

Service Manual

Radio
RF-9000

**FM/LW/MW/SW World-wide Receiver
With Phase-Locked Loop Synthesizer**

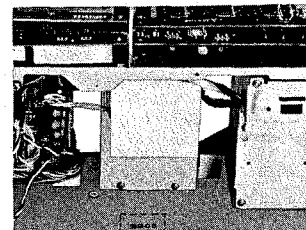
Main Change

*Change of circuit board.

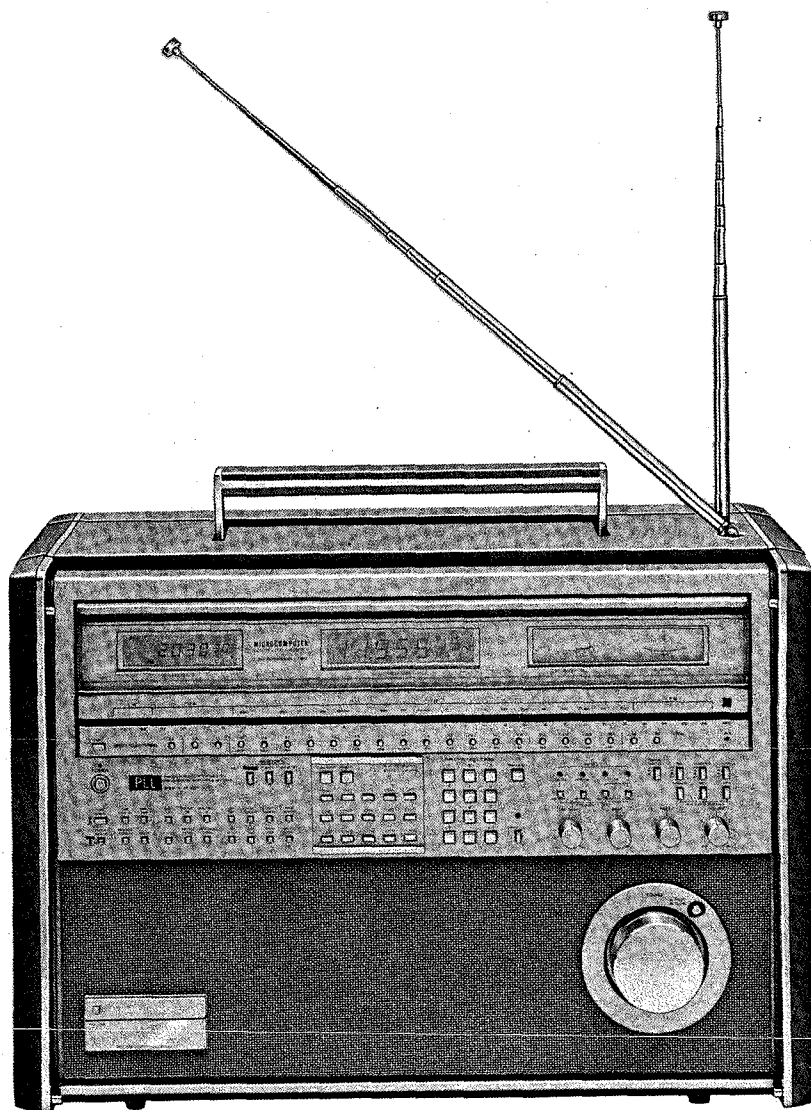
How to Distinguish the model between RF-9000 and RF-9000 supplement-1.

*Production incorporating this change from unit NO. 171.

(Circuit Board of 11 UP and 12 UP has been changed from unit NO. 121.)



Unit NO.



 **National Panasonic**

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka, Japan

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A 3=
A 4=
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1. FEATURES

[Radio Section]

- PLL (Phase-Locked-Loop) synthesizer FM/LW/MW/SW world-wide receiver.
- Direct-access tuning
This function allows a broadcast to be received immediately simply by depressing the key.
- 15-station preset tuning
- Direct touch tuning by 22 touch keys
- 3-step AM bandwidth selector
- LSB, USB and CW operation
- AM frequency step selector
- Meter for FM center tuning, signal strength and battery check
- Separate bass and treble controls
- RF gain control
- Automatic noise limiter (ANL)
- Loudness switch
- Tweeter on/off switch
- Tuning speed selector (FAST/SLOW)
- 30-LED frequency indication

2. SPECIFICATIONS

LW/MW/SW (1.6110~2.9009 MHz)

Frequency Range:	LW 150.0~420.0 kHz (2000~714.3 m) MW 520.0~1610.9 kHz (576.9~186.2 m) SW 1.6110~2.9009 MHz (186.2~103.4 m)
Type:	Single Superheterodyne with Phase-Locked-Loop Synthesizer
IF:	455 kHz
Sensitivity:	S/N 6 dB LW 1 μ V MW 1 μ V SW 1 μ V
Selectivity:	Modulation 400 Hz, 30%, for 50 mW
	WIDE ± 2.4 kHz (-6 dB)
	MED. ± 5 kHz (-60 dB)
	NARROW ± 1.6 kHz (-6 dB)
Image Interference Ratio:	± 3.2 kHz (-60 dB)
	± 1.2 kHz (-6 dB)
	± 2.3 kHz (-60 dB)
Image Interference Ratio:	LW 120 dB (at 280 kHz)
	MW 80 dB (at 1000 kHz)
	SW 60 dB (at 2.3 MHz)

SW (2.9010~30.0000 MHz)

Frequency Range:	2.9010~30.000MHz (103.4~10 m)
Type:	Double Superheterodyne with Phase-Locked-Loop Synthesizer
IF:	1st IF 46.125 MHz 2nd IF 455 kHz
Sensitivity:	SW 0.5~1 μ V (S/N 6 dB) SSB/CW 0.2 μ V (S/N 6 dB) (Modulation 400 Hz, 30%, for 50 mW)

[Clock section]

- 7-day programmable timer
The programming function makes it possible to set any desired frequency (FM, LW, MW or SW) to be received at any desired time.
- LCD quartz clock for month, date, day of the week indication
- Battery back-up for clock and memory
- Dual Time Display
- 12/24 HR. Display
- Time Signal

Selectivity:	WIDE	± 2.4 kHz (-6 dB)
		± 5 kHz (-60 dB)
	MED.	± 1.6 kHz (-6 dB)
		± 3.2 kHz (-60 dB)
	NARROW	± 1.2 kHz (-6 dB)
		± 2.3 kHz (-60 dB)

Image Interference Ratio:	1st	2nd
	100 dB	70 dB

FM

Frequency Range:	87.5~108 MHz
Type:	Single Superheterodyne with Phase-Locked-Loop Synthesizer
IF:	10.7 MHz
Sensitivity:	1.5 μ V/75 Ω (-3 dB, Limit. Sens.) 2 μ V/75 Ω (S/N 26 dB)
Two-Signal Selectivity:	70 dB (± 400 kHz)
Image Interference Ratio:	60 dB (at 98 MHz)

Frequency Display

Display Type:	LCD (Liquid Crystal Display)
Precision:	Direct Readout to 100 Hz for SSB/CW/AM Direct Readout to 10 kHz for FM
Number of Figures:	6 digits
Frequency Stability:	Within 100 Hz during any 60 minutes after warm-up time

Zahlen:
Frequenz-
stabilität: SSB/CW/AM
Direktanzeige bis 10 kHz für UKW
6 Stellen
Innerhalb von 100 Hz während beliebiger
60 Minuten nach Erwärmung

Abstimmung

Frequenz- stufen:	SSB/CW	Schnell 500 Hz	Langsam 100 Hz
	AM	100 Hz/500 Hz	100 Hz
		1 kHz/5 kHz	1 kHz
Abstimmgesch- windigkeits- verhältnis:	UKW	50 kHz	10 kHz
	Schnell:langsam=5:1		

Festsenderspeicher

Anzahl der
Festsender: 15

Uhr/Zeitschaltuhr/Kalender

Typ: Quarzuhr mit Flüssigkristallanzeige/
Auf 7 Tage programmierbare
Zeitschaltuhr

Funktionen: Gegenwärtige Uhrzeit (Stunde, Minute,
Sekunde)
Kalender (Monat, Datum, Tag)
Doppelzeit
Zeitzeichen
12/24-Stunden-Einstellung
Schlafzeit
Gleichstrom-Zeitschaltuhr-
Ausgangsregelung
6. Empfangsautomatik
① Wiederholter wöchentlicher Betrieb,
täglich
② Wiederholter wöchentlicher Betrieb,
einmal pro Woche
③ Wiederholter wöchentlicher Betrieb,
an 6 Tagen
④ Wiederholter wöchentlicher Betrieb,
zweimal pro Woche
⑤ Wiederholter wöchentlicher Betrieb,
an 5 Tagen
⑥ Einmaliger Betrieb, nur an einem
Wochentag
Von den obigen 6 Programmtypen
können bis zu 4 im Speicher gespeichert
werden.

Gang-
genauigkeit: Monatliche Abweichung ± 15 Sekunden
(16°C Temperatur 50% Feuchtigkeit)

Allgemeine Daten

Bestückung: 41 integrierte Schaltkreise
174 Transistoren
21 Feldeffekttransistoren

Ausgangs-
leistung: Gleichstrom: max. 10 W

Netzstrom: max. Ausgangsleistung,
Modulation 400 Hz

Lautsprecher: Zweiweg-Lautsprechersystem
18x12 cm, Ovaltyp (4 Ohm)
6,5 cm (4 Ohm)

Strom-
versorgung: Netzstrom: 100~110/115~127/
200~220/230~250 V,
50/60 Hz
Gleichstrom: 18 V (12xUM-1, "D")
3 V (2xUM-3, "AA") ...
Reservestromversorgung
für Speicher und Uhr
Gleichstromeingang: 12~18 V

Leistungs-
aufnahme: 35 W

Buchsen: Ohrhörerausgang (3,5Ø)
Kopfhörerausgang (6Ø)
Aufnahmeausgang (3,5Ø, 8 Kilohm)
Aufnahmeausgang (DIN, 80 Kilohm)
Reserveeingang (3,5Ø, 570 Kilohm)
Reserveeingang (DIN, 570 Kilohm)
MPX-Ausgang (3,5Ø, 5 Kilohm)
AußenlautsprecherAusgang
(3,5Ø, 4~8 Ohm)
AußenlautsprecherAusgang
(DIN, 4~8 Ohm)
Netzstromeingang
Gleichstromeingang
Gleichstrom-Zeitschaltuhrausgang

Antennen: UKW; Teleskopantenne, 100 cm
Außenantenne
(Schnellanschluß, 75 Ohm)
Außenantenne
(DIN-Anschluß, 300 Ohm)
LW; Ferritkernantenne, 12Øx200 mm
MW/KW (1,6110~2,9009 MHz);
Ferritkernantenne, 12Øx200 mm
KW (2,9010~30,0000 MHz);
Teleskopantenne, 150 cm
LW/MW/KW;
Außenantenne
(Schnellanschluß, 75 Ohm)
Außenantenne
(DIN-Anschluß, 75 Ohm)

Abmessungen: 520x362x206 mm
(BxHxT) (20-1/2x14-1/4x8-1/8")

Gewicht: 20,3 kg (44 lb. 14,1 oz)

Änderungen der technischen Daten jeder Zeit vorbehalten.

Tuning

Frequency Step:		Fast	Slow
	SSB/CW	500 Hz	100 Hz
	AM 100/500 Hz	500 Hz	100 Hz
	1/5 kHz	5 kHz	1 kHz
	FM	50 kHz	10 kHz
Tuning Speed Ratio:	Fast:Slow=5:1		

Preset Memory

Number of Preset:	15-Station Preset
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Clock/Timer/Calendar

Type:	LCD Quartz Clock/7-day Programmable Timer
Function:	Real Time (Hour, Minute, Second) Calendar (Month, Date, Day) Dual Time Time Signal 12/24 Hour Setting Sleep DC Timer out Control 6 Automatic Reception Mode ① Repeated weekly operation for daily ② Repeated weekly operation for once a week ③ Repeated weekly operation for every day but one ④ Repeated weekly operation for twice a week ⑤ Repeated weekly operation for every day but two ⑥ Single-time operation for one day of the week only of the above 6 types of programs, up to 4 can be stored in memory.
Precision:	Monthly Difference ± 15 seconds (16°C temperature, 50% humidity)

General Specifications

Semi-Conductors:	IC 41 Transistor 174 FET 21
Output Power:	7 W (60%, MOD. 400 Hz) 10 W (AC, MPO)
Speaker:	2 way Speaker System 18×12 cm Oval Type (4Ω) 6.5 cm (4Ω)
Power Source:	AC 100~110/115~127/200~220/ 230~250 V, 50/60 Hz DC 18 V (12×UM-1, "D") 3 V (2×UM-3, "AA") ... Back-up

for Memory & Clock
DC in 12~18 V

Power consumption:	35 W
Jacks:	Earphone out (3.5Ø) Headphone out (6Ø) Rec. out (3.5Ø, 8 kΩ) Rec. out (DIN, 80 kΩ) AUX in (3.5Ø, 570 kΩ) AUX in (DIN, 570 kΩ) MPX out (3.5Ø, 5 kΩ) External Speaker out (3.5Ø, 4~8Ω) External Speaker out (DIN, 4~8Ω) AC in DC in DC Timer out
Antenna:	FM Whip Antenna 100 cm Ext. Ant. (one-touch, 75Ω) Ext. Ant. (DIN, 300Ω) LW Ferrite Core Antenna 12Ø×200 mm MW/SW (1.6110~2.9009 MHz) Ferrite Core Antenna 12Ø×200 mm SW (2.9010~30.0000 MHz) Whip Antenna 150 cm LW/MW/SW External Antenna (one-touch, 75Ω) External Antenna (DIN, 75Ω)
Dimensions:	520×362×206 mm (W×H×D) (20-1/2"×14-1/4"×8-1/8")
Weight:	20.3 kg (44 lb. 14.1 oz) without batteries

Specifications subject to change without notice.

1. MERKMALE

[Radio-Teil]

- UKW/LW/MW/KW-Phasengegenkopplungsempfänger mit Frequenzsynthese für weltweiten Empfang.
- Direktzugangsabstimmung.
Diese Funktion ermöglicht den sofortigen Empfang eines Senders, indem einfach die entsprechende Taste niedergedrückt wird.
- Vorabstimmung von bis zu 15 Sendern.
- Direktberührungsabstimmung über 22 Berührungstasten.
- AM-Bandbreiten-Wahlschalter mit 3 Stellungen.
- USB-, OSB- und ungedämpfter Wellenbetrieb.
- AM-Frequenzstufen-Wahlschalter.
- Anzeigeinstrument für UKW-Mittenabstimmung, Feldstärke und Batterieprüfung.
- Separate Baß- und Höhenregler.
- HF-Verstärkungsregler.
- Automatische Störkrachbegrenzung (ANL).
- Schalter für gehörrichtige Lautstärke.
- Ein-Aus-Schalter für Hochtöner.
- Abstimmungsgeschwindigkeits-Wahlschalter (Pangsam/schnell).
- Frequenzanzeige mit 30 Leuchtdioden.

[Uhr-Teil]

- Auf 7 Tage programmierbare Zeitschaltuhr.
Die Programmierfunktion ermöglicht die Einstellung jeder gewünschten Frequenz (UKW, LW, MW oder KW) auf Empfang zu einer beliebigen Zeit.
- Quarzuhr mit Flüssigkristallanzeige für Monats-, Monatstag- und Wochentaganzeige.
Die Uhr ist mit Mikrocomputerkreisen bestückt, so daß ein zuverlässiger Betrieb gewährleistet ist.
- Batterie-Reservestromversorgung für Uhr und Speicher.
- Doppelzeitanzeigetaste
- 12/24-Stundenanzeige-Wahltaste
- Zeitzeichen

2. TECHNISCHE DATEN

LW/MW/KW (1,6110~2,9009 MHz)

Frequenzbereiche:	LW: 150,0~420,0 kHz (2000~714,3 m) MW: 520,0~1610,9 kHz (576,9~186,2 m) KW: 1,6110~2,9009 MHz (186,2~103,4 m)
Typ:	Einzelsuperhet mit Phasengegenkopplung und Frequenzsynthese
ZF:	455 kHz
Empfindlichkeit:	Rauschabstand 6 dB LW: 1 μ V MW: 1 μ V KW: 1 μ V
Trennschärfe:	(Modulation 400 Hz, 30%, für 50 mW)
	Breitband: $\pm 2,4$ kHz (-6 dB) ± 5 kHz (-60 dB)
	Mittelband: $\pm 1,6$ kHz (-6 dB) $\pm 3,2$ kHz (-60 dB)
	Schmalband: $\pm 1,2$ kHz (-6 dB) $\pm 2,3$ kHz (-60 dB)
Spiegelselektion:	LW: 120 dB (bei 280 kHz) MW: 80 dB (bei 1000 kHz) KW: 60 dB (bei 2,3 MHz)

KW (2,9010~30,0000 MHz)

Frequenzbereich:	2,9010~30,0000 MHz (103,4~10 m)
Typ:	Doppelsuperhet mit Phasengegenkopplung und Frequenzsynthese
ZF:	1. ZF: 46,125 MHz 2. ZF: 455 kHz

Empfindlichkeit:	KW 0,5~1 μ V (Rauschabstand 6 dB) SSB/CW 0,2 μ V (Rauschabstand 6 dB) (Modulation 400 Hz, 30%, für 50 mW)
Trennschärfe:	Breitband: $\pm 2,4$ kHz (-6 dB) ± 5 kHz (-60 dB)
	Mittelband: $\pm 1,6$ kHz (-6 dB) $\pm 3,2$ kHz (-60 dB)
	Schmalband: $\pm 1,2$ kHz (-6 dB) $\pm 2,3$ kHz (-60 dB)
Spiegelselektion:	1. 100 dB 2. 70 dB

UKW

Frequenzbereich:	87,5~108 MHz
Typ:	Einzelsuperhet mit Phasengegenkopplung und Frequenzsynthese
ZF:	10,7 MHz
Empfindlichkeit:	1,5 μ V/75 Ω (-3 dB, Grenzempfindlichkeit) 2 μ V/75 Ω (Rauschabstand 26 dB)
Zweisin-Trennschärfe:	70 dB (± 400 kHz)
Spiegelselektion:	60 dB (bei 98 MHz)

Frequenzzähler

Anzeige:	Flüssigkristallanzeige
Genauigkeit:	Direktanzeige bis 100 Hz für

1. MERKMALE

[Radio-Teil]

- UKW/LW/MW/KW-Phasengegenkopplungsempfänger mit Frequenzsynthese für weltweiten Empfang.
- Direktzugangsabstimmung.
Diese Funktion ermöglicht den sofortigen Empfang eines Senders, indem einfach die entsprechende Taste niedergedrückt wird.
- Vorabstimmung von bis zu 15 Sendern.
- Direktberührungsabstimmung über 22 Berührungstasten.
- AM-Bandbreiten-Wahlschalter mit 3 Stellungen.
- USB-, OSB- und ungedämpfter Wellenbetrieb.
- AM-Frequenzstufen-Wahlschalter.
- Anzeigeinstrument für UKW-Mittenabstimmung, Feldstärke und Batterieprüfung.
- Separate Baß- und Höhenregler.
- HF-Verstärkungsregler.
- Automatische Störkrachbegrenzung (ANL).
- Schalter für gehörrichtige Lautstärke.
- Ein-Aus-Schalter für Hochtöner.
- Abstimmgeschwindigkeits-Wahlschalter (Pangsam/schnell).
- Frequenzanzeige mit 30 Leuchtdioden.

2. TECHNISCHE DATEN

LW/MW/KW (1,6110~2,9009 MHz)

Frequenzbereiche:	LW: 150,0~420,0 kHz (2000~714,3 m) MW: 520,0~1610,9 kHz (576,9~186,2 m) KW: 1,6110~2,9009 MHz (186,2~103,4 m)
Typ:	Einzelüberhet mit Phasengegenkopplung und Frequenzsynthese
ZF:	455 kHz
Empfindlichkeit:	Rauschabstand 6 dB LW: 1 μ V MW: 1 μ V KW: 1 μ V
Trennschärfe:	Breitband: $\pm 2,4$ kHz (–6 dB) ± 5 kHz (–60 dB) Mittelband: $\pm 1,6$ kHz (–6 dB) $\pm 3,2$ kHz (–60 dB) Schmalband: $\pm 1,2$ kHz (–6 dB) $\pm 2,3$ kHz (–60 dB)
Spiegelselektion:	LW: 120 dB (bei 280 kHz) MW: 80 dB (bei 1000 kHz) KW: 60 dB (bei 2,3 MHz)

KW (2,9010~30,0000 MHz)

Frequenzbereich:	2,9010~30,0000 MHz (103,4~10 m)
Typ:	Doppelsuperhet mit Phasengegenkopplung und Frequenzsynthese
ZF:	1. ZF: 46,125 MHz 2. ZF: 455 kHz

[Uhr-Teil]

- Auf 7 Tage programmierbare Zeitschaltuhr.
Die Programmierfunktion ermöglicht die Einstellung jeder gewünschten Frequenz (UKW, LW, MW oder KW) auf Empfang zu einer beliebigen Zeit.
- Quarzuhr mit Flüssigkristallanzeige für Monats-, Monatstag- und Wochentaganzeige.
Die Uhr ist mit Mikrocomputerkreisen bestückt, so daß ein zuverlässiger Betrieb gewährleistet ist.
- Batterie-Reservestromversorgung für Uhr und Speicher.
- Doppelzeitanzeigetaste
- 12/24-Stundenanzeige-Wahltaste
- Zeitzeichen

Empfindlichkeit:	KW 0,5~1 μ V (Rauschabstand 6 dB) SSB/CW 0,2 μ V (Rauschabstand 6 dB) (Modulation 400 Hz, 30%, für 50 mW)
Trennschärfe:	Breitband: $\pm 2,4$ kHz (–6 dB) ± 5 kHz (–60 dB) Mittelband: $\pm 1,6$ kHz (–6 dB) $\pm 3,2$ kHz (–60 dB) Schmalband: $\pm 1,2$ kHz (–6 dB) $\pm 2,3$ kHz (–60 dB)
Spiegelselektion:	1. 100 dB 2. 70 dB

UKW

Frequenzbereich:	87,5~108 MHz
Typ:	Einzelüberhet mit Phasengegenkopplung und Frequenzsynthese
ZF:	10,7 MHz
Empfindlichkeit:	1,5 μ V/75 Ω (–3 dB, Grenzemfindlichkeit) 2 μ V/75 Ω (Rauschabstand 26 dB)
Zweissignal-Trennschärfe:	70 dB (± 400 kHz)
Spiegelselektion:	60 dB (bei 98 MHz)

Frequenzzähler

Anzeige:	Flüssigkristallanzeige
Genauigkeit:	Direktanzeige bis 100 Hz für

Tuning

Frequency Step:		Fast	Slow
	SSB/CW	500 Hz	100 Hz
	AM 100/500 Hz	500 Hz	100 Hz
	1/5 kHz	5 kHz	1 kHz
	FM	50 kHz	10 kHz
Tuning Speed Ratio:	Fast:Slow=5:1		

Preset Memory

Number of Preset:	15-Station Preset
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Clock/Timer/Calendar

Type:	LCD Quartz Clock/7-day Programmable Timer
Function:	Real Time (Hour, Minute, Second) Calendar (Month, Date, Day) Dual Time Time Signal 12/24 Hour Setting Sleep DC Timer out Control 6 Automatic Reception Mode ① Repeated weekly operation for daily ② Repeated weekly operation for once a week ③ Repeated weekly operation for every day but one ④ Repeated weekly operation for twice a week ⑤ Repeated weekly operation for every day but two ⑥ Single-time operation for one day of the week only of the above 6 types of programs, up to 4 can be stored in memory.
Precision:	Monthly Difference ± 15 seconds (16°C temperature, 50% humidity)

General Specifications

Semi-Conductors:	IC 41 Transistor 174 FET 21
Output Power:	7 W (60%, MOD. 400 Hz) 10 W (AC, MPO)
Speaker:	2 way Speaker System 18×12 cm Oval Type (4Ω) 6.5 cm (4Ω)
Power Source:	AC 100~110/115~127/200~220/ 230~250 V, 50/60 Hz DC 18 V (12×UM-1, "D") 3 V (2×UM-3, "AA")... Back-up

for Memory & Clock
DC in 12~18 V

Power consumption:	35 W
Jacks:	Earphone out (3.5Ø) Headphone out (6Ø) Rec. out (3.5Ø, 8 kΩ) Rec. out (DIN, 80 kΩ) AUX in (3.5Ø, 570 kΩ) AUX in (DIN, 570 kΩ) MPX out (3.5Ø, 5 kΩ) External Speaker out (3.5Ø, 4~8Ω) External Speaker out (DIN, 4~8Ω) AC in DC in DC Timer out
Antenna:	FM Whip Antenna 100 cm Ext. Ant. (one-touch, 75Ω) Ext. Ant. (DIN, 300Ω) LW Ferrite Core Antenna 12Ø×200 mm MW/SW (1.6110~2.9009 MHz) Ferrite Core Antenna 12Ø×200 mm SW (2.9010~30.0000 MHz) Whip Antenna 150 cm LW/MW/SW External Antenna (one-touch, 75Ω) External Antenna (DIN, 75Ω)
Dimensions:	520×362×206 mm (W×H×D) (20-1/2"×14-1/4"×8-1/8")
Weight:	20.3 kg (44 lb. 14.1 oz) without batteries

Specifications subject to change without notice.

Zahlen:
Frequenz-
stabilität:

SSB/CW/AM
Direktanzeige bis 10 kHz für UKW
6 Stellen

Innerhalb von 100 Hz während beliebiger
60 Minuten nach Erwärmung

Abstimmung

Frequenz- stufen:	SSB/CW	Schnell 500 Hz	Langsam 100 Hz
	AM	100 Hz/500 Hz	100 Hz
		1 kHz/5 kHz	1 kHz
	UKW	50 kHz	10 kHz

Abstimmungsgesch-
windigkeits-
verhältnis: Schnell:langsam=5:1

Festsenderspeicher

Anzahl der
Festsender: 15

Uhr/Zeitschaltuhr/Kalender

Typ: Quarzuhr mit Flüssigkristallanzeige/
Auf 7 Tage programmierbare
Zeitschaltuhr

Funktionen: Gegenwärtige Uhrzeit (Stunde, Minute,
Sekunde)
Kalender (Monat, Datum, Tag)
Doppelzeit
Zeitzeichen
12/24-Stunden-Einstellung
Schlafzeit
Gleichstrom-Zeitschaltuhr-
Ausgangsregelung
6. Empfangsautomatik

- ① Wiederholter wöchentlicher Betrieb,
täglich
- ② Wiederholter wöchentlicher Betrieb,
einmal pro Woche
- ③ Wiederholter wöchentlicher Betrieb,
an 6 Tagen
- ④ Wiederholter wöchentlicher Betrieb,
zweimal pro Woche
- ⑤ Wiederholter wöchentlicher Betrieb,
an 5 Tagen
- ⑥ Einmaliger Betrieb, nur an einem
Wochentag

Von den obigen 6 Programmtypen
können bis zu 4 im Speicher gespeichert
werden.

Gang-
genauigkeit: Monatliche Abweichung ± 15 Sekunden
(16°C Temperatur 50% Feuchtigkeit)

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Netzstrom: max. Ausgangsleistung,
Modulation 400 Hz

Lautsprecher: Zweiweg-Lautsprechersystem
18×12 cm, Ovaltyp (4 Ohm)
6,5 cm (4 Ohm)

Strom-
versorgung: Netzstrom: 100~110/115~127/
200~220/230~250 V,
50/60 Hz

Gleichstrom: 18 V (12×UM-1, "D")
3 V (2×UM-3, "AA") ...
Reservestromversorgung
für Speicher und Uhr

Gleichstromeingang: 12~18 V

Leistungs-
aufnahme: 35 W

Buchsen: Ohrhörerausgang (3,5Ø)
Kopfhörerausgang (6Ø)
Aufnahmeausgang (3,5Ø, 8 Kiloohm)
Aufnahmeausgang (DIN, 80 Kiloohm)
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Außenlautsprecherausgang
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(DIN, 4~8 Ohm)
Netzstromeingang
Gleichstromeingang
Gleichstrom-Zeitschaltuhrausgang

Antennen: UKW; Teleskopantenne, 100 cm
Außenantenne
(Schnellanschluß, 75 Ohm)
Außenantenne
(DIN-Anschluß, 300 Ohm)
LW; Ferritkernantenne, 12Ø×200 mm
MW/KW (1,6110~2,9009 MHz);
Ferritkernantenne, 12Ø×200 mm
KW (2,9010~30,0000 MHz);
Teleskopantenne, 150 cm
LW/MW/KW;
Außenantenne
(Schnellanschluß, 75 Ohm)
Außenantenne
(DIN-Anschluß, 75 Ohm)

Abmessungen: 520×362×206 mm
(B×H×T) (20-1/2×14-1/4×8-1/8")

Gewicht: 20,3 kg (44 lb. 14,1 oz)

Änderungen der technischen Daten jeder Zeit vorbehalten.

1. FEATURES

[Radio Section]

- PLL (Phase-Locked-Loop) synthesizer FM/LW/MW/SW world-wide receiver.
- Direct-access tuning
This function allows a broadcast to be received immediately simply by depressing the key.
- 15-station preset tuning
- Direct touch tuning by 22 touch keys
- 3-step AM bandwidth selector
- LSB, USB and CW operation
- AM frequency step selector
- Meter for FM center tuning, signal strength and battery check
- Separate bass and treble controls
- RF gain control
- Automatic noise limiter (ANL)
- Loudness switch
- Tweeter on/off switch
- Tuning speed selector (FAST/SLOW)
- 30-LED frequency indication

[Clock section]

- 7-day programmable timer
The programming function makes it possible to set any desired frequency (FM, LW, MW or SW) to be received at any desired time.
- LCD quartz clock for month, date, day of the week indication
- Battery back-up for clock and memory
- Dual Time Display
- 12/24 HR. Display
- Time Signal

2. SPECIFICATIONS

LW/MW/SW (1.6110~2.9009 MHz)

Frequency Range:	LW 150.0~420.0 kHz (2000~714.3 m) MW 520.0~1610.9 kHz (576.9~186.2 m) SW 1.6110~2.9009 MHz (186.2~103.4 m)
Type:	Single Superheterodyne with Phase-Locked-Loop Synthesizer
IF:	455 kHz
Sensitivity:	S/N 6 dB LW 1 μ V MW 1 μ V SW 1 μ V
Modulation	400 Hz, 30%, for 50 mW
Selectivity:	WIDE ± 2.4 kHz (–6 dB) ± 5 kHz (–60 dB) MED. ± 1.6 kHz (–6 dB) ± 3.2 kHz (–60 dB) NARROW ± 1.2 kHz (–6 dB) ± 2.3 kHz (–60 dB)
Image Interference Ratio:	LW 120 dB (at 280 kHz) MW 80 dB (at 1000 kHz) SW 60 dB (at 2.3 MHz)

Selectivity:	WIDE	± 2.4 kHz (–6 dB) ± 5 kHz (–60 dB)
	MED.	± 1.6 kHz (–6 dB) ± 3.2 kHz (–60 dB)
	NARROW	± 1.2 kHz (–6 dB) ± 2.3 kHz (–60 dB)
Image Interference Ratio:	1st	2nd
	100 dB	70 dB

FM

Frequency Range:	87.5~108 MHz
Type:	Single Superheterodyne with Phase-Locked-Loop Synthesizer
IF:	10.7 MHz
Sensitivity:	1.5 μ V/75 Ω (–3 dB, Limit. Sens.) 2 μ V/75 Ω (S/N 26 dB)
Two-Signal Selectivity:	70 dB (± 400 kHz)
Image Interference Ratio:	60 dB (at 98 MHz)

SW (2.9010~30.0000 MHz)

Frequency Range:	2.9010~30.000 MHz (103.4~10 m)
Type:	Double Superheterodyne with Phase-Locked-Loop Synthesizer
IF:	1st IF 46.125 MHz 2nd IF 455 kHz
Sensitivity:	SW 0.5~1 μ V (S/N 6 dB) SSB/CW 0.2 μ V (S/N 6 dB) (Modulation 400 Hz, 30%, for 50 mW)

Frequency Display

Display Type:	LCD (Liquid Crystal Display)
Precision:	Direct Readout to 100 Hz for SSB/CW/AM Direct Readout to 10 kHz for FM
Number of Figures:	6 digits
Frequency Stability:	Within 100 Hz during any 60 minutes after warm-up time

FICHE NO. 879 IV(V).

english

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deutsch

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SUPPLEMENT - 1.MODELL RF - 9000 .
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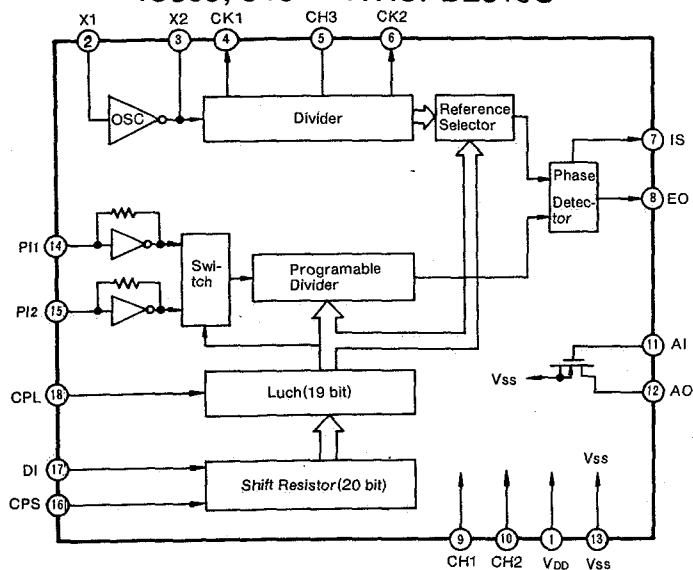
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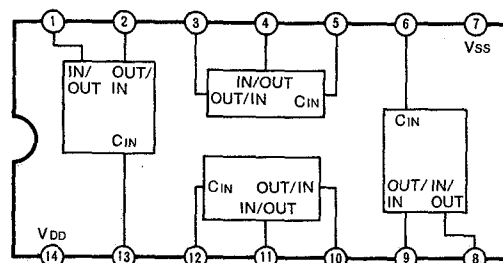
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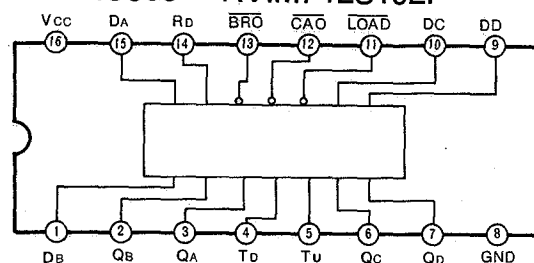
IC809, 810 RVIUPD2819C



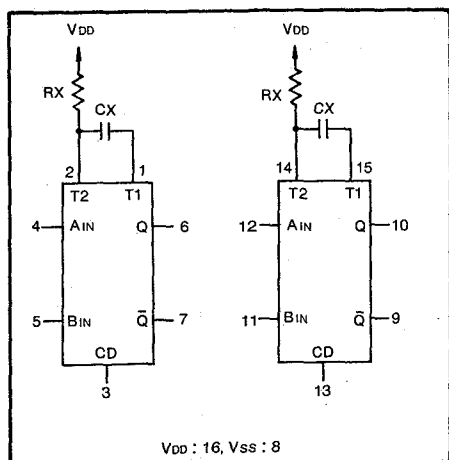
IC807 RVITC4016BP



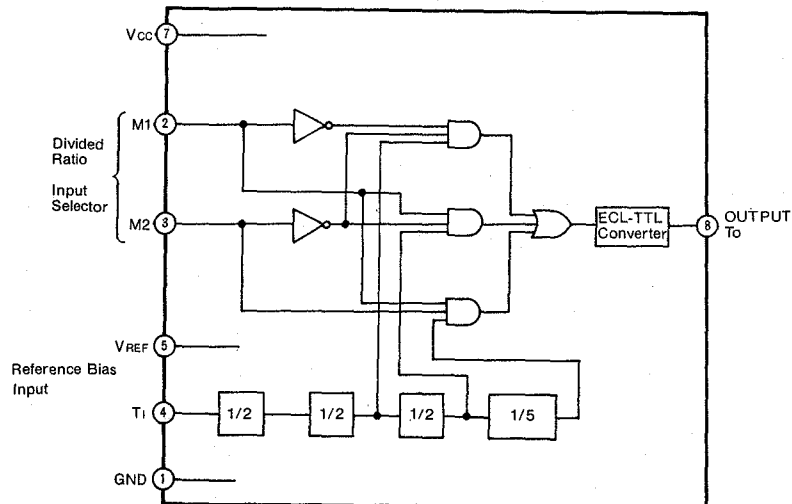
IC803 RVIM74LS192P



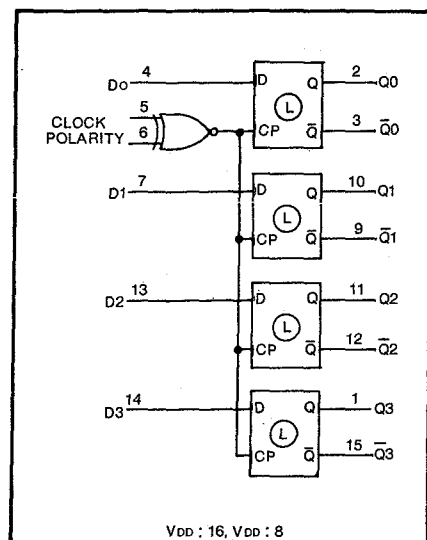
IC811 RVITC4528BP



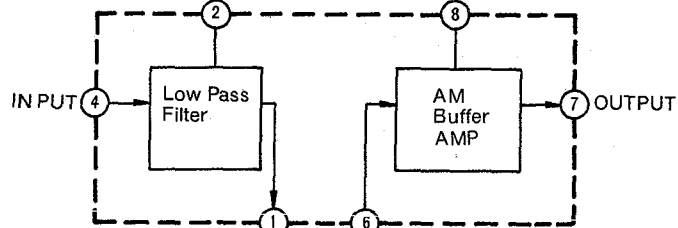
IC801 RVIM54455L



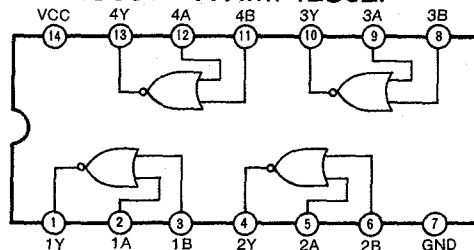
IC806 RVITC4042BP



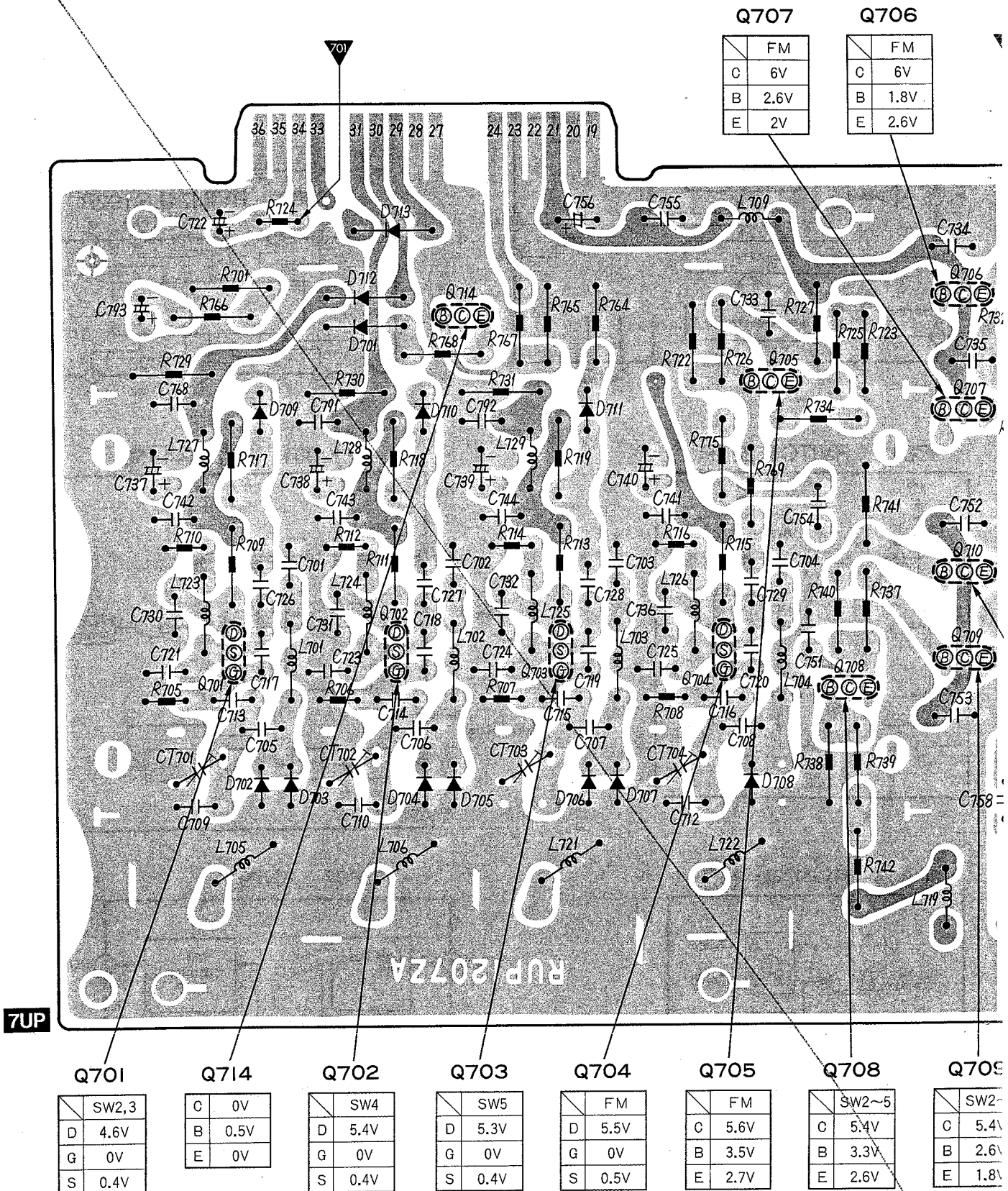
IC808 AN7911



IC802 RVIM74LS02P



CIRCUIT BOARD WIRING VIEW (7 UP)



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1.PARTICUARITÉS

[Section radio]

- Récepteur mondial en FM/GO/PO/OC, équipé d'un synthétiseur à asservissement de phase (PLL).
- Syntonisation à accès direct.
Ce dispositif permet la réception instantanée d'une station par simple pression d'une touche.
- Accord préréglé de 15 stations émettrices.
- Accord direct par 22 touches à effleurement.
- Sélecteur de largeur de bande AM à 3 positions.
- Exploitation en BLU inférieure, BLU supérieure et CW (signal à onde entretenue).
- Sélecteur d'incrément de fréquence AM.
- Indicateur d'accord FM à zéro central, d'intensité du signal et de vérification des piles.
- Commandes séparées pour les tonalités graves et aiguës.
- Commande de gain RF.
- Limiteur automatique de bruit (ANL).
- Correcteur physiologique.
- Commutateur de mise en marche/arrêt du tweeter.
- Sélecteur de vitesse de syntonisation. (lente ou rapide)
- Indication de fréquence par 30 diodes électro-luminescentes (LED).

