UNIT BOARDS

TX-RX UNIT·RF (X57-409X-XX) B/4 0-11: K, P 2-71: T, X, E, E2, E3, M, M2

Component side

Four-Layer board display

Pattern A
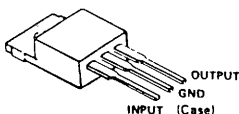Pattern B
Pattern C
Pattern D

- ▨ Patterns A and B are connected.
- ⊙ Patterns A and C are connected.
- ● Patterns A and D are connected.
- △ Patterns B and C are connected.
- ▲ Patterns B and D are connected.
- ⊡ Patterns C and D are connected.
- ⊙ Patterns A, B and C are connected.
- ⊙ Patterns A, B and D are connected.
- ⬡ Patterns A, C and D are connected.
- ▢ Patterns B, C and D are connected.
- △ Patterns A, B, C and D are connected.
- ◯ Only pattern A is connected.
- ⬠ Only pattern B is connected.
- △ Only pattern C is connected.
- ▢ Only pattern D is connected.
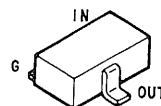
The non-mark indicates no connection.

A pattern
D pattern

REM
G
EXTSI
PTT
IM
MIC
MDT
5MS
EL
APC
5TU
5R80
SUBV
SUBU
AIR
5R43
5R14
5R36
5TV
ULU
CP
DP
MODU
SHU
EU
5CU
MODV
SHV
5CV
ULV
EV
IF6
IFV

65

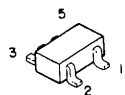| MA110 | DTB113ZK | DTA114YE |
MA8039	2SC4215	DTA144WE
	2SC4617	DTC114EE
	2SC4619	DTC114YE
		DTC144EE

OUTPUT
GND
INPUT (Case)
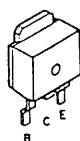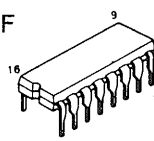
IN
OUT

TH-78A/E

B pattern
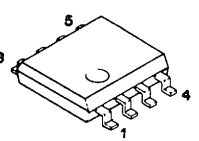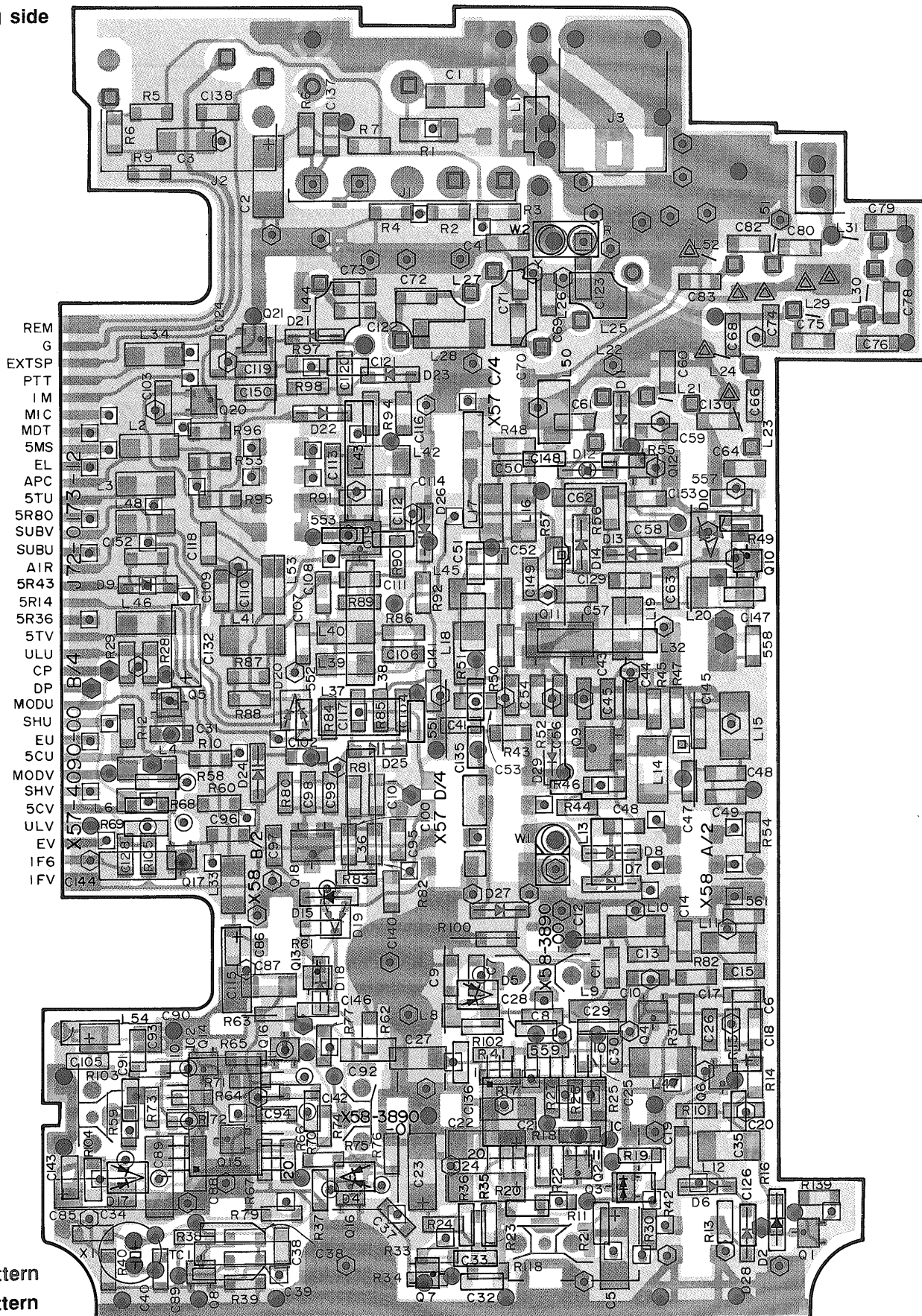C pattern

FMA1
FMC4
FMW1

2SB1182F5

TC9174F

LM301AD
NJM4560E

66

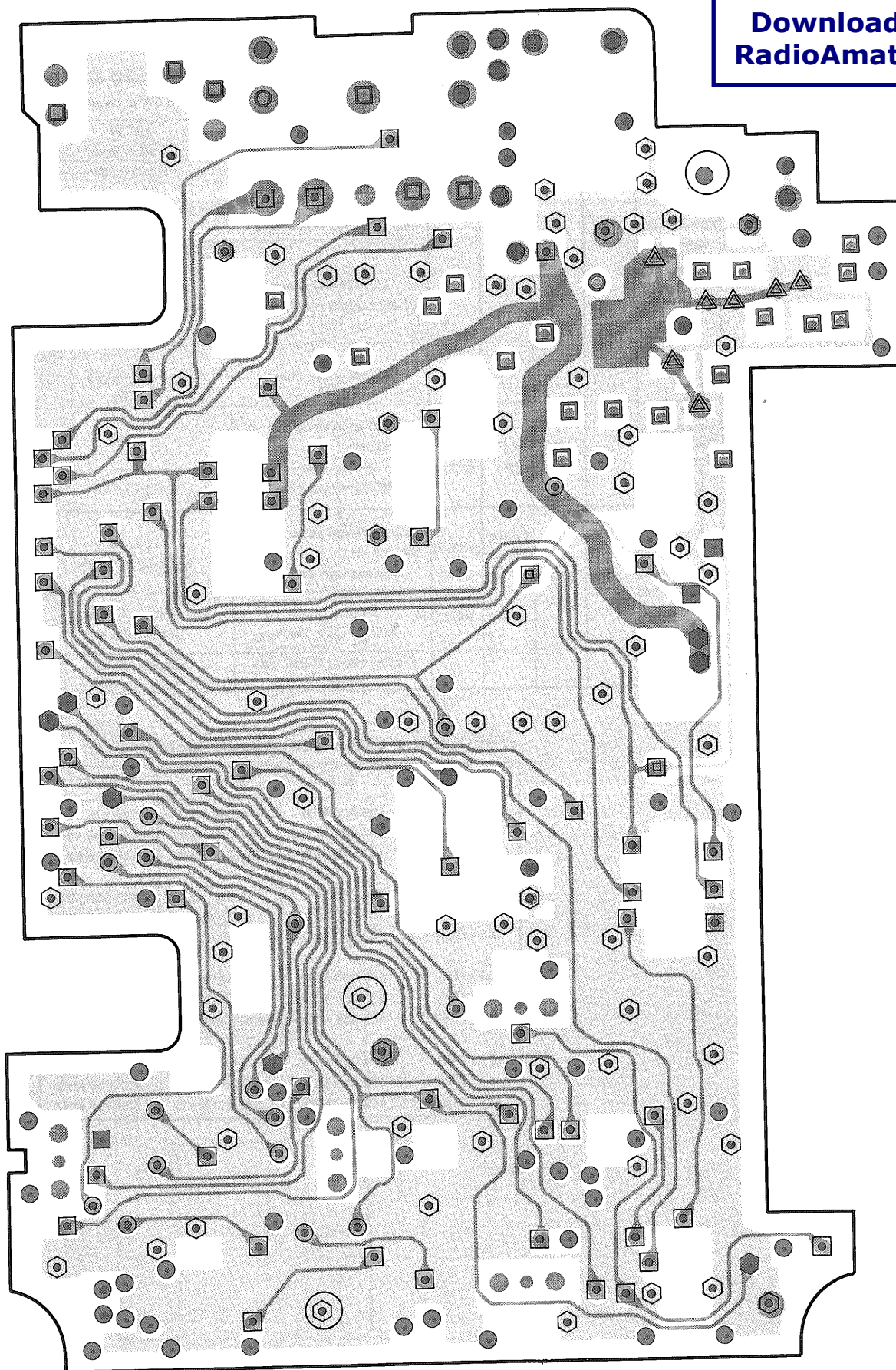**TX-RX UNIT·RF (X57-409X-XX) B/4   0-11: K, P   2-71: T, X, E, E2, E3, M, M2**

Soldering side

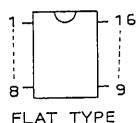(Edge connector labels, top to bottom:)

REM
G
EXTSP
PTT
I M
MIC
MDT
5MS
EL
APC
5TU
5R8O
SUBV
SUBU
AIR
5R43
5RI4
5R36
5TV
ULU
CP
DP
MODU
SHU
EU
5CU
MODV
SHV
5CV
ULV
EV
IF6
IFV

