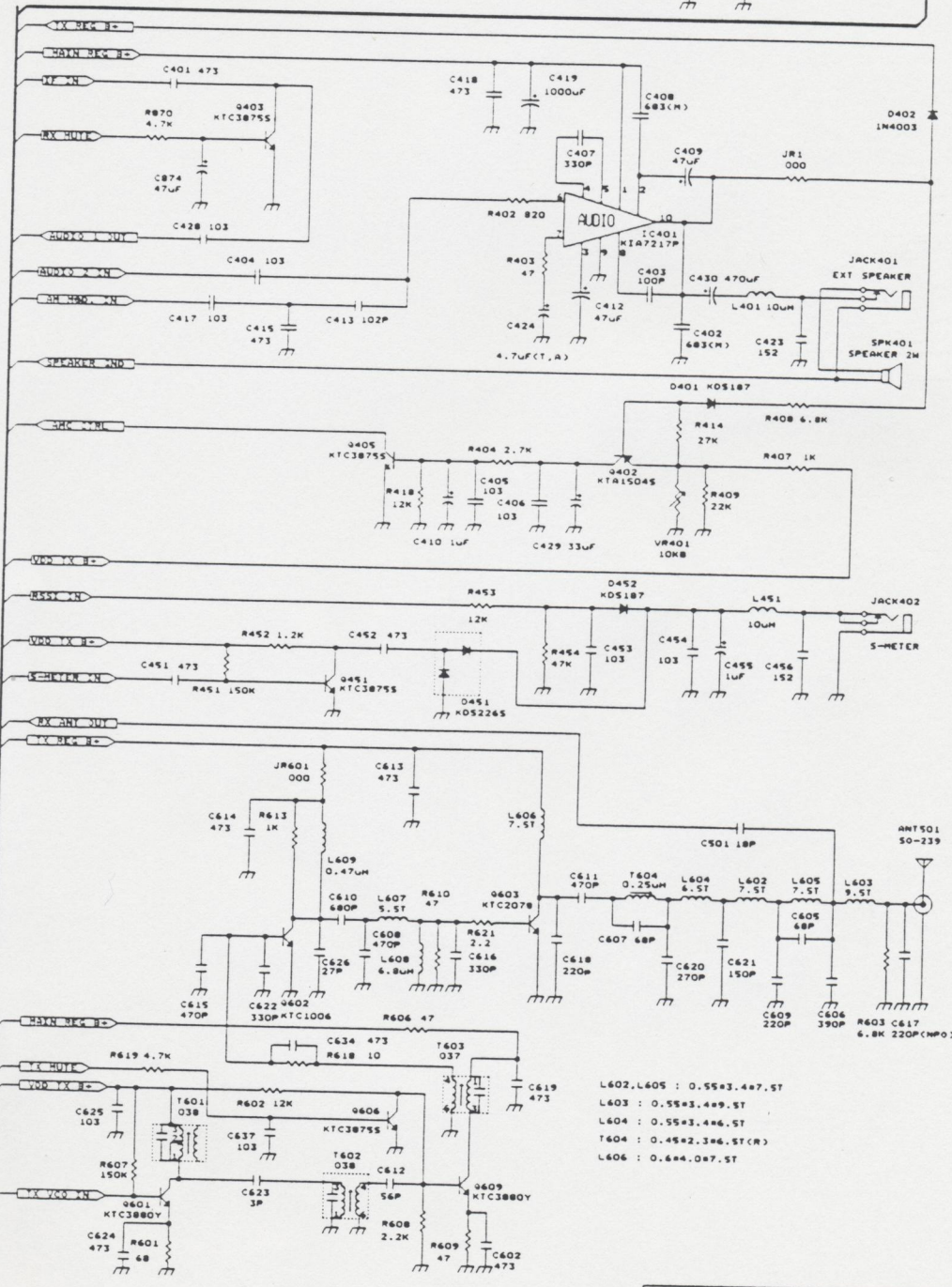
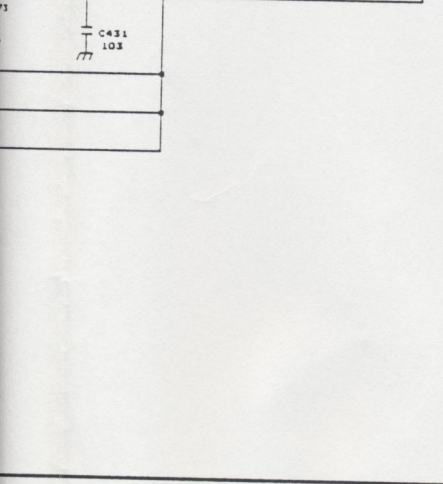
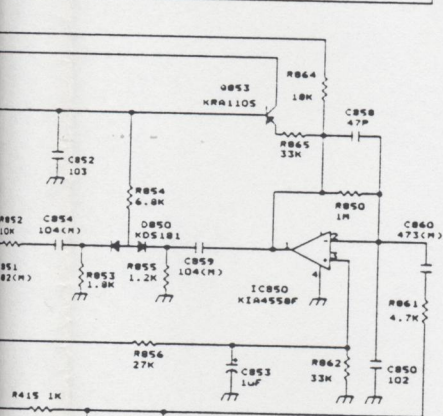
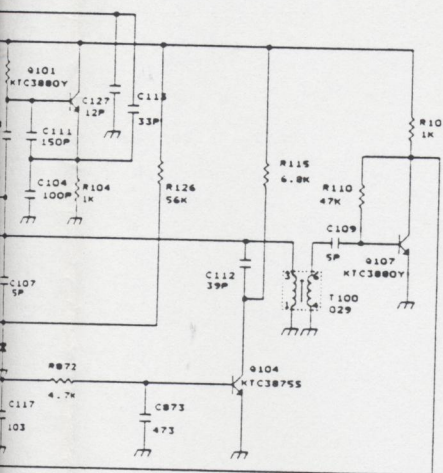
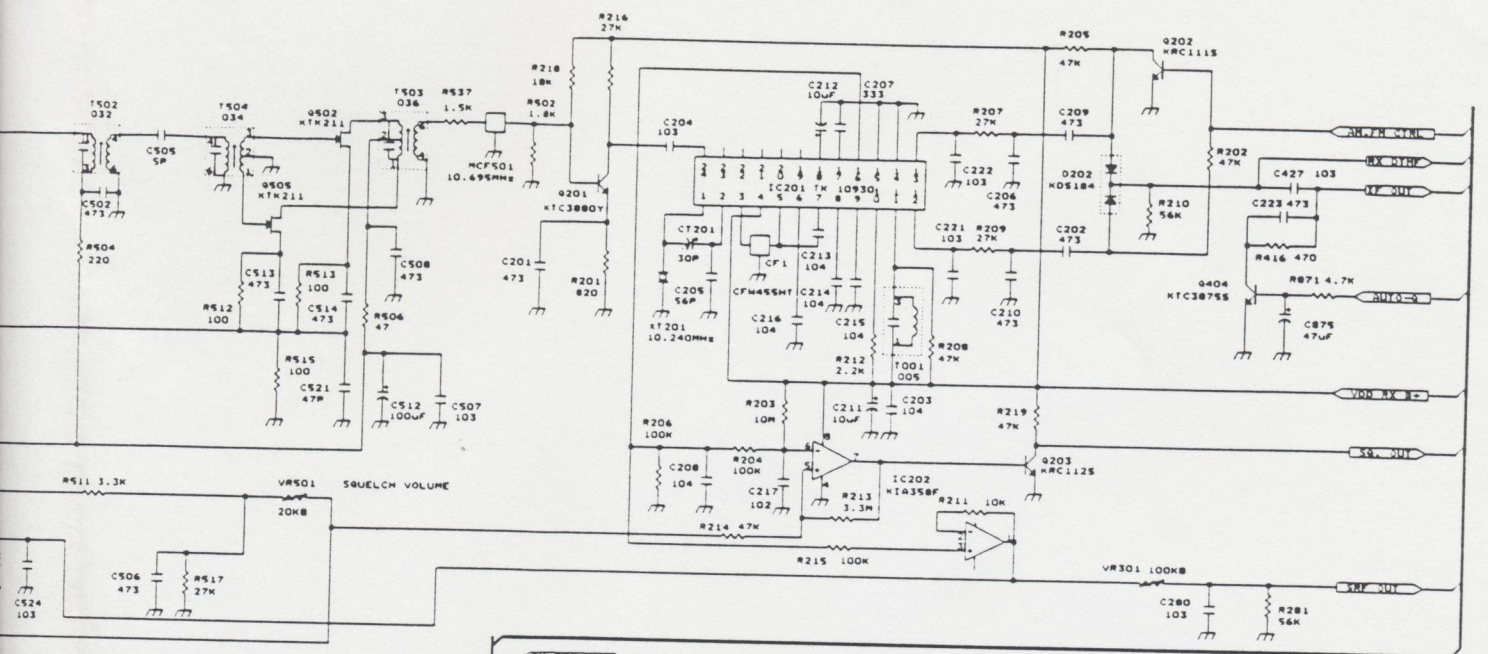
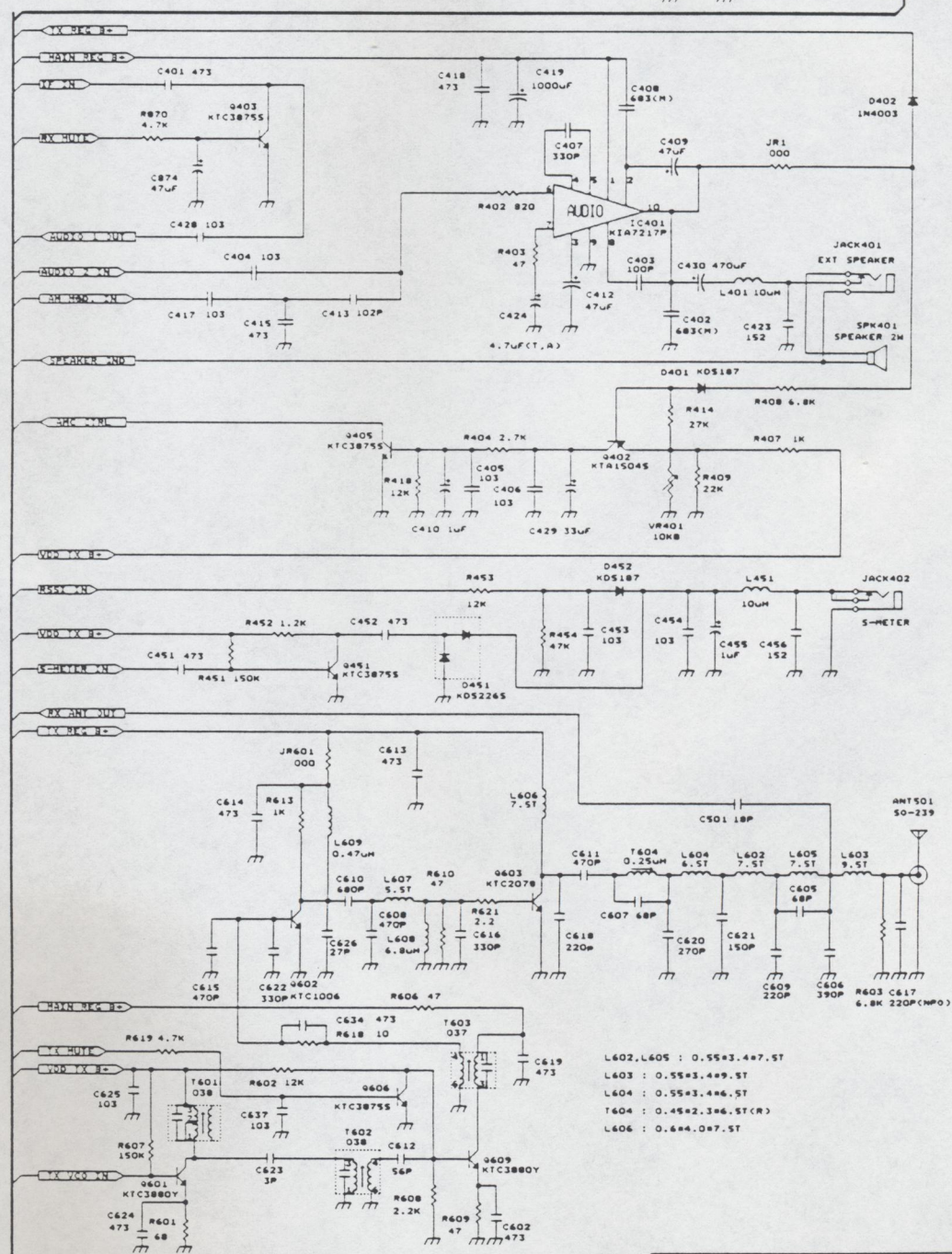




