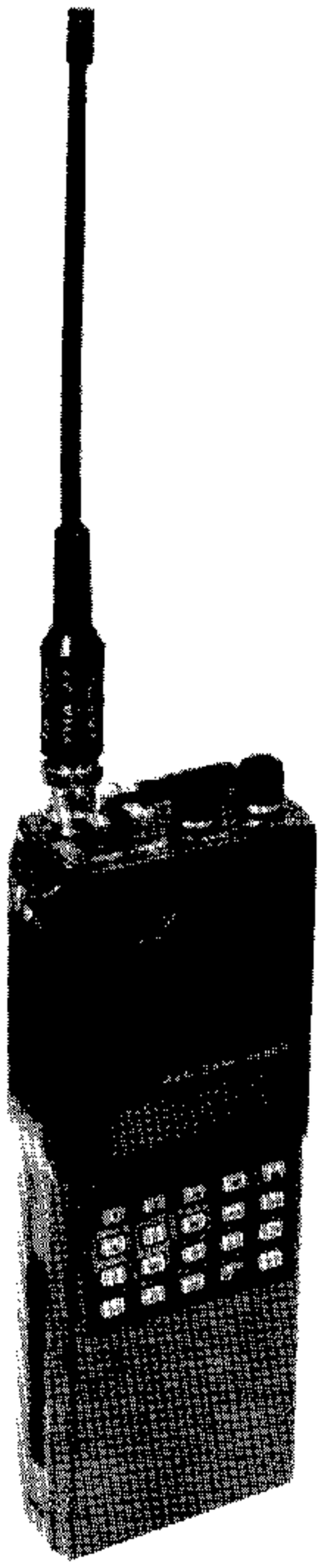
FT-727R
TECHNICAL SUPPLEMENT

This booklet contains supplemental technical information related to the FT-727R for use with the FT-727R Operating Manual. Service or repairs to the FT-727R transceiver should be performed by qualified technicians only.

YAESU MUSEN CO., LTD.
C.P.O. BOX 1500
TOKYO, JAPAN

FT-727R
TECHNICAL SUPPLEMENT



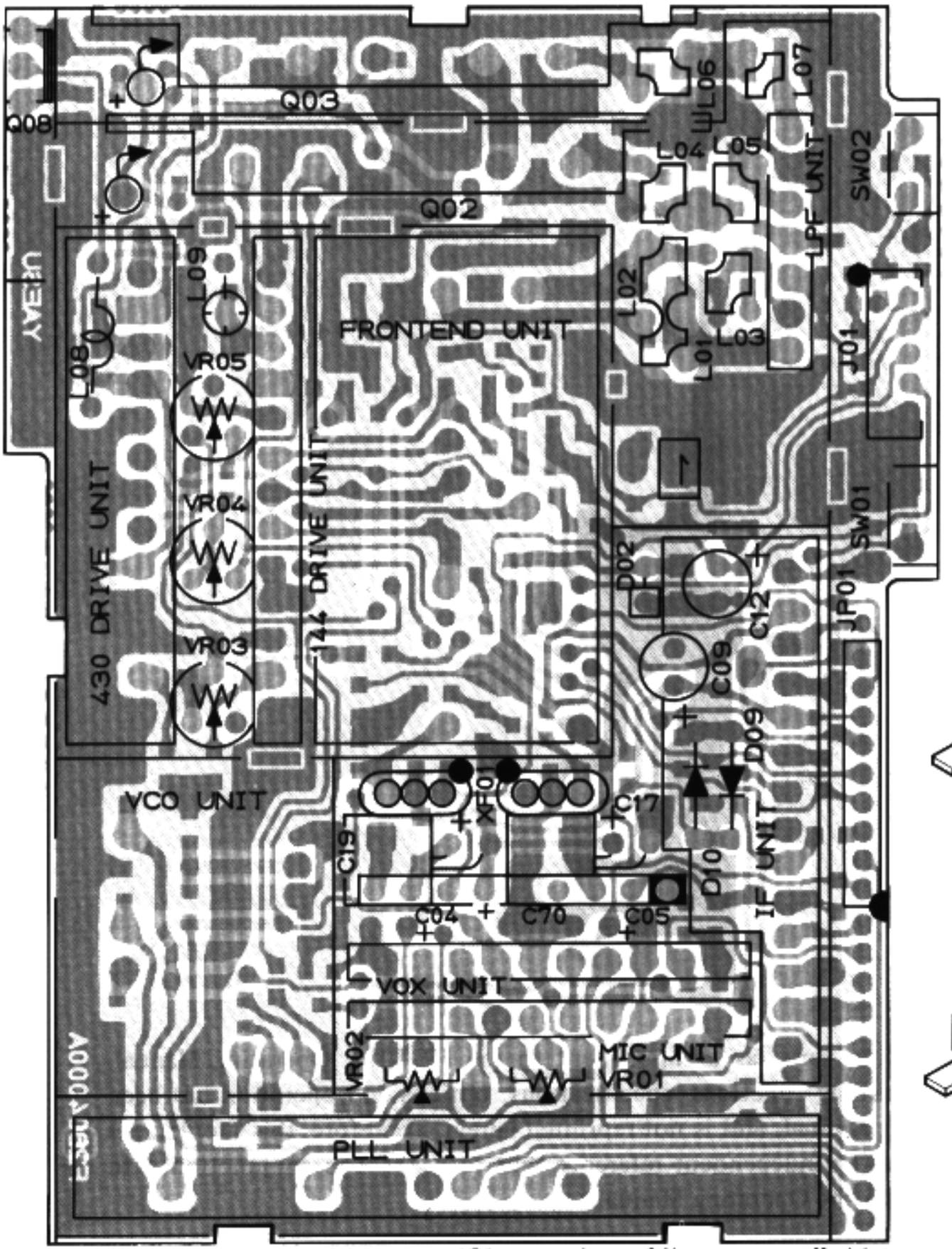
This manual is intended to serve as a supplement to the FT-727R Operating Manual. Detailed information regarding functions, specifications, options and operation has been provided in the Operating Manual, and is not reprinted herein. Therefore, this supplement is not intended to serve as an independent reference, but to be used in conjunction with the information provided in the Operating Manual.

Because of the compactness and complexity of the double-sided glass-epoxy circuit boards used in the FT-727R, four layout diagrams are provided for each board. Each side of the board is identified by the type of the majority of components installed on that side. In most cases one side has only chip components, and the other has either a mixture of both chip and lead components (trimmers, coils, electrolytic capacitors, packaged ICs, etc.), or lead components only. The two "obverse" views depict the board as it is seen when viewed directly with the eye, while the two "reverse" views depict the unseen side of the board as it would appear if one were to peer through the board from the other side without seeing the components and tracks on the near side.

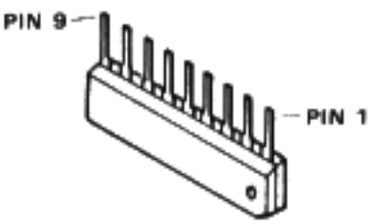
While we believe the technical information in this manual is correct, Yaesu assumes no liability for damage that may occur as a result of typographical or other errors that may be present. Your cooperation in pointing out any inconsistencies in the technical information would be appreciated.

Yaesu Musen reserves the right to make changes in the circuitry of this transceiver, in the interest of technological improvement, without notification of the owners.

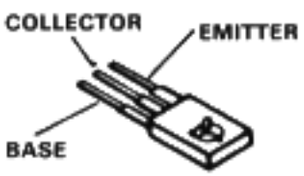
MAIN UNIT



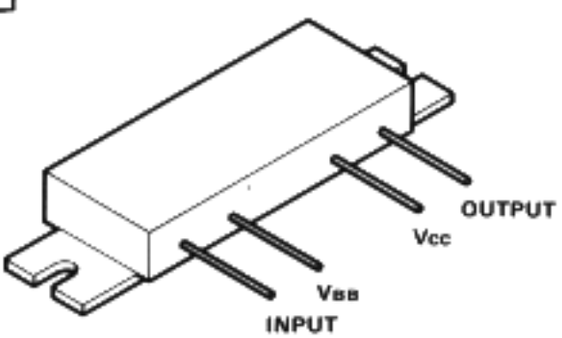
(Obverse view of "component" side)



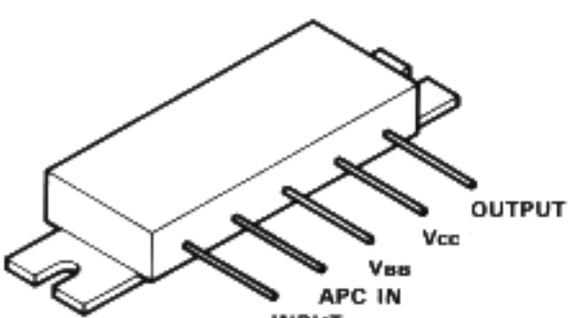
LA4145 (Q1001)



COLLECTOR
BOTTOM SURFACE
2SB772Q (Q1008)

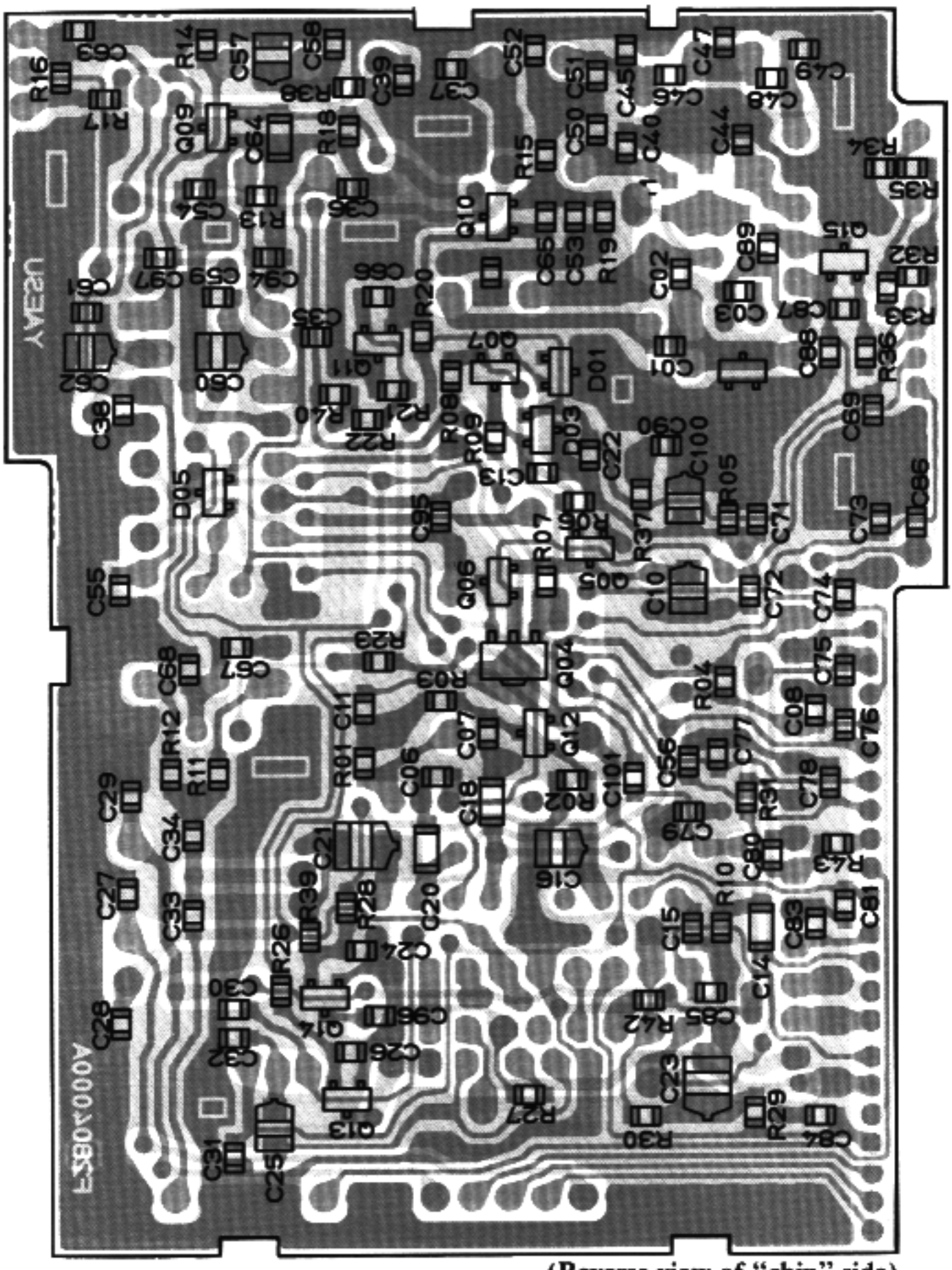


M57796MA (Q1002)



M57797MA (Q1003)

MAIN UNIT



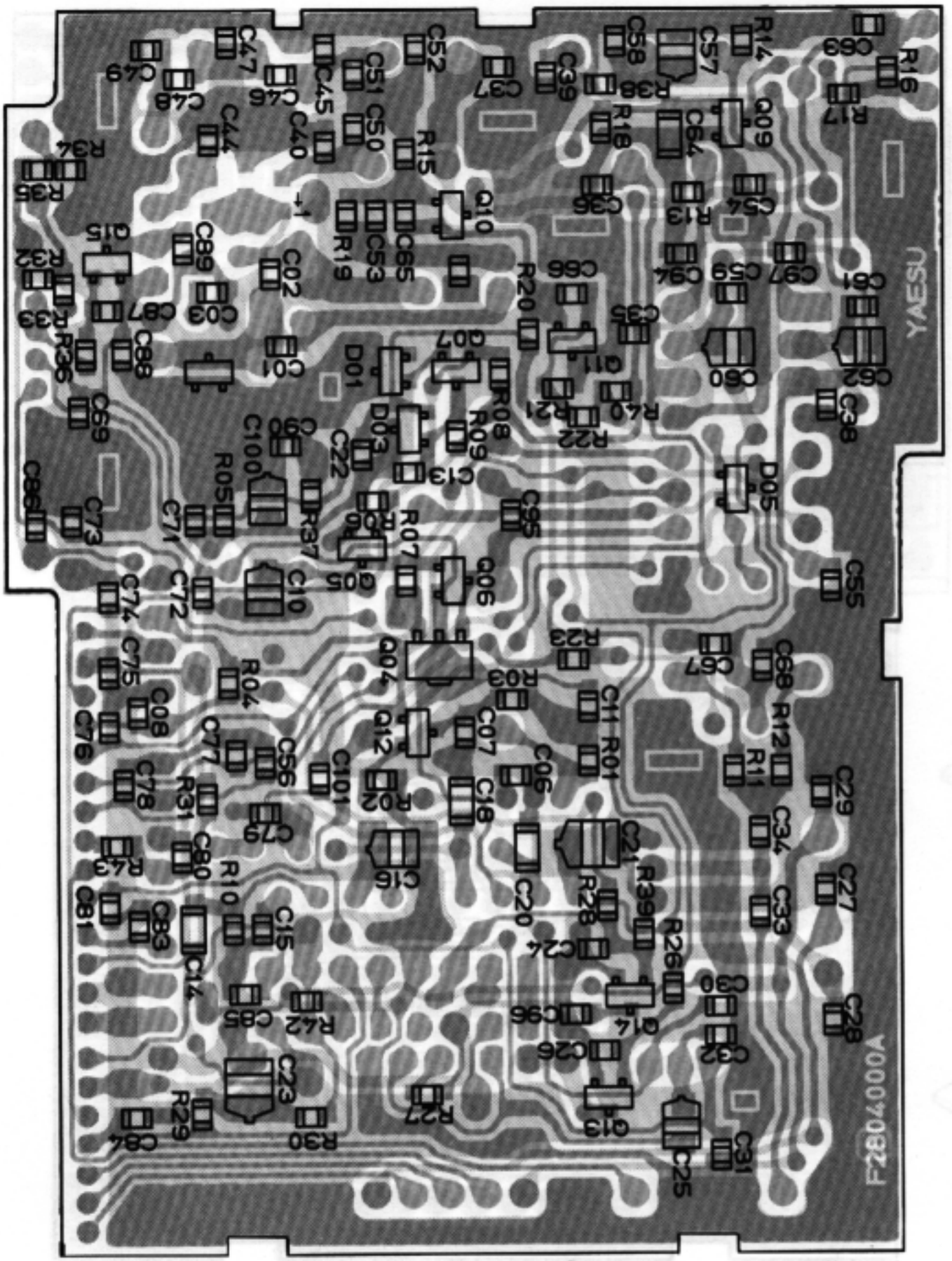
(Reverse view of "chip" side)

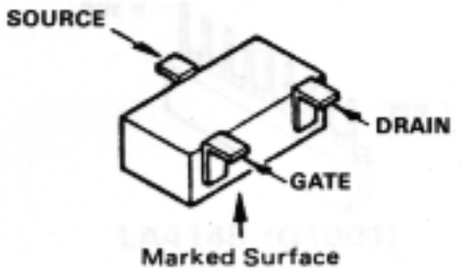
SEMICONDUCTOR CROSS-REFERENCE

PART LOCATION No.	ORIGINAL	REPLACEMENT	
	NOMENCLATURE (MARKING) AND PART NUMBER	NOMENCLATURE (MARKING) AND PART NUMBER	
Q 1010, 1011, 1015, 503, 2001, 2003, 3008, 3018, 3028, 3030	2SA812F/G (M6/M7) G3108120F/G	2SA1162GR (SG) G3111620G	2SA1179F/G (M6/M7) G3111790F/G
Q 1005, 1006, 1007, 1009, 1013, 1014, 902, 2002, 3010, 3011, 3019, 3020, 3021, 3022, 3023, 3025, 3026, 3027, 3029, 3031	2SC1623F/G (L6/L7) G3316230F/G	2SC2712GR/Y (LG/LY) G3327120G/Y	2SC2812F (L6) G3328120F
Q 901	M5224FP G1090726	LA6324M G1090559	μPC324G G1090603
Q 3002	M5233FP G1090728	LA6393M —	
D 501	1SS123 (A7) G2070020	1SS181 (C3) G2090003	DCA015TA (A4) G2070014
D 502, 602, 2201, 2202, 2203, 2204, 2205, 2206, 2203, 3009	MC2836 (A4) G2070024	1SS181 (A3) G2070001	DCA015TA (A4) G2070014
D 1001, 1003, 1005, 301, 302, 303, 2001, 2002, 3001, 3002, 3004, 3006, 3007, 3008, 3010, 3011, 3015, 3016, 3019	MC2838 (A6) G2070018	1SS184 (B3) G2070009	DCB015TA (A6) G2070012
D 3012	SLM-13VW G2070030	SLM-23VMW G2070028	
Q 3003, 3004	μPD4011BG G1090600	LC4011BM G1090773	

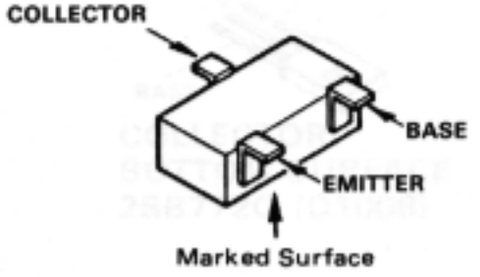
*Semiconductors not listed above may be replaced only with original types.

MAIN UNIT

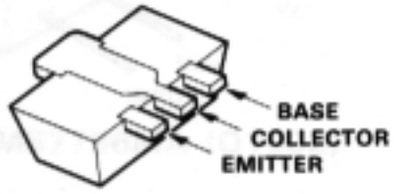




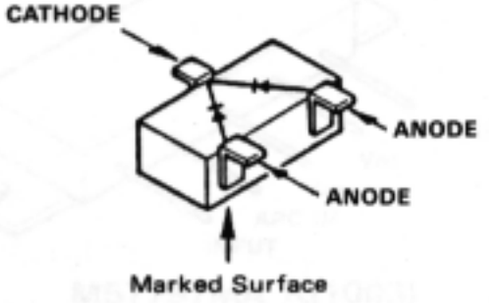
2SK302Y (TY)
(Q1012)



2SA812(M6)
(Q1010,1011,1015)
2SC1623F(L6)
(Q1005,1006,1007 1009,1013,1014)



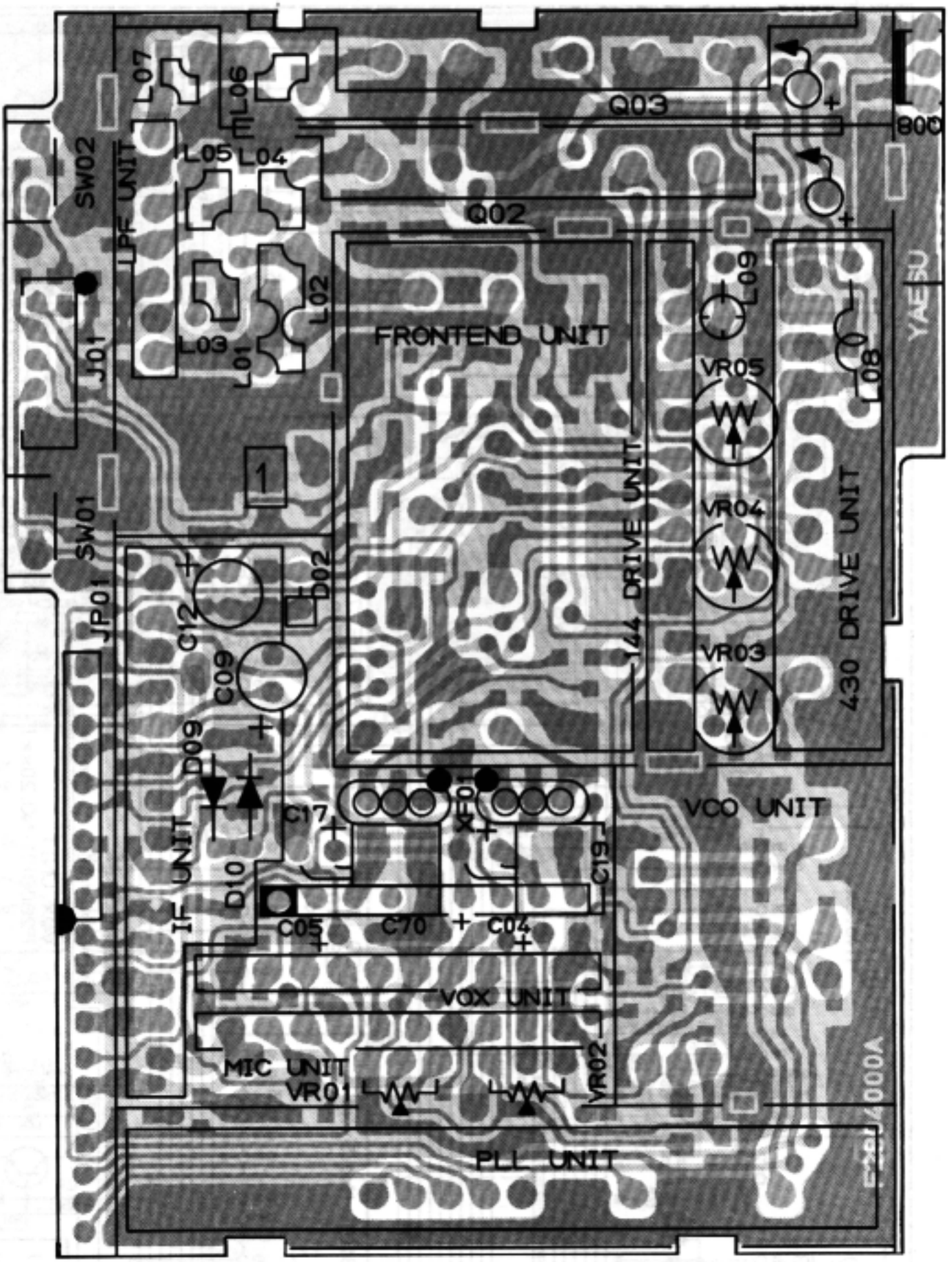
2SB766R (Q1004)



MC2838(A6)
(D1001,1003,1005)

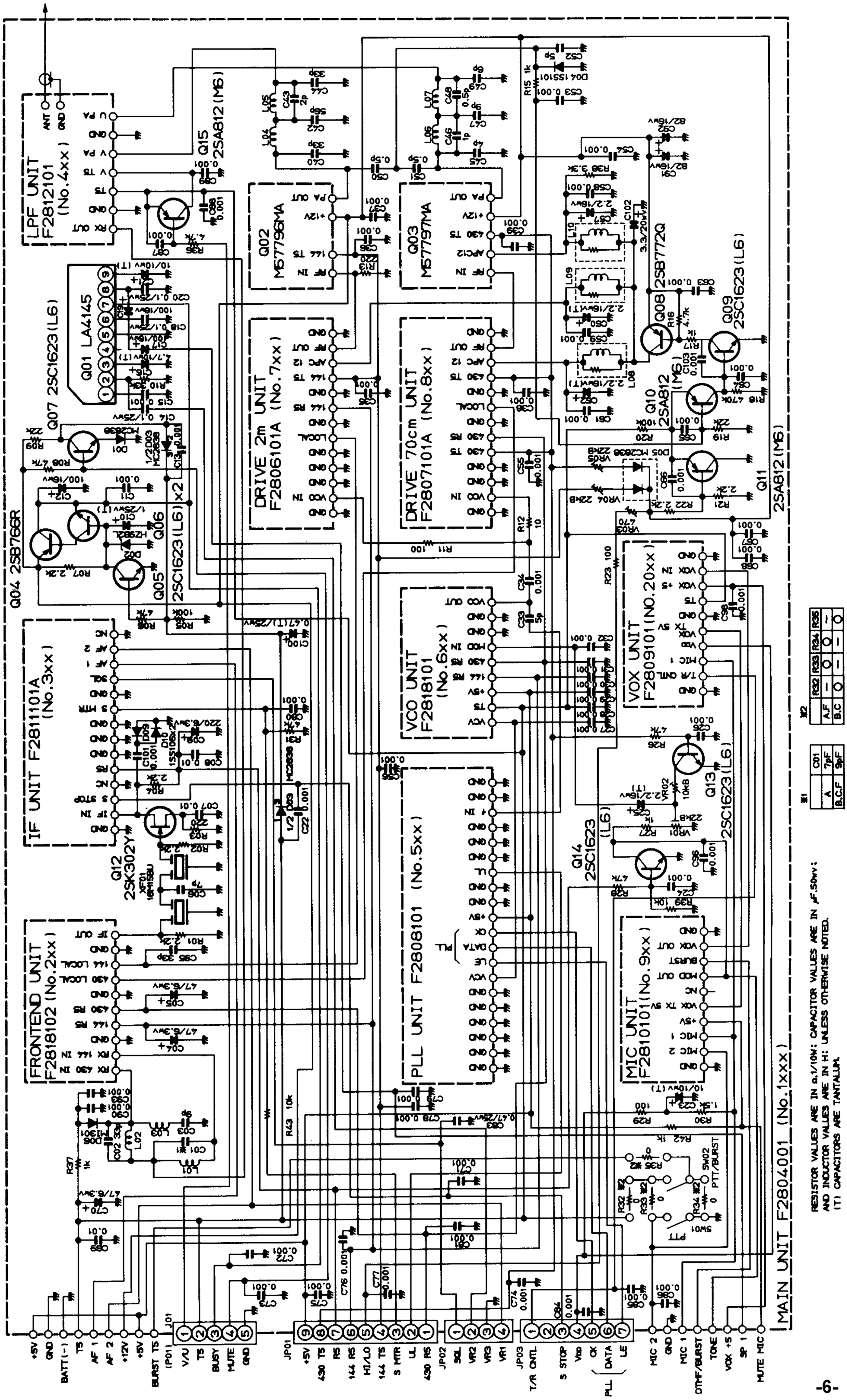
(Obverse view of "chip" side)

MAIN UNIT

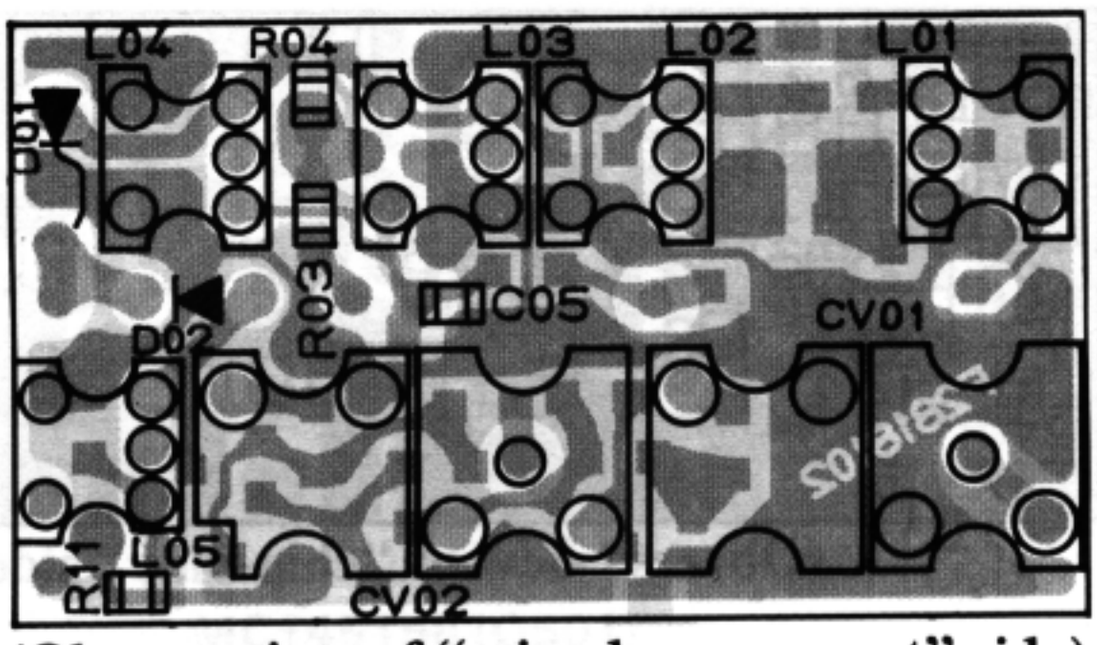


(Reverse view of "component" side)