2.FICHE TECHNIQUE

Section GO/PO/OC (1,6110~2,9009 MHz)

Plage de fréquence:	GO 150~420 kHz (2000~714,3 m) PO 520,0~1610,9 kHz (576,9~186,2 m) OC 1,6110~2,9009 MHz (186,2~103,4 m)
Type:	Superhétérodyne simple avec synthétiseur à verrouillage de phase
Fréquence inter-médiaire:	455 kHz
Sensibilité:	S/N 6 dB GO 1 µV PO 1 µV OC 1 µV
Sélectivité:	WIDE (large) ±2,4 kHz (−6 dB) ±5 kHz (−60 dB) MED (medium) ±1,6 kHz (−6 dB) ±3,2 kHz (−60 dB) NARROW (étroite) ±1,2 kHz (−6 dB) ±2,3 kHz (−60 dB)
Taux d'inter-férence d'image:	GO 120 dB (à 280 kHz) PO 80 dB (à 1000 kHz) OC 60 dB (à 2,3 MHz)
Commande de gain RF:	−40 dB

Section OC (2,9010~30,0000 MHz)

Plage de fréquence:	2,9010~30,0000 MHz (103,4~10 m)
Type:	Superhétérodyne double avec synthétiseur à verrouillage de phase

[Section Horlogerie]

- Minuterie programmable sur 7 jours
La fonction de programmation rend possible le réglage de n'importe quelle fréquence (FM, GO, PO ou OC) que l'on désire recevoir, et ceci à n'importe quel moment.
- Horloge à quartz, dont l'affichage à cristaux liquides (LCD) indique le mois, la date et le jour de la semaine. Elle est dotée de circuits de micro-ordinateur dont la fiabilité du fonctionnement est garantie.
- Dispositif d'alimentation d'appoint pour l'horloge et la mémoire.
- Touche d'affichage horaire secondaire
- Sélecteur d'affichage en cycle 12/24 heures
- Commutateur marche/arrêt de top horaire

Fréquence inter-médiaire:	1ère FI 46,125 MHz 2ème FI 455 kHz
Sensibilité:	OC 0,5~1 µV (S/N 6 dB) SSB 0,2 µV (S/N 6 dB) (Modulation 400 Hz, 30% pour 50 mW)
Sélectivité:	WIDE (large) ±2,4 kHz (−6 dB) ±5 kHz (−60 dB) MED (medium) ±1,6 kHz (−6 dB) ±3,2 kHz (−60 dB) NARROW (étroite) ±1,2 kHz (−6 dB) ±2,3 kHz (−60 dB)
Taux d'interférence d'image:	1ère 100 dB 2ème 70 dB

Section FM

Plage de fréquence:	87,5~108 MHz
Type:	Superhétérodyne simple avec synthétiseur à verrouillage de phase
Fréquence inter-médiaire:	10,7 MHz
Sensibilité:	1,5 µV/75Ω (−3 dB Seuil de sensibilité) 2 µV/75Ω (S/N 26 dB)
Sélectivité deux signaux:	70 dB (±400 kHz)
Taux d'interférence d'image:	60 dB (à 98 MHz)

Affichage de fréquences

Affichage:	Par cristaux liquides (LCD)
Exactitude:	Lecture directe à 100 Hz près pour émissions BLU/CW/AM Lecture directe à 10 kHz près pour FM
Nombre de chiffres affichés:	6
Stabilité de fréquence:	A 100 Hz près pendant 60 minutes après temps de réchauffement

Mécanisme de syntonisation

Incrément de fréquence:	BLU/CW	Rapide 500 Hz	Lente 100 Hz
	AM	100 Hz/500 Hz	100 Hz
		1 kHz/5 kHz	1 kHz
	FM	50 kHz	10 kHz
Taux de vitesse d'accord:	Rapide:Lente=5:1		

Mémoire de préréglage

Nombre de stations préréglables:	15 stations
----------------------------------	-------------

Horloge/minuterie/calendrier

Type:	Horloge à quartz à affichage par cristaux liquides (LCD)/Minuterie programmable sur 7 jours.
Fonctions:	Heure réelle (Heures, minutes, secondes) Calendrier (Mois, date, jour) Temps double Top horaire sur l'heure Réglage en cycle 12/24 heures Décompte minuté (Sleep) Commande de mise hors service de minuterie à CC. 6 modes de réception automatique ① Opération hebdomadaire répétée quotidiennement ② Opération hebdomadaire répétée une fois par semaine ③ Opération hebdomadaire répétée tous les jours sauf un ④ Opération hebdomadaire répétée deux fois par semaine ⑤ Opération hebdomadaire répétée tous les jours sauf deux ⑥ Opération unique, un jour de la semaine seulement On pourra programmer dans la mémoire 4 des 6 types de programmes présentés ci-dessus. Précision: Ecart mensuel ±15 secondes (Température 16°C, Humidité, 50%)

Données générales

Semiconducteurs:	Circuits intégrés 41 Transistors 174 Transistors FET 21
Puissance de sortie:	CC max. 7 W (60%, MOD. 400 Hz) 10 W (CA, MPO)
Haut-parleur:	Système à 2 voies Type ovale 18×12 cm (4Ω) 6,5 cm (4Ω)
Alimentation électrique:	CA 100~110/115~127/200~220/230~250 V, 50/60 Hz CC 18 V (12×UM-1, taille "D") 3 V (2×UM-3, "AA") ... Alimentation d'appoint pour mémoire et horloge. Entrée CC: 12~18 V
Consommation:	35 W
Prises jacks:	Sortie écouteur (3,5Ø) Sortie casque (6Ø) Sortie enregist. (3,5Ø, 8 kΩ) Sortie enregist. (DIN, 80 kΩ) Entrée AUX. (3,5Ø, 570 kΩ) Entrée AUX. (DIN, 570 kΩ) Sortie MPX. (3,5Ø, 5 kΩ) Sortie haut-parleur indépendant (3,5Ø, 4~8Ω) Sortie haut-parleur indépendant (DIN, 4~8Ω) Entrée CA Entrée CC Sortie minuterie CC
Antenne:	FM Antenne fouet 100 cm Ant. ext. (une touche, 75Ω) Ant. ext. (DIN, 300Ω) GO Antenne à âme de ferrite 12Ø×200 mm PO/OC (1,6110~2,9009 MHz) Antenne à âme de ferrite 12Ø×200 mm OC (2,9010~30,0000 MHz) Antenne fouet 150 cm GO/PO/OC Ant. ext. (une touche, 75Ω) Ant. ext. (DIN, 75Ω)
Dimensions: (L×H×P)	520×362×206 mm (20-1/2×14-1/4×8-1/8")
Poids:	20,3 kg (44 lb. 14, 1 oz) sans les piles

Specifications présentées se réservent de changements sans préavis.

3. LOCATION OF CONTROLS

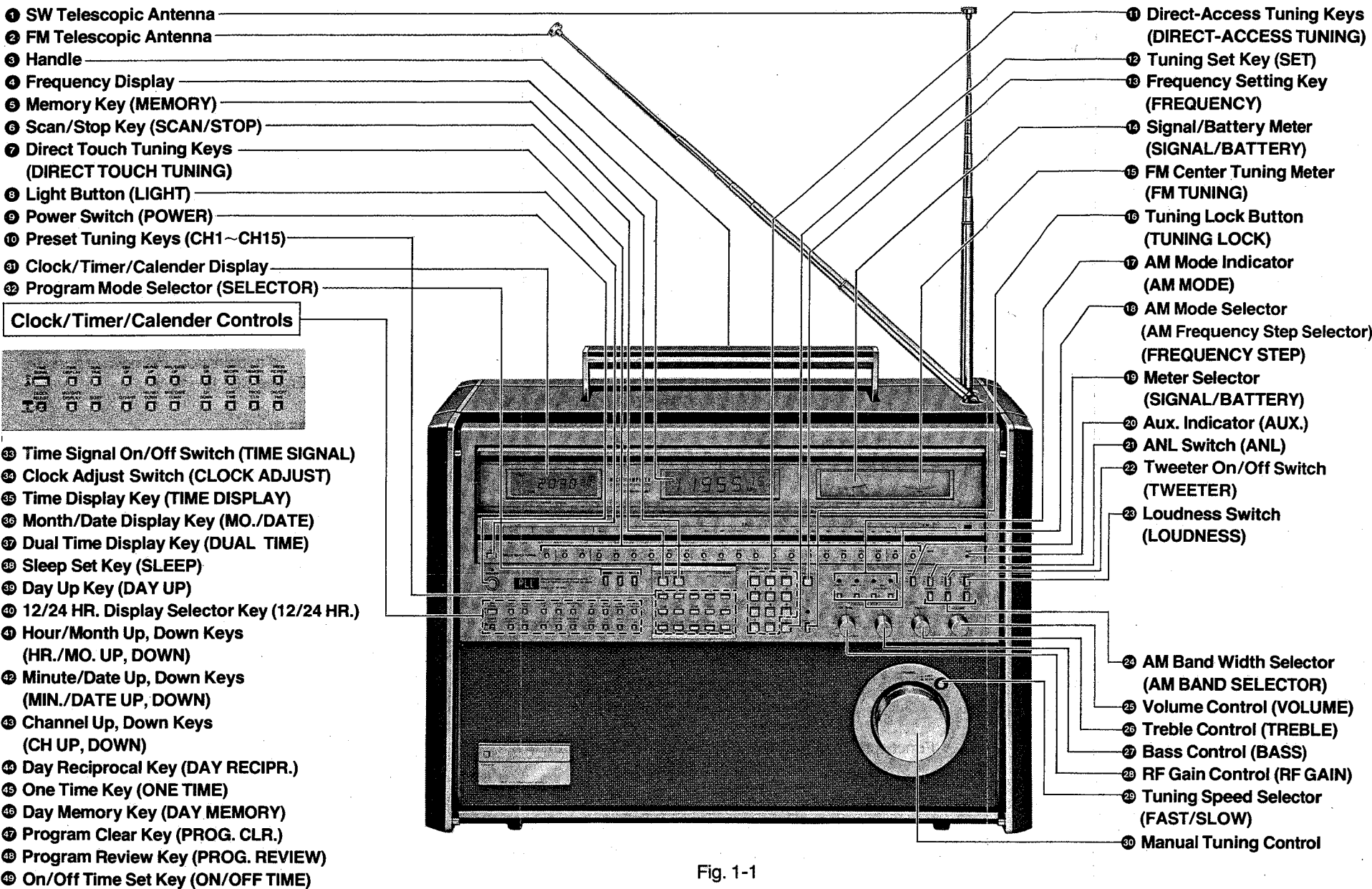


Fig. 1-1

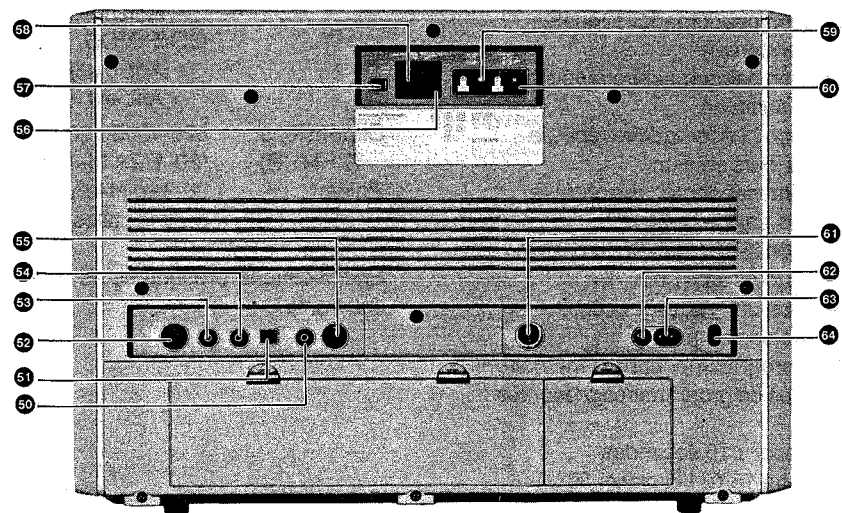


Fig. 1-2

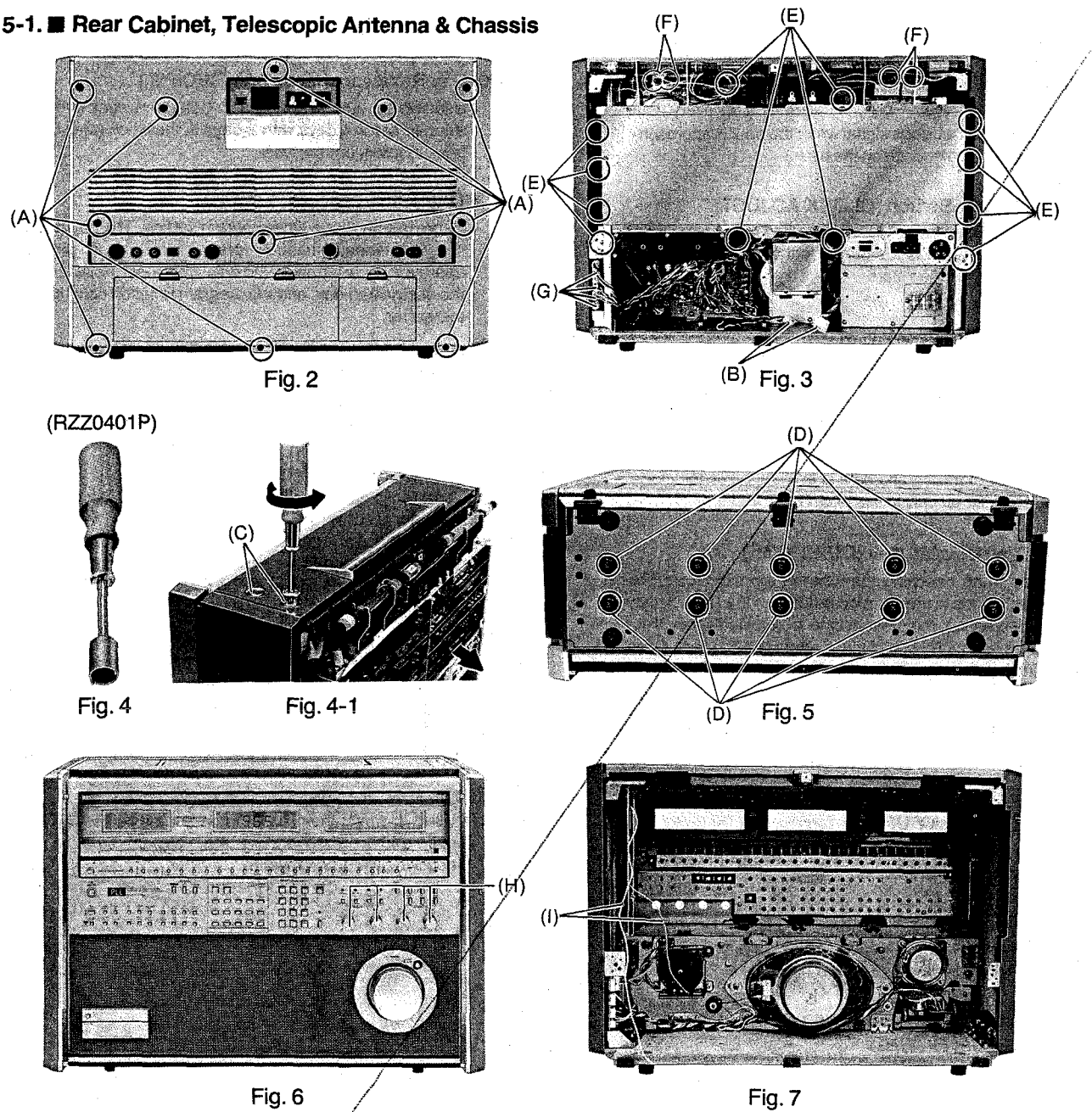
4. CONTROLS AND THEIR FUNCTIONS

Radio section:

- 1 SW Telescopic Antenna**
Used for receiving short-wave broadcasts.
- 2 FM Telescopic Antenna**
Used for receiving FM broadcasts.
- 3 Handle**
- 4 Frequency Display**
Indicates the frequency of the LW, MW, SW or FM broadcasting station received.
- 5 Memory Key (MEMORY)**
Depress this key to preset the tuned frequency into one of the preset tuning channels (CH1~CH15). (For details, refer to "Preset tuning.")
- 6 Scan/Stop Key (SCAN/STOP)**
When this key is depressed, scanning is performed from CH1→CH2... CH15→CH1→CH2—and the frequency of each of the channels is indicated simultaneously on the frequency display. Scanning stops when this key is depressed again at the desired channel.
- 7 Direct Touch Tuning Keys (DIRECT TOUCH TUNING)**
There are 1 LW key, 2 MW keys, 17 SW keys and 2 FM keys. Tuning is facilitated by depressing the key in the desired band or a key closest to the desired broadcasting station. With SW broadcasts, the center frequency of each meter band is tuned. By using the direct touch keys in combination with the tuning control, manual tuning can be performed speedily.
- 8 Light Switch (LIGHT)**
When this switch is depressed (I→II) and the Power switch 9 is at ON, the clock/calendar display, frequency display and meters are all illuminated.
- 9 Power Switch, Power Indicator (POWER)**
When this switch is depressed, the power comes on and it goes off when depress again.

5.DISASSEMBLY INSTRUCTIONS

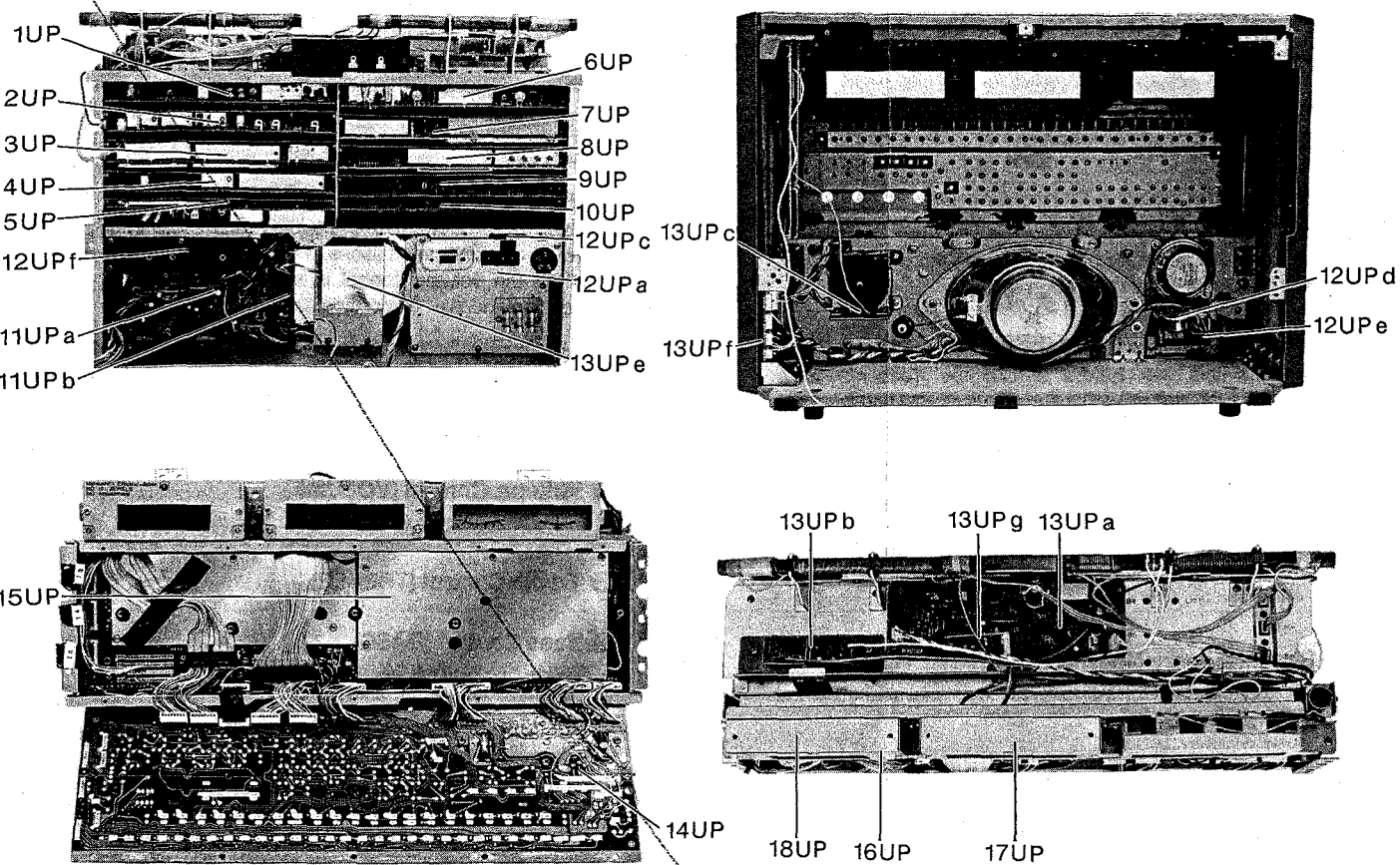
5-1. ■ Rear Cabinet, Telescopic Antenna & Chassis



Procedure	To remove—	Remove—	Shown in Fig—
1	Rear Cabinet	Screw (3×8) (A)×11	2
2		Socket (CN46, 47) (B)×2	3
3		Holder (C)×2	4, 4-1
4	Chassis (*2)	Screw (4×25) (D)×10	5
5		Red Screw (3×8) (E)×12	3
6		Red Screw (4×12) (F)×4	3
7		Extend the antenna.	
8		Lower the handle	
9		Socket (CN42~45) (G)×4	3
10		Knob (H)×4	6
11		Remove the chassis in the direction of arrow.	4-1
12		Antenna Socket (I)×2	7

*1. Using the repair tool (RZZ0401P) shown in Fig. 4, remove the antenna holder.
*2. When putting the chassis in a box, check the position of the antenna and the handle.

5-2. ■ Location of Printed Circuit Board



PC Board	Main Circuitry
1 UP	LW, MW, SW1—RF
2 UP	FM RF IF DET, METER
3 UP	SW2~5 BPF, RF ~IF
4 UP	LW, MW, SW1—VCO, Xtal OSC, MIX
5 UP	IF, DET, BPF, SSB, AM METER
6 UP	2nd PLL, VCO, MIX
7 UP	SW2~5, FM VCO, MIX, Muting
8 UP	1st, 2nd PLL, Control
9 UP	Radio Control-2
10 UP	Radio Control-1, μ com Block
11 UPa	AF AMP, Constant Voltage Power Supply
11 UPb	AF AMP, Constant Voltage Power Supply
12 UPa	Power Supply
12 UPb	Back up, Timer Out, Connector
12 UPc	EXT DC IN
12 UPd	Headphone
12 UPe	EP, Rec Out
12 UPf	AF Filter
13 UPa	Antenna
13 UPb	Antenna
13 UPc	Tuning
13 UPd	Tuning Speed Selector
13 UPe	DC-DC CONV
13 UPf	Connector
13 UPg	Whip BPF
14 UP	Key Board
15 UP	Common
16 UP	Clock
17 UP	Frequency Display
18 UP	Common

10 Preset Tuning Keys (CH1~CH15)

Used for preset tuning.

11 Direct-Access Tuning Keys (DIRECT-ACCESS TUNING)

12 Tuning Set Key (SET)

Depress this key after having tuned in the desired station with the Direct-Access Tuning keys.

13 Frequency Setting Key (FREQUENCY)

Depress this key before setting the frequency of a broadcasting station with a Direct-Access Tuning key. The indication on the frequency display is as below.



14 Signal/Battery Meter (SIGNAL/BATTERY)

Use the meter selector 10 to check the signal strength or the battery strength.

15 FM Center Tuning Meter (FM TUNING)

The meter pointer indicates the center of the scale at the optimum tuning point.

16 Tuning Lock Button (TUNING LOCK)

Depress this button when locking a broadcasting station during reception. The tuning lock indicator (LED) lights and there is no change even when any of the radio controls are touched. (But the program is executed.)

17 AM Mode Indicators (AM MODE)

The LED corresponding to the actual mode lights.

18 AM Mode Selector (Frequency Step Selector) (FREQUENCY STEP)

An AM Mode and SSB is selected with the determined frequency step.

19 Signal/Battery Meter Selector (SIGNAL/BATTERY)

Selects the signal/battery meter: released position (11→12) for the signal strength and depressed position (12→11) for the battery level.

20 AUX Indicator (AUX)

This lights when the rear panel Radio/Aux selector has been set to the AUX.

21 ANL (Automatic Noise Limiter) Switch (ANL)

Used to reduce the level of automobile ignition noise and other pulse-like noise. If a great deal of noise makes the sound of a broadcasting station difficult to hear, set this switch to the "ON" (12→13).

22 Tweeter Switch (TWEETER)

Sets the tweeter on and off. Set to "OFF (13→14)" when there is a great deal of noise in the high-frequency range with SW broadcast reception and to "ON (14→13)" when you want to listen to the hi-fi sound of an FM broadcast.

23 Loudness Switch (LOUDNESS)

Used when emphasizing the bass and treble under low volume listening conditions. This switch is effective only when the volume control is set between the left most position and the "5" position.

24 AM Band Width Selector (AM BAND WIDTH)

Set to "MED" or "NARROW" when there is a great deal of interference during LW, MW or SW reception. Normally, it is set to the WIDE.

25 Volume Control (VOLUME)

Used to adjust the volume.

26 Treble Control (TREBLE)

27 Bass Control (BASS)

These two controls are used to adjust the sound quality.

28 RF Gain Control (RF GAIN)

Used when receiving an LW, MW or SW broadcast. Normally, it is set to the MAX. However, when the signals are too strong and the sound is distorted or when there is interference, rotate the control in the direction of MIN and set to the position which yields the best reception.

29 Fast/Slow Tuning Speed Selector (FAST/SLOW)

Makes tuning even more effective with frequency step selector.

30 Tuning Control

Used for manual tuning.

Clock/Timer/calendar section

31 Clock/Timer/Calendar Display

Indicates the present time, sleep time, program setting time and the calendar.

32 Program Mode Selector (SELECTOR)

MANUAL: Manual mode regardless of program.
AUTO: Depress this button after program setting. The program is then executed.
PROG. SET: Set the program with this button depressed.

33 Time Signal Switch (TIME SIGNAL)

When set to "ON (14→15)", the alarm sounds every hour on the hour. (Two beeps signal when the hour is approaching and one beep sounds on the hour.)

34 Clock Adjust Switch (CLOCK ADJUST)

Set to "ADJUST (15→16)" when setting the present time. After setting, depress the button to the "LOCK (16→15)" and the clock will then start.

35 Time Display Key (TIME DISPLAY)

Depress this key when setting the time and display the time on the clock/calendar display.

36 Month/Date Display Key (MO./DATE)

Depress when setting the month, date and day. The display of month and date is exchanged on the clock/timer/calendar display in the model for Europe.

37 Dual Time Display Key (DUAL TIME)

Depress when checking the time on the sub clock. The display changes to the sub clock and when the Time Display key is depressed, the present time is indicated again. If the display is left on the sub clock, a return will be made to the present time automatically after 7 or 8 seconds.

38 Sleep Set Key (SLEEP)

Depress when setting the sleep time. The "sleep" time is then indicated on the clock/timer/calendar display.

39 Day Up Key (DAY UP)

Used to set the day with a month, date and day setting or with a program setting.

40 12/24 HR. Display Selector Key (12/24 HR.)

Every time this key is depressed, the display alternates between AM/PM 12 hours and 24 hours.

41 Hour/Month Up, Down Keys (HR./MO. UP, DOWN)

Used to adjust the hours and months. For details, refer to the section on setting the present time and setting the day and date.

42 Minute/Date Up, Down Keys (MIN./DATE UP, DOWN)

Used to adjust the minutes and date. For details, refer to the section on setting the present time and setting the day and date.

43 Channel Up, Down Keys (CH UP, DOWN)

Used for program setting. The set channel is displayed on the right of the program time display and so depress these keys until the desired channel is indicated.

44 Day Reciprocal Key (DAY RECIPR.)

Used when setting a program for 6 days in a week with 1 day skipped or for 4 days with 2 days in the week (they do not have to follow on) skipped.

45 One Time Key (ONE TIME)

Depress with a one time program setting. The day display "○" (repeat) mark is erased, the on/off program operation is performed once only at the designated time on the designated day, and the program is set off continuously thereafter.

46 Day Memory Key (DAY MEMORY)

Used with program setting to set two days and every day except two (they do not have to follow on). (Refer to the section on programming.)

47 Program Clear Key (PROG. CLR)

Used to clear a set program. When the program mode selector is set to "PROG. SET", the program review key is depressed and this key is depressed when the program to be erased is indicated on the display, the display will be erased and the program will be cleared.

48 Program Review Key (PROG. REVIEW)

Used to check a set program. When the program mode selector is set to "PROG. SET", the first program is displayed. When this key is depressed, the programs are indicated in order (2nd→3rd→4th→1st). When setting programs, depress this key and load the programs in order.

49 On/Off Time Set Key (ON/OFF TIME)

Used to select the program's on and off times. The key is used either when setting the program time or when checking the program time.

10 Preset Tuning Keys (CH1~CH15)

Used for preset tuning.

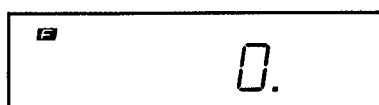
11 Direct-Access Tuning Keys (DIRECT-ACCESS TUNING)

12 Tuning Set Key (SET)

Depress this key after having tuned in the desired station with the Direct-Access Tuning keys.

13 Frequency Setting Key (FREQUENCY)

Depress this key before setting the frequency of a broadcasting station with a Direct-Access Tuning key. The indication on the frequency display is as below.



14 Signal/Battery Meter (SIGNAL/BATTERY)

Use the meter selector 14 to check the signal strength or the battery strength.

15 FM Center Tuning Meter (FM TUNING)

The meter pointer indicates the center of the scale at the optimum tuning point.

16 Tuning Lock Button (TUNING LOCK)

Depress this button when locking a broadcasting station during reception. The tuning lock indicator (LED) lights and there is no change even when any of the radio controls are touched. (But the program is executed.)

17 AM Mode Indicators (AM MODE)

The LED corresponding to the actual mode lights.

18 AM Mode Selector (Frequency Step Selector) (FREQUENCY STEP)

An AM Mode and SSB is selected with the determined frequency step.

19 Signal/Battery Meter Selector (SIGNAL/BATTERY)

Selects the signal/battery meter: released position (19) for the signal strength and depressed position (19) for the battery level.

20 AUX Indicator (AUX)

This lights when the rear panel Radio/Aux selector has been set to the AUX.

21 ANL (Automatic Noise Limiter) Switch (ANL)

Used to reduce the level of automobile ignition noise and other pulse-like noise. If a great deal of noise makes the sound of a broadcasting station difficult to hear, set this switch to the "ON" (21).

22 Tweeter Switch (TWEETER)

Sets the tweeter on and off. Set to "OFF (22)" when there is a great deal of noise in the high-frequency range with SW broadcast reception and to "ON (22)" when you want to listen to the hi-fi sound of an FM broadcast.

23 Loudness Switch (LOUDNESS)

Used when emphasizing the bass and treble under low volume listening conditions. This switch is effective only when the volume control is set between the left most position and the "5" position.

24 AM Band Width Selector (AM BAND WIDTH)

Set to "MED" or "NARROW" when there is a great deal of interference during LW, MW or SW reception. Normally, it is set to the WIDE.

25 Volume Control (VOLUME)

Used to adjust the volume.

26 Treble Control (TREBLE)

27 Bass Control (BASS)

These two controls are used to adjust the sound quality.

28 RF Gain Control (RF GAIN)

Used when receiving an LW, MW or SW broadcast. Normally, it is set to the MAX. However, when the signals are too strong and the sound is distorted or when there is interference, rotate the control in the direction of MIN and set to the position which yields the best reception.

29 Fast/Slow Tuning Speed Selector (FAST/SLOW)

Makes tuning even more effective with frequency step selector.

30 Tuning Control

Used for manual tuning.

Clock/Timer/calendar section

31 Clock/Timer/Calendar Display

Indicates the present time, sleep time, program setting time and the calendar.

32 Program Mode Selector (SELECTOR)

MANUAL: Manual mode regardless of program.

AUTO: Depress this button after program setting. The program is then executed.

PROG. SET: Set the program with this button depressed.

33 Time Signal Switch (TIME SIGNAL)

When set to "ON (33)", the alarm sounds every hour on the hour. (Two beeps signal when the hour is approaching and one beep sounds on the hour.)

34 Clock Adjust Switch (CLOCK ADJUST)

Set to "ADJUST (34)" when setting the present time. After setting, depress the button to the "LOCK (34)" and the clock will then start.

35 Time Display Key (TIME DISPLAY)

Depress this key when setting the time and display the time on the clock/calendar display.

36 Month/Date Display Key (MO./DATE)

Depress when setting the month, date and day. The display of month and date is exchanged on the clock/timer/calendar display in the model for Europe.

37 Dual Time Display Key (DUAL TIME)

Depress when checking the time on the sub clock. The display changes to the sub clock and when the Time Display key is depressed, the present time is indicated again. If the display is left on the sub clock, a return will be made to the present time automatically after 7 or 8 seconds.

38 Sleep Set Key (SLEEP)

Depress when setting the sleep time. The "sleep" time is then indicated on the clock/timer/calendar display.

39 Day Up Key (DAY UP)

Used to set the day with a month, date and day setting or with a program setting.

40 12/24 HR. Display Selector Key (12/24 HR.)

Every time this key is depressed, the display alternates between AM/PM 12 hours and 24 hours.

41 Hour/Month Up, Down Keys (HR./MO. UP, DOWN)

Used to adjust the hours and months. For details, refer to the section on setting the present time and setting the day and date.

42 Minute/Date Up, Down Keys (MIN./DATE UP, DOWN)

Used to adjust the minutes and date. For details, refer to the section on setting the present time and setting the day and date.

