp oscillator works as a VCO of IC101. the VCO can be oscillate over the required of 13.4825 MHz to 17.29625 MHz

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#### D. Phase detector and VCO control

The detector is a digital phase comparator which compares the phase of the reference signal with programmable divider output square waves and develops a series of pulses whose DC level depends on the phase error of each signal.

#### E. Transmitter/Receiver buffer AMP

Output signal of Q503 is fed into buffer AMP Q411,

#### F. Transmitter doubler

The output signals of Q411 goes to an amplifier with tuning circuit Q301,L301,L302 which doubles incoming 13 MHz signals.

#### G. Switching of tuning capacitor in VCO

The VCO circuit must tune with a wide rang of frequencies 13.4825 ~ 13.7025 MHz (EU), 13.800625 ~ 13.995625 MHz (UK) for transmitter and 16.270~16.710 MHz (EU), 16.90625 ~ 17.29625 MHz (UK) for receiver. To comply above rang of VCO, the tuning capacitance should switched for transmission or reception.

#### H. Receiver local oscillator outputs

##### First Mixer:

The secondary output signals is injected to the sources of 1<sup>st</sup> mixer Q105,Q106 in the 1<sup>st</sup> IF mixer section

##### Second Mixer:

The output of 10.24 MHz oscillator circuit with X-1 is injected into the IF IC internally. Incoming IF signal and 10.24 MHz are mixed inside the IF IC to extract 2<sup>nd</sup> IF signal 455 KHz. FM,AM audio signals are recovered with the way of quadrature detector, AM signals are recovered with envelope detector.

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#### 4. FREQUENCY STABILITY

LET :  $F_o$  = Crystal oscillator frequency

$F_r$  = Phase detector reference frequency

$F_{vco}$  = VCO frequency

$F_t$  = Transmit frequency

Then :  $F_r = F_o/1800$

And under locked conditions :  $F_r = F_{vco} / N$

WHERE, "N" is the programmable divider divide ratio.

THEN :  $F_{vco} = N \times F_r$

From which it can be seen, the percentage error in  $F_t$  is the same as the percentage error in  $F_o$ . The stability of the crystal oscillator is determined primarily by the crystal itself and having lesser deviation by the active and passive components of the oscillator. The choice of crystal and component is such that the required frequency stability is maintained over the required voltage and temperature rang.

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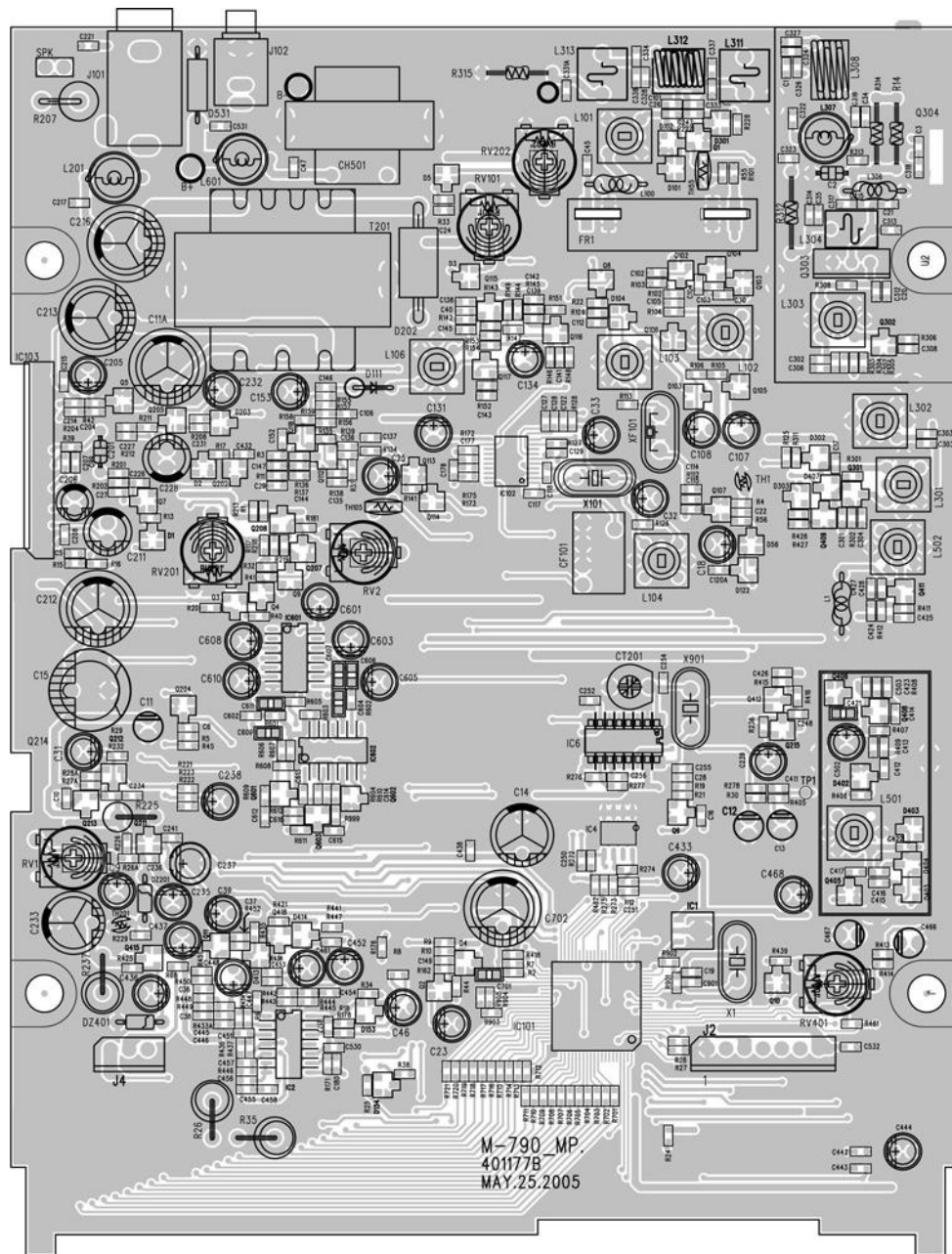
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## Printed Circuit Board



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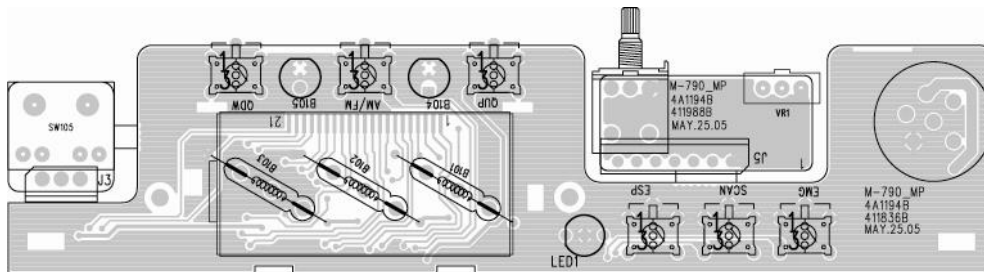
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### Frequencies Tables for M-790 Plus

Specification	LCD Display
Legal Bands	
Italy 40CH AM / FM 4W	IO
Italy 36CH AM / FM 4W	I2
Germany 80CH FM 4W 12CH AM 1W	DE
Germany 40CH FM 4W 12CH AM 1W	D2
Europe 40CH FM 4W 40CH AM 1W	EU
CEPT 40CH FM 4W	CE
Spain 40CH AM / FM 4W	SP
France 40CH FM 4W 40CH AM 1W	FR
England 40CH FM 4W English Frequencies + EC 40CH FM 4W CEPT	UK
Poland 40CH AM / FM 4W Polish Frequencies -5kHz	PL
<b>EXPORT Bands</b>	
Russia 400CH AM / FM 4W	RU
Poland 400CH AM / FM 4W Polish Frequencies -5kHz	PO
Private Channels AM / FM 4W	PC
**Sweden 24CH FM 4W (31MHz) **Sweden Band won't be work	SW

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**Frequencies for 10 band (Italy 40CH AM / FM 4W)**

CH	Frequency (MHz)	Modulation
1	26.965	AM / FM
2	26.975	AM / FM
3	26.985	AM / FM
4	27.005	AM / FM
5	27.015	AM / FM
6	27.025	AM / FM
7	27.035	AM / FM
8	27.055	AM / FM
9	27.065	AM / FM
10	27.075	AM / FM
11	27.085	AM / FM
12	27.105	AM / FM
13	27.115	AM / FM
14	27.125	AM / FM
15	27.135	AM / FM
16	27.155	AM / FM
17	27.165	AM / FM
18	27.175	AM / FM
19	27.185	AM / FM
20	27.205	AM / FM
21	27.215	AM / FM
22	27.225	AM / FM
23	27.255	AM / FM
24	27.235	AM / FM
25	27.245	AM / FM
26	27.265	AM / FM
27	27.275	AM / FM
28	27.285	AM / FM
29	27.295	AM / FM
30	27.305	AM / FM
31	27.315	AM / FM
32	27.325	AM / FM
33	27.335	AM / FM
34	27.345	AM / FM
35	27.355	AM / FM
36	27.365	AM / FM
37	27.375	AM / FM
38	27.385	AM / FM
39	27.395	AM / FM
40	27.405	AM / FM

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**Frequencies for I2 band (Italy 34CH AM / FM 4W)**

CH	Frequency (MHz)	Modulation
1	26.965	AM / FM
2	26.975	AM / FM
3	26.985	AM / FM
4	27.005	AM / FM
5	27.015	AM / FM
6	27.025	AM / FM
7	27.035	AM / FM
8	27.055	AM / FM
9	27.065	AM / FM
10	27.075	AM / FM
11	27.085	AM / FM
12	27.105	AM / FM
13	27.115	AM / FM
14	27.125	AM / FM
15	27.135	AM / FM
16	27.155	AM / FM
17	27.165	AM / FM
18	27.175	AM / FM
19	27.185	AM / FM
20	27.205	AM / FM
21	27.215	AM / FM
22	27.225	AM / FM
23	27.255	AM / FM
24	27.245	AM / FM
25	27.265	AM / FM
26	26.875	AM / FM
27	26.885	AM / FM
28	26.895	AM / FM
29	26.905	AM / FM
30	26.915	AM / FM
31	26.925	AM / FM
32	26.935	AM / FM
33	26.945	AM / FM
34	26.955	AM / FM
35	26.855	AM / FM
36	26.865	AM / FM