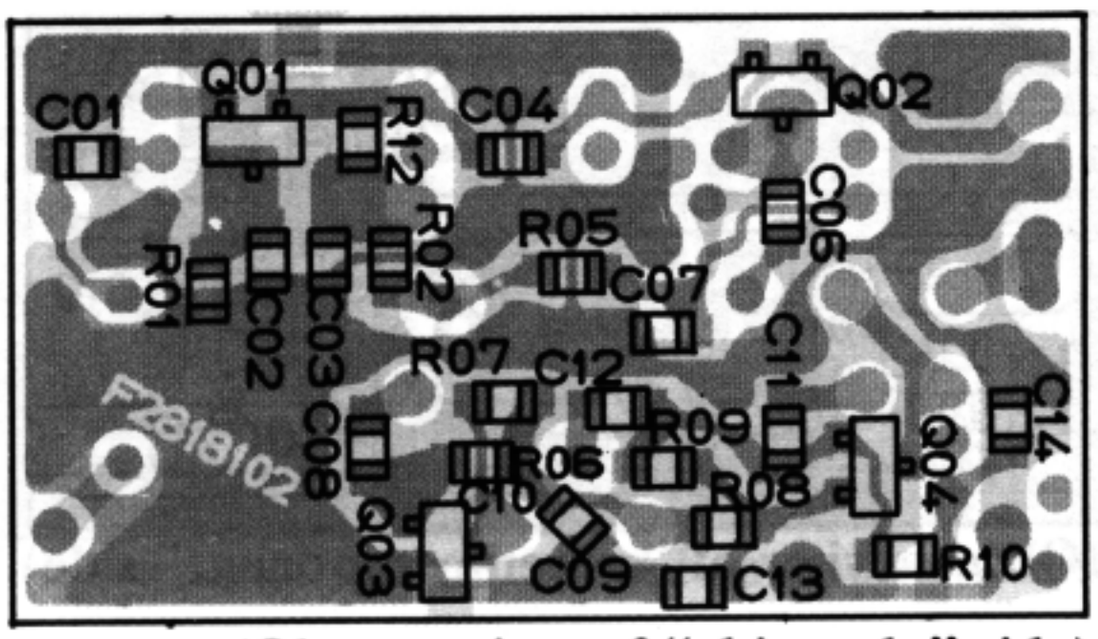
MAIN UNIT


ANT
GND
LPF UNIT F2812101 (No.4xx)
Q01 LA4145
Q07 2SC1623(L6)
Q04 2SB766R
Q05 2SC1623(L6) x2
Q06
Q12 2SK302Y
IF UNIT F2811101A (No.3xx)
FRONTEND UNIT F2818102 (No.2xx)
Q02 M57796MA
Q03 M57797MA
DRIVE 2m UNIT F2806101A (No.7xx)
DRIVE 70cm UNIT F2807101A (No.8xx)
VCO UNIT F2818101 (No.6xx)
PLL UNIT F2808101 (No.5xx)
VOX UNIT F2809101(NO.20xx)
MIC UNIT F2810101(No.9xx)
Q08 2SB772Q
Q09 2SC1623(L6)
Q10 2SA812 (M6)
Q11 2SA812(M6)
Q13 2SC1623(L6)
Q14 2SC1623 (L6)
2SA812(M6)
SW01 PTT
SW02 PTT/BURST
※1
※2
RESISTOR VALUES ARE IN Ω,1/10W: CAPACITOR VALUES ARE IN μF,50WV:
AND INDUCTOR VALUES ARE IN μH: UNLESS OTHERWISE NOTED.
(T) CAPACITORS ARE TANTALUM.
MAIN UNIT F2804001 (No.1xxx)

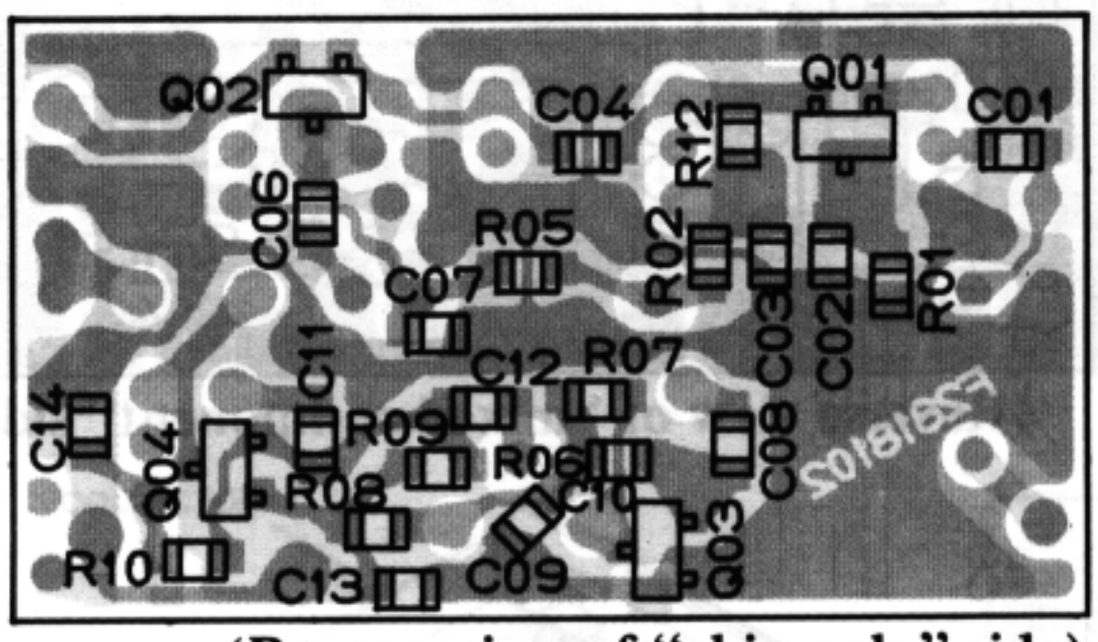
FRONTEND UNIT



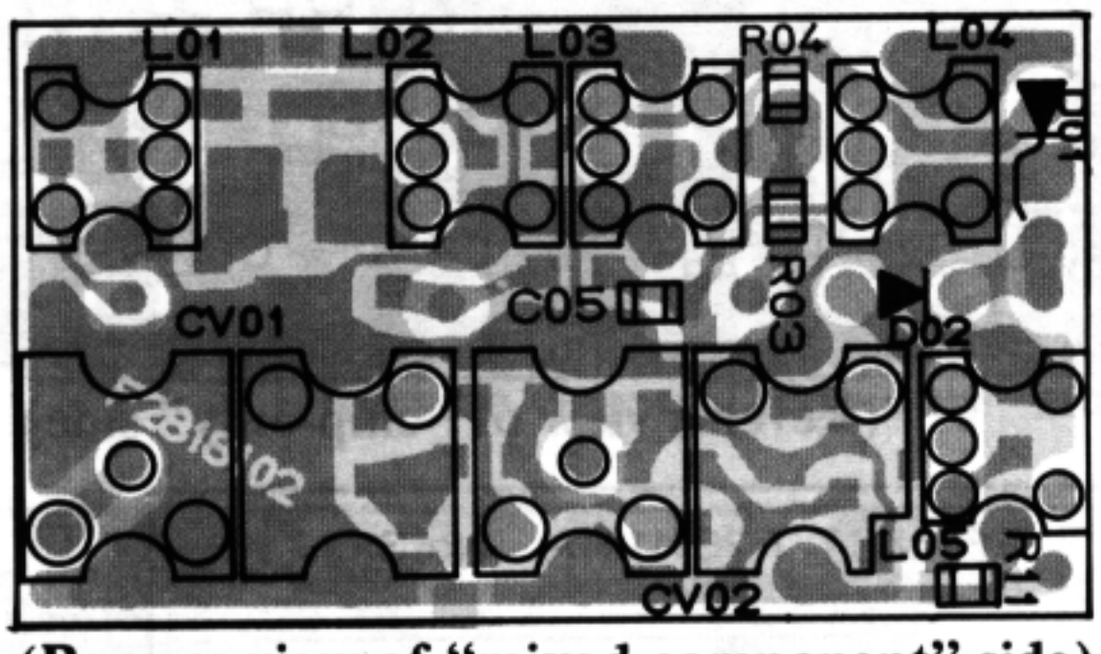
(Obverse view of "mixed-component" side)



(Obverse view of "chip-only" side)



(Reverse view of "chip-only" side)



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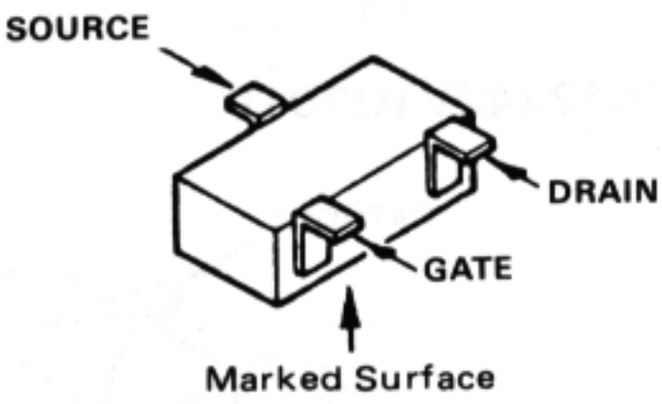
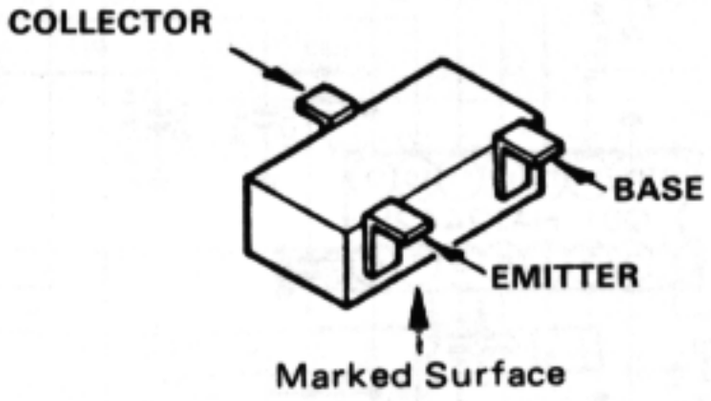
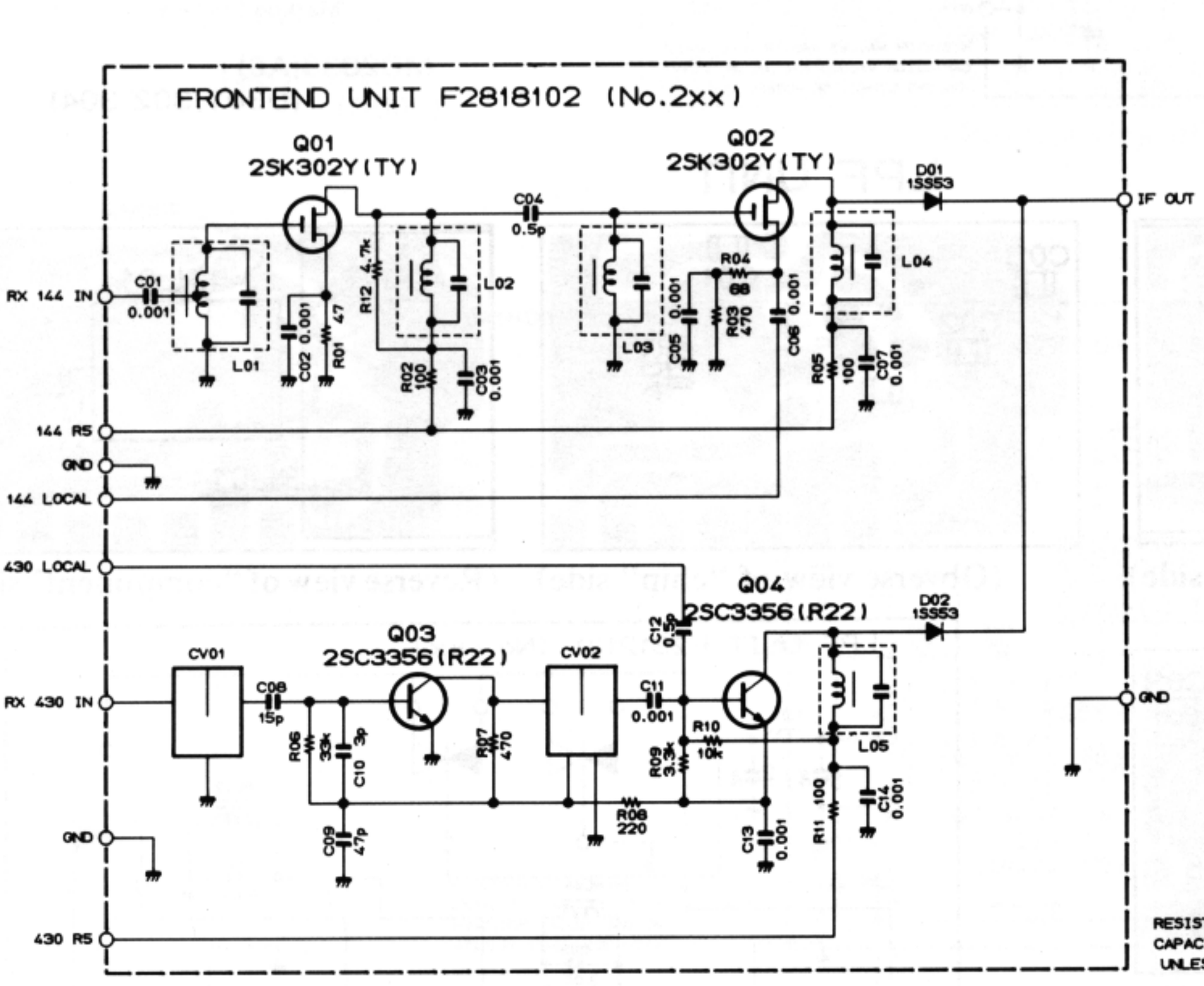


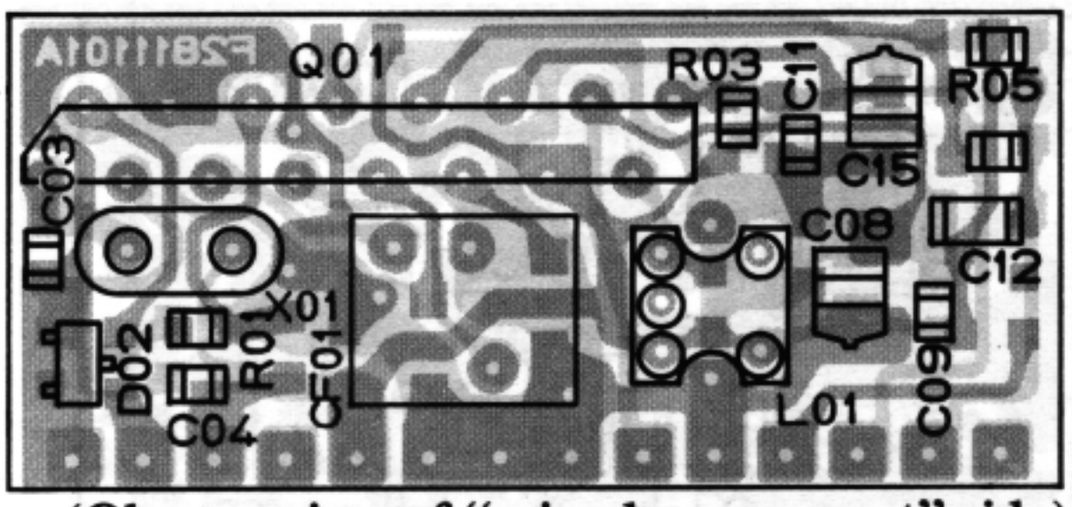
2SK302Y(TY)
(Q201,202)



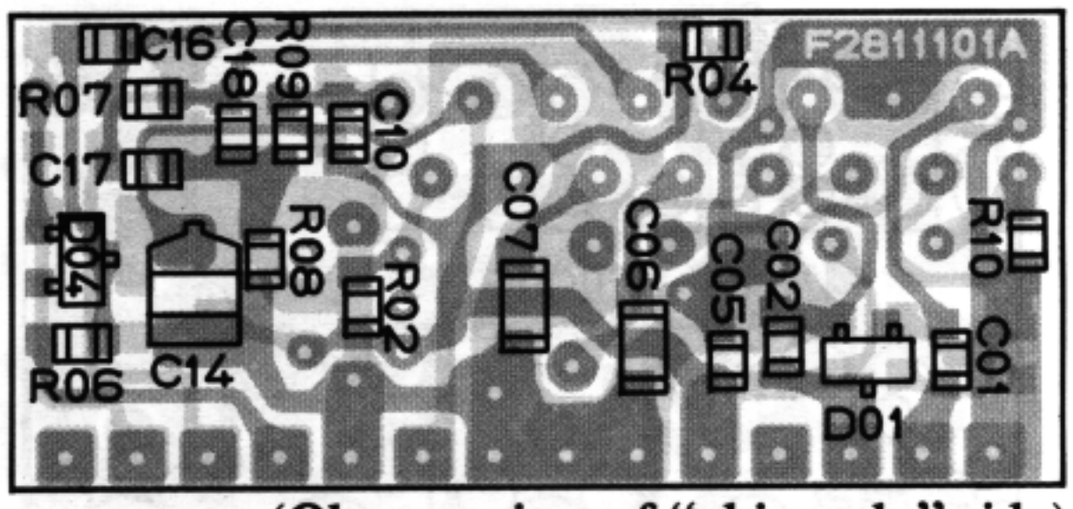
2SC3356(R22)
(Q203,204)



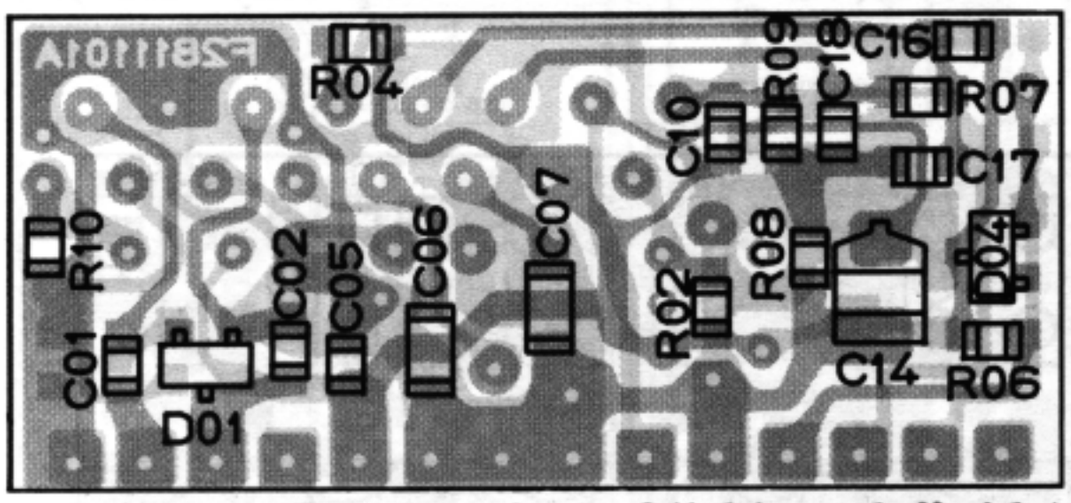
IF UNIT



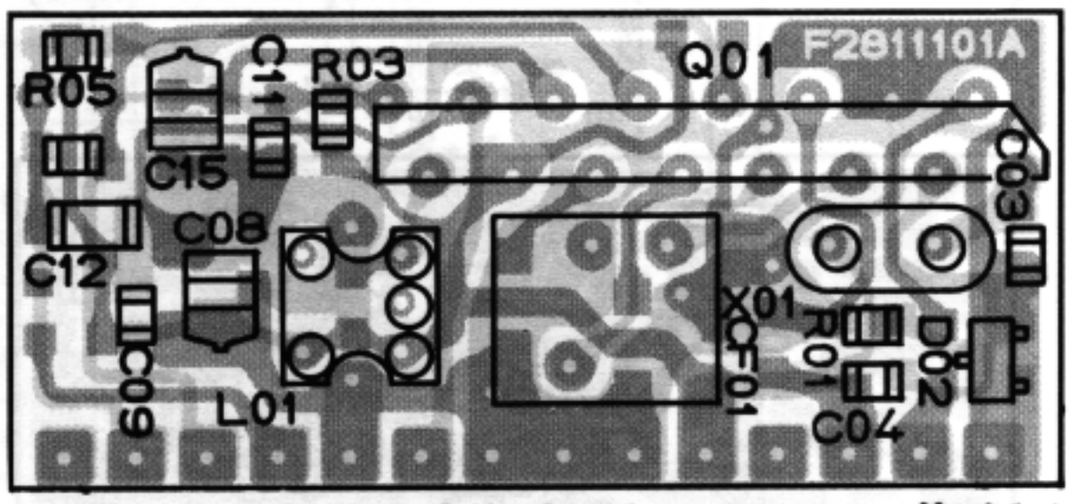
(Obverse view of "mixed-component" side)



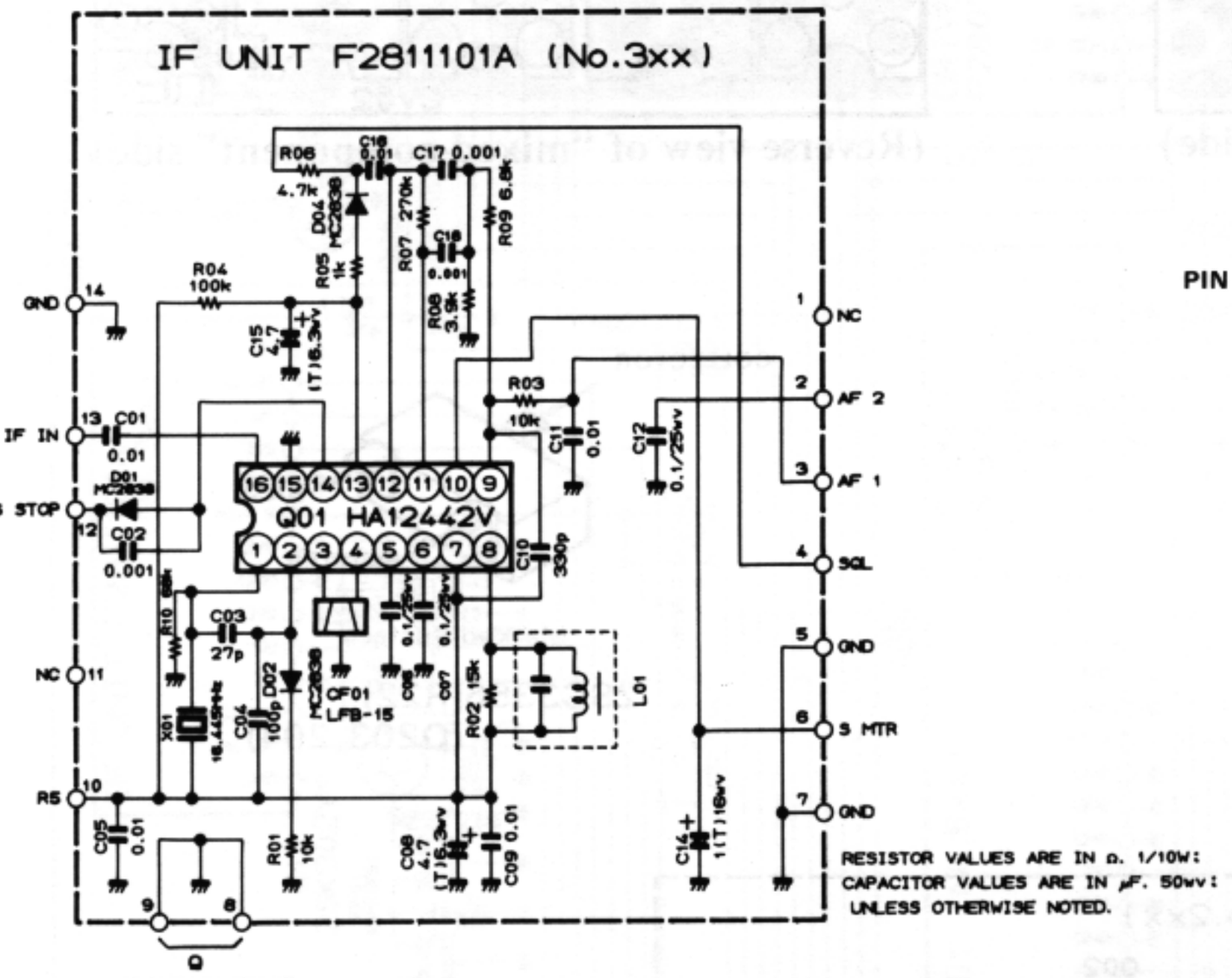
(Obverse view of "chip-only" side)

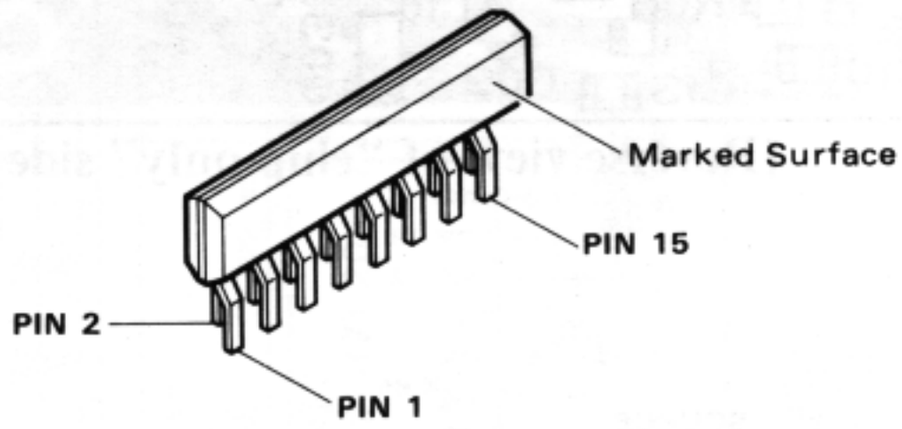


(Reverse view of "chip-only" side)

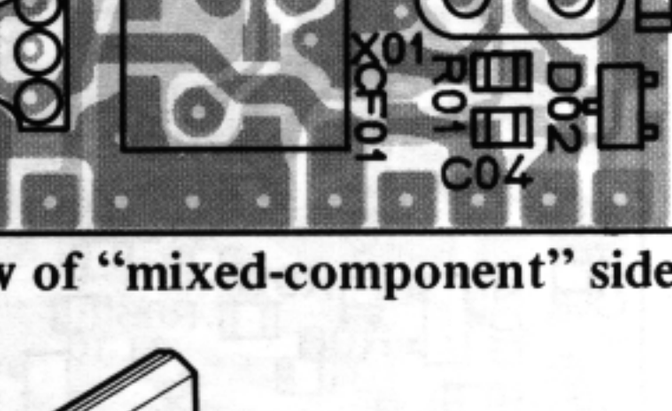


(Reverse view of "mixed-component" side)



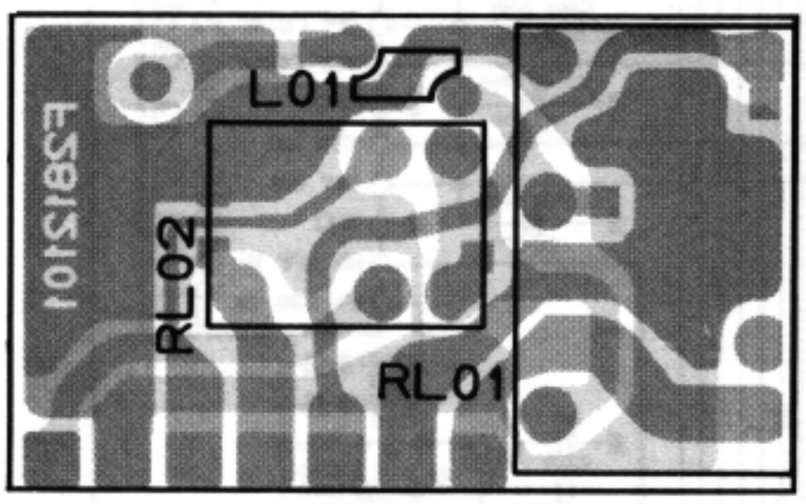


HA12442V (Q301)

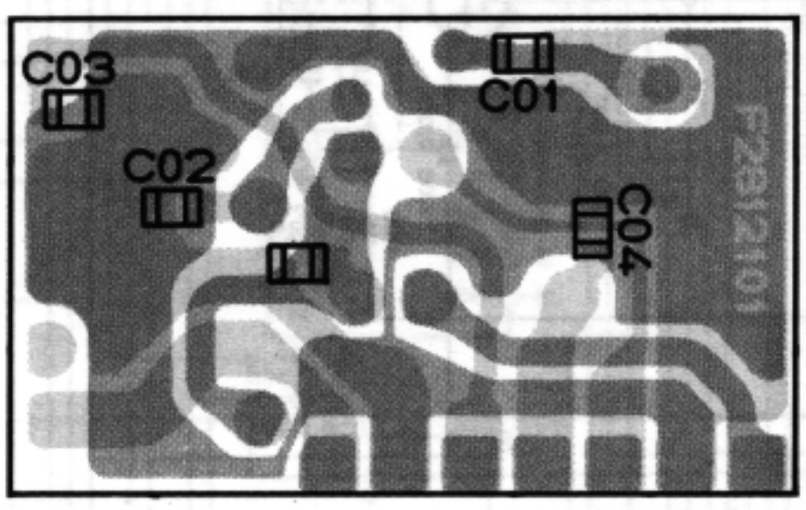


MC2838(A6)
(D301,302,304)

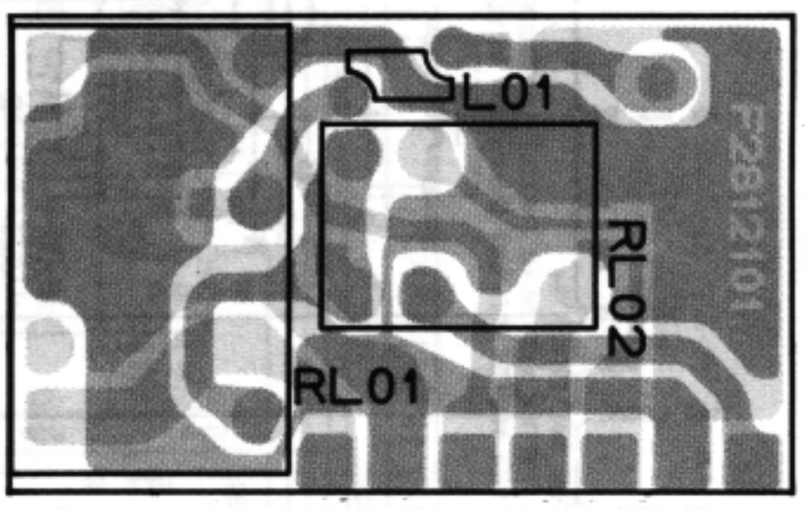
LPF UNIT



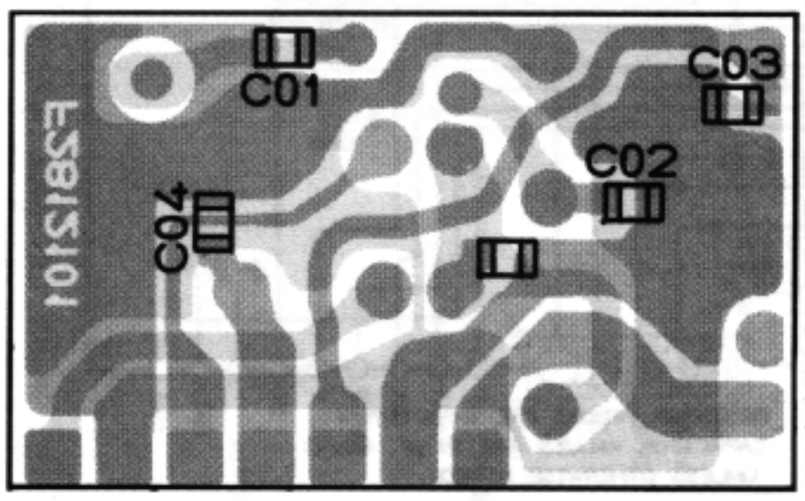
(Obverse view of "component" side)



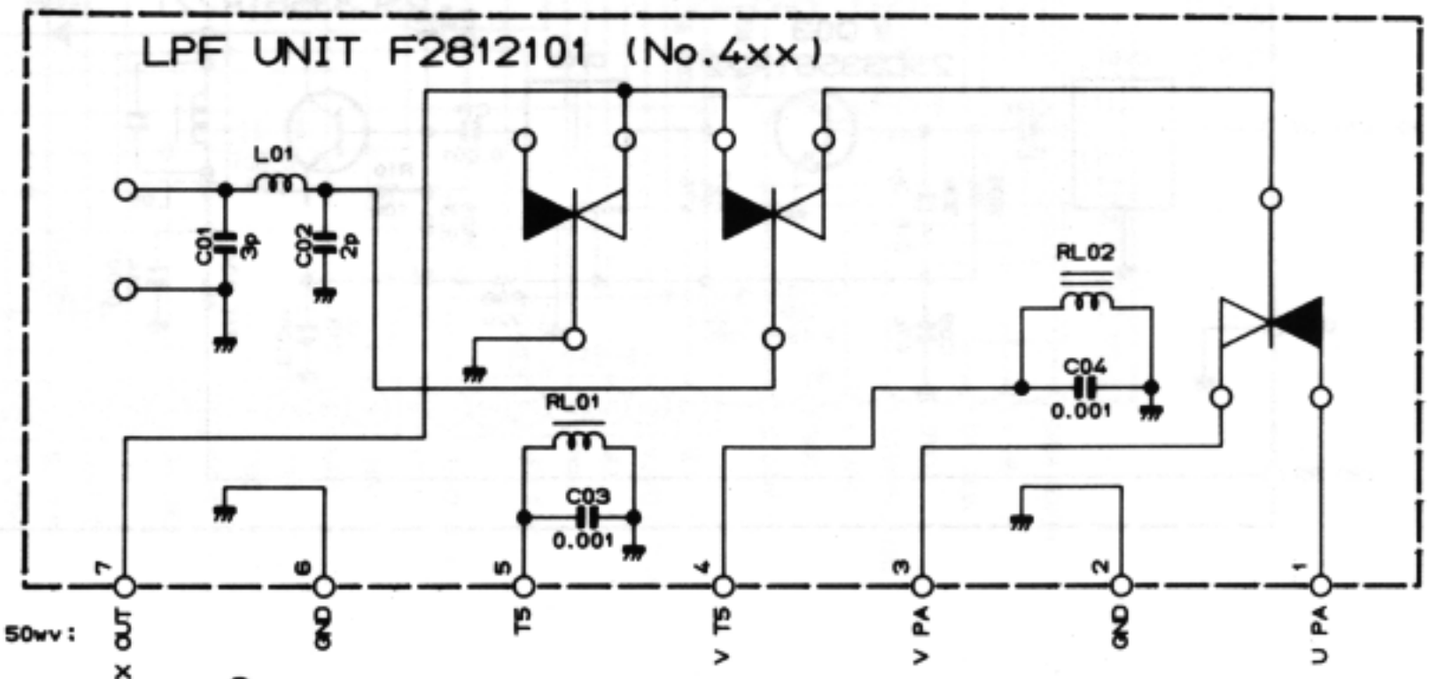
(Obverse view of "chip" side)



(Reverse view of "component" side)

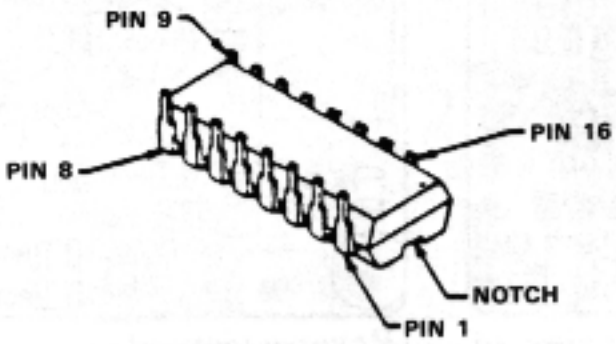


(Reverse view of "chip" side)

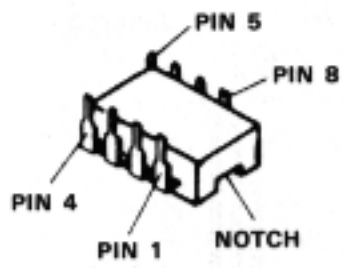


CAPACITOR VALUES ARE IN μF. 50wv:
INDUCTOR VALUES ARE IN H:
UNLESS OTHERWISE NOTED.