L602, L605 : 0.55±3.4±7.5T
 L603 : 0.55±3.4±9.5T
 L604 : 0.55±3.4±6.5T
 T604 : 0.45±2.3±6.5T(R)
 L606 : 0.6±4.0±7.5T



L602, L605 : 0.55±3.4±7.5T
L603 : 0.55±3.4±9.5T
L604 : 0.55±3.4±6.5T
T604 : 0.45±2.3±6.5T(R)
L606 : 0.6±4.0±7.5T

Xm 70 - - - -

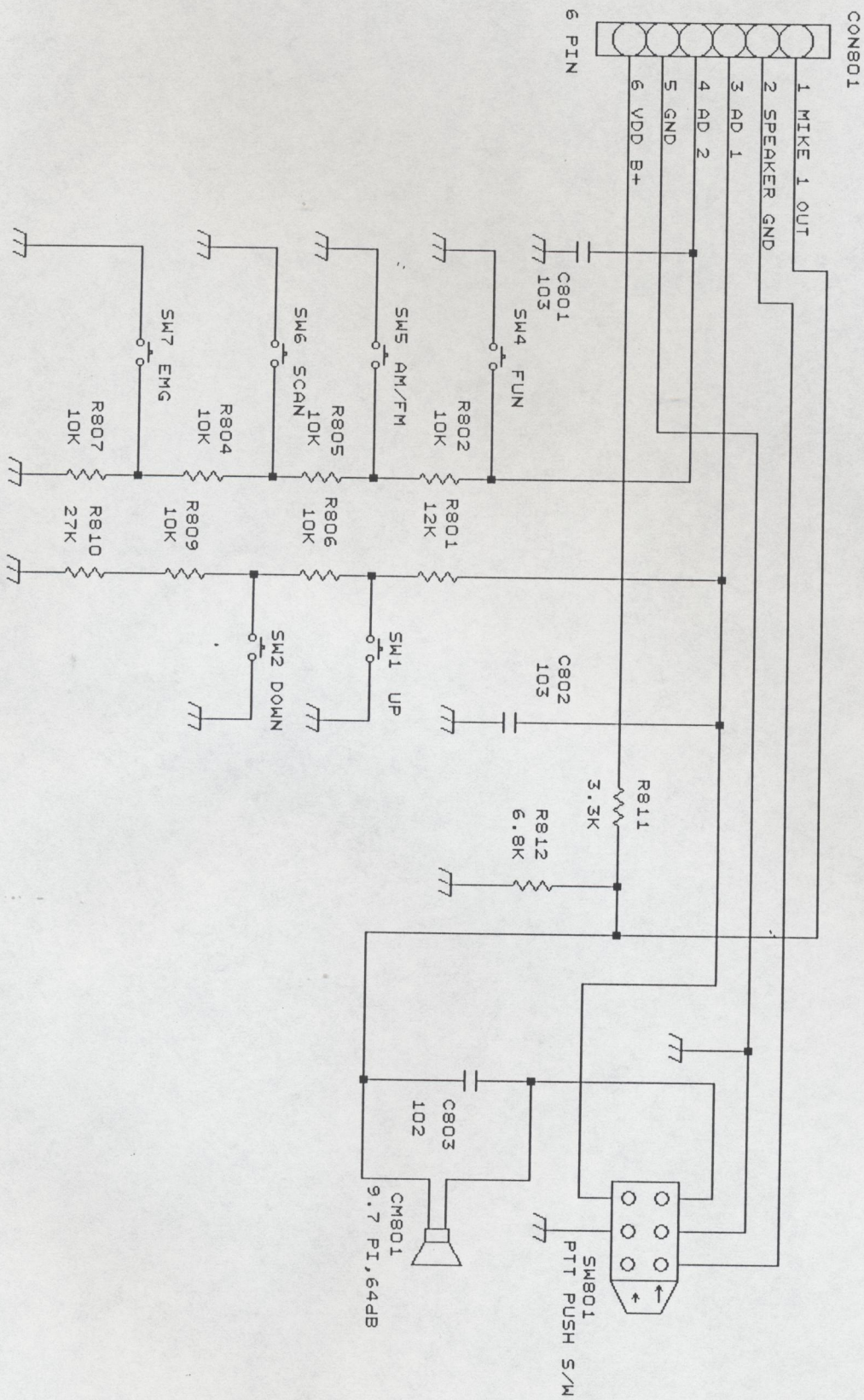
** EM-27 OPTION LIST **

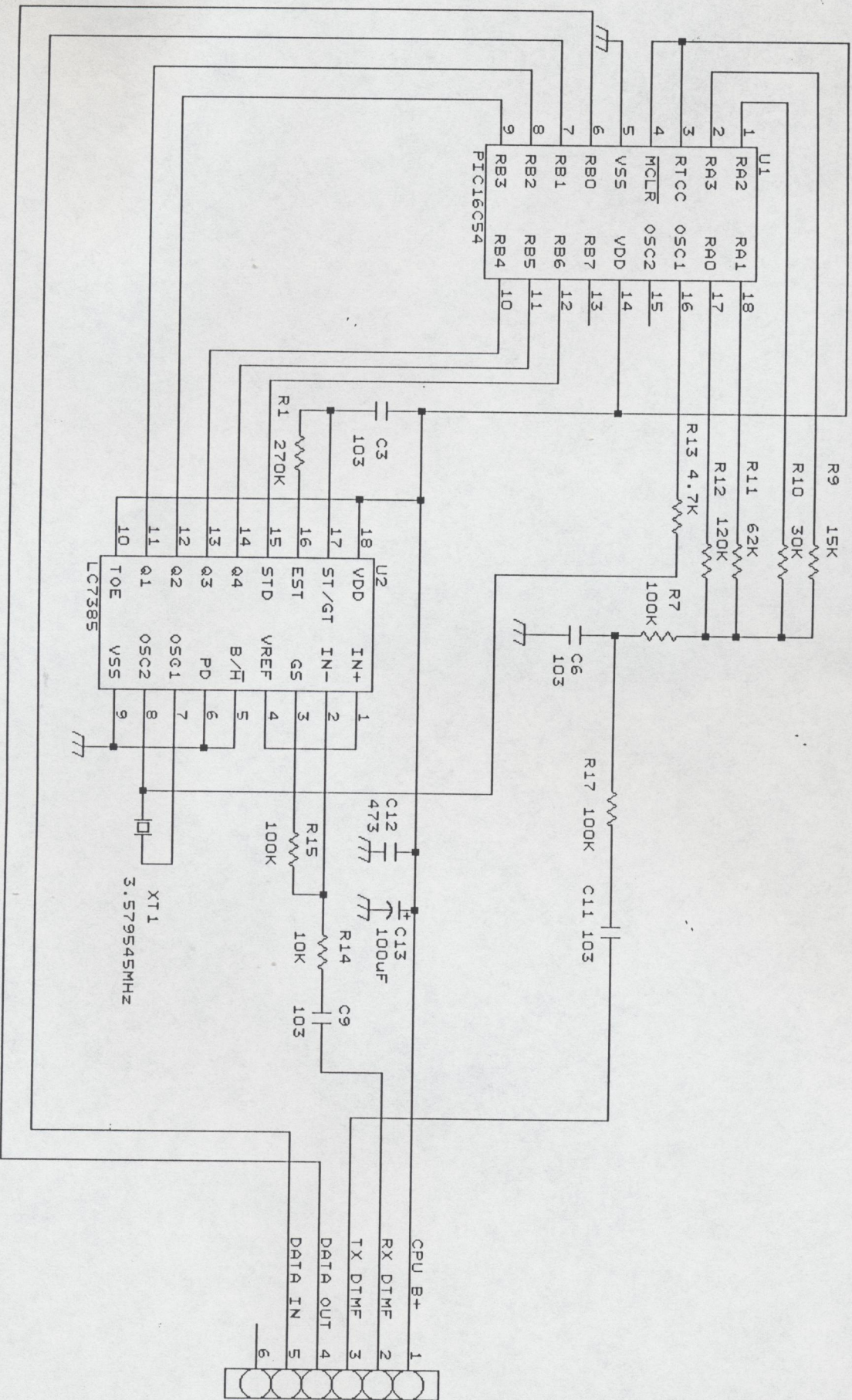
OPTION 0

REFERENCE No.	1	2	3	4	REMARK
AM/FM	*	0	0	0	
AM ONLY	*	0	0	1	
FM ONLY	*	0	1	0	
80FM/12FM	*	0	1	1	
80FM	*	1	0	0	
40AM/12AM	*	1	0	1	
AUTO 400CH	1	*	*	*	(M4+POWER ON) SOFT-KEY EXTENTION