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**Frequencies for DE band (Germany 80CH FM 4W 12CH AM 1W)**

CH	Frequency (MHz)	Modulation
1	26.965	FM
2	26.975	FM
3	26.985	FM
4	27.005	AM / FM
5	27.015	AM / FM
6	27.025	AM / FM
7	27.035	AM / FM
8	27.055	AM / FM
9	27.065	AM / FM
10	27.075	AM / FM
11	27.085	AM / FM
12	27.105	AM / FM
13	27.115	AM / FM
14	27.125	AM / FM
15	27.135	AM / FM
16	27.155	FM
17	27.165	FM
18	27.175	FM
19	27.185	FM
20	27.205	FM
21	27.215	FM
22	27.225	FM
23	27.255	FM
24	27.235	FM
25	27.245	FM
26	27.265	FM
27	27.275	FM
28	27.285	FM
29	27.295	FM
30	27.305	FM
31	27.315	FM
32	27.325	FM
33	27.335	FM
34	27.345	FM
35	27.355	FM
36	27.365	FM
37	27.375	FM
38	27.385	FM
39	27.395	FM
40	27.405	FM

CH	Frequency (MHz)	Modulation
41	26.565	FM
42	26.575	FM
43	26.585	FM
44	26.595	FM
45	26.605	FM
46	26.615	FM
47	26.625	FM
48	26.635	FM
49	26.645	FM
50	26.655	FM
51	26.665	FM
52	26.675	FM
53	26.685	FM
54	26.695	FM
55	26.705	FM
56	26.715	FM
57	26.725	FM
58	26.735	FM
59	26.745	FM
60	26.755	FM
61	26.765	FM
62	26.775	FM
63	26.785	FM
64	26.795	FM
65	26.805	FM
66	26.815	FM
67	26.825	FM
68	26.835	FM
69	26.845	FM
70	26.855	FM
71	26.865	FM
72	26.875	FM
73	26.885	FM
74	26.895	FM
75	26.905	FM
76	26.915	FM
77	26.925	FM
78	26.935	FM
79	26.945	FM
80	26.955	FM

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**Frequencies for D2 band (Germany 40CH FM 4W 12CH AM 1W)**

CH	Frequency (MHz)	Modulation
1	26.965	FM
2	26.975	FM
3	26.985	FM
4	27.005	AM / FM
5	27.015	AM / FM
6	27.025	AM / FM
7	27.035	AM / FM
8	27.055	AM / FM
9	27.065	AM / FM
10	27.075	AM / FM
11	27.085	AM / FM
12	27.105	AM / FM
13	27.115	AM / FM
14	27.125	AM / FM
15	27.135	AM / FM
16	27.155	FM
17	27.165	FM
18	27.175	FM
19	27.185	FM
20	27.205	FM
21	27.215	FM
22	27.225	FM
23	27.255	FM
24	27.235	FM
25	27.245	FM
26	27.265	FM
27	27.275	FM
28	27.285	FM
29	27.295	FM
30	27.305	FM
31	27.315	FM
32	27.325	FM
33	27.335	FM
34	27.345	FM
35	27.355	FM
36	27.365	FM
37	27.375	FM
38	27.385	FM
39	27.395	FM
40	27.405	FM

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**Frequencies for EU band (Europe 40CH FM 4W 40CH AM 1W)**

CH	Frequency (MHz)	Modulation
1	26.965	AM / FM
2	26.975	AM / FM
3	26.985	AM / FM
4	27.005	AM / FM
5	27.015	AM / FM
6	27.025	AM / FM
7	27.035	AM / FM
8	27.055	AM / FM
9	27.065	AM / FM
10	27.075	AM / FM
11	27.085	AM / FM
12	27.105	AM / FM
13	27.115	AM / FM
14	27.125	AM / FM
15	27.135	AM / FM
16	27.155	AM / FM
17	27.165	AM / FM
18	27.175	AM / FM
19	27.185	AM / FM
20	27.205	AM / FM
21	27.215	AM / FM
22	27.225	AM / FM
23	27.255	AM / FM
24	27.235	AM / FM
25	27.245	AM / FM
26	27.265	AM / FM
27	27.275	AM / FM
28	27.285	AM / FM
29	27.295	AM / FM
30	27.305	AM / FM
31	27.315	AM / FM
32	27.325	AM / FM
33	27.335	AM / FM
34	27.345	AM / FM
35	27.355	AM / FM
36	27.365	AM / FM
37	27.375	AM / FM
38	27.385	AM / FM
39	27.395	AM / FM
40	27.405	AM / FM

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**Frequencies for CE band (CEPT 40CH FM 4W)**

CH	Frequency (MHz)	Modulation
1	26.965	FM
2	26.975	FM
3	26.985	FM
4	27.005	FM
5	27.015	FM
6	27.025	FM
7	27.035	FM
8	27.055	FM
9	27.065	FM
10	27.075	FM
11	27.085	FM
12	27.105	FM
13	27.115	FM
14	27.125	FM
15	27.135	FM
16	27.155	FM
17	27.165	FM
18	27.175	FM
19	27.185	FM
20	27.205	FM
21	27.215	FM
22	27.225	FM
23	27.255	FM
24	27.235	FM
25	27.245	FM
26	27.265	FM
27	27.275	FM
28	27.285	FM
29	27.295	FM
30	27.305	FM
31	27.315	FM
32	27.325	FM
33	27.335	FM
34	27.345	FM
35	27.355	FM
36	27.365	FM
37	27.375	FM
38	27.385	FM
39	27.395	FM
40	27.405	FM

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**Frequencies for SP band (Spain 40CH AM / FM 4W)**

CH	Frequency (MHz)	Modulation
1	26.965	AM / FM
2	26.975	AM / FM
3	26.985	AM / FM
4	27.005	AM / FM
5	27.015	AM / FM
6	27.025	AM / FM
7	27.035	AM / FM
8	27.055	AM / FM
9	27.065	AM / FM
10	27.075	AM / FM
11	27.085	AM / FM
12	27.105	AM / FM
13	27.115	AM / FM
14	27.125	AM / FM
15	27.135	AM / FM
16	27.155	AM / FM
17	27.165	AM / FM
18	27.175	AM / FM
19	27.185	AM / FM
20	27.205	AM / FM
21	27.215	AM / FM
22	27.225	AM / FM
23	27.255	AM / FM
24	27.235	AM / FM
25	27.245	AM / FM
26	27.265	AM / FM
27	27.275	AM / FM
28	27.285	AM / FM
29	27.295	AM / FM
30	27.305	AM / FM
31	27.315	AM / FM
32	27.325	AM / FM
33	27.335	AM / FM
34	27.345	AM / FM
35	27.355	AM / FM
36	27.365	AM / FM
37	27.375	AM / FM
38	27.385	AM / FM
39	27.395	AM / FM
40	27.405	AM / FM

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**Frequencies for FR band (France 40CH FM 4W 40CH AM 1W)**

CH	Frequency (MHz)	Modulation
1	26.965	AM / FM
2	26.975	AM / FM
3	26.985	AM / FM
4	27.005	AM / FM
5	27.015	AM / FM
6	27.025	AM / FM
7	27.035	AM / FM
8	27.055	AM / FM
9	27.065	AM / FM
10	27.075	AM / FM
11	27.085	AM / FM
12	27.105	AM / FM
13	27.115	AM / FM
14	27.125	AM / FM
15	27.135	AM / FM
16	27.155	AM / FM
17	27.165	AM / FM
18	27.175	AM / FM
19	27.185	AM / FM
20	27.205	AM / FM
21	27.215	AM / FM
22	27.225	AM / FM
23	27.255	AM / FM
24	27.235	AM / FM
25	27.245	AM / FM
26	27.265	AM / FM
27	27.275	AM / FM
28	27.285	AM / FM
29	27.295	AM / FM
30	27.305	AM / FM
31	27.315	AM / FM
32	27.325	AM / FM
33	27.335	AM / FM
34	27.345	AM / FM
35	27.355	AM / FM
36	27.365	AM / FM
37	27.375	AM / FM
38	27.385	AM / FM
39	27.395	AM / FM
40	27.405	AM / FM

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Frequencies for UK band (England 40CH FM 4W + CEPT 40CH FM 4W)

England Frequencies

CH	Frequency (MHz)	Modulation
1	27.60125	FM
2	27.61125	FM
3	27.62125	FM
4	27.63125	FM
5	27.64125	FM
6	27.65125	FM
7	27.66125	FM
8	27.67125	FM
9	27.68125	FM
10	27.69125	FM
11	27.70125	FM
12	27.71125	FM
13	27.72125	FM
14	27.73125	FM
15	27.74125	FM
16	27.75125	FM
17	27.76125	FM
18	27.77125	FM
19	27.78125	FM
20	27.79125	FM
21	27.80125	FM
22	27.81125	FM
23	27.82125	FM
24	27.83125	FM
25	27.84125	FM
26	27.85125	FM
27	27.86125	FM
28	27.87125	FM
29	27.88125	FM
30	27.89125	FM
31	27.90125	FM
32	27.91125	FM
33	27.92125	FM
34	27.93125	FM
35	27.94125	FM
36	27.95125	FM
37	27.96125	FM
38	27.97125	FM
39	27.98125	FM
40	27.99125	FM