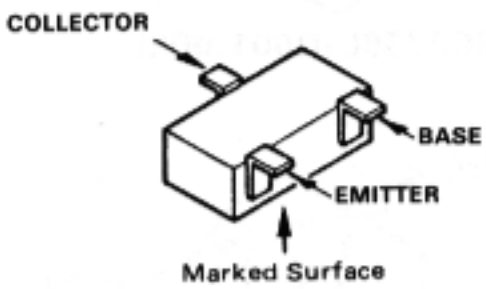
PLL UNIT



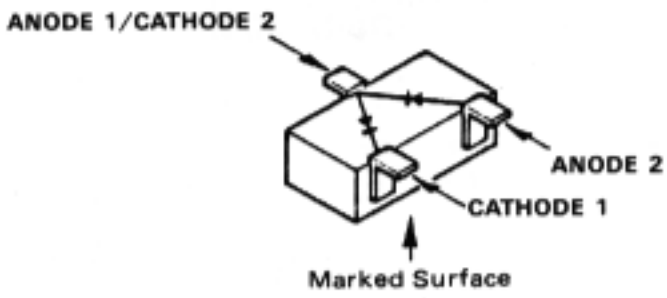
MC145158 (Q501)



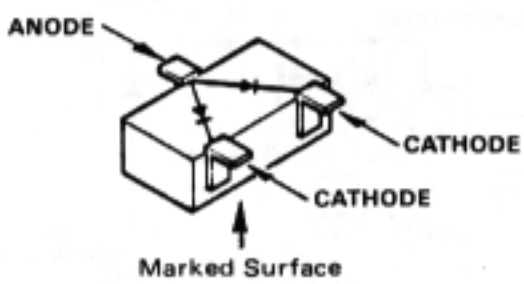
MC12017 (Q502)



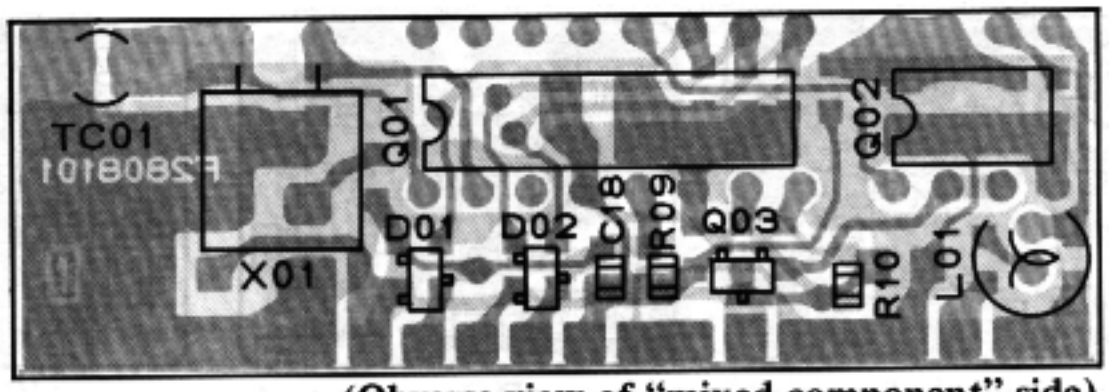
2SA812(M6)
(Q503)



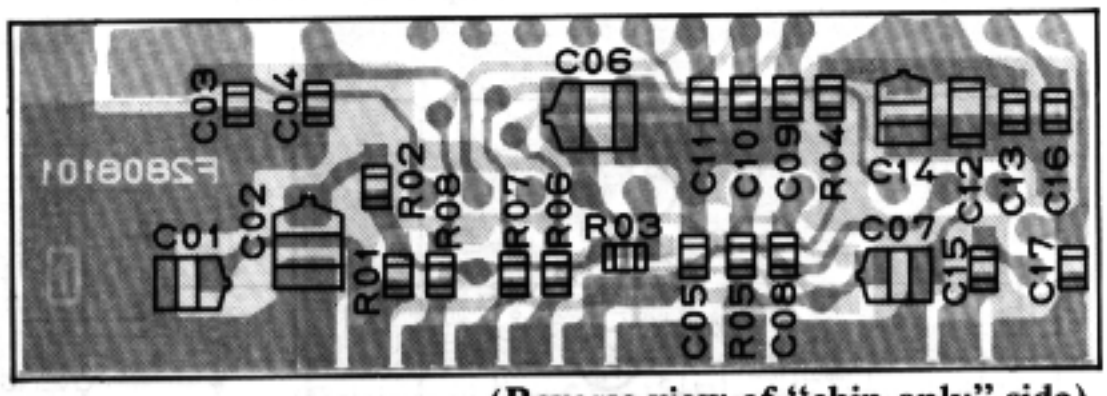
1SS123(A7)
(D501)



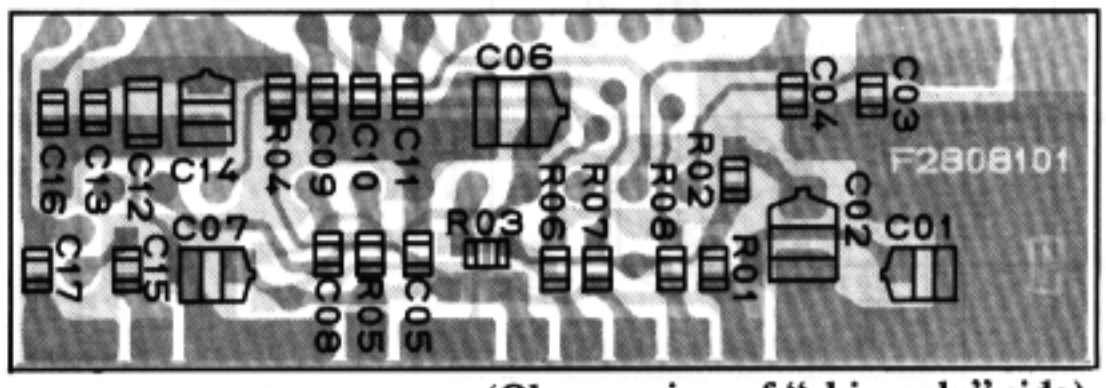
MC2836(A4)
(D502)



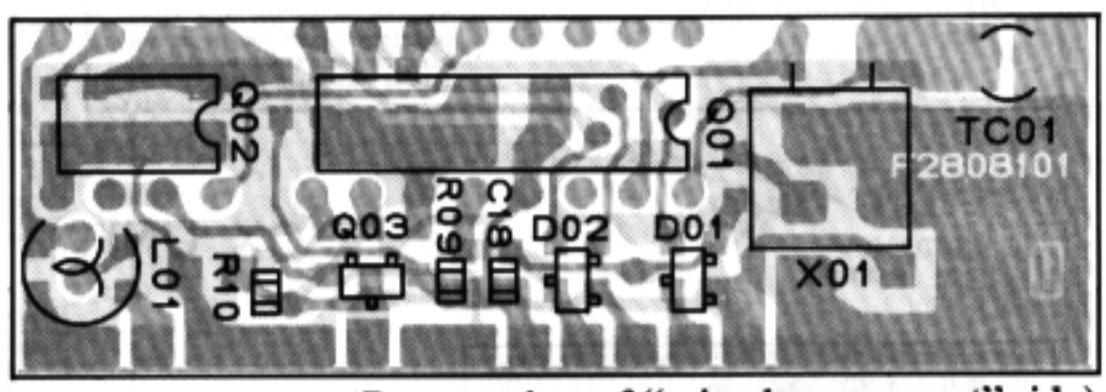
(Obverse view of "mixed-component" side)



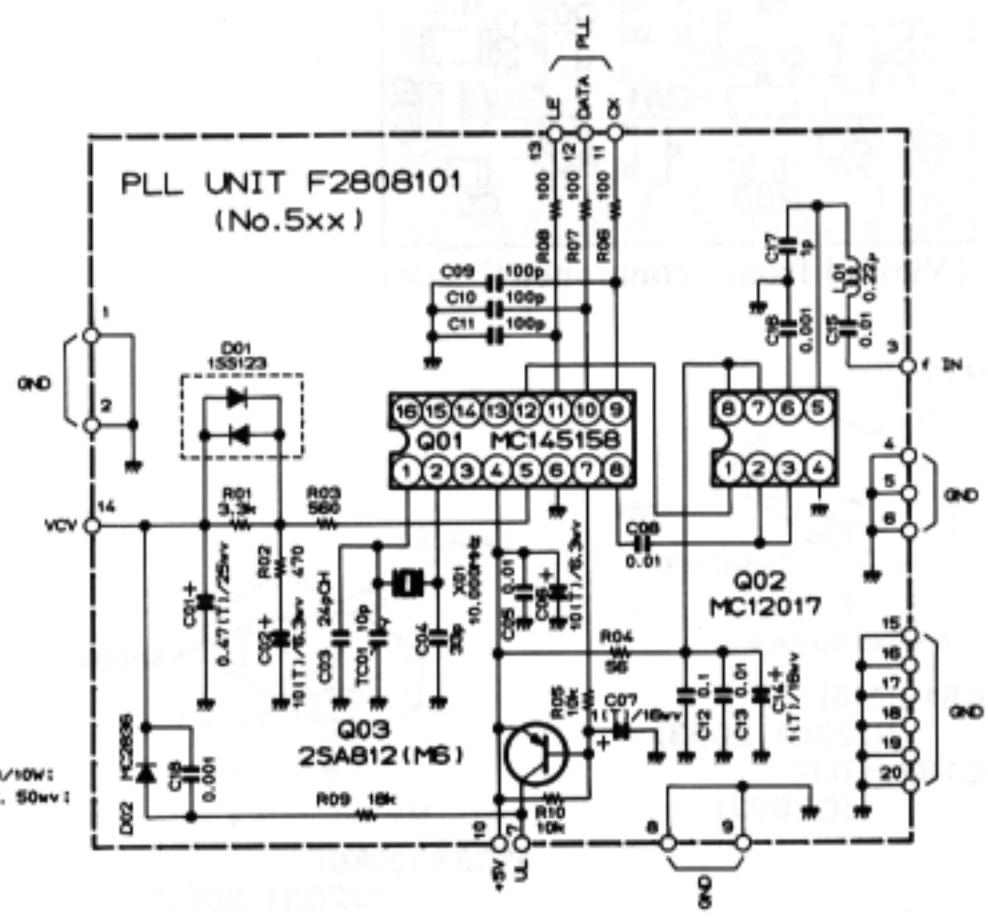
(Reverse view of "chip-only" side)



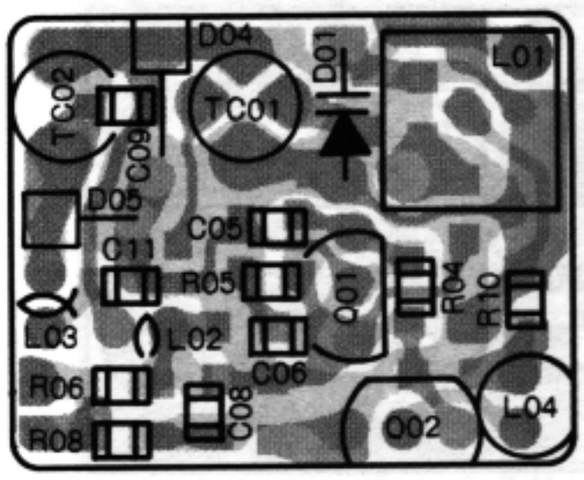
(Obverse view of "chip-only" side)



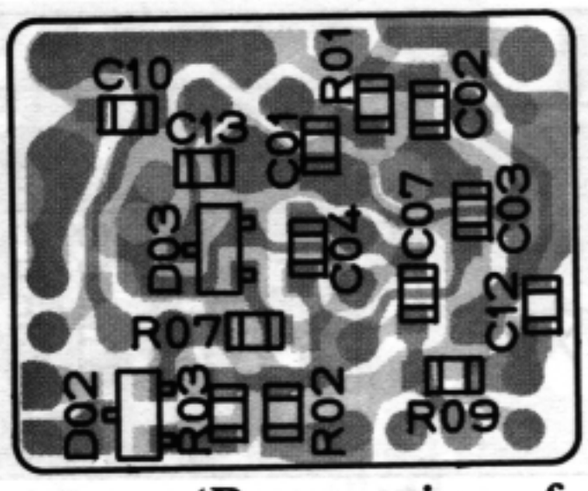
(Reverse view of "mixed-component" side)



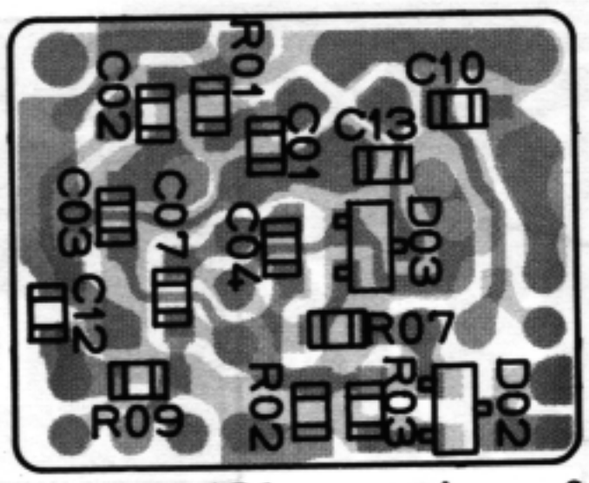
VCO UNIT



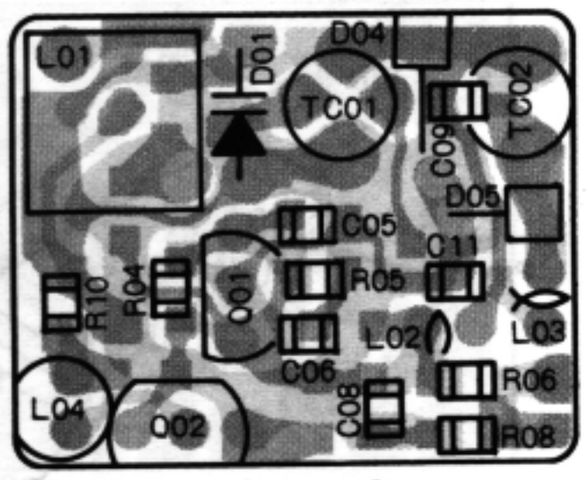
(Obverse view of "mixed-component" side)



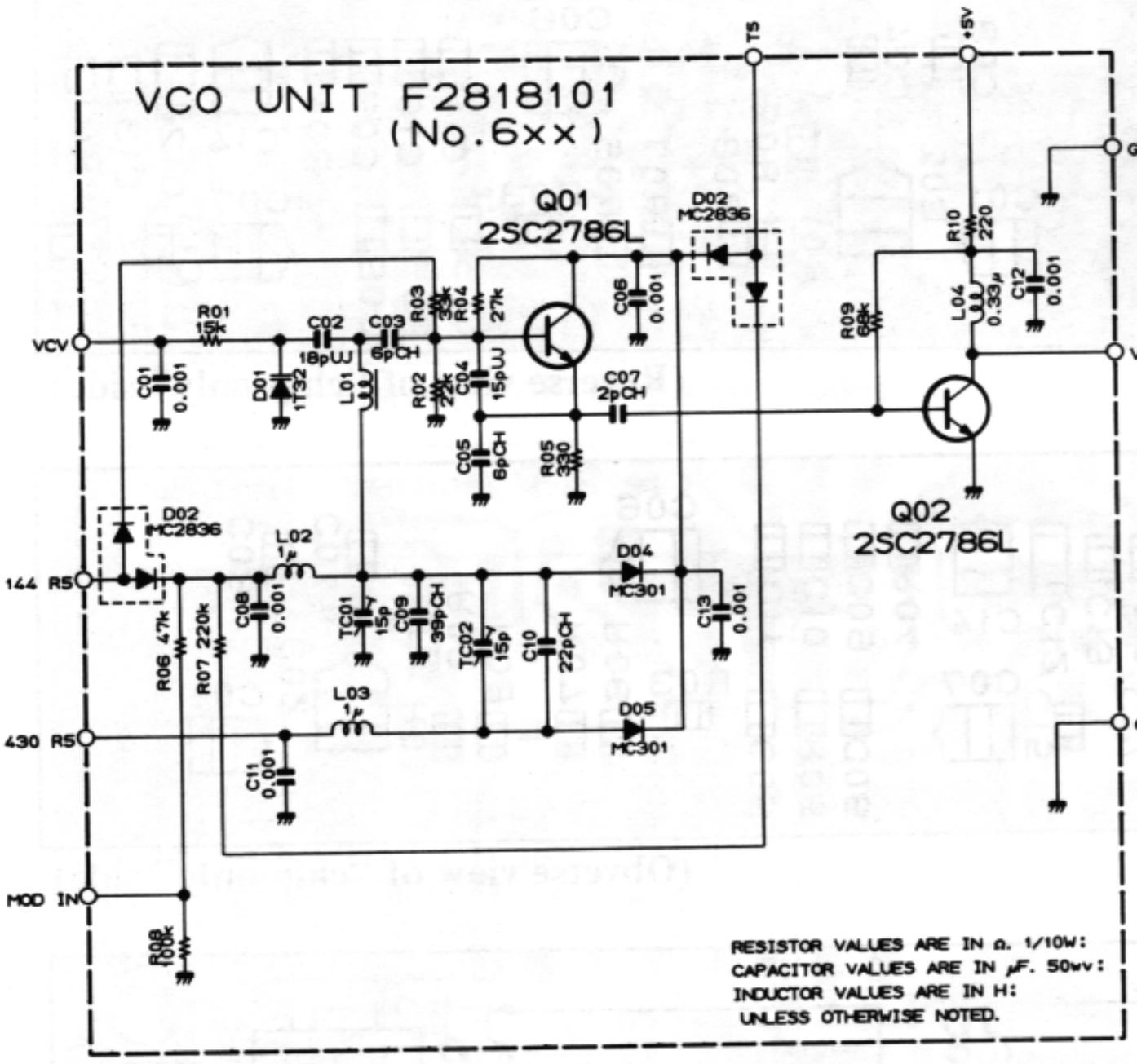
(Reverse view of "chip-only" side)

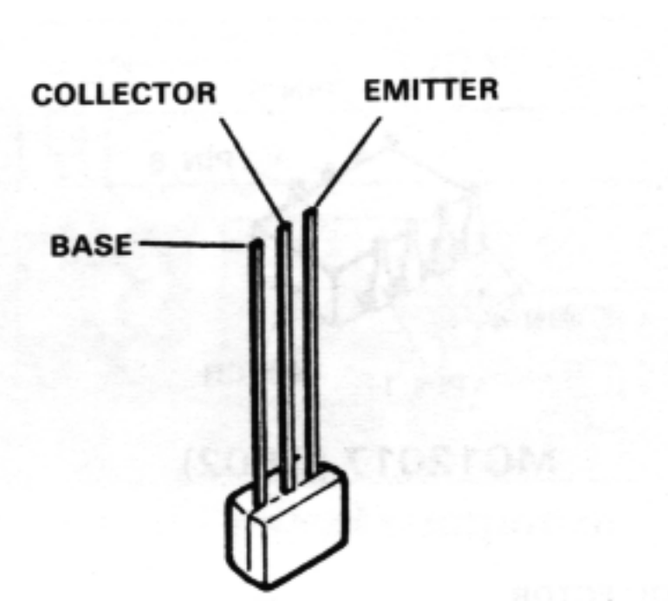


(Obverse view of "chip-only" side)

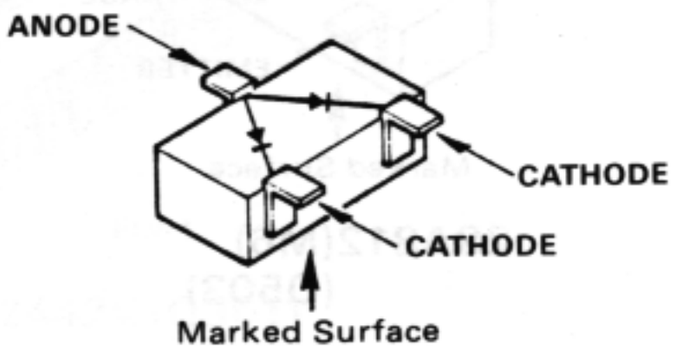


(Reverse view of "mixed-component" side)



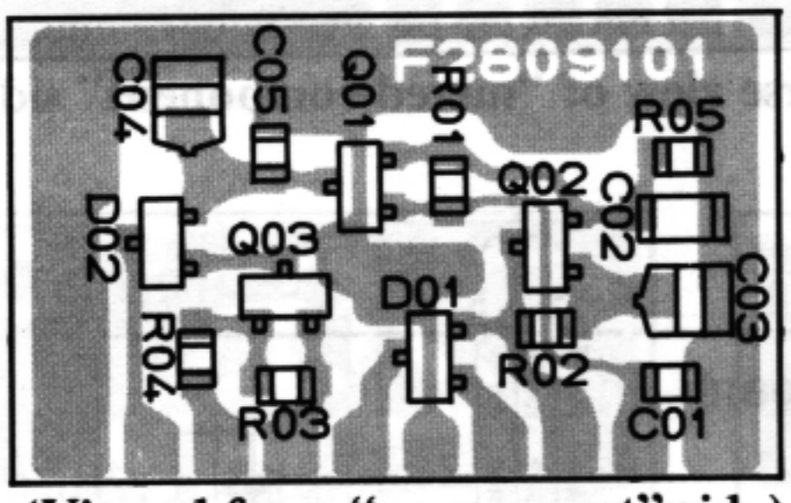


2SC2786L (Q601,602)

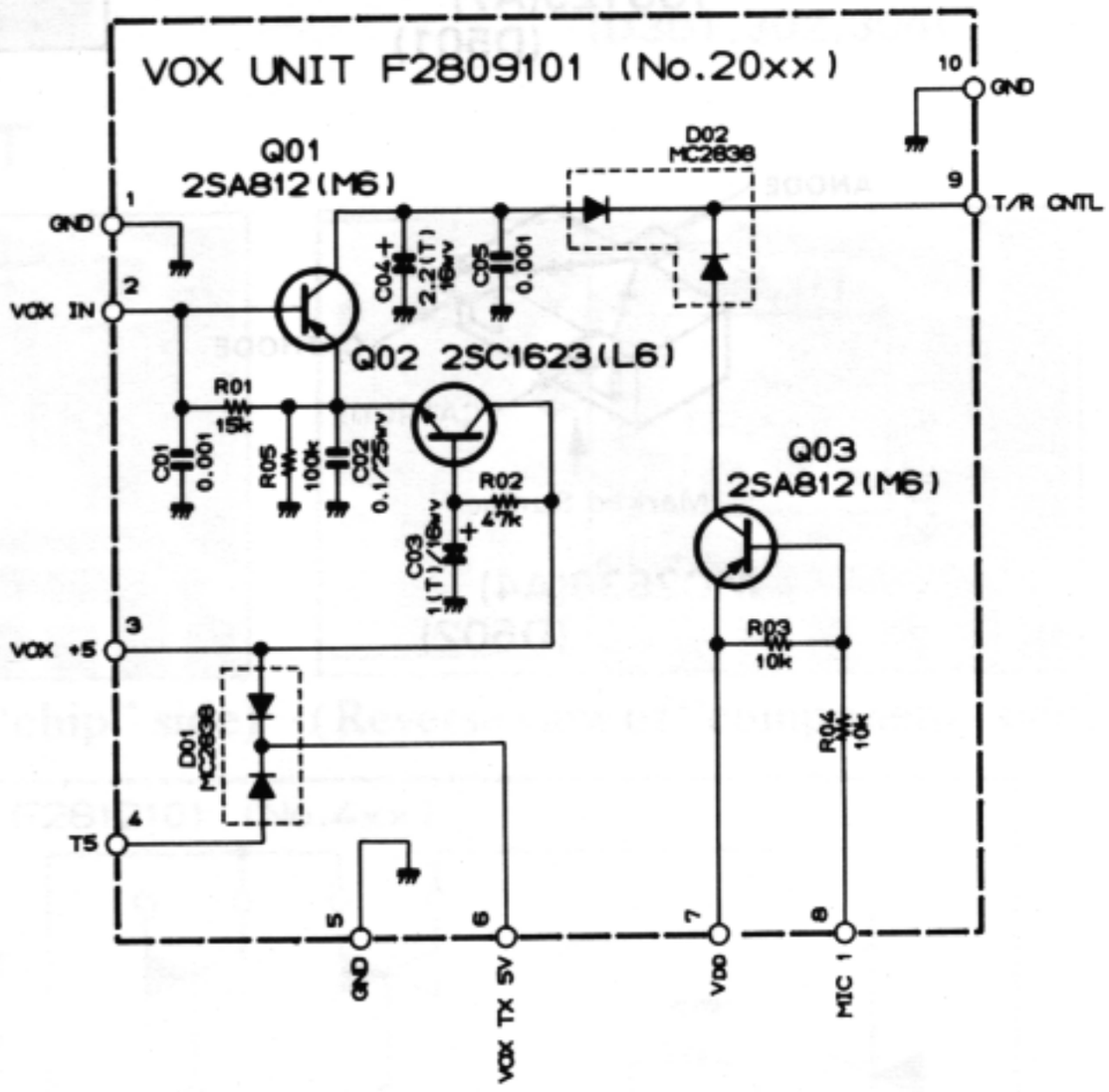


MC2836(A4)
(D602,603)

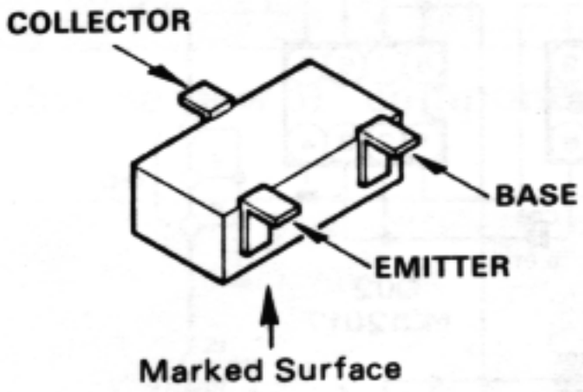
VOX UNIT



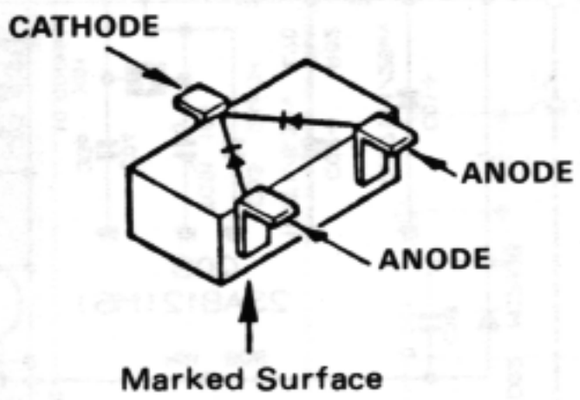
(Viewed from "component" side)



RESISTOR VALUES ARE IN Ω. 1/10W:
CAPACITOR VALUES ARE IN μF. 50wv:
UNLESS OTHERWISE NOTED.