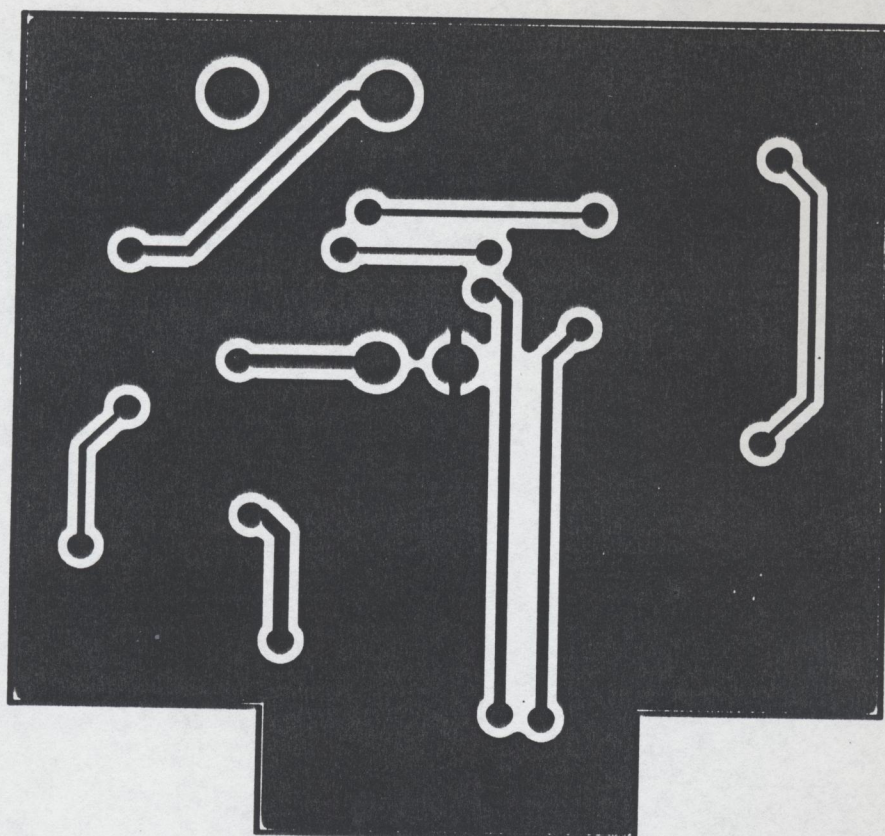
OPTION 1

REFERENCE No.	5	6	7	8	REMARK
40 CHANNEL	*	*	0	0	
200 CHANNEL	*	*	0	1	
400 CHANNEL	*	*	1	0	
600 CHANNEL	*	*	1	1	
EMG 19 START	*	1	*	*	
-5KHz OPERATION	1	*	*	*	SOFT-KEY(M1+M6) OPERATION