43 Channel Up, Down Keys (CH UP, DOWN)

Used for program setting. The set channel is displayed on the right of the program time display and so depress these keys until the desired channel is indicated.

44 Day Reciprocal Key (DAY RECIPR.)

Used when setting a program for 6 days in a week with 1 day skipped or for 4 days with 2 days in the week (they do not have to follow on) skipped.

45 One Time Key (ONE TIME)

Depress with a one time program setting. The day display "C" (repeat) mark is erased, the on/off program operation is performed once only at the designated time on the designated day, and the program is set off continuously thereafter.

46 Day Memory Key (DAY MEMORY)

Used with program setting to set two days and every day except two (they do not have to follow on). (Refer to the section on programming.)

47 Program Clear Key (PROG. CLR)

Used to clear a set program. When the program mode selector is set to "PROG. SET", the program review key is depressed and this key is depressed when the program to be erased is indicated on the display, the display will be erased and the program will be cleared.

48 Program Review Key (PROG. REVIEW)

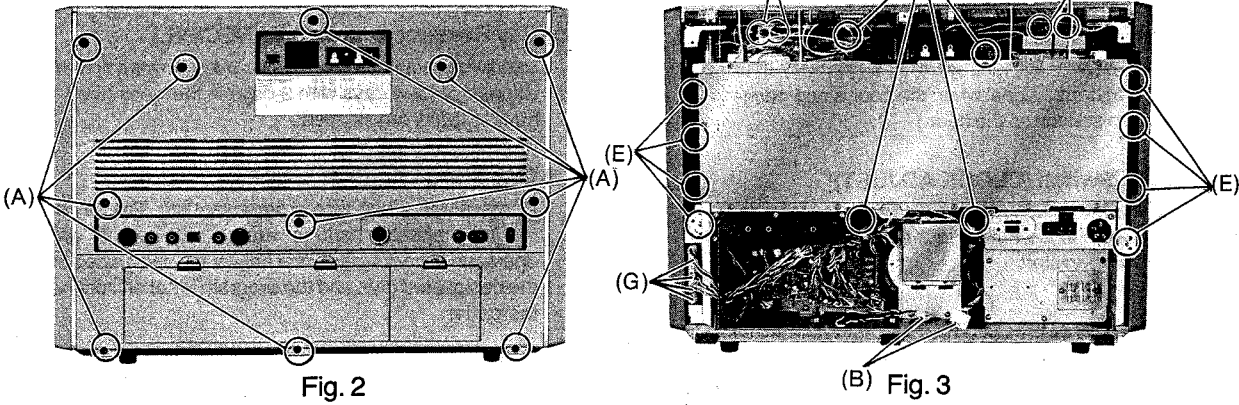
Used to check a set program. When the program mode selector is set to "PROG. SET", the first program is displayed. When this key is depressed, the programs are indicated in order (2nd→3rd→4th→1st). When setting programs, depress this key and load the programs in order.

49 On/Off Time Set Key (ON/OFF TIME)

Used to select the program's on and off times. The key is used either when setting the program time or when checking the program time.

5.DISASSEMBLY INSTRUCTIONS

5-1. ■ Rear Cabinet, Telescopic Antenna & Chassis



(RZZ0401P)

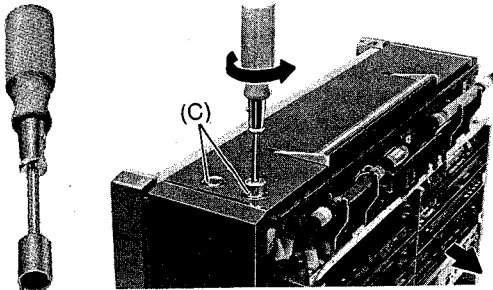
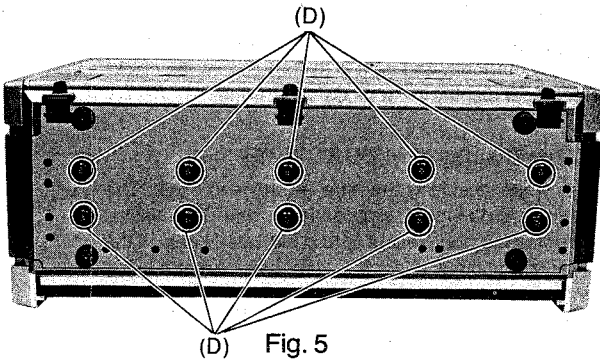


Fig. 4

Fig. 4-1



(D) Fig. 5

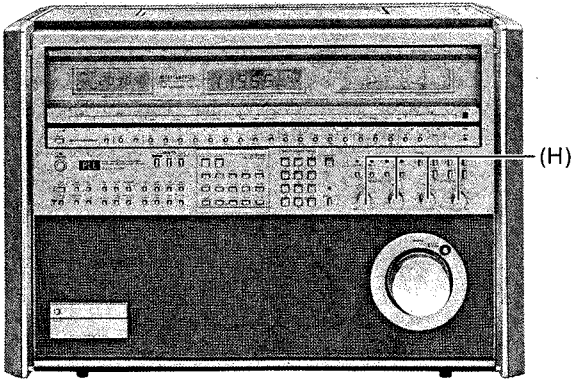


Fig. 6

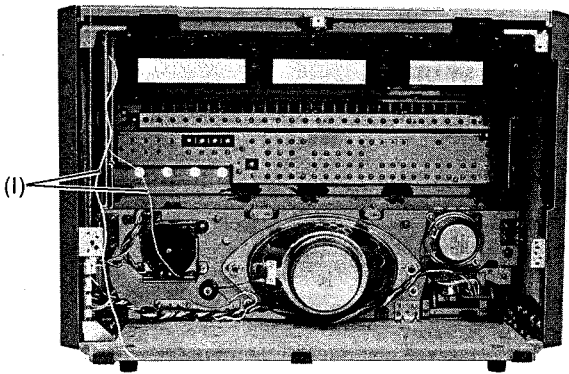
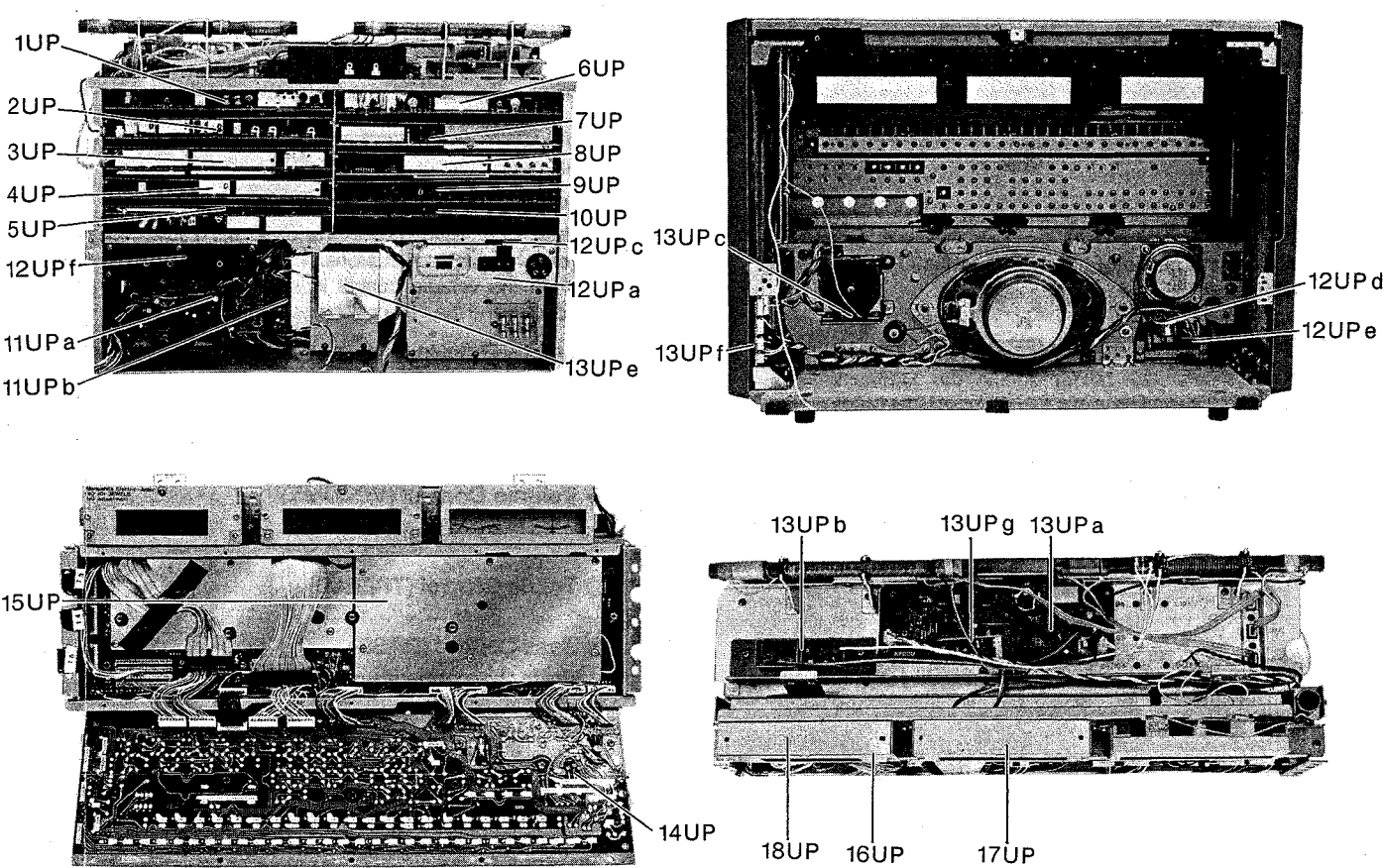


Fig. 7

Procedure	To remove—	Remove—	Shown in Fig—
1	Rear Cabinet	Screw (3×8) (A)×11	2
2		Socket (CN46, 47) (B)×2	3
3	Telescopic Antenna (*1)	Holder (C)×2	4, 4-1
4	Chassis (*2)	Screw (4×25) (D)×10	5
5		Red Screw (3×8) (E)×12	3
6		Red Screw (4×12) (F)×4	3
7		Extend the antenna.	
8		Lower the handle	
9		Socket (CN42~45) (G)×4	3
10		Knob (H)×4	6
11		Remove the chassis in the direction of arrow.	4-1
12		Antenna Socket (I)×2	7

*1. Using the repair tool (RZZ0401P) shown in Fig. 4, remove the antenna holder.
*2. When putting the chassis in a box, check the position of the antenna and the handle.

5-2. ■ Location of Printed Circuit Board



PC Board	Main Circuitry
1 UP	LW, MW, SW1—RF
2 UP	FM RF IF DET, METER
3 UP	SW2~5 BPF, RF~IF
4 UP	LW, MW, SW1—VCO, Xtal OSC, MIX
5 UP	IF, DET, BPF, SSB, AM METER
6 UP	2nd PLL, VCO, MIX
7 UP	SW2~5, FM VCO, MIX, Muting
8 UP	1st, 2nd PLL, Control
9 UP	Radio Control-2
10 UP	Radio Control-1, μ com Block
11 UPa	AF AMP, Constant Voltage Power Supply
11 UPb	AF AMP, Constant Voltage Power Supply
12 UPa	Power Supply
12 UPb	Back up, Timer Out, Connector
12 UPc	EXT DC IN
12 UPd	Headphone
12 UPe	EP, Rec Out
12 UPf	AF Filter
13 UPa	Antenna
13 UPb	Antenna
13 UPc	Tuning
13 UPd	Tuning Speed Selector
13 UPe	DC-DC CONV
13 UPf	Connector
13 UPg	Whip BPF
14 UP	Key Board
15 UP	Common
16 UP	Clock
17 UP	Frequency Display
18 UP	Common

5-6 ■ Key Board (14 UP)

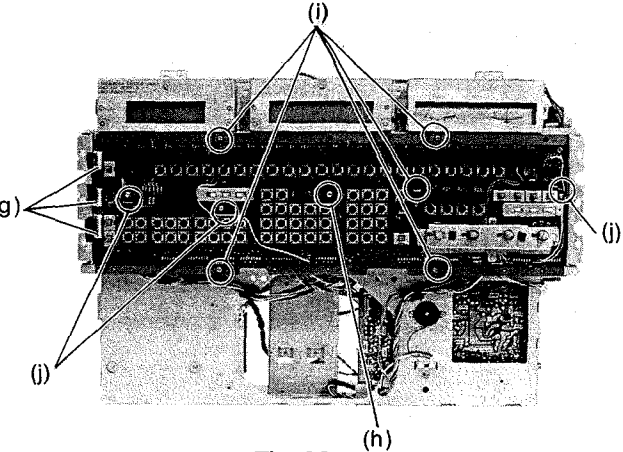


Fig. 23

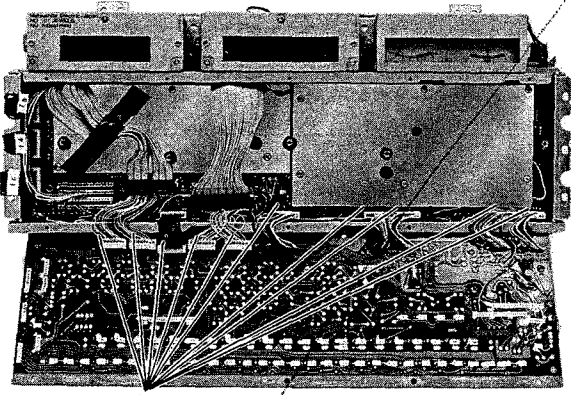


Fig. 24

38	Key Board (14 UP)	Stay Shaft	(e)×1	21
39		Screw (3×6)	(f)×6	21
40		Socket (CN13~15)	(g)×3	23
41		Stay Shaft	(h)×1	23
42		Screw (3×6)	(i)×5	23
43		Screw (3×6)	(j)×3	23
44		Socket	(k)×10	24

5-7. ■ Common Board (15 UP)

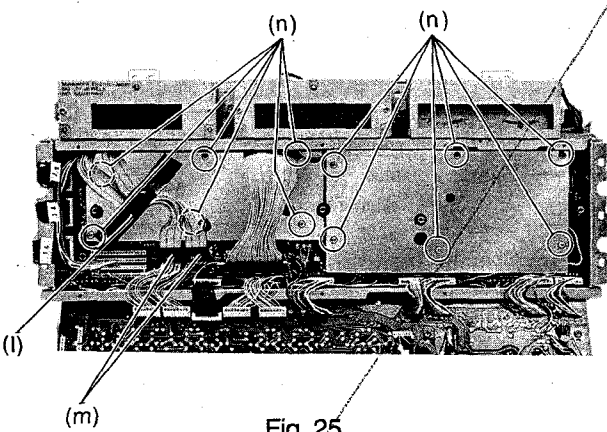


Fig. 25

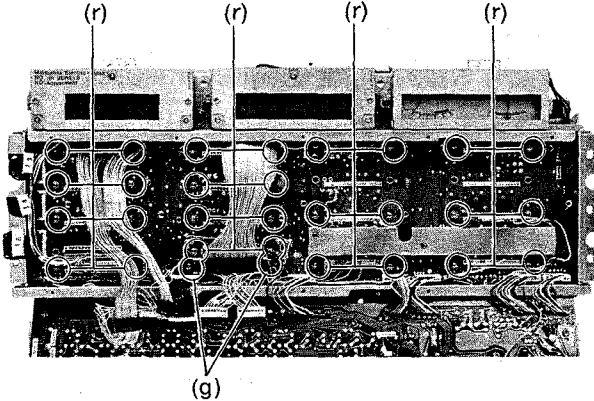


Fig. 26

45	Common Board (15 UP) *6	Tape	(l)×1	25
46		Socket (CS100, 101)	(m)×2	25
47		Screw (3×4)	(n)×12	25
48		Remove the circuit board 1~10 UP, in the same way of 22~28.		—
49		Screw (3×12)	(g)×2	26
50		Screw (2.6×12)	(r)×28	26

*6. To remove the 15 UP completely, remove or loosen the socket and lead wire projecting from the 15 UP.

5-8. ■ Tuning Block (13 UPc) & Headphone (12 UPd), EP, Rec Out (12 UPe) Jack Board

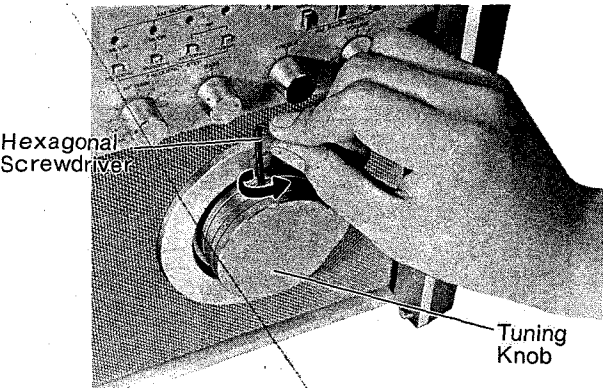


Fig. 27

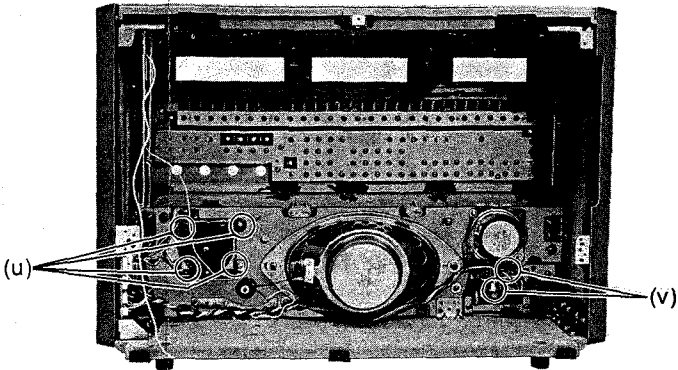


Fig. 28

51	Tuning Knob & Tuning	Tuning Knob Screw (4×5)	①×2	27, 29
52	Block (13 UPc)	Tuning Knob		27
53		Screw (3×12)	(u)×4	28
54	Headphone (12 UPd), EP, Rec Out (12 UPe) Jack Board	Screw (3×10)	(v)×2	28

5-9. ■ Button, Handle, Handle Mechanism Block, Jack Cover, Front Panel & Indicating Plate

55	Button (w)	Screw (3×10)	ⓧ×10	29, 30
56	Button (y)	Screw (2.3×10)	Ⓐ×5	29, 30
57	Handle	Screw (3×16)	Ⓑ×6	29
58		Screw (3×6)	Ⓒ×1	29
59		Spring & Stopper	Ⓓ, Ⓔ×1	29
60		Screw (3×8)	Ⓕ×2	29
61	Handle Mechanism, Block *7.	Screw (3×12)	Ⓖ×2	29
62	Front Panel Jack Cover	Screw (3×8)	Ⓗ×1	31
63		Screw (3×10)	Ⓘ×2	31
64		Bracket	Ⓣ×2	31
65		Badge (* 8)	Ⓚ×1	31
66		Cover	Ⓛ×1	31
67	Front Panel	Screw (3×16)	Ⓜ×6	29
68	Indicating Plate	Screw (3×8)	Ⓝ×5	29
69		Screw (2×8)	Ⓞ×5	29

*7. When taking it apart refer to Fig. 29.

*8. Remove the National Panasonic badge by bending up the pins.

5-3. ■ Power Supply (12 UPa), EXT DC IN (12 UPc), DC-DC CONV (13 UPe), AF Filter (12 UPf) & AF AMP, Constant Voltage Power Supply (11 UPa, b) Circuit Boards

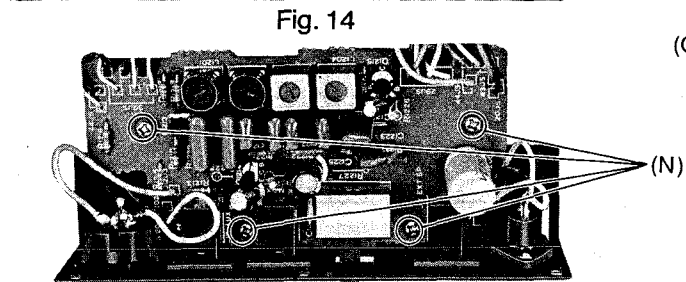
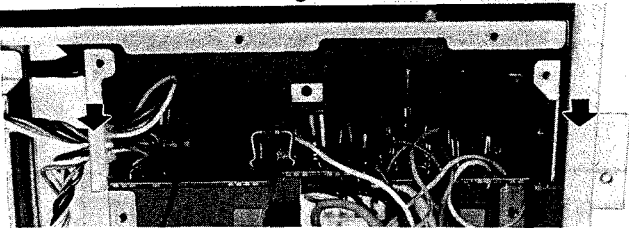
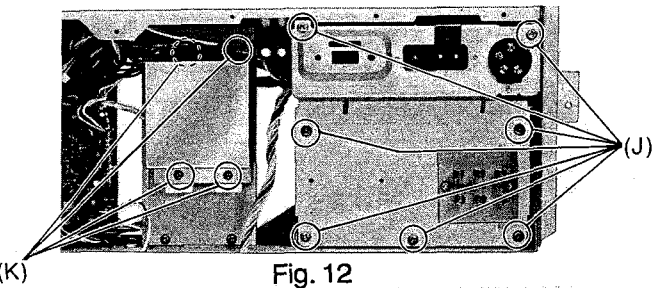


Fig. 15

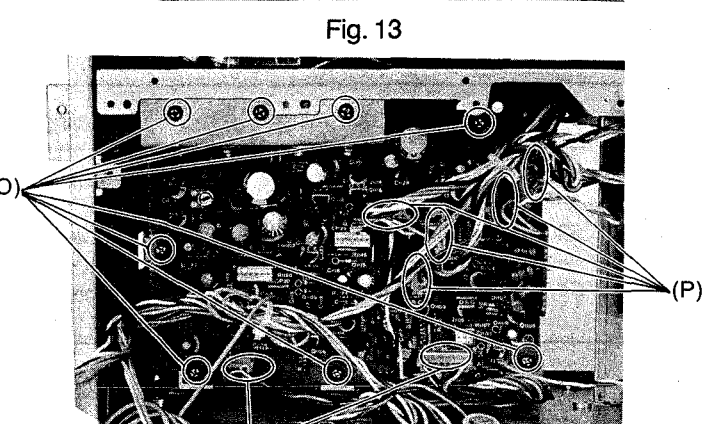
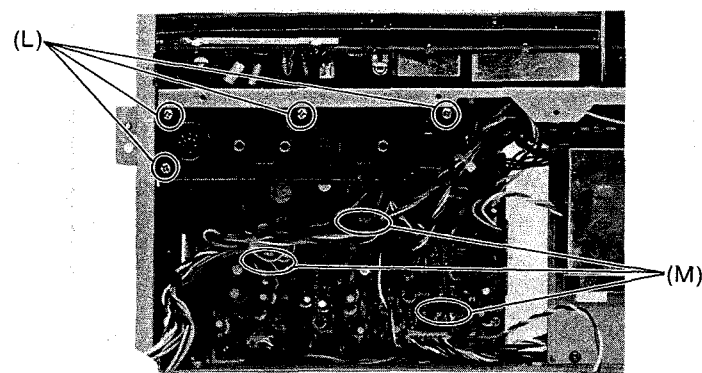


Fig. 16

13	Power Circuit Board	Screw (3×6) (J)×7	12
14	(12 UPa, 12 UPc)	Remove the circuit board in the direction of arrow.	14
15	DC-DC CONV (13 UPe)	Screw (3×6) (K)×4	12
16	AF Filter Circuit Board (12 UPf)	Screw (3×6) (L)×4	13
17		Socket (CN20, 29, 30) (M)×3	13
18	AF AMP, Constant Voltage Power	Screw (3×6) (N)×4	15
19		Screw (3×6) (O)×8	16
20	Supply Circuit Board (11 UPa, b)	Socket (CN21, 23~28) (P)×7	16

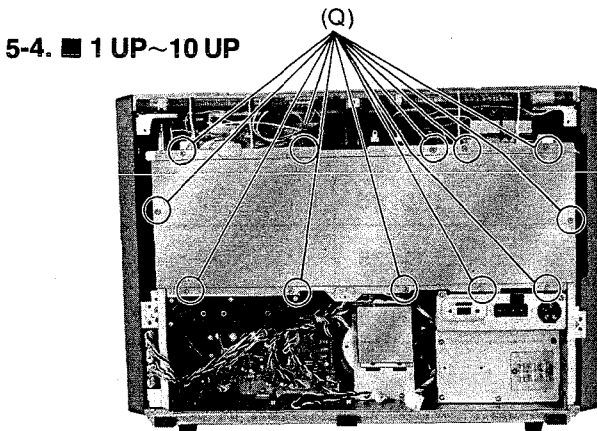


Fig. 17

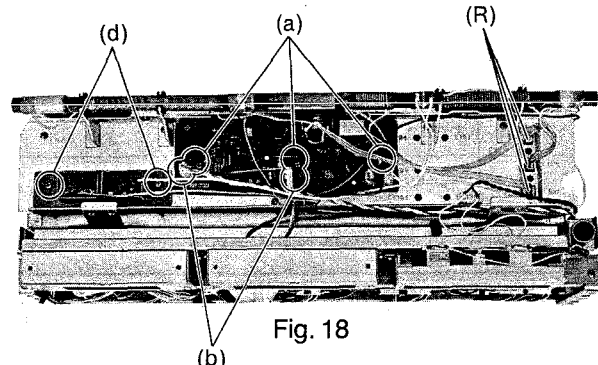


Fig. 18

5-4. ■ 1 UP~10 UP

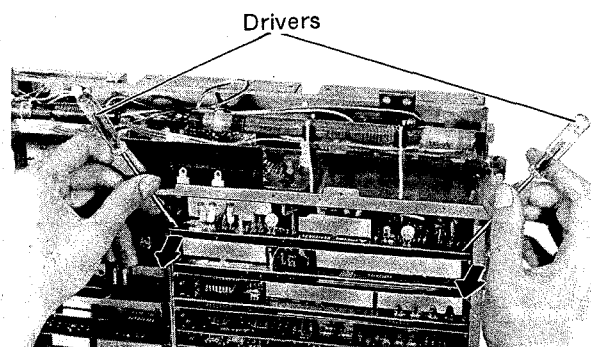


Fig. 19

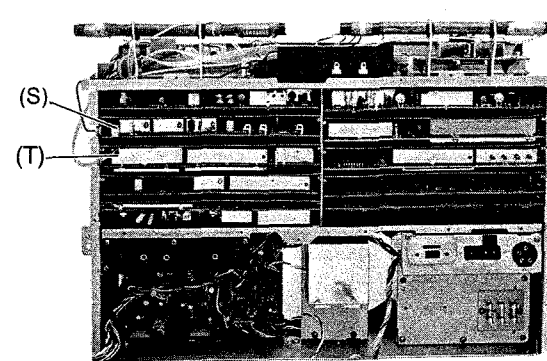


Fig. 20

21	Cover (1~10 UP)	Screw (3×6) (Q)×12	17
22	1 UP *3	Socket (CN101, 102, 103) (R)×3	18
23		Remove the circuit board with drivers in the direction of arrow.	19
24	2 UP *3	Remove in the same manner as no. 23.	19
25		Socket (CN4) (S)×1	20
26	3 UP *3	Remove in the same manner as no. 23.	19
27		Socket (CN301) (T)×1	20
28	4~10 UP *3	Remove in the same manner as no. 23.	19

*3. When inserting a printed circuit board, fit it into the channel provided in the chassis.

5-5. ■ Clock (16 UP, 18 UP), Frequency (17 UP), Antenna (13 UPa, b) Circuit Boards & Meter

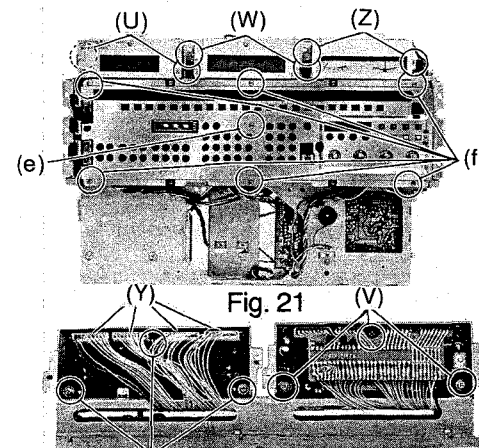


Fig. 21

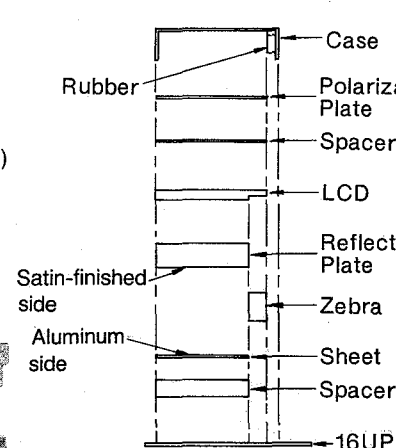


Fig. 22-1

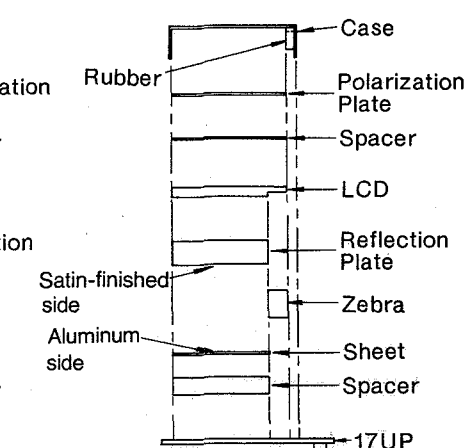


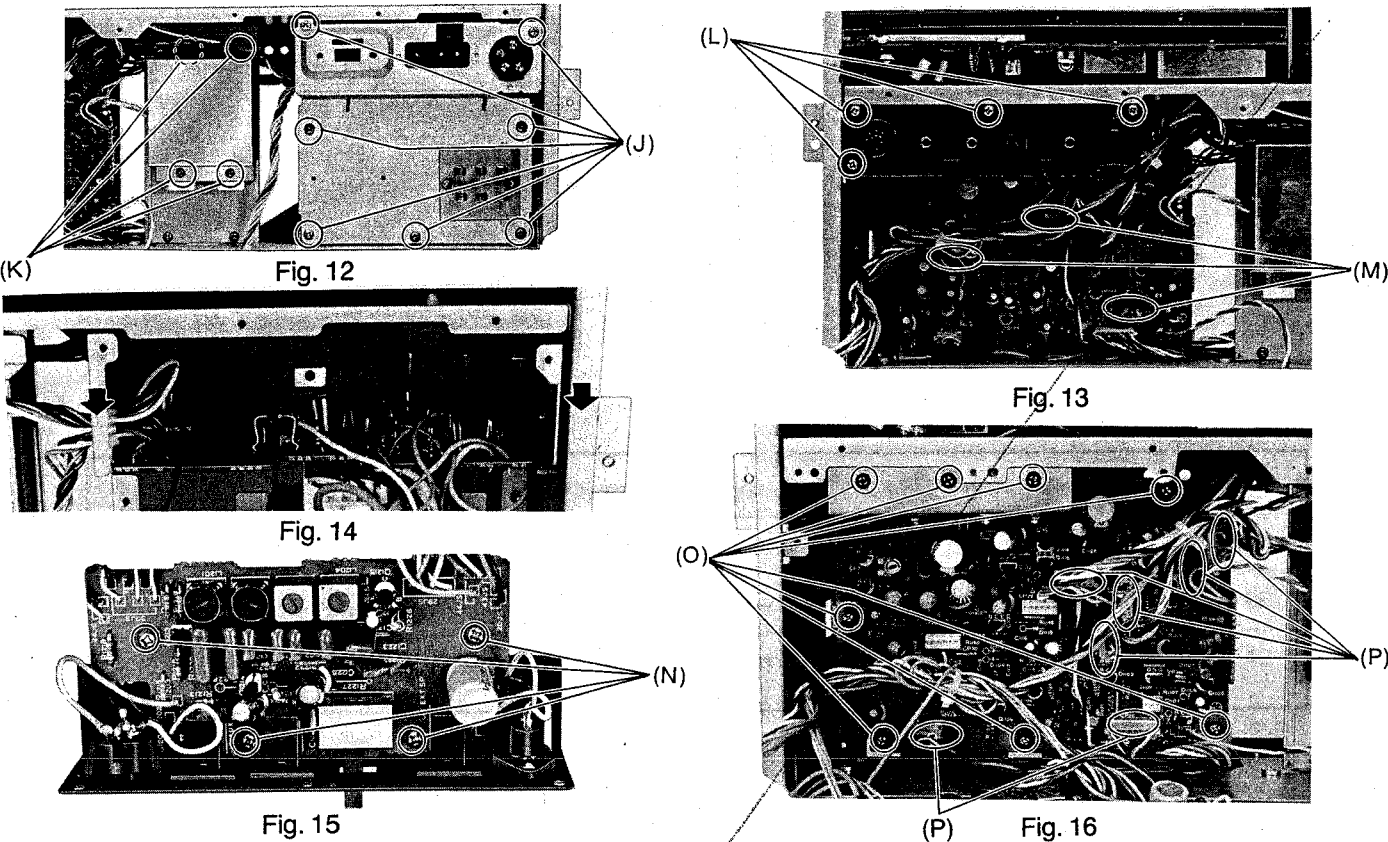
Fig. 22-2

29	Clock Circuit Board	Screw (3×6) (U)×2	21
30	(16, 18 UP) & LCD *4	Screw (3×8) (V)×3	22
31	Frequency Circuit Board (17 UP) & LCD *5	Screw (3×6) (W)×2	21
32		Screw (3×8) (X)×3	22
33	Meter	Socket (Y)×4	22
34		Screw (3×6) (Z)×2	21
35	Antenna Circuit Board (13 UPa)	Screw (3×6) (a)×3	18
36		Socket (CN31, 34) (b)×2	18
37	Antenna Circuit Board (13 UPb)	Screw (3×6) (d)×2	18

*4. To replace the clock LCD, refer to Fig. 22-1.

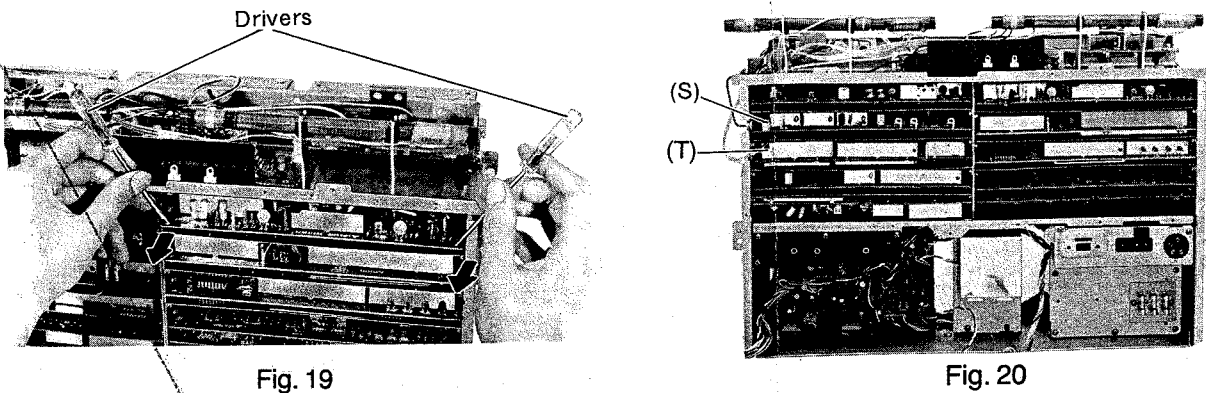
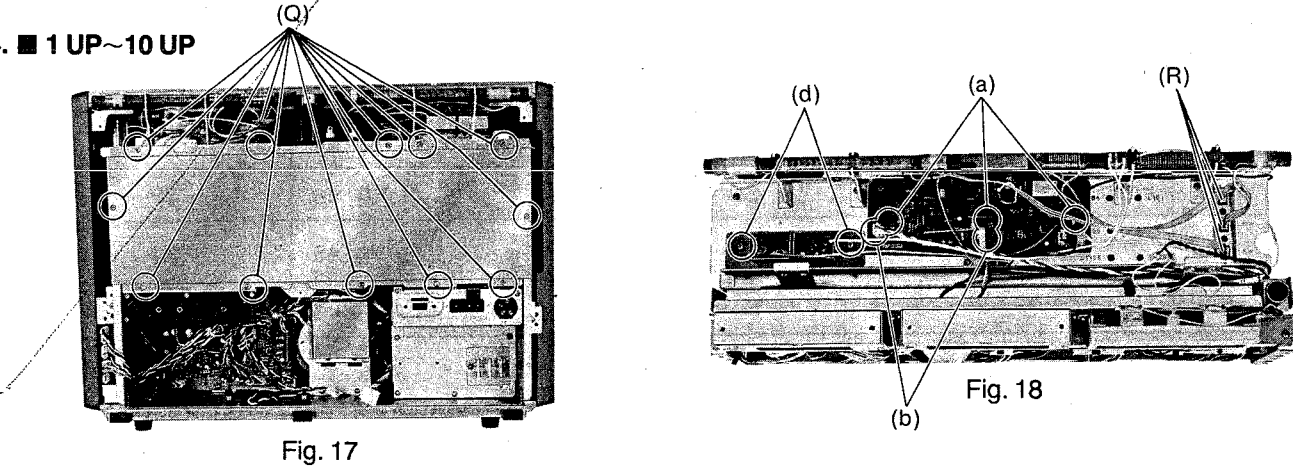
*5. To replace the frequency LCD, refer to Fig. 22-2.