Legend:
- B pattern
- C pattern
- A pattern
- D pattern

67

2SK879   TA7787AF   NJM2073S

NJM2073S

TH-78A/E

B pattern
C pattern

MC3372D   1 ⎵ 16   S-81250HG-RD

8   9

FLAT TYPE

G V V
   IN OUT

TX-RX UNIT·IF (X57-409X-XX) A/4   0-11: K, P   2-71: T, X, E, E2, E3, M, M2

TH-78A/E

Component side

Four-Layer board display
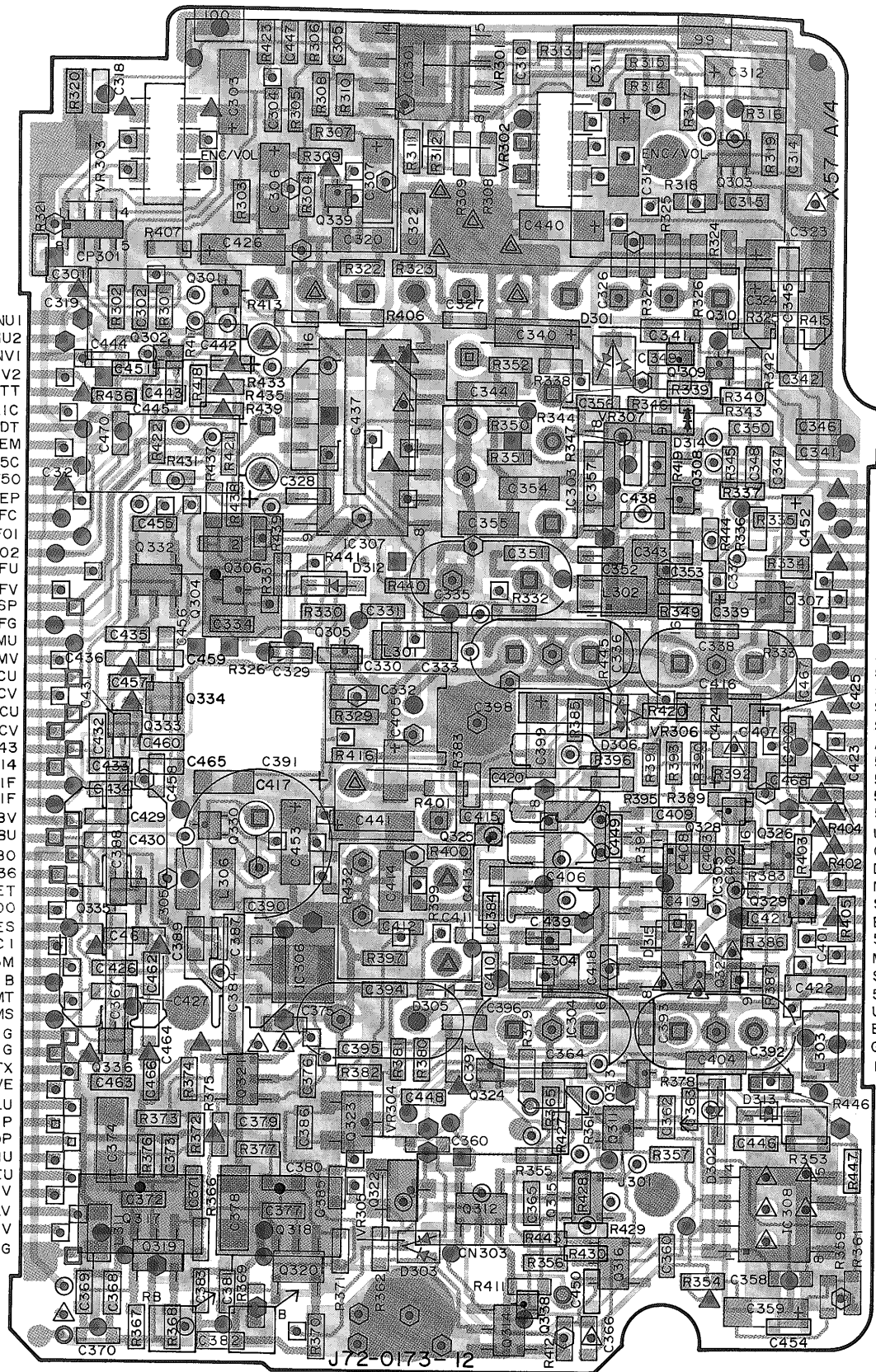
- Pattern A
- Pattern B
- Pattern C
- Pattern D

- ▨ Patterns A and B are connected.
- ⊙ Patterns A and C are connected.
- ● Patterns A and D are connected.
- △ Patterns B and C are connected.
- ▲ Patterns B and D are connected.
- ⊡ Patterns C and D are connected.
- ⊙ Patterns A, B and C are connected.
- ⊙ Patterns A, B and D are connected.
- ⬡ Patterns A, C and D are connected.
- ▢ Patterns B, C and D are connected.
- △ Patterns A, B, C and D are connected.
- ○ Only pattern A is connected.
- ⬡ Only pattern B is connected.
- △ Only pattern C is connected.
- ▢ Only pattern D is connected.

The non-mark indicates no connection.

A pattern

D pattern

MA110
MA360
MA77

OUTPUT
GND
INPUT (Case)

2SC4083
2SC4617
2SA1832
2SC4726
2SC4738
2SC4839-J
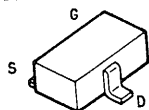2SC4226

B
E   C

DTC114YE

IN
G   OUT

73
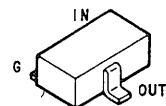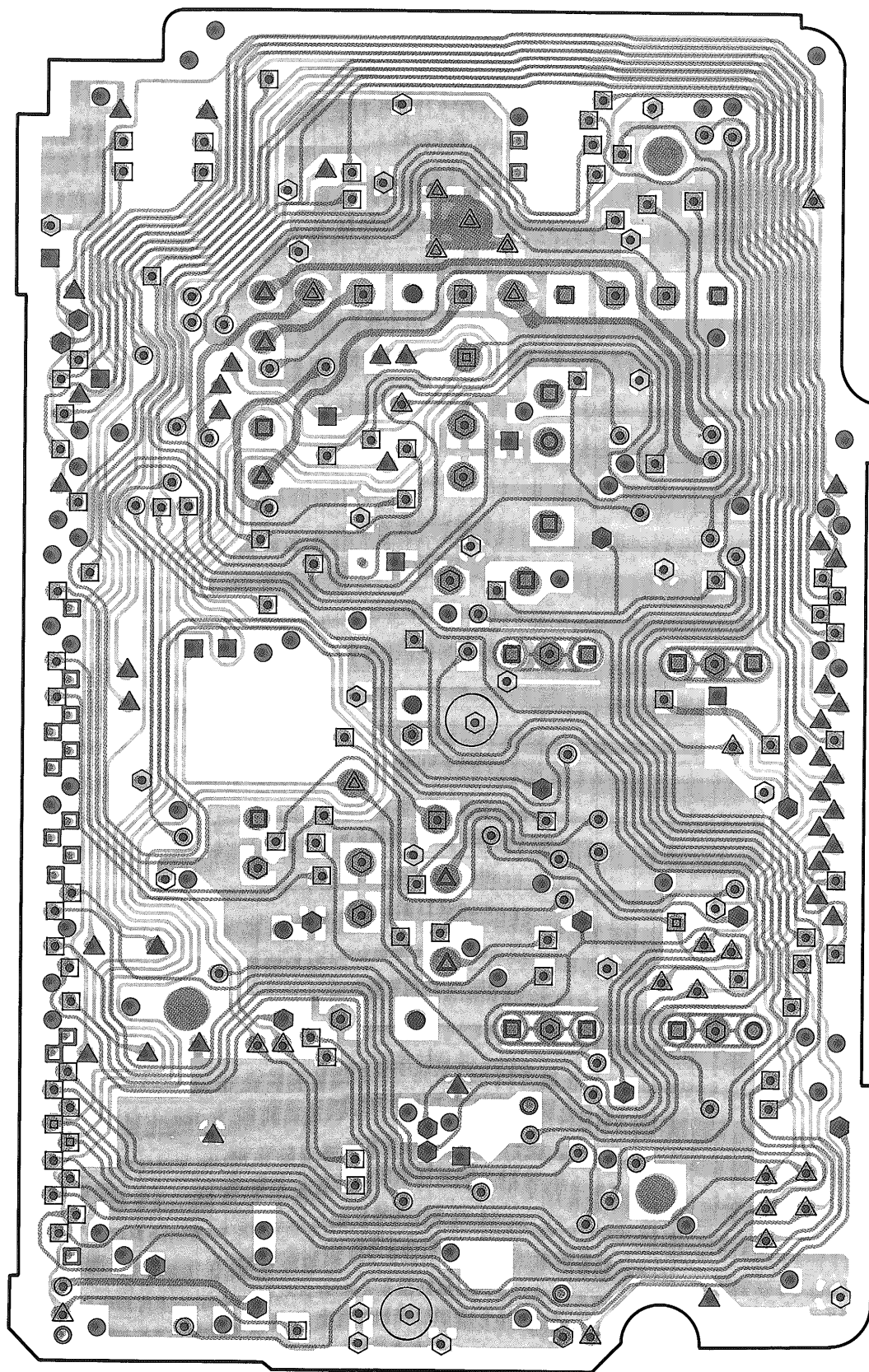
TH-78A/E
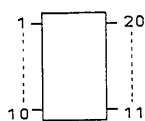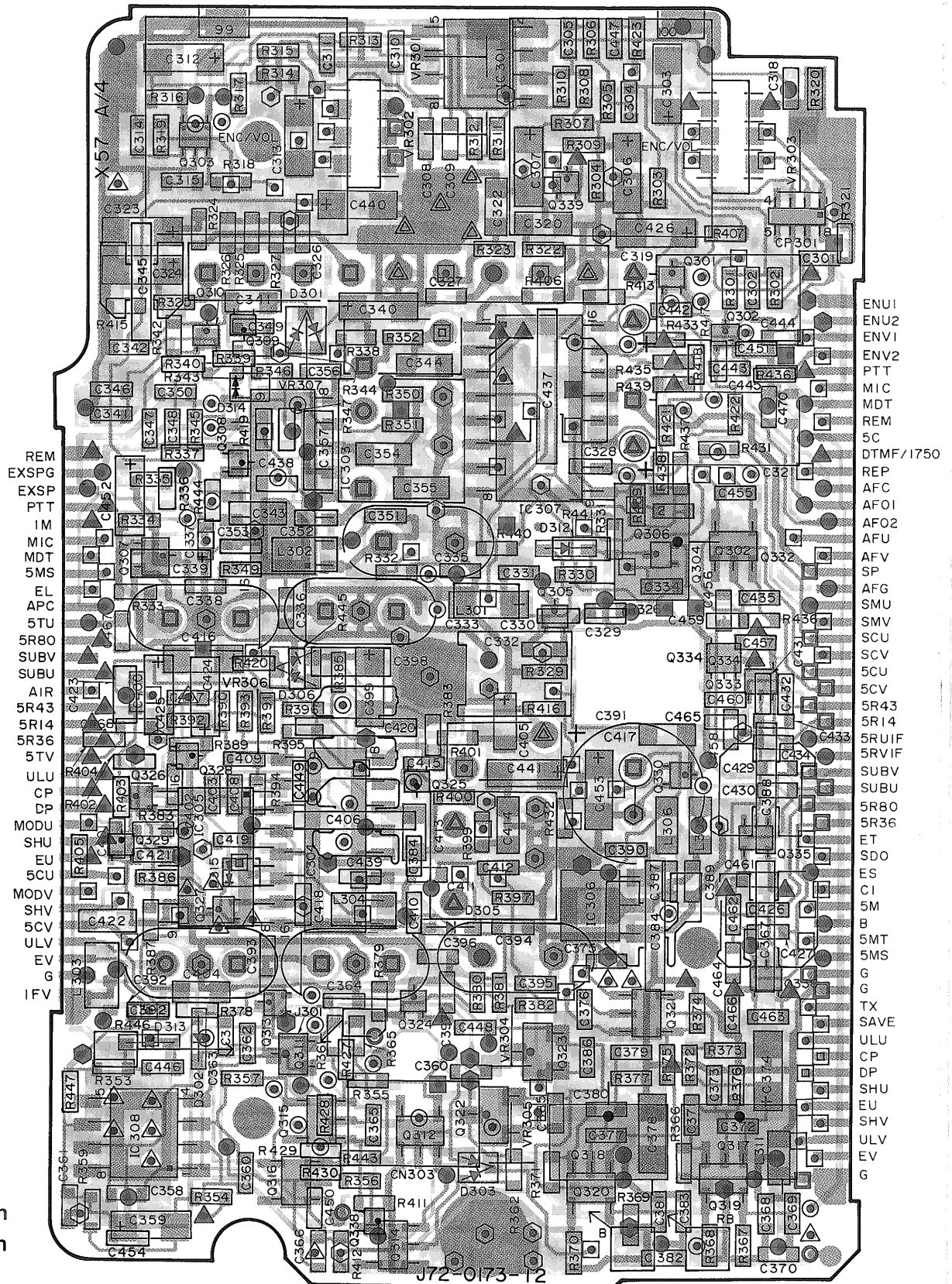