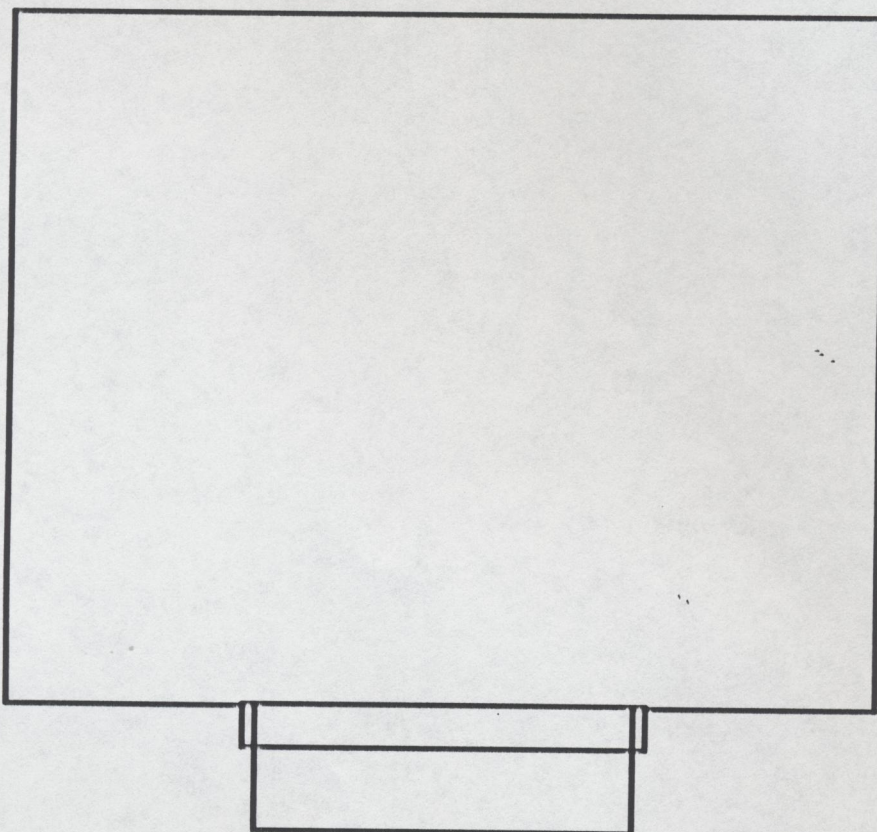


- bottom side pattern -



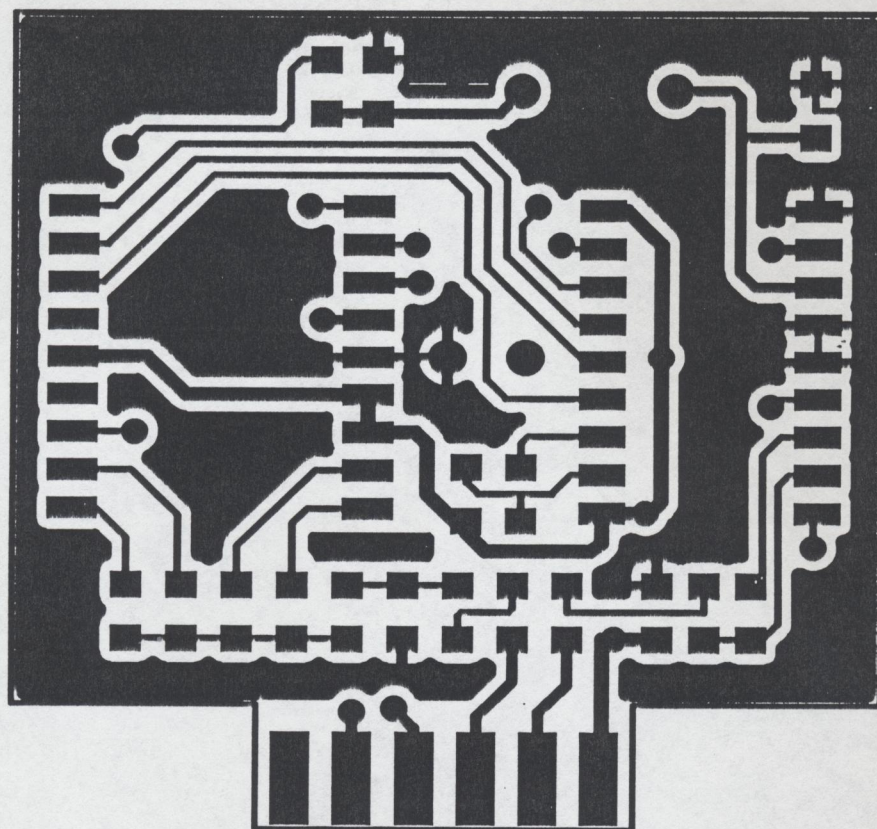
EMSΔ-DTME1000.08'5Δ REV.3

-bottom side silk screen -



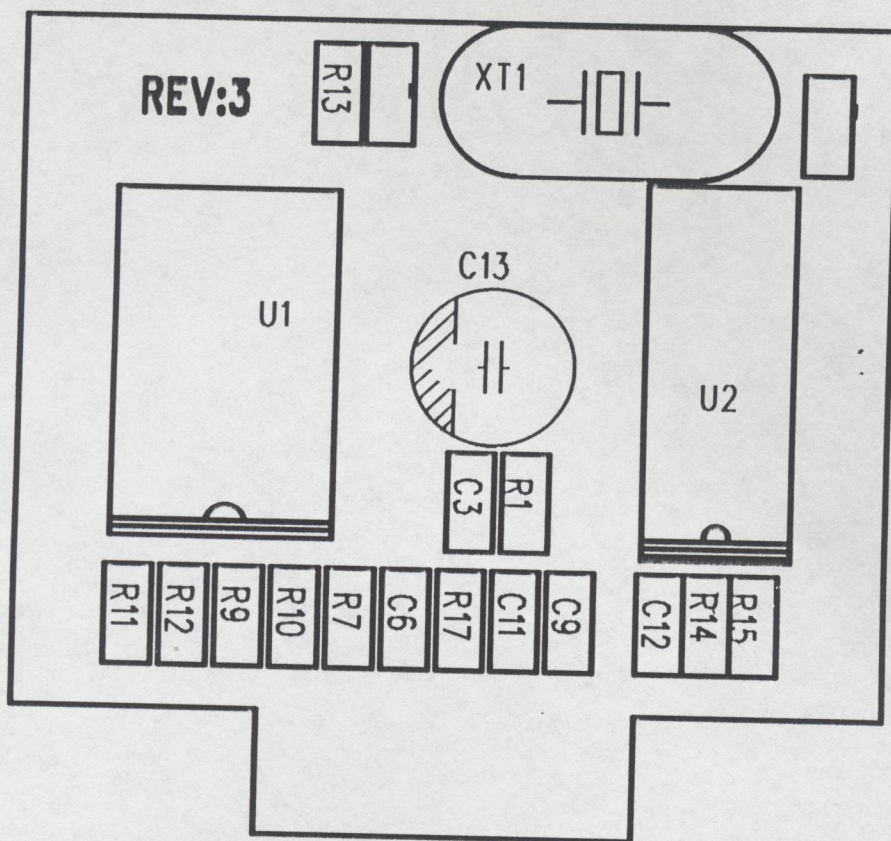
EW57-DTWF1000.08'57 REV.3

— top side pattern —



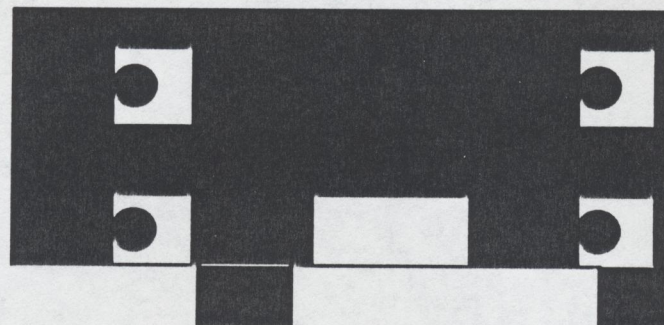
EM27-DTMF 1996.08,27 REV.3

– top sode silk screen –



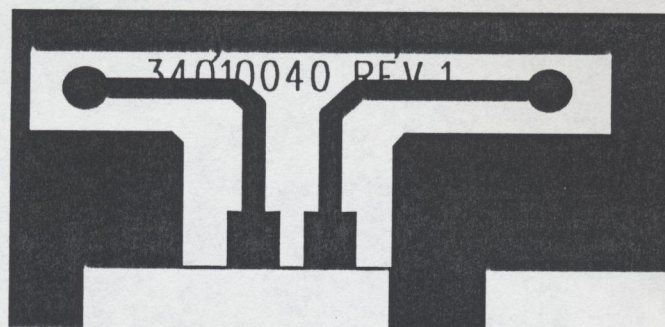
EM27-DTMF 1996.08,27 REV.3

EM57-2W B.D



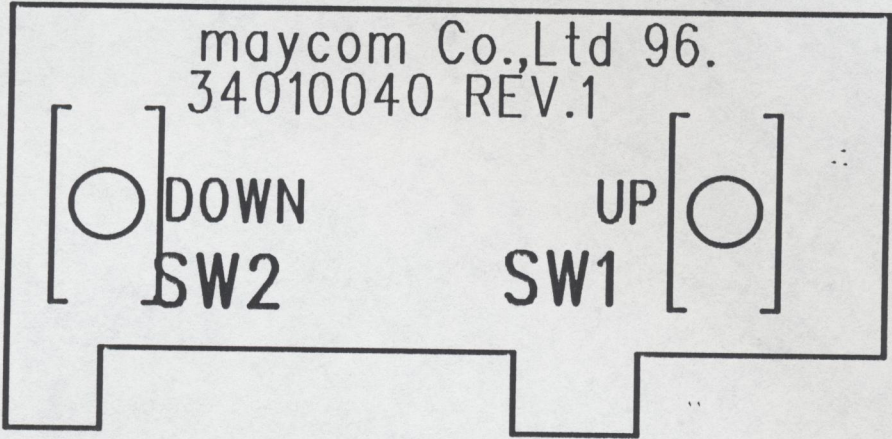
BOTTOM PATTERN

EM27-SW B'D

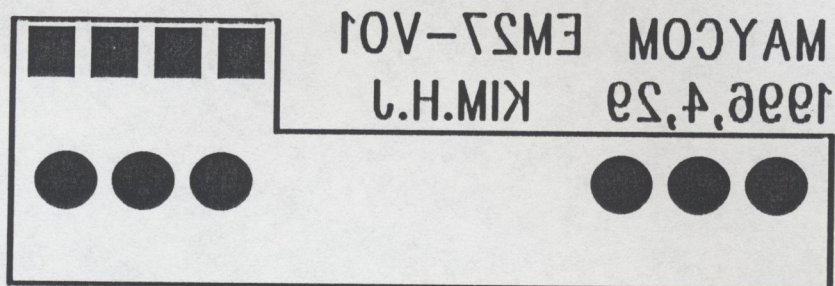


TOP PATTERN

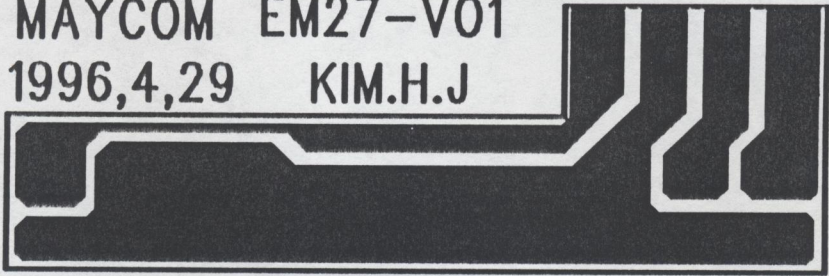
EM27-SW B'D



TOP SILK

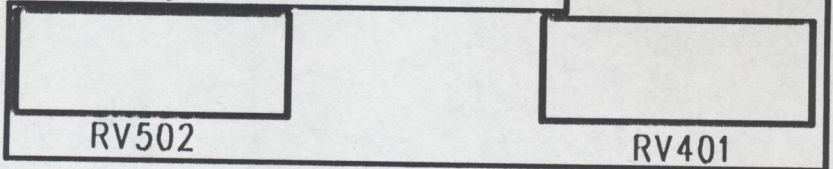


MAYCOM EM27-V01
1996,4,29 KIM.H.J



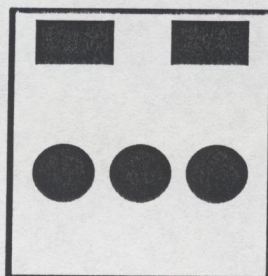
- top side pattern. -

MAYCOM EM27-V01
1996,4,29 KIM.H.J

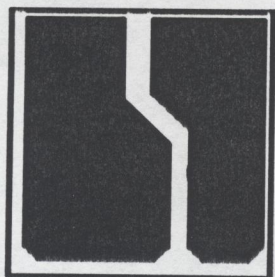


- top sode silk screen -

MAYCOM
EM52-VOLUME
1000,4,50
KIM.H.1 REV.0

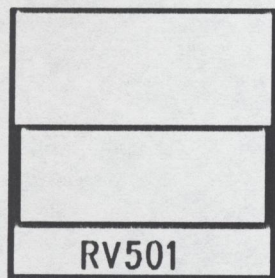


- bottom side pattern -



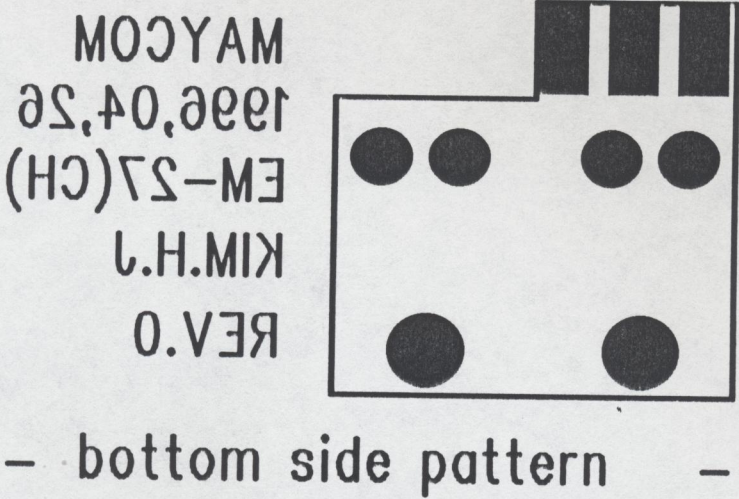
MAYCOM
EM27-VOLUME
1996,4,29
KIM.H.J REV.0