5-3. ■ Power Supply (12 UPa), EXT DC IN (12 UPc), DC-DC CONV (13 UPe), AF Filter (12 UPf) & AF AMP, Constant Voltage Power Supply (11 UPa, b) Circuit Boards



13	Power Circuit Board	Screw (3×6) (J)×7	12
14	(12 UPa, 12 UPc)	Remove the circuit board in the direction of arrow.	14
15	DC-DC CONV (13 UPe)	Screw (3×6) (K)×4	12
16	AF Filter Circuit Board (12 UPf)	Screw (3×6) (L)×4	13
17		Socket (CN20, 29, 30) (M)×3	13
18		Screw (3×6) (N)×4	15
19	AF AMP, Constant Voltage Power	Screw (3×6) (O)×8	16
20	Supply Circuit Board (11 UPa, b)	Socket (CN21, 23~28) (P)×7	16

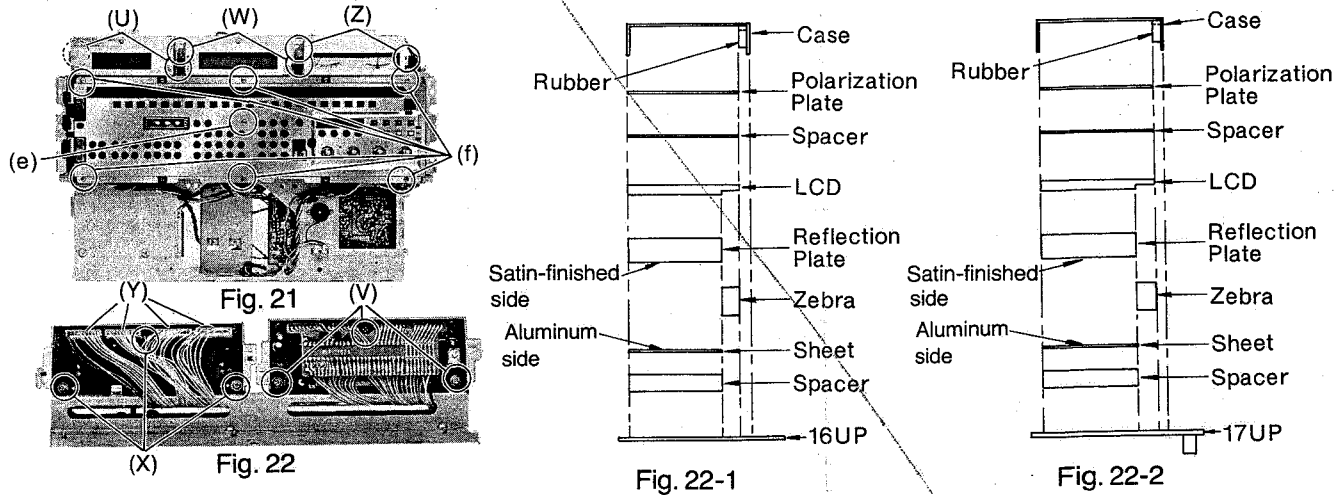
5-4. ■ 1 UP~10 UP



21	Cover (1~10 UP)	Screw (3×6) (Q)×12	17
22	1 UP *3	Socket (CN101, 102, 103) (R)×3	18
23		Remove the circuit board with drivers in the direction of arrow.	19
24		Remove in the same manner as no. 23.	19
25	2 UP *3	Socket (CN4) (S)×1	20
26	3 UP *3	Remove in the same manner as no. 23.	19
27		Socket (CN301) (T)×1	20
28	4~10 UP *3	Remove in the same manner as no. 23.	19

*3. When inserting a printed circuit board, fit it into the channel provided in the chassis.

5-5. ■ Clock (16 UP, 18 UP), Frequency (17 UP), Antenna (13 UPa, b) Circuit Boards & Meter



29	Clock Circuit Board	Screw (3×6) (U)×2	21
30	(16, 18 UP) & LCD *4	Screw (3×8) (V)×3	22
31	Frequency Circuit Board (17 UP) & LCD *5	Screw (3×6) (W)×2	21
32		Screw (3×8) (X)×3	22
33		Socket (Y)×4	22
34	Meter	Screw (3×6) (Z)×2	21
35	Antenna Circuit Board (13 UPa)	Screw (3×6) (a)×3	18
36		Socket (CN31, 34) (b)×2	18
37	Antenna Circuit Board (13 UPb)	Screw (3×6) (d)×2	18

*4. To replace the clock LCD, refer to Fig. 22-1.
 *5. To replace the frequency LCD, refer to Fig. 22-2.

5-6 ■ Key Board (14 UP)

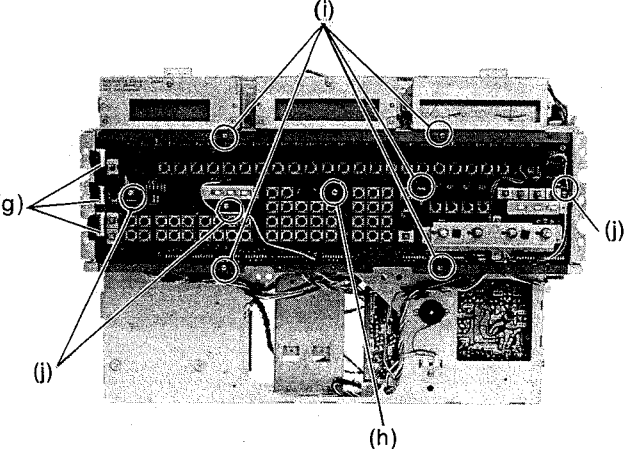


Fig. 23

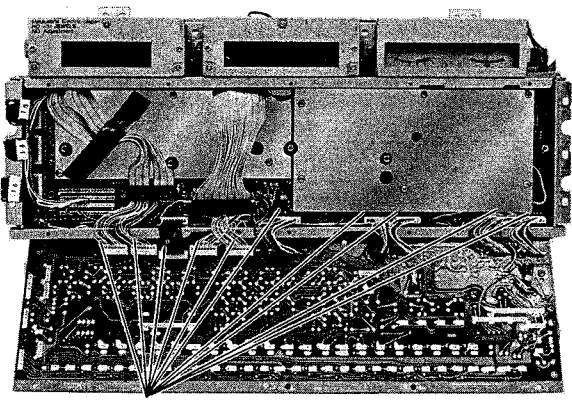


Fig. 24

38	Key Board (14 UP)	Stay Shaft	(e)×1	21
39		Screw (3×6)	(f)×6	21
40		Socket (CN13~15)	(g)×3	23
41		Stay Shaft	(h)×1	23
42		Screw (3×6)	(i)×5	23
43		Screw (3×6)	(j)×3	23
44		Socket	(k)×10	24

5-7. ■ Common Board (15 UP)

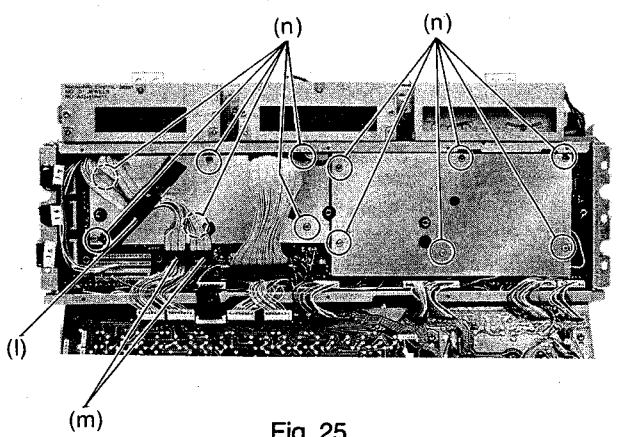


Fig. 25

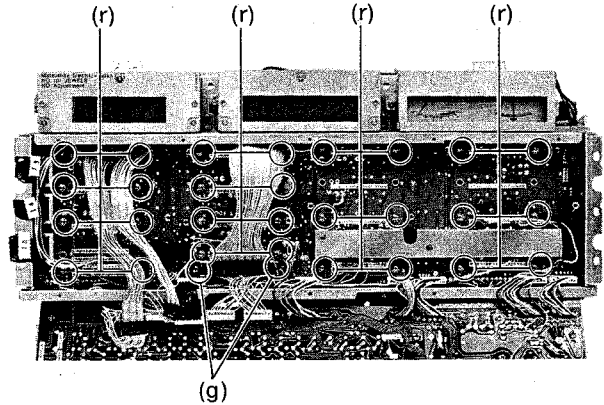


Fig. 26

45	Common Board (15 UP) *6	Tape	(l)×1	25
46		Socket (CS100, 101)	(m)×2	25
47		Screw (3×4)	(n)×12	25
48		Remove the circuit board 1~10 UP, in the same way of 22~28.		—
49		Screw (3×12)	(g)×2	26
50		Screw (2.6×12)	(r)×28	26

*6. To remove the 15 UP completely, remove or loosen the socket and lead wire projecting from the 15 UP.

5-8. ■ Tuning Block (13 UPc) & Headphone (12 UPd), EP, Rec Out (12 UPe) Jack Board

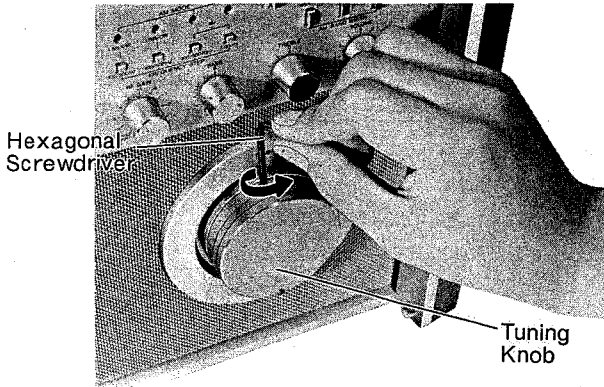


Fig. 27

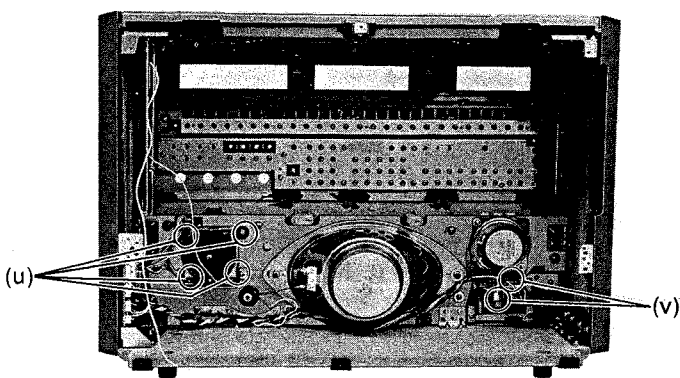


Fig. 28

51	Tuning Knob & Tuning	Tuning Knob Screw (4×5)	①×2	27, 29
52	Block (13 UPc)	Tuning Knob		27
53		Screw (3×12)	(u)×4	28
54	Headphone (12 UPd), EP, Rec Out (12 UPe) Jack Board	Screw (3×10)	(v)×2	28

5-9. ■ Button, Handle, Handle Mechanism Block, Jack Cover, Front Panel & Indicating Plate

55	Button (w)	Screw (3×10)	⑧×10	29, 30
56	Button (y)	Screw (2.3×10)	⑨×5	29, 30
57	Handle	Screw (3×16)	⑩×6	29
58		Screw (3×6)	⑪×1	29
59		Spring & Stopper	⑫, ⑬×1	29
60		Screw (3×8)	⑭×2	29
61	Handle Mechanism, Block *7.	Screw (3×12)	⑮×2	29
62	Front Panel Jack Cover	Screw (3×8)	⑯×1	31
63		Screw (3×10)	⑰×2	31
64		Bracket	⑱×2	31
65		Badge (* 8)	⑲×1	31
66		Cover	⑳×1	31
67	Front Panel	Screw (3×16)	㉑×6	29
68	Indicating Plate	Screw (3×8)	㉒×5	29
69		Screw (2×8)	㉓×5	29

*7. When taking it apart refer to Fig. 29.

*8. Remove the National Panasonic badge by bending up the pins.

5-10. ■ Tuning Block

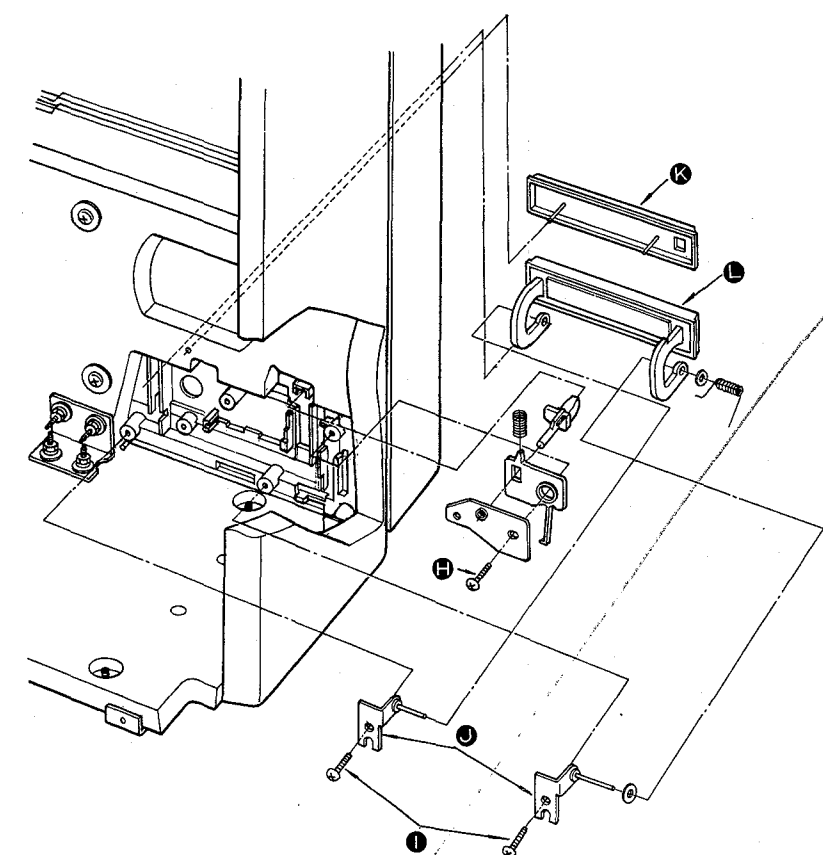


Fig. 31

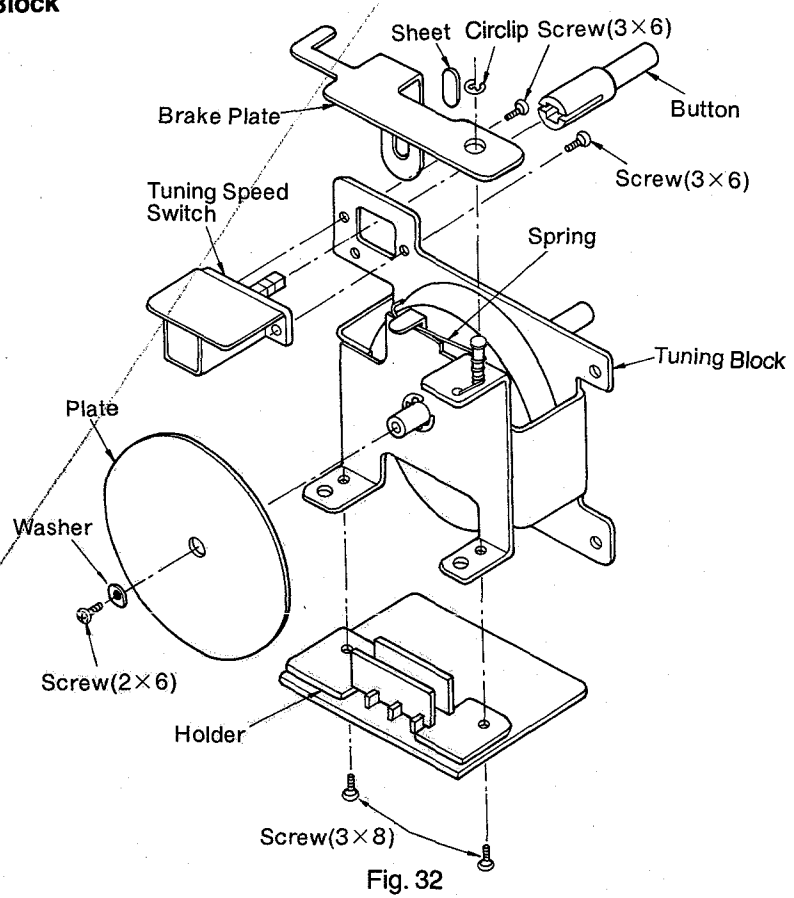


Fig. 32

5-11. ■ Connector Positions

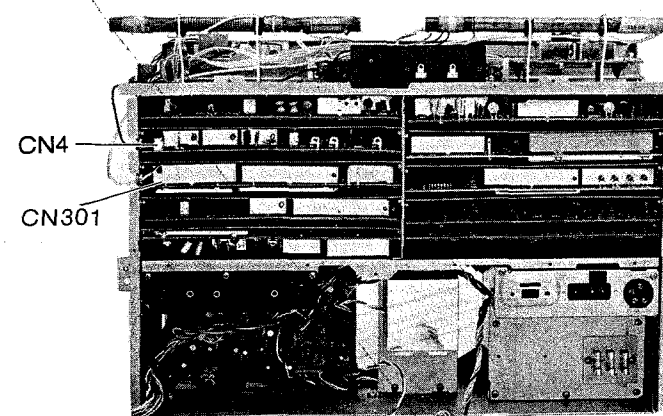


Fig. 33

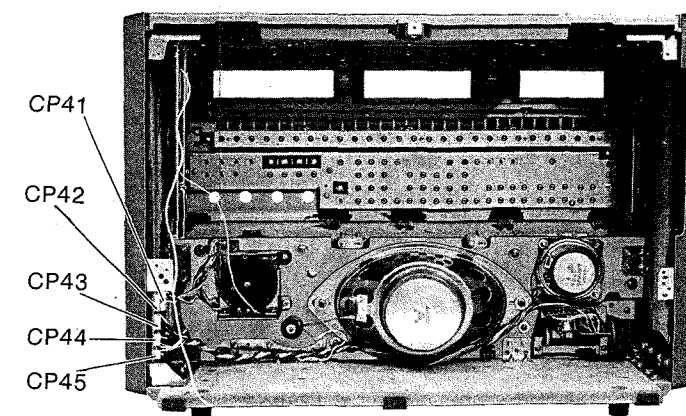


Fig. 34

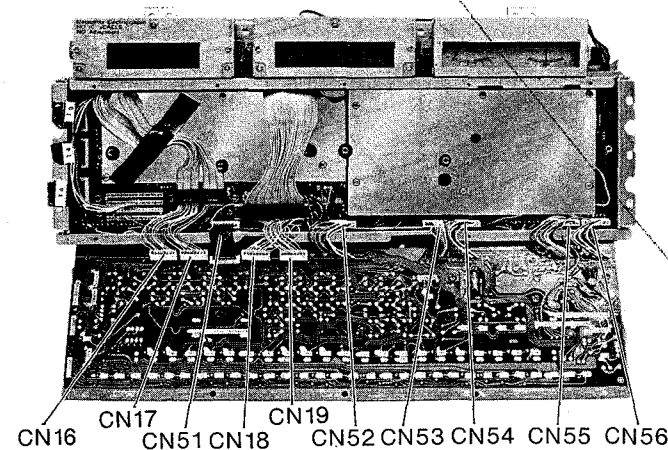


Fig. 35

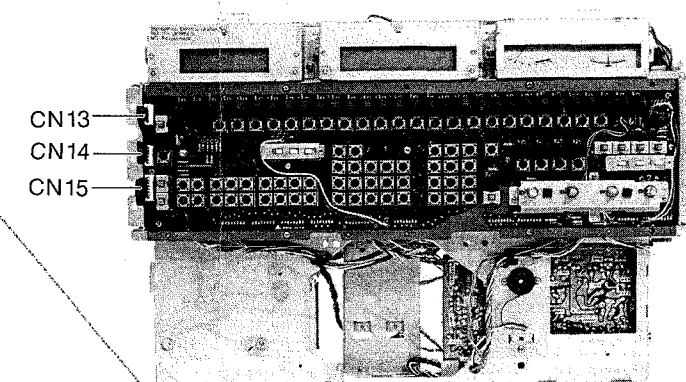


Fig. 36

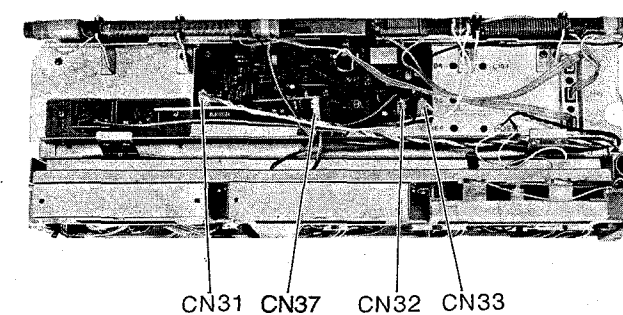


Fig. 37

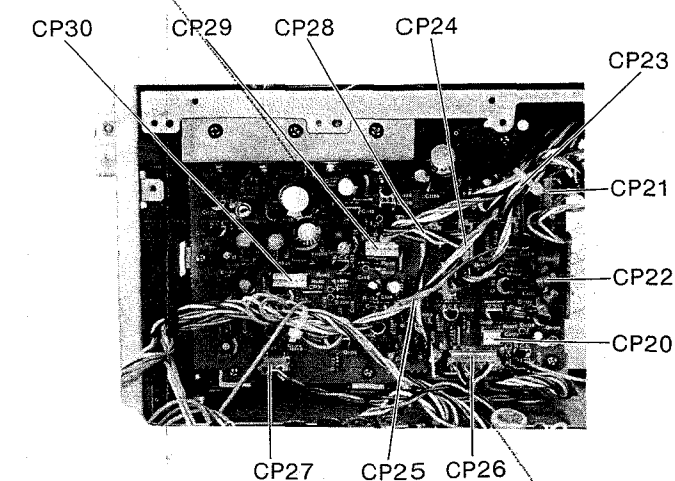


Fig. 38

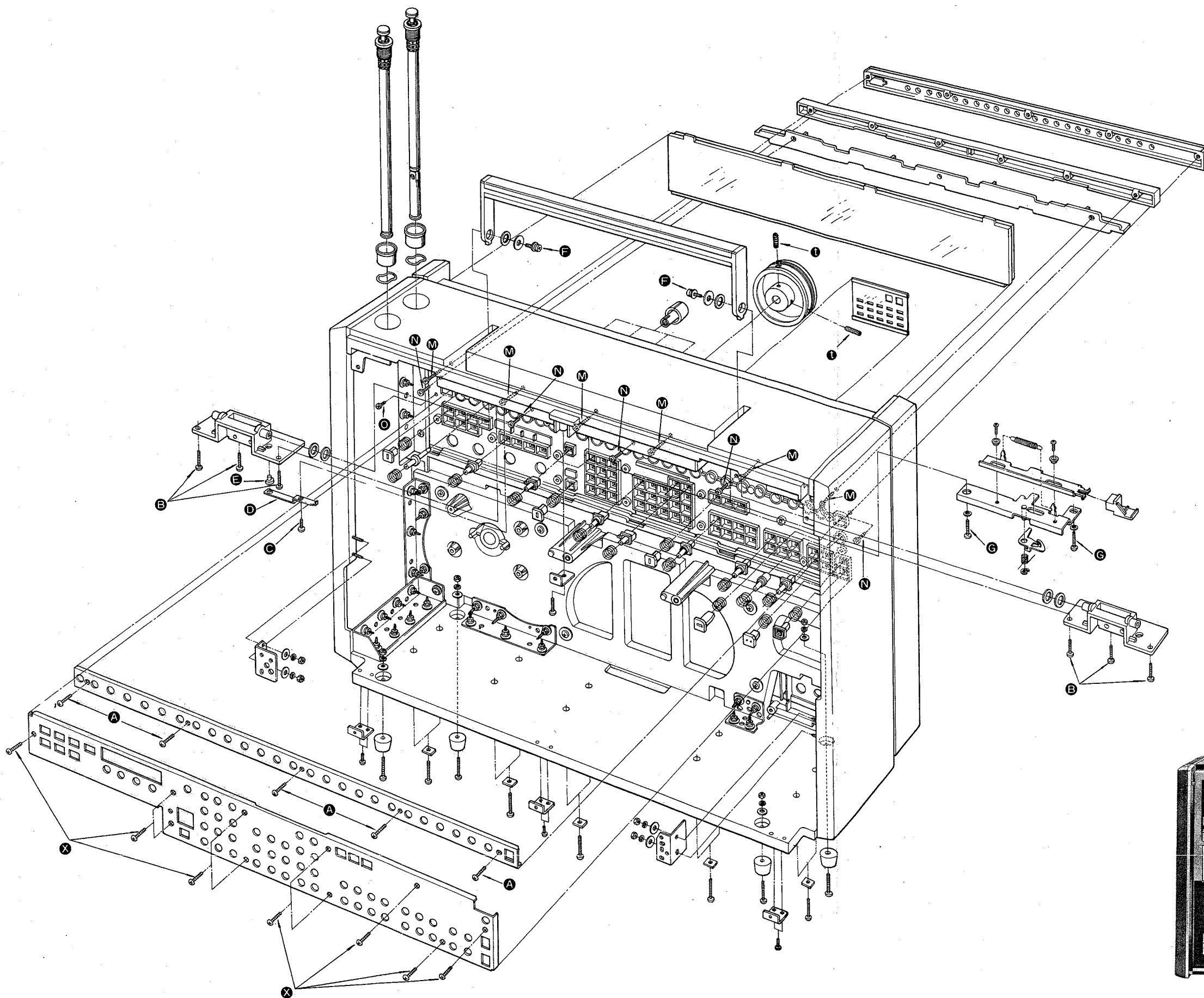
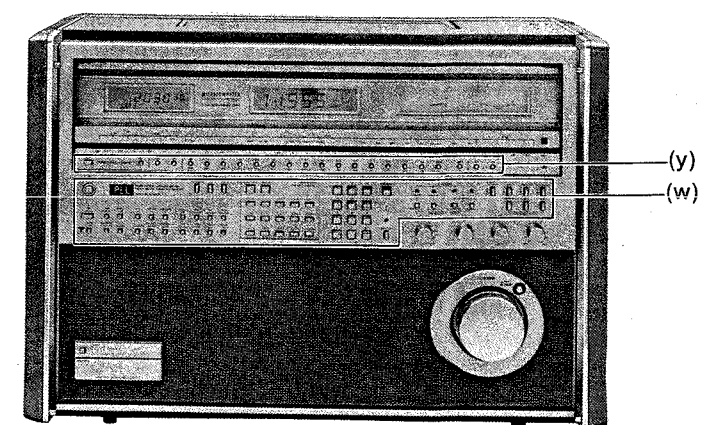


Fig. 29

B3



B4

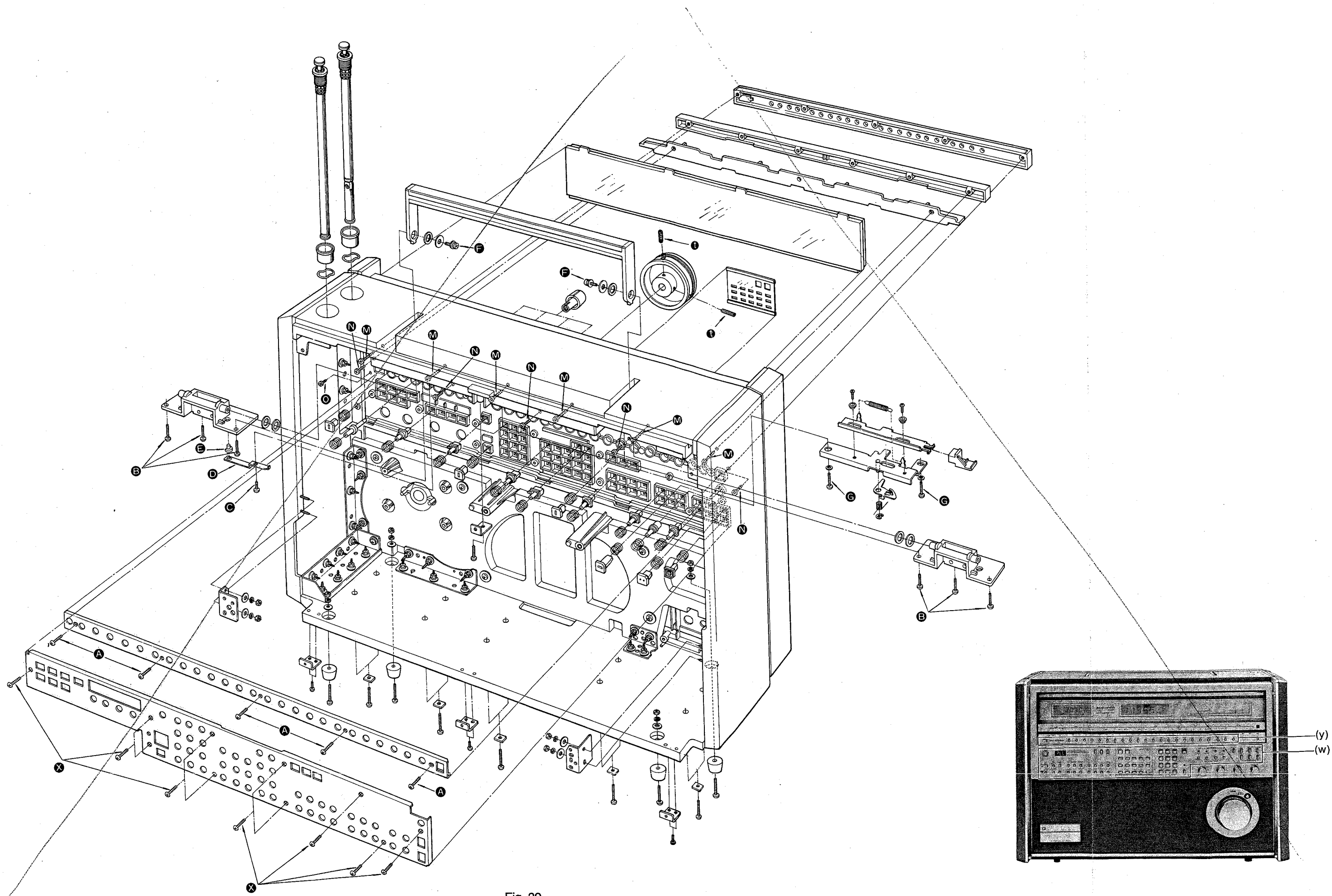
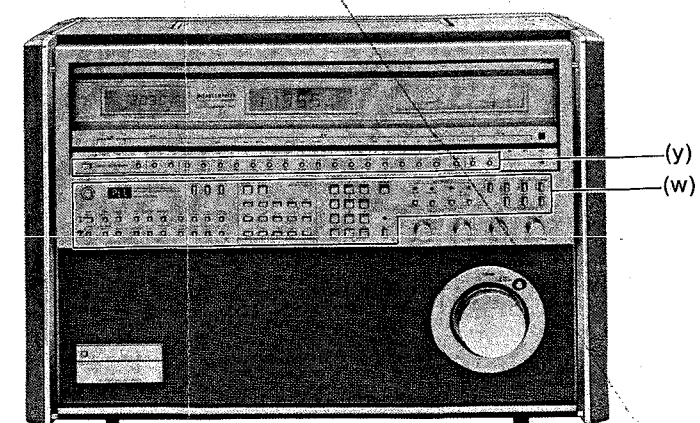