B patter
C patter

2SK1824

MB1511PFV-G-BND

74

TH-78A/E

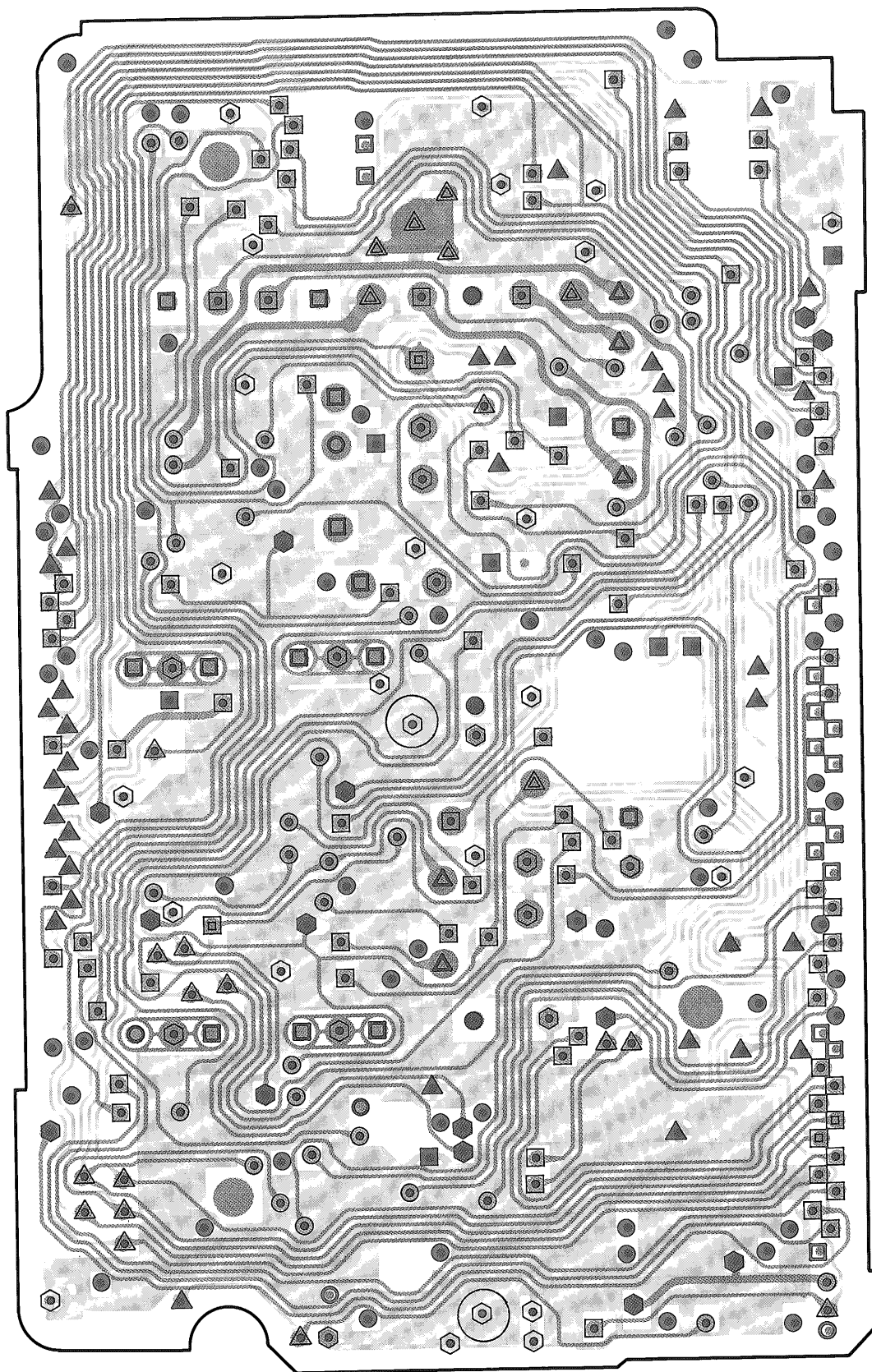**TX RX UNIT·IF (X57-409X-XX) A/4　0-11: K, P　2-71: T, X, E, E2, E3, M, M2**
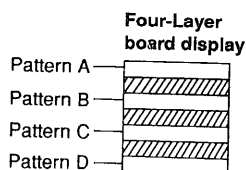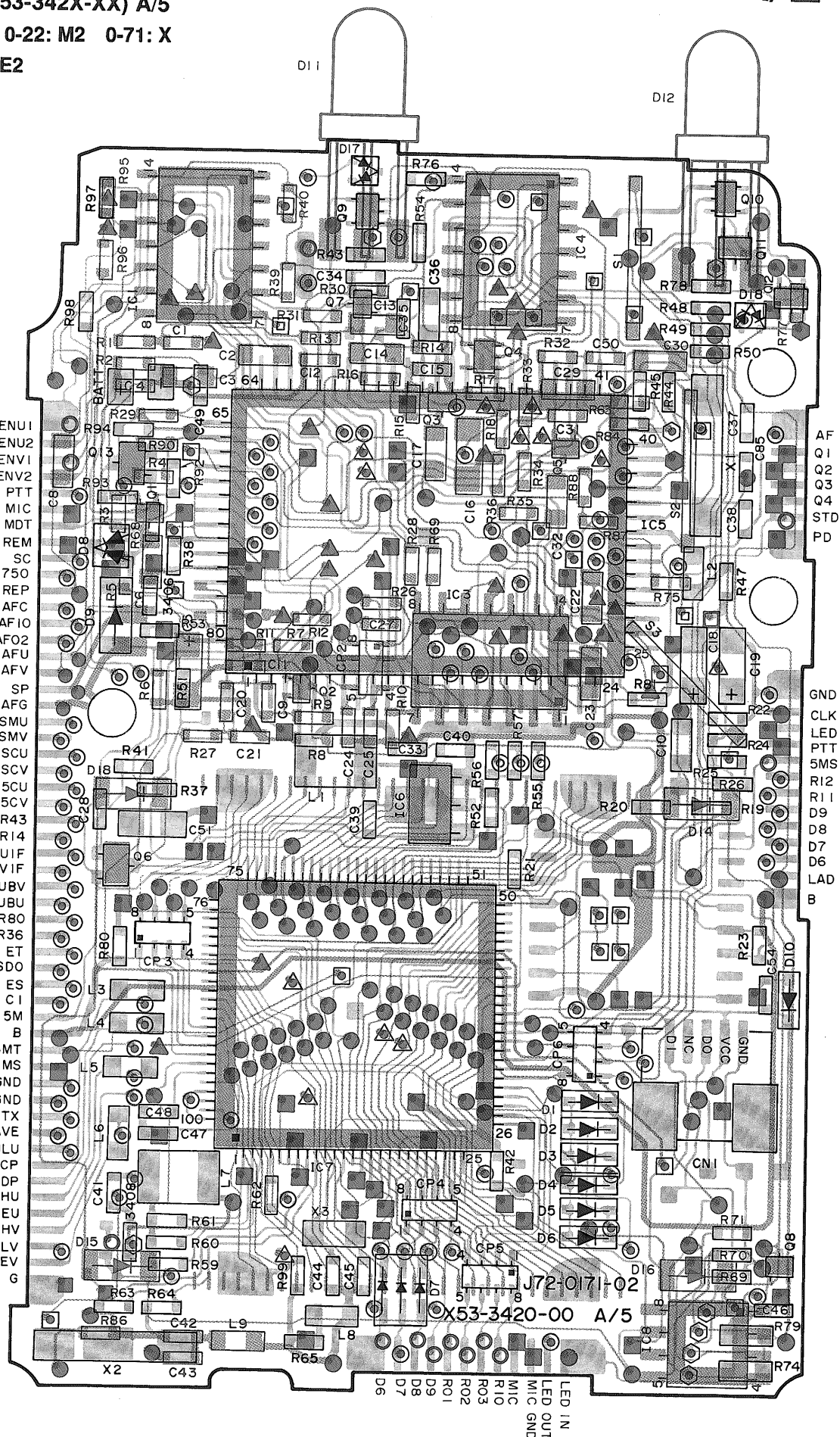**Soldering side**