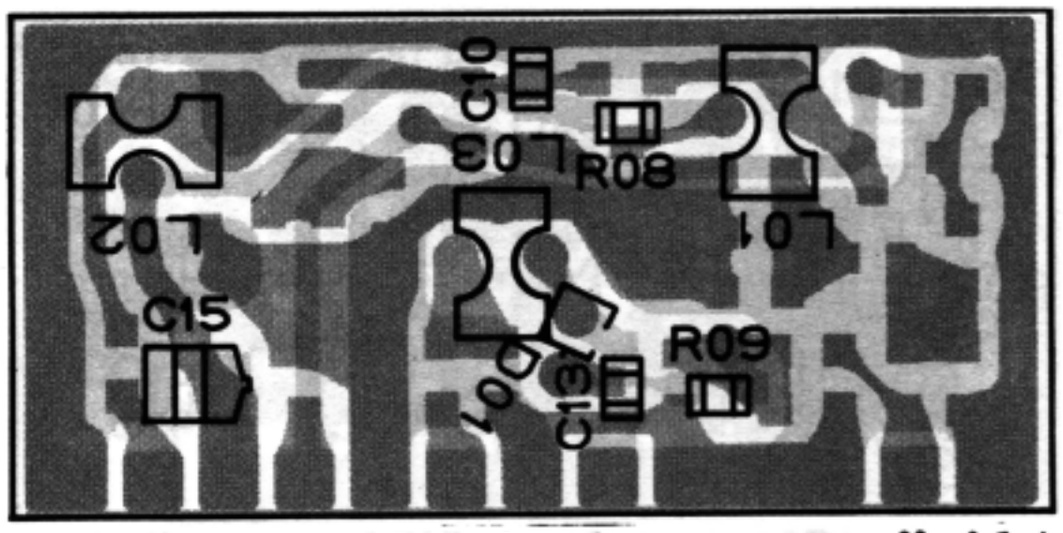


2SA812(M6)
(Q2001,2003)
2SC1623F(L6)
(Q2002)

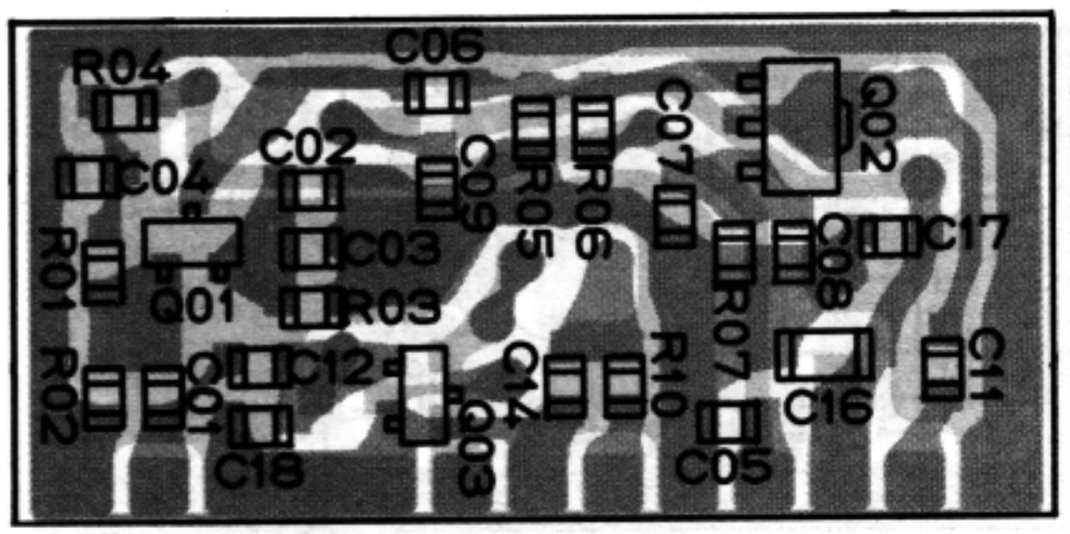


MC2838(A6)
(D2001,2002)

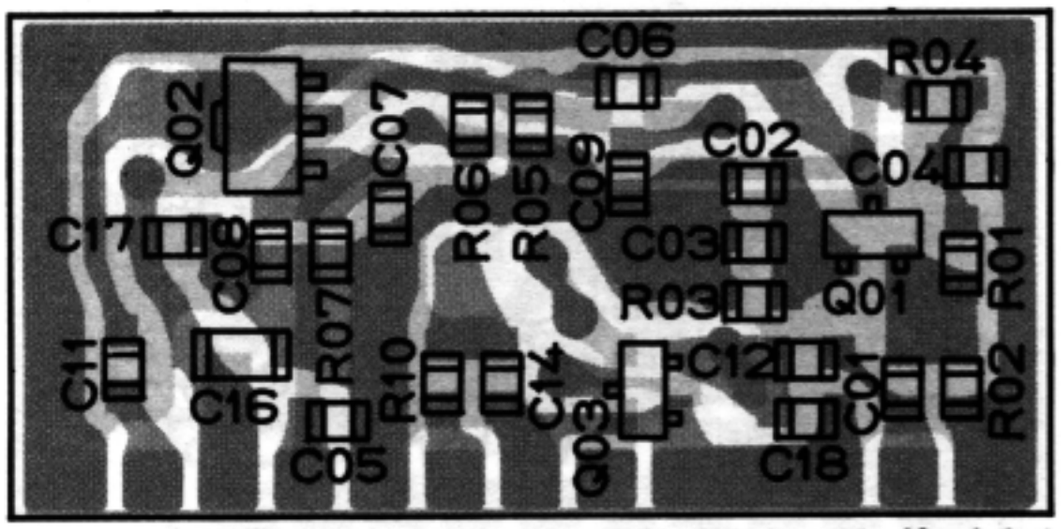
2m DRIVE UNIT



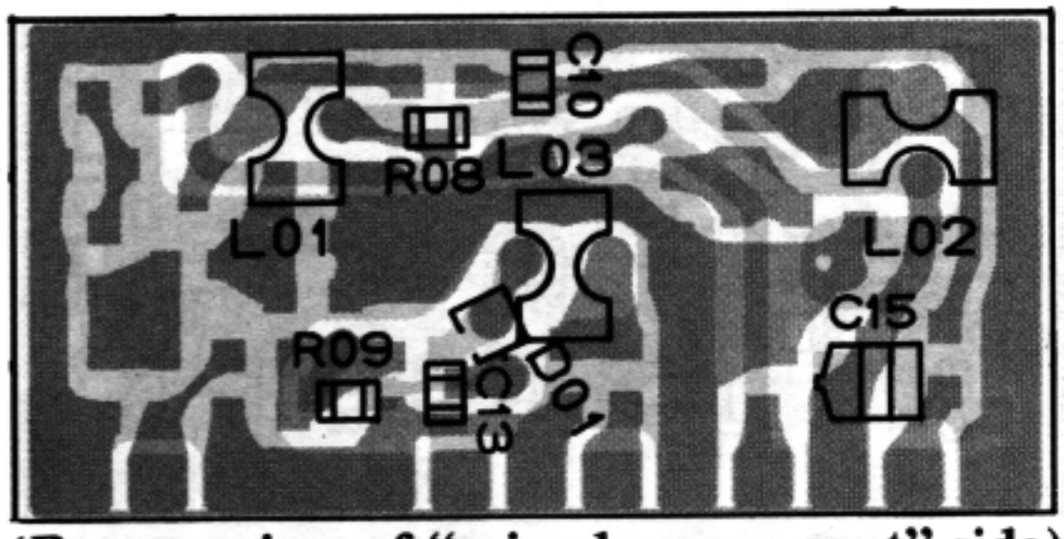
(Obverse view of "mixed-component" side)



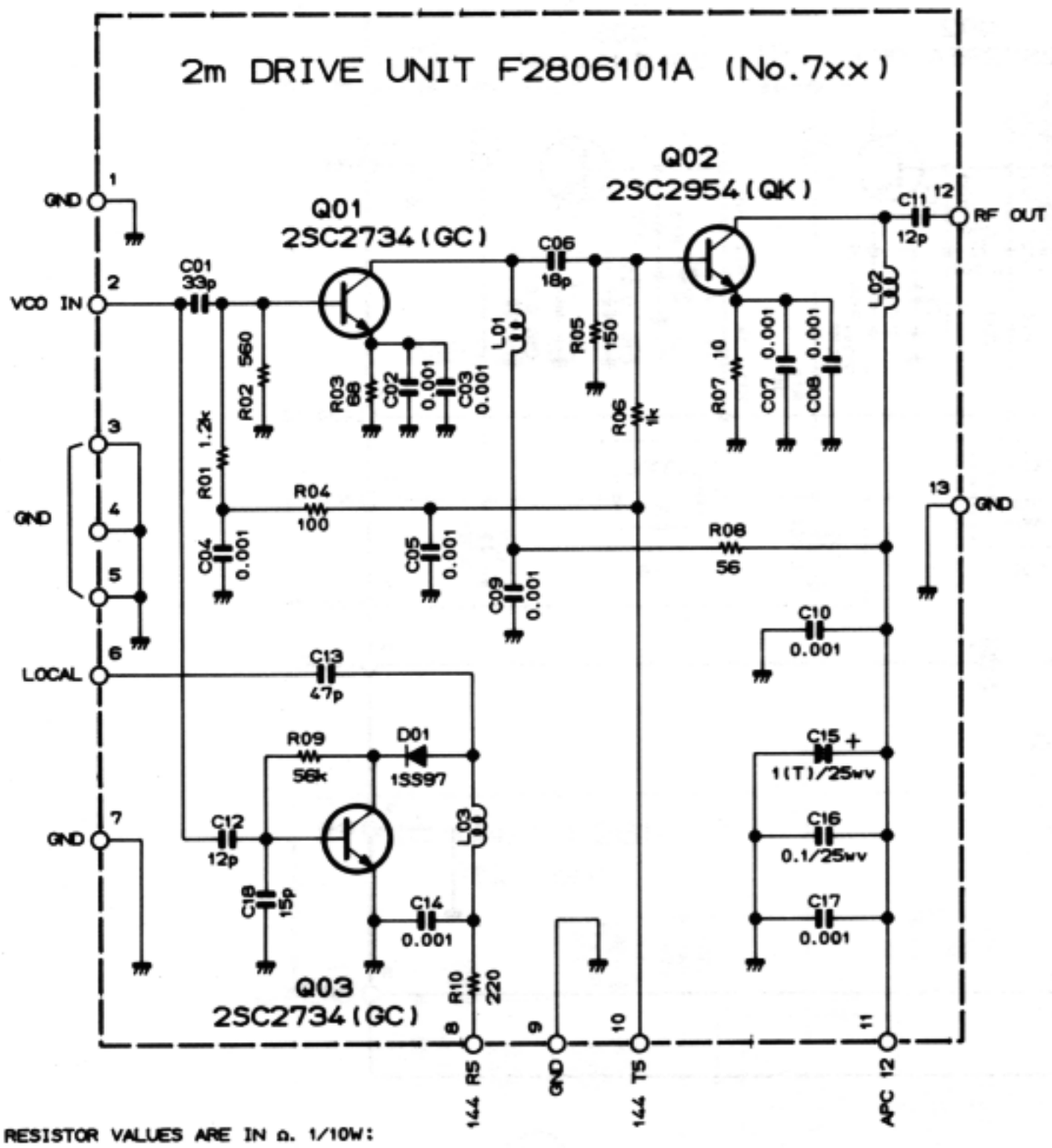
(Obverse view of "chip-only" side)



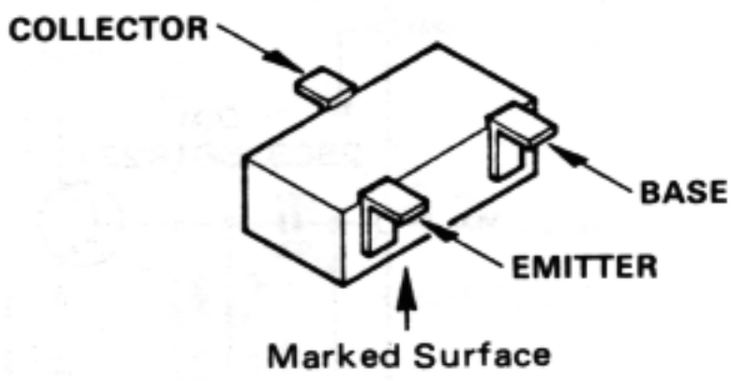
(Reverse view of "chip-only" side)



(Reverse view of "mixed-component" side)



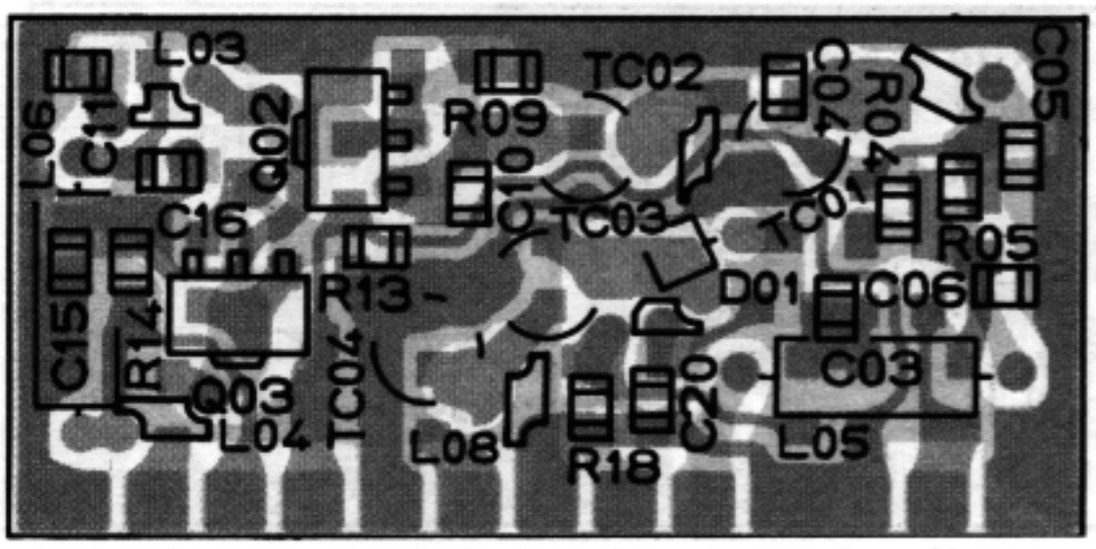
RESISTOR VALUES ARE IN Ω. 1/10W:
CAPACITOR VALUES ARE IN μF. 50wv:
UNLESS OTHERWISE NOTED.



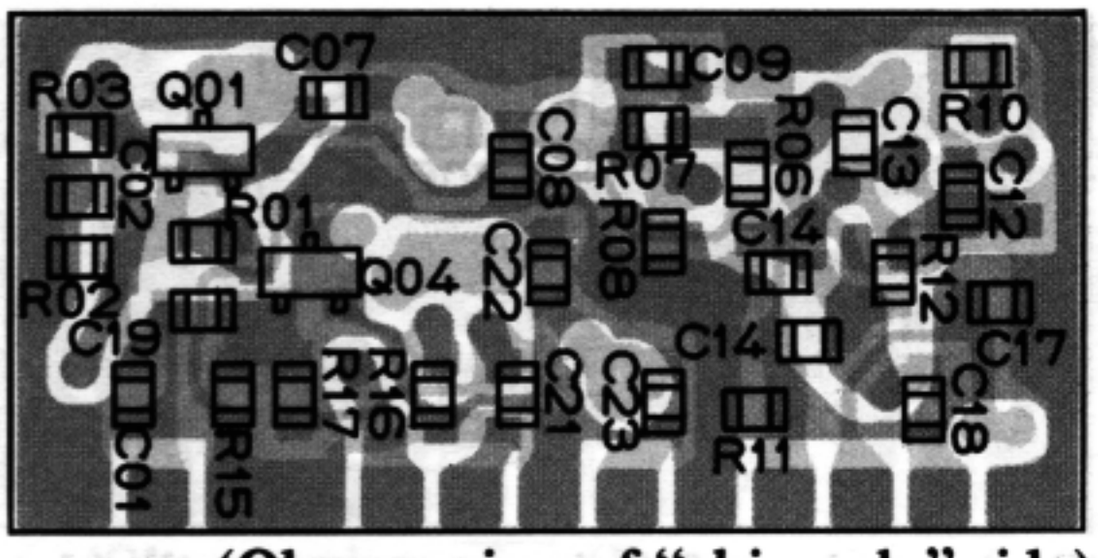
2SC2734(GC)
(Q701,703)

2SC2954 (Q702)

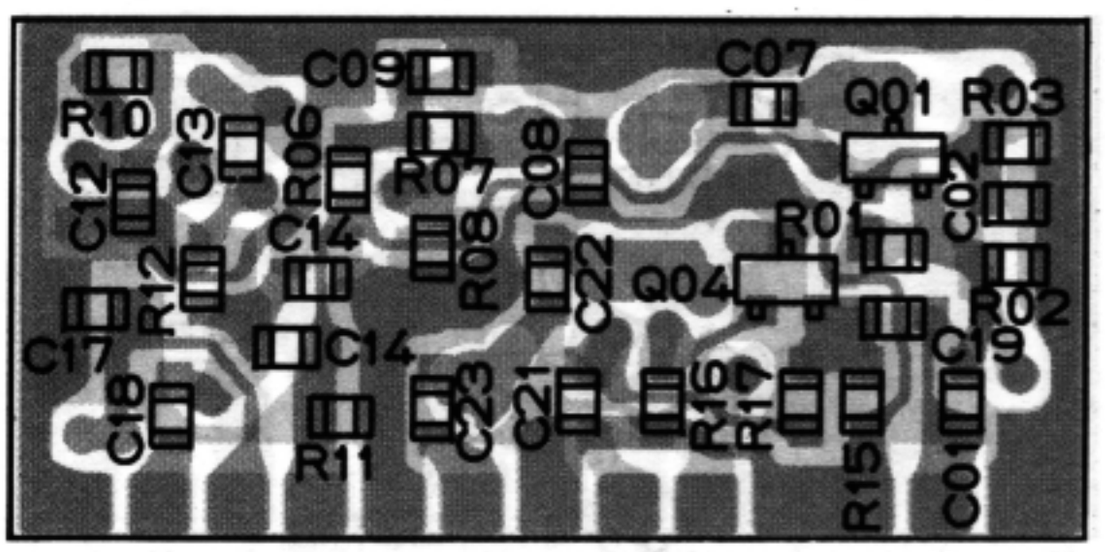
70cm DRIVE UNIT



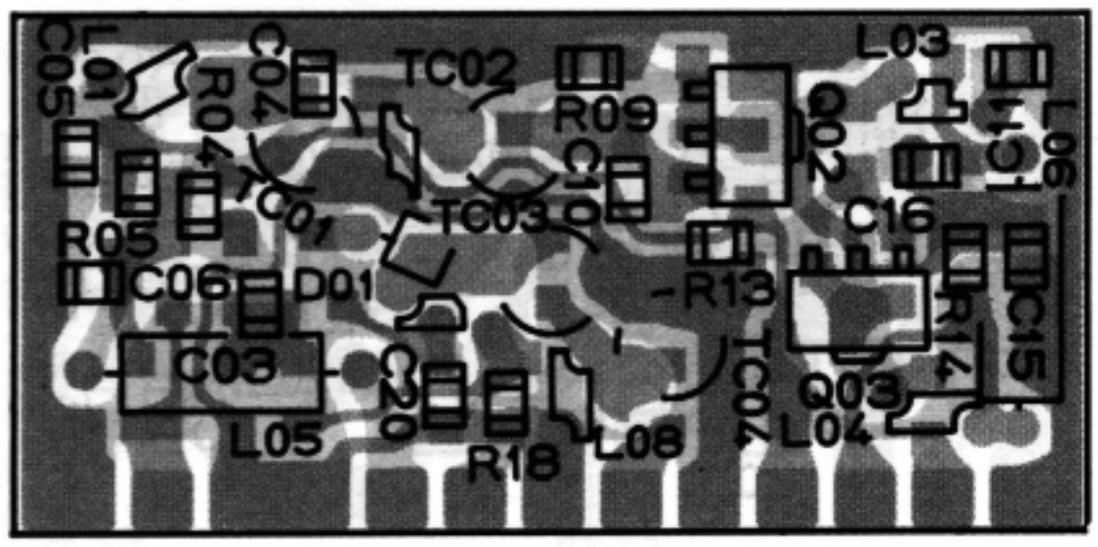
(Obverse view of "mixed-component" side)



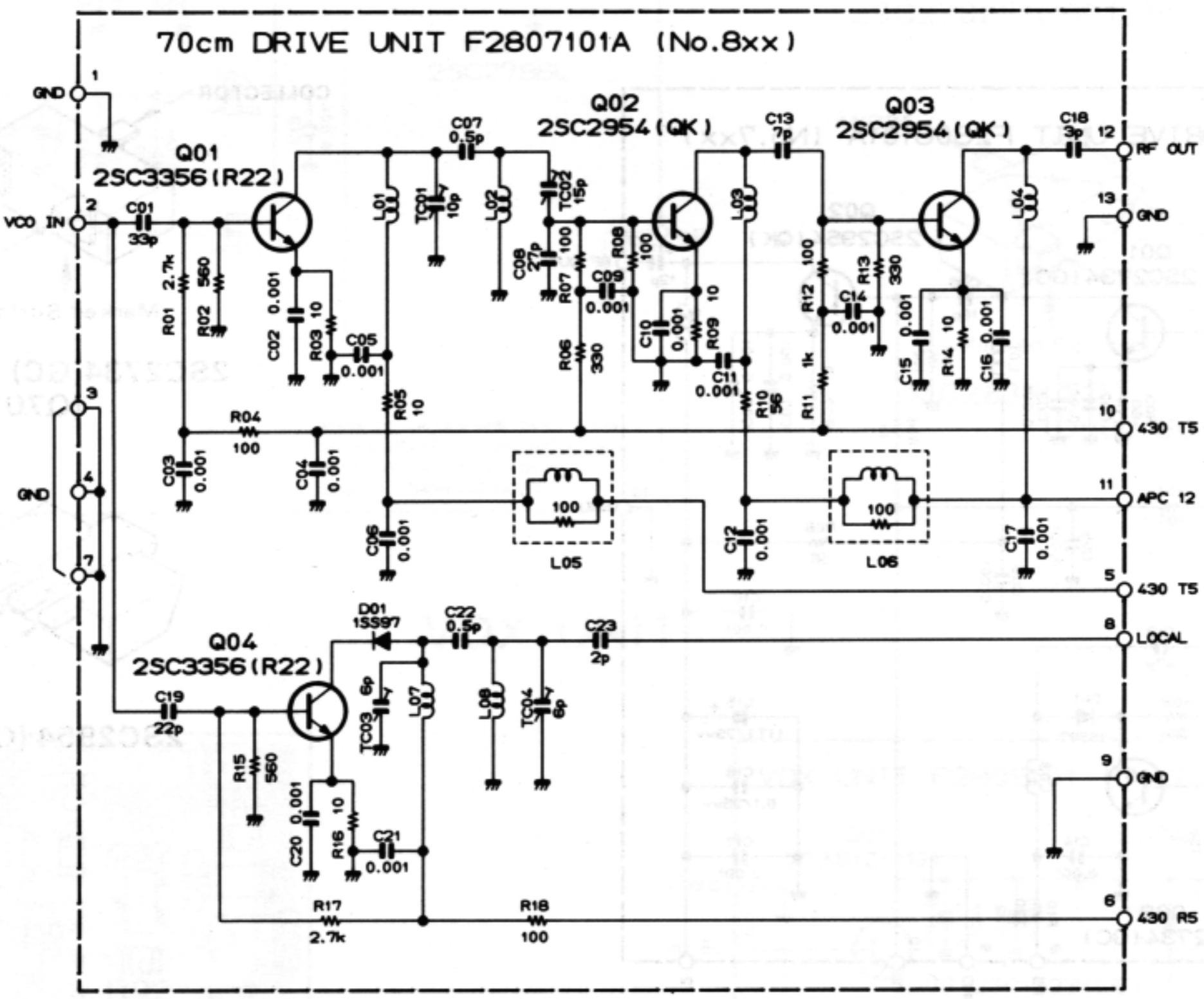
(Obverse view of "chip-only" side)



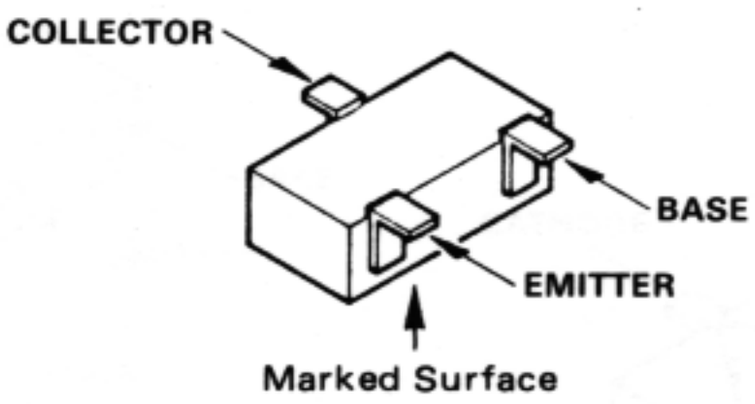
(Reverse view of "chip-only" side)



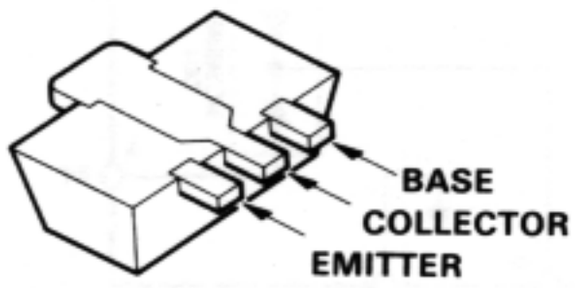
(Reverse view of "mixed-component" side)



RESISTOR VALUES ARE IN Ω. 1/10W:
CAPACITOR VALUES ARE IN μF.50wv:
UNLESS OTHERWISE NOTED.

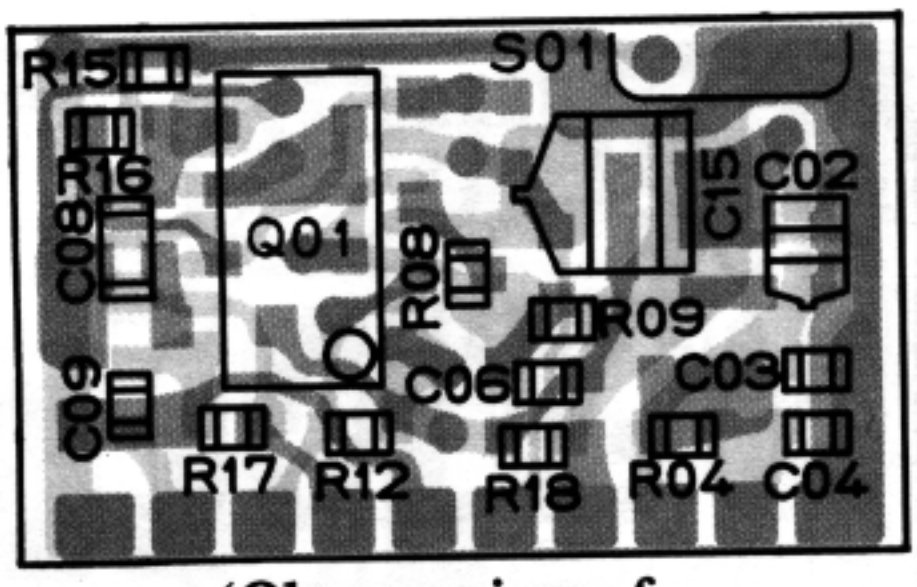


2SC3356(R22)
(Q801,804)

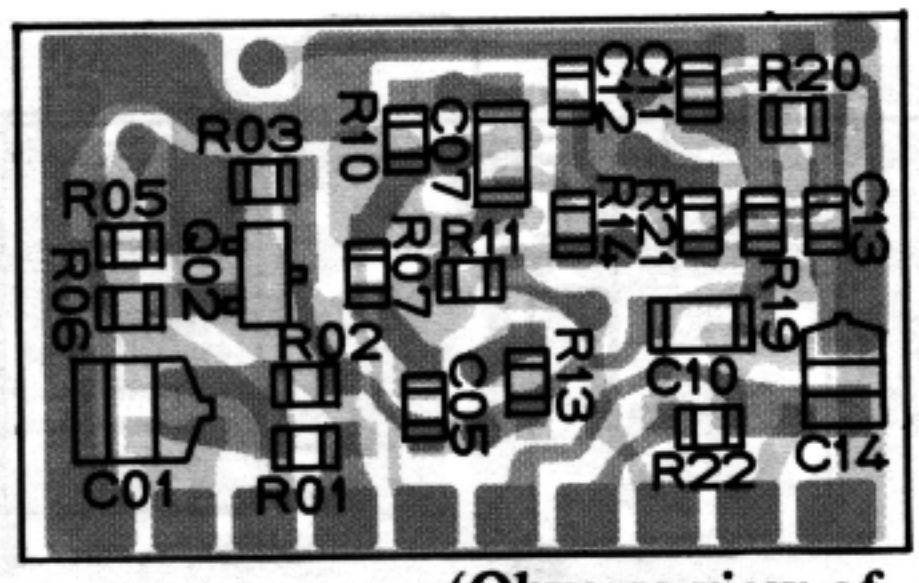


2SC2954 (Q802,803)

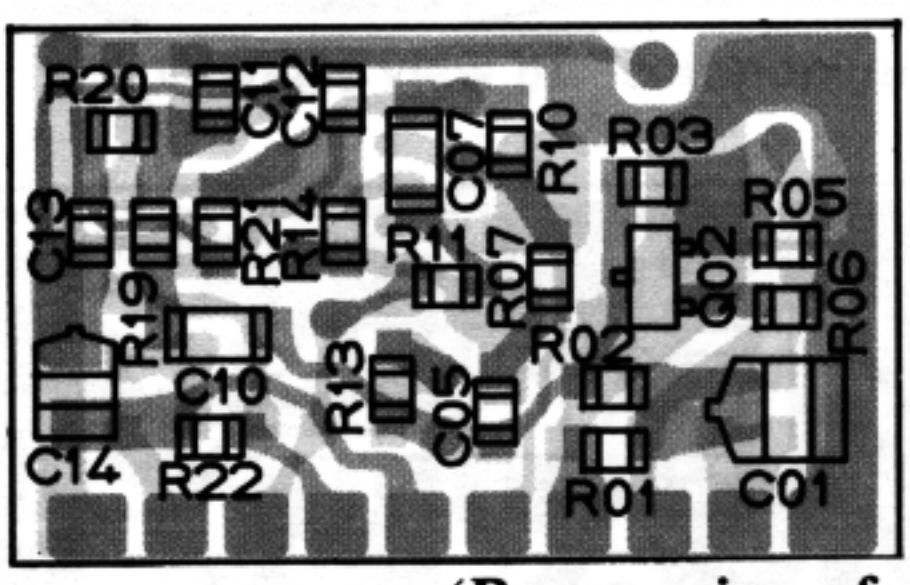
MIC UNIT



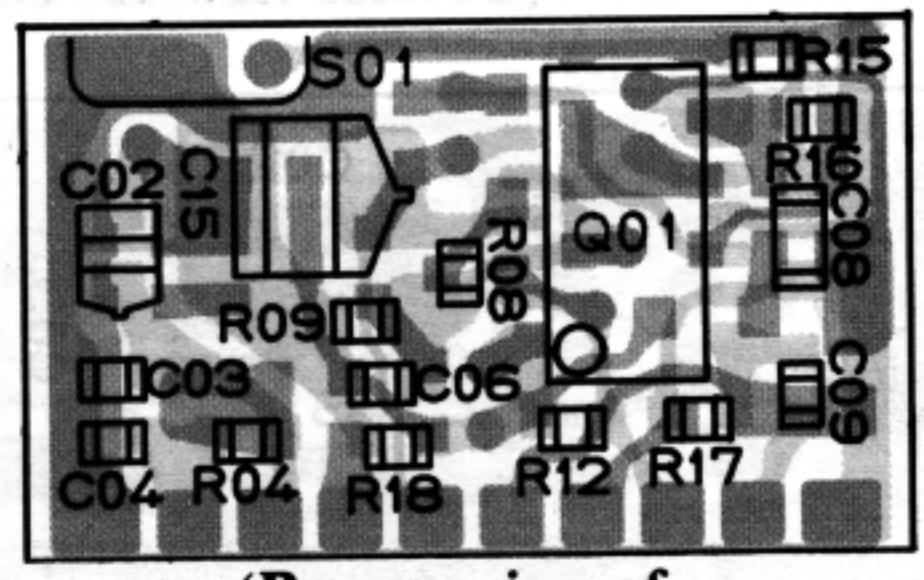
(Obverse view of "mixed-component" side)