CEPT Frequencies

CH	Frequency (MHz)	Modulation
1	26.965	FM
2	26.975	FM
3	26.985	FM
4	27.005	FM
5	27.015	FM
6	27.025	FM
7	27.035	FM
8	27.055	FM
9	27.065	FM
10	27.075	FM
11	27.085	FM
12	27.105	FM
13	27.115	FM
14	27.125	FM
15	27.135	FM
16	27.155	FM
17	27.165	FM
18	27.175	FM
19	27.185	FM
20	27.205	FM
21	27.215	FM
22	27.225	FM
23	27.255	FM
24	27.235	FM
25	27.245	FM
26	27.265	FM
27	27.275	FM
28	27.285	FM
29	27.295	FM
30	27.305	FM
31	27.315	FM
32	27.325	FM
33	27.335	FM
34	27.345	FM
35	27.355	FM
36	27.365	FM
37	27.375	FM
38	27.385	FM
39	27.395	FM
40	27.405	FM

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**Frequencies for PL band (Poland 40CH AM / FM 4W Polish Frequencies –5kHz)**

CH	Frequency (MHz)	Modulation
1	26.960	AM / FM
2	26.970	AM / FM
3	26.980	AM / FM
4	27.000	AM / FM
5	27.010	AM / FM
6	27.020	AM / FM
7	27.030	AM / FM
8	27.050	AM / FM
9	27.060	AM / FM
10	27.070	AM / FM
11	27.080	AM / FM
12	27.100	AM / FM
13	27.110	AM / FM
14	27.120	AM / FM
15	27.130	AM / FM
16	27.150	AM / FM
17	27.160	AM / FM
18	27.170	AM / FM
19	27.180	AM / FM
20	27.200	AM / FM
21	27.210	AM / FM
22	27.220	AM / FM
23	27.250	AM / FM
24	27.230	AM / FM
25	27.240	AM / FM
26	27.260	AM / FM
27	27.270	AM / FM
28	27.280	AM / FM
29	27.290	AM / FM
30	27.300	AM / FM
31	27.310	AM / FM
32	27.320	AM / FM
33	27.330	AM / FM
34	27.340	AM / FM
35	27.350	AM / FM
36	27.360	AM / FM
37	27.370	AM / FM
38	27.380	AM / FM
39	27.390	AM / FM
40	27.400	AM / FM

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**Frequencies for SW band (Sweden 24 CH FM 4W 31 MHz)**

CH	Frequency (MHz)	Modulation
1	30.930	FM
2	31.040	FM
3	31.050	FM
4	31.060	FM
5	31.070	FM
6	31.080	FM
7	31.090	FM
8	31.100	FM
9	31.110	FM
10	31.120	FM
11	31.140	FM
12	31.150	FM
13	31.160	FM
14	31.180	FM
15	31.190	FM
16	31.200	FM
17	31.210	FM
18	31.220	FM
19	31.250	FM
20	31.260	FM
21	31.270	FM
22	31.330	FM
23	31.340	FM
24	31.570	FM



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PART LIST

No.	Part No.	Part name & Description	Q'ty	Ref.
1	533-91C-A	COVER ASS'Y	1	
2	420-128-4Z	SPEAKER NP-250-2 8 OHM 2W 66MM	1	
3	533-91E-SC	ESCUTCHEON ASS'Y	1	
4	533-91F-B	FRONT BODY ASS'Y	1	
5	202-066-2	TRANSISTOR KTB1367	1	Q214
6	204-010-1	TRANSISTOR 2SC2078(E)	1	Q304
7	222-006-4	I.C KIA7217AP	1	IC103
8	420-705-1Z	JACK DC TC38-078-01	1	J101
9	420-726-3X	JACK MINIATURE FJ-2506 2.5MM	1	J102
10	421-046-7	CONNECTOR CH-239(A) SW-1229	1	J103(ANT)
11	421-643-6A	CONNECTOR SOCKET SCN-16-6(M1)R PCB TYPE	1	J105(MIC JACK)
12	429-078-6B	FLAT WIRE 07P 88MM 2.5PITCH	1	J5
13	429-266-9Z	FLAT CABLE 03P 80MM 2.5PITCH (HH-35)	1	J3
14	430-049-8Y	SW ROTARY YPS210120SK	1	SW105
15	440-020-4	MICA 0.1T:15X13 MICA FOR TR	1	
16	450-436-4Z	VARIABLE RESISTER CSPNS-0906-15SP-A10K	1	VR102
17	450-437-5W	VR RV0915N-15KQA1-B10K-A	1	VR1
18	533-91L-PA	LCD PCB ASS'Y	1	
19	251-162-5Z	LED LAMP LTL-81HGK	2	B104.105
20	251-224-8Z	PILOT LAMP 60MA 3& 14V	3	B101.102.103
21	251-286-4Z	LAMP LED L-115 VEGW	1	LED1
22	252-324-7	LCD DISPLAY IS05228E	1	LCD1
23	436-059-7Z	SW TACT TM115AP	6	Q.DWN , Q.UP , SCAN , AM/FM , EMG , ESP
24	533-91M-A	MIC ASS'Y	1	
25	002-104-1Z	FILM RESISTOR 100K 1/ 8W 5% ST	1	R70
26	002-154-6Z	FILM RESISTOR 150K 1/ 8W 5% ST	1	R69

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27	002-473-4Z	FILM RESISTOR 47K 1/8W 5% ST	1	R23
28	411-803-A	P.C.B MIC 16.9 X33.5 X1.6 XPC-94HB 1/0	1	
29	420-233-5	MIC CARTRIDGE FDM-600M	1	MIC1
30	420-340-7Y	CORD CURLED STHK-23063	1	
31	421-069-8	MIC CONNECTOR MIC-6PIN(P) SW-1561	1	J106
32	432-040-6	SW PUSH SPPH221AP011	1	SW460
33	432-058-3Y	PUSH SWITCH SKPS-2210C	1	SW102
34	436-059-7Z	SW TACT TM115AP	2	SW103.104
35	533-91M-BA	MAIN BODY ASS'Y	1	
36	504-892	MOLEX PLUG ASS'Y	1	
37	533-91M-PA	MAIN PCB AUTO ASS'Y	1	
38	05B-000-5Z	CHIP RESISTOR 0 1/16W 5% T 1608	4	R3.8.11.68
39	05B-101-3Z	CHIP RESISTOR 100 1/16W 5% T 1608	9	R104.109.139.152.276.447.448. 601.612
40	05B-102-4Z	CHIP RESISTOR 1K 1/16W 5% T 1608	11	R17.20.38.101.105.106.226.412. 416.425.605
41	05B-103-5Z	CHIP RESISTOR 10K 1/16W 5% T 1608	15	R22.27.28.34.56.142.171.228. 418.446.461.462.603.607.610
42	05B-104-6Z	CHIP RESISTOR 100K 1/16W 5% T 1608	34	R7.29.141.172.406.409.411. 415.438.701.702.703.704.705. + 706.707.708.709.710.711.712. 713.714.715.716.717.718.719. 720.721.903.904.905.602
43	05B-106-8Z	CHIP RESISTOR 10M 1/16W 5% T 1608	1	R176
44	05B-122-2Z	CHIP RESISTOR 1.2K 1/16W 5% T 1608	1	R604
45	05B-151-8Z	CHIP RESISTOR 150 1/16W 5% T 1608	2	R229.313
46	05B-152-9Z	CHIP RESISTOR 1.5K 1/16W 5% T 1608	6	R12.211.218.421.426.451
47	05B-153-0Z	CHIP RESISTOR 15K 1/16W 5% T 1608	4	R40.145.212.444

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48	05B-154-1Z	CHIP RESISTOR	150K 1/16W 5% T 1608	1	R301
49	05B-183-7Z	CHIP RESISTOR	18K 1/16W 5% T 1608	1	R113
50	05B-184-8Z	CHIP RESISTOR	180K 1/16W 5% T 1608	1	R173
51	05B-202-1Z	CHIP RESISTOR	2K 1/16W 5% T 1608	2	R4.278
52	05B-203-2Z	CHIP RESISTOR	20K 1/16W 5% T 1608	2	R178.445
53	05B-221-8Z	CHIP RESISTOR	220 1/16W 5% T 1608	3	R153.302.452
54	05B-222-9Z	CHIP RESISTOR	2.2K 1/16W 5% T 1608	9	R28A.41.127.201.219.221.227. 408.433A
55	05B-223-0Z	CHIP RESISTOR	22K 1/16W 5% T 1608	6	R126.154.157.162.277.606
56	05B-224-1Z	CHIP RESISTOR	220K 1/16W 5% T 1608	1	R21
57	05B-225-2Z	CHIP RESISTOR	2.2M 1/16W 5% T 1608	1	R135
58	05B-272-4Z	CHIP RESISTOR	2.7K 1/16W 5% T 1608	2	R136.151
59	05B-273-5Z	CHIP RESISTOR	27K 1/16W 5% T 1608	4	R103.147.208.436
60	05B-302-8Z	CHIP RESISTOR	3K 1/16W 5% T 1608	1	R232
61	05B-303-9Z	CHIP RESISTOR	30K 1/16W 5% T 1608	1	R435
62	05B-332-5Z	CHIP RESISTOR	3.3K 1/16W 5% T 1608	3	R5.13.202
63	05B-333-6Z	CHIP RESISTOR	33K 1/16W 5% T 1608	5	R2.149.158.414.441
64	05B-335-8Z	CHIP RESISTOR	3.3M 1/16W 5% T 1608	1	R177
65	05B-392-9Z	CHIP RESISTOR	3.9K 1/16W 5% T 1608	1	R125
66	05B-393-0Z	CHIP RESISTOR	39K 1/16W 5% T 1608	3	R155.407.437
67	05B-470-6Z	CHIP RESISTOR	47 1/16W 5% T 1608	4	R27A.128.204.306
68	05B-471-7Z	CHIP RESISTOR	470 1/16W 5% T 1608	7	R1.24.25.112.213.311.427
69	05B-472-8Z	CHIP RESISTOR	4.7K 1/16W 5% T 1608	7	R134.143.144.181.236.303.304
70	05B-473-9Z	CHIP RESISTOR	47K 1/16W 5% T 1608	12	R9.19.146.159.272.273.274.275. 405.442.443.902
71	05B-474-0Z	CHIP RESISTOR	470K 1/16W 5% T 1608	6	R10.26A.33.450.608.999
72	05B-475-1Z	CHIP RESISTOR	4.7M 1/16W 5% T 1608	1	R434
73	05B-479-5Z	CHIP RESISTOR	4.7 1/16W 5% T 1608	1	R308