A pattern
D pattern

TH-78 A/E

B pattern
C pattern

CONTROL UNIT (X53-342X-XX) A/5

0-11: K, P   0-21: M   0-22: M2   0-71: X
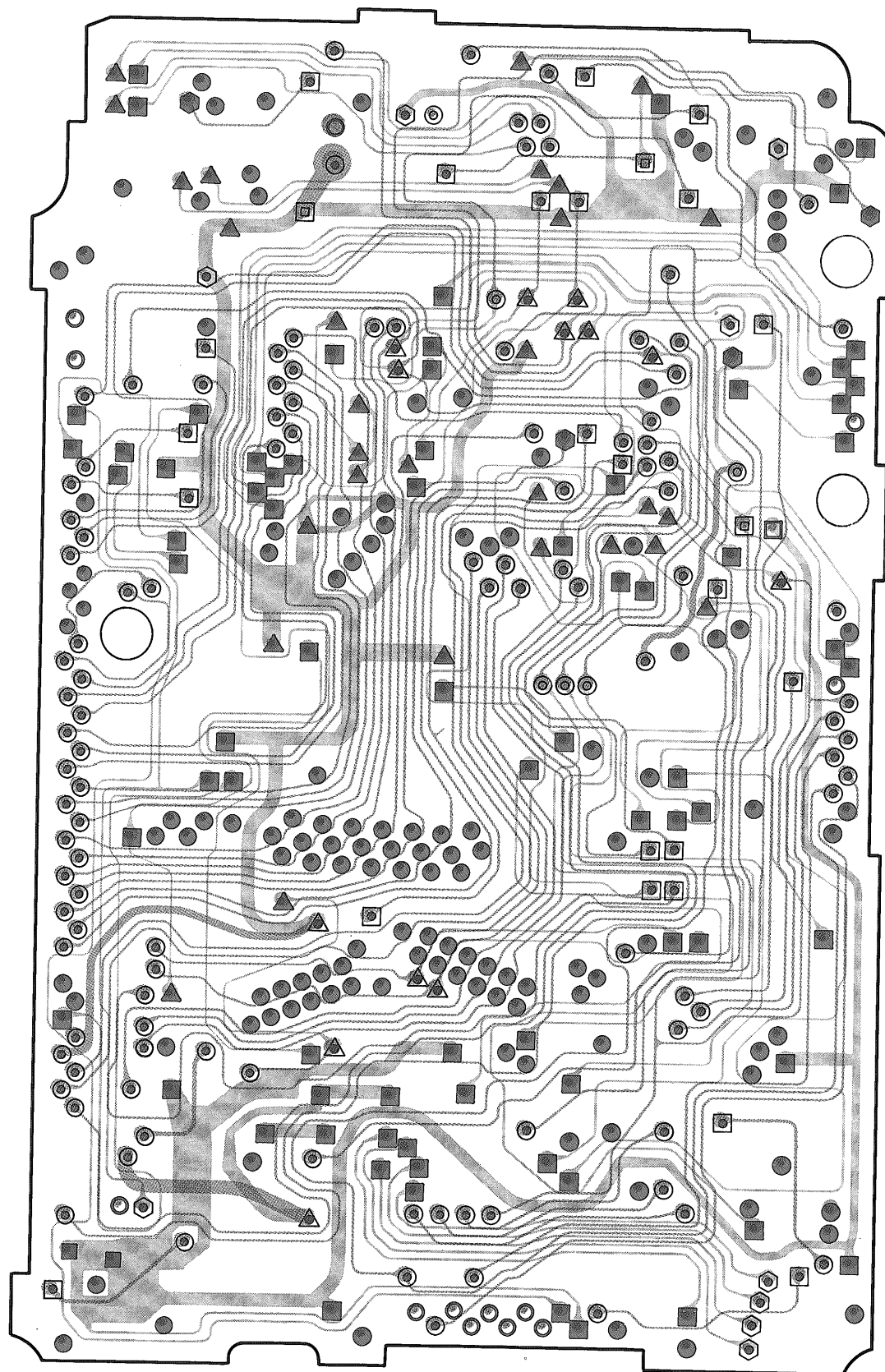
2-71: T, E, E3   2-72: E2

Component side

Four-Layer board display

Pattern A
Pattern B
Pattern C
Pattern D

Patterns A and B are connected.
Patterns A and C are connected.
Patterns A and D are connected.
Patterns B and C are connected.
Patterns B and D are connected.
Patterns C and D are connected.
Patterns A, B and C are connected.
Patterns A, B and D are connected.
Patterns A, C and D are connected.
Patterns B, C and D are connected.
Patterns A, B, C and D are connected.
Only pattern A is connected.
Only pattern B is connected.
Only pattern C is connected.
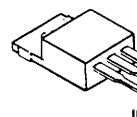Only pattern D is connected.

The non-mark indicates no connection.

A pattern
D pattern

ENU1
ENU2
ENV1
ENV2
PTT
MIC
MDT
REM
SC
DM/1750
REP
AFC
AFIO
AFO2
AFU
AFV
SP
AFG
SMU
SMV
SCU
SCV
5CU
5CV
SR43
SRI4
5RUIF
5RVIF
SUBV
SUBU
5R80
5R36
ET
SDO
ES
CI
5M
B
5MT
5MS
GND
GND
TX
SAVE
ULU
CP
DP
SHU
EU
SHV
ULV
EV
G

AF
Q1
Q2
Q3
Q4
STD
PD

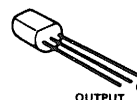GND
CLK
LED
PTT
5MS
RI2
RII
D9
D8
D7
D6
LAD
B

81

B30-0897-0
B30-2033-0
B30-2039-0
MA110

DTA143XE
2SC4617
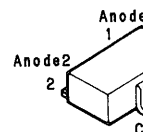
2SJ144

S-8054ALR-

OUTPUT

BU4066BF

MA741WK

Anode

Anode2

B pattern
C pattern

76   82
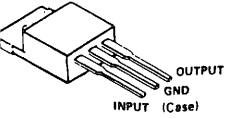
UNIT BOARDS

CONTROL UNIT (X53-342X-XX) A/5

0-11: K, P   0-21: M
0-22: M2   0-71: X
2-71: T, E, E3   2-72: E2

TH-78A/E
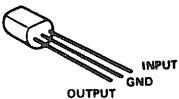
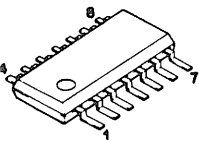Soldering side

B30-0897-05
B30-2033-05
B30-2039-05
MA110
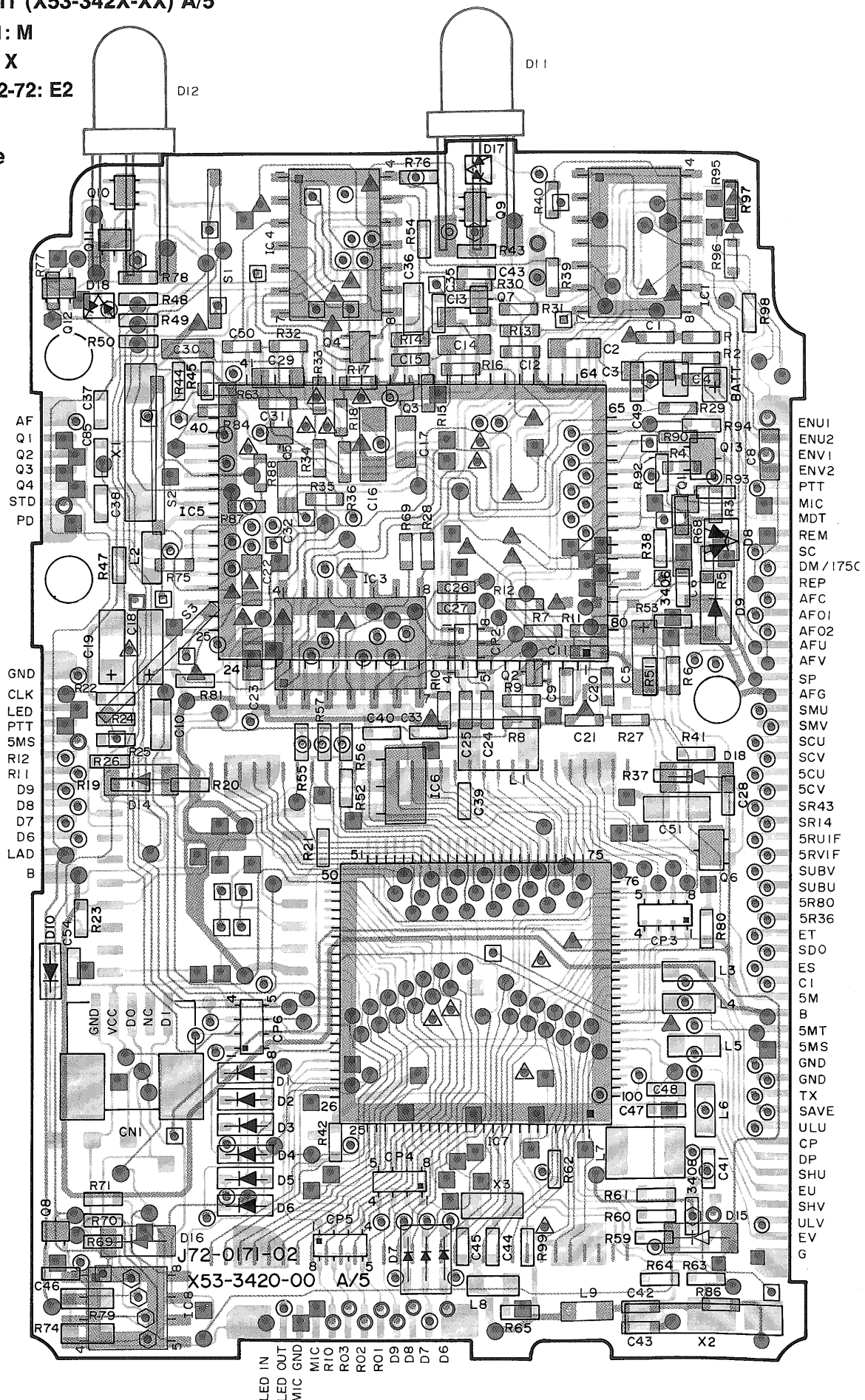
OUTPUT
GND
INPUT (Case)