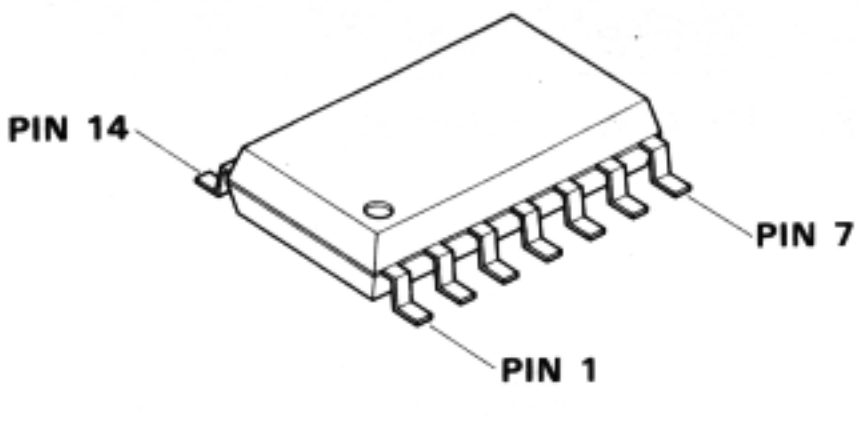
(Obverse view of "chip-only" side)



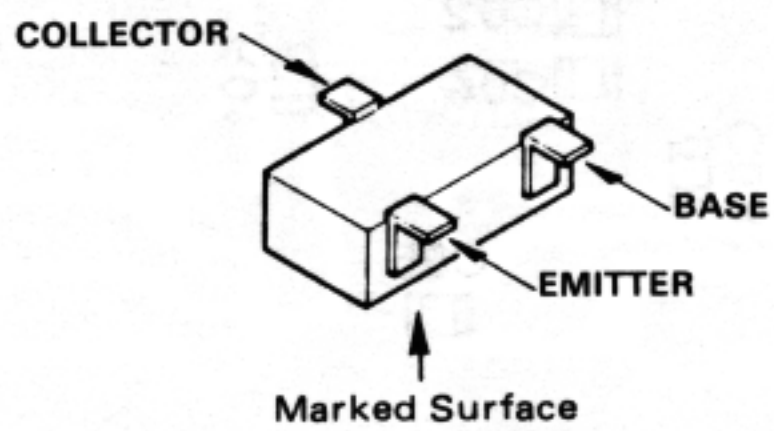
(Reverse view of "chip-only" side)



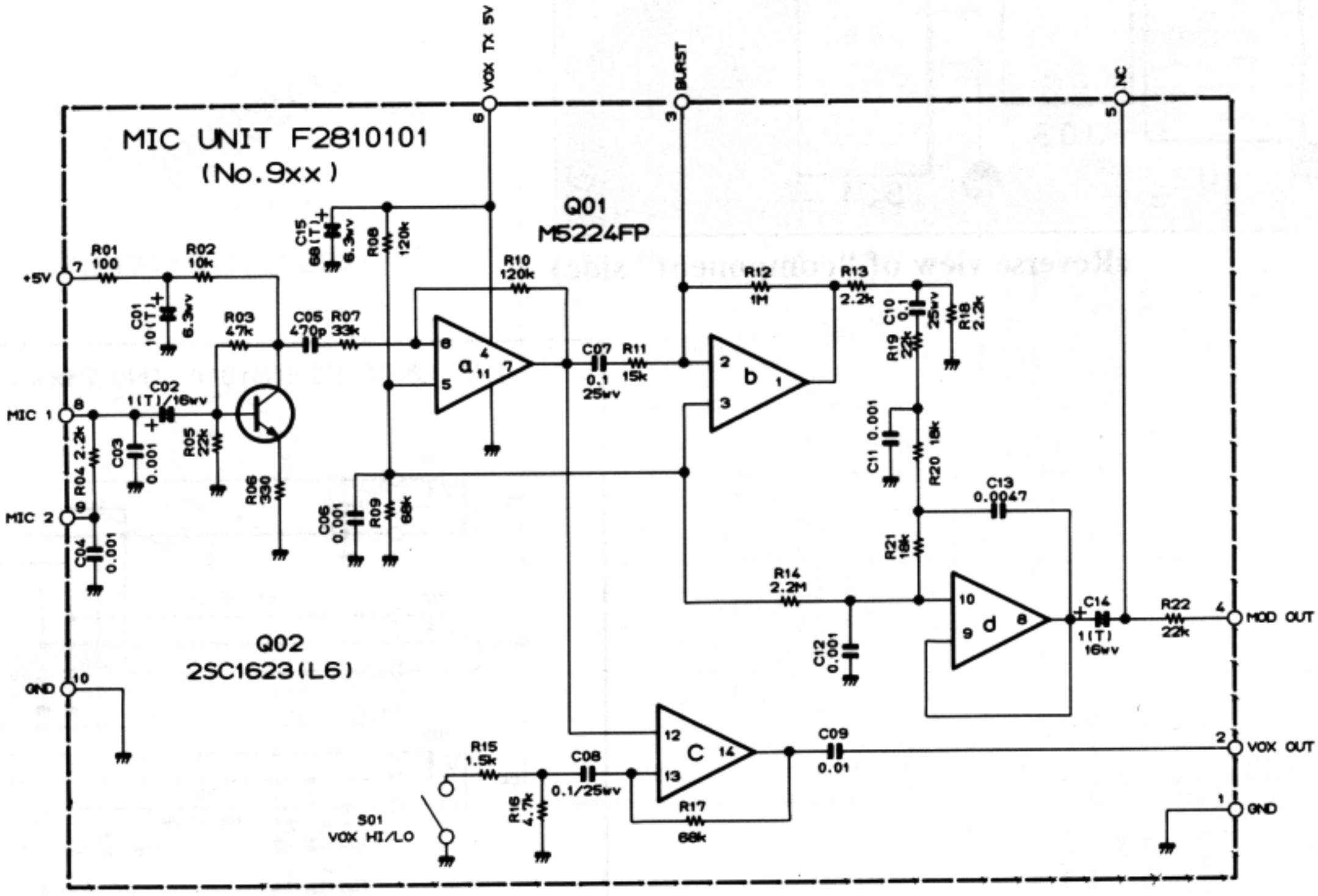
(Reverse view of "mixed-component" side)



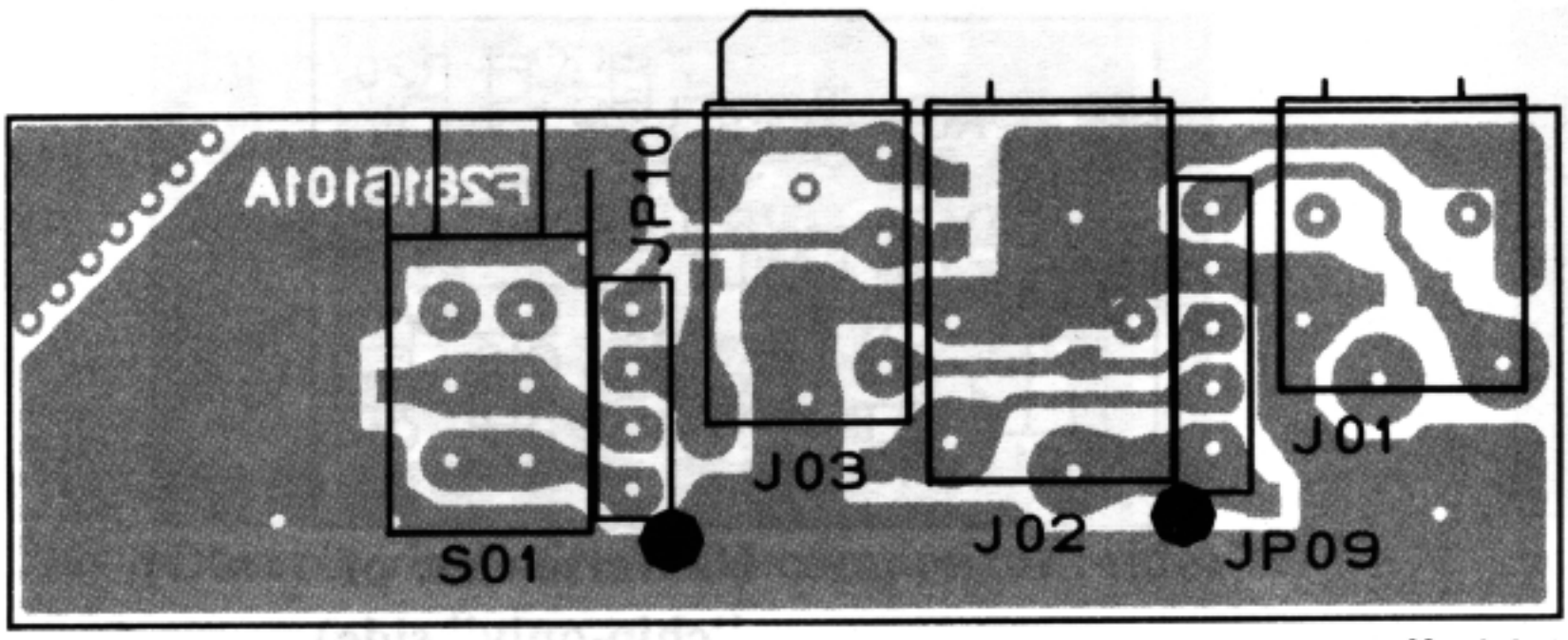
M5224FP (Q901)



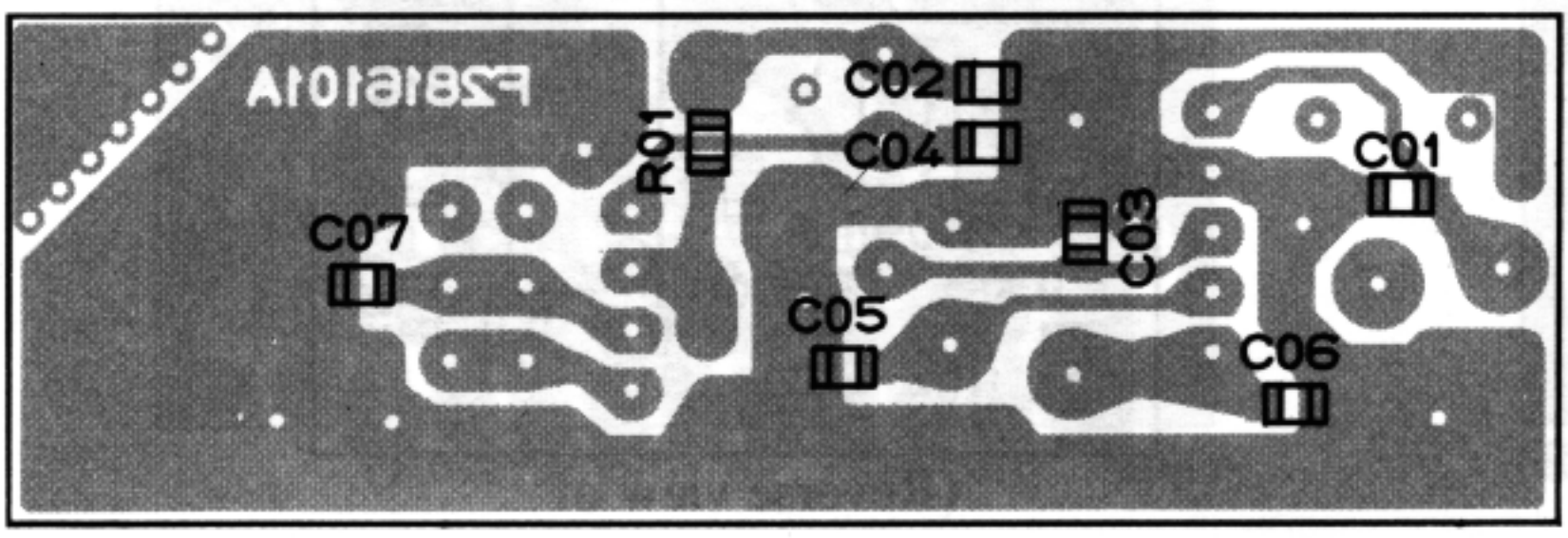
2SC1623F(L6) (Q902)



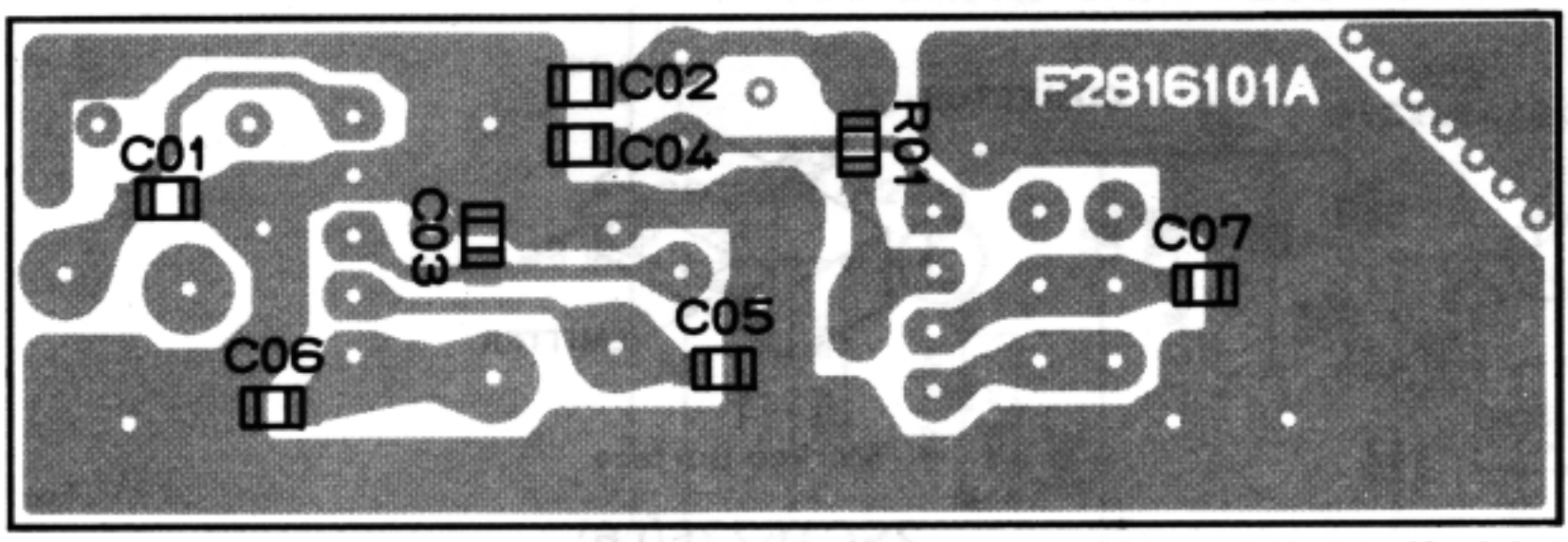
INTERFACE UNIT



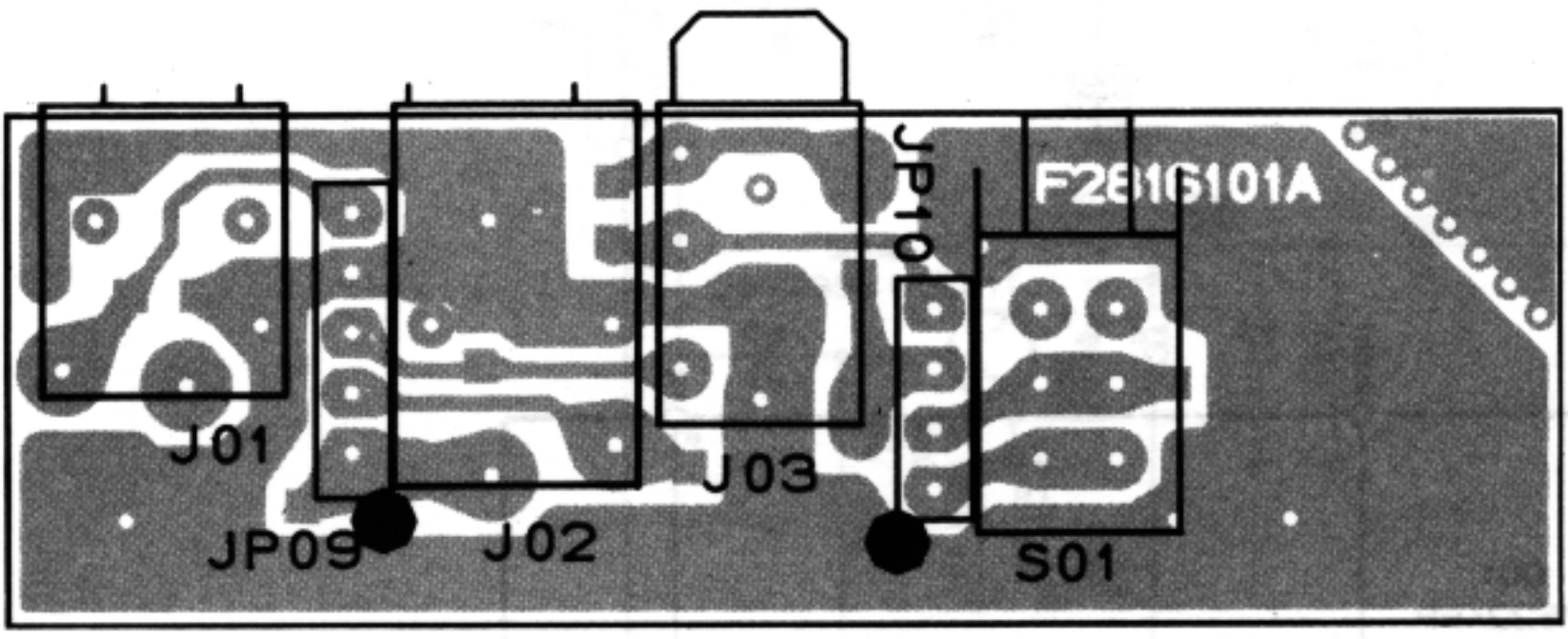
(Obverse view of "component" side)



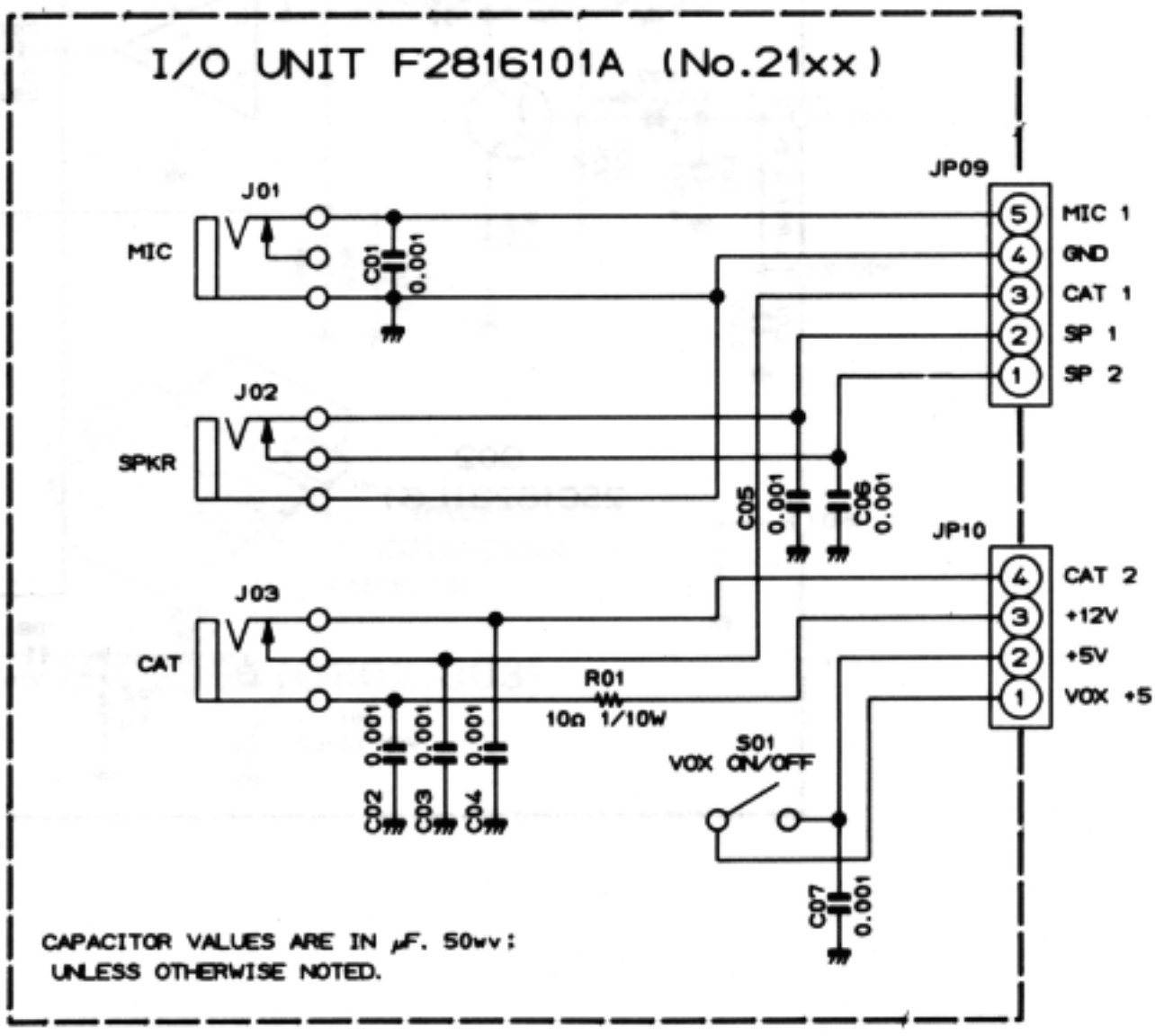
(Reverse view of "chip" side)



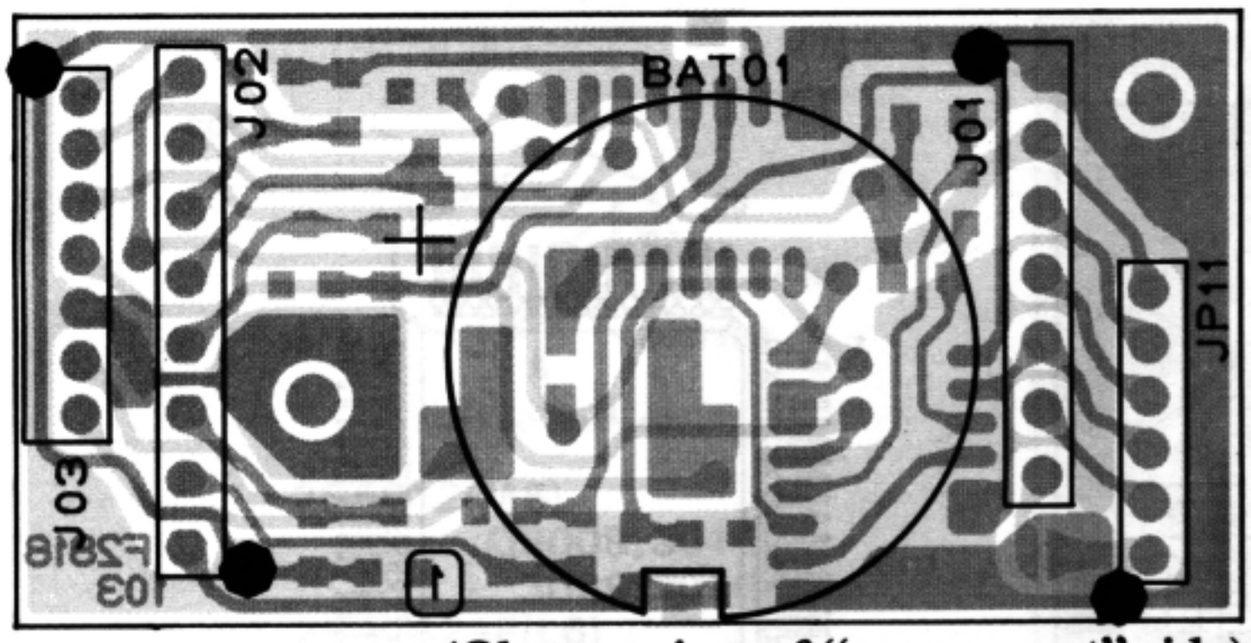
(Obverse view of "chip" side)



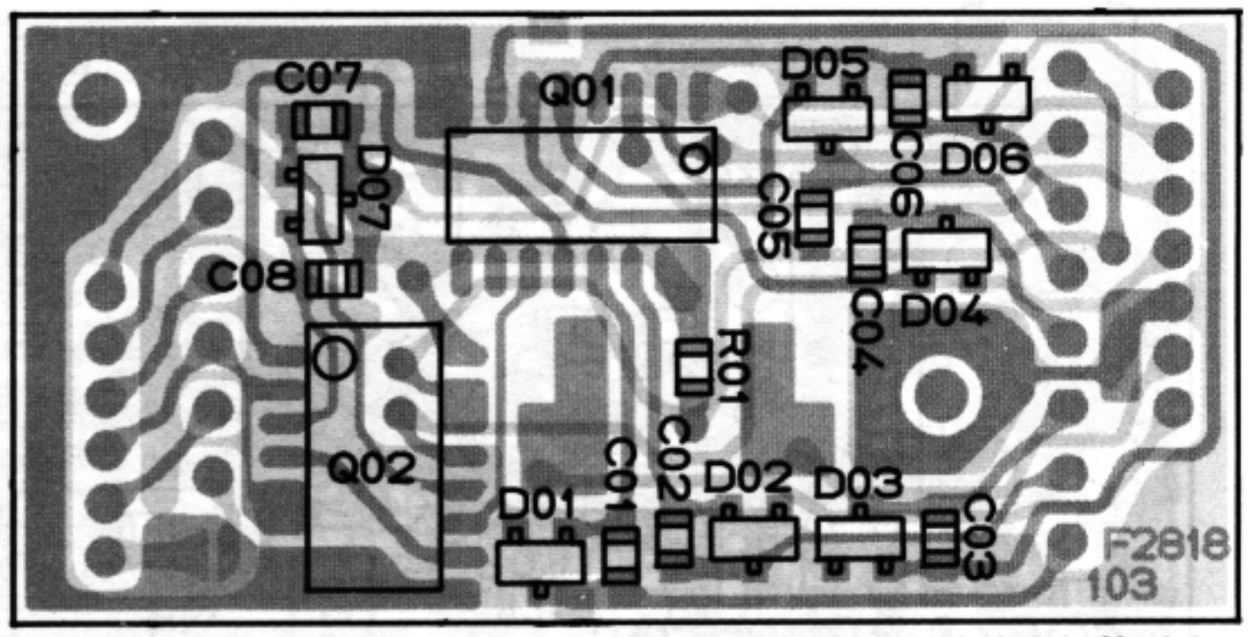
(Reverse view of "component" side)



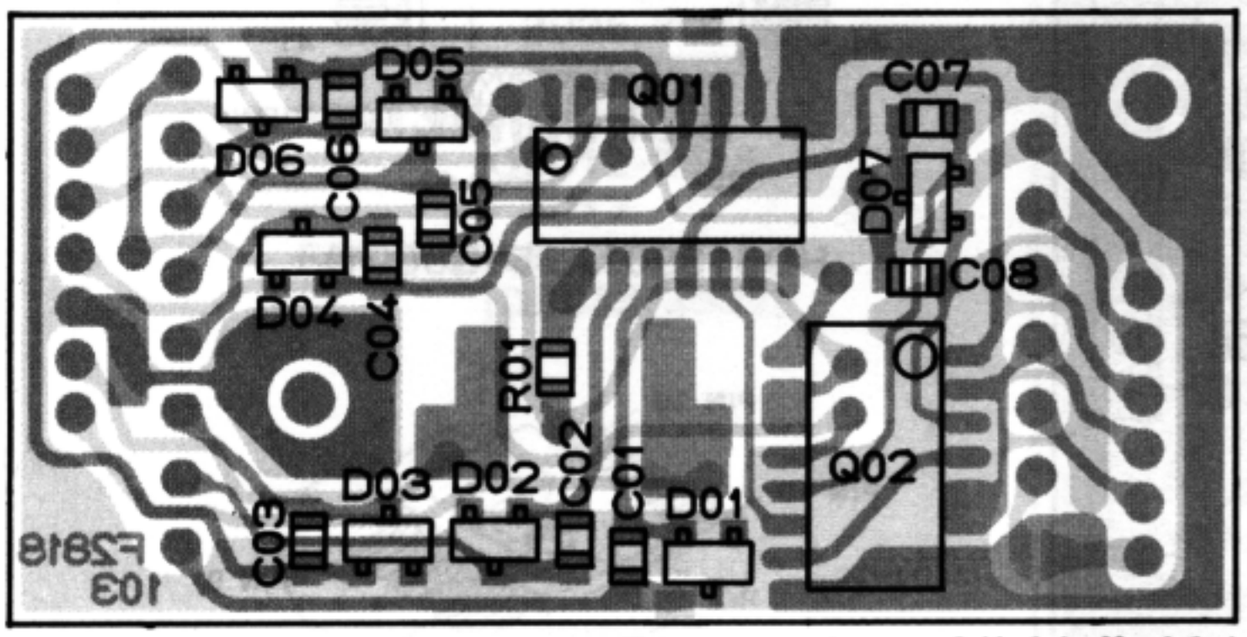
CONNECTOR UNIT



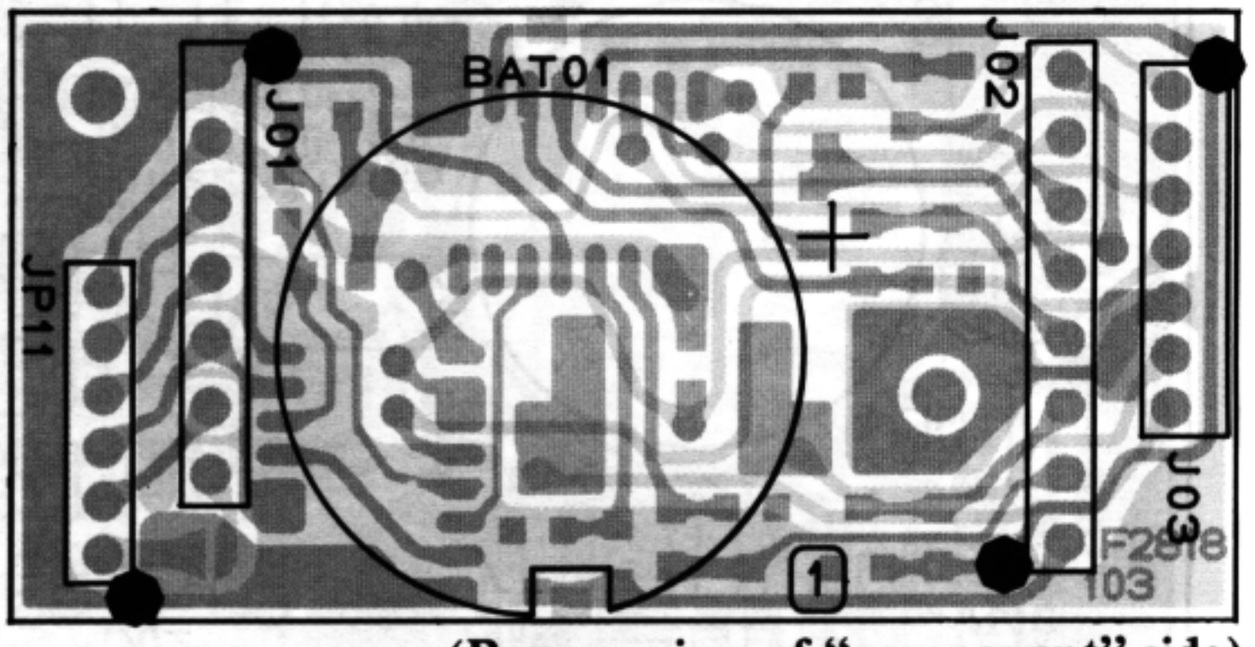
(Obverse view of "component" side)