Fig. 29



5-11. ■ Connector Positions

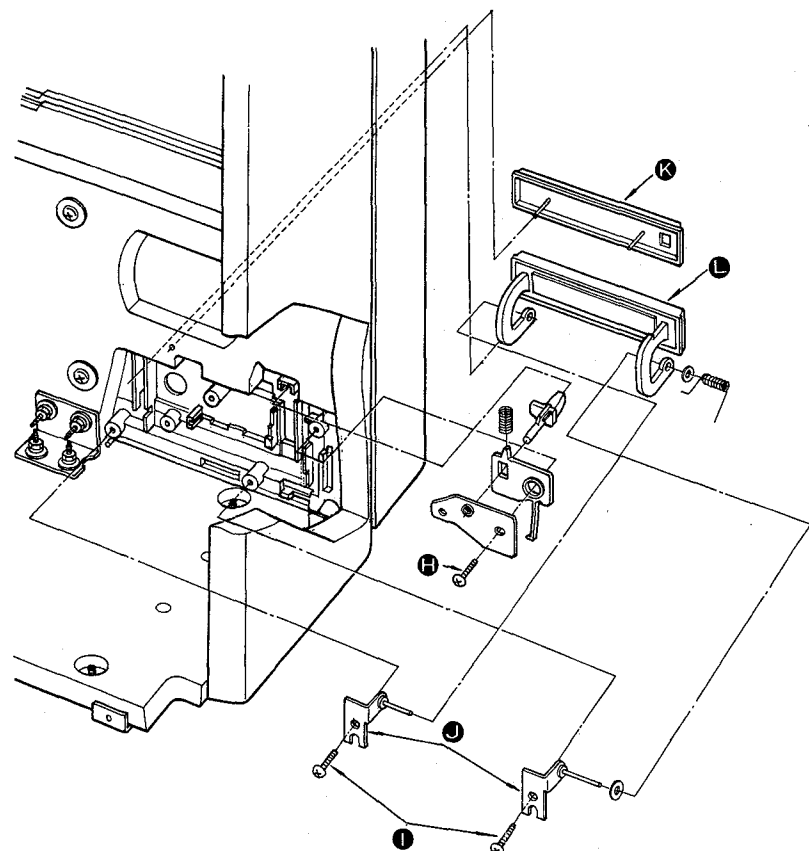


Fig. 31

5-10. ■ Tuning Block

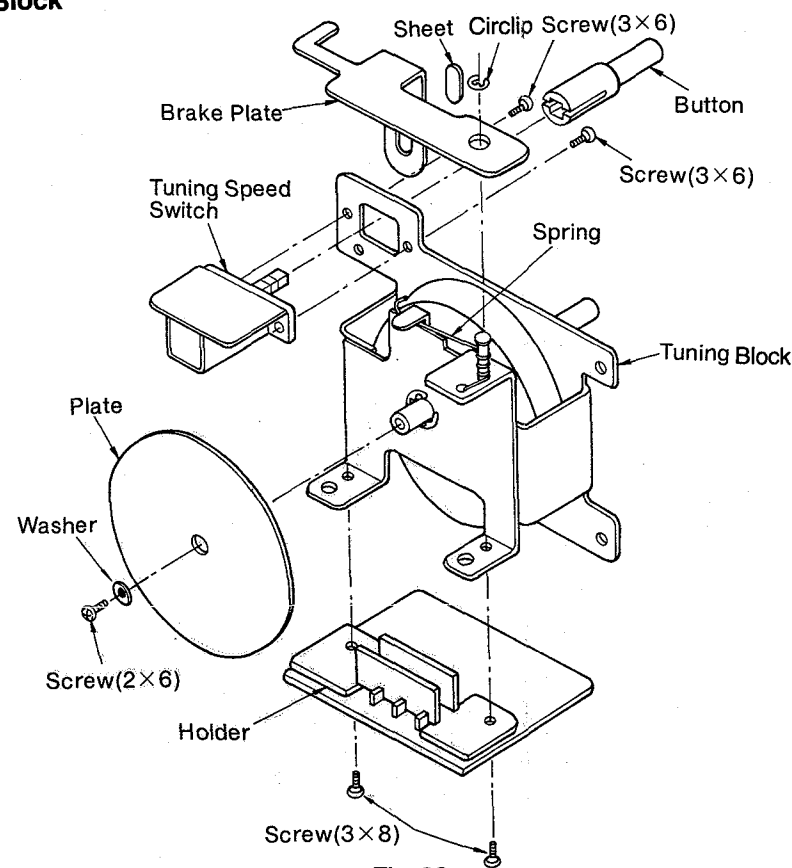


Fig. 32

B5

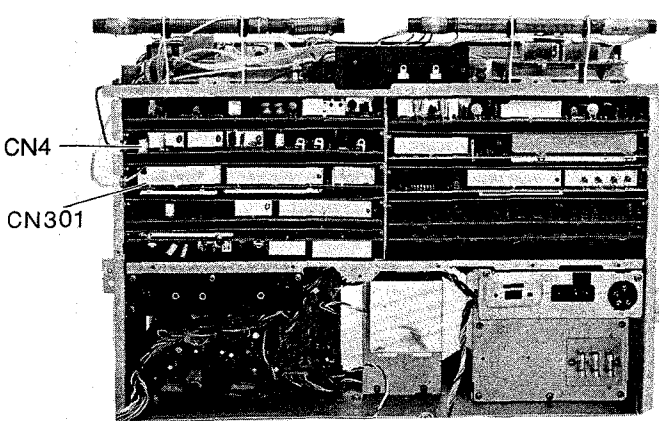


Fig. 33

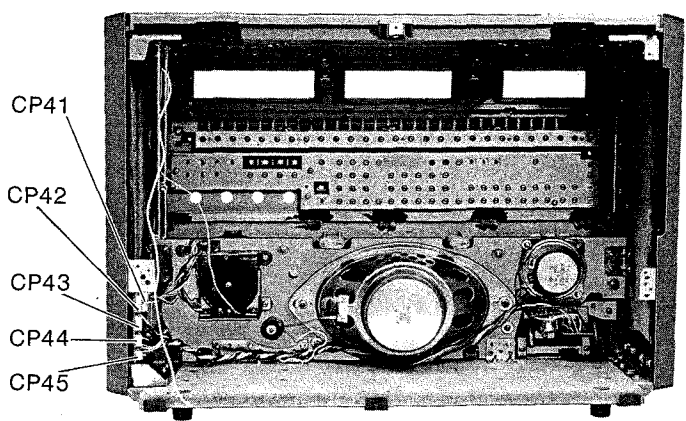


Fig. 34

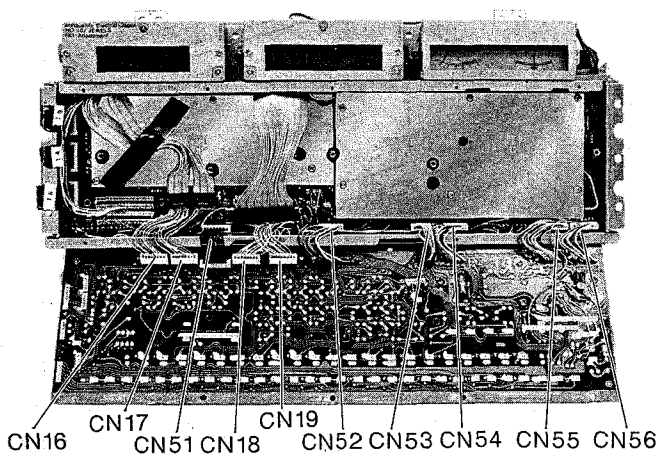


Fig. 35

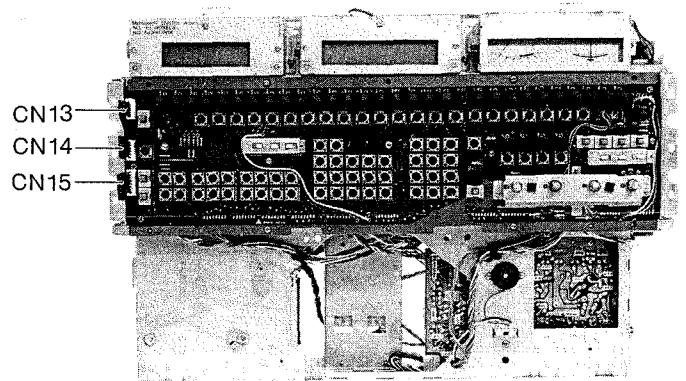


Fig. 36

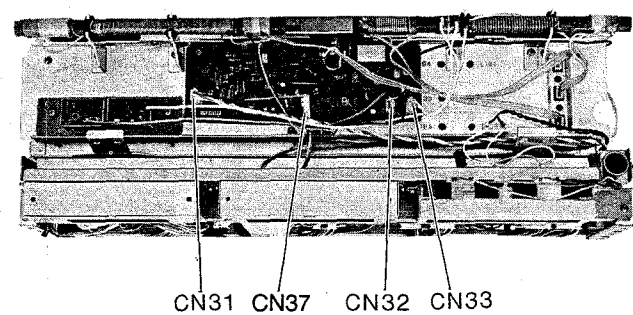


Fig. 37

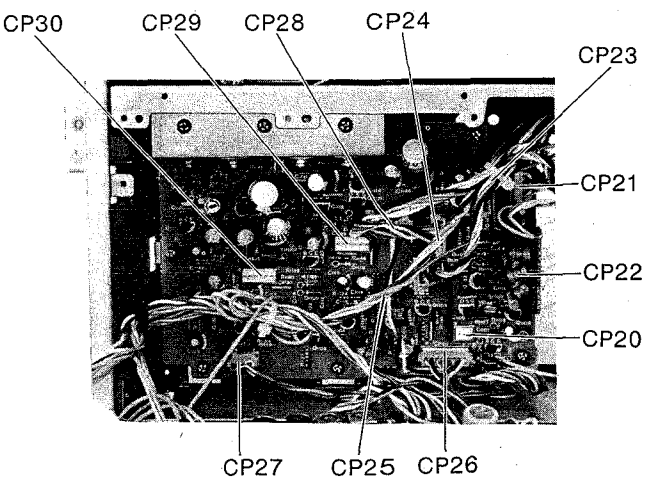


Fig. 38

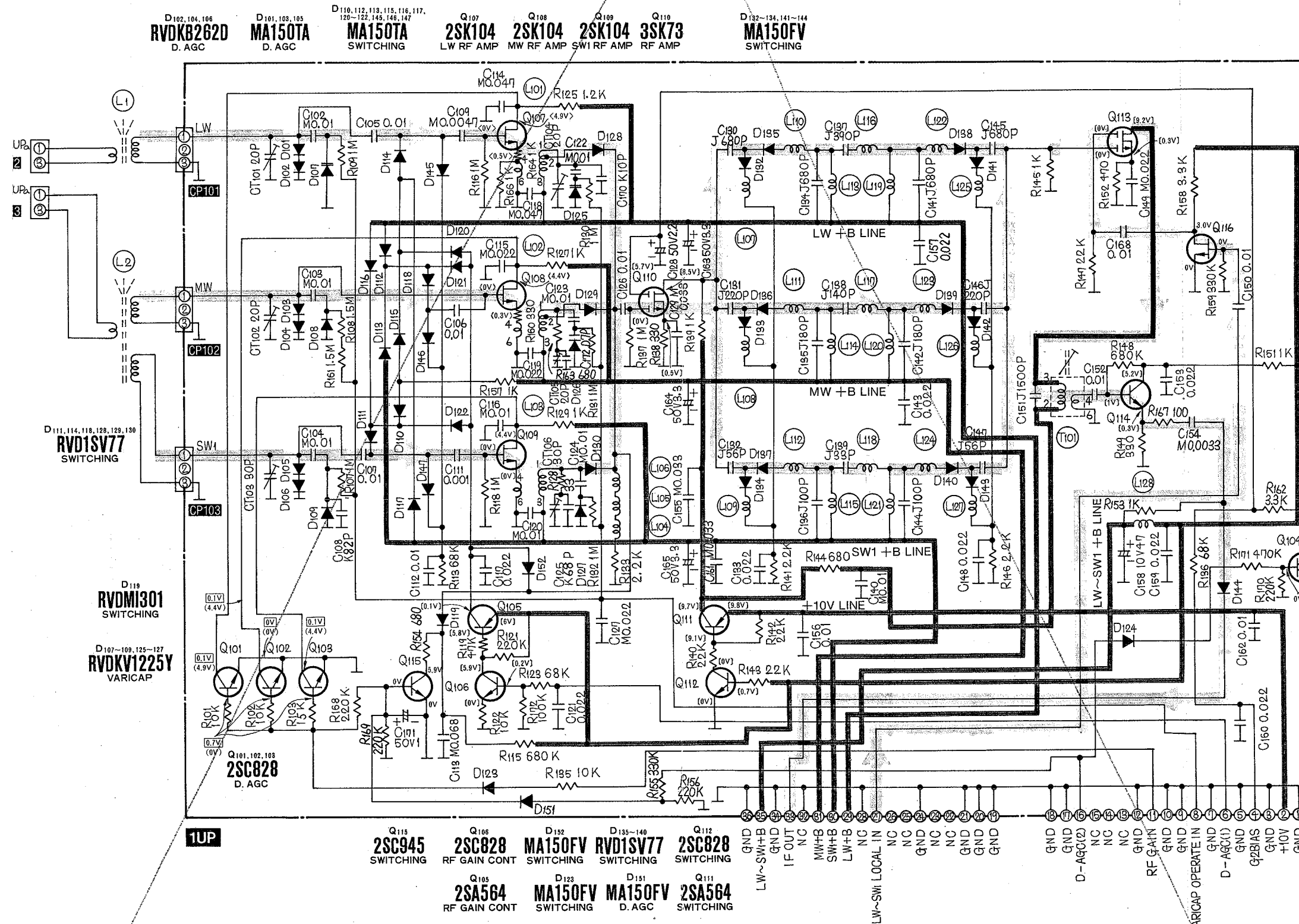
B6

BLOCK DIAGRAM-MODEL RF-9000



Fig. 39

SCHEMATIC DIAGRAM (1 UP) . . . LW, MW, SW1—RF



Measurements are taken with electronics voltmeter terminal of battery.
MIN position, () ... RF GAIN MAX position,
in, < > ... MW position,
ion. () ... AM position.

Bemerkungen:

1. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
☐ ... HF-Verstärkungsregler auf „MIN“
☐ ... HF-Verstärkungsregler auf „MAX“
☐ ... Stellung „LW“, ☐ ... Stellung „MW“,
☐ ... Stellung „KW 1“, ☐ ... Stellung „AM“.

Remarque:

1. La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.

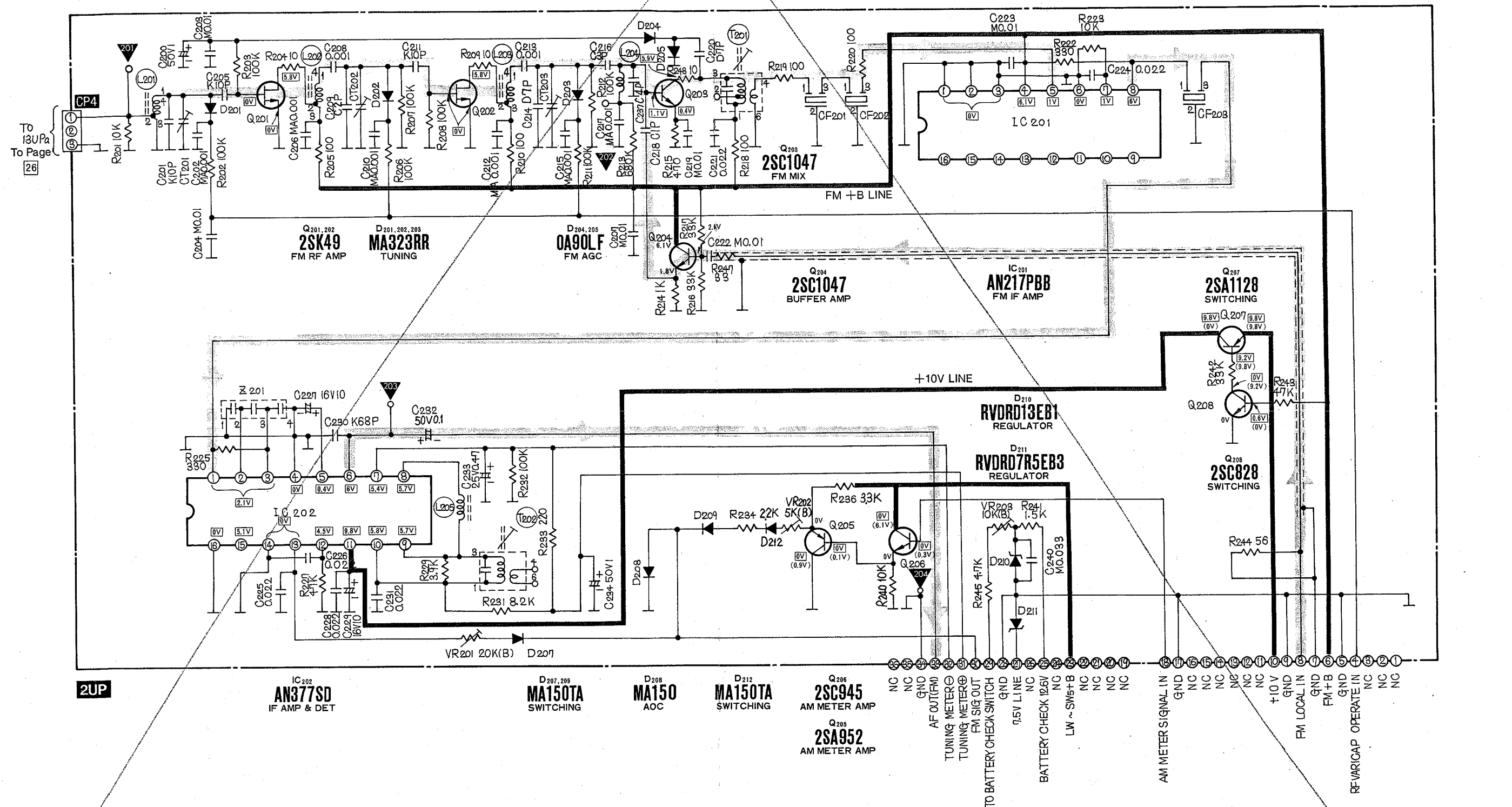
☐ ... Position "MIN" de la commande de gain HF (RF GAIN),

☐ ... Position "MAX" de la commande de gain HF (RF GAIN),

☐ ... Position PO, ☐ ... Position GO, ☐ ... Position OC1, ☐ ... Position AM.

2 UP 2 UP

SCHEMATIC DIAGRAM (2 UP) ... FM RF IF DET & METER CIRCUIT



Notes:

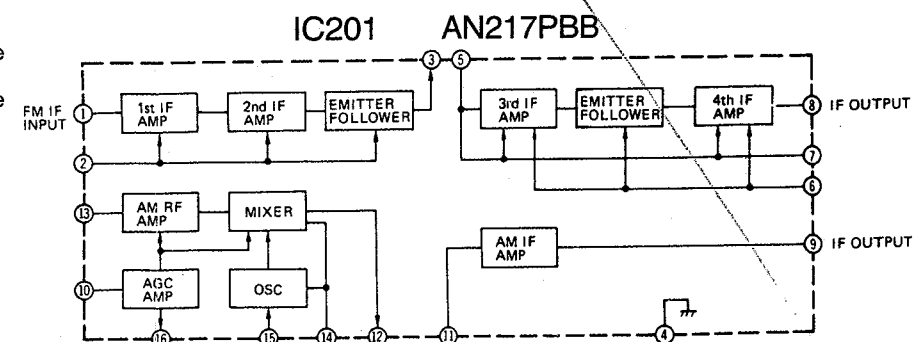
1. The mark (▼) shows test point, e.g. ▼=test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
3. VR201 ... FM signal meter adjustment, VR202 ... AM signal meter adjustment, VR203 ... Battery check adjustment.

Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼=Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
3. VR201 ... RW zur Einstellung der FM-Signalstärkeanzeige. VR202 ... RW zur Einstellung der AM-Signalstärkeanzeige. VR203 ... RW zur Einstellung der Batterieanzeige.

Remarques:

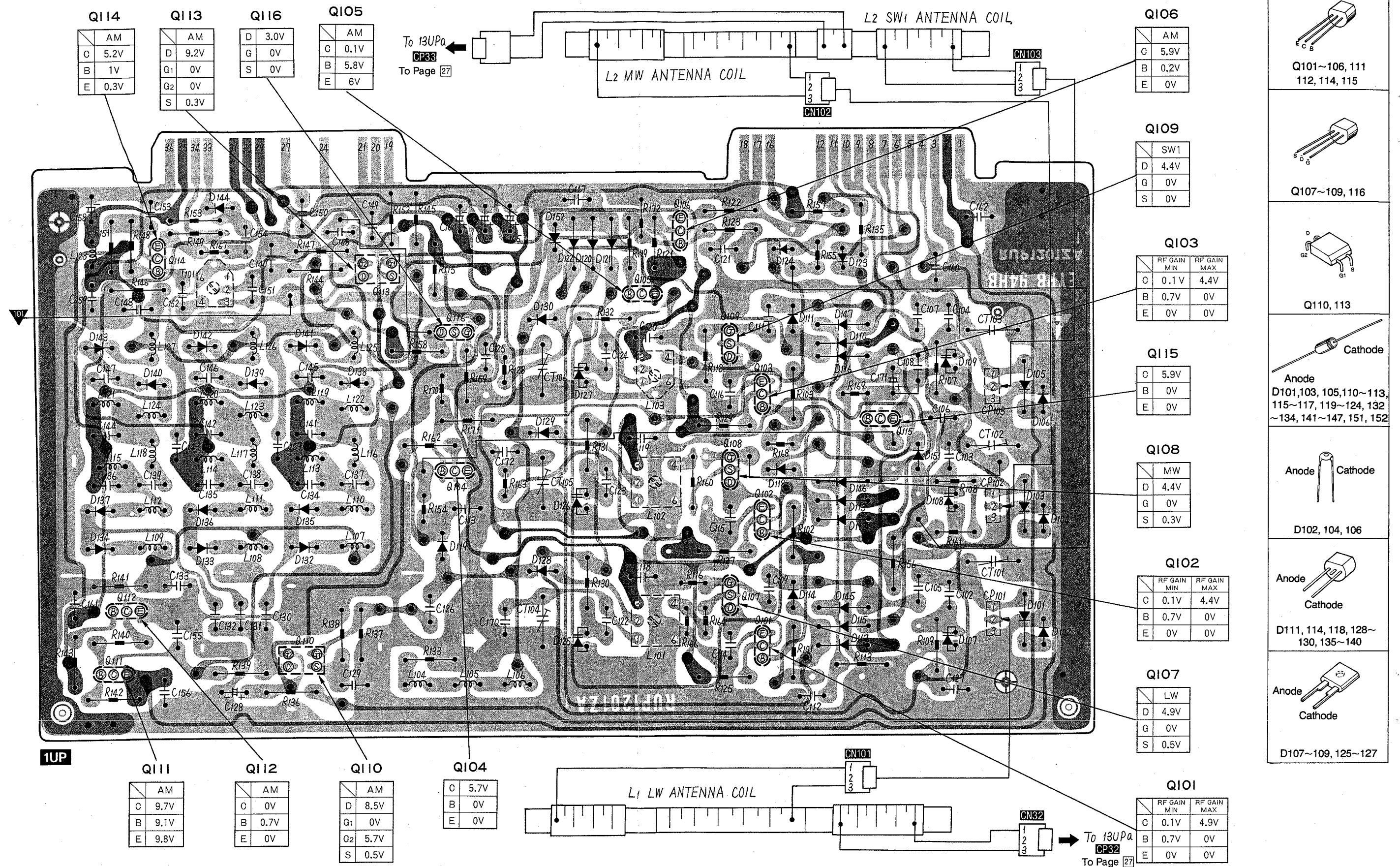
1. La marque (▼) signale un point de vérification. EX.: ▼=point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
3. VR201 ... Réglage du Vu-mètre de signal FM, VR202 ... Réglage du Vu-mètre de signal AM, VR203 ... Commande de vérification des piles.



1 UP

1 UP

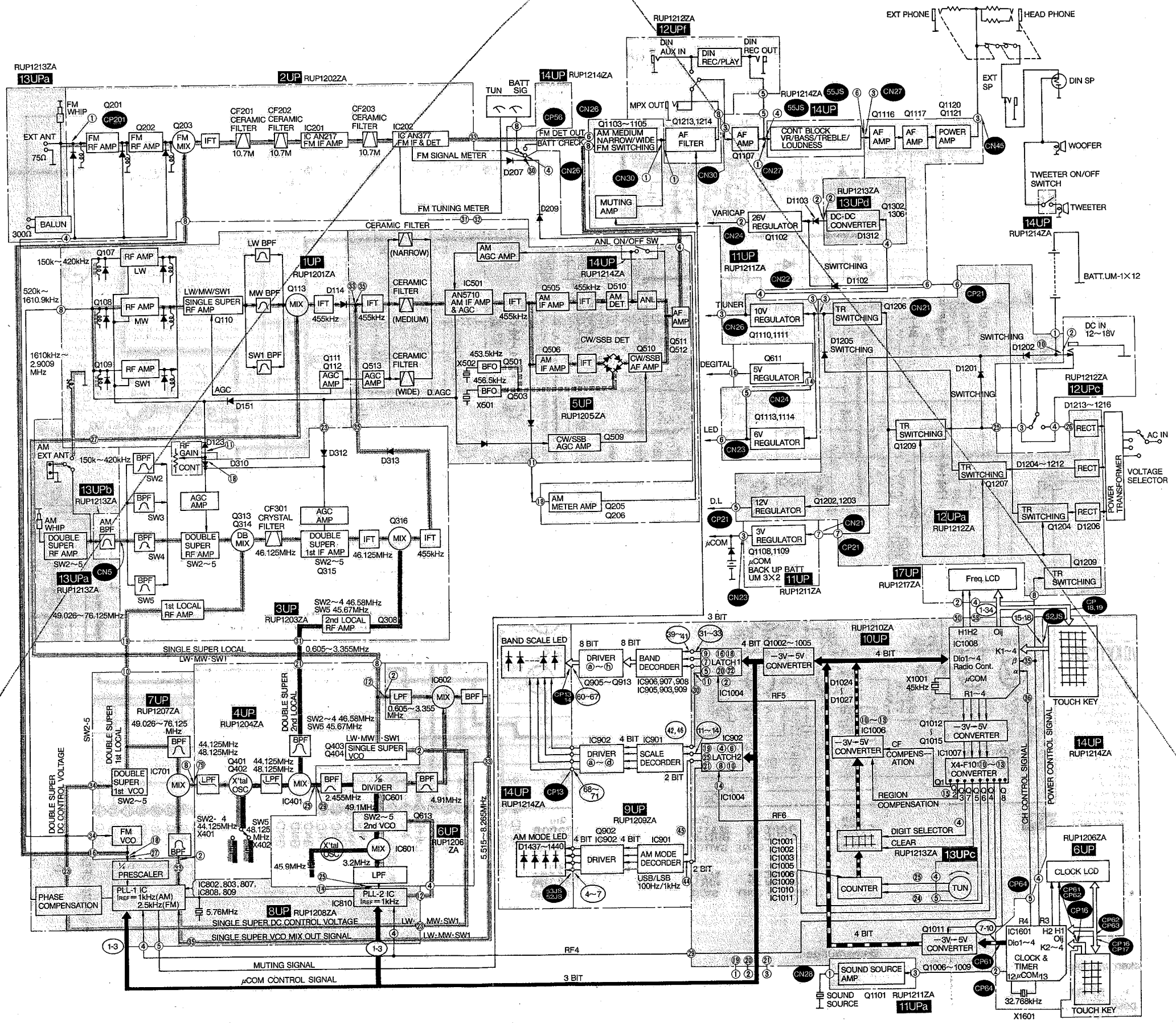
CIRCUIT BOARD WIRING VIEW (1 UP) ... LW, MW, SW1—RF CIRCUIT



B9

B10

FM/LW/MW/SW World-wide Receiver 6. With Phase-Locked Loop Synthesizer **BLOCK DIAGRAM-MODEL RF-9000**



D_{102, 104, 106}
RVDKB262D
 D. AGC

D_{101, 103, 105}
MA150TA
 D. AGC

D_{110, 112, 113, 115, 116, 117, 120-122, 145, 146, 147}
MA150TA
 SWITCHING

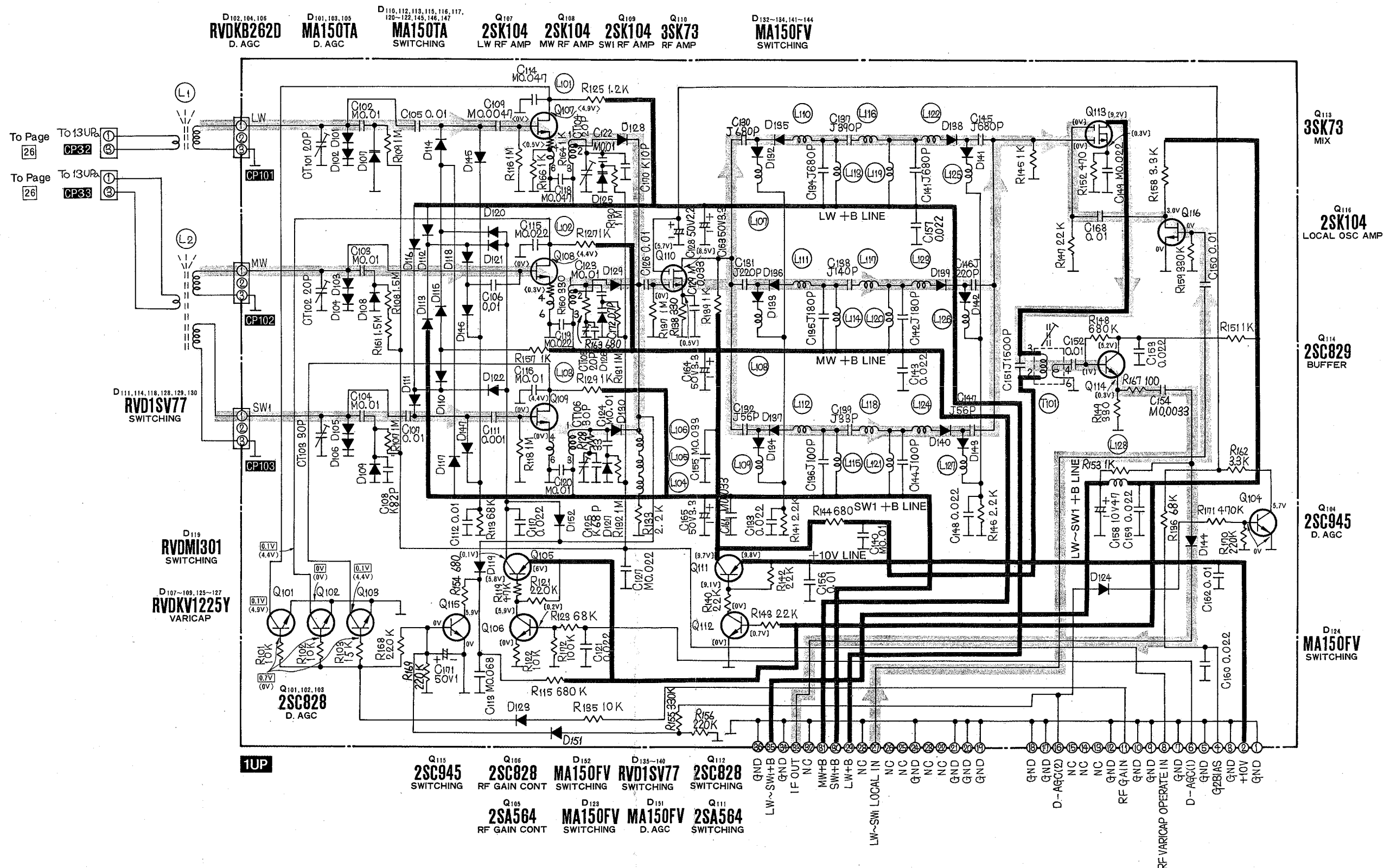
Q₁₀₇
2SK104
 LW RF AMP

Q₁₀₈
2SK104
 MW RF AMP

Q₁₀₉
2SK104
 SW1 RF AMP

Q₁₁₀
3SK73
 RF AMP

D_{132-134, 141-144}
MA150FV
 SWITCHING



1. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.

☐ ... RF GAIN MIN position, (☐) ... RF GAIN MAX position,
< > ... LW position, << >> ... MW position,
... SW1 position. { } ... AM position.

1. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.

☐ ... HF-Verstärkungsregler auf „MIN“

☐ ... HF-Verstärkungsregler auf „MAX“

☐ ... Stellung „LW“, « » ... Stellung „MW“,

☐ ... Stellung „KW 1“, « » ... Stellung „AM“.

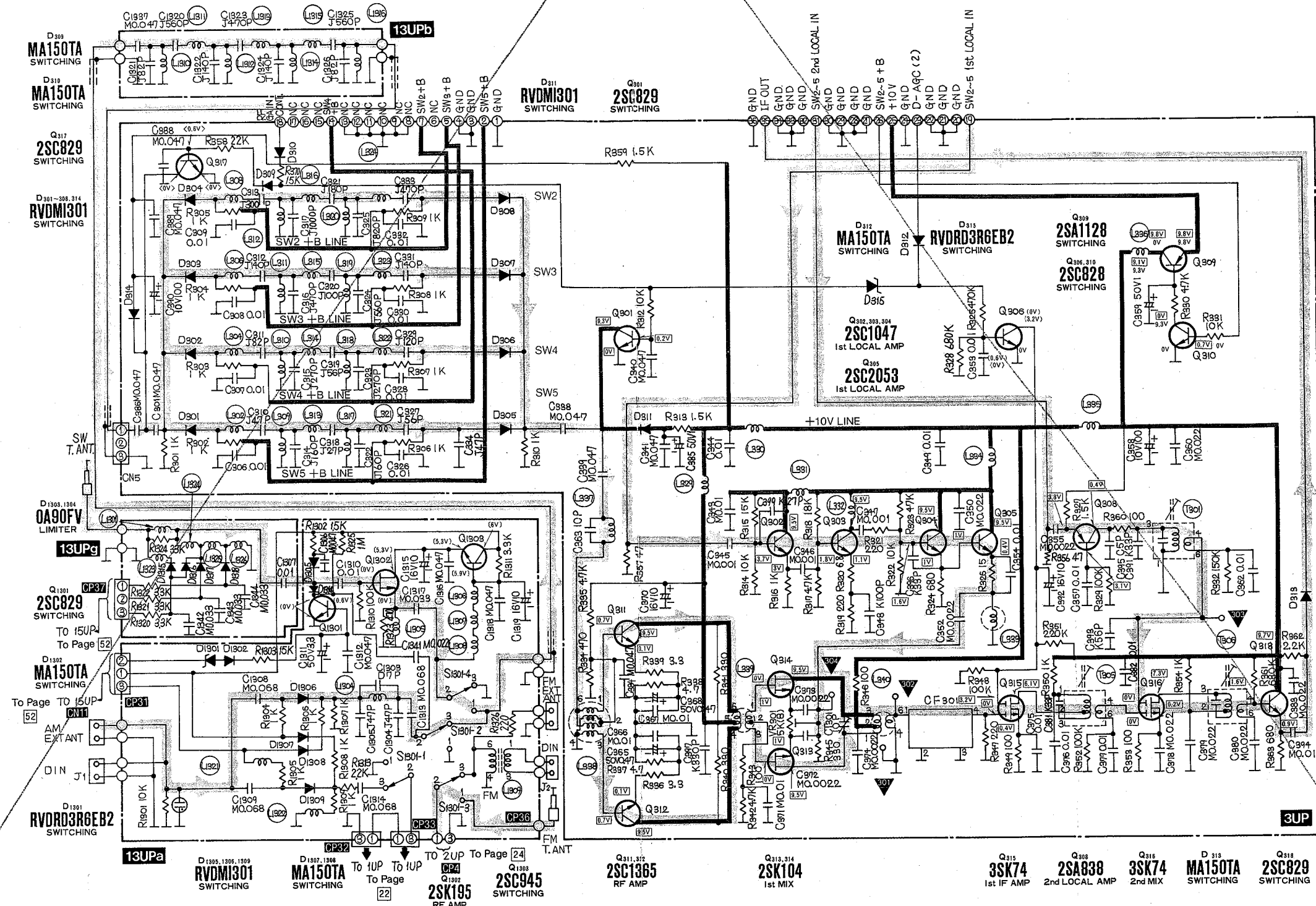
1. La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.

☐ ... Position "MIN" de la commande de gain HF (RF GAIN),
() ... Position "MAX" de la commande de gain HF (RF GAIN),
< > ... Position GO, <> ... Position PO,
... Position OC1, () ... Position AM.

3 UP, 13 UPa, b

3 UP, 13 UPa, b

SCHEMATIC DIAGRAM (3 UP, 13 UPa, b) ... SW2~5 BPF, RF—IF & ANTENNA CIRCUIT



Notes:

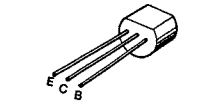
- S1301-1~1301-4: Antenna selector switch in "EXT ANT" position.
(1 ... INT ANT, 3 ... EXT ANT)
- The mark (▼) shows test point, e.g. ▼ = test point 1.
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
□ ... SW2~SW5 position, <> ... SW2~SW5 AGC OFF position.
() ... SW2~SW5 AGC ON position, [] ... SW2~SW5 INT ANT position.
< > ... SW2~SW5 RF GAIN ON "MIN" position
- VR301 ... 1st Local carrier leak adjustment.

Bemerkungen:

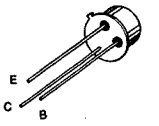
- S1301-1~1301-4: Antennenwahlschalter auf „Außenantenne“ (1 ... Geräteantenne, 3 ... Außenantenne)
- Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼ = Meßpunkt 1.
- Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
□ ... Stellung „KW2~KW5“, <> ... Stellung „KW2~KW5“ automatische Verstärkungsregelung AUS.
() ... Stellung „KW2~KW5“ automatische Verstärkungsregelung EIN.
< > ... Stellung „KW2~KW5“ HF-Verstärkung Minimal Position.
[] ... Stellung „KW2~KW5“ Geräteantenne.
- VR301 ... RW zur Trägerrest-Einstellung des 1. Überlagerers.

Remarques:

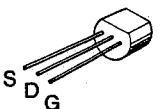
- S1301-1~1301-4: Commutateur de sélecteur d'antenne en position "EXT ANT"
(1 ... ANTENNE INTERIEURE, 3 ... ANTENNE EXTERIEURE)
- La marque (▼) signale un point de vérification. EX.: ▼ = point de vérification 1.
- La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
□ ... Position OC2~OC5, <> ... Anti-fading en position "OFF" (AGC OFF) OC2~OC5.
() ... Anti-fading en position "ON" (AGC ON) OC2~OC5
< > ... Gain HF en position "MIN" OC2~OC5. [] ... Position "ANTENNE INTERIEURE" OC2~OC5.
- VR301: Réglage de dispersion de la première onde porteuse locale.



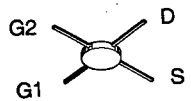
Q301~306, 308~310, 317, 318, 1301, 1303



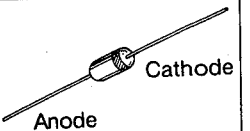
Q311, 312



Q313, 314, 1302

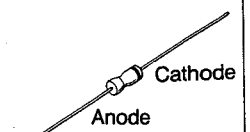


Q315, 316



Anode

D301~315, 1301, 1302, 1305~1309, 1314~1318



Anode

D312, 1303, 1304

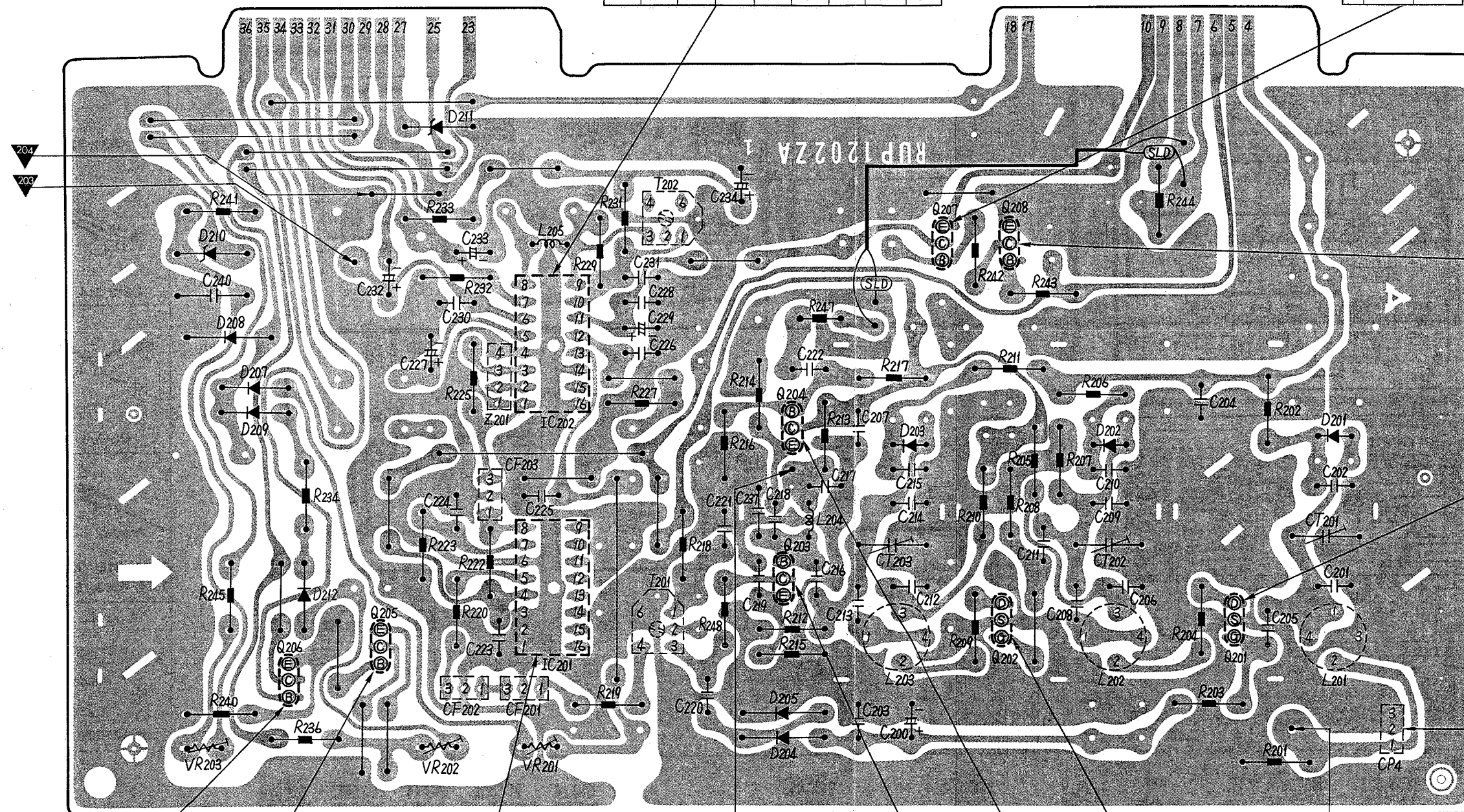
2 UP

IC202

	1	2	3	4	5	6	7	8
FM	2.1V	2.1V	2.1V	0V	0.4V	6V	5.4V	5.7V
	9	10	11	12	13	14	15	16
FM	5.7V	5.8V	9.8V	4.5V	0V	0V	5.1V	0V

Q207

	FM	AM
C	9.8V	0V
B	9.2V	9.8V
E	9.8V	9.8V



2UP

Q206

	FM	AM
C	0V	6.1V
B	0V	0.3V
E	0V	0V

Q205

	FM	AM
C	0V	0V
B	0V	0.1V
E	0V	0.9V

IC201

	1	2	3	4	5	6	7	8
FM	0V	0V	0V	6.1V	1V	0V	1V	6V

Q203

	FM
C	5.9V
B	1.1V
E	0.4V

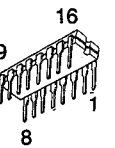
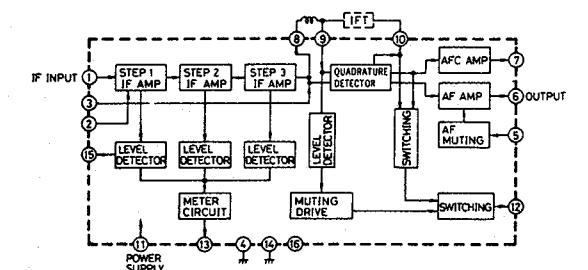
Q204