DTA143XE
2SC4617

B
E
C

2SJ144

S
D
G

S-8054ALR-LN

INPUT
GND
OUTPUT

BU4066BF

MA741WK

Anode1 1
Anode2 2
3 Cathode

| B pattern
| C pattern

A pattern
D pattern

AF
Q1
Q2
Q3
Q4
STD
PD

GND
CLK
LED
PTT
5MS
R12
R11
D9
D8
D7
D6
LAD
B

GND
VCC
DO
NC

ENU1
ENU2
ENV1
ENV2
PTT
MIC
MDT
REM
SC
DM/175C
REP
AFC
AFO1
AFO2
AFU
AFV
SP
AFG
SMU
SMV
SCU
SCV
5CU
5CV
SR43
SR14
5RU1F
5RV1F
SUBV
SUBU
5R80
5R36
ET
SDO
ES
C1
5M
B
5MT
5MS
GND
GND
TX
SAVE
ULU
CP
DP
SHU
EU
SHV
ULV
EV
G

J72-0171-02

X53-3420-00 A/5

LED IN
LED OUT
MIC GND
MIC
RI0
RO3
RO2
RO1
D9
D8
D7
D6

83

TH-78A/E

2SK1824

DTC114EE

UMC4

HD404629A20H

100 76
1 75
25 51
26 50

75517GF-122-3B9

80 65
1 64
24 41
25 40

DS1267S-10

1 16
8 9
FLAT TYPE

B pattern
C pattern

UNIT BOARDS

TX-RX UNIT (X57-409X-XX) C/4

Component side

A pattern
D pattern

B pattern
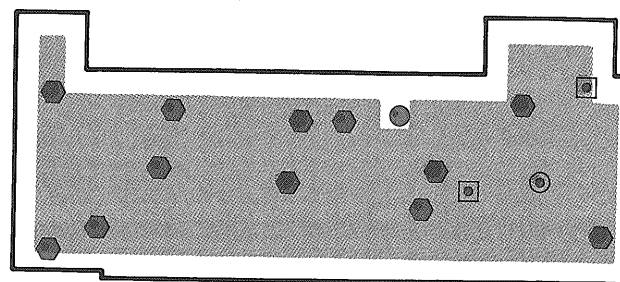C pattern

Soldering side
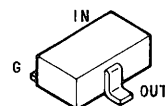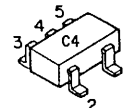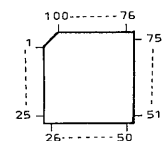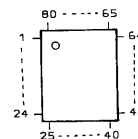
A pattern
D pattern

B pattern
C pattern

TX-RX UNIT (X57-409X-XX) D/4
Component side

A pattern
D pattern

B pattern
C pattern

Soldering side

A pattern
D pattern

B pattern
C pattern

89

TH

SUB UNIT (VHF VCO) (X58-3890-00)

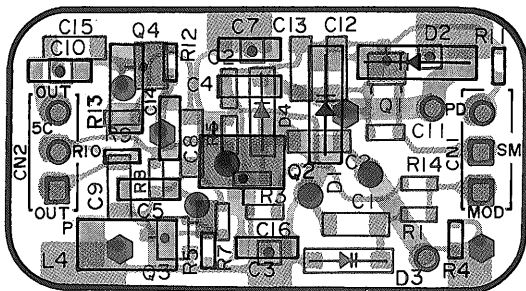### Component side

A pattern
D pattern

Soldering side

A pattern
D pattern

C pattern
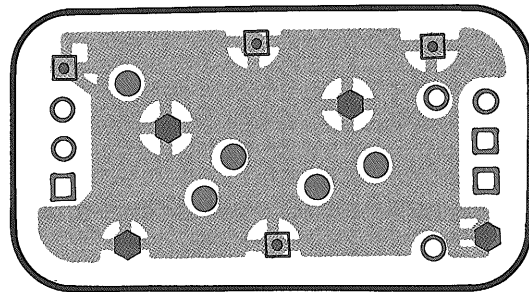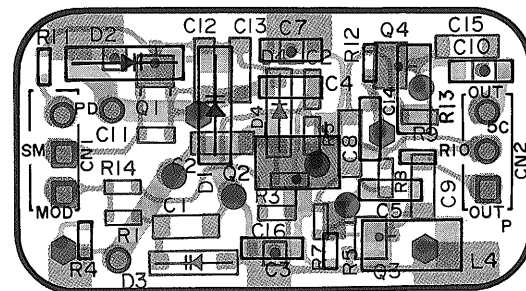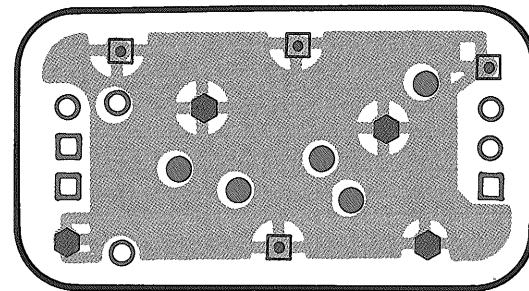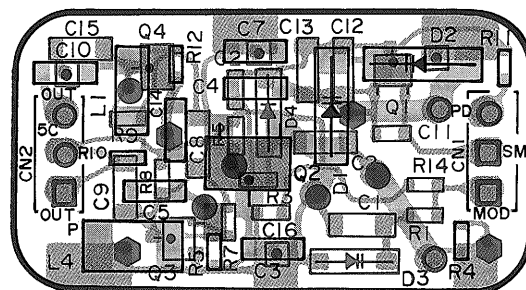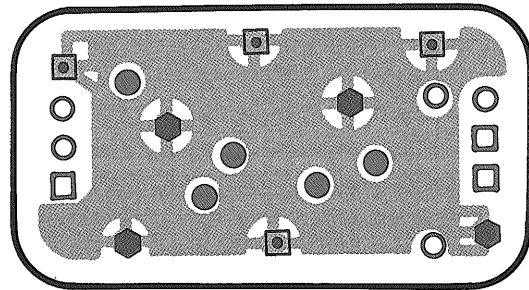
C pattern

SUB UNIT (UHF VCO) (X58-3890-01)

Component side
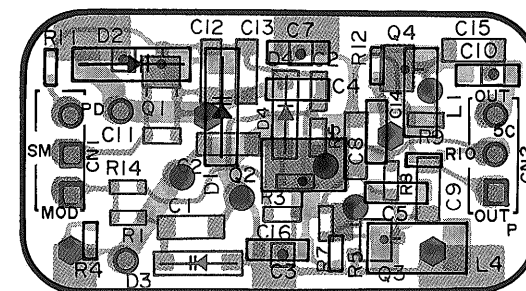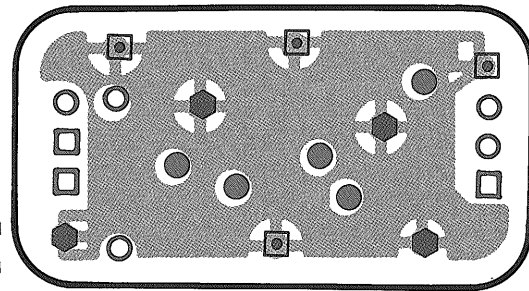
A pattern
D pattern

C pattern

Soldering side

B pattern
C pattern

C pattern

Four-Layer board display

Pattern A
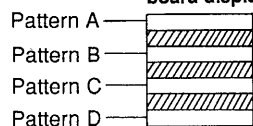Pattern B
Pattern C
Pattern D

■ Patterns A and B are connected.
⊙ Patterns A and C are connected.
● Patterns A and D are connected.
◬ Patterns B and C are connected.
▲ Patterns B and D are connected.
▣ Patterns C and D are connected.
⊙ Patterns A, B and C are connected.
⊙ Patterns A, B and D are connected.

⬟ Patterns A, C and D are connected.
▣ Patterns B, C and D are connected.
△ Patterns A, B, C and D are connected.
○ Only pattern A is connected.
⬡ Only pattern B is connected.
△ Only pattern C is connected.
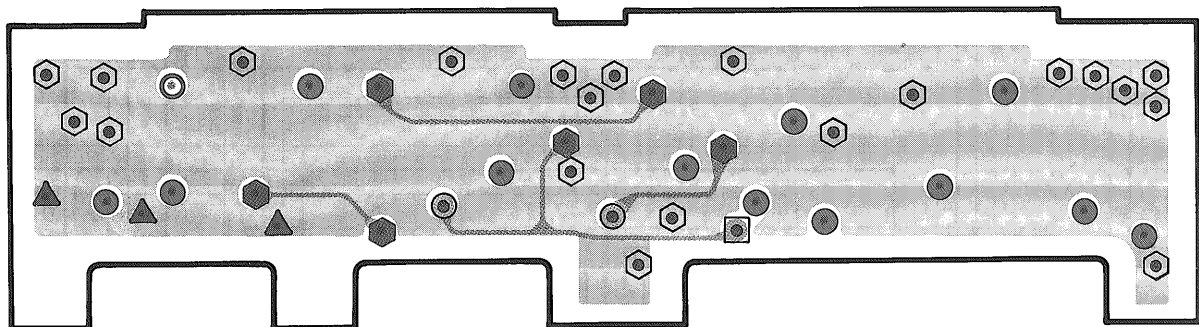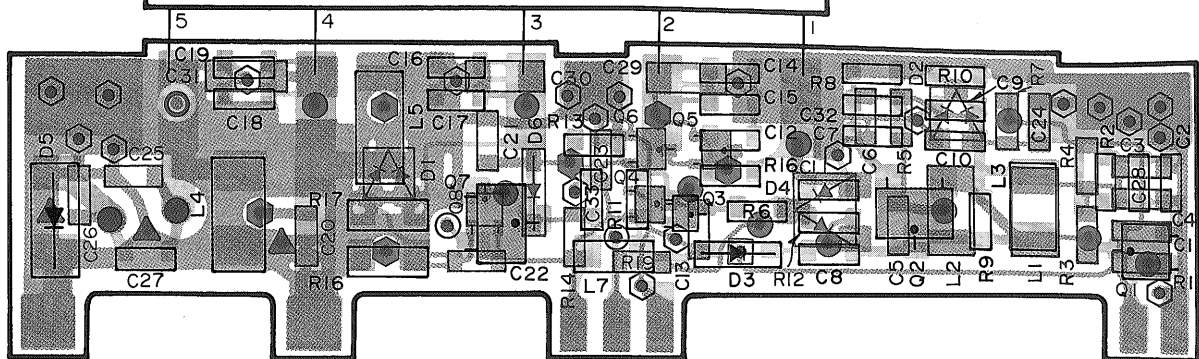□ Only pattern D is connected.
The non-mark indicates no connection.
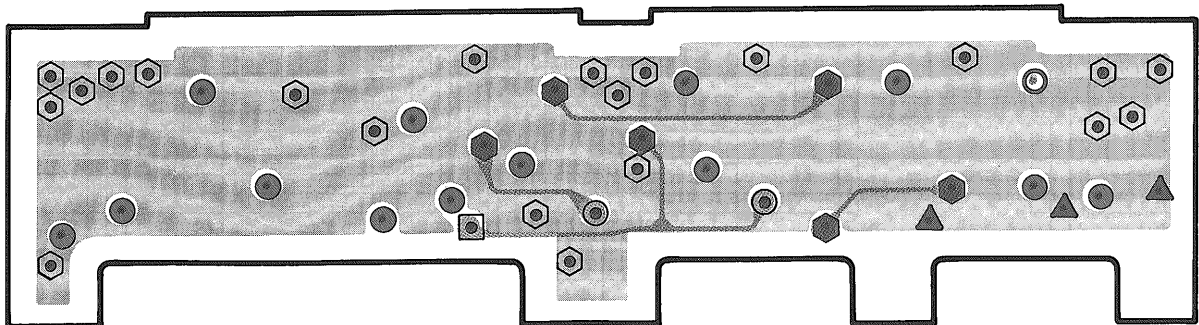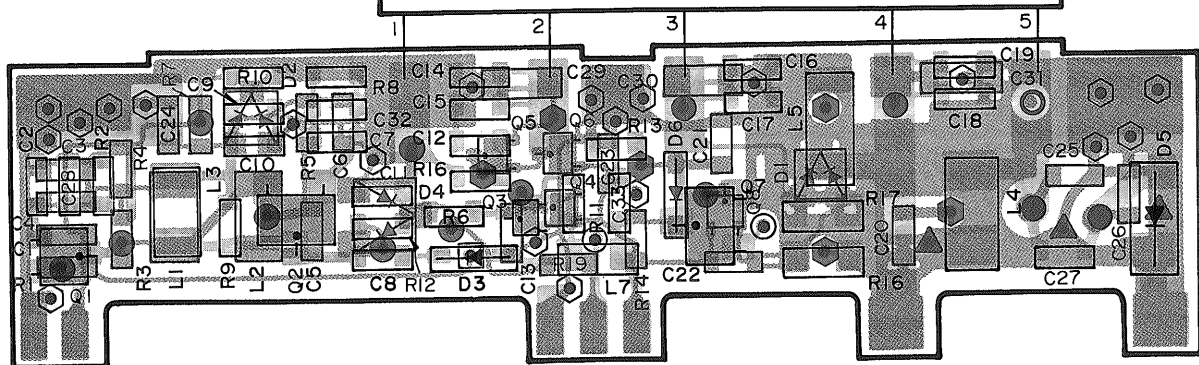
SUB UNIT (UHF POWER AMP) (X58-3900-00) A/2
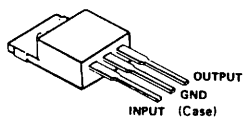
Component side