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74	05B-514-3Z	CHIP RESISTOR 510K 1/16W 5% T 1608	1	R44
75	05B-561-5Z	CHIP RESISTOR 560 1/16W 5% T 1608	3	R55.148.611
76	05B-563-7Z	CHIP RESISTOR 56K 1/16W 5% T 1608	3	R102.175.413
77	05B-681-0Z	CHIP RESISTOR 680 1/16W 5% T 1608	2	R39.609
78	05B-682-1Z	CHIP RESISTOR 6.8K 1/16W 5% T 1608	3	R30.137.305
79	05B-821-0Z	CHIP RESISTOR 820 1/16W 5% T 1608	1	R31
80	05B-822-1Z	CHIP RESISTOR 8.2K 1/16W 5% T 1608	1	R439
81	05B-824-3Z	CHIP RESISTOR 820K 1/16W 5% T 1608	1	R138
82	075-102-5	RES.CHIP TRIMMER 1K RH03E1C13X	1	RV201
83	075-103-6	RES.CHIP TRIMMER 10K RH03E1C14X	1	RV401
84	075-223-1	RES.CHIP TRIMMER 22K RH03E1CJ4X	1	RV1
85	075-473-0	RES.CHIP TRIMMER 47K RH03E1CS4X	3	RV2.101.202
86	130-A47-3	CHIP CERAMIC 0.0012UF GRM39 X7R122J 50V PT	1	C316
87	130-A73-6Y	CHIP CERAMIC 0.01UF GRM39 X7R103K 25V	34	C10.22.24.47.102.105.106.112. 120A.129.137.138.139.149.217.+ 227.231.234.236.241.256.302. 304.308.424.427.438.443.503. 531.532.612.616.26
88	130-A75-8Y	CHIP CERAMIC 0.001UF GRM39 X7R102K 50V PT	7	C37.115.144.221.226.442.446
89	130-B09-9Y	CHIP CERAMIC 0.1UF GRM39 X7R104K 16V AT	23	C8.17.29.122.127.128.135.136. 142.147.152.177.178.204.208. + 215.451.453.458.602.613.614. 615
90	130-261-9Y	CHIP CERAMIC 0.022UF GRM39 X7R223K 50V PT	3	C27.36.306
91	130-440-4Y	CHIP CERAMIC 0.047UF GRM39 Y5V473Z 25V PT	13	C35.141.143.145.146.242.248. 314.322.323.432.455.530
92	130-620-1	CHIP CERAMIC 0.0068UF GRM39 X7R682K 50V PT	2	C445.454
93	130-630-9Y	CHIP CERAMIC 0.068UF GRM39 X7R683K 16V	1	C411

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94	131-089-7Y	CHIP CERAMIC	1UF	GRM40 Y5V105Z 16V PT	6	C604.606.607.609.611.701
95	131-092-8Y	CHIP CERAMIC	10PF	GRM39 COG100D 50V PT	2	C114.425
96	131-093-9Y	CHIP CERAMIC	100PF	GRM39 COG101J 50V PT	8	C16.28.180.250.251.252.414.423
97	131-240-5Y	CHIP CERAMIC	12PF	GRM39 COG120J 50V PT	1	C103
98	131-241-6Y	CHIP CERAMIC	120PF	GRM39 COG121J 50V PT	3	C118.307.331A
99	131-306-2Y	CHIP CERAMIC	13PF	GRM39 COG130J 50V PT	1	C254
100	131-564-8Y	CHIP CERAMIC	15PF	GRM39 COG150J 50V PT	2	C104.416
101	131-575-8Y	CHIP CERAMIC	150PF	GRM39 COG151J 50V PT	1	C317
102	132-259-8Y	CHIP CERAMIC	22PF	GRM39 COG220J 50V PT	2	C117.413
103	132-260-8Y	CHIP CERAMIC	220PF	GRM39 COG221J 50V PT	3	C214.312.324
104	132-733-9Y	CHIP CERAMIC	2.7PF	GRM39 COG2R7C 50V PT	1	C417
105	132-734-0Y	CHIP CERAMIC	27PF	GRM39 COG270J 50V PT	1	C415
106	132-735-1Y	CHIP CERAMIC	270PF	GRM39 COG271J 50V PT	3	C334.338.412
107	133-103-5Y	CHIP CERAMIC	30PF	GRM39 COG300J 50V PT	1	C255
108	133-350-1Y	CHIP CERAMIC	330PF	GRM39 COG331J 50V PT	1	C313
109	133-611-7Y	CHIP CERAMIC	36PF	GRM40 COG360J 50V PT	1	C421
110	133-930-5Y	CHIP CERAMIC	39PF	GRM39 COG390J 50V PT	5	C45.301.303.303A.428
111	133-936-1Y	CHIP CERAMIC	390PF	GRM39 COG391J 50V PT	2	C327.333
112	134-012-1Y	CHIP CERAMIC	4PF	GRM39 COG040C 50V PT	1	C326
113	134-757-1Y	CHIP CERAMIC	47PF	GRM39 COG470J 50V PT	2	C101.447
114	135-021-4Y	CHIP CERAMIC	5PF	GRM39 COG050C 50V PT	1	C3
115	135-632-6Y	CHIP CERAMIC	56PF	GRM39 COG560J 50V PT	2	C34.328
116	135-650-2Y	CHIP CERAMIC	560PF	GRM39 COG561J 25V PT	1	C315
117	136-014-3Y	CHIP CERAMIC	6PF	GRM39 COG060D 50V PT	2	C422.426
118	136-839-2Y	CHIP CERAMIC	68PF	GRM39 COG680J 50V PT	3	C207.318.337
119	136-840-2Y	CHIP CERAMIC	680PF	GRM39 X7R681K 50V PT	1	C457
120	137-509-9Y	CHIP CERAMIC	75PF	GRM39 COG750J 50V PT	1	C1
121	138-011-0Y	CHIP CERAMIC	8PF	GRM39 COG080D 50V PT	1	C30

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122	138-232-3Y	CHIP CERAMIC	82PF GRM39 COG820J 50V PT	2	C20.21
123	202-085-9Z	TRANSISTOR	KRC101SNA	8	Q103.104.114.403.404.405.406. 418
124	131-240-5Y	CHIP CERAMIC	12PF GRM39 COG120J 50V PT	1	C104
125	202-098-1	BRT	KRC102S	2	Q202.212
126	202-099-2Z	TRANSISTOR	KRC111SNM	1	Q2
127	202-106-5	TRANSISTOR	KTA1504SY	5	Q115.118.205.208.213
128	202-112-0	TRANSISTOR	KTC3875S(GR)	3	Q107.601.603
129	202-114-2	TRANSISTOR	KTC3876ST1(Y)	11	Q1.7.11.112.113.204.207.211. 215.409.415
130	202-129-6Z	TRANSISTOR	KRC112ST1	1	Q8
131	202-153-7	TRANSISTOR	KTC3880SY	9	Q6.102.116.117.301.302.408.411 .412
132	202-183-4	FET	KTK211GR	2	Q105.106
133	220-048-2Y	I.C FM IF	TK14489V	1	IC102
134	221-460-5	I.C PLL(DUAL)	BU2630F	1	IC6
135	221-531-6	I.C CPU(OTP)	S3P8249XZZ-TWR9 (NIKE)	1	IC101
136	221-717-8	I.C COMPANDER	DBL5020V (SOP)	1	IC601
137	221-854-8	I.C EEPROM	24LLC02-A	1	IC4
138	222-018-5A	I.C	KIA324F-EL	1	IC2
139	222-023-9A	I.C DETECTOR	KIA7042F	1	IC1
140	223-224-9	I.C	MC14066BDR2:SO14	1	IC602
141	242-024-6	DIODE VARIVAP CHIP	KDV251S	2	D402.403
142	243-051-5	DIODE SI CHIP	KDS184S	19	D1.2.3.4.5.56.101.102.103.104. 122.154.203.301.302.303.407. + 413.414
143	4A1-194-B	P.C.B ASS'Y	183 X 150 X 1.6T FR4 2/S	1	
144	411-836-B	P.C.B LCD	130 X 30 X 1.6T	1	

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145	411-988-B	P.C.B VOL 28 X 12.5 X 1.6T	1	
146	411-989-B	P.C.B ROTARY 13.9 X 14.4 X 1.6T	1	
147	401-177-B	P.C.B MAIN 148 X 166 X 1.6T FR4 2/S	1	
148	533-91M-PM	MP MANUAL ASS'Y	1	
149	018-220-5Y	METAL OXIDE RESISTOR22 1W 5% ST	1	R237
150	019-479-8X	METAL OXID RESISTOR 4.7 2W 5% ST BULK	1	R207
151	030-100-6Z	FILM RESISTOR 10 1/ 2W 5% ST MINI	1	R225
152	030-229-0Z	FILM RESISTOR 2.2 1/ 2W 5% ST MINI	1	R14
153	030-471-1Z	FILM RESISTOR 470 1/ 2W 5% ST MINI	1	R26
154	030-472-2Z	FILM RESISTOR 4.7K 1/ 2W 5% ST MINI	1	R315
155	030-479-3Z	FILM RESISTOR 4.7 1/ 2W 5% ST MINI	1	R312
156	098-201-2	THERMISTOR DISK 200 OHM 15%:KC5B120L	3	TH1.201.105
157	098-501-3	THERMISTOR DISK 500 KC5C150L	1	TH55
158	100-101-9Y	ELECT CAPACITOR 0.1UF 50V 20% 5X11	4	C31.39.131.433
159	101-A02-8Y	ELECT CAPACITOR 1000UF 25V 20% 10X20	2	C213.216
160	101-006-2Y	ELECT CAPACITOR 1UF 50V 20% 5X11 2.5PT	3	C153.448.452
161	101-043-5Z	ELECT CAPACITOR 10UF 16V SRA(M):4X7 2.5PT	18	C9.25.32.33.134.205.232.235 .238.239.436.461.466.467.468.+ 601.605.610
162	101-117-9	ELECT CAPACITOR 1000UF 16V 20% 10X16	2	C11A.15
163	101-122-3	ELECT CAPACITOR 100UF 16V 20% 6.3X11	2	C228.237
164	102-210-4Z	ELECT CAPACITOR 22UF 16V 20% 5X11	1	C18
165	102-241-2Y	ELECT CAPACITOR 2.2UF 50V 20% 4X7	2	C603.608
166	102-301-3	ELECT CAPACITOR 220UF 35V 20% 8X12	3	C14.212.233
167	103-313-9Y	ELECT CAPACITOR 33UF 16V 20% 5X11	1	C206
168	104-771-4X	ELECT CAPACITOR 47UF 16V 20% 5X11	2	C211.437
169	104-813-9X	ELECT CAPACITOR 470UF 16V 20% 8X12	1	C702
170	130-405-3X	DISK CERAMIC 0.047UF Y5U473M 50V	1	C201