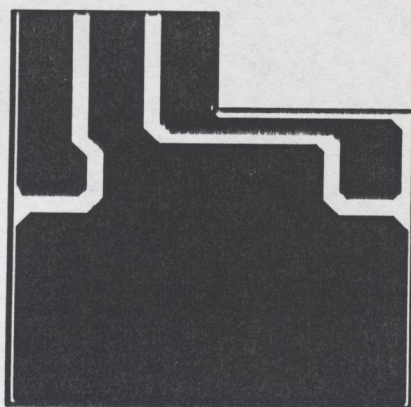
— top side pattern —



MAYCOM
EM27-VOLUME
1996,4,29
KIM.H.J REV.0

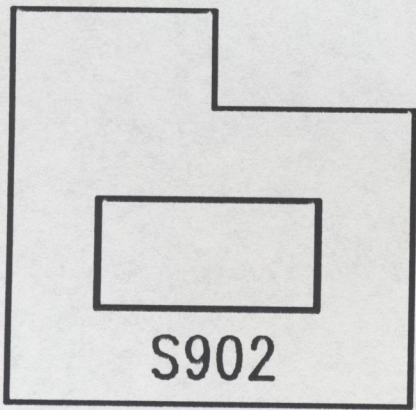
- top sode silk screen -





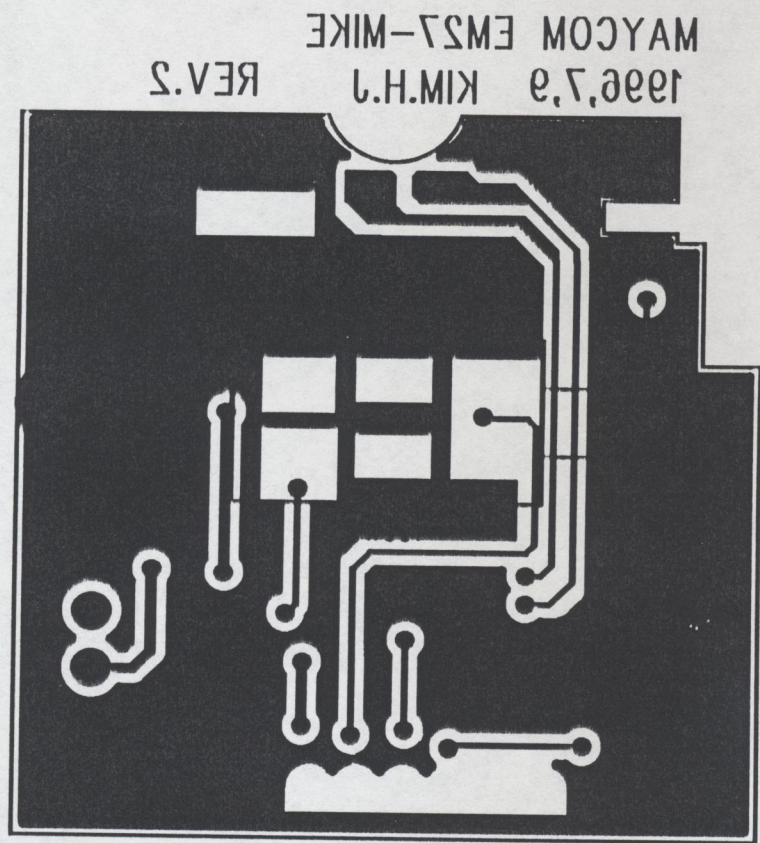
MAYCOM
1996,04,26
EM-27(CH)
KIM.H.J
REV.0