UHF POWER MODULE

C pattern

A patt
D patt

C pattern

B patt
C patt

Soldering side

UHF POWER MODULE

C pattern

A patt
D patt

C pattern

B patt
C patt

MA333
MA360
MA77
MA110
1SV172

OUTPUT
GND
INPUT (Case)

DTB113ZK
2SC3356
2SC4083
DTA143XE
2SC4226
2SC4619
2SC4726
2SC4738

B
E   C

2SK1824

G
S   D

ected.
ected.
nnected.

nnection.

91
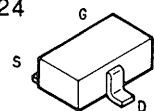
SUB UNIT (VHF POWER AMP) (X58-3900-00) B/2

Component side
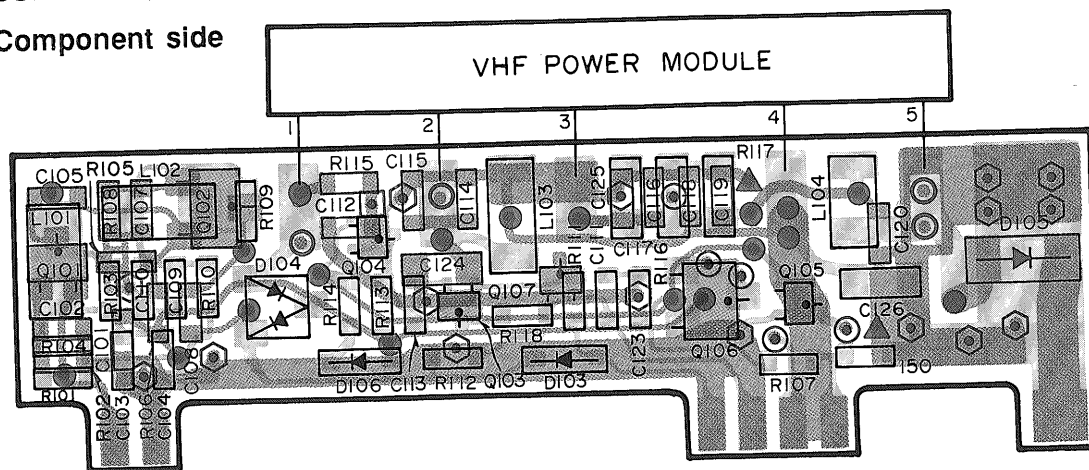
VHF POWER MODULE

A pattern
D pattern

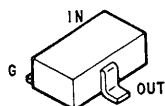B pattern
C pattern

Soldering side
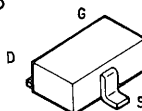
VHF POWER MODULE
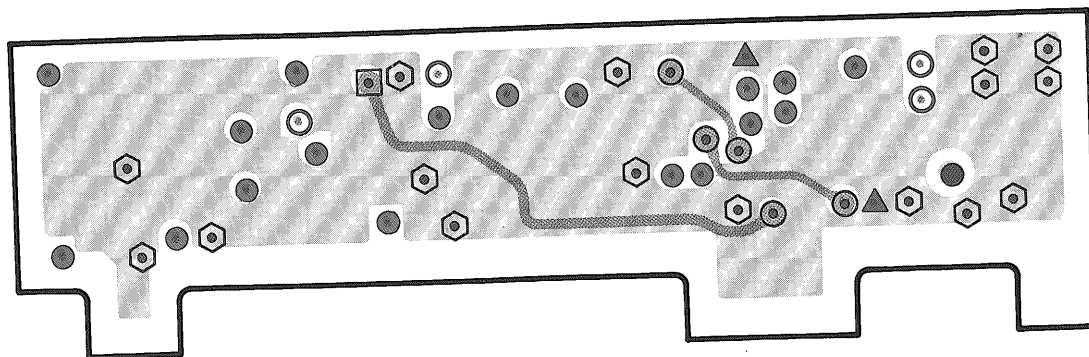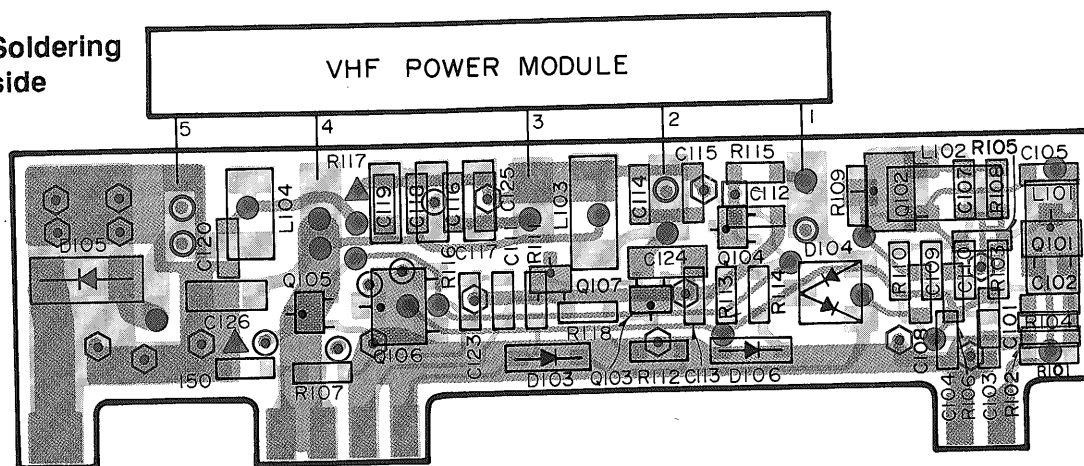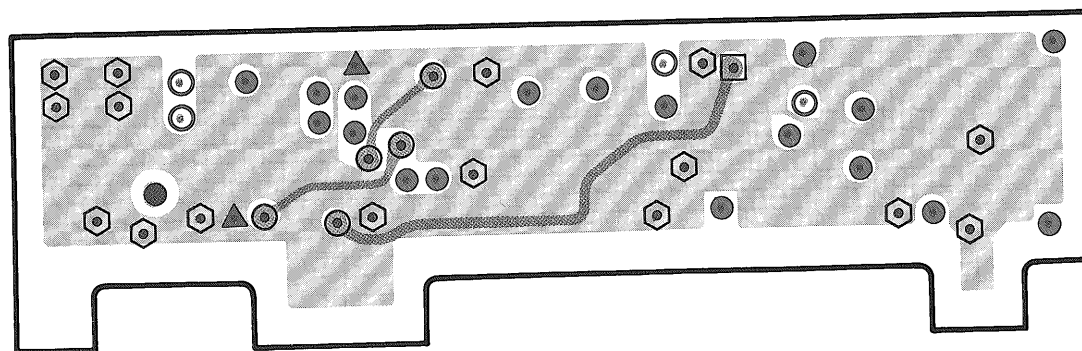
A pattern
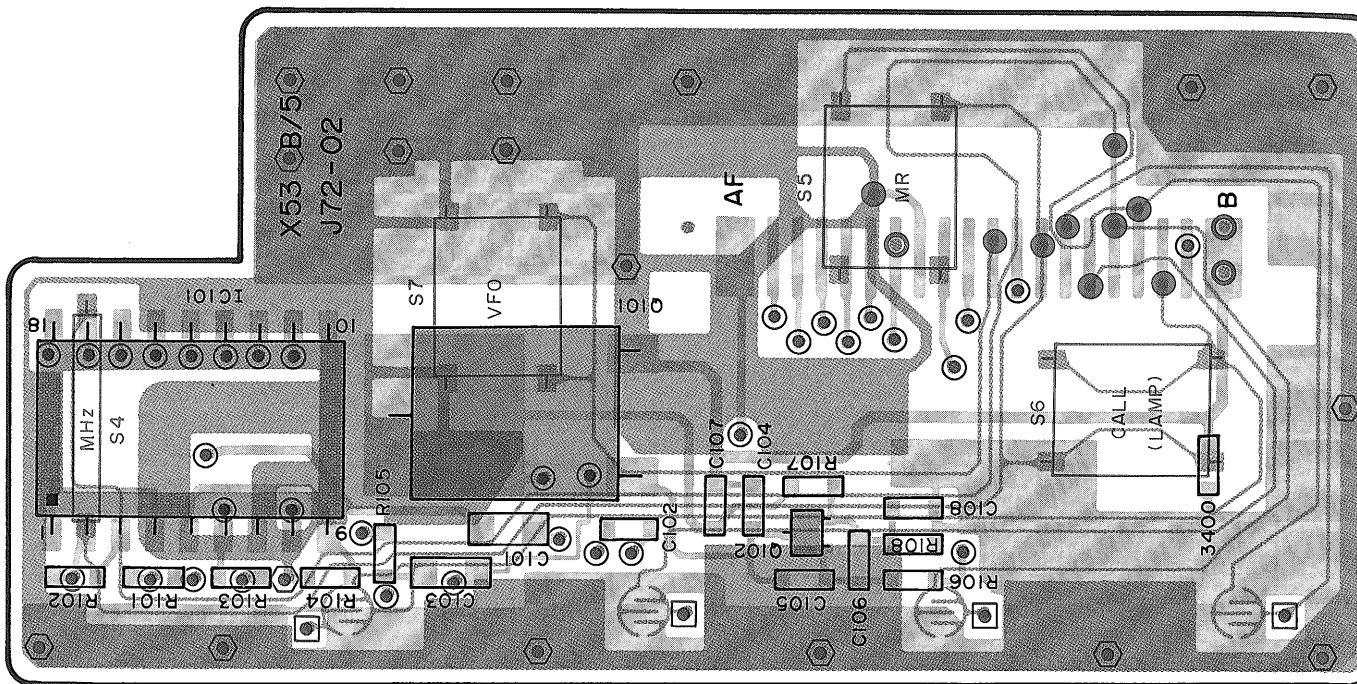D pattern