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171	131-510-9X	DISK CERAMIC	150PF	NPO K% 50V	1	C2
172	131-510-9X	DISK CERAMIC	150PF	NPO K% 50V	1	C335
173	133-311-0	DISK CERAMIC	330PF	NPO331K 50V	1	C339
174	140-103-3X	DIP TANTALUM	0.1UF	TBM1V104ASCB0.1MFD 35V	1	C13
175	141-012-9X	DIP TANTALUM	10UF	TBM1C106GSCB10MFD 16V	1	C502
176	143-301-0X	DIP TANTALUM	3.3UF	TBM1C335CSCB3.3MFD 16V	2	C107.108
177	144-702-4	DIP TANTALUM	4.7UF	TAM1C4R7CMCB 16V	1	C12
178	172-015-6W	DIP TRIMMER	20PF	CVN620	1	CT201
179	204-016-7	TRANSISTOR	2SC2314(E)		1	Q303
180	241-004-3X	DIODE ZENER	1N5237BST		1	DZ201
181	241-263-0	DIODE ZENER	1N5232BST		1	DZ401
182	244-001-5W	DIODE GE	1N60P		1	D111
183	245-008-7X	DIODE RECTIFIER	1N5404		1	D202
184	245-015-3X	DIODE RECTIFIER	1N4004		1	D531
185	260-485-5V	CRYSTAL HC49U	10.240M	-30 30PM 32P FUND	1	X101
186	262-043-9Y	CRYSTAL(HC-49U)	4.5MHZ	-30 30PM 16P FUND	1	X901
187	270-007-0W	FILTER CERAMIC	LTW455HT		1	CF101
188	271-030-5Z	FILTER CRYSTAL	HC49/T	(10.695M)	1	XF101
189	300-024-5Y	TRANSFORMER	EI-28	(OPT)	1	T201
190	300-136-3W	TRANSFORMER	LE119-H019		1	CH501
191	310-022-6Z	COIL RF CHOKE	10UF	CR5K-869538	1	L601
192	310-291-2Z	COIL AXIAL	6.8UH:TCEC	-6R8K	2	L1.306
193	310-296-7Z	COIL SPRING	6X0.8X5.5T:	R	1	L308
194	310-297-8Z	COIL SPRING	2.5X0.8X7T:	R	1	L304
195	310-301-8	COIL CHOKE	6UH	BOBBIN CORE	1	L201
196	310-347-0Z	COIL SPRING	5.2X0.7X7T:	R	1	L313
197	310-407-1	COIL SPRING	5X0.6X13.5T:	R	1	L307

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198	310-621-7Z	COIL AXIAL 1.5UH:CESS-1R5K	1	L100
199	310-751-1	COIL SPRING 4X0.5X7T:R	1	L311
200	310-811-2	COIL SPRING 3.4X0.55X8.5T:R	1	L312
201	320-276-2Y	COIL IFT DET R4251-AHK7-854462	1	L104
202	320-318-7Z	COIL IFT Z73C-359	2	L301.302
203	320-576-3U	COIL IFT 10.7MHZ MAX RX	1	L103
204	320-577-4	COIL IFT 37MHZ TX	1	L303
205	320-580-6X	COIL IFT 16.5MHZ 82PF COIL VCO	1	L501
206	320-584-0Z	COIL IFT R4251-AHK7-854461	1	L106
207	320-585-1Z	COIL IFT 27MHZ Z073I-1	1	L101
208	321-095-2	COIL IFT 27MHZ RX (7RC)	1	L102
209	509-110	6.5T SPRING COIL ASS6.5T3.4X.55:M9D3.7X6	1	L314
210	310-809-1	COIL SPRING 3.4X0.55X6.5T:R	1	
211	321-053-2	CORE 1108-KA-058 M9DTH3.7X6	1	
212	594-083	CB BPF MODULE ALAN-78 PLUS	1	
213	131-027-0Y	CHIP CERAMIC 100PF GRM40 COG101J 50V PT	2	C400.409
214	131-529-7Y	CHIP CERAMIC 150PF GRM40 COG151J 50V PT	3	C402.404.406
215	133-306-2Y	CHIP CERAMIC 33PF GRM40 COG330J 50V PT	1	C408
216	134-722-1Y	CHIP CERAMIC 47PF GRM40 COG470J 50V PT	3	C403.405.407
217	310-621-7Z	COIL AXIAL 1.5UH:CESS-1R5K	1	L404
218	310-823-3	CORE SPRING ASS'Y 5.5TX0.45XM5E(R)X2.3 0.17UH	3	L401.402.403
219	411-985	P.C.B SUB 25.5 X9 X1.2 FR4 1/1	1	
220	533-91P-A	PACKING ASS'Y	1	
221	504-629	MOLEX RECEPTACLE ASS900MM	1	

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No.	Part No.	Part name & Description	Q'ty	Ref.
222	533-91W-MA	WIRE MIC ASS'Y	1	
223	427-023-6	WIRE 1007 AWG 24(11/0.16) RED	0.06	SW --- PCB MIC 0.5:0.5
224	427-025-8	WIRE 1007 AWG 24(11/0.16) YEL	0.06	SW --- MIC(+) 0.5:0.5
225	427-026-9	WIRE 1007 AWG 24 (11/0.16) GRN	0.08	SW --- MIC(-) 0.5:0.5
226	533-91W-MP	WIRE MAIN PCB ASS'Y	1	
227	427-045-6	WIRE 1007 AWG 26(7/0.16) YEL	0.19	SPK(+) --- MP SPK(+) 0.5:0.5
228	427-046-7	WIRE 1007 AWG 26(7/0.16) GRN	0.19	SPK(-) --- MP SPK(-) 0.5:0.5

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## Voltage Chart

### TRANSISTOR

Ref.	Pin	TX	RX	Ref.	Pin	TX	RX
Q1	E	0	0	Q104	E	0	0
KTC3876	C	0	0	KRC101	C	0	0
	B	0.8	0.6		B	0	0
Q2	E	0	0	Q105	G	0	0
KRC111	C	0	0.2	KTK211	S	0	1.14
	B	6.6	0		D	0	6.3
Q3	E	0	0.3	Q106	G	0	0
KRC104	C	0	0	KTK211	S	0	1
	B	3.2	0		D	0	6.3
Q4	E	0	0	Q107	E	0	0
KRC104	C	0	3.2	KTC3875	C	0	0
	B	6.8	0		B	0	0.6
Q6	E	0	0	Q112	E	0	1.5
KTC3880	C	2.5	2.5	KTC3876	C	0	0
	B	0.7	0.7		B	0	1.8
Q7	E	0	0	Q113	E	0	0
KTC3876	C	0	0	KTC3876	C	0	1.5
	B	0	0		B	0	0
Q8	E	0	3.15	Q114	E	0	0
KRC112	C	0	6.3	KRC101	C	0	0
	B	0	3.7		B	2.7	2.7
Q9	E	0	0	Q115	E	0	7.1
KRC104	C	7.8	0	KTA1504	C	0	7.1
	B	0	4.3		B	0	6.4
Q10	E	0	0	Q116	E	0	0
KRC104	C	0	0	KTC3880	C	0	6.8
	B	0	4.2		B	0	0.7
Q11	E	0.3	0.3	Q117	E	0	0.3
KTC3876	C	2.7	2.7	KTC3880	C	0	6.4
	B	0.9	0.9		B	0	1
Q102	E	0	1.4	Q118	E	0	0
KTC3880	C	0	7	KTA1504	C	0	0
	B	0	2.1		B	0	-0.5
Q103	E	0	0	Q202	E	0	0
KRC101	C	0	0	KRC102	C	0	0
	B	4.2	4		B	4.3	4.3



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TRANSISTOR

Ref.	Pin	TX	RX	Ref.	Pin	TX	RX
Q204	E	0	0	Q304	E	0	0
KTC3876	C	0.3	0.3	2SC2078	C	12	4.5
	B	0	0		B	0	0
Q205	E	3.6	0	Q403	E	0	0
KTA1504	C	0	0	KRC101	C	0.3	0.3
	B	3	0.2		B	0	0
Q207	E	0	7	Q404	E	0	0
KTC3876	C	8	8	KRC101	C	0	0
	B	4.3	0		B	4	4
Q208	E	8	8	Q405	E	0	0
KTA1504	C	7.8	0	KRC101	C	0.3	0.3
	B	7.1	7.8		B	0	0
Q211	E	8	8	Q406	E	0	0
KTC3876	C	11.2	12.39	KRC101	C	0	0.5
	B	8.7	8.7		B	7.8	0
Q212	E	6.7	1.4	Q408	E	0	0
KRC102	C	10.8	12.4	KTC3880	C	7	7
	B	7.8	0		B	4.8	4.8
Q213	E	11.5	12.5	Q409	E	0	0
KTA1504	C	1.5	11.4	KTC3876	C	1.7	0
	B	10.7	12.4		B	0	0.7
Q214	E	12.3	12.9	Q411	E	0	0
KTB1367	C	11	1.4	KTC3880	C	3.5	3.5
	B	11	12.6		B	0.8	0.8
Q215	E	7.1	7.1	Q412	E	0	0
KTC3876	C	8	8	KTC3880	C	3.4	3.4
	B	7.8	7.8		B	0.7	0.7
Q301	E	1.2	0	Q415	E	5	5
KTC3880	C	8	0	KTC3876	C	12.8	12.8
	B	1.9	0		B	5.6	5.6
Q302	E	0.8	0	Q418	E	0	0
KTC3880	C	7.8	0	KRC101	C	0	0
	B	1.3	0		B	2.7	2.7
Q303	E	0	0	Q601	E	0.2	0.2
2SC2314	C	7.8	4.5	KTC3875	C	1.5	1.5
	B	0	0		B	0.8	0.8