	FM
C	6.1V
B	2.6V
E	1.8V

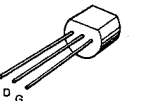
Q202

	FM
D	5.8V
G	0V
S	0V

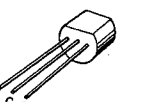
IC202 AN377SD



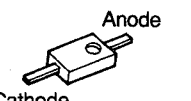
IC201, 202



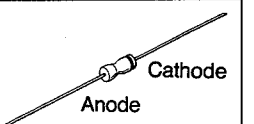
Q201, 202



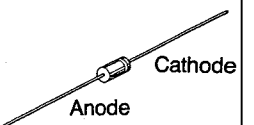
Q203~208



D201, 202, 203



D204, 205



D207~D212

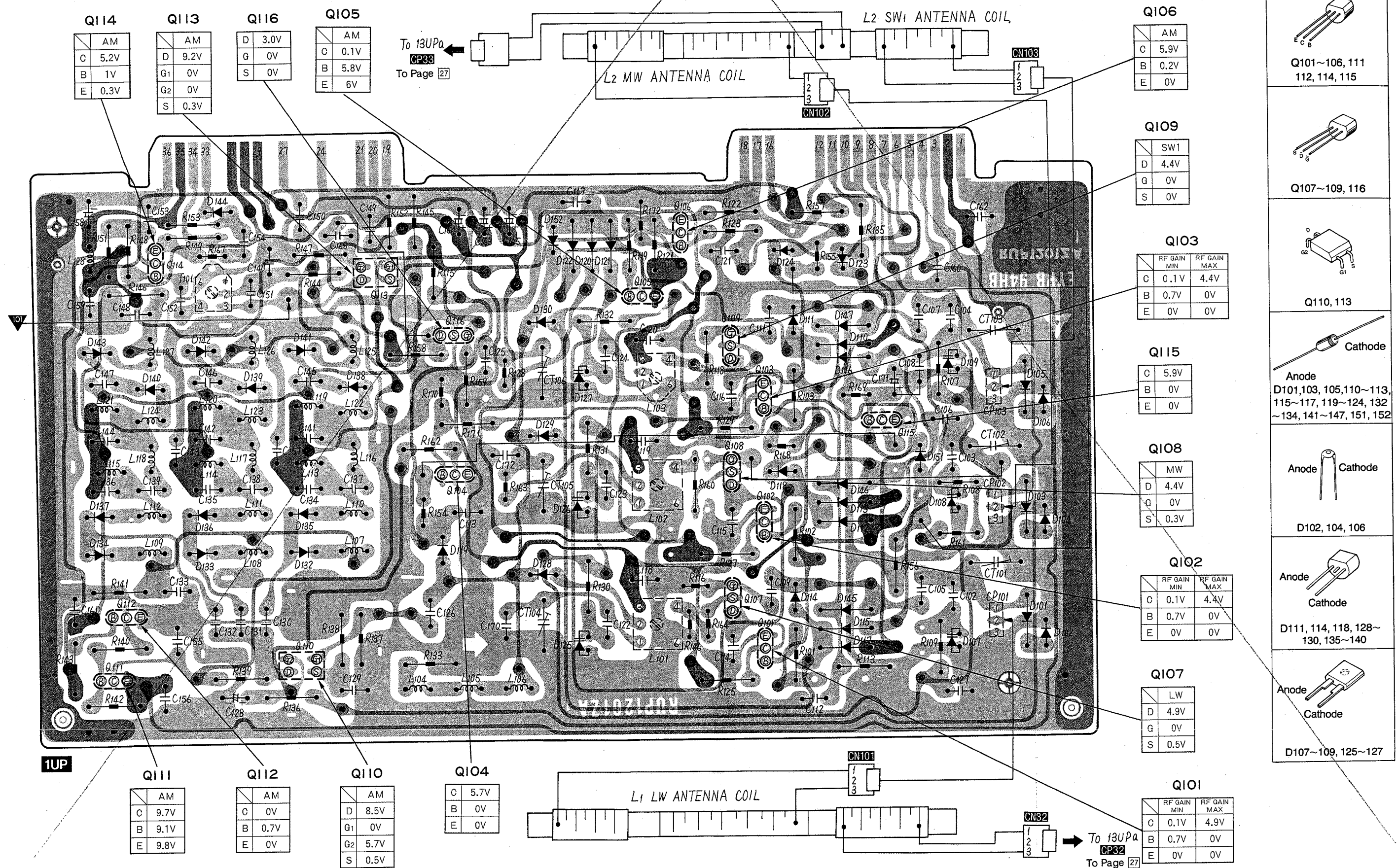
B13

B14

1 UP

1 UP

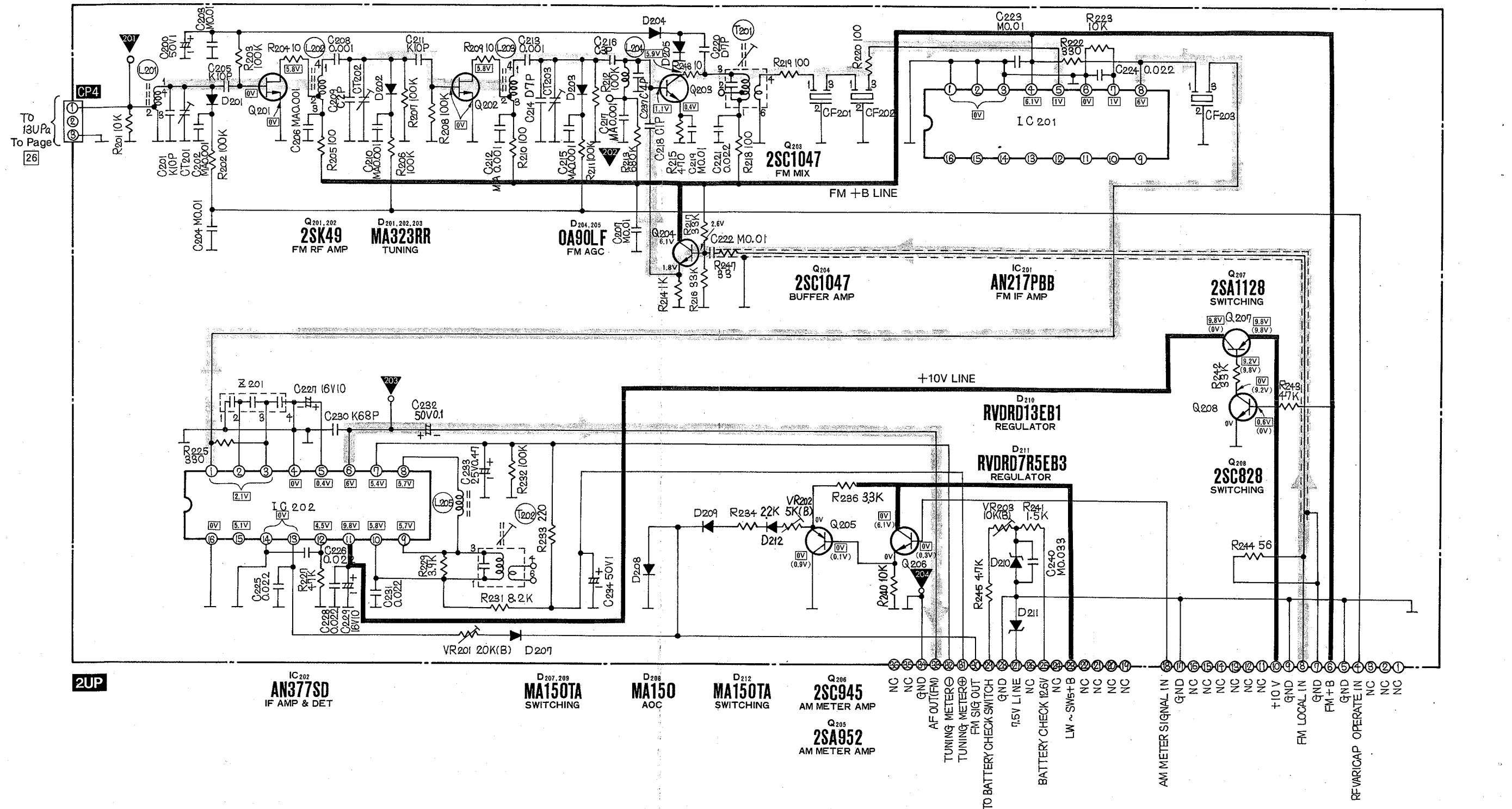
CIRCUIT BOARD WIRING VIEW (1 UP) ... LW, MW, SW1—RF CIRCUIT



2 UP

2 UP

SCHEMATIC DIAGRAM (2 UP) ... FM RF IF DET & METER CIRCUIT



Notes:

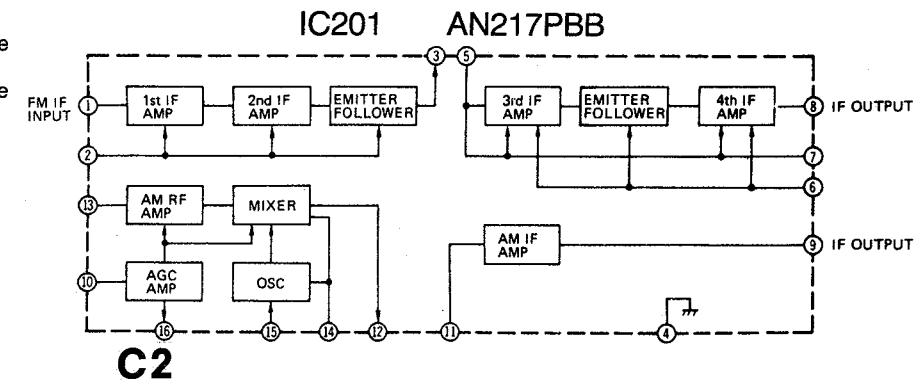
1. The mark (▼) shows test point, e.g. ▼=test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
3. VR201 ... FM signal meter adjustment, VR202 ... AM signal meter adjustment, VR203 ... Battery check adjustment.

Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼=Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
3. VR201 ... RW zur Einstellung der FM-Signalstärkeanzeige. VR202 ... RW zur Einstellung der AM-Signalstärkeanzeige. VR203 ... RW zur Einstellung der Batterieanzeige.

Remarques:

1. La marque (▼) signale un point de vérification. EX.: ▼=point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
3. VR201 ... Réglage du Vu-mètre de signal FM, VR202 ... Réglage du Vu-mètre de signal AM, VR203 ... Commande de vérification des piles.



2 UP

2 UP

CIRCUIT BOARD WIRING VIEW (2 UP) ... FM RF IF DET & METER CIRCUIT

IC202

	1	2	3	4	5	6	7	8
FM	2.1V	2.1V	2.1V	0V	0.4V	6V	5.4V	5.7V
	9	10	11	12	13	14	15	16
FM	5.7V	5.8V	9.8V	4.5V	0V	0V	5.1V	0V

Q207

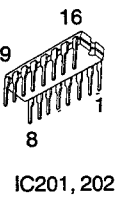
	FM	AM
C	9.8V	0V
B	9.2V	9.8V
E	9.8V	9.8V

Q208

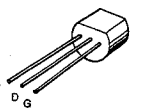
	FM	AM
C	0V	9.2V
B	0.6V	0V
E	0V	0V

Q201

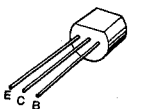
	FM
D	5.8V
G	0V
S	0V



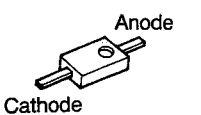
IC201, 202



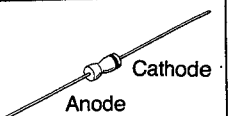
Q201, 202



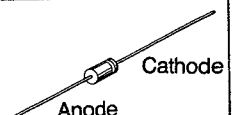
Q203~208



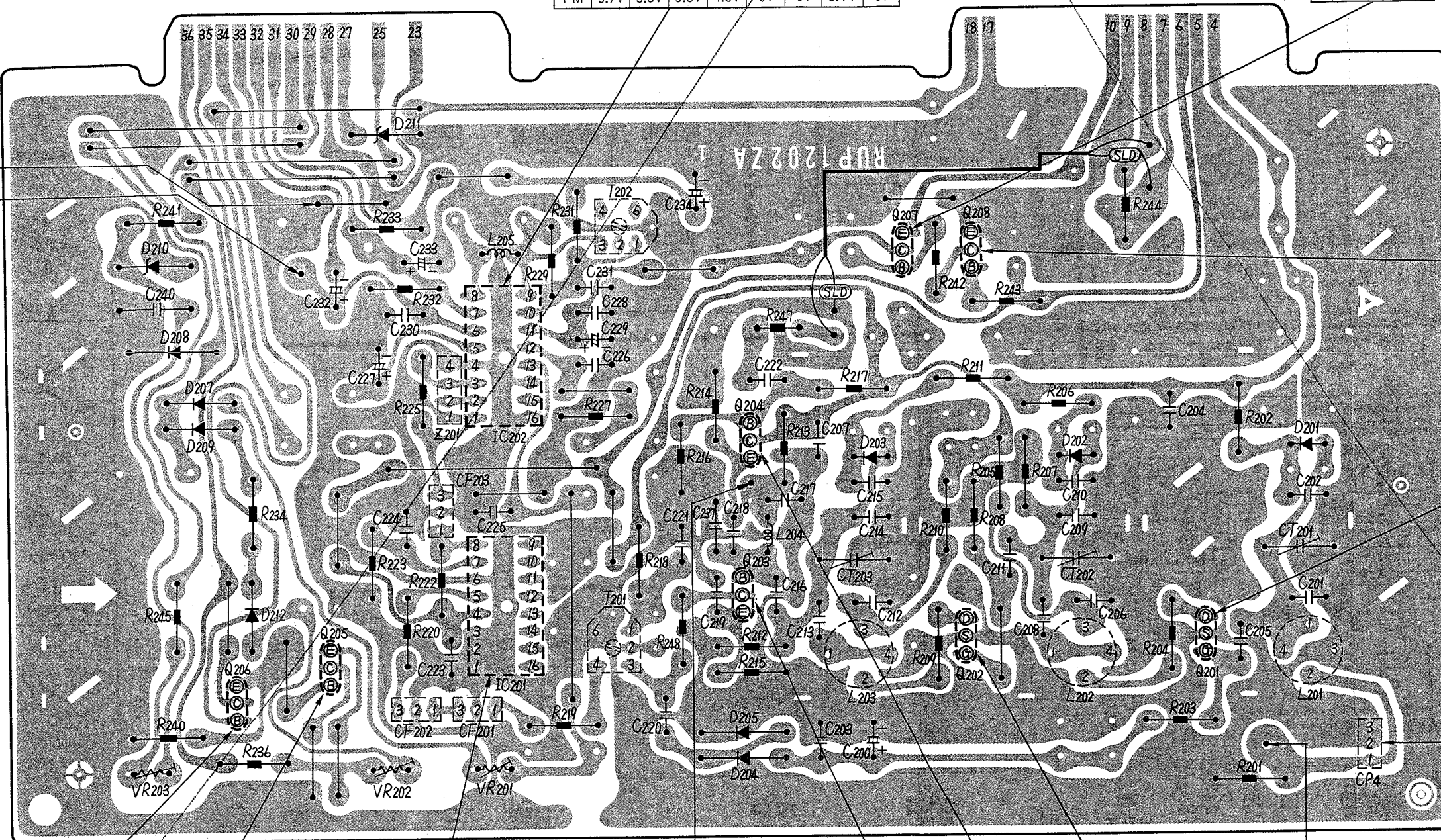
D201, 202, 203



D204, 205



D207~D212



2UP

Q206

	FM	AM
C	0V	6.1V
B	0V	0.3V
E	0V	0V

Q205

	FM	AM
C	0V	0V
B	0V	0.1V
E	0V	0.9V

IC201

	1	2	3	4	5	6	7	8
FM	0V	0V	0V	6.1V	1V	0V	1V	6V

202

Q203

	FM
C	5.9V
B	1.1V
E	0.4V

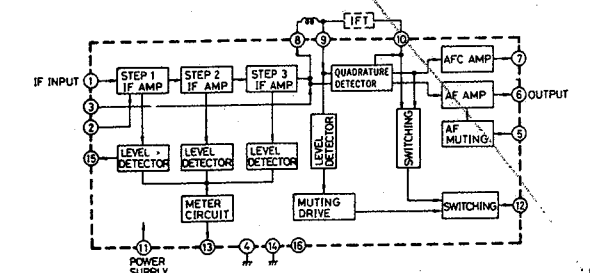
Q204

	FM
C	6.1V
B	2.6V
E	1.8V

Q202

	FM
D	5.8V
G	0V
S	0V

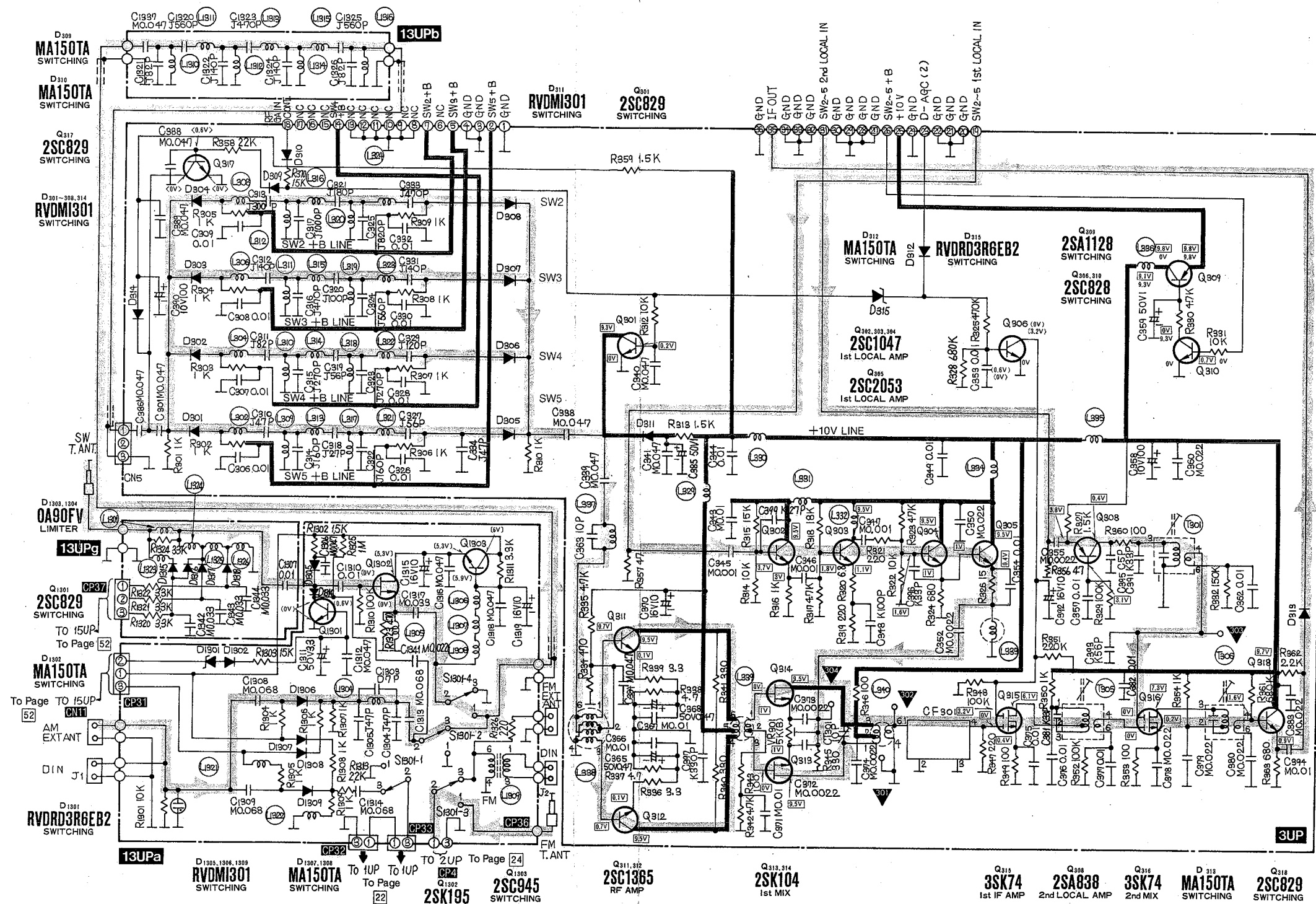
IC202 AN377SD



3 UP, 13 UPa, b

3 UP, 13 UPa, b

SCHEMATIC DIAGRAM (3 UP, 13 UPa, b) ... SW2~5 BPF, RF—IF & ANTENNA CIRCUIT



Notes:

- S1301-1~1301-4: Antenna selector switch in "EXT ANT" position.
(1 ... INT ANT, 3 ... EXT ANT)
- The mark (▼) shows test point, e.g. ▼ = test point 1.
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
[] ... SW2~SW5 position, <> ... SW2~SW5 AGC OFF position.
() ... SW2~SW5 AGC ON position, [] ... SW2~SW5 INT ANT position.
< > ... SW2~SW5 RF GAIN ON "MIN" position
- VR301 ... 1st Local carrier leak adjustment.

Bemerkungen:

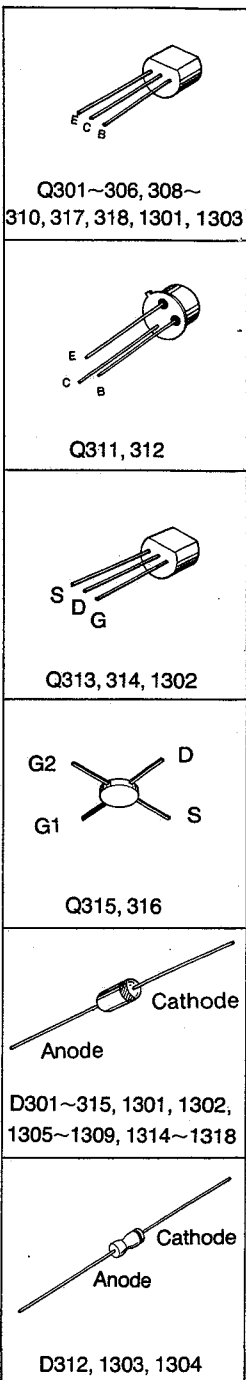
- S1301-1~1301-4: Antennenwahlschalter auf „Außenantenne“
(1 ... Geräteantenne, 3 ... Außenantenne)
- Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼ = Meßpunkt 1.
- Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
[] ... Stellung „KW2~KW5“, <> ... Stellung „KW2~KW5“ automatische Verstärkungsregelung AUS.
() ... Stellung „KW2~KW5“ automatische Verstärkungsregelung EIN.
< > ... Stellung „KW2~KW5“ HF-Verstärkung Minimal Position.
[] ... Stellung „KW2~KW5“ Geräteantenne.
- VR301 ... RW zur Trägerrest-Einstellung des 1. Überlagerers.

C3

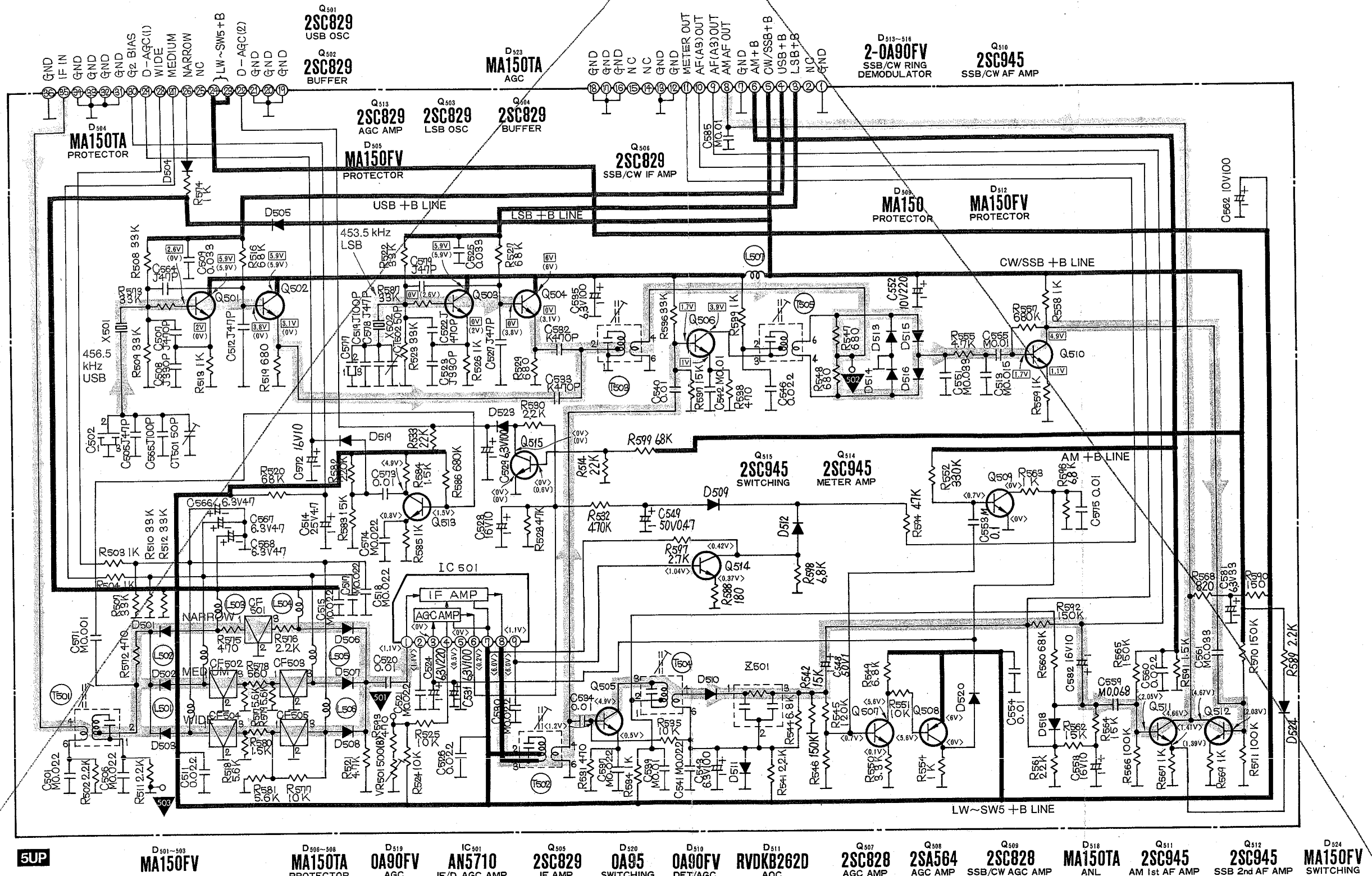
Remarques:

- S1301-1~1301-4: Commutateur de sélecteur d'antenne en position "EXT ANT"
(1 ... ANTENNE INTERIEURE,
3 ... ANTENNE EXTERIEURE)
- La marque (▼) signale un point de vérification. EX: ▼ = point de vérification 1.
- La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
[] ... Position OC2~OC5, <> ... Anti-fading en position "OFF" (AGC OFF) OC2~OC5.
() ... Anti-fading en position "ON" (AGC ON) OC2~OC5
< > ... Gain HF en position "MIN" OC2~OC5. [] ... Position "ANTENNE INTERIEURE" OC2~OC5.
- VR301: Réglage de dispersion de la première onde porteuse locale.

C4



5 UP 5 UP SCHEMATIC DIAGRAM (5 UP) ... IF, DET, BPF, SSB & AM METER CIRCUIT



Notes:

- The mark (▼) shows test point, e.g. ▼ = test point 1.
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
- ... AM USB position, () ... AM LSB position, () ... AM position, () ... SSB position

Bemerkungen:

- Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. = Meßpunkt 1.
- Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.

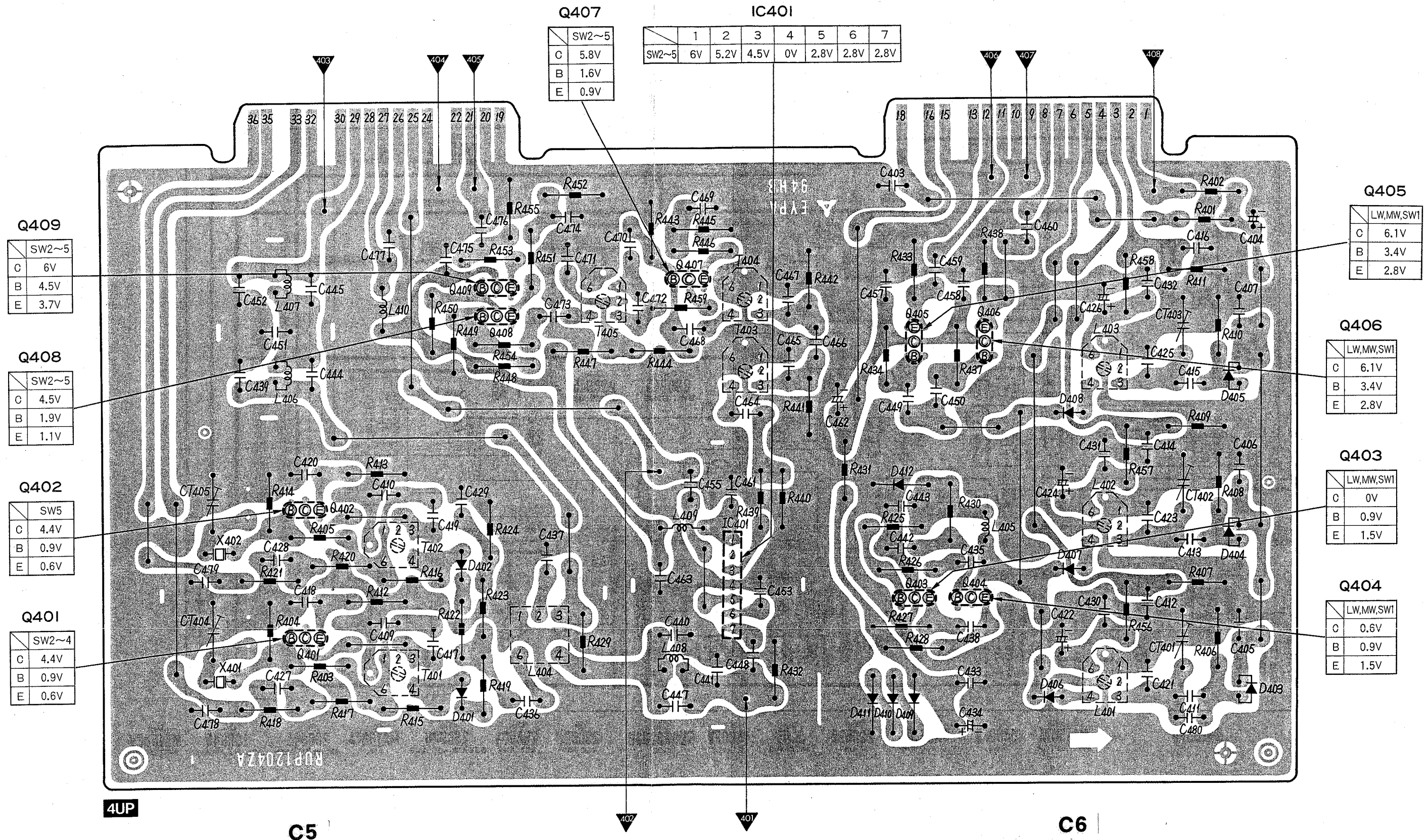
Remarques:

- La marque (▼) signale un point de vérification. Ex.: ▼ = point de vérification 1.
- La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.

4 UP

4 UP

CIRCUIT BOARD WIRING VIEW (4 UP) ... LW, MW, SW1—VCO, Xtal OSC & MIX CIRCUIT

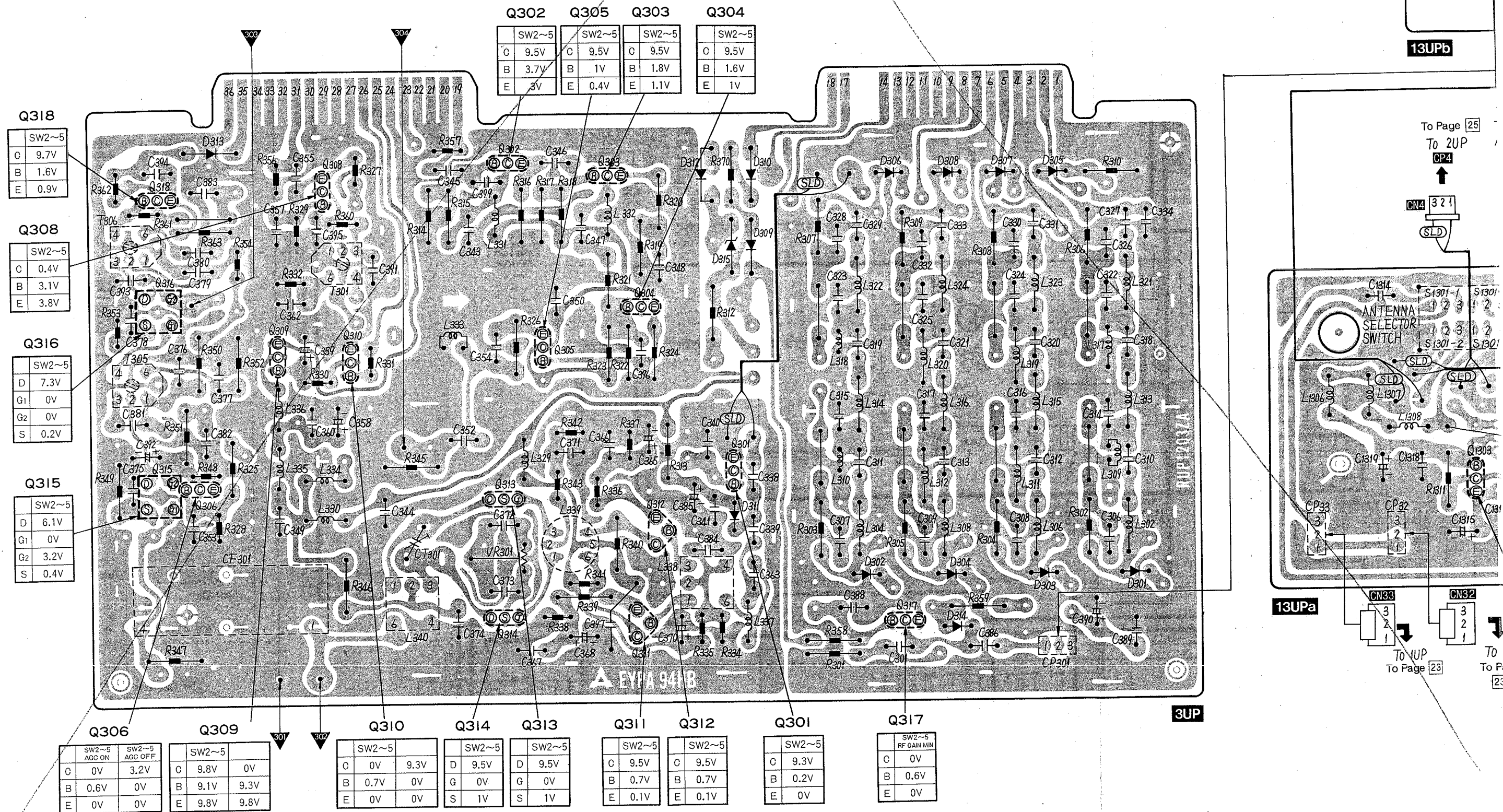


3 UP, 13 UPa, b

3 UP, 13 UPa, b

3 UP, 13 UPa, b

CIRCUIT BOARD WIRING VIEW (3 UP, 13 UPa, b) . . . SW2~5 BPF, RF—IF & ANT



4 UP

4 UP

SCHEMATIC DIAGRAM (4 UP) ... LW, MW, SW1—VCO, Xtal OSC & MIX CIRCUIT

Notes:

- The mark (▼) shows test point, e.g. ▼ = test point 1.
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
 [] ... SW2~SW5 position,
 () ... SW2~SW4 position,
 < > ... SW5 position,
 [] ... LW, MW, SW1 position.

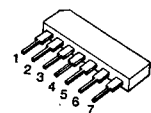
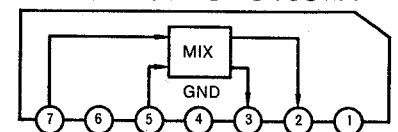
Bemerkungen:

- Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼ = Meßpunkt 1.
- Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
 [] ... Stellung „KW2~KW5“,
 () ... Stellung „KW2~KW4“,
 < > ... Stellung „KW5“,
 [] ... Stellung „LW, MW, KW 1“.

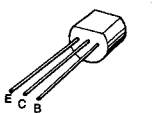
Remarques:

- La marque (▼) signale un point de vérification. EX.: ▼ = point de vérification 1.
- La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
 [] ... Position OC2~OC5,
 () ... Position OC2~OC4,
 < > ... Position OC5,
 [] ... Position GO, PO, OC1.