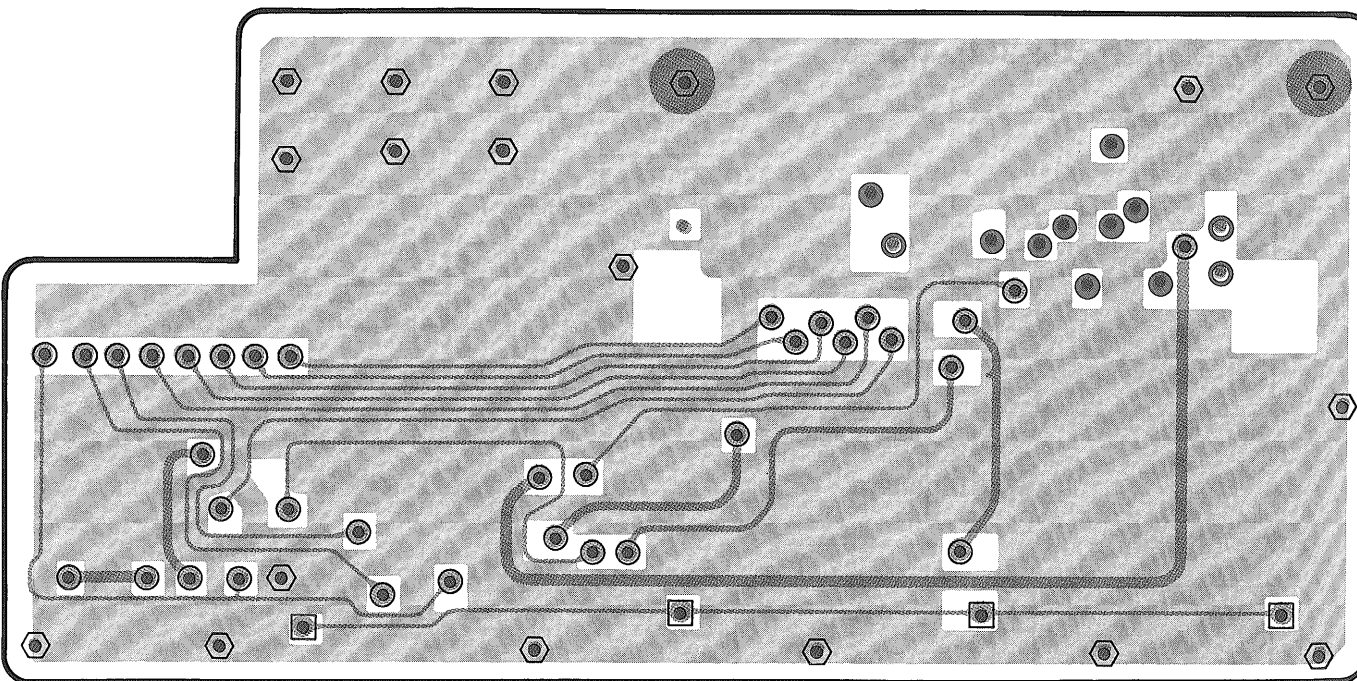B pattern
C pattern

DTC114YE

2SK238

S-AV22A
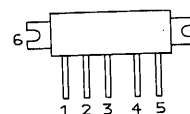
UNIT BOARDS

CONTROL UNIT (X53-342X-XX) B/5

Component side

A pattern

D pattern

B pattern

C pattern

Four-Layer board display		
Pattern A		
Pattern B		
Pattern C		
Pattern D		

■ Patterns A and B are connected.
⊙ Patterns A and C are connected.
● Patterns A and D are connected.
⟁ Patterns B and C are connected.
▲ Patterns B and D are connected.
▫ Patterns C and D are connected.
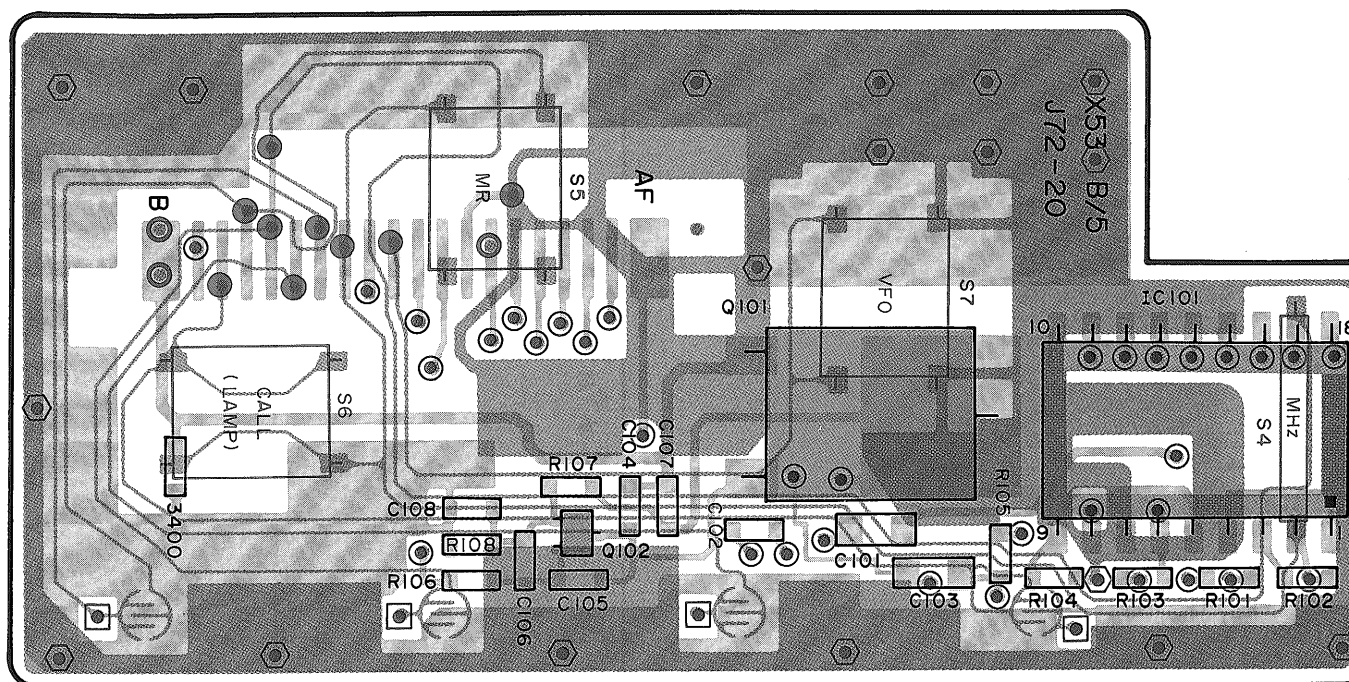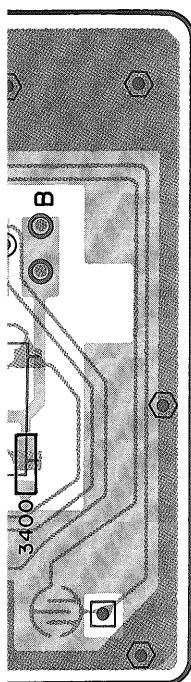⊚ Patterns A, B and C are connected.
⊙ Patterns A, B and D are connected.

⬡ Patterns A, C and D are connected.
▣ Patterns B, C and D are connected.
△ Patterns A, B, C and D are connected.
○ Only pattern A is connected.
⬡ Only pattern B is connected.
△ Only pattern C is connected.
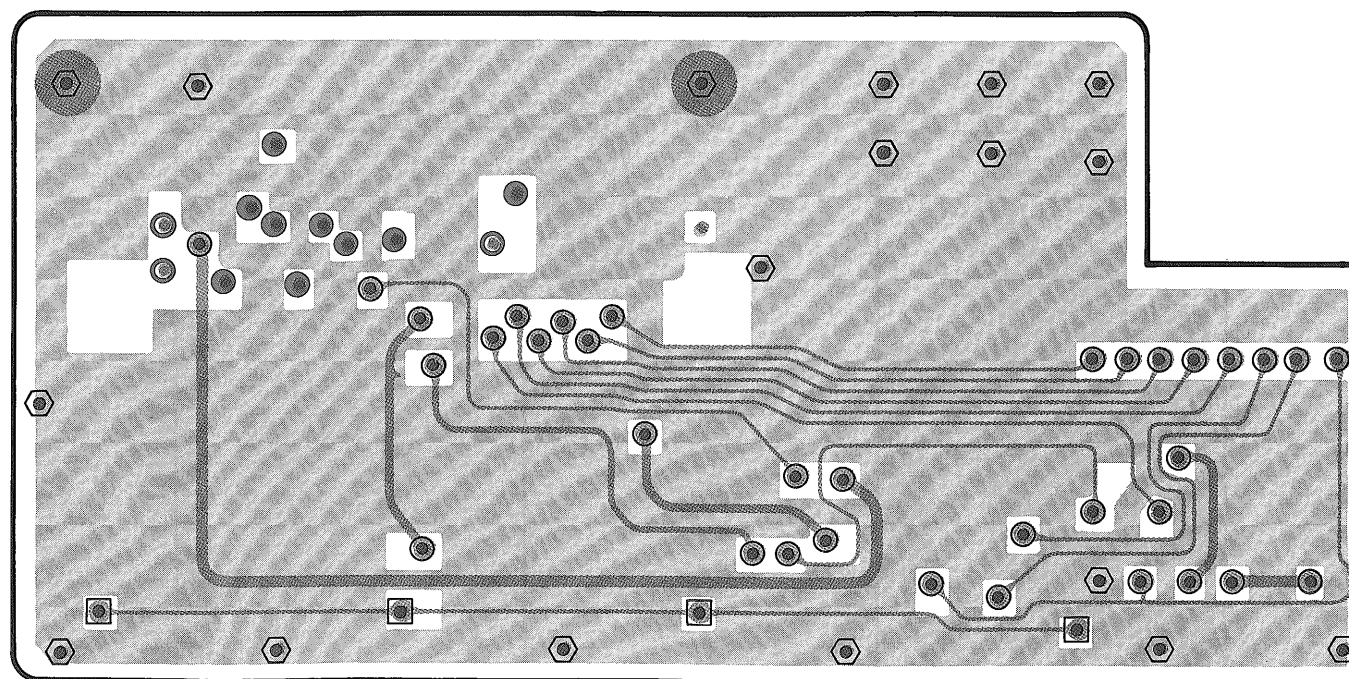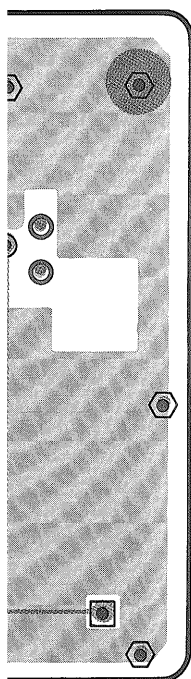▢ Only pattern D is connected.