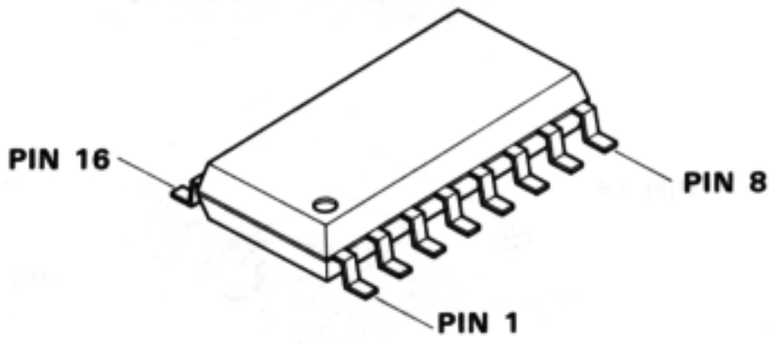
(Obverse view of "chip" side)



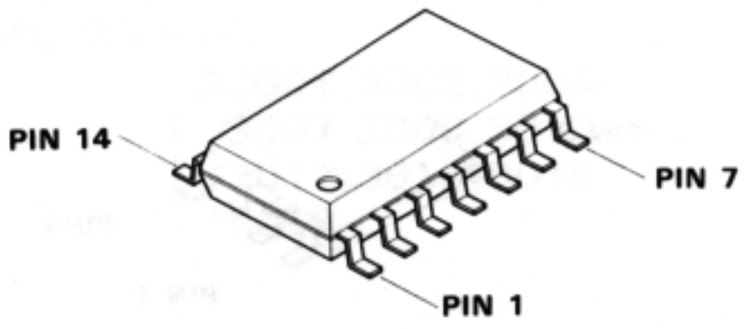
(Reverse view of "chip" side)



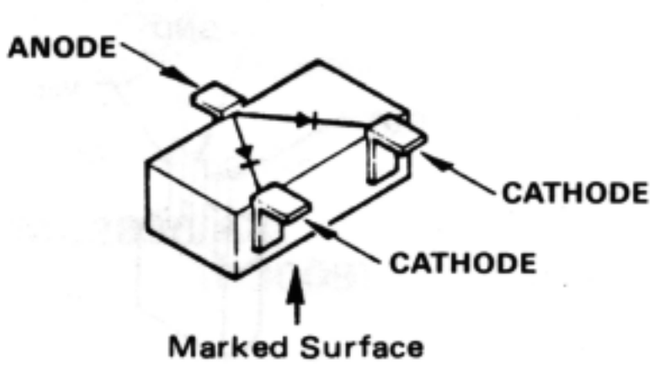
(Reverse view of "component" side)



μPD4094BG (Q2201)

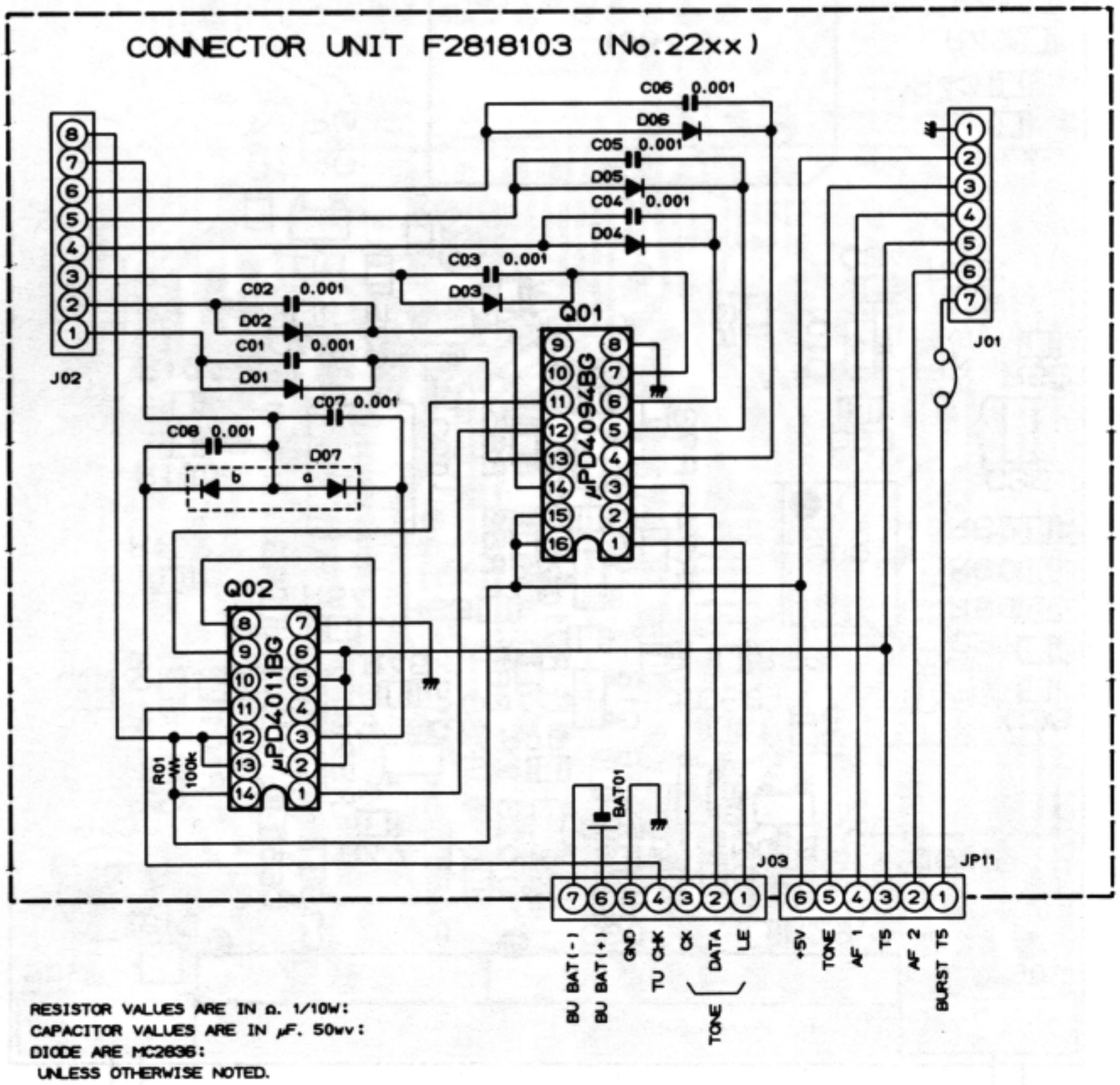


μPD4011BG (Q2202)



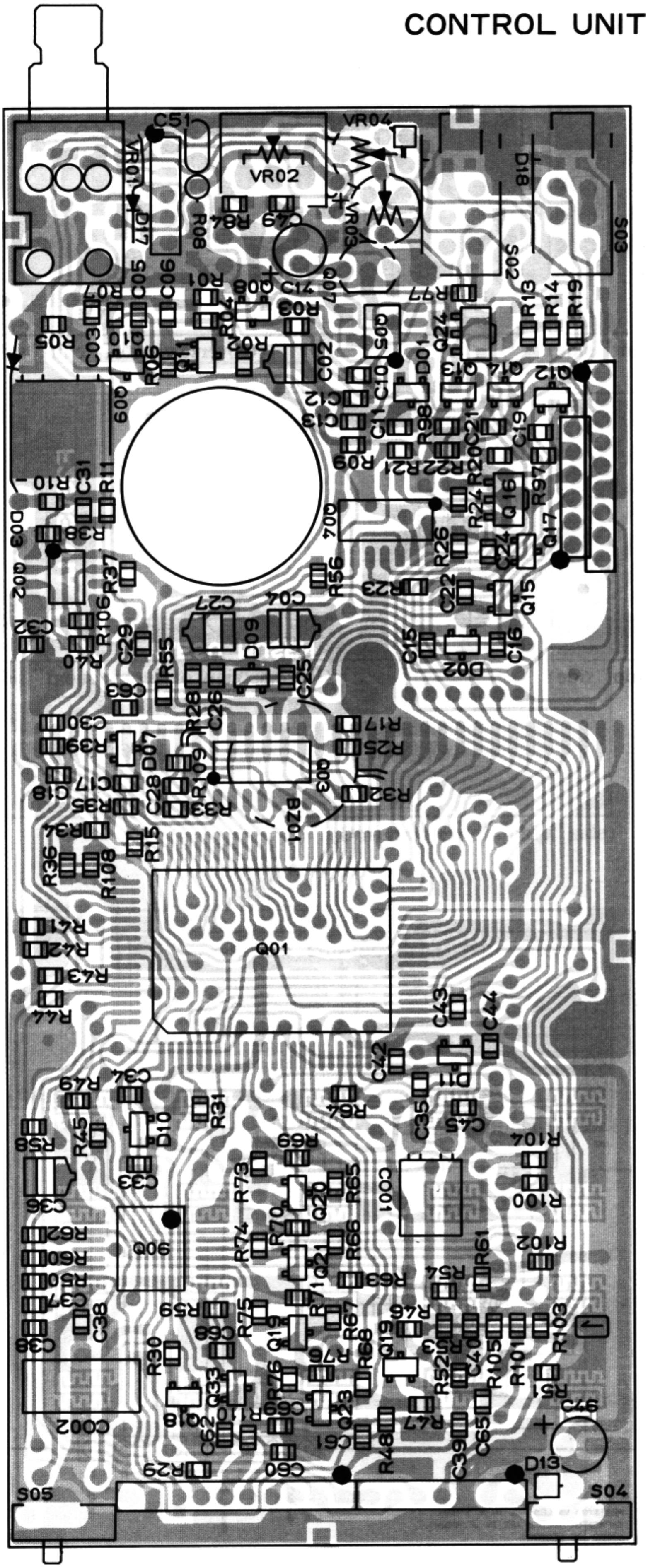
MC2836(A4)

(D2201,2202,2203, 2204,2205,2206, 2207)

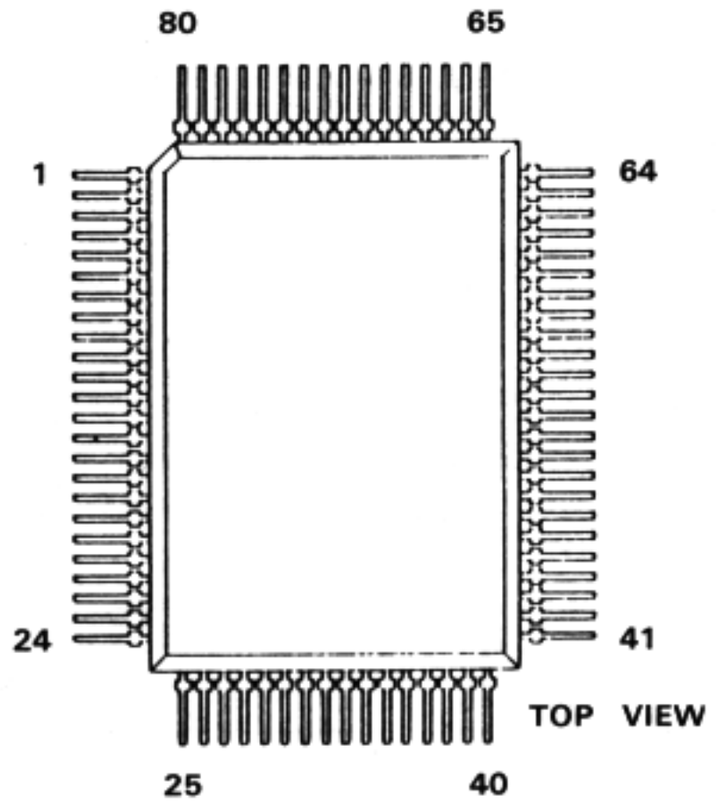


RESISTOR VALUES ARE IN Ω. 1/10W:
CAPACITOR VALUES ARE IN μF. 50wv:
DIODE ARE MC2836:
UNLESS OTHERWISE NOTED.

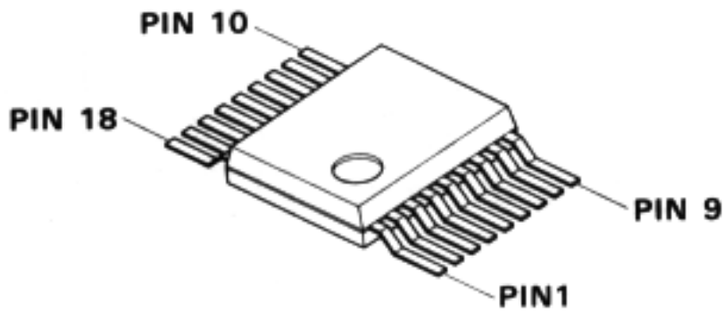
CONTROL UNIT



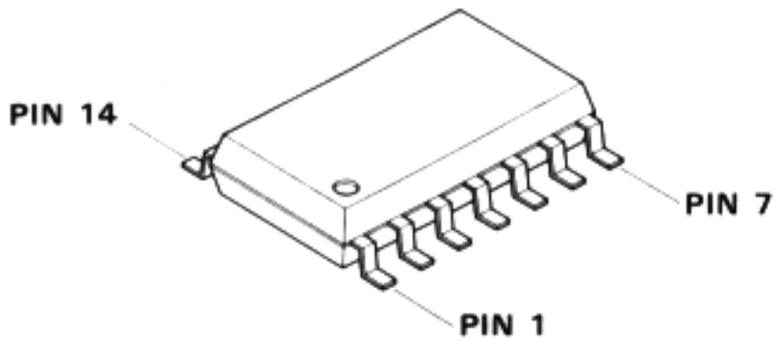
(Obverse view of "microprocessor" side)



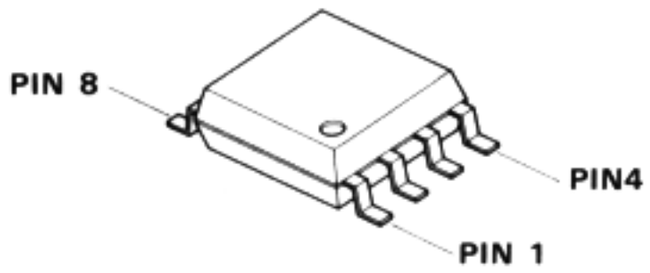
HD613901A55 (Q3001)



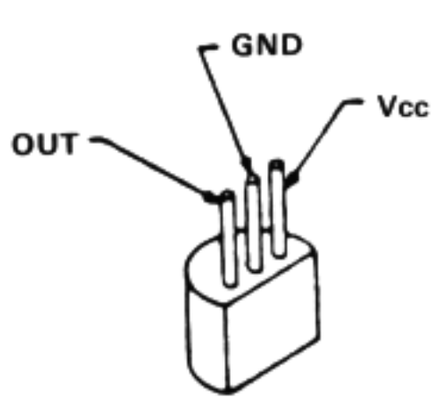
LR40872 (Q3006)



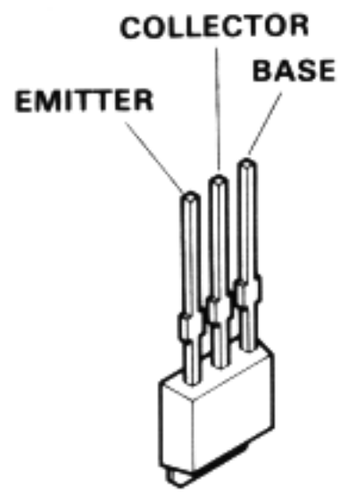
μPD4011BG (Q3003,3004)



LA5005MH (Q3005)
M5233FP (Q3002)

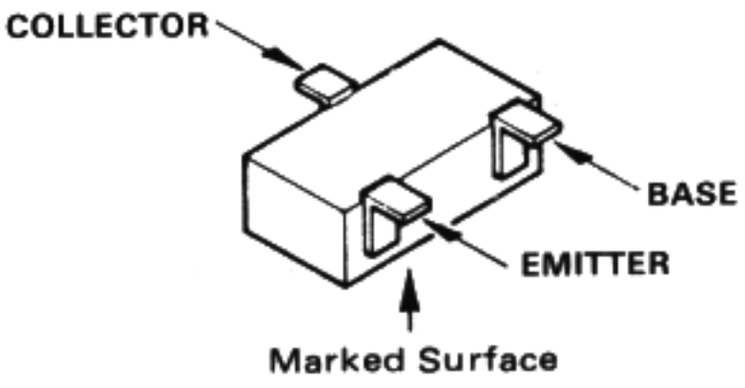


PST524C (Q3007)

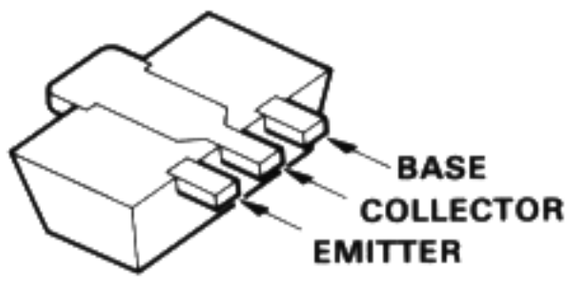


2SC1243 (Q3009)

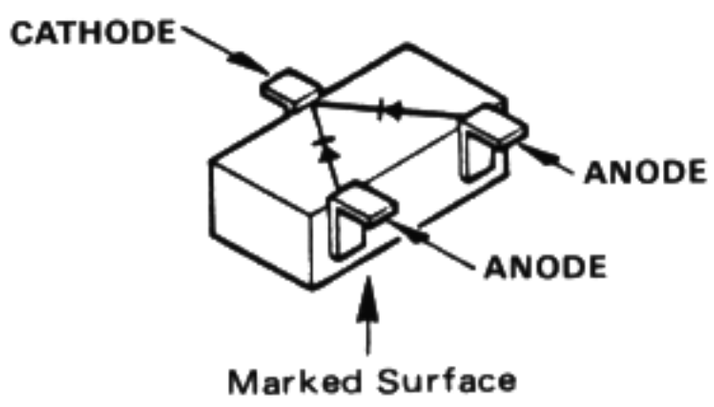
CONTROL UNIT



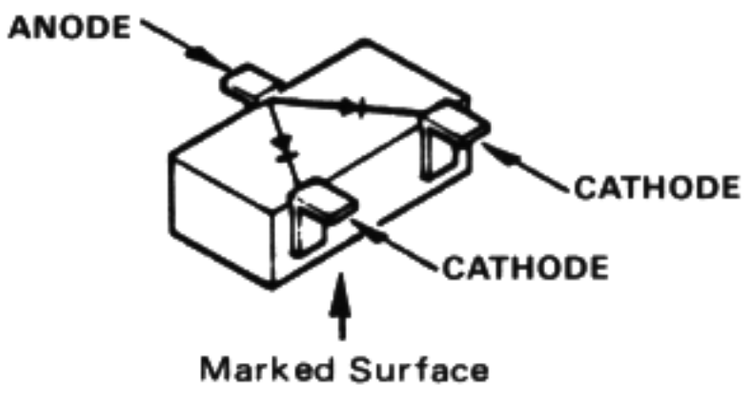
2SA812(M6)
(Q3008,3018
3028,3030)
2SA1623F(L6)
(Q3010,3011
3019,3023
3025,3027
3029,3031)
2SA1365AG(AF)
(Q3012-3015
3017)
FA1A4M(L33)
(Q3032,3033)



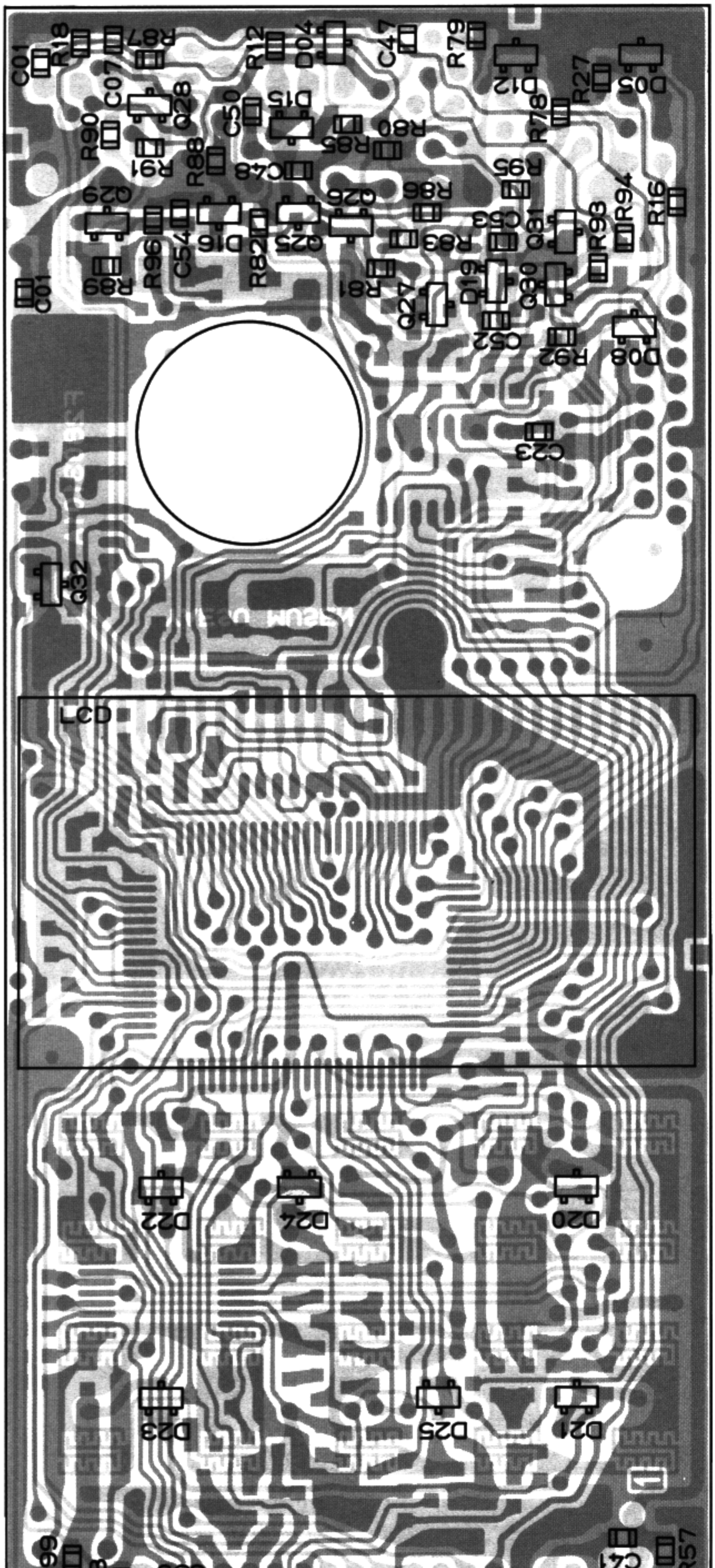
2SB766R (Q3016)
2SD1366A (Q3024)



MC2838(A6)
(D3001,3002,3004
3007,3008,3010
3011,3015,3016
3019)

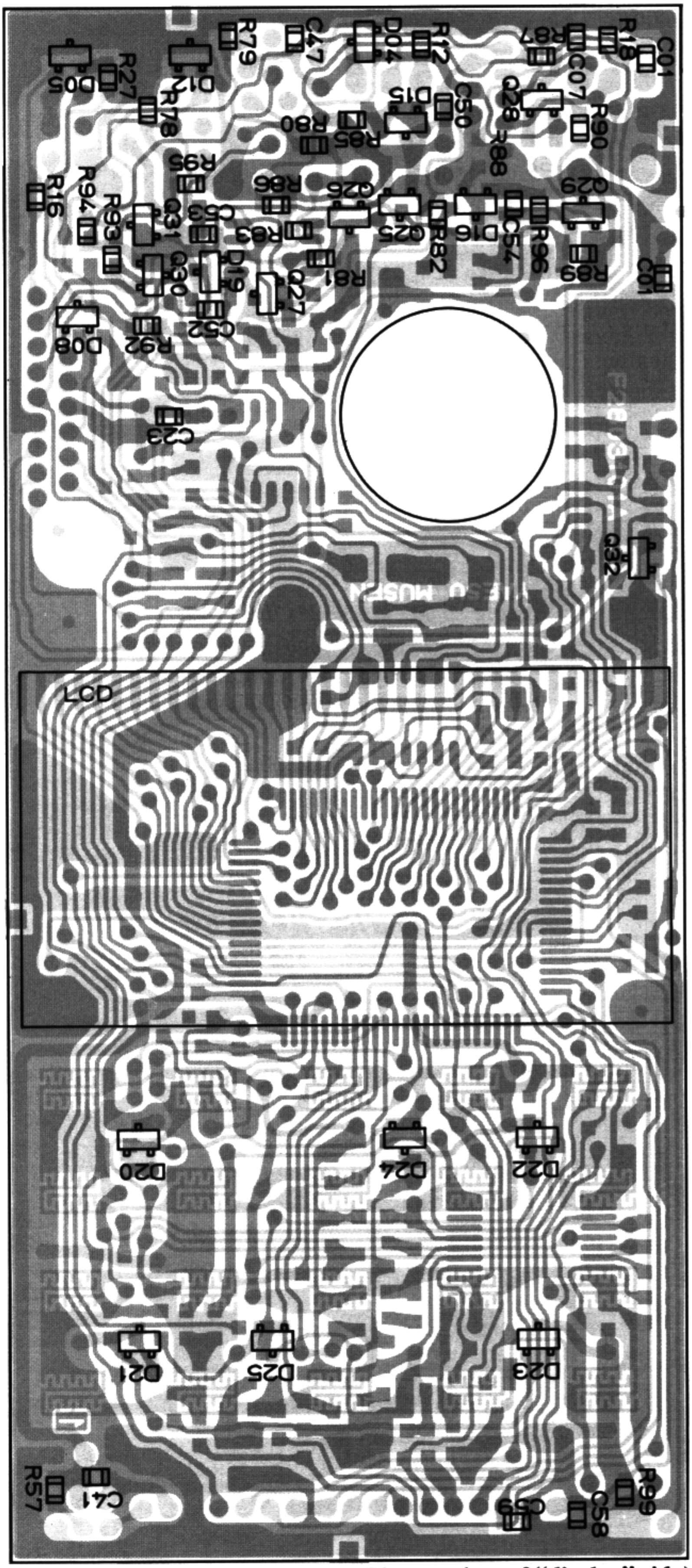


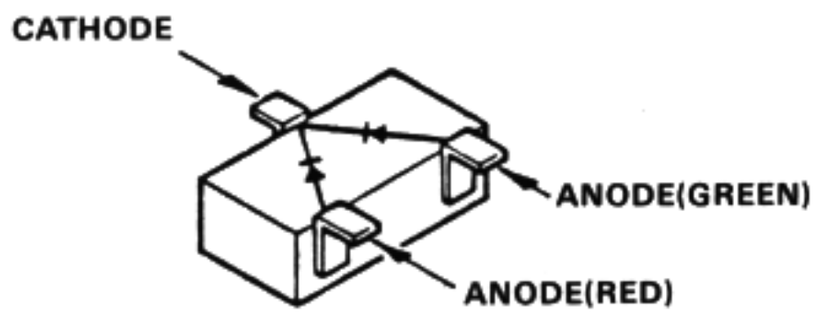
MC2836(A4)
(D3009)



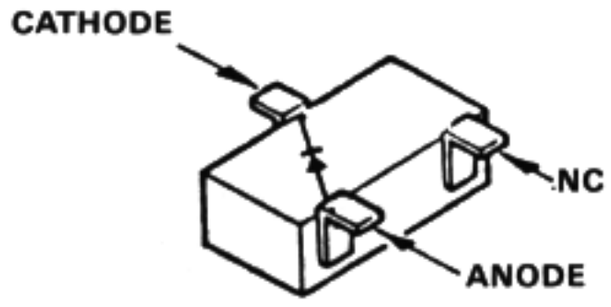
(Reverse view of "display" side)

CONTROL UNIT





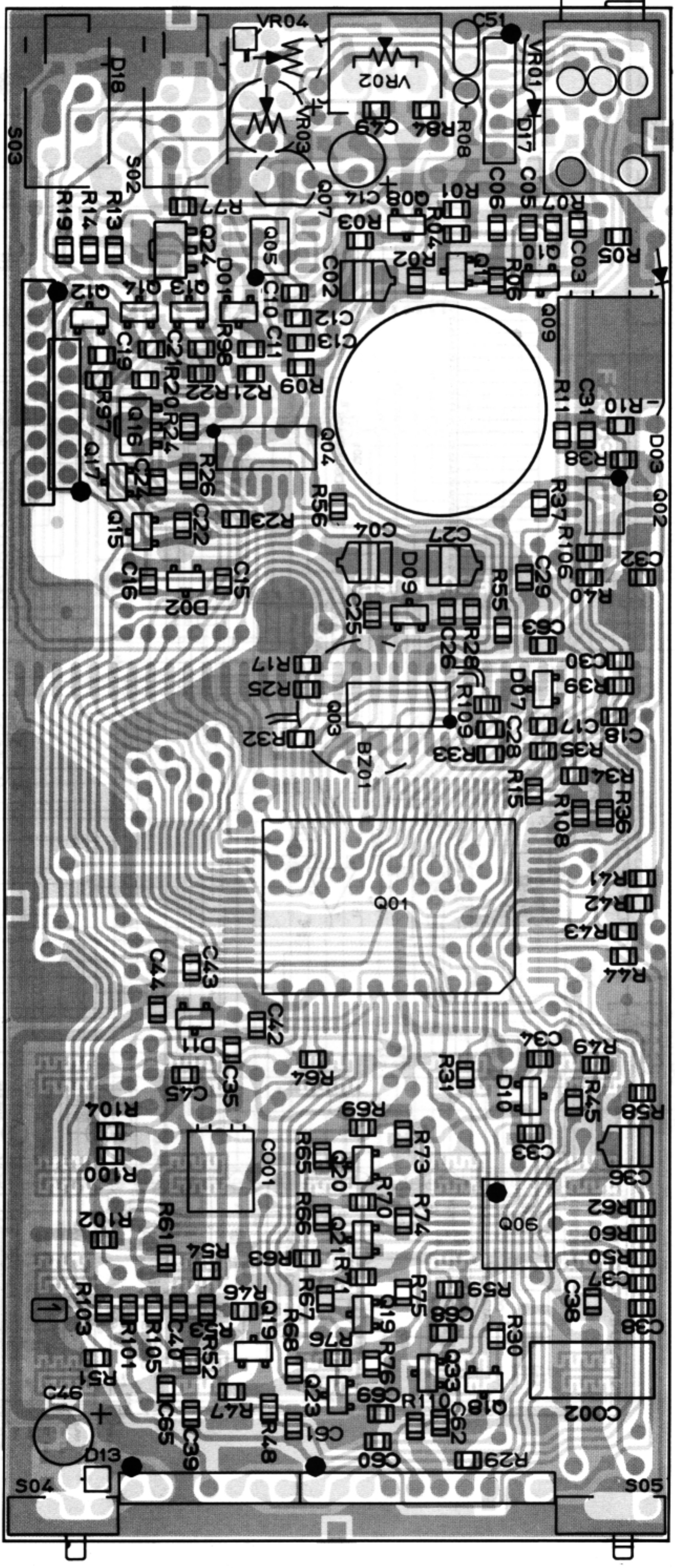
SLM-23VMW (D3005)