- top side pattern -

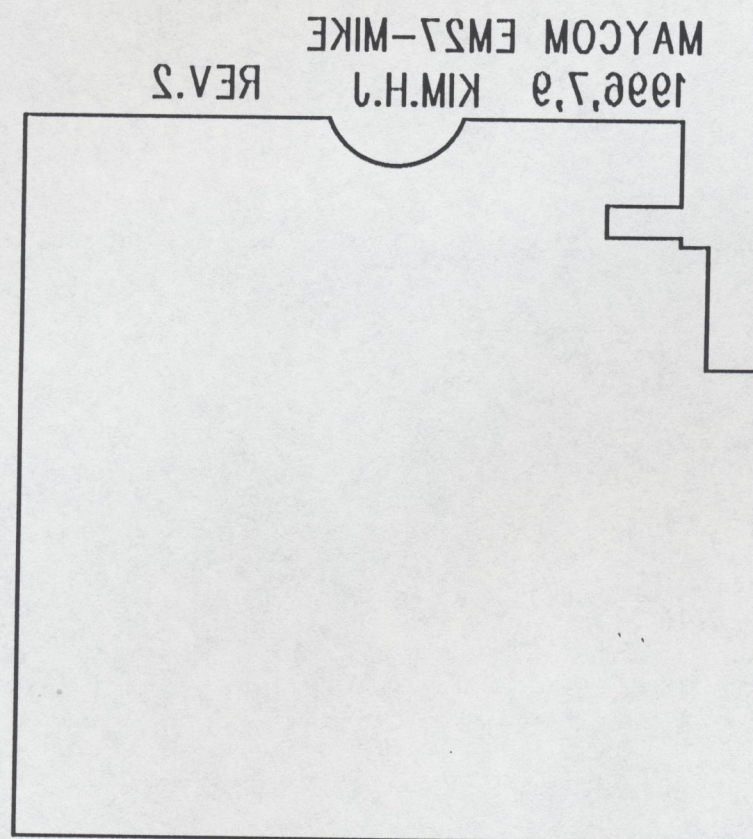


MAYCOM
1996,04,26
EM-27(CH)
KIM.H.J
REV.0

- top sode silk screen -

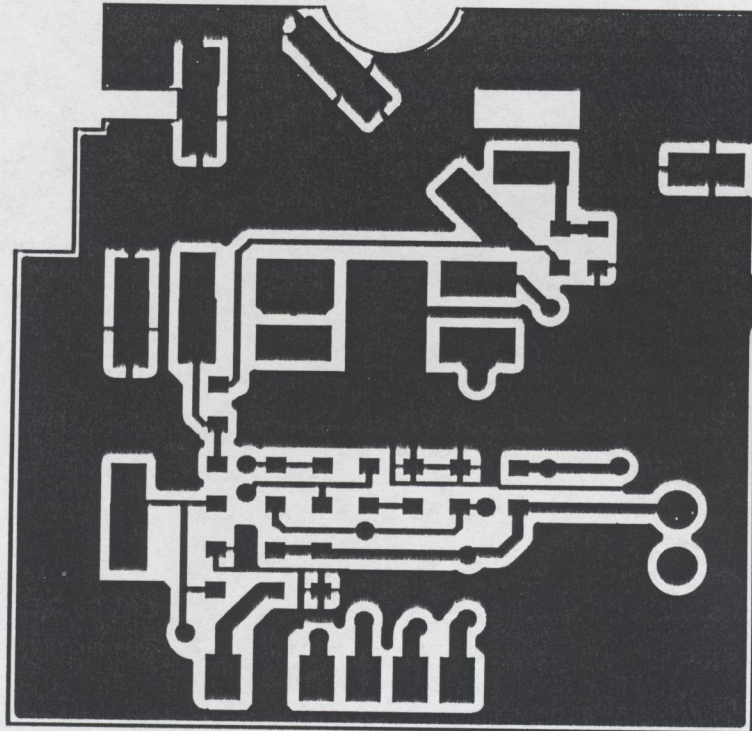


- bottom side pattern -

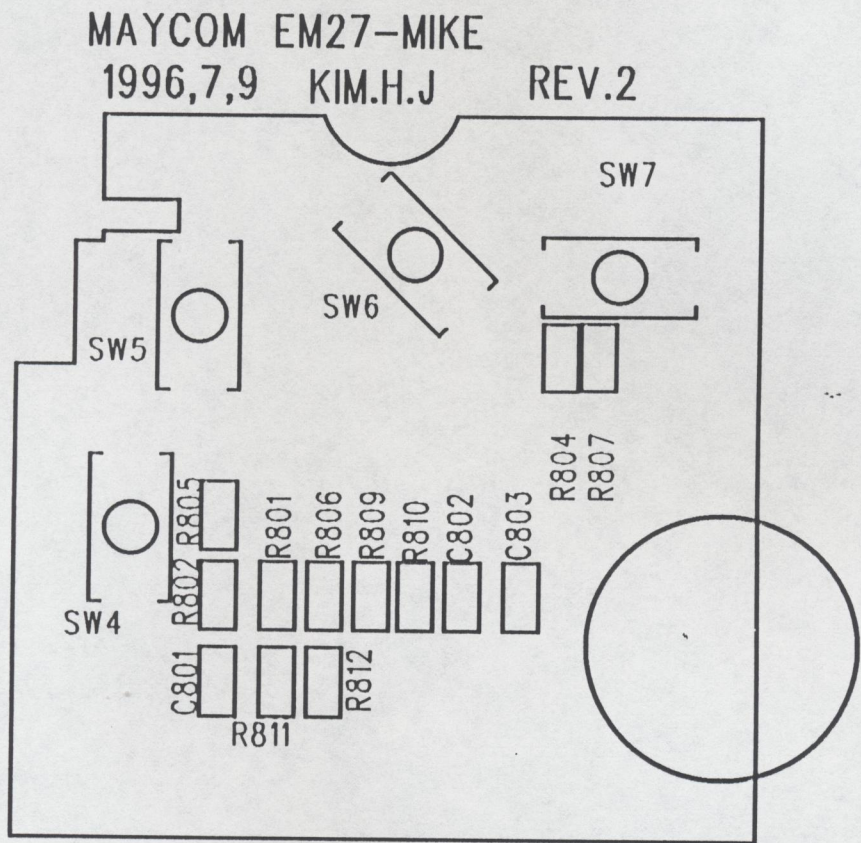


-bottom side silk screen -

MAYCOM EM27-MIKE
1996,7,9 KIM.H.J REV.2

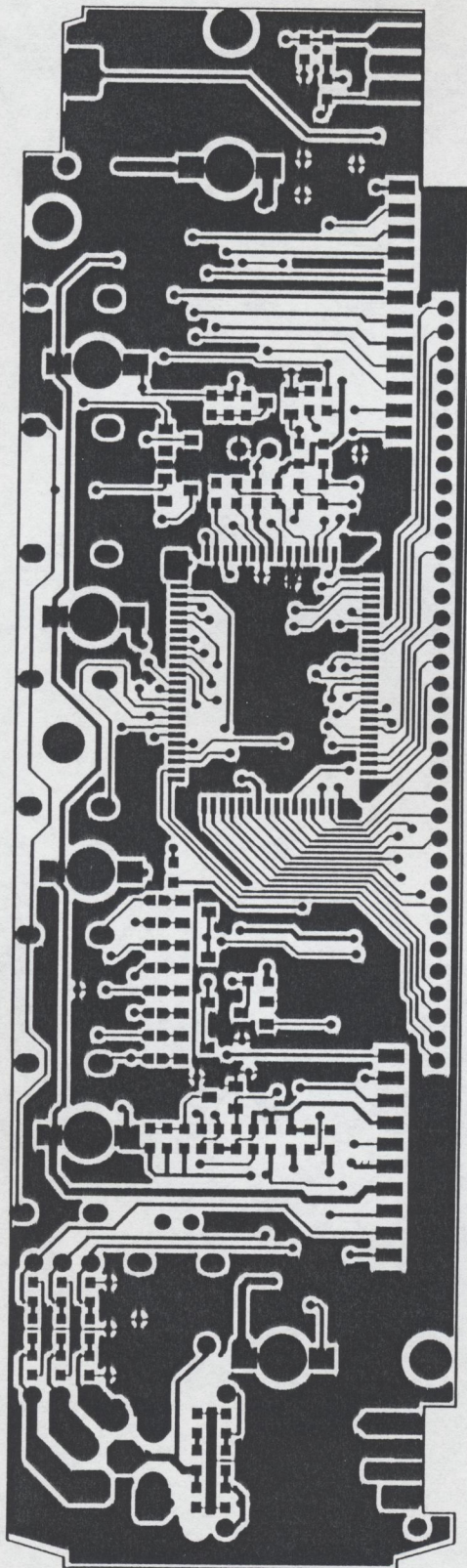


- top side pattern -

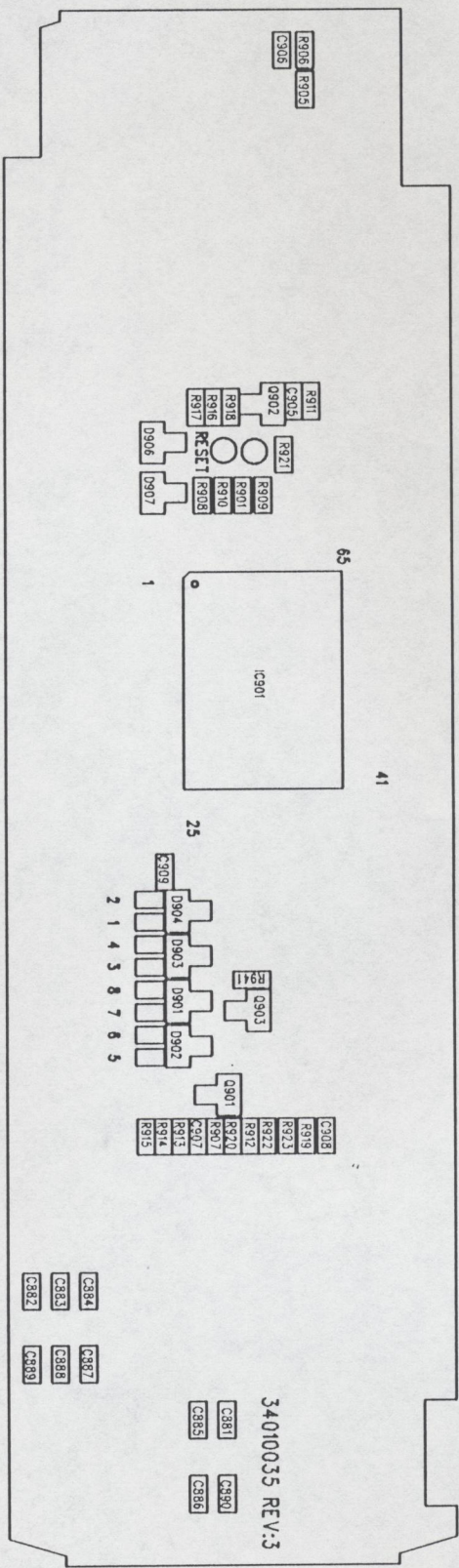


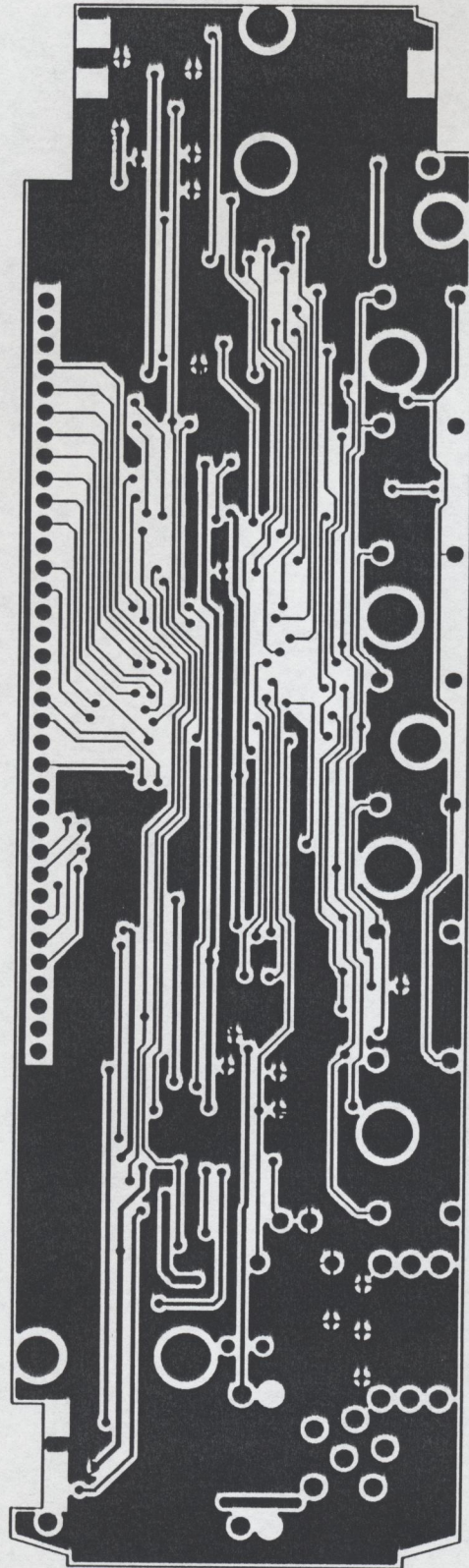
- top side silk screen -

2. V3A L.H.M.K 85.80.0001 T.M001 - CSN3 M00YAM - bottom side pattern -

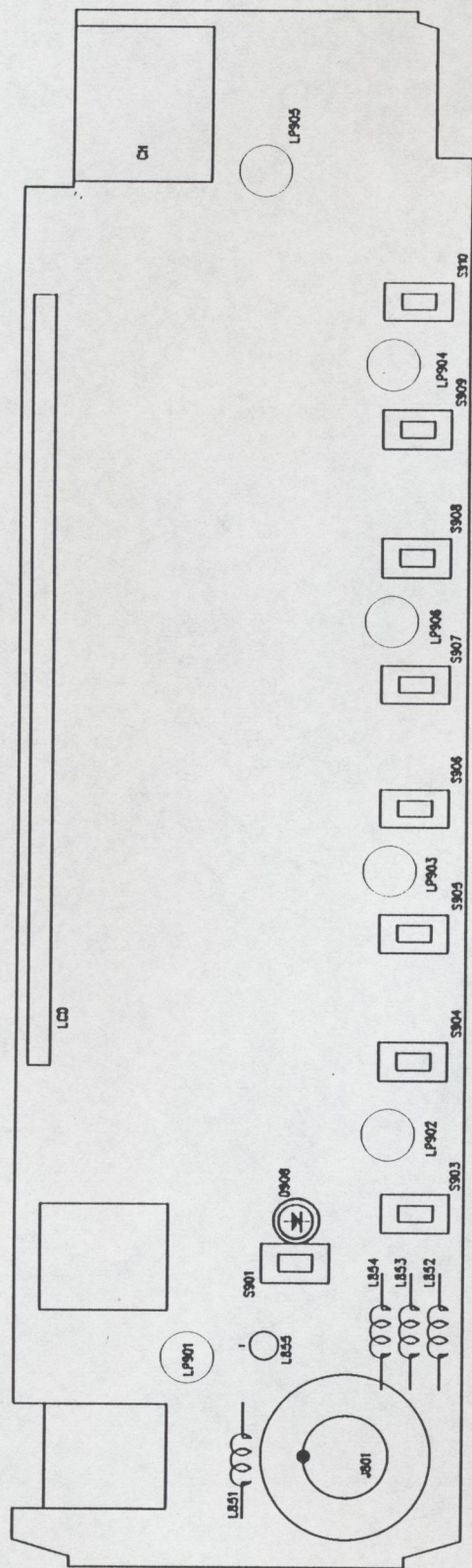


Э.ВЯР Л.Н.МН 82.80.000Т ТМ00Т -ТСМ3 МОДЪАМ -bottom side silk screen -

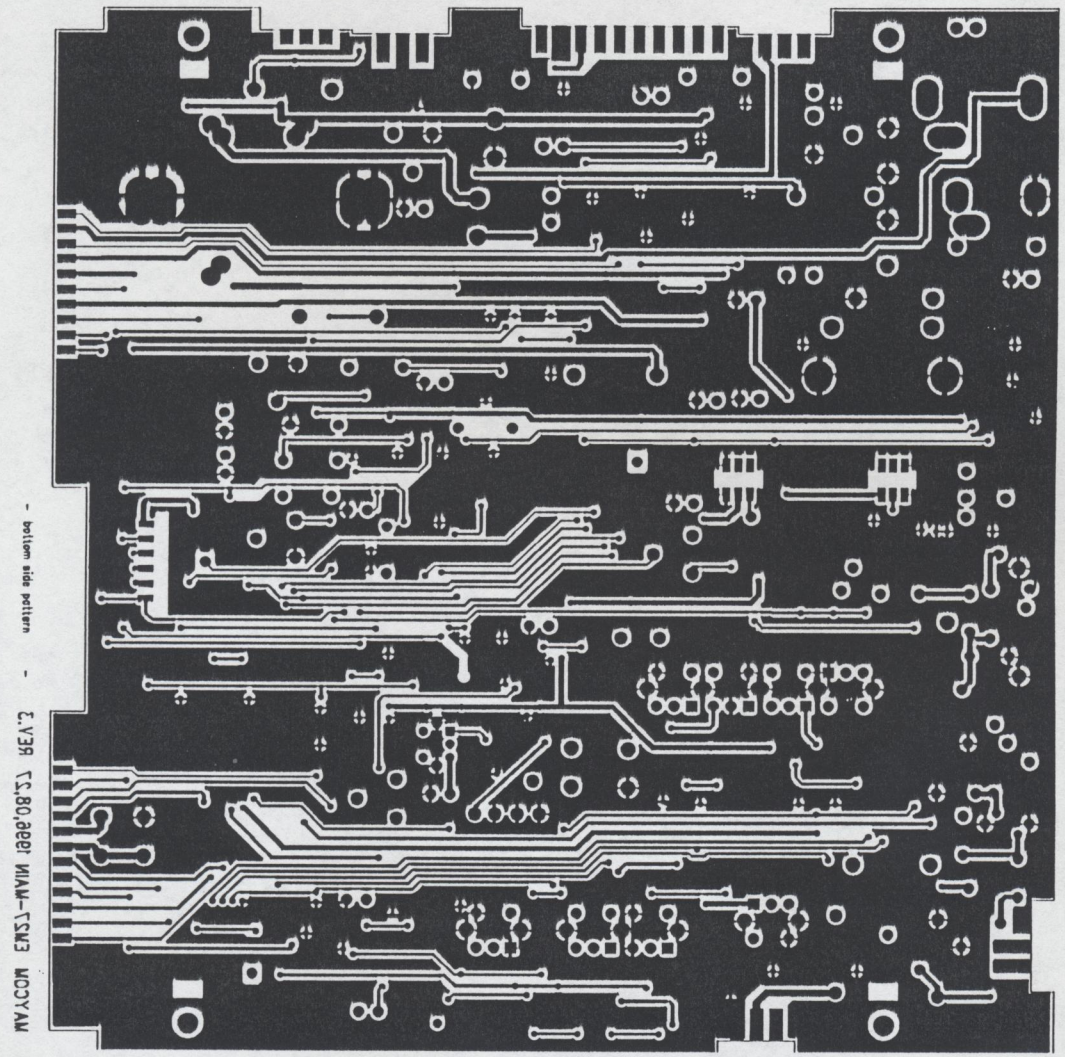


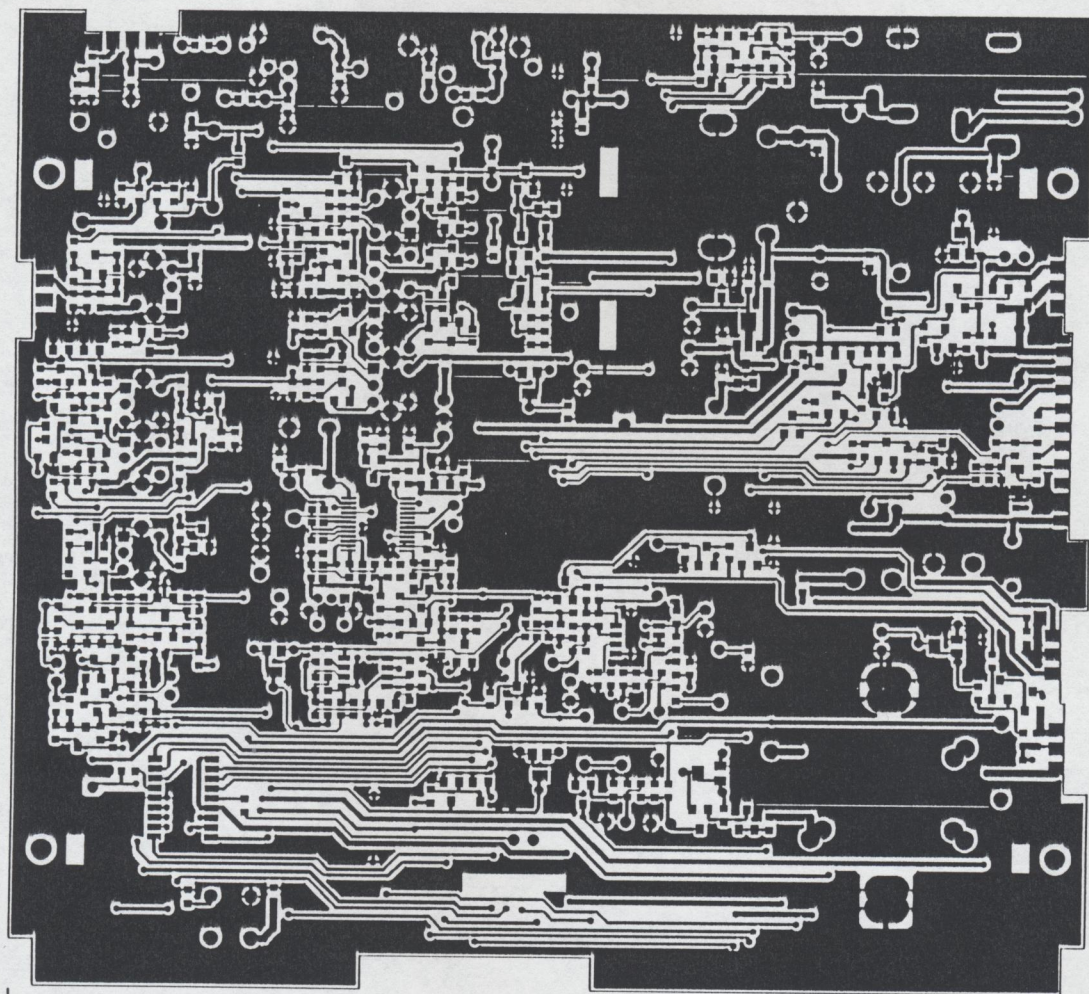


- top side pattern - MAYCOM EM27 - FROMT 1996.08.28 KIM.H.J REV.3



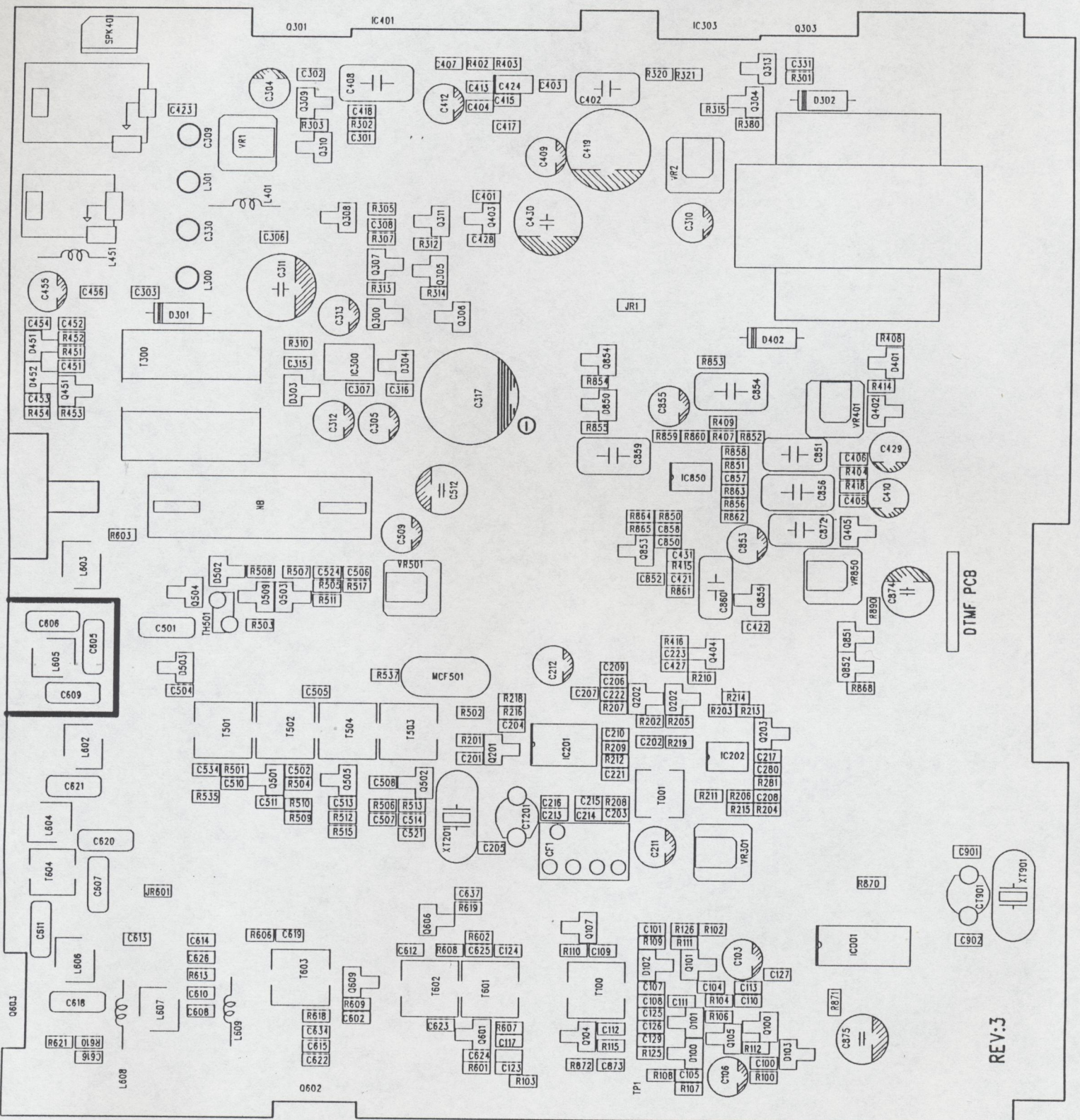