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TRANSISTOR

Ref.	Pin	TX	RX	Ref.	Pin	TX	RX
Q602	E	0	0	Q603	E	0	0
KRC104	C	0	0	KTC3875	C	4	4
	B	4.3	4.3		B	0.8	0.8

DIODE

Ref.	Pin	TX	RX	Ref.	Pin	TX	RX
D1	A	0	0	D122	A	0	3.6
KDS184	K	0	0	KDS184	K	0.7	3.1
D2	A	3.6	0	D154	A	7.2	0
KDS184	K	4.3	4.3	KDS184	K	7.8	0
D3	A	0	1.3	D203	A	3	0
KDS184	K	2.2	1	KDS184	K	9	4.4
D4	A	5	5	D301	A	0	0
KDS184	K	4.3	4.3	KDS184	K	5.8	0
D5	A	2.5	0	D302	A	7.7	0
KDS184	K	2.2	1	KDS184	K	7	0.5
D56	A	0	3.6	D303	A	0	7
KDS184	K	0	3.1	KDS184	K	0	6.4
D101	A	0	0	D402	A	0	0
KDS184	K	0	0	KDV251	K	5	5
D102	A	0	0	D403	A	0	0
KDS184	K	0	0	KDV251	K	0	0
D103	A	0	0	D407	A	1.6	0
KDS184	K		0	KDS184	K	4.3	0
D104	A	0	6.8	D413	A	0	0
KDS184	K	0	6	KDS184	K	0	0
D111	A	0	-2.6	D414	A	0	0
1N60	K	0	0	KDS184	K	0	0





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DIODE

Ref.	Pin	TX	RX	Ref.	Pin	TX	RX
DZ201	A	0.3	0.3	D202	A	10	1
1N5237	K	8.7	8.7	1N5404	K	9.2	2.5
DZ401	A	0	0	D531	A	0	0
1N5232	K	5.6	5.6	1N4004	K	13	13

IC 102 TK14489

PIN	TX	RX	PIN	TX	RX
1	0	0	11	0	0
2	0	6.2	12	0	3.6
3	0	0	13	0	0.4
4	0	5.4	14	0	0
5	0	6.8	15	0	2.2
6	0	1	16	0	0
7	0	1	17	0	0
8	0	1	18	0	6.3
9	0	6.8	19	0	0
10	0	6.8	20	0	1.4

IC6 BU2630F

PIN	TX	RX	PIN	TX	RX
1	1.7	1.7	9	0	0
2	0	0	10	0	0
3	0.2	0.2	11	4.7	4.7
4	0	0	12	0.2	0.2
5	0	0	13	0.3	0.3
6	0	0	14	1.3	1.3
7	0	0	15	5	5
8	0	0	16	2.1	2.1

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IC601 DBL5020V

PIN	TX	RX	PIN	TX	RX
1	1.2	1.2	8	2.3	2.3
2	1.3	1.3	9	2.3	2.3
3	0	0	10	2.3	2.3
4	2.4	2.4	11	2.3	2.3
5	2.4	2.4	12	0.5	0.5
6	3	3	13	1.3	1.3
7	0	0	14	4.7	4.7

IC103 KIA7212

PIN	TX	RX	PIN	TX	RX
1	12.3	12.9	6	3	3.2
2	11	11.9	7	3	3.2
3	3.7	3.8	8	1.2	0.8
4	7.4	7.7	9	0	0
5	1.4	1.4	10	6.2	6.5

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IC101 S3P8249XZZ-TWR9

PIN	TX	RX	PIN	TX	RX
1	4.3	4.3	41	4.3	4.3
2	0.7	0.7	42	0	0
3	0.7	0.7	43	4.8	4.8
4	4.3	4.3	44	4.4	4.4
5	4.3	4.3	45	0	0
6	0	4.3	46	1	1
7	4	4	47	2.6	2.6
8	0	0	48	1.5	1.5
9	0	0	49	3	3
10	4.3	0	50	4.5	4.5
11	4	4	51	2.2	2.2
12	4.4	4.4	52	2.2	2.2
13	0	0	53	2.2	2.2
14	2.2	2.2	54	2.2	2.2
15	2.1	2.1	55	2.2	2.2
16	0	0	56	2.2	2.2
17	0	0	57	2.2	2.2
18	4.3	4.3	58	2.2	2.2
19	4.3	4.3	59	2.2	2.2
20	4.3	4.3	60	2.2	2.2
21	0	0	61	2.2	2.2
22	0	0	62	2.2	2.2
23	0	0	63	2.2	2.2
24	0	0	64	2.2	2.2
25	4.7	4.7	65	2.2	2.2
26	4.3	0	66	2.2	2.2
27	4.3	0	67	2.2	2.2
28	0	0	68	2.2	2.2
29	0	0	69	2.2	2.2
30	0	0	70	2.2	2.2
31	4.3	4.3	71	2.2	2.2
32	4.3	4.3	72	2.2	2.2
33	4.3	4.3	73	2.2	2.2
34	4.3	4.3	74	2.2	2.2
35	0	0	75	4.4	4.4
36	0	0	76	4.4	4.4
37	0	0	77	4.4	4.4
38	0	0	78	4.4	4.4
39	4.3	4.3	79	4.4	4.4
40	2.2	0	80	4.4	4.4

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IC9 24LLC02A

PIN	TX	RX	PIN	TX	RX
1	0	0	5	0	0
2	0	0	6	4.3	4.3
3	0	0	7	0	0
4	0	0	8	4.3	4.3

IC2 KIA324

PIN	TX	RX	PIN	TX	RX
1	0	0	8	0	3.8
2	3.2	3.2	9	0	3.7
3	3.2	3.2	10	0	3.7
4	7.9	7.9	11	0	0
5	3.8	3.8	12	0	0
6	3.8	3.8	13	0	3.7
7	3.8	3.8	14	0	0

IC1 KIA7042F

PIN	TX	RX	PIN	TX	RX
1	5	5	3	4.4	4.4
2	0	0	-	-	-

IC602 MC14066BDR2

PIN	TX	RX	PIN	TX	RX
1	0	0	8	0.3	0.3
2	0.8	0.8	9	0.5	0.5
3	0.8	0.8	10	0.3	0.3
4	0.8	0.8	11	0.2	0.2
5	4.3	4.3	12	4.3	4.3
6	0	0	13	0	0
7	0	0	14	5	5

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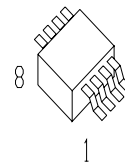
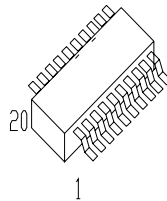
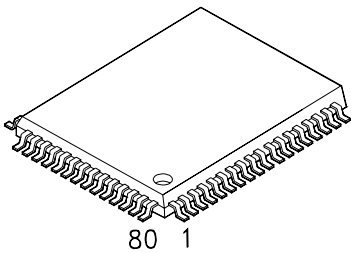
## SEMICONDUCTOR LEAD IDENTIFICATION AND IC INTERNAL CONNECTIONS

### INTERATED CIRCUITS

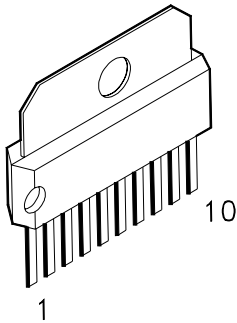
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IC102 : TK14489

IC9 : 24LLC02  
8 PIN

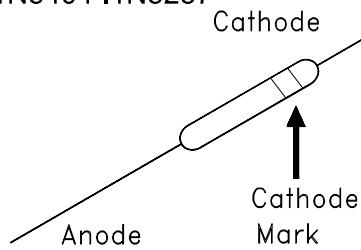


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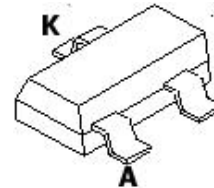


### DIODES

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1N5404 .1N5237



KDV251

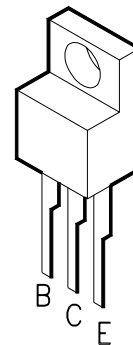
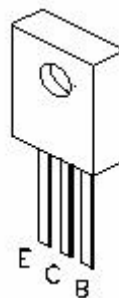
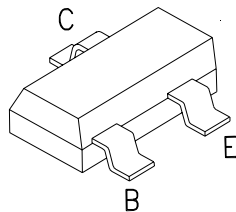
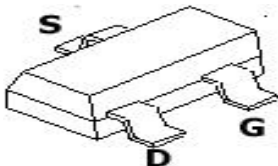


### TRANSISTORS

KTK211

KRC101S, KRC110, 2SC2314  
KTC3876, KTC3880  
KTC3875,3880  
KRC101~104

2SC2078,KTB1367



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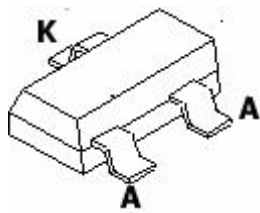
Drawing No:

Customer :

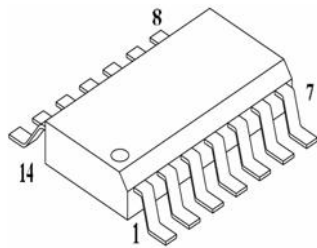
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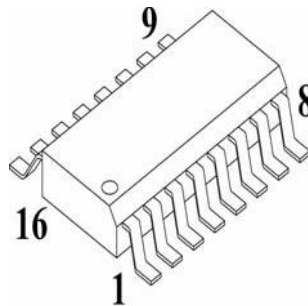
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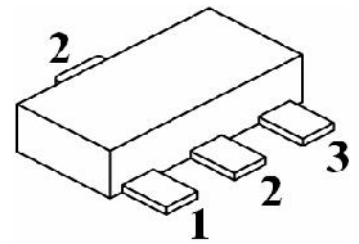
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DBL5020V