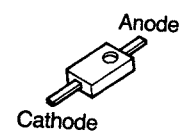
IC401 RVIUPC1037H



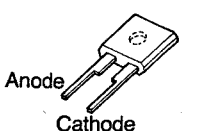
IC401



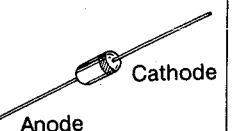
Q401~409



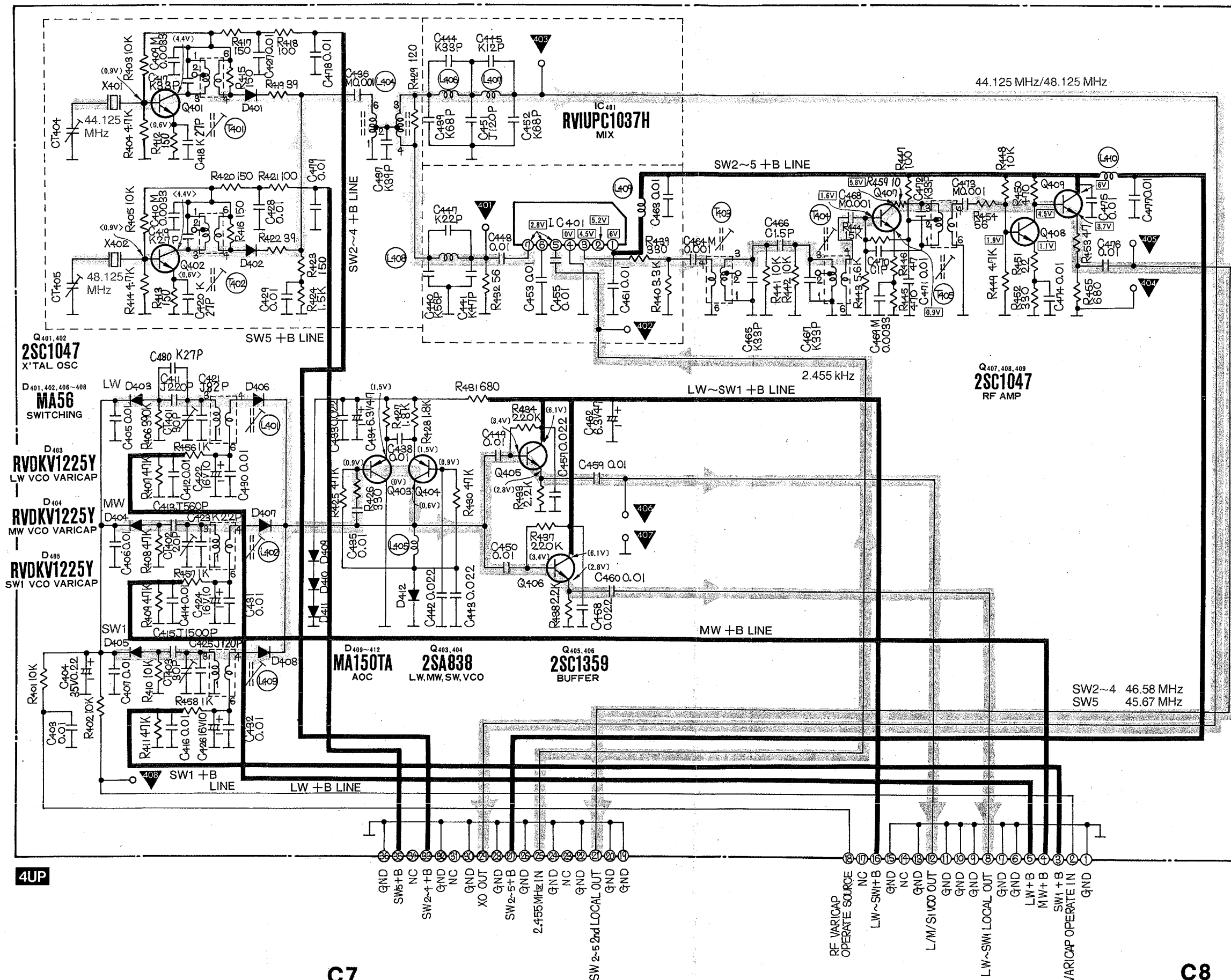
D401, 402, 406~408



D403~405



D409~412



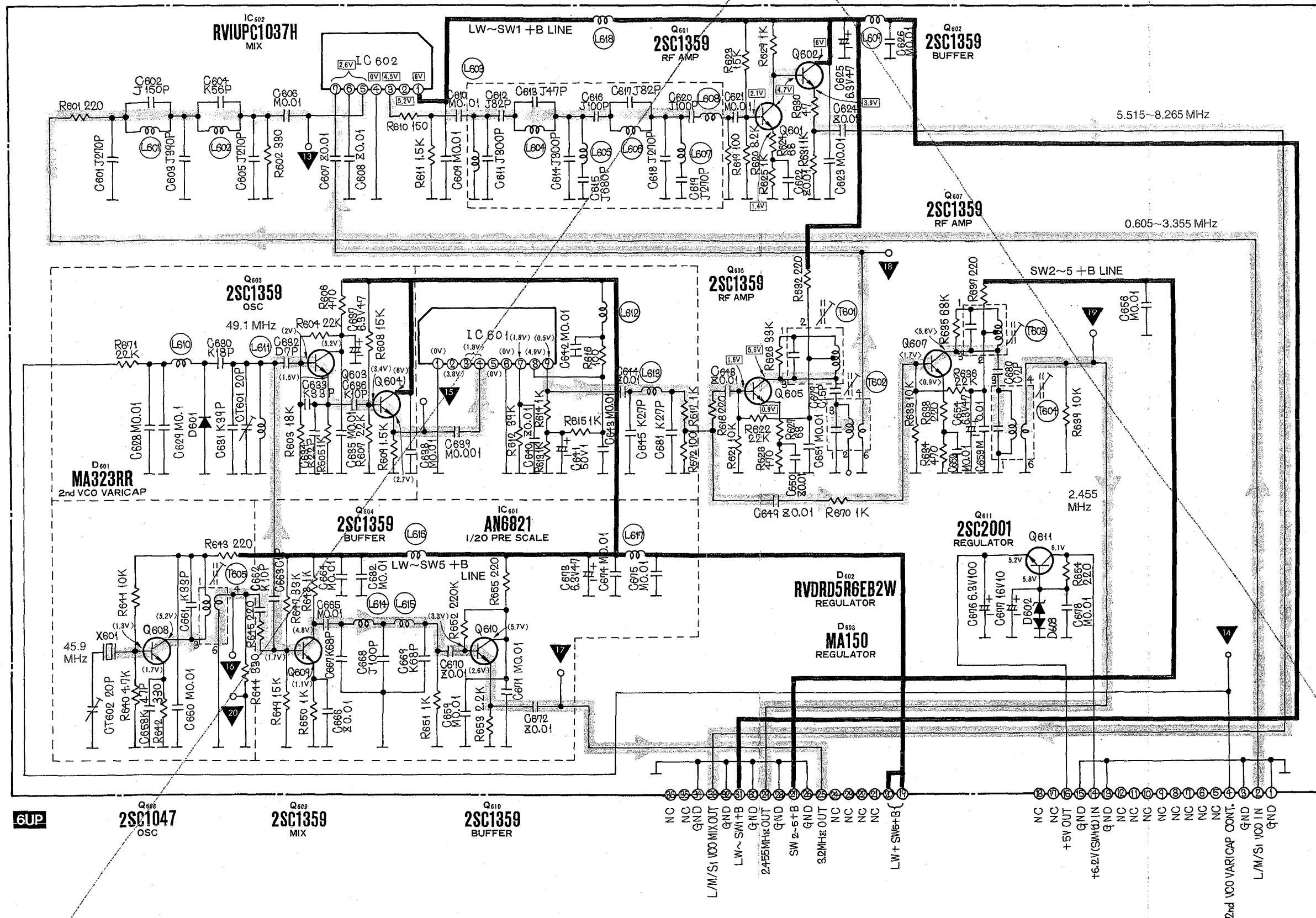
C7

C8

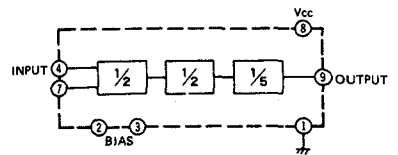
6 UP

6 UP

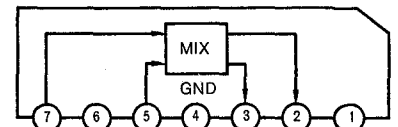
SCHEMATIC DIAGRAM (6 UP) ... 2nd PLL, VCO & MIX CIRCUIT



IC601 AN6821



IC602 RVIUPC1037H



Notes:

- The mark (▼) shows test point, e.g. ▼ = test point 1.
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
 [] ... LW, MW, SW1 position, () ... AM position,
 < > ... SW2~SW5 position.

Bemerkungen:

- Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼ = Meßpunkt 1.
- Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
 [] ... Stellung „LW, MW, KW1“, () ... Stellung „AM“,
 < > ... Stellung „KW2~KW5“.

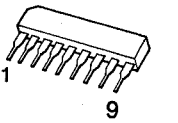
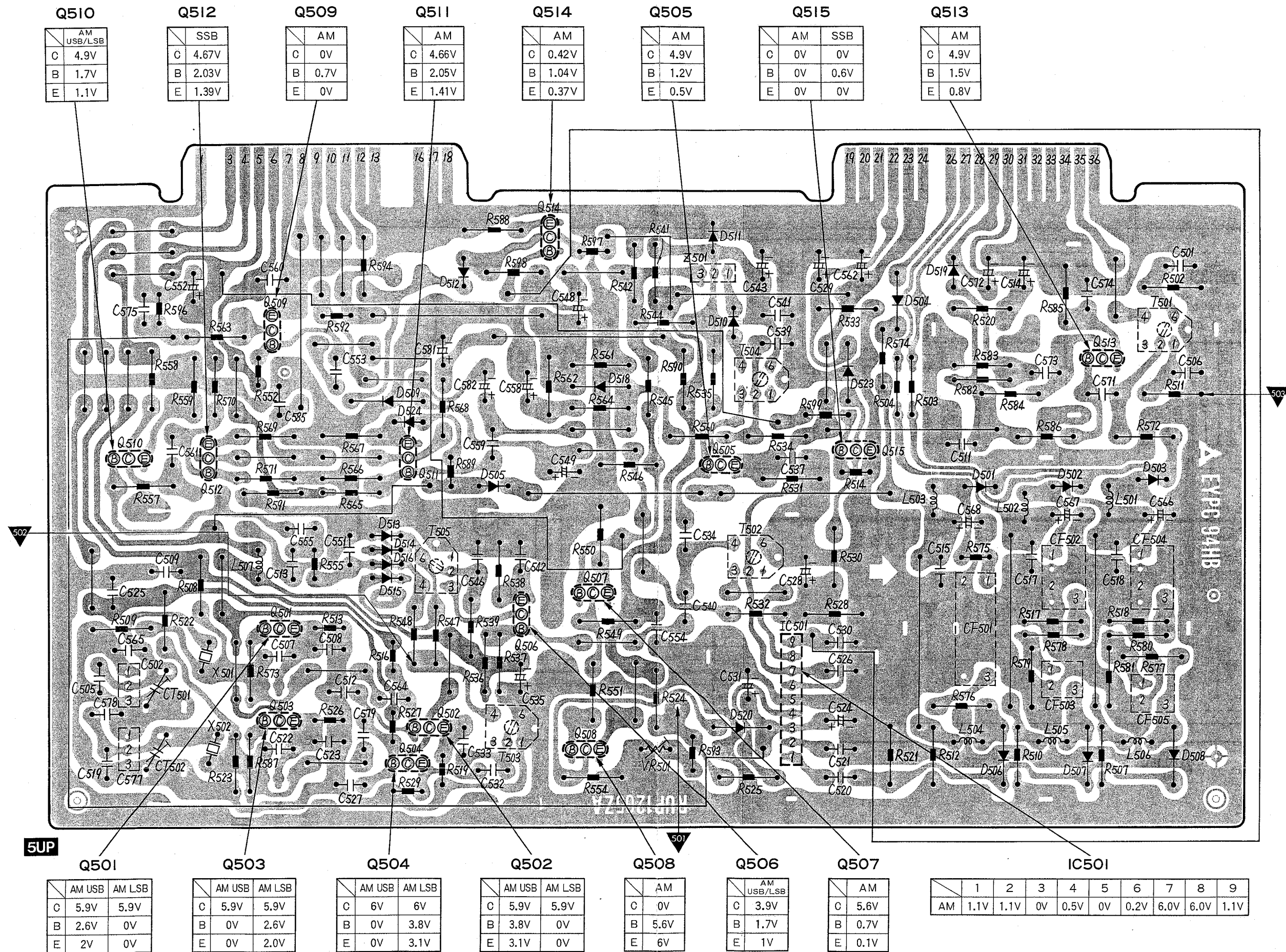
Remarques:

- La marque (▼) signale un point de vérification. Ex.: ▼ = point de vérification 1.
- La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
 [] ... Position GO, PO, OC1, () ... Position AM,
 < > ... Position OC2~OC5.

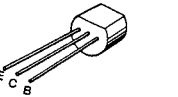
5 UP

5 UP

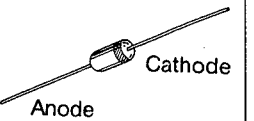
CIRCUIT BOARD WIRING VIEW (5 UP) ... IF, DET, BPF, SSB & AM METER CIRCUIT



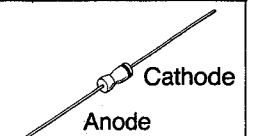
IC501



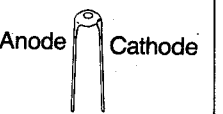
Q501~515



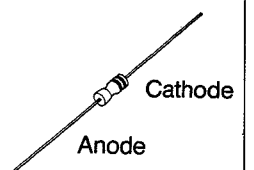
D501~509, 512, 518, 523



D510, 519, 522



D511



D513~516

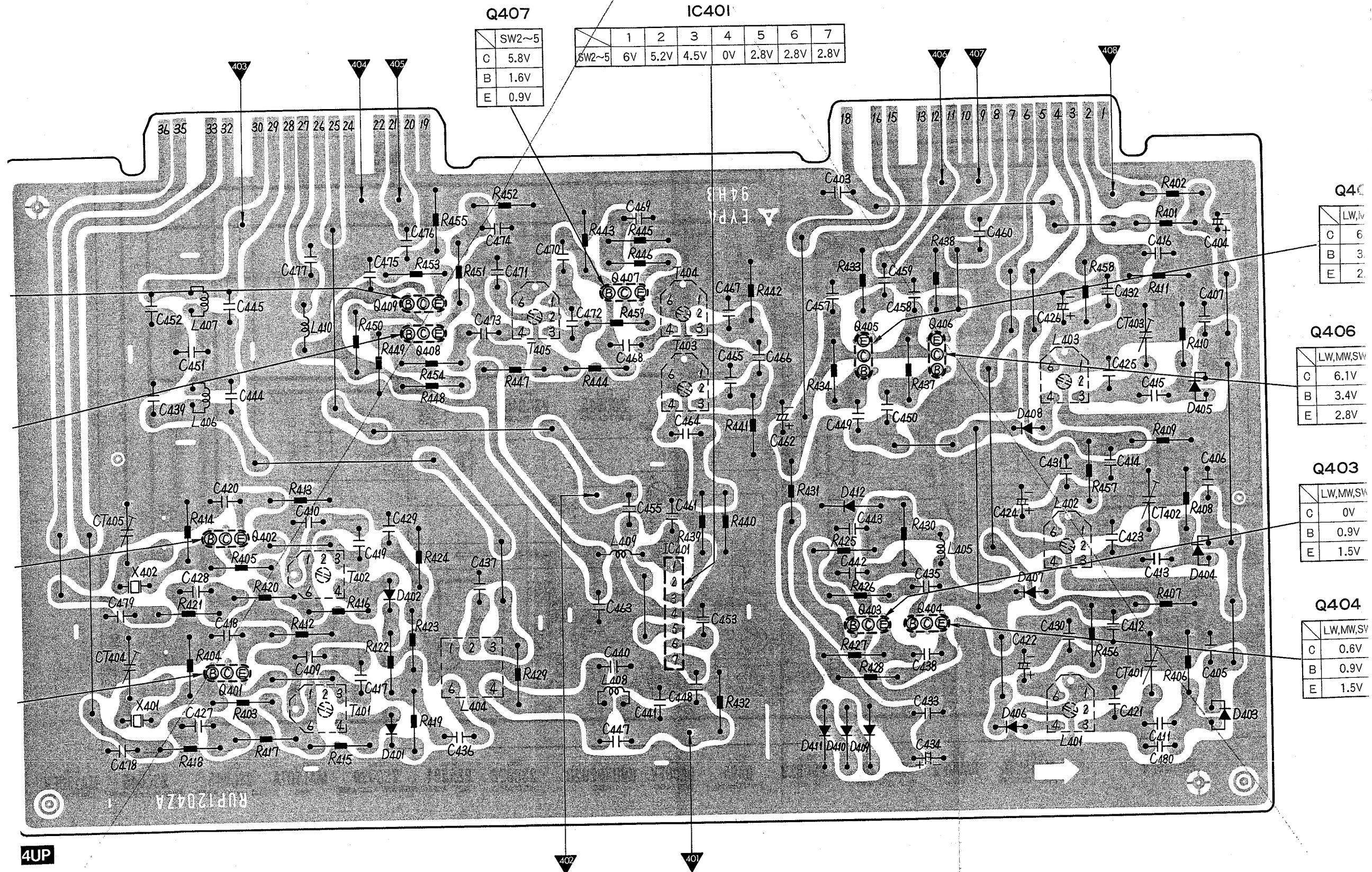
C9

C10

4 UP

4 UP

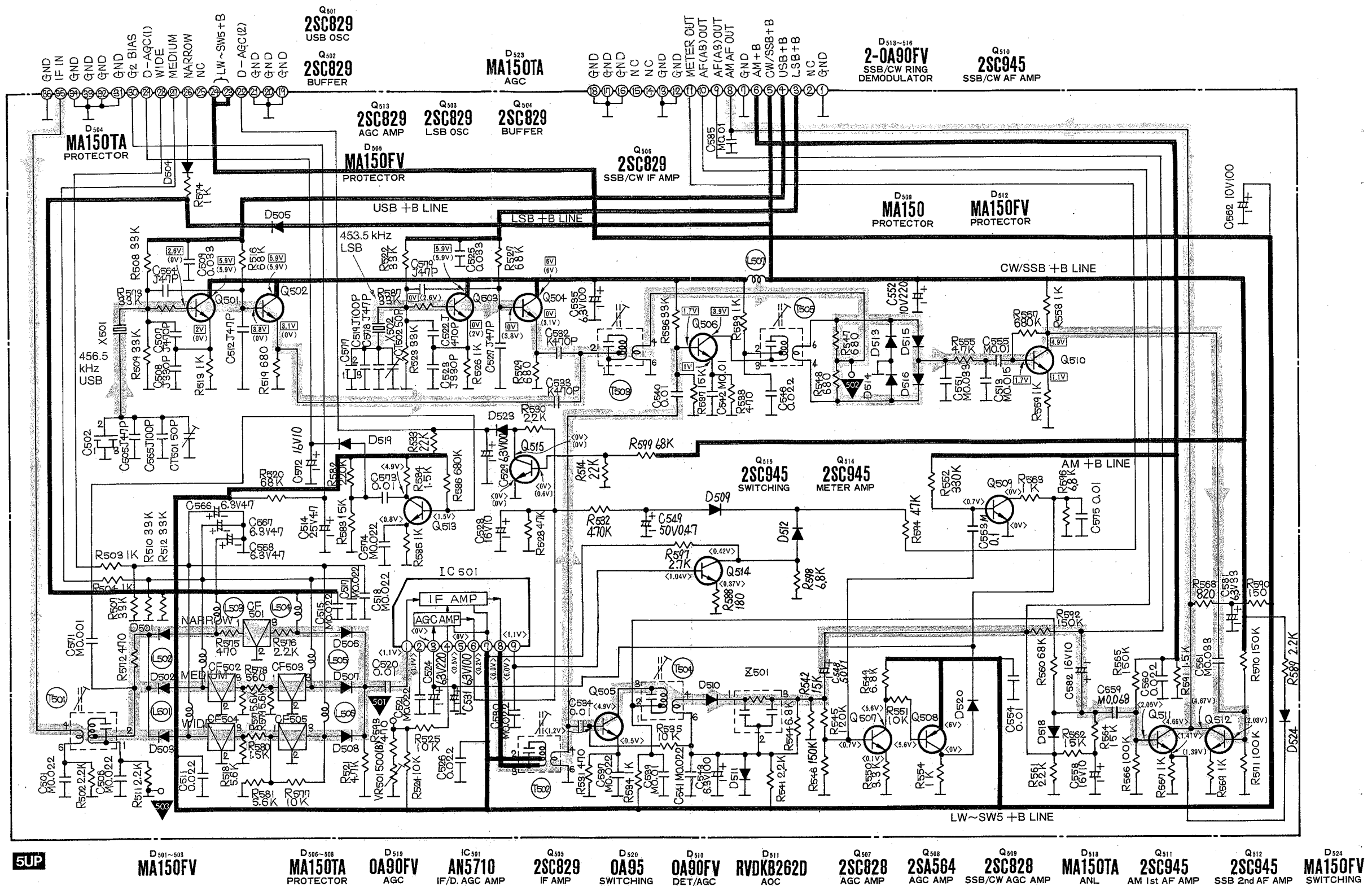
CIRCUIT BOARD WIRING VIEW (4 UP) ... LW, MW, SW1—VCO, Xtal OSC & MIX CIRCUIT



5 UP

5 UP

SCHEMATIC DIAGRAM (5 UP) ... IF, DET, BPF, SSB & AM METER CIRCUIT

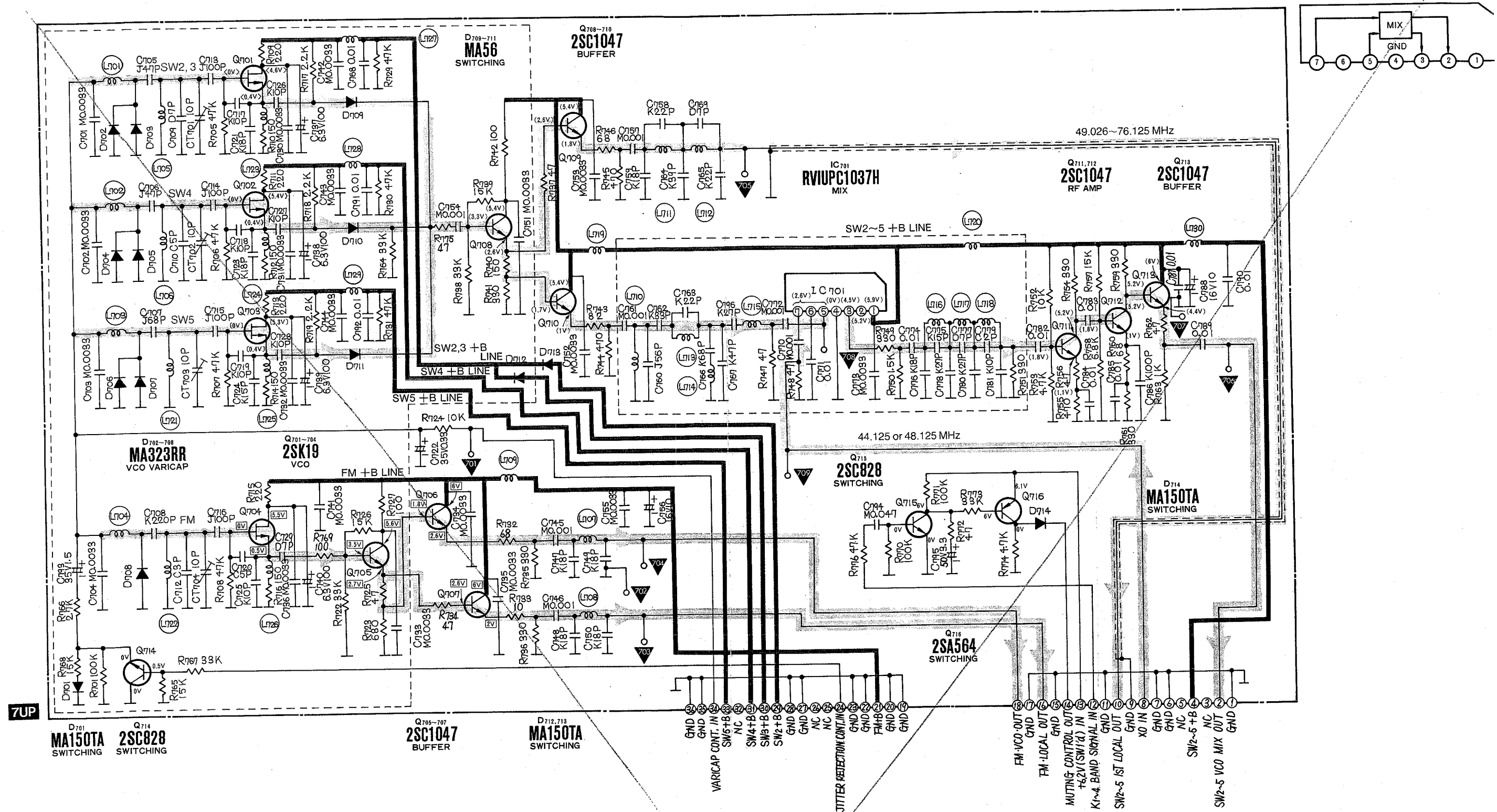


7 UP

7 UP

SCHEMATIC DIAGRAM (7 UP) ... SW2~5, FM VCO, MIX & MUTING CIRCUIT

IC701 RVIUPC1037H



Notes:

1. The mark (▼) shows test point, e.g. ▼ = test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.

Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼ = Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom

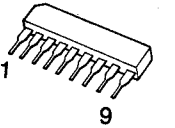
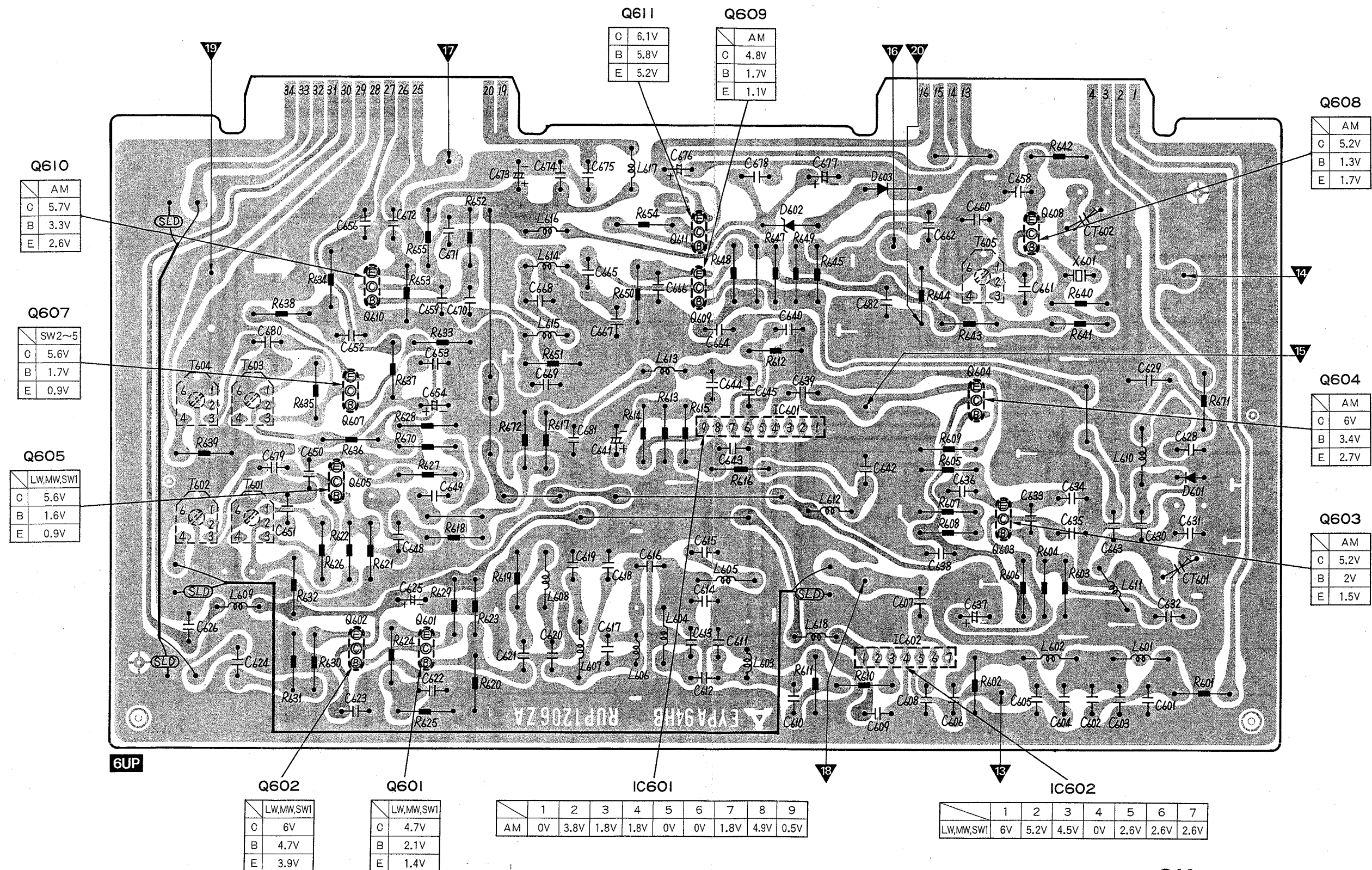
Remarques:

1. La marque (▼) signale un point de vérification. Ex.: ▼ = point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmètre électronique

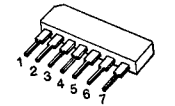
6 UP

6 UP

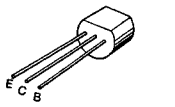
CIRCUIT BOARD WIRING VIEW (6 UP) . . . 2nd PLL, VCO & MIX CIRCUIT



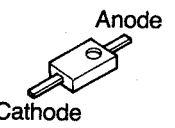
IC601



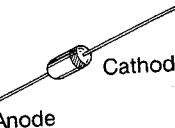
IC602



Q601~605, 607~611



D601



D602

C13

C14

5 UP

5 UP

CIRCUIT BOARD WIRING VIEW (5 UP) ... IF, DET, BPF, SSB & AM METER CIRCUIT

Q510

	AM	USB/LSB
C	4.9V	
B	1.7V	
E	1.1V	

Q512

	SSB
C	4.67V
B	2.03V
E	1.39V

Q509

	AM
C	0V
B	0.7V
E	0V

Q511

	AM
C	4.66V
B	2.05V
E	1.41V

Q514

	AM
C	0.42V
B	1.04V
E	0.37V

Q505

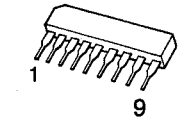
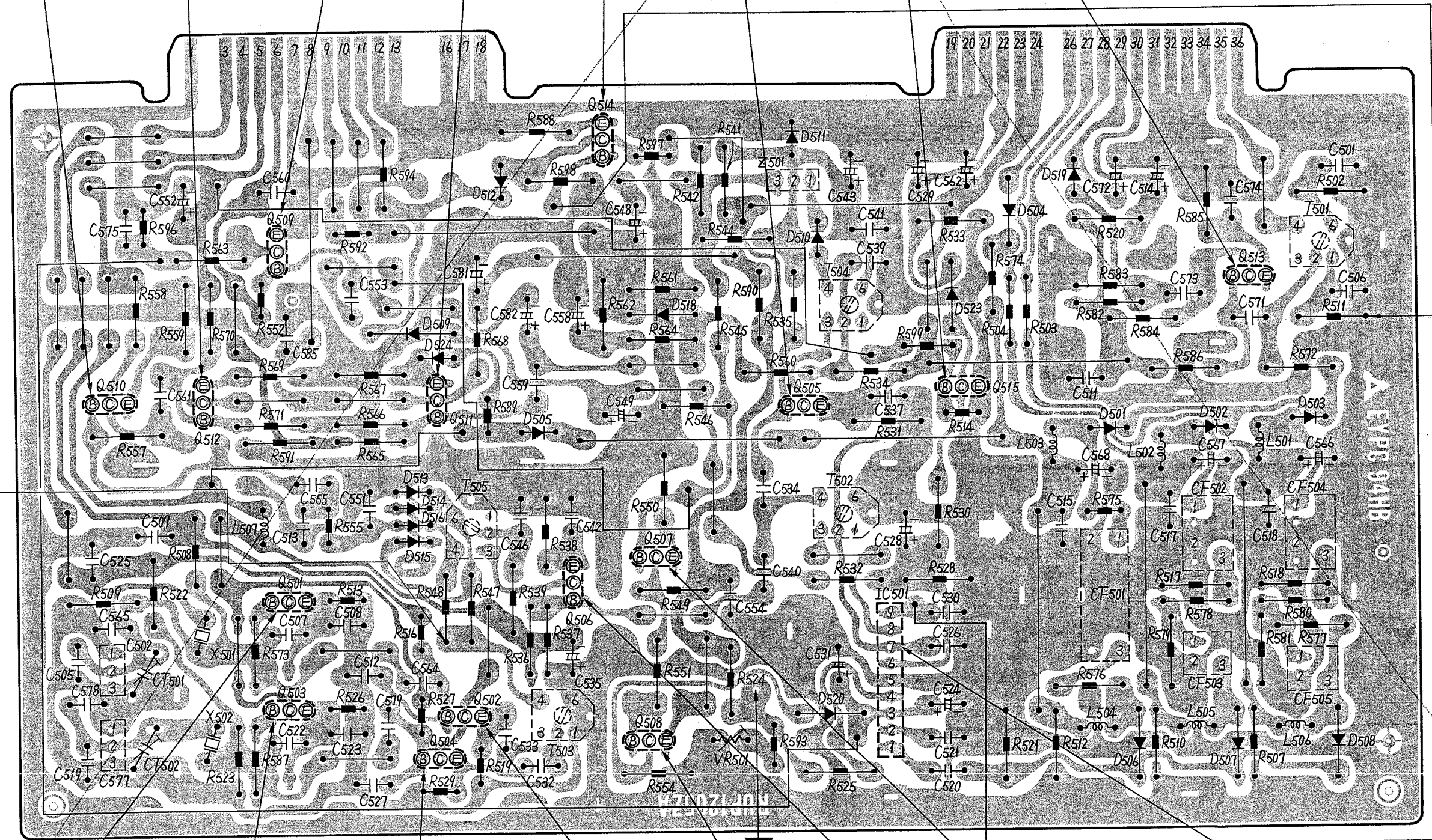
	AM
C	4.9V
B	1.2V
E	0.5V

Q515

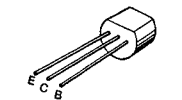
	AM	SSB
C	0V	0V
B	0V	0.6V
E	0V	0V

Q513

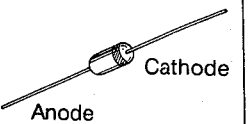
	AM
C	4.9V
B	1.5V
E	0.8V



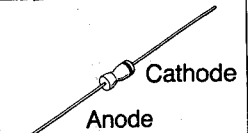
IC501



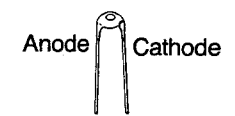
Q501~515



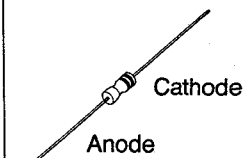
D501~509, 512, 518, 523



D510, 519, 522



D511



D513~516

5UP

Q501

	AM USB	AM LSB
C	5.9V	5.9V
B	2.6V	0V
E	2V	0V

Q503

	AM USB	AM LSB
C	5.9V	5.9V
B	0V	2.6V
E	0V	2.0V

Q504

	AM USB	AM LSB
C	6V	6V
B	0V	3.8V
E	0V	3.1V

Q502

	AM USB	AM LSB
C	5.9V	5.9V
B	3.8V	0V
E	3.1V	0V

Q508

	AM
C	0V
B	5.6V
E	6V

Q506

	AM	USB/LSB
C	3.9V	
B	1.7V	
E	1V	

Q507

	AM
C	5.6V
B	0.7V
E	0.1V

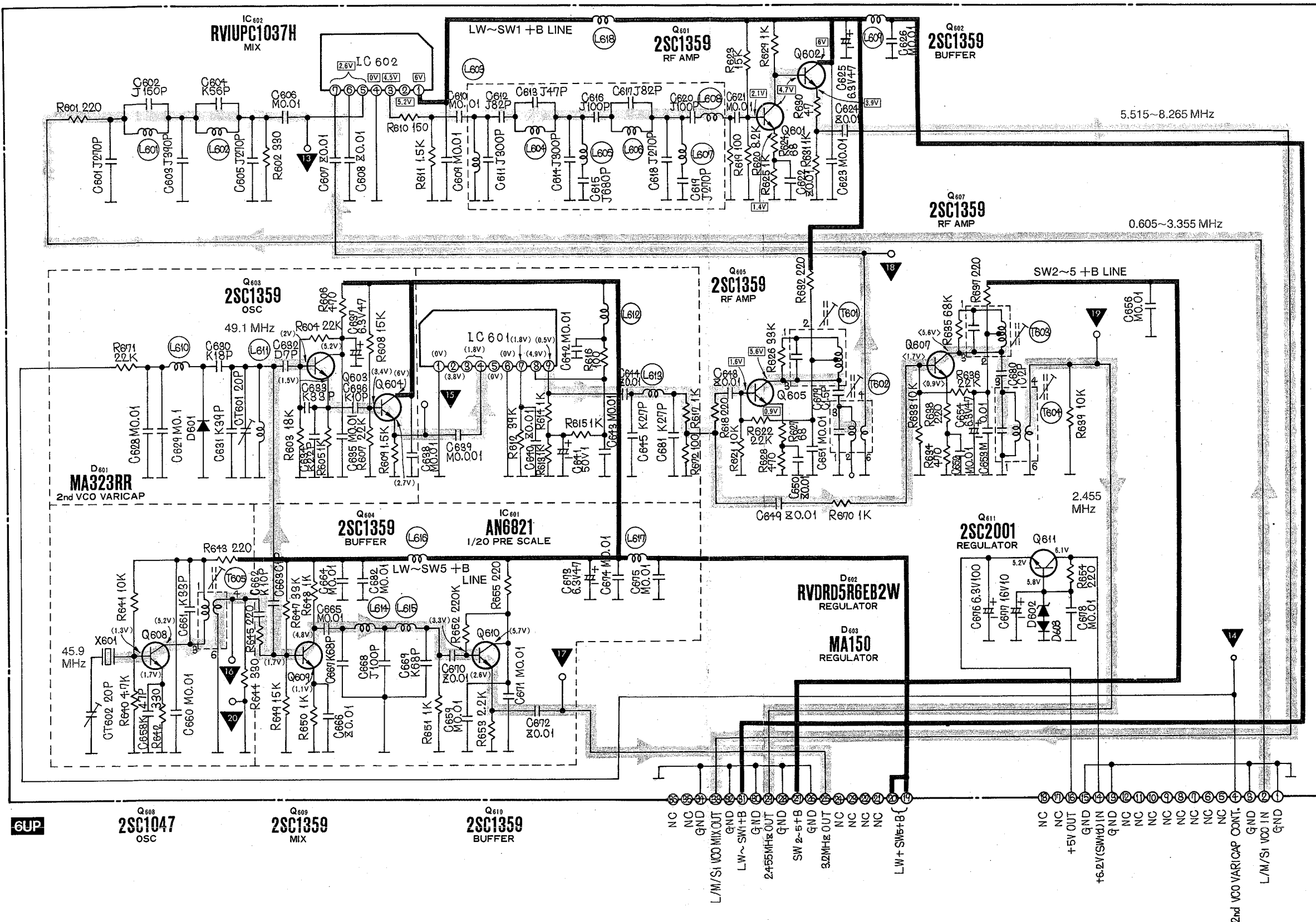
IC501

	1	2	3	4	5	6	7	8	9
AM	1.1V	1.1V	0V	0.5V	0V	0.2V	6.0V	6.0V	1.1V

6 UP

6 UP

SCHEMATIC DIAGRAM (6 UP) ... 2nd PLL, VCO & MIX CIRCUIT



Notes:

- The mark (▼) shows test point, e.g. ▼ = test point 1.
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
☐ ... LW, MW, SW1 position, () ... AM position,
☐ ... SW2~SW5 position.

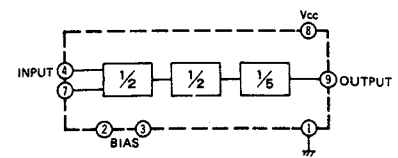
Bemerkungen:

- Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼ = Meßpunkt 1.
- Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
☐ ... Stellung „LW, MW, KW1“, () ... Stellung „AM“,
☐ ... Stellung „KW2~KW5“.

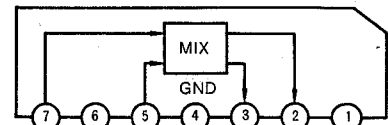
Remarques:

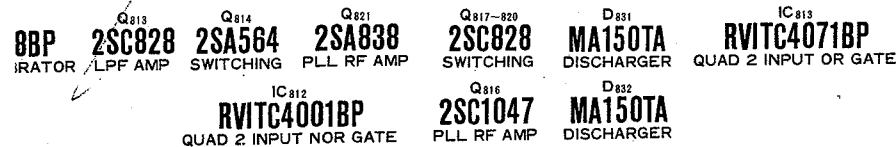
- La marque (▼) signale un point de vérification. Ex.: ▼ = point de vérification 1.
- La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
☐ ... Position GO, PO, OC1, () ... Position AM,
☐ ... Position OC2~OC5.

IC601 AN6821



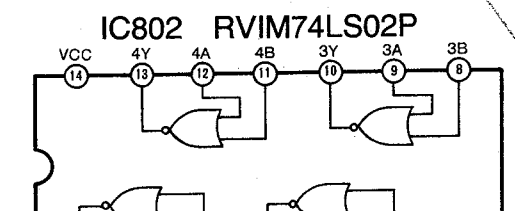
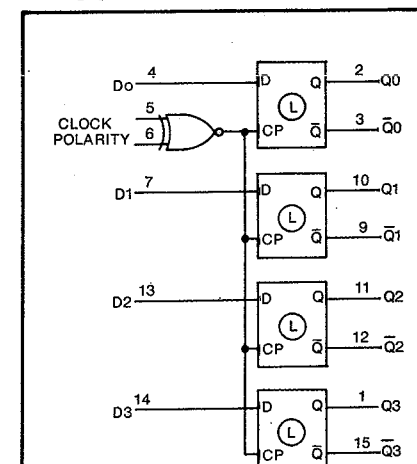
IC602 RVIUPC1037H





1. La marque (▼) signale un point de vérification. Ex.: ▼ = point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.

☐ ... Position PO, () .. Position SSB.