- top sode silk screen - MAYCOM EM27- FRONT 1996.08.28 KIM.H.J REV.3





1 427-MA JOB 11/26/96 08:59:00 DEW 1

for side rollers



FEATURES

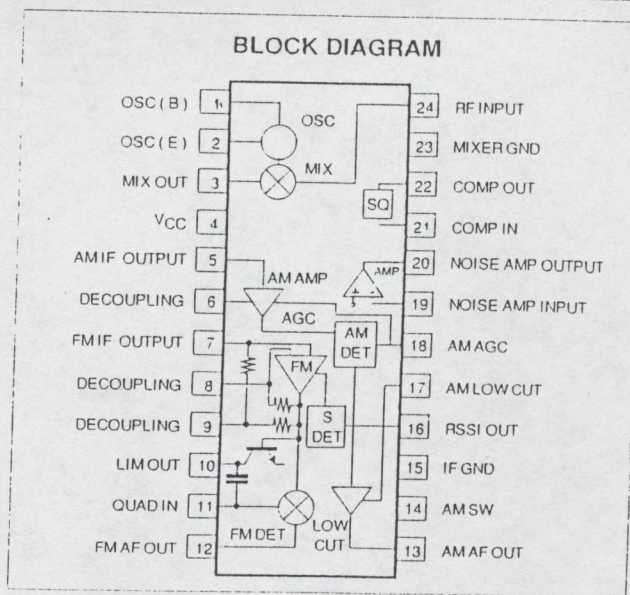
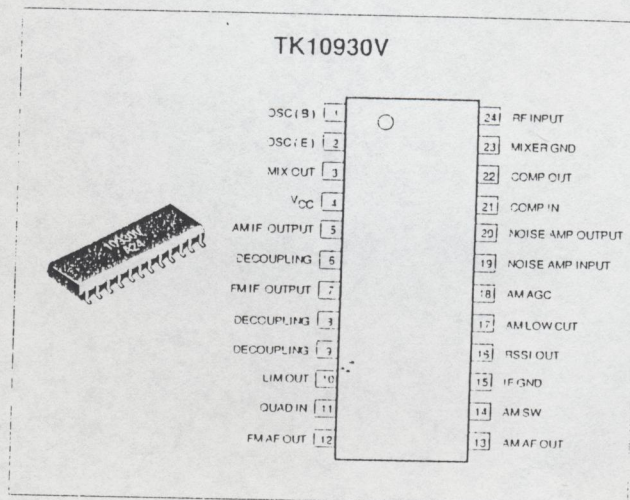
- AM/FM Simultaneous Detection
- Low Voltage Operation
- Low Operation Current AM & FM (6.8 mA TYP)
FM Only (3.9 mA TYP)
- Small Surface Mount Package

APPLICATIONS

- Portable Instrumentation
- Communications Receivers
- Amateur Radio Transceivers
- Scanners

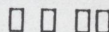
DESCRIPTION

The TK10930 is a AM/FM Detector IF IC specially suited where simultaneous AM and FM signal detection is required. This makes the device suited for portable scanners, aircraft receivers, amateur radio, and is specially designed for portable operation due to low voltage and current requirements. The TK10930 is available in a VSOP-24 surface mount package.