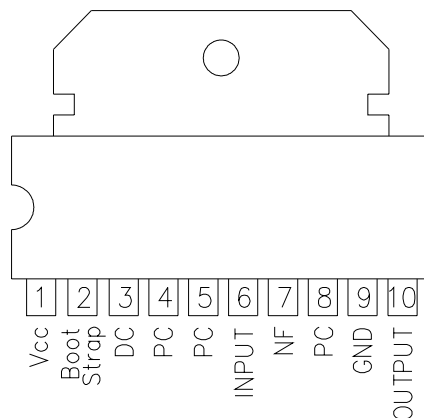
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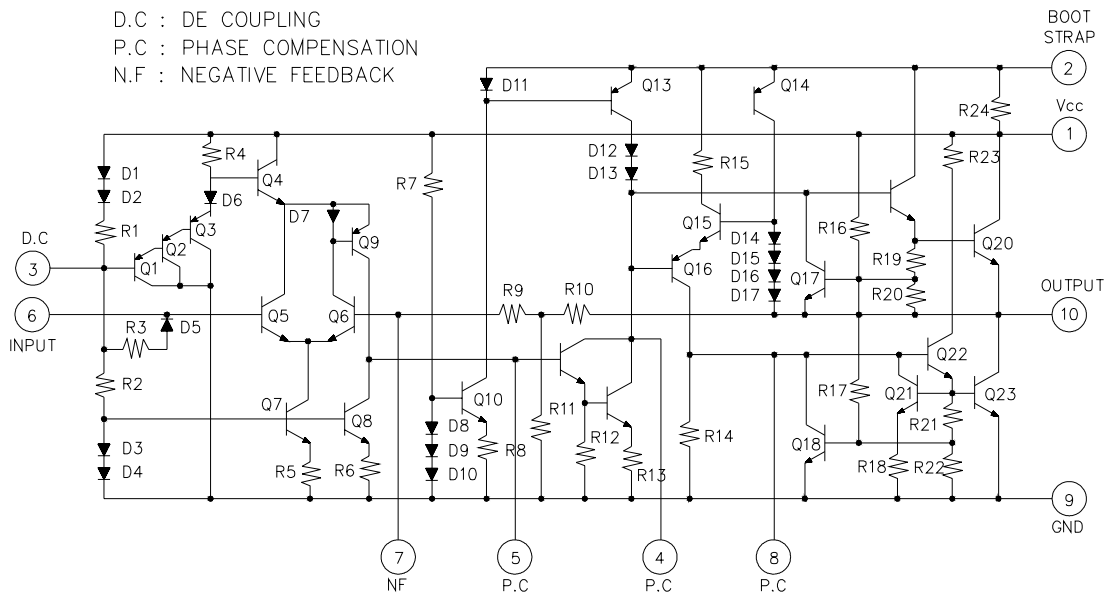


IC1 KIA7042F



IC104 KIA7217A







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**Model M-790 Explode view (Part list)**

NO.	Part No.	Part name & Description	Q'ty	Ref.	Remark
1.	633-082	(+)TAP TITE SCREW BH3X6 BLK	7	COVER WITH	
2.	633-152	(+)TAP TITE SCREW BH3X4-3S BLK	2	UP.COV.+MAIN	
3.	719-062-A	COVER BOTTOM SECC+PVC T0.75	1		
4.	719-063-I	UPPER COVER SECC+PVC T0.75	1		
5.	730-015-A	HOLDER(SPK) EGI T1 USCOATING	3		
6.	891-590	CUSHION 25X25XT5 RUBB.SP0.BLK STI	1		
7.	901-226	FELT &65XT0.3 FELT BLK	1		
8.	611-095	(+)MACHINE SCREW(FH)2.6X5 ZN-PLAT	4		
9.	621-131	(+)TAPPING SCREW(BH)2.6X6-2S ZN-PLAT	2		
10.	801-818	E.S.C ABS94HB L380-9001 BLK	1		
11.	814-537	LENS ACRYL CLEAR	1		
12.	826-143	KNOB VOL ABS 94HB BLK	2		
13.	826-144	KNOB CH ABS 94HB BLK	1		
14.	896-403	KEY PAD"A" SILICONE RUBBER HS60'	1		
15.	896-414	KEY PAD "B" SILI RUBB RED/GRAY/BLUE	1		
16.	907-561	DOUBLE TAPE 3M 9448HK T0.16	1		
17.	613-332	(+)MACHINE SCREW(BH)3X10 ZN-PLAT	3		
18.	623-265	(+)TAPPING SCREW(BH)3X6-2S ZN-PLAT	4		
19.	651-024	NUT SS41 M3-1S ZN-PLAT	3		
20.	662-305	WASHER (SPRING) M3 ZN-PLAT	3		
21.	702-425-D	BODY MAIN EGI US COATING T1.0	1		
22.	719-119-A	HOUSING LCD PC 141 WHT (ALAN-78PLUS)	1		
23.	723-968	BRACKET LCD SPT0.3	1		
24.	732-560	HOLDER(ANT MTG) SPT0.3	1		
25.	750-039-A	CORD STOPPER P.P BLK	1		
26.	760-705	HEAT SINK ALP3 T2	1		
27.	795-697	PLATE BACK PC T0.5	1		
28.	853-105	BUSHING NYLON66+GLASS	2		
29.	895-682	ZEBRA SILICONE RUBBER HS65'	1		
30.	901-794-A	FELT 8X45XT0.3 FELT STIC.ALAN4	1		
31.	771-525	SHIELD HOUSHING SPT0.3	1		
32.	771-710-A	SHIELD PLATE SPT0.3	1		
33.	95B-009-C	LABEL NAME POLYESTER 40 X 27 X T0.	1		
34.	420-128-4Z	SPEAKER NP-250-2 8 OHM 2W 66MM	1		
35.	202-066-2	TRANSISTOR KTB1367	1	Q214	
36.	204-010-1	TRANSISTOR 2SC2078(E)	1	Q304	
37.	222-006-4	I.C KIA7217AP	1	IC103	
38.	420-705-1Z	JACK DC TC38-078-01	1	J101	
39.	420-726-3X	JACK MINIATURE FJ-2506 2.5MM	1	J102	
40.	421-046-7	CONNECTOR CH-239(A) SW-1229	1	J103(ANT)	
41.	421-643-6A	CONNECTOR SOCKET SCN-16-6(M1)R PCB TYPE	1	J105(MIC JACK)	
42.	430-049-8Y	SW ROTARY YPS210120SK	1	SW105	
43.	440-020-4	MICA 0.1T:15X13 MICA FOR TR	1		
44.	450-436-4Z	VARIABLE RESISTER CSPNS-0906-15SP-A10K	1	VR102	

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45.	450-437-5W	VR	RV0915N-15KQA1-B10K-A	1	VR1	
46.	251-162-5Z	LED LAMP	LTL-81HGK	2	B104,105	
47.	251-224-8Z	PILOT LAMP	60MA 3& 14V	3	B101,102,103	
48.	251-286-4Z	LAMP LED	L-115 VEGW	1	LED1	
49.	252-324-7	LCD DISPLAY	IS05228E	1	LCD1	
50.	436-059-7Z	SW TACT	TM115AP	6		
51.	504-892	MOLEX PLUG ASS'Y		1		
52.	411-836-B	P.C.B LCD	130 X 30 X 1.6T	1		
53.	411-988-B	P.C.B VOL	28 X 12.5 X 1.6T	1		
54.	411-989-B	P.C.B ROTARY	13.9 X 14.4 X 1.6T	1		
55.	401-177-B	P.C.B MAIN	148 X 166 X 1.6T FR4 2/S	1		