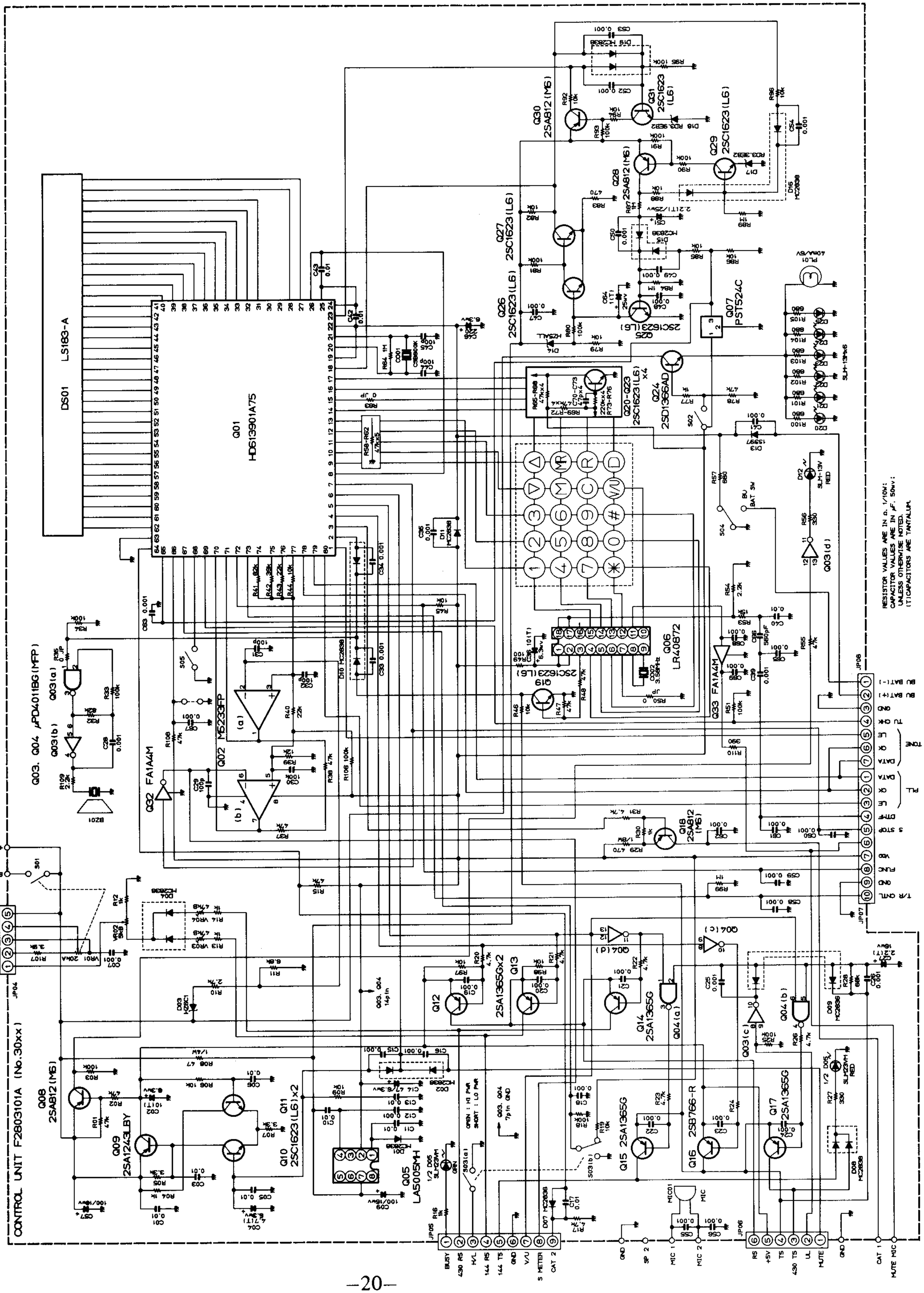
SLM-13VM (D3012)
SLM-13MW (D3020-3025)

(Obverse view of "display" side)

CONTROL UNIT


VR04
VR02
VR03
VR01
C51
D17
R08
C29
R84
C14
Q07
Q08
R01
R07
C03
C06
C05
R05
R03
R04
R02
Q01
R06
Q09
C02
C10
C11
C12
C13
R09
R98
R21
R22
C21
C19
R20
R24
R97
Q16
Q17
Q04
R26
R56
R23
C22
Q15
C16
C15
D02
C04
C27
D09
C25
R55
R28
C26
R17
R25
R32
Q03
BZ01
D07
R109
R33
C28
C30
R39
C17
C18
R35
R34
R15
R108
R36
Q01
R41
R42
R43
R44
C31
R11
R10
D03
Q02
C32
R40
R106
C29
C33
R58
C36
R62
R60
R50
R37
C38
C37
R30
Q18
C62
R29
C002
R59
C39
R48
C61
R76
R75
R71
R67
R68
Q19
Q23
R47
R46
R52
C40
R105
R101
R51
C65
C97
D13
S04
S05
C42
C43
C44
D11
C35
C45
R64
R31
D10
R45
R49
C34
R69
R73
R65
Q20
R70
R74
R66
Q21
R63
R61
R54
R53
R104
R100
R102
R103
C001
Q06

CONTROL UNIT



FT-727R
CONNECTION DIAGRAM

I/O UNIT F2816101A (No.21xx)

BATT + −

SP01

JP09: SP 2, SP 1, CAT 1, GND, MIC 1

JP10: VOX +5, +5V, +12V, CAT 2, GND

CNTL UNIT F2803101A (No.3xxx)

JP04: GND, MUTE MIC, BATT(+), MIC 2, MIC 1, SP 2, +12V, GND, CAT 1

JP05: VR2, VR3, VR1, SQL

JP06: CAT 2, S MTR, V/U, GND, 144 T5, 144 R5, HI/LO, 430 R5, BUSY

JP07: R5, +5V, T5, 430 T5, UL, MUTE

JP08: T/R CNTL, GND, FUNC, VDD, S STOP, DTMF, PLL (LE, CK, DATA), TONE (DATA, CK, LE), TU CHK, GND, BU BAT(+), BU BAT(−), GND

FUNCTION SW UNIT: FUNC, GND

C02 0.001

P02 (J03): LE, DATA, CK, TU CHK, GND, BU BAT(+), BU BAT(−)

TONE: DATA, CK

PLL: LE, CK, DATA

J02, J01

R03 33k 1/6W

R02 27k 1/6W

※1

JP11: +5V, TONE, AF 1, T5, AF 2, BURST T5

CONNECTOR UNIT F2818103 (No.22xx)

MAIN UNIT F2804001A (No.1xxx)

MUTE MIC, GND, +5V, VOX +5, SP 1, MIC 2, MIC 1, GND, +12V, GND

P01 (J1001): V/U, T5, BUSY, MUTE, GND

JP01: 430 R5, UL, S MTR, 144 T5, HI/LO, 144 R5, R5, 430 T5, +5V

JP02: SQL, VR2, VR3, VR1

JP03: T/R CNTL, S STOP, VDD, PLL (CK, DATA, LE)

AF 1, GND(BATT−), AF 2, BURST T5, +5V, TONE, BURST, T5

J01 ANT CONNECTOR: ANT, GND

※1

	BURST	TONE SQ	TONE ENC	R2202	R2203
A	—	OPTION	—	○	○
B	○	—	—	—	—
C	○	—	—	—	—
F	—	OPTION	○	—	—

ALIGNMENT

The FT-727R has been aligned at the factory for best performance across the specified frequency range. Realignment should therefore not be necessary except in the event of component failure, or alteration of version. All component replacement and service should be performed only by an authorized Yaesu representative, or the warranty policy may be voided.

The following test equipment is required for alignment:

RF Signal Generator: calibrated output level at 450 MHz
Deviation Meter (linear detector)
Oscilloscope
AF Millivoltmeter
SINAD Meter
Inline Wattmeter: 10W at 450 MHz
Regulated DC Power Supply: adjustable from 4 to 17V, 2A
50-ohm Non-reactive Dummy Load: 10W at 450 MHz
Frequency Counter: 0.2ppm accuracy at 450 MHz
AF Signal Generator
DC Voltmeter: high impedance

ALIGNMENT FREQUENCY (MHz)

Version	Low edge		Center		High edge	
	VHF	UHF	VHF	UHF	VHF	UHF
A	144	440	146	445	148	450
B, B1	144	430	145	435	146	400
C	144	430	146	435	148	440

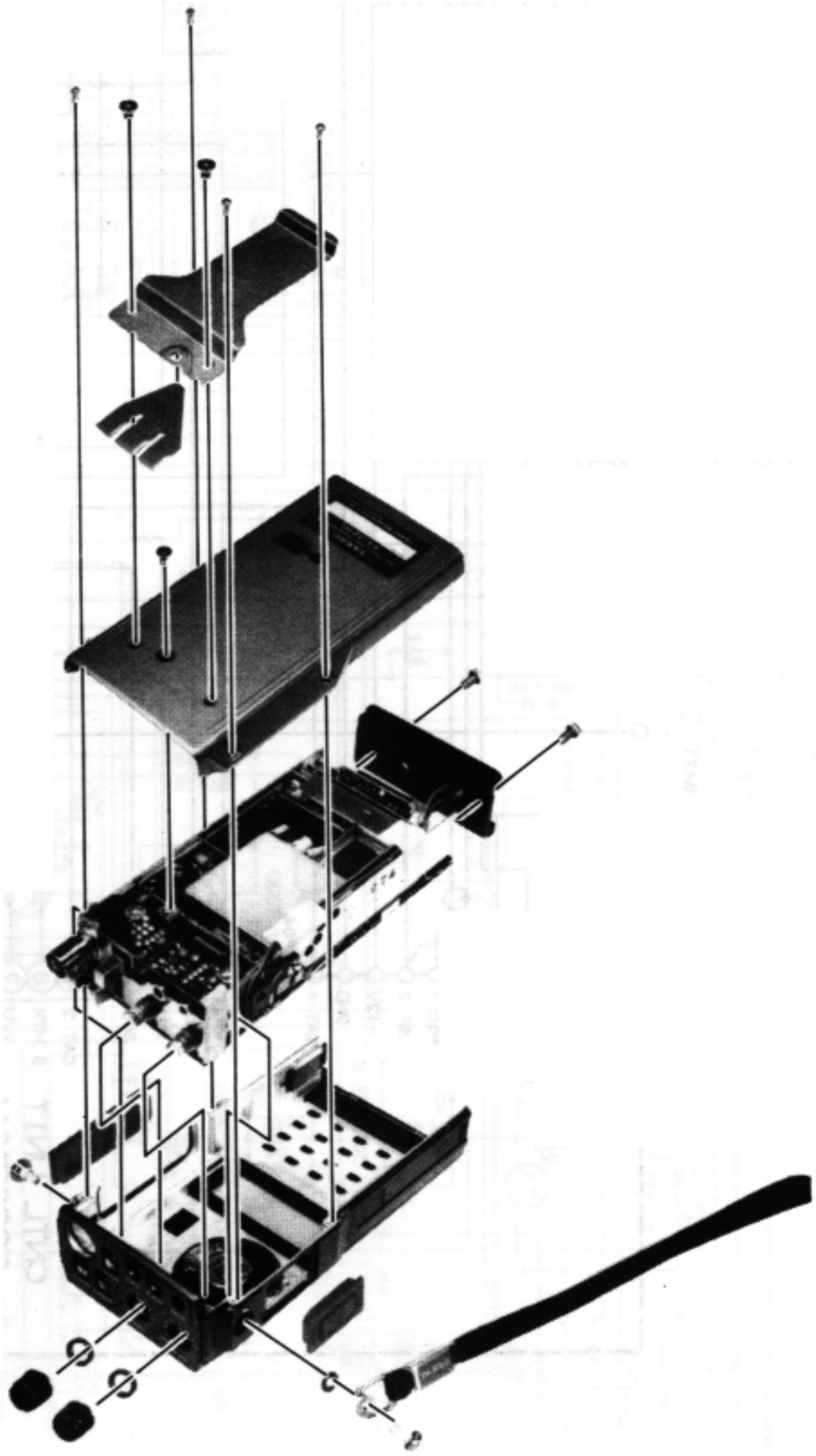
Preparation & Precautions

Before beginning alignment, allow the temperature of the transceiver to stabilize in the alignment environment. Temperature must be stable between 20 and 30°C (68 to 86°F) during alignment.

Set the regulated power supply voltage to 10.8V for all steps unless specifically indicated otherwise (for transmitter output power alignment). Do not depend on the battery as a stable voltage source during alignment.

Do not use an antenna during alignment, as RF loopback will cause false readings.

CASE DISASSEMBLY



I. PLL

Set up the test equipment as shown below for PLL and transmitter alignment.

A. 2m PLL VCV (Varactor Control Voltage)

(1) Connect the DC voltmeter (10V scale) to pin 14 at the edge of the PLL Unit.

(2) Set the transceiver to the low edge of the 2m band, and adjust L601 on the VCO Unit for 1.5V DC on the meter.

(3) Retune to the high edge of the 2m band and check for not more than 2.5V DC (3V in versions A & C) on the meter.

B. 70cm PLL VCV

(1) Connect the DC voltmeter (set to the 10V scale) to pin 14 at the edge of the PLL Unit.

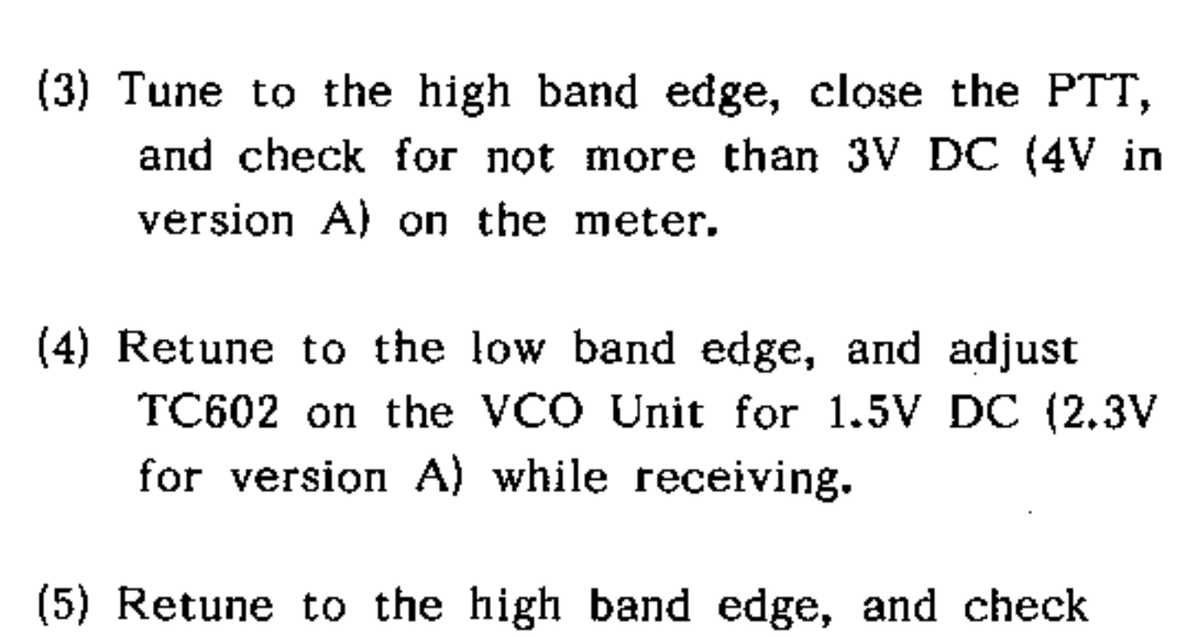
(2) Set the transceiver to the low edge of the 70cm band, close the PTT switch, and adjust TC601 on the VCO Unit for 1.5V DC (2.5V for version A) on the meter.

(3) Tune to the high band edge, close the PTT, and check for not more than 3V DC (4V in version A) on the meter.

(4) Retune to the low band edge, and adjust TC602 on the VCO Unit for 1.5V DC (2.3V for version A) while receiving.

(5) Retune to the high band edge, and check for less than 3V DC (4V for version A) on the meter while receiving.

PLL & TRANSMITTER ALIGNMENT POINTS



II. TRANSMITTER

With the test equipment connected as indicated in the diagram below, close the PTT switch for all readings and adjustments during these steps.

A. 2m Power Output

(1) Tune the transceiver to the center of the 2m band, set the supply voltage to 12.5V, and set the LOW switch on the top panel to the undepressed position.

(2) Adjust VR1004 on the Main Unit for 5 watts output on the wattmeter. Confirm 5 ±0.5 watts output at the high and low edges of the 2m band.

B. 70cm Power Output

(1) Tune the transceiver to the center of the 70cm band, and with the supply voltage set to 12.5V and the LOW switch set to the undepressed position, preset VR1005 on the Main Unit fully clockwise.

(2) Adjust TC801, TC802, L803 and L804 on the 70cm Drive Unit for maximum power output (close the shield cover on the Drive Unit when adjusting the trimmers).

(3) Now adjust VR1005 for 5 watts output, and confirm 5 ±0.5 watts at each band edge.

C. Low Power Setting

Tune to the center of the 70cm band, and with 12.5V supply, press the LOW switch and adjust VR1003 on the Main Unit for 0.5 watts on the wattmeter. Confirm 0.5 watts output on the 2m band.

D. Frequency Calibration

Set the supply voltage to 10.8V, and tune to the center of the 70cm band. Close the PTT and adjust TC501 on the PLL Unit, if necessary, so that the displayed frequency matches the frequency counter ±200 Hz.

E. Modulator Deviation

(1) Tune to the center of the 2m band, and set the audio generator to 1 kHz at a level of 25 mV at the MIC jack. Adjust VR1001 on the Main Unit, if necessary, for ±4.5 kHz deviation.

(2) Now set the transceiver to the center of the 70cm band, and adjust VR1002, if necessary, for ±4.5 kHz deviation.

(3) Reduce the AF generator output level until the deviation meter shows ±3.5 kHz deviation, and check that the AF generator level is between 2 and 4 mV (both bands).

F. DTMF Deviation Check

Tune to the center of the 70cm band, close the PTT and press '1' and 'C' on the keypad while transmitting, and observe the deviation meter, which should show ±2 to ±3.5 kHz deviation.

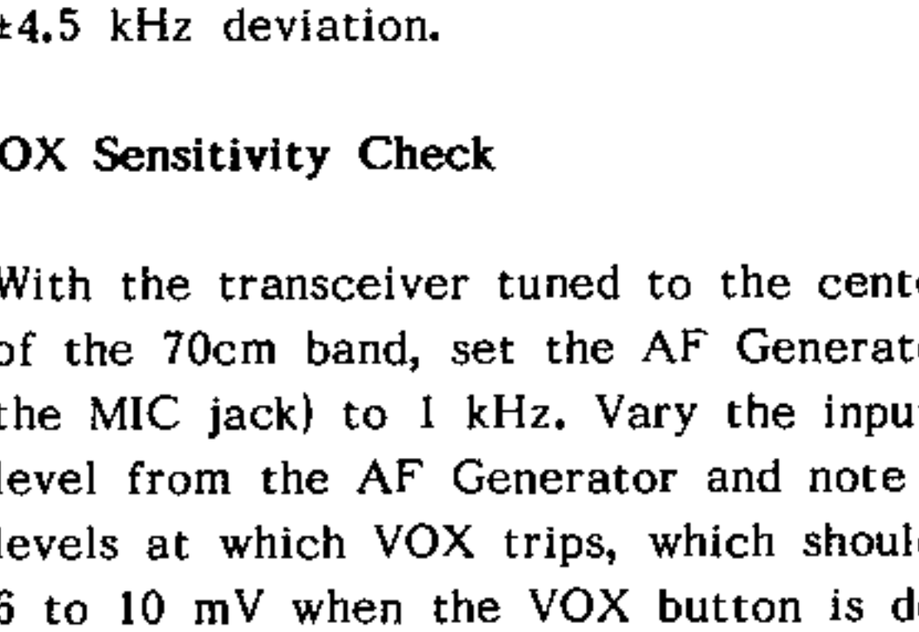
F. Burst Deviation Check (Eu vers. only)

Tune to the center of the 70cm band, close the PTT and Burst buttons, and observe the deviation meter, which should show ±2.5 to ±4.5 kHz deviation.

G. VOX Sensitivity Check

With the transceiver tuned to the center of the 70cm band, set the AF Generator (at the MIC jack) to 1 kHz. Vary the input level from the AF Generator and note the levels at which VOX trips, which should be 6 to 10 mV when the VOX button is depressed, and 3 to 6 mV when undepressed.

RECEIVER ALIGNMENT SETUP



II. RECEIVER

Set up the test equipment as shown below for receiver alignment.

A. 2m Resonant Circuits

(1) With the transceiver and RF signal generator (at the ANT jack) both tuned to the center of the 2m band, set the generator for ±3.5 kHz deviation of 1 kHz tone modulation, and set the output level so that the S-meter on the transceiver reads '4'.

(2) Adjust L201 through L204 on the Front End Unit for peak S-meter indication, and adjust L301 on the IF Unit for maximum amplitude and minimum distortion on the oscilloscope.

(3) Set the RF generator level to -6 dBu (0.12 uV) and adjust L201 - L203 again, for optimum SINAD indication.

(4) At both edges of the 2m band, confirm at least 12 dB SINAD with 0.25 uV input from the RF generator.

B. 70cm Resonant Circuits

(1) With the transceiver and RF signal generator (at the ANT jack) both tuned to the center of the 70cm band, set the generator for ±3.5 kHz deviation of 1 kHz tone modulation, and set the output level so that the S-meter on the transceiver reads '4'.

(2) Adjust CV201, CV202 and L205 on the Front End Unit, and TC803 and TC804 on the 70cm Drive Unit, for peak S-meter indication.

(3) Set the RF generator level to -6 dBu (0.12 uV) and adjust CV201, CV202, TC803 and TC804 again, for optimum SINAD indication.

(4) At both edges of the 70cm band, confirm at least 12 dB SINAD with 0.25 uV input from the RF generator.

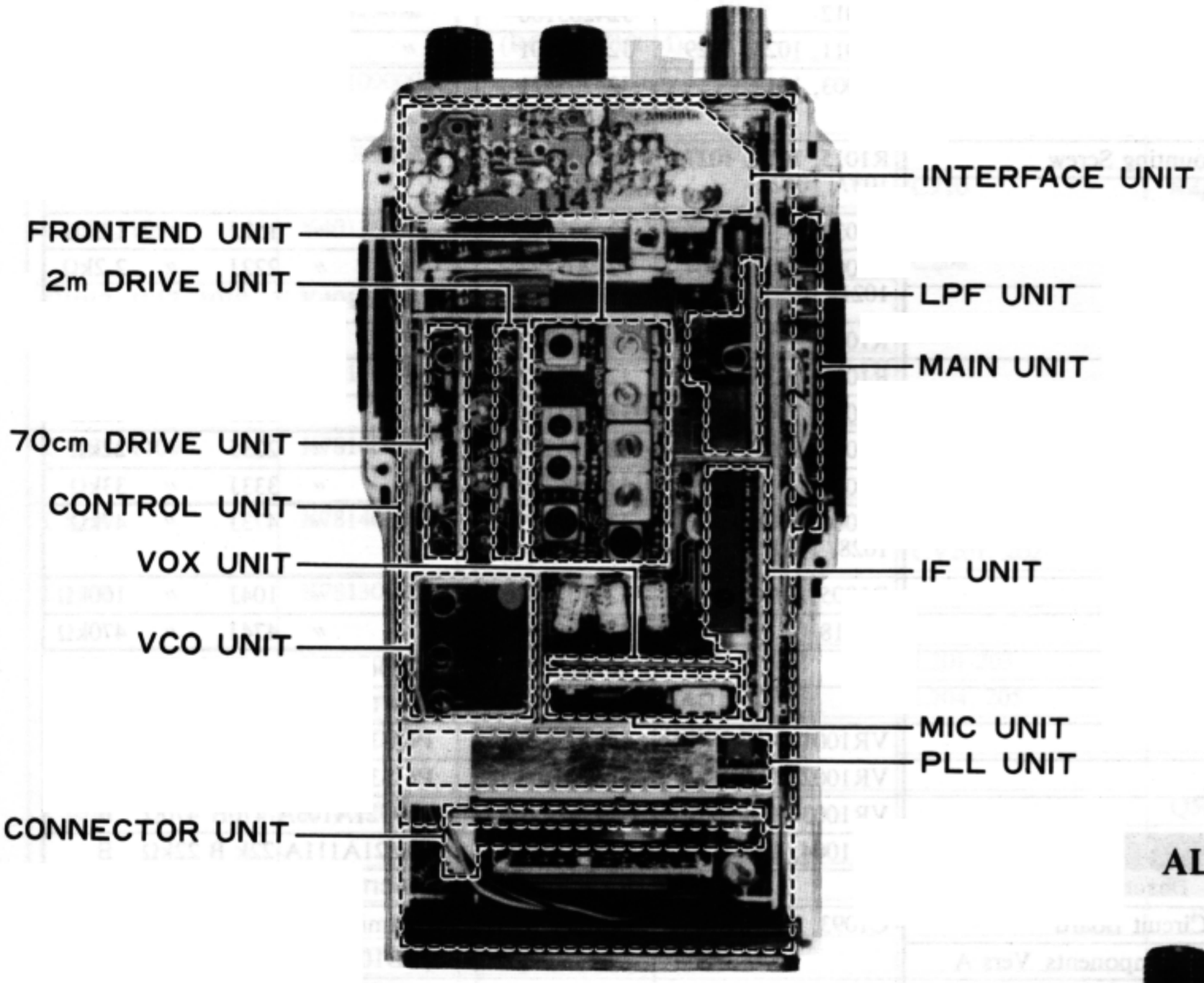
C. Squelch Preset

(1) Set the transceiver to the center of the 2m band, and set the SQL control on the top panel to the center of its range. Reduce the RF generator level at the ANT jack to nil (but do not disconnect it, to maintain a 50-ohm termination).

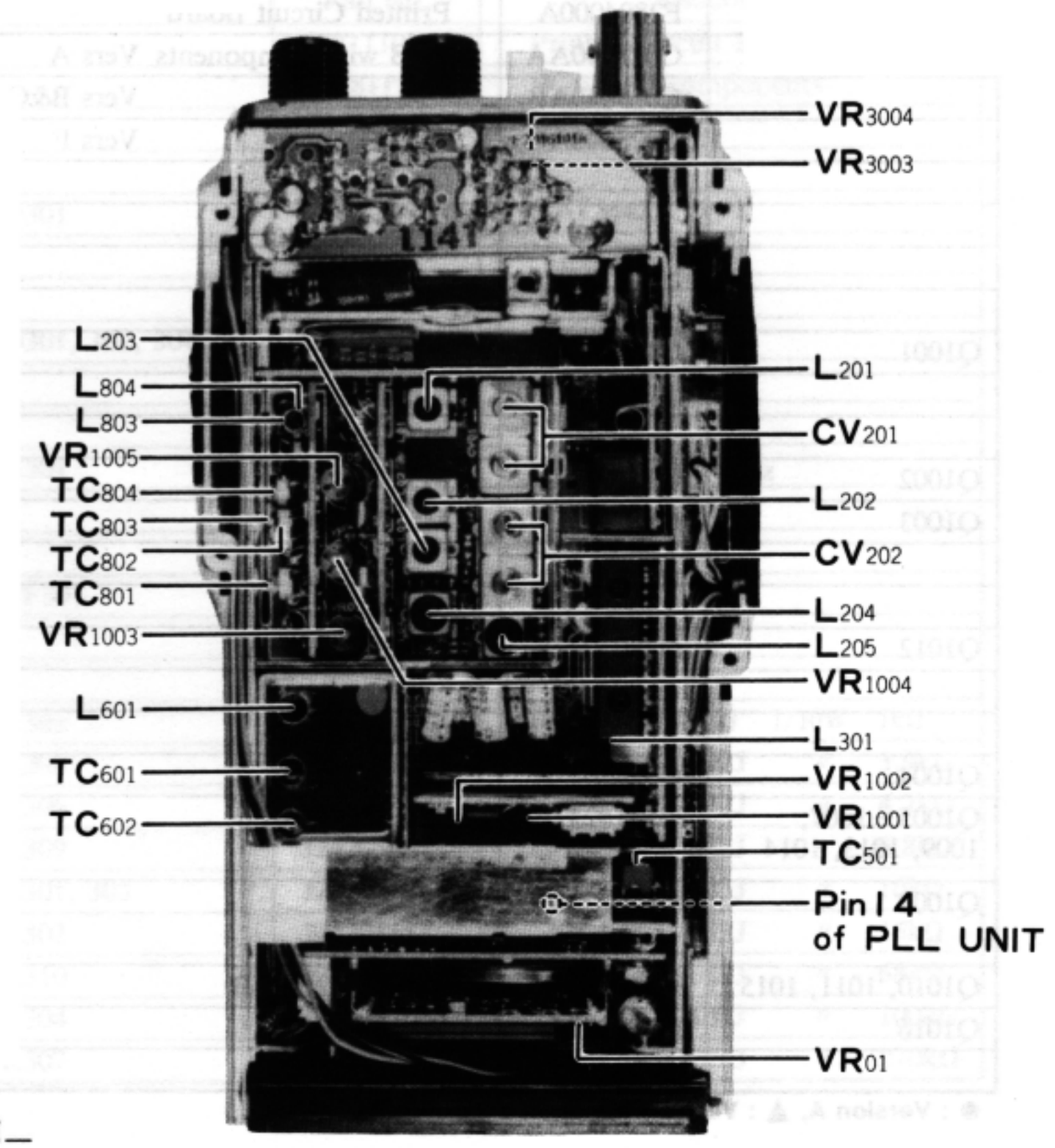
(2) Adjust VR3003 on the Control Unit so that the squelch just closes.

(3) Retune to the center of the 70cm band, and adjust VR3004 so that the squelch again just closes.