ORDERING INFORMATION

TK10930



Tape/Reel Code
Temp. Range
Package Code

PACKAGE CODE
V: Surface Mount

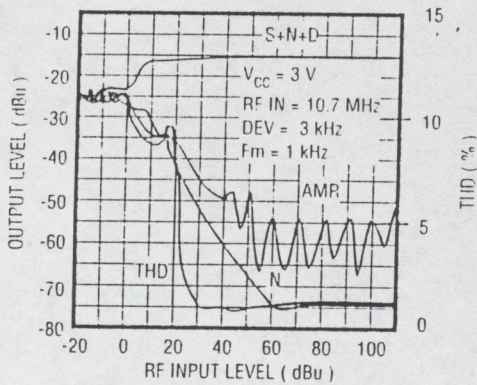
TEMP. RANGE
C: -30 to +75 °C

TAPE/REEL CODE
BX: Bulk/Bag
TX: Paper Tape
TR: Tape Right
TL: Tape Left
MG: Magazine

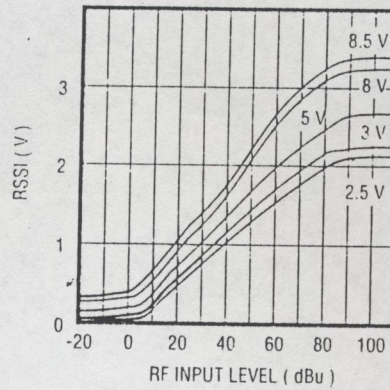
TK10930

TYPICAL PERFORMANCE CHARACTERISTICS

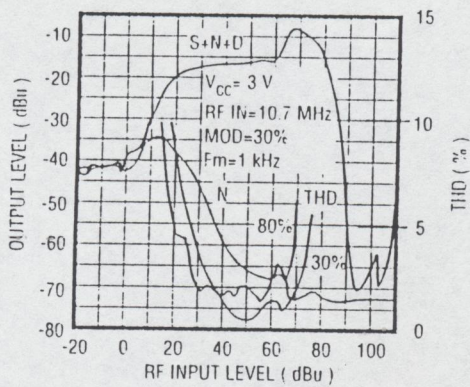
GENERAL CHARACTERISTICS
(FM)



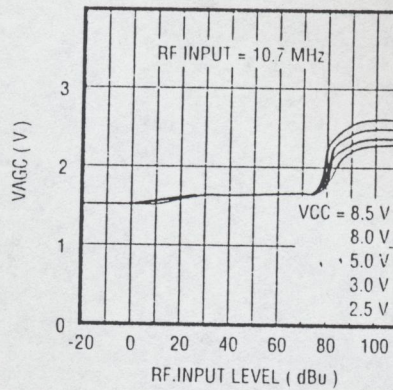
RSSI CHARACTERISTICS



GENERAL CHARACTERISTICS
(AM)



VAGC CHARACTERISTICS

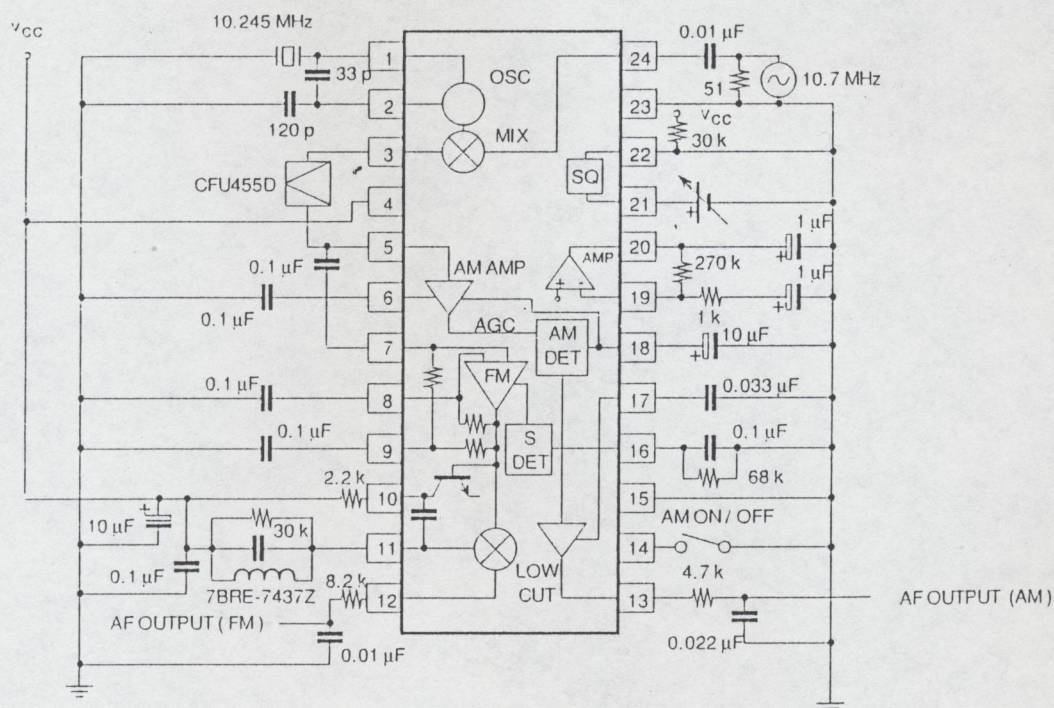


ELECTRICAL CHARACTERISTICS (CONT.)

Test conditions: $V_{CC} = 3.0\text{ V}$, $T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified.

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
S_4	Output Voltage 4	$V_{IN} = 10\text{ mV}$, $R_S = 68\text{ k}\Omega$	1.6	2.3	2.9	V
S_5	Output Voltage 5	$V_{IN} = 100\text{ mV}$, $R_S = 68\text{ k}\Omega$	1.8	2.4	2.9	V
AM Section						
US	Sensitivity	20 mV(rms)	20	15		dB μ
$V_{OUT\ 2}$	Demodulation Output Voltage	1 kHz 30%, $V_{IN} = 1\text{ mV}$	60	120	160	mV(rms)
THD 2	Total Harmonic Distortion 1	1 kHz 30%, $V_{IN} = 1\text{ mV}$		1.0	2.0	%
THD 3	Total Harmonic Distortion 2	1 kHz 80%, $V_{IN} = 1\text{ mV}$		2.0	4.0	%
S/N	S/N	1 kHz 30%, $V_{IN} = 1\text{ mV}$	40	48		dB
V_{OUT}	AM On DC Level (Pin 14)		-0.3		0.3	V

TEST CIRCUIT



TK10930

ABSOLUTE MAXIMUM RATINGS

Input Voltage V_{CCMAX}	10 V	Storage Temperature Range	-55 to +150 °C
Operating Voltage Range	2.5 to 8.5 V	Operating Temperature Range	-30 to +75 °C
Power Dissipation (Note 1)	400 mW	Lead Soldering Temp. (10 sec.)	300 °C
Junction Temperature	150 °C		

ELECTRICAL CHARACTERISTICSTest conditions: $V_{CC} = 3.0$ V, $T_A = 25$ °C, unless otherwise specified.

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CC1}	Supply Current 1	No input		6.8	8.9	mA
I_{CC2}	Supply Current 2	No input		3.9	5.3	mA
M_C	Mixer Conversion Gain			20		dB
M_Z	Mixer Input Resistance	Measurement		3.6		k Ω
FM Section						
Limit 1	Limiting Sensitivity	-3 dB Point		2.0	8.0	μ V
V_{OUT1}	Demodulation Output Voltage	$V_{IN} = 10$ mV, ± 3 kHz DEV	85	150	230	mV(rms)
THD 1	Total Harmonic Distortion	$V_{IN} = 10$ mV, ± 3 kHz DEV		1.0	2.0	%
Z_{OUT}	Output Impedance	$V_{IN} = 10$ mV		800		Ω
THD	Total Harmonic Distortion	$V_{IN} = 10$ mV		1.0	2.0	%
F_G	Filter Amplifier Gain	$F_{IN} = 30$ kHz, $V_O = 100$ mV	30	38		dB
S_H	Scan Control High Level	2.5 V Squelch Input	2.3			V
S_L	Scan Control Low Level	0 V Squelch Input			0.3	V
HYS	Squelch Hysteresis			30		mV
S_0	Output Voltage	$V_{IN} = 0.00$ mV, $R_S = 68$ k Ω		0.05	0.5	V
S_1	Output Voltage 1	$V_{IN} = 0.01$ mV, $R_S = 68$ k Ω	0.05	0.5	0.9	V
S_2	Output Voltage 2	$V_{IN} = 0.1$ mV, $R_S = 68$ k Ω	0.7	1.2	1.7	V
S_3	Output Voltage 3	$V_{IN} = 1$ mV, $R_S = 68$ k Ω	1.2	1.8	2.5	V

Note 1: Power dissipation must be derated at the rate of 3.3 mW/°C at $T_A = 25$ °C and above.