The non-mark indicates no connection.

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Soldering side

CAL (LAMP)

3400

3400

B

B

MR

S5

AF

Q101

VFO

S7

〈X53〉B/5
J72-20

IC101

10

18

MHz

S4

S6

R107

C104

C107

C108

R108

Q102

C102

C10

R105

91

R106

C105

C106

C103

R104

R103

R101

R102

A pattern
D pattern

A pattern
D pattern

B pattern
C pattern
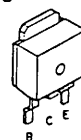
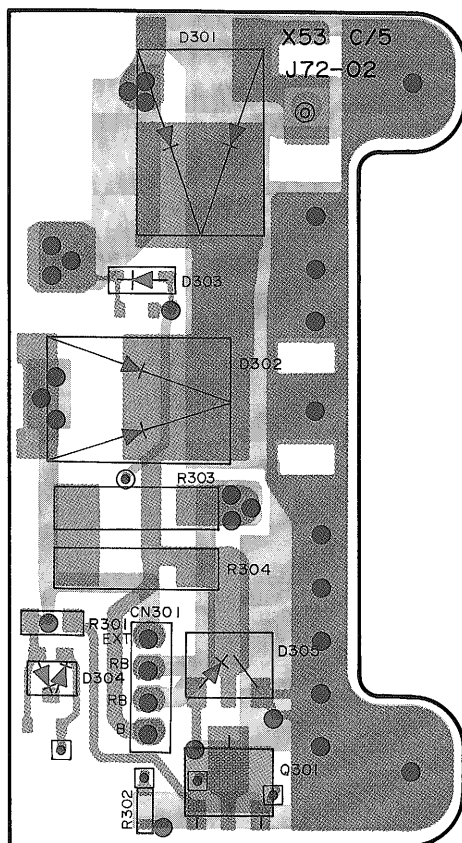B pattern
C pattern

2SC4617

2SB1182F5

B
E C

C E
B
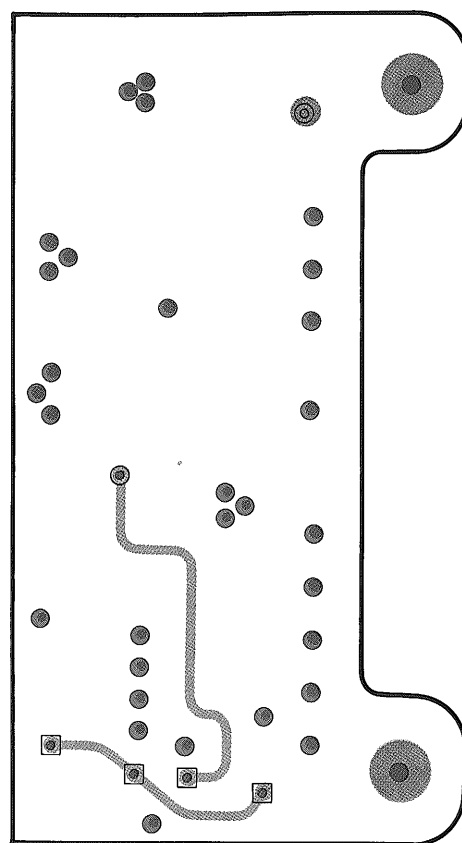
UNIT BOARDS

CONTROL UNIT (X53-342X-XX) C/5

Component side

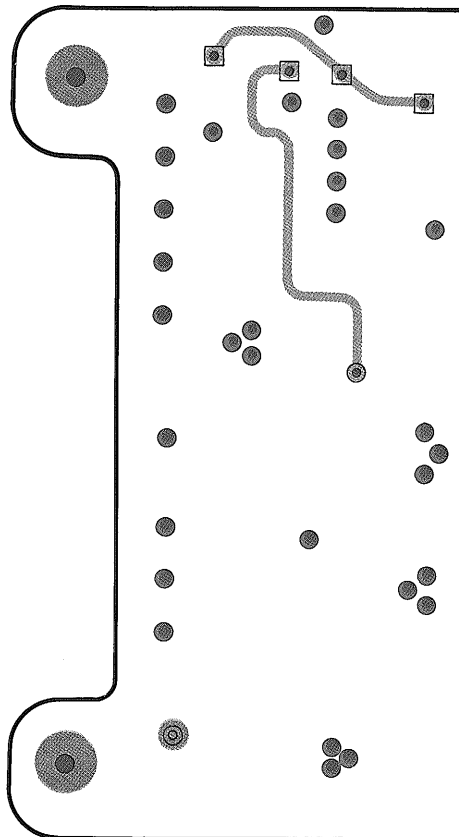
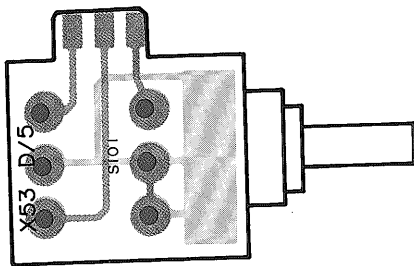
A pattern

D pattern

B patte

C patte

Soldering side

A pattern
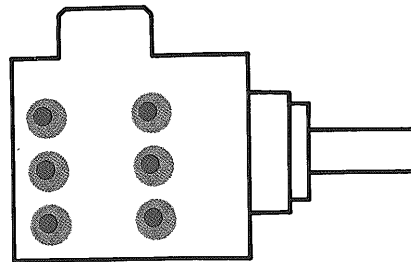
D pattern

B patte

C patte
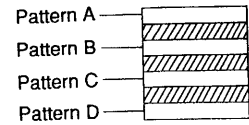
95

CONTROL UNIT (X53-342X-XX) C/5

Component side

▨▨ A pattern
▓▓ D pattern

▨▨ B pattern
▓▓ C pattern

Four-Layer board display

Pattern A
Pattern B
Pattern C
Pattern D

▨ Patterns A and B are connected.
⊙ Patterns A and C are connected.
● Patterns A and D are connected.
△ Patterns B and C are connected.
▲ Patterns B and D are connected.
⊡ Patterns C and D are connected.
⊙ Patterns A, B and C are connected.
⊙ Patterns A, B and D are connected.
⬡ Patterns A, C and D are connected.
▢ Patterns B, C and D are connected.
△ Patterns A, B, C and D are connected.
◯ Only pattern A is connected.
⬡ Only pattern B is connected.
△ Only pattern C is connected.
▢ Only pattern D is connected.
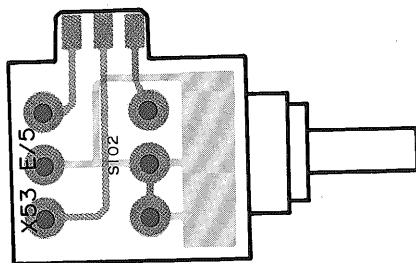
The non-mark indicates no connection.

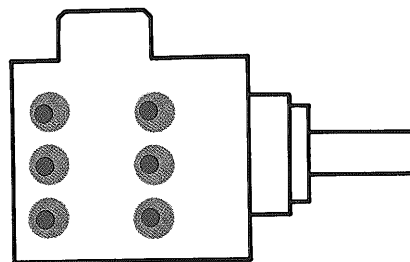### Soldering side
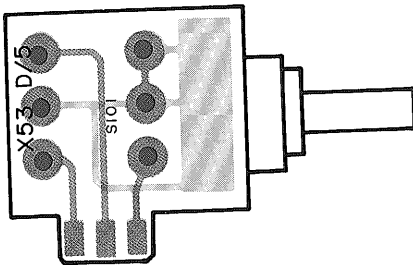
▨▨ A pattern
▓▓ D pattern
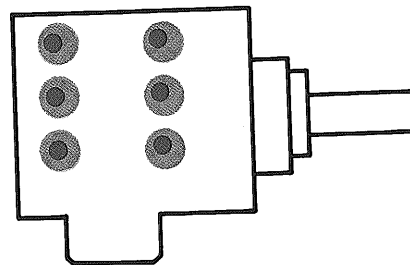
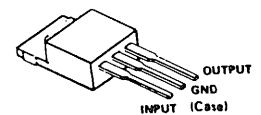▨▨ B pattern
▓▓ C pattern

CONTROL UNIT (X53-342X-XX) E/5

Component side

▨▨ A pattern
▓▓ D pattern

▨▨ B pattern
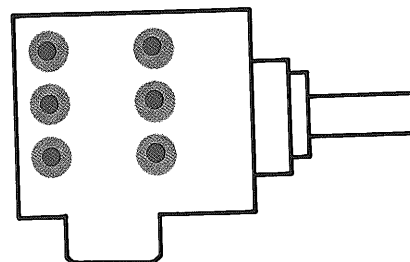▓▓ C pattern

MA110

OUTPUT
GND
INPUT (Case)

2SB798

B C E

Soldering side

▨▨ A pattern
▓▓ D pattern

▨▨ B pattern
▓▓ C pattern

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