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**INTEK**

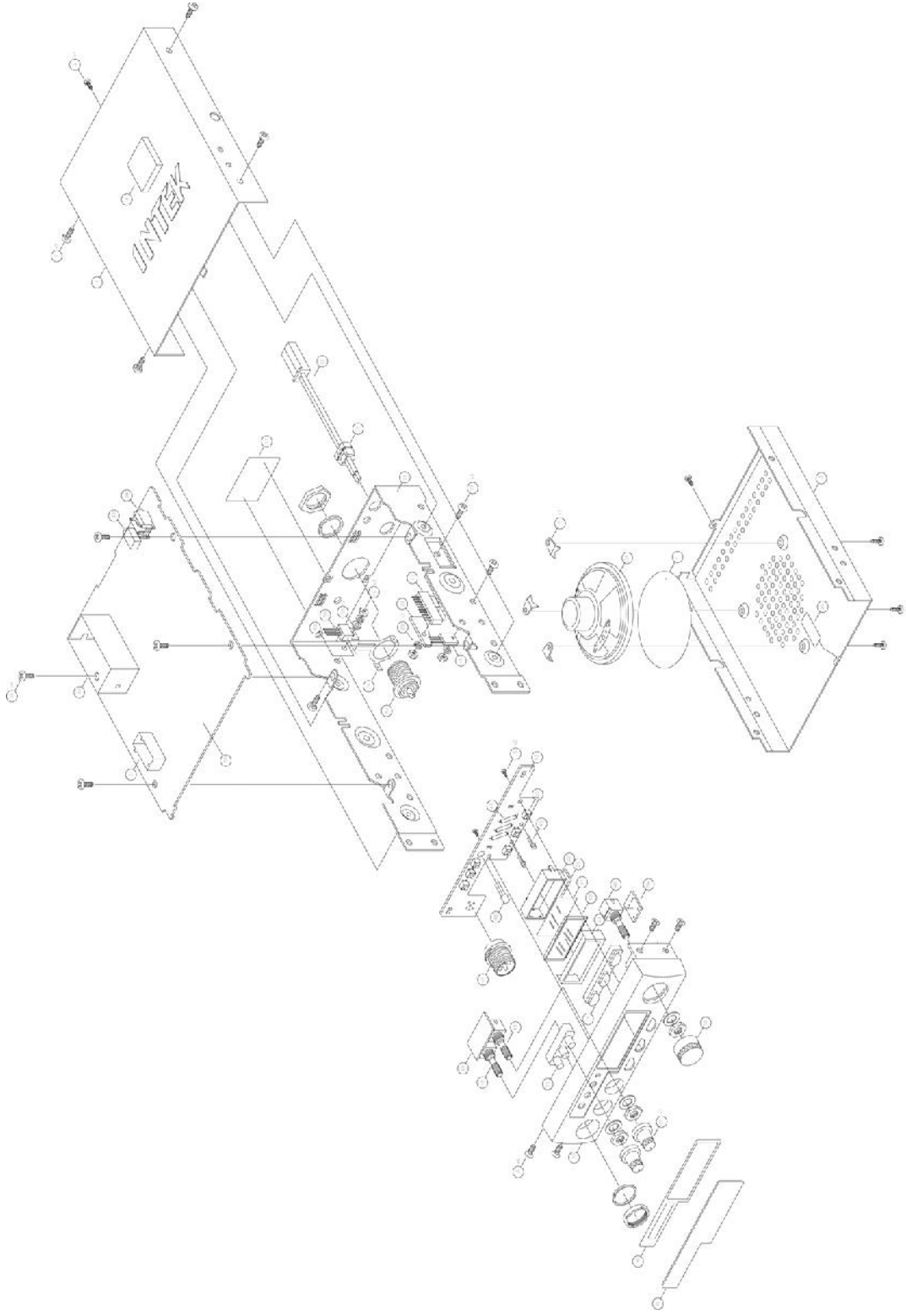
Model No: 3391

Customer :

Model No: M-790 Plus

Drawing No:

Rev, Date:



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For Stage:

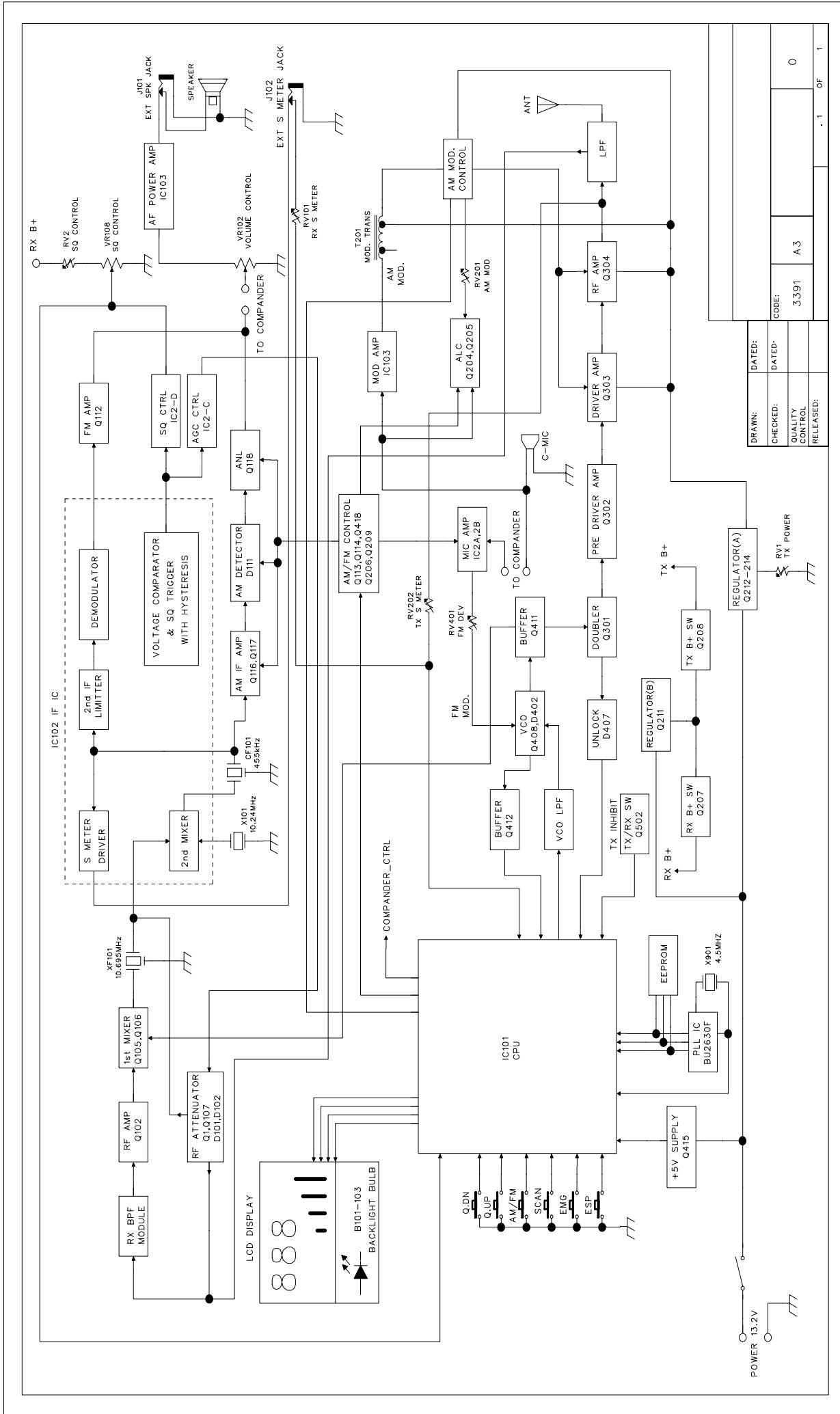
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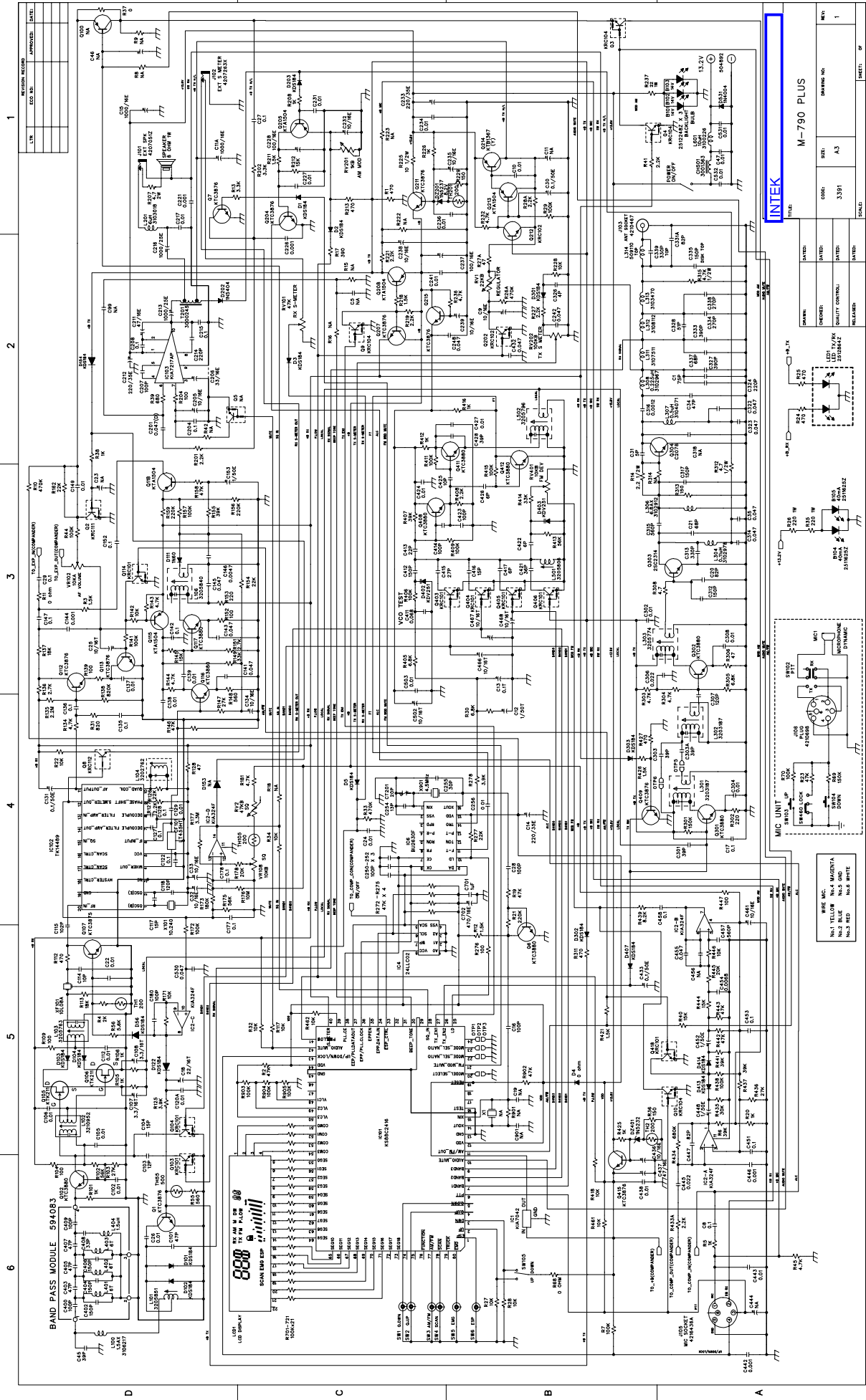
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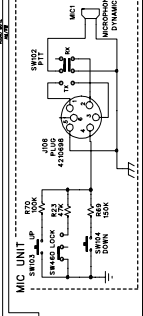
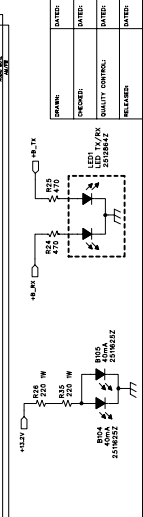
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M-790 PLUS	
DATE:	3/31/81
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QUALITY CONTROL:	
REWORKER:	
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Approved by: \_\_\_\_\_  
 For Stage: \_\_\_\_\_  
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