BOARD LAYOUT



ALIGNMENT POINTS



PARTS LIST

MAIN CHASSIS

Symbol No.	Part No.	Description
	F2803102	**Printed Circuit Board**
		CONNECTOR
J1	P1090541	BNC-RM
	R3507630C	Front Cover
	R4803350B	Rear Cover w/o label, belt clip
	R3507440A	FUNC Button
	R3507620	PTT Button Vers A
	R3507430A	PTT, BURST Button Vers B&C
	R3115560	Knob VOL & SQL
	R3507400C	Battery Mounting Track
	R3102080	Push Button
	R6111460	Strap Mounting Dummy Screw
	R6105240	Strap Mounting Screw
	R0116710C	Belt Clip
	S6000061	Hand Strap
	R3116730A	Rubber Cap
	R3507570B	Rubber Key top
		CAPACITOR
	K12171102	Ceramic disc 50WV 0.001μF E
		MINI CONNECTORS
P1	T9205369C	
P2	T9205370	
P3	T9205371B	
P4	T9205372	
P5	T9205373B	
P6	T9205374	

MAIN UNIT

Symbol No.	Part No.	Description
	F2804000A	Printed Circuit Board
	C028040AA	PCB with components Vers A
	C028040AB	〃 Vers B&C
	C028040AC	〃 Vers F
		IC
Q1001	G1090558	LA4145
		POWER MODULES
Q1002	G1090732	M57796MA
Q1003	G1090733	M57797MA
		FET
Q1012	G3803027Y	2SK302YTE85R
		TRANSISTORS
Q1004	G3207667R	2SB766-R
Q1005－1007, 1009, 1013, 1014	G3316237F	2SC1623-T2BL6
Q1008	G3207720Q	2SB772Q
Q1010, 1011, 1015	G3108127F	2SA812T2BM6B
Q1016	G3090074	BA1A4M
		DIODES

D1001, 1003, 1005	G2070018	MC2838-T14-2 Si
D1002	G2090227	HZ9B2L Zener
D1004	G2090223	1SS101 Schottky
D1006	G2090033	MI301 PIN
D1008	G2090168	RD5. 6EB1 Zener
D1009, 1010	G2090244	1SS106 Schottky
		CRYSTAL FILTER
XF1001	H1102108	16M15BU
	R7066320	Insulator
		RESISTORS
R1033●×, 1034●×	J24205000	RMC 1/10T 000J 1/10W 0Ω
R1032, 1035▲	J24205000	〃 〃 〃 〃 〃
R1012	J24205100	〃 〃 100J 〃 10Ω
R1011, 1023, 1029	J24205101	〃 〃 101J 〃 100Ω
R1003, 1013	J24205221	〃 〃 221J 〃 220Ω
	J24205561	〃 〃 561J 〃 560Ω
R1015, 1017, 1027, 1037, 1042	J24205102	〃 〃 102J 〃 1kΩ
R1030	J24205152	〃 〃 152J 〃 1.5kΩ
R1001, 1002, 1004, 1021, 1022	J24205222	〃 〃 222J 〃 2.2kΩ
R1038	J24205332	〃 〃 332J 〃 3.3kΩ
R1016, 1036	J24205472	〃 〃 472J 〃 4.7kΩ
R1039, 1043	J24205103	〃 〃 103J 〃 10kΩ
R1007, 1009, 1019	J24205223	〃 〃 223J 〃 22kΩ
R1010	J24205333	〃 〃 333J 〃 33kΩ
R1006, 1008, 1026, 1028, 1031	J24205473	〃 〃 473J 〃 47kΩ
R1005, 1020	J24205104	〃 〃 104J 〃 100kΩ
R1018	J24205474	〃 〃 474J 〃 470kΩ
	J01215153	Carbon film 1/8w 15kΩ TJ
		POTENTIOMETERS
VR1001	J50773223	P6-S3Z 22K 22kΩ B
VR1002	J50773103	P6-S3Z 10k 10kΩ B
VR1003	J51762471	HO521A105A-470B 470Ω B
VR1004, 1005	J51762223	H0521A111A-22k B 22kΩ B
		CAPACITORS
C1093, 1098, 1103	K12171102	ceramic disc 50WV 0.001μF E (DD104E102P50)
C1048, 1050, 1051	K22170201	ChipCeramic 50WV 0.5pF CH (C2012CH1H0R5CFA)
C1046	K22170202	〃 〃 〃 1pF 〃 (C2012CH1H010CFA)
C1043	K22170203	〃 〃 〃 2pF 〃 (C2012CH1H020CFA)
C1045, 1052	K22170205	〃 〃 〃 4pF 〃 (C2012CH1H040CFA)
C1033	K22170206	〃 〃 〃 5PF 〃 (C2012CH1H050CFA)
C1049	K22170207	〃 〃 〃 6pF 〃 (C2012CH1H060DFA)
C1001●, 1006	K22170208	〃 〃 〃 7pF 〃 (C2012CH1H070DFA)
C1001▲×, 1003, 1047	K22170210	〃 〃 〃 9pF 〃 (C2012CH1H090DFA)
	K22170217	〃 〃 〃 18pF 〃 (C2012CH1H180JFA)
C1002, 1040, 1044, 1095	K22170223	〃 〃 〃 33pF 〃 (C2012CH1H330JFA)
	K22170219	〃 〃 〃 22pF 〃 (C2012CH1H220JFA)

● : Version A, ▲ : Version B & C, × : Version F

C1011, 1013, 1015	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)
1022, 1024, 1026−1032, 1034−1039, 1053−1056, 1058, 1059, 1061, 1063−1068, 1071−1081, 1084−1090, 1096, 1101		
C1007, 1008, 1069	K22170817	〃 〃 〃 0.01μF 〃 (C2012B1H103MFA)
C1014, 1018, 1020	K22141904	〃 〃 25WV 0.1μF D (C3216D1E104MFA)
C1004, 1005	K40129012	Electrolytic 16WV 10μF (RC2-16V100M)
C1009	K40109009	10WV 33μF (RC2-10V330M)
C1070	K40089003	〃 6.3WV 47μF (RC2-6V470M)
C1091, 1092	K40129047	〃 16WV 82μF (SXE-16VB-82 5X15L)
C1012, 1017, 1019	K40129038	〃 〃 100μF (RC2-16V101M)
C1042	K22170229	〃 〃 〃 56pF CH (C2012CH1H560JFA)
C1083, 1100	K78140012	Chip tantalum 25WV 0.47μF (F951E474MRAAF1Q2)
C1010	K78140002	〃 〃 〃 1μF (F951E105MSAAF1Q2)
C1102	K78130003	〃 〃 〃 3.3μF (F951D335MVCAF1Q2)
C1025, 1057, 1060, 1062	K78120002	〃 〃 16WV 2.2μF (F951C225MSAAF1Q2)
C1021, 1023	K78100004	〃 〃 10WV 10μF (F951A106MVCAF1Q2)
C1016	K78080002	〃 〃 〃 4.7μF (F950J475MSAAF1Q2)
		INDUCTORS
L1001	L0020767	
L1002	L0020780	
L1003, 1004, 1005	L0020342	
L1006, 1007	L0021273	
L1008, 1010	L1020720	
L1009	L1020676	
		SWITCH
S1001, 1002	N5090018	KHH15951
		CONNECTOR
J1001	P0090488	PI22A05M
	R0116720A	Shield Plate
	R7116800	Press Board

FRONT END UNIT

Symbol No.	Part No.	Description
	F2818102	Printed Circuit Board
	C028182AA	PCB with components
		FETS
Q201, 202	G3803027Y	2SK302Y-TE85R
		TRANSISTORS

Q203, 204	G3333567	2SC3356T2B
		DIODES
D201, 202	G2090027	1SS53 Si
		RESISTORS
R201	J24205470	RMC 1/10T-470J 1/10W 47Ω
R204	J24205680	〃 〃 -680J 〃 68Ω
R202, 205, 211	J24205101	〃 〃 -101J 〃 100Ω
R208	J24205221	〃 〃 -221J 〃 220Ω
R203, 207	J24205471	〃 〃 -471J 〃 470Ω
	J24205222	〃 〃 -222J 〃 2.2kΩ
R209	J24205332	〃 〃 -332J 〃 3.3kΩ
R212	J24205472	〃 〃 -472J 〃 4.7kΩ
R210	J24205103	〃 〃 -103J 〃 10kΩ
R206	J24205333	〃 〃 -333J 〃 33kΩ
		CAPACITORS
C204, 212	K22170201	Chip Ceramic 50WV 0.5pF CH (C2012CH1H0R5CFA)
C210	K22170204	〃 〃 〃 3pF 〃 (C2012CH1H030CFA)
C208	K22170315	〃 〃 〃 5pF UJ (C2012UJ1H150JFA)
C209	K22170227	〃 〃 〃 7pF CH (C2012CH1H470JFA)
C201−203, 205−207, 211, 213, 214	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)
		RESONATORS
CV201, 202	Q9000114B	CV441B
		INDUCTORS
L201-203	L0021639	RI2E539A 146MHz
L204, 205	L0021521	RI2-6443X 16.9MHz
		TERMINAL POSTS
	Q5000052	TP-M

IF UNIT

Symbol No.	Part No.	Description
	F2811101	Printed Circuit Board
	C028111AA	PCB with components
		IC
Q301	G1090669	HA12442V
		DIODES
D301, 302, 304	G2070018	MC2838-T14-2
		CRYSTAL
X301	H0102704	UM-1 16, 445MHz
		CERAMIC FILTER
CF301	H3900030	LF-B15
		RESISTORS
R305	J24205102	RMC1/10T -102J 1/10W 1kΩ
R308	J24205392	〃 〃 -392J 〃 3.9kΩ
R306	J24205472	〃 〃 -472J 〃 4.7kΩ
R309	J24205682	〃 〃 -682J 〃 6.8kΩ
R301, 303	J24205103	〃 〃 -103J 〃 10kΩ
R302	J24205153	〃 〃 -153J 〃 15kΩ
R310	J24205683	〃 〃 -683J 〃 68kΩ
R304	J24205104	〃 〃 -104J 〃 100kΩ
R307	J24205274	〃 〃 -274J 〃 270kΩ

		CAPACITORS
C303	K22170221	Chip Ceramic 50WV 27pF CH (C2012CH1H270JFA)
C304	K22170235	〃 〃 〃 100pF 〃 (C2012CH1H101JFA)
C310	K22170247	〃 〃 〃 330pF 〃 (C2012CH1H331JFA)
C302, 317, 318	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)
C301, 305, 309, 311, 316	K22170817	〃 〃 〃 0.01μF 〃 (C2012B1H103MFA)
C306, 307, 312	K22141904	〃 〃 〃 0.1μF D (C3216D1E104MFA)
C314	K78120013	Chip Tantalum 16WV 1μF (F951C105MRAAF1Q2)
C308, 315	K78080002	〃 6.3WV 4.7μF (F950J475MSAAF1Q2)
		INDUCTOR
L301	L0021527	RI2-8497A 455KHz

LPF UNIT

Symbol No.	Part No.	Description
	F2812101	Printed Circuit Board
	C028121AA	PCB with Components
		CAPACITORS
C402	K22170203	Chip Ceramic 50WV 2pF CH (C2012CH1H020CFA)
C401	K22170204	〃 〃 〃 3pF 〃 (C2012CH1H030CFA)
C403, 404	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)
		INDUCTOR
L401	L0020878A	
		RELAYS
RL401	M1190072	DF2−DC5V
RL402	M1190071	FBR22D05

PLL UNIT

Symbol No.	Part No.	Description
	F2808101	Printed Circuit Board
	C028081AA	PCB with components
		ICs
Q501	G1090648	MC145158
Q502	G1090725	MC12017
		TRANSISTOR
Q503	G3108127F	2SA812T2B-M6B
		DIODES
D501	G2070020	ISS123 T2B Si
D502	G2070024	MC2836-T14-2 〃
		CRYSTAL
X501	H0102705	UM-1 10MHz
		RESISTORS
R504	J24205560	RMC 1/10T-560J 56Ω
R506, 507, 508	J24205101	〃 -101J 100Ω
R502	J24205471	〃 -471J 470Ω
R503	J24205561	〃 -561J 560Ω
R501	J24205332	〃 -332J 3.3kΩ
R505, 510	J24205103	〃 103J 10kΩ
R509	J24205183	〃 183J 18kΩ
		CAPACITORS
C517	K22170202	Chip ceramic 50WV 1pF CH (C2012CH1H010CFA)
C520	K22170209	〃 〃 〃 8pF 〃 (C2012CH1H080DFA)
C503	K22170220	〃 〃 〃 24pF 〃 (C2012CH1H240JFA)
C504	K22170223	〃 〃 〃 33pF 〃 (C2012CH1H330JFA)
C509−511	K22170235	〃 〃 〃 100pF 〃 (C2012CH1H101JFA)
C516, 518	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)
C505, 508, 513, 515	K22170817	〃 〃 〃 0.01μF 〃 (C2012B1H103MFA)
C512	K22141904	〃 〃 25WV 0.1μF D (C3216D1E104MFA)
C501, 507, 514	K78140012	Chip tantalum 25WV 0.47μF (F951E474MRAAF1Q2)
	K78100001	〃 〃 10WV 1μF (F951A105MAA)
C502, 506	K78080003	〃 〃 6.3WV10μF (F950J106MTAAF1Q2)
		TRIMMER CAPACITOR
TC501	K91000155	VCT35C
		INDUCTOR
L501	L1190275	LAL02NAR22M 0.22μH

VCO UNIT

Symbol No.	Part No.	Description
	F2818101	Printed Circuit Board
	C028181AA	PCB with components
		TRANSISTORS
Q601, 602	G3327860L	2SC2786L
		DIODES
D601	G2090248	1T32 Varactor
D602, 603	G2070024	MC2836-T14-2 Si
D604, 605	G2090044	MC301 〃
		RESISTORS
R610	J24205221	RMC 1/10T 221J 1/10W 220Ω
R605	J24205331	〃 〃 331J 〃 330Ω
R601	J24205153	〃 〃 153J 〃 15kΩ
R602	J24205223	〃 〃 223J 〃 22kΩ
R604	J24205273	〃 〃 273J 〃 27kΩ
R603	J24205333	〃 〃 333J 〃 33kΩ
R606	J24205473	〃 〃 473J 〃 47kΩ
R609	J24205683	〃 〃 683J 〃 68kΩ
R608	J24205104	〃 〃 104J 〃 100kΩ
R607	J24205224	〃 〃 224J 〃 220kΩ
		CAPACITORS
C614	K22170202	Chip ceramic 50WV 1pF CH (C2012CH1H010CFA)
C607	K22170203	〃 〃 〃 2pF 〃 (C2012CH1H020CFA)
	K22170206	〃 〃 〃 5pF 〃 (C2012CH1H050CFA)

C603, 605	K22170207	〃 〃 〃 6pF 〃 (C2012CH1H060DFA)
C610	K22170219	〃 〃 〃 22pF 〃 (C2012CH1H220JFA)
C609	K22170225	〃 〃 〃 39pF 〃 (C2012CH1H390JFA)
C604	K22170315	〃 〃 〃 15pF UJ (C2012UJ1H150JFA)
C602	K22170317	〃 〃 〃 18pF 〃 (C2012UJ1H180JFA)
C601, 606, 608 C611－613	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)
		TRIMMER CAPACITORS
TC601, 602	K91000107	ECR-GA015E30 15PF
		INDUCTORS
L601	L0190127	MC122
L602, 603	L1190283	LAL02NAIR0M
L604	L1190277	LAL02NAR33M
		TERMINAL POSTS
	Q5000052	TP-M

2M DRIVE UNIT

Symbol No.	Part No.	Description
	F2806101A	Printed Circuit Board
	C028061AA	PCB with components
		TRANSISTORS
Q701, 703	G3327347	2SC2734G TR
Q702	G3329547	2SC2954-T2
		DIODE
D701	G2090118	1SS97 Schottky
		RESISTORS
R707	J24205100	RMC 1/10T 100J 1/10W 10Ω
R708	J24205560	〃 〃 560J 〃 56Ω
R703	J24205680	〃 〃 680J 〃 68Ω
R704	J24205101	〃 〃 101J 〃 100Ω
R705	J24205151	〃 〃 151J 〃 150Ω
R710	J24205221	〃 〃 221J 〃 220Ω
R702	J24205561	〃 〃 561J 〃 560Ω
R706	J24205102	〃 〃 102J 〃 1kΩ
R701	J24205122	〃 〃 122J 〃 1.2kΩ
R709	J24205563	〃 〃 563J 〃 56kΩ
		CAPACITORS
C712	K00175120	Ceramic disc 50WV 12pF CH (DD104SL120J50)
C716	K22141904	chip ceramic 25WV 0.1μF D (C3216D1E104MFA)
C711	K22170213	〃 〃 〃 12pF 〃 (C2012CH1H120JFA)
C718	K22170315	〃 〃 〃 15pF UF (C2012UJ1H150JFA)
C706	K22170317	〃 〃 〃 18pF UJ (C2012UJ1H180JFA)
C701	K22170223	〃 〃 〃 33pF 〃 (C2012CH1H330JFA)
C713	K22170227	〃 〃 〃 47pF 〃 (C2012CH1H470JFA)
C702－705, C707－710, C714, 717	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)
C715	K78140002	Chip tantalum 25WV 1μF (F951E105SAAF1Q2)
		INDUCTORS
L701, 703	L0021638	
L702	L0020743	

70cm DRIVE UNIT

Symbol No.	Part No.	Description
	F2807101A	Printed Circuit Board
	C028071AA	PCB with components
		TRANSISTORS
Q801, 804	G3333567	2SC3356-T2B
Q802, 803	G3329547	2SC2954-T2
		DIODE
D801	G2090118	1SS97 Schottky
		RESISTORS
R803, 805, 809, 814, 816	J24205100	RMC 1/10T 100J 1/10W 10Ω
R810	J24205560	〃 〃 560J 〃 56Ω
R804, 807, 808, 812, 818	J24205101	〃 〃 101J 〃 100Ω
R806, 813	J24205331	〃 〃 331J 〃 330Ω
R802, 815	J24205561	〃 〃 561J 〃 560Ω
R811	J24205102	〃 〃 102J 〃 1kΩ
R801, 817	J24205272	〃 〃 272J 〃 2.7kΩ
		CAPACITORS
C807, 822	K22170201	chip ceramic 50WV 0.5pF CH (CZ012CH1H0R5CFA)
C823	K22170203	〃 〃 〃 2pF 〃 (C2012CH1H020CFA)
C818	K22170204	〃 〃 〃 3pF 〃 (C2012CH1H030CEA)
C813	K22170207	〃 〃 〃 6pF 〃 (C2012CH1H060JFA)
C808	K22170221	〃 〃 〃 27pF 〃 (C2012CH1H270JFA)
C801	K22170223	〃 〃 〃 33pF 〃 (C2012CH1H330JFA)
C802－806, C809－812, C814－817, C820, 821	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)
C819	K00175220	Ceramic disc 〃 22pF SL (DD104SL220J50)
		TRIMMER CAPACITORS
TC801	K91000101	ECR-GA010D30 10pF
TC803, 804	K91000105	ECR-GA006A30 6pF
TC802	K91000107	ECR-GA015E30 15pF
		INDUCTORS
L801－803	L0021637	
L805, 806	L0020720	
L804, 807, 808	L0021636	

MIC AF UNIT

Symbol No.	Part No.	Description
	F2810101	Printed Circuit Board
	C028101AA	PCB with components
		IC
Q901	G1090726	M5224FP

		TRANSISTOR
Q902	G3316237F	2SC1623-T2BL6
		RESISTORS
R901	J24205101	RMC 1/10T 101J 1/10W 100Ω
R906	J24205331	〃 〃 331J 〃 330Ω
R915	J24205152	〃 〃 152J 〃 1.5kΩ
R904, 913, 918	J24205222	〃 〃 222J 〃 2.2kΩ
R916	J24205472	〃 〃 472J 〃 4.7kΩ
R902	J24205103	〃 〃 103J 〃 10kΩ
R911	J24205153	〃 〃 153J 〃 15kΩ
R920, 921	J24205183	〃 〃 183J 〃 18kΩ
R905, 919, 922	J24205223	〃 〃 223J 〃 22kΩ
R907	J24205333	〃 〃 333J 〃 33kΩ
R903	J24205473	〃 〃 473J 〃 47kΩ
R909, 917	J24205683	〃 〃 683J 〃 68kΩ
	J24205104	〃 〃 104J 〃 100kΩ
R908, 910	J24205124	〃 〃 124J 〃 120kΩ
R912	J24205105	〃 〃 105J 〃 1MΩ
R914	J24205225	〃 〃 225J 〃 2.2MΩ
		CAPACITORS
C907, 908, 910	K22141904	chip ceramic 25WV 0.1μF D (C3216D1E104MFA)
C905	K22170801	〃 〃 50WV 470pF B (C2012B1H471MFA)
C903, 904, 906, 911, 912	K22170805	〃 〃 〃 0.001μF 〃 (C2012B1H102MFA)
C913	K22170813	〃 〃 〃 0.0047μF 〃 (C2012B1H472MFA)
C909	K22170817	〃 〃 〃 0.01μF 〃 (C2012B1H103MFA)
C901	K78080003	Chip tantalum 6.3WV10μF (F950J106MTAAF1Q2)
C915	K78080014	〃 〃 〃 68μF (F950J686MGCAF1)
C902, 914	K78120013	〃 〃 16WV 1μF (F951C105MRAAF1Q2)
		SWITCH
S901	N6090051	SSS212299

VOX UNIT

Symbol No.	Part No.	Description
	F2809101	Printed Circuit Board
	C028091AA	PCB with components
		TRANSISTORS
Q2001, 2003	G3108127F	2SA812-T2BM6B
Q2002	G3316237F	2SC1623-TZBL6
		DIODES
D2001, 2002	G2070018	MC2838-T14-2
		RESISTORS
R2003, 2004	J24205103	RMC 1/10T 103J 1/10W 10kΩ
R2001	J24205153	〃 〃 153J 〃 15kΩ
R2002	J24205473	〃 〃 473J 〃 47kΩ
R2005	J24205104	〃 〃 104J 〃 100kΩ
		CAPACITORS
C2002	K22141904	chip ceramic 25WV 0.1μF D (C3216D1E104MFA)
C2001, 2005	K22170805	〃 〃 50WV 0.001μF B (C2012B1H102MFA)
C2003	K78120013	Chip tantalum 16WV 1μF
C2004	K78120002	〃 〃 〃 2.2μF (F951C225MSAAF1Q2)

INTERFACE UNIT

Symbol No.	Part No.	Description
	F2816101A	Printed Circuit Board
	C028161AA	PCB with components
		RESISTOR
R2101	J24205100	RMC1/10T 100J 1/10W10Ω
		CAPACITORS
C2101−2107	K22170805	chip ceramic 50WV 0.001μF B (C2012B1H102MFA)
		SWITCH
S2101	N4090091	SPJ422N26
		CONNECTORS
J2101	P1090369	HSJ0838-01-010
J2102	P1090370	HSJ0836-01-010
J2103	P1090538	S-G8058

CONNECTOR UNIT

Symbol No.	Part No.	Description
	F2818103	Printed Circuit Board
	C028183AA	PCB with components w/o BAT2201
		ICs
Q2201	G1090696	μPD4094BG
Q2202	G1090600	μPD4011BG
		DIODES
D2201-2207	G2070024	MC2836-T14-2
		RESISTORS
R2201	J24205104	RMC1/10T 104J 1/10W100kΩ
R2202(Vers A)	J01225273	Carbon film 1/6W 27kΩ
R2203(〃)	J01225333	〃 〃 〃 33kΩ
		CAPACITORS
C2201-2208	K22170805	chip ceramic 50WV 0.001μF B (C2012B1H102MFA)
		CONNECTORS
J2201	Q5000080	310-92-164-07
J2202	Q5000081	310-92-164-08
J2203	P0090490	PI22A07M
		BATTERY
BAT2201	Q9000268	CR2032-WT6

TONE BURST UNIT

Symbol No.	Part No.	Description
	F2815101	Printed Circuit Board
	C028151AA	PCB with components
		IC
Q2301	G1090239	TC5082P-G
		CRYSTAL
X2301*	H0101982	HC-18/T 7.168MHz 1750Hz
X2301*	H0101983	〃 7.3728MHz1800Hz

		RESISTORS
R2304	J24205273	RMC 1/10T 273J 1/10W 27kΩ
R2302	J24205683	〃 〃 683J 〃 68kΩ
R2303	J24205154	〃 〃 154J 〃 150kΩ
R2301	J24205474	〃 〃 474J 〃 470kΩ
		CAPACITORS
C2302, C2303	K22170223	chip ceramic 50WV 33pF CH (C2012CH1H330JFA)
C2301	K22170315	〃 〃 〃 15pF UJ (C2012UJ1H150JFA)
C2305	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)
C2304	K22170817	〃 〃 〃 0.01μF 〃 (C2012B1H103MFA)

CONTROL UNIT

Symbol No.	Part No.	Description
	F2803101A	Printed Circuit Board
	C028031AA	PCB with components
		ICs
Q3001	G1090740	HD613901A55
Q3002	G1090728	M5233FP
Q3003, 3004	G1090600	μPD4011BG
Q3005	G1090729	LA5005MH
Q3006	G1090731	LR40872
Q3007	G1090730	PST524C
		TRANSISTORS
Q3008, 3018, 3028, 3030	G3108127F	2SA812-T2BM6B
Q3009	G3112430Y	2SA1243LB-Y
Q3010, 3011 3019－3023 3025－3027 3029, 3031	G3316237F	2SA1623-T2BL6
Q3012－3015, 3017	G3113657G	2SA1365AG
Q3016	G3207667R	2SB766-R TW
Q3024	G3413667D	2SD1366A-AD-TR
Q3032, 3033	G3070001	FA1A4M
		DIODES
D3001, 3002, 3004 3007, 3008 3010, 3011, 3015 3016, 3019	G2070018	MC2838-T14-2 Si
D3009	G2070024	MC2836-T14-2 〃
D3013	G2090118	1SS97 Schottky
D3003	G2090111	HZ6C1 Zener
D3014	G2090365	HZ5ALL 〃
D3017	G2090201	RD3.3EB2 〃
D3018	G2090266	RD3.9EB2 〃
D3005	G2070028	SLM-23VMW T-97 LED
D3012	G2070030	SLM-13VM T-97 〃
D3020-3025	G2070036	SLM-13MW T-97 〃
D3026	G2015550	1S1555 Si
		LIQUID CRYSTAL DISPLAY
DS3001	G6090054	LS183-A
		CERAMIC RESONATORS
CO3001	H7900270	CSB800k
CO3002	H7900337	FAR-C4CA-03580000-MOO-S
		BEEPER

BZ3001	M4290001	FEBRE-25D02
		RESISTORS
R3008	J02245470	Carbon film 1/4W 47Ω SJ
3035, 3050, 3063	J24205000	RMC 1/10T 000J 1/10W 0Ω
R3049	J24205101	〃 〃 101J 〃 100Ω
R3027, 3056	J24205331	〃 〃 331J 〃 330Ω
R3110	J24205391	〃 〃 391J 〃 390Ω
R3083	J24205471	〃 〃 471J 〃 470Ω
R3057, 3100－3105	J24205681	〃 〃 681J 〃 680Ω
R3004, 3012－3014 3016, 3024, 3030, 3077	J24205102	〃 〃 102J 〃 1kΩ
R3054, 3109	J24205222	〃 〃 222J 〃 2.2kΩ
R3010	J24205272	〃 〃 272J 〃 2.7kΩ
R3005, 3007	J24205332	〃 〃 332J 〃 3.3kΩ
R3107	J24205392	〃 〃 392J 〃 3.9kΩ
R3017, 3020－3023, 3026, 3031	J24205472	〃 〃 472J 〃 4.7kΩ
R3011	J24205682	〃 〃 682J 〃 6.8kΩ
R3006, 3009, 3019, 3044－3046, 3079, 3082, 3085, 3086, 3088, 3092, 3094, 3096－3098	J24205103	〃 〃 103J 〃 10kΩ
R3039	J24205123	〃 〃 123J 〃 12kΩ
R3053	J24205153	〃 〃 153J 〃 15kΩ
R3040, 3043	J24205223	〃 〃 223J 〃 22kΩ
R3042	J24205393	〃 〃 393J 〃 39kΩ
R3001, 3002, 3015, 3037, 3038, 3047, 3048, 3055, 3058－3062, 3065－3072, 3078, 3108	J24205473	〃 〃 473J 〃 47kΩ
R3028	J24205683	〃 〃 683J 〃 68kΩ
R3032, 3041	J24205823	〃 〃 823J 〃 82kΩ
R3003, 3018, 3025, 3033, 3034, 3051, 3080, 3081, 3090, 3091, 3093, 3095, 3106	J24205104	〃 〃 104J 〃 100kΩ
R3073－3076	J24205224	〃 〃 224J 〃 220kΩ
R3064, 3084, 3087 3089, 3099	J24205105	〃 〃 105J 〃 1MΩ
R3029	J01215471	Carbon film 1/8W 470kΩ TJ
R3106	J01215104	Carbon film 1/8W 100kΩ 〃
		POTENTIOMETERS
VR3001	J60800105	K0911100B-5R111-20KA 20kΩA (VOL)
VR3002	J60800111	K0911005K-5KB 5kΩ0B3 (SQL)
VR3003, 3004	J51762473	H0521A117A-47KB 47kΩB
		CAPACITORS
C3056	K12171101	Ceramic disc 50WV 0.001μF E (DD104E102P50)
C3029－3032, 3044, 3045	K22170235	Chip Ceramic 〃 100pF CH (C2012CH1H101JFA)
C3070－3073	K22170227	〃 〃 〃 47pF 〃 (C2012CH1H470JFA)
C3007, 3012, 3015－3026, 3028, 3033－3035, 3039, 3041, 3047－3050 3052－3055 3058－3060, 3062, 3063, 3065－3069	K22170805	〃 〃 〃 0.001μF B (C2012B1H102MFA)

C3001, 3003, 3005, 3006, 3010, 3011, 3013, 3040, 3042, 3043	K22170817	〃 〃 〃 0.01μF 〃 (C2012B1H103MFA)
C3039	K22141904	〃 〃 25WV 0.1μF D (C3216D1E104MFA)
C3046	K40089010	Electrolytic 6.3WV 220μF (RC2-6V221M)
C3014	K40089003	〃 〃 47μF (RC2-6V101M)
C3009, 3057	K40089003	〃 16WV 100μF (RC2-16V101M)
C3051	K70147225	Tnatalum 25WV 2.2μF (DN1E2R2MIS)
C3064	K78140002	Chip tantalum 25WV 1μF (F951E105MSAAF1Q2)
C3004	K78080002	〃 〃 6.3WV 4.7μF (F950J475MSAAF1Q2)
C3002, 3036	K78080003	〃 〃 〃 10μF (F950J106MTAAF1Q2)
C3027	K78120002	〃 〃 16WV 2.2μF (F951C225MSAAF1Q2)
		MICROPHONE
MIC3001	M3290007	EM-78
		SPEAKER
SP3001	M4090063	TO36S13Y2611
		SWITCHES
S3001		with VR3001
S3002, 3003	N4090091	SPJ422N26
S3004, 3005	N6090060	SSS712
		LAMP
PL3001	Q1000060	KD-0001-01 6V 40AM
	R0507460	LCD MOUNT

ACCFSSORIES

Symbol No.	Part No.	Description
		ANTENNA
	Q3000046	YHA-27
		Ni-Cd BATTERY PACK* FNB-3A FNB-4A
		DRY BATTERY CASE*
		FBA-5A
		CHARGER FOR FNB-3A*
	Q9000070	NC-9A 100V AC
	Q9000071	NC-9B 117V AC
	Q9000072	NC-9C 220-234V AC
		CHARGER FOR FNB-4A*
	Q9000279	NC-18A 100V AC
	Q9000280	NC-18B 117V AC
	Q9000281	NC-18C 220-234V AC
		CARRYING CASE*
		CSC-17 use W/FNB-3A
		CSC-18 use W/FNB-4A