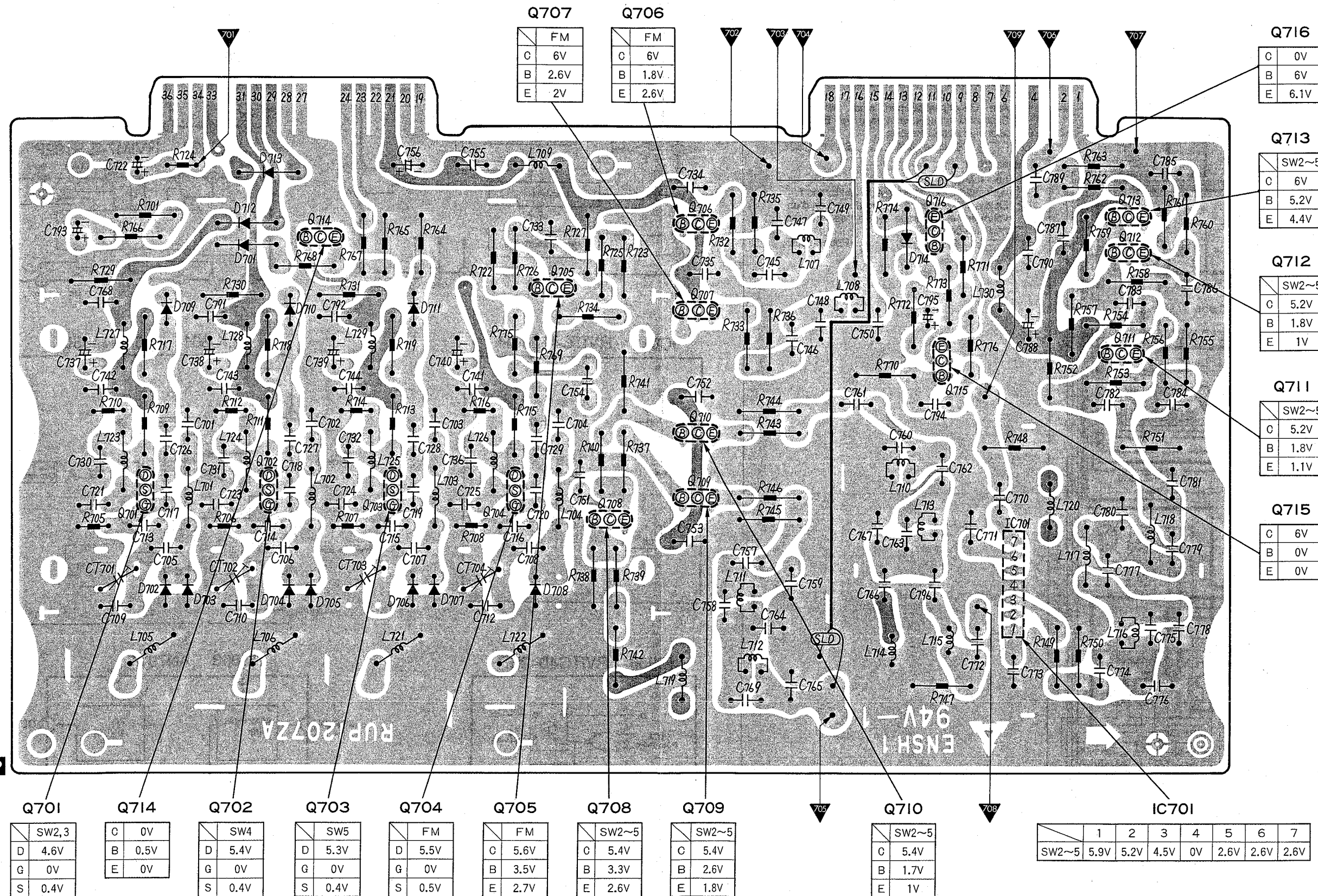


7 UP

7 UP

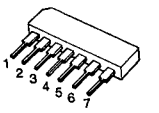
7 UP

CIRCUIT BOARD WIRING VIEW (7 UP) . . . SW2~5, FM VCO, MIX & MUTING CIRCUIT

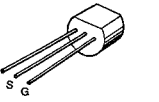


D3

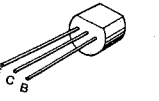
D4



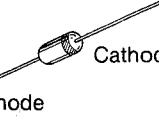
IC701



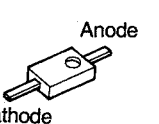
Q701~704



Q705~716



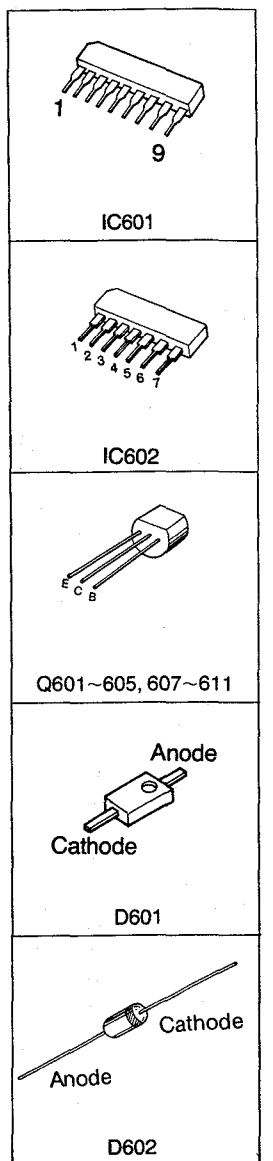
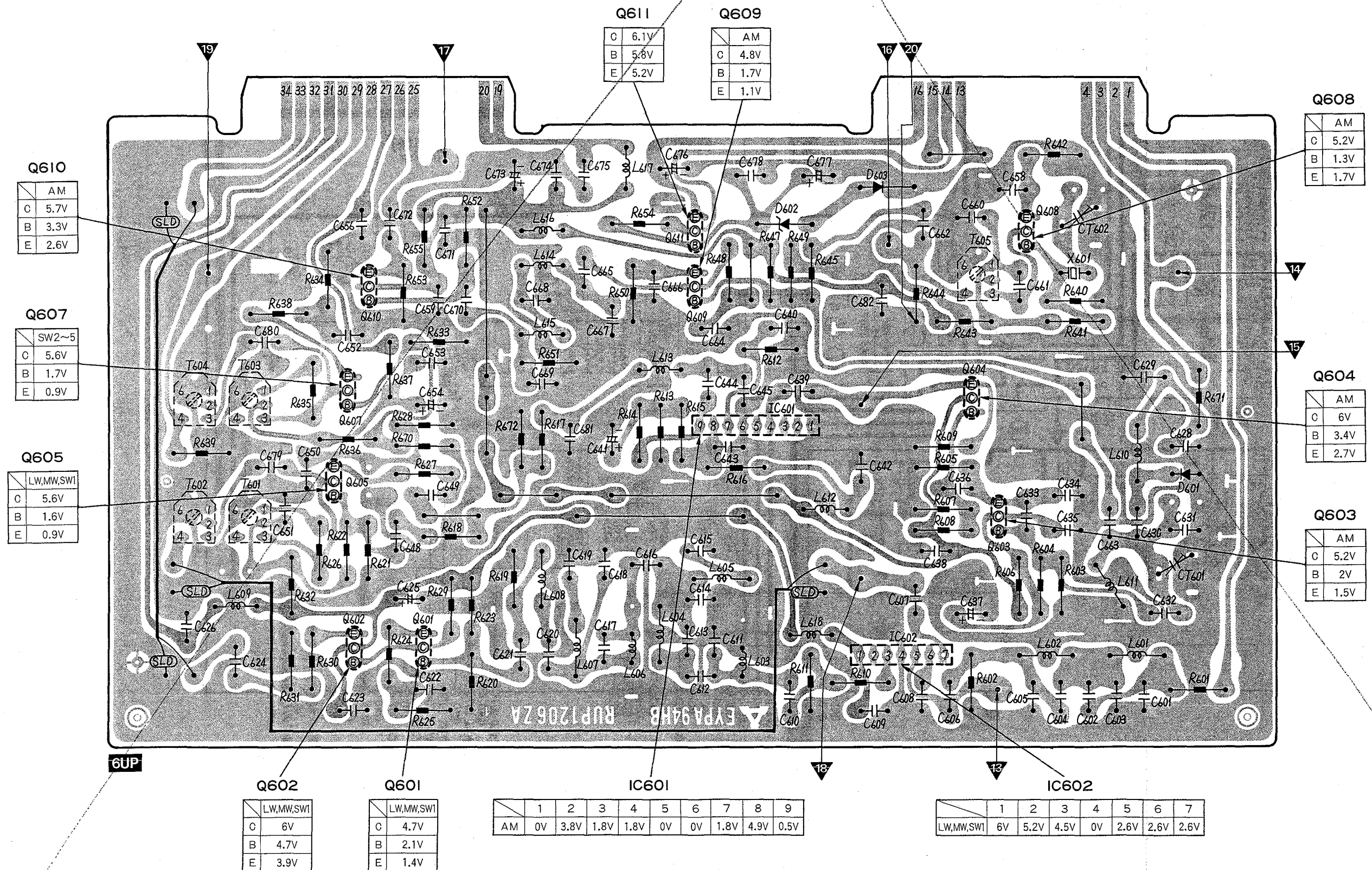
D701, 712~714



D702~711

6 UP. 6 UP

CIRCUIT BOARD WIRING VIEW (6 UP) ... 2nd PLL, VCO & MIX CIRCUIT

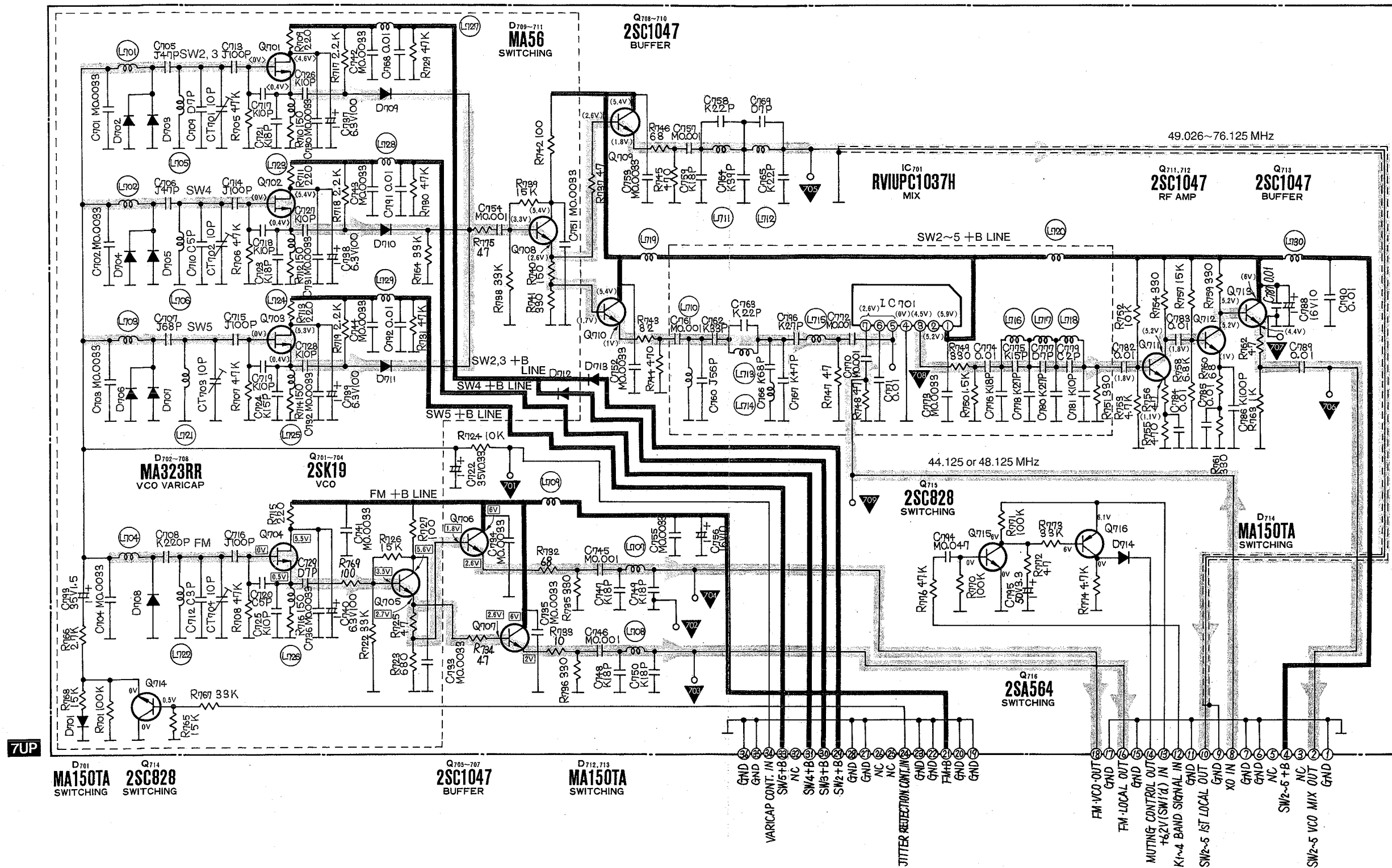


7UP

7UP

SCHEMATIC DIAGRAM (7 UP) ... SW2~5, FM VCO, MIX & MUTING CIRCUIT

IC701 RVIUPC1037H



Notes:

- The mark (▼) shows test point, e.g. ▼ = test point 1.
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
 □ ... FM position, () ... SW2~SW5 position,
 < > ... SW2, 3 position, <> ... SW4 position,
 [] ... SW5 position.

Bemerkungen:

- Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼ = Meßpunkt 1.
- Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
 □ ... Stellung „FM“, () ... Stellung „KW2~KW5“,
 < > ... Stellung „KW2, KW3“, <> ... Stellung „KW4“,
 [] ... Stellung „KW5“.

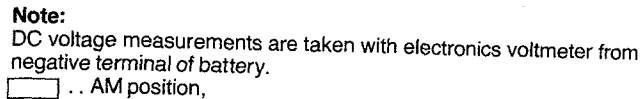
Remarques:

- La marque (▼) signale un point de vérification. Ex.: ▼ = point de vérification 1.
- La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
 □ ... Position FM, () ... Position OC2~OC5,
 < > ... Position OC2, OC3, <> ... Position OC4,
 [] ... Position OC5.

D5

D6

9 UP 9 UP

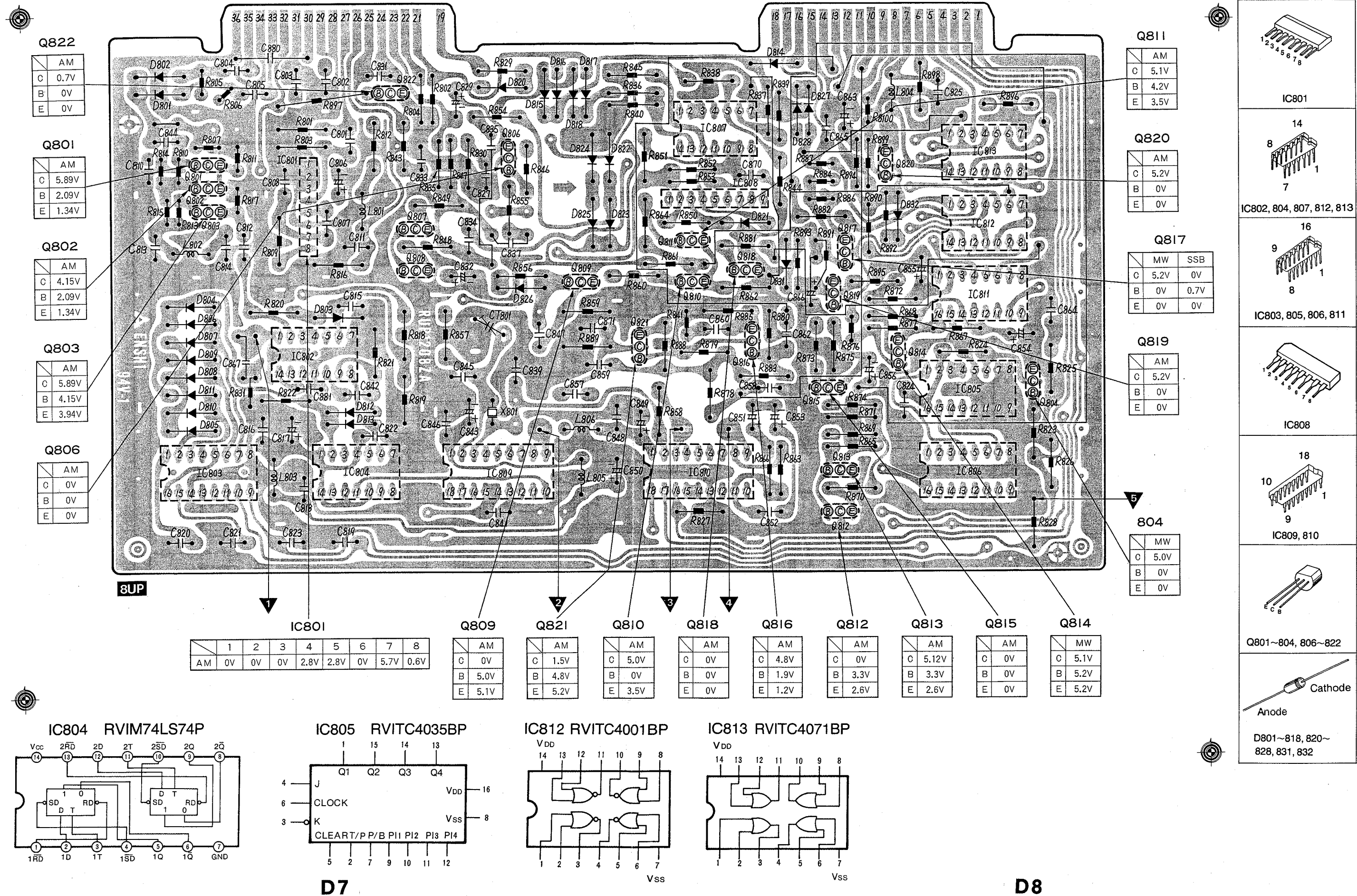


Remarque:
La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
☐ ... Position AM.

8 UP

8 UP

CIRCUIT BOARD WIRING VIEW (8 UP) ... 1st, 2nd PLL & CONTROL CIRCUIT

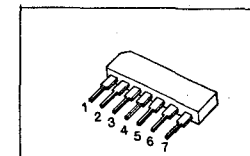
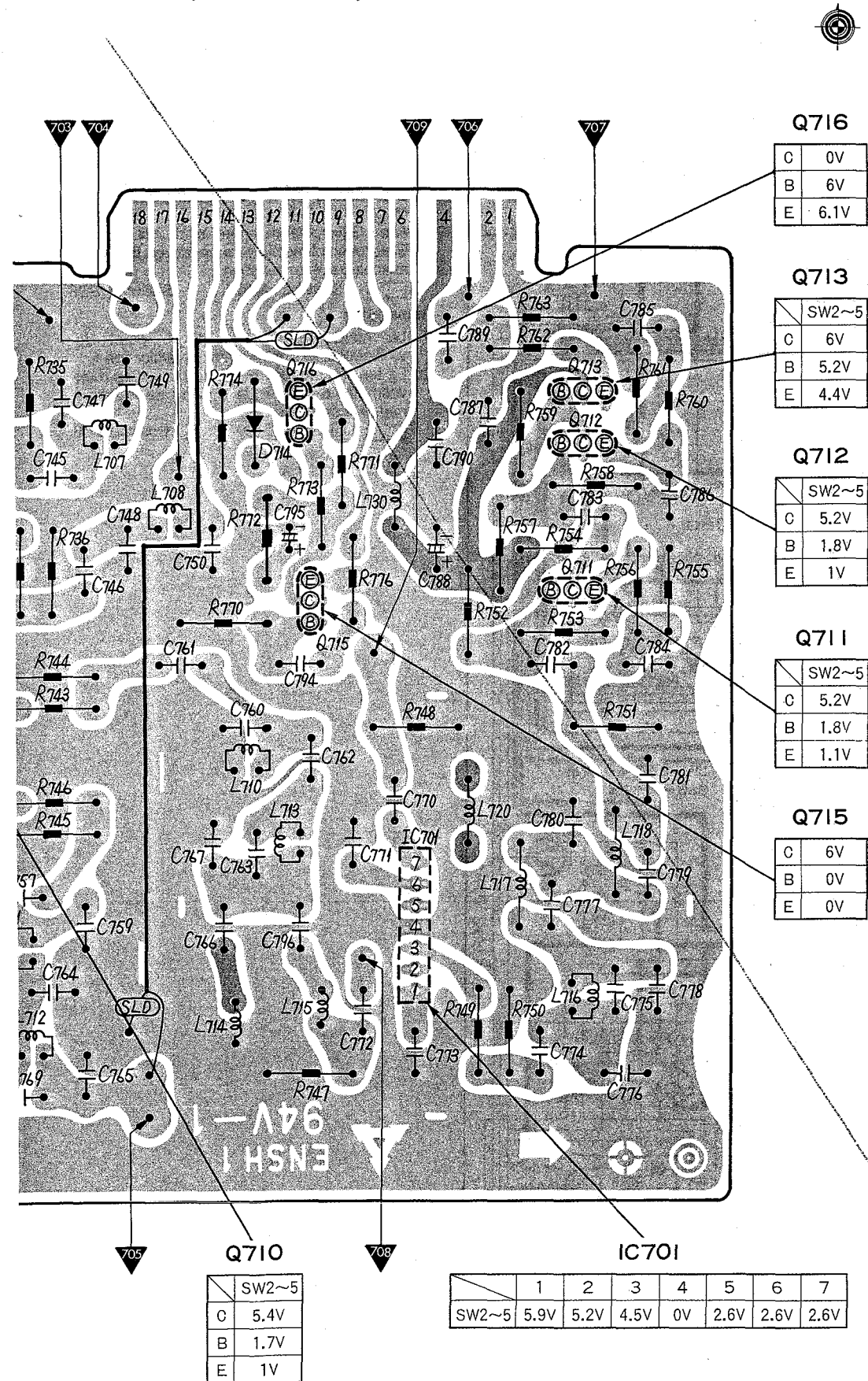


7 UP

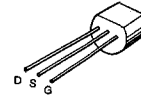
.. SW2~5, FM VCO, MIX & MUTING CIRCUIT

7 UP

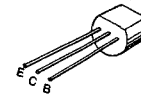
7 UP



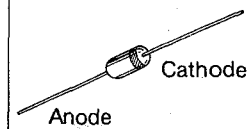
IC701



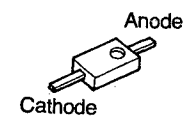
Q701~704



Q705~716

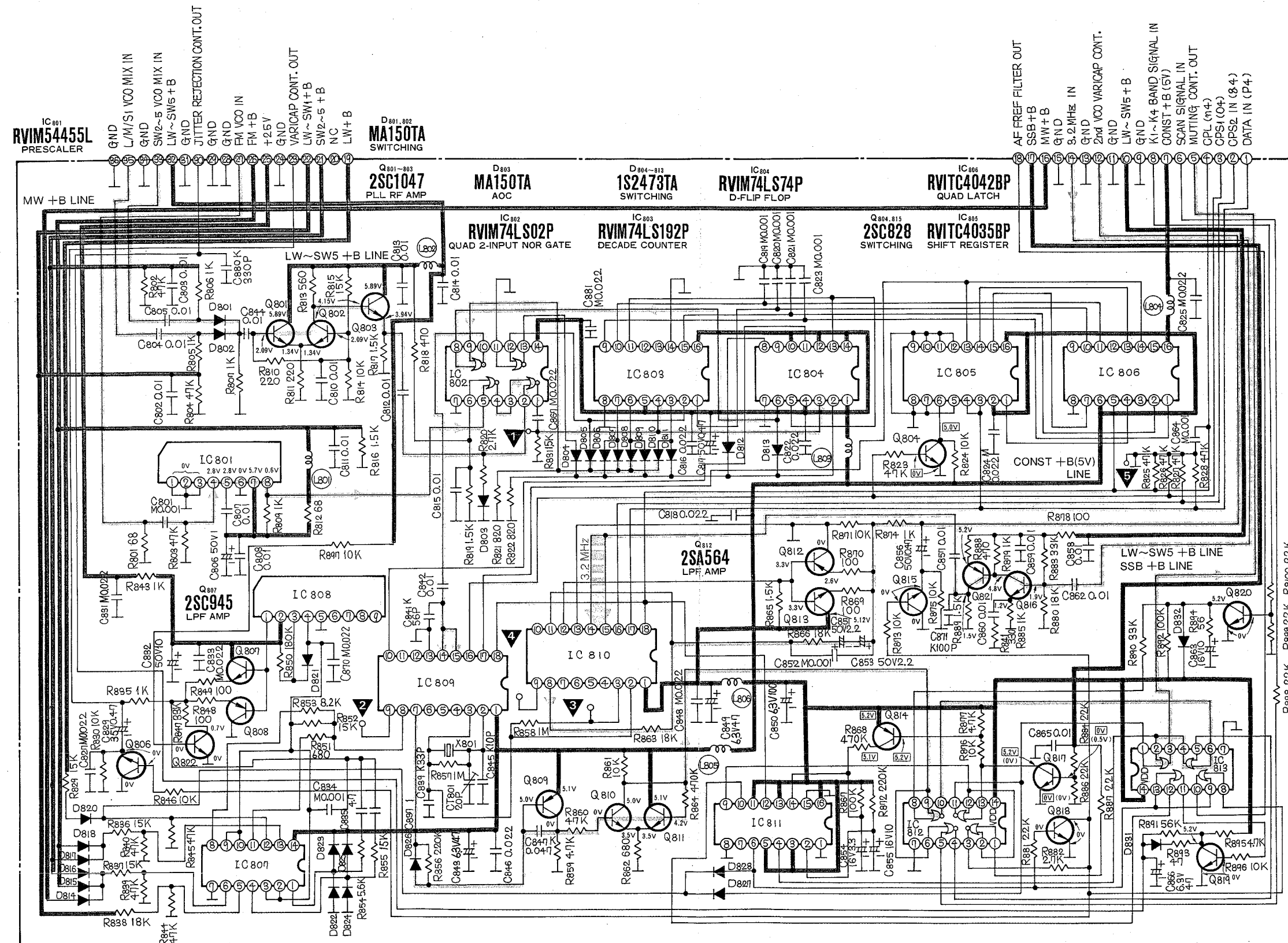


D701, 712~714



D702~711

SCHEMATIC DIAGRAM (8 UP) ... 1st, 2nd PLL & CONTROL CIRCUIT



Notes:

1. The mark (▼) shows test point, e.g. ▼ = test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
☐ ... MW position, () ... SSB position.

Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼ = Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronenvoltmeter vom negativen Batterieanschluß aus zu messen.
☐ ... Stellung „MW“, () Stellung „SSB“.

Remarques:

1. La marque (▼) signale un point de vérification. Ex.: ▼ = point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
☐ ... Position PO, () ... Position SSB.

8UP

D814-816, 820

MA150TA

SWITCHING

Q808

2SC945

SWITCHING

Q822

2SC828

SWITCHING

Q809

2SA564

LPF AMP

IC 808

AN7911

LPF

D822-825

MA150TA

PROTECTOR

IC 809, 810

RVUPD2819C

PLL

Q809

2SA564

SWITCHING

Q810, 811

2SC828

SWITCHING

D827, 828

MA150TA

SWITCHING

IC 811

RVITC4528BP

MONO-MULTIVIBRATOR

Q813

2SC828

LPF AMP

Q814

2SA564

SWITCHING

Q821

2SA838

PLL RF AMP

Q817-820

2SC828

SWITCHING

D831

MA150TA

DISCHARGER

IC 813

RVITC4071BP

QUAD 2 INPUT OR GATE

IC 812

RVITC4001BP

QUAD 2 INPUT NOR GATE

Q816

2SC1047

PLL RF AMP

D832

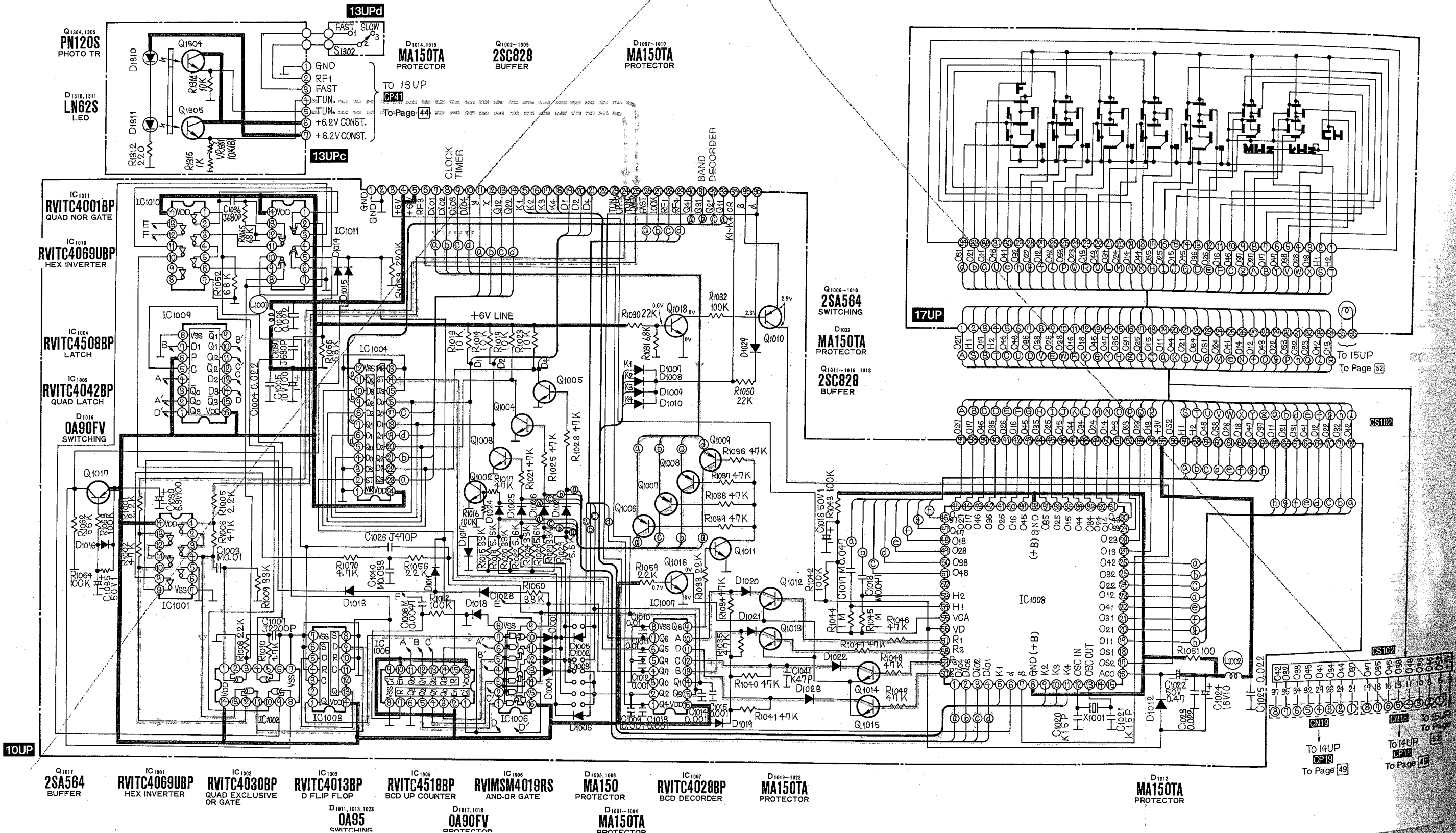
MA150TA

DISCHARGER

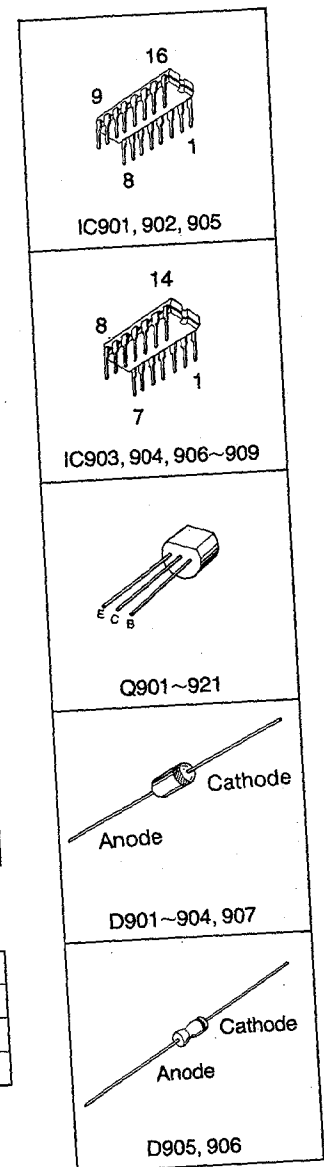
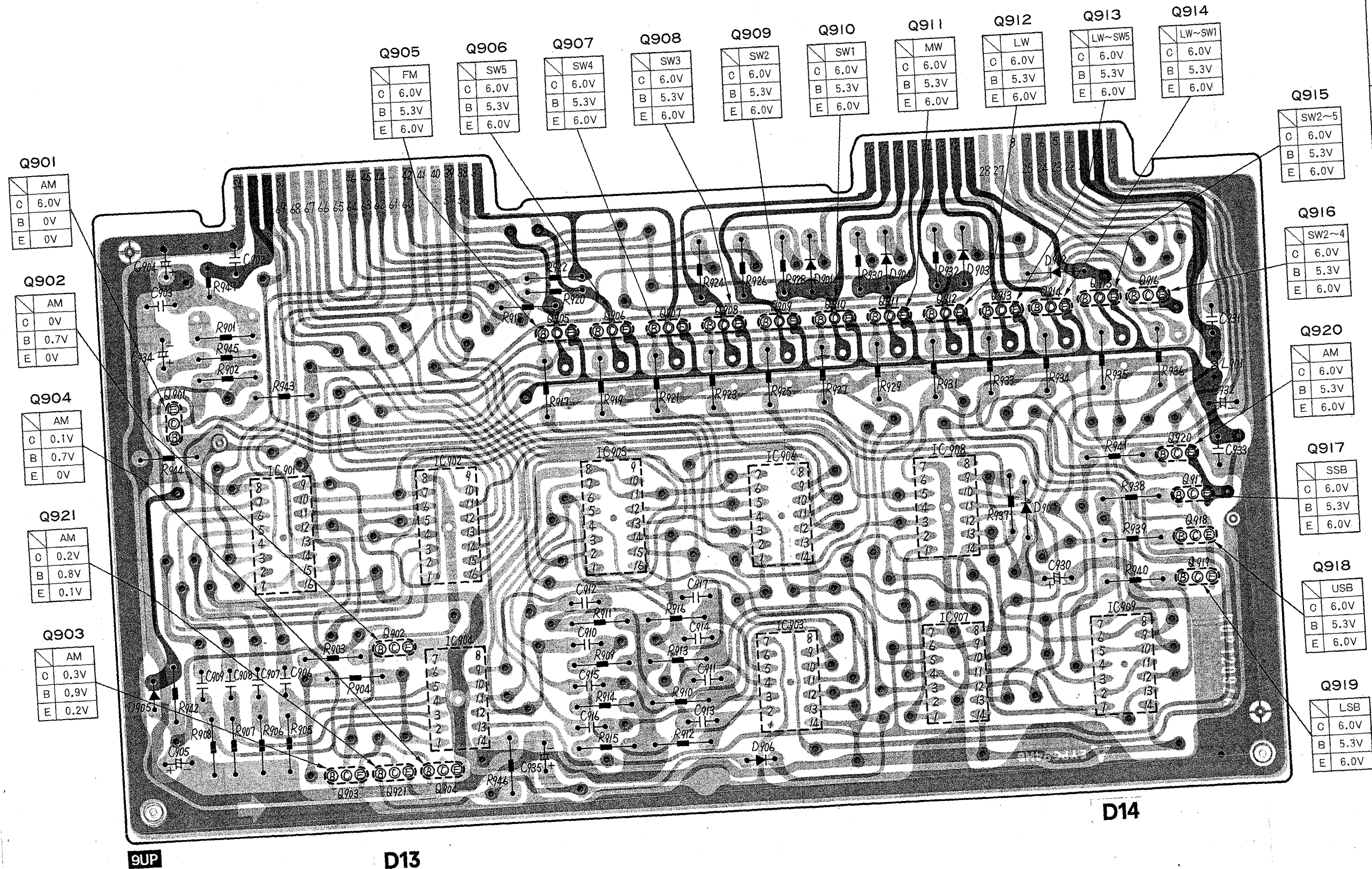
D9

D10

SCHEMATIC DIAGRAM (10 UP,13 UPc, d,17 UP). . RADIO CONTROL-1, μ COM BLOCK, TUNING & CLOCK CIRCUIT



9 UP 9 UP CIRCUIT BOARD WIRING VIEW (9 UP) ... RADIO CONTROL-2CIRCUIT



Q901	
AM	
C	6.0V
B	0V
E	0V

Q902	
AM	
C	0V
B	0.7V
E	0V

Q904	
AM	
C	0.1V
B	0.7V
E	0V

Q921	
AM	
C	0.2V
B	0.8V
E	0.1V

Q903	
AM	
C	0.3V
B	0.9V
E	0.2V

Q905	
FM	
C	6.0V
B	5.3V
E	6.0V

Q906	
SW5	
C	6.0V
B	5.3V
E	6.0V

Q907	
SW4	
C	6.0V
B	5.3V
E	6.0V

Q908	
SW3	
C	6.0V
B	5.3V
E	6.0V

Q909	
SW2	
C	6.0V
B	5.3V
E	6.0V

Q910	
SW1	
C	6.0V
B	5.3V
E	6.0V

Q911	
MW	
C	6.0V
B	5.3V
E	6.0V

Q912	
LW	
C	6.0V
B	5.3V
E	6.0V

Q913	
LW-SW5	
C	6.0V
B	5.3V
E	6.0V

Q914	
LW-SW1	
C	6.0V
B	5.3V
E	6.0V

Q915	
SW2-5	
C	6.0V
B	5.3V
E	6.0V

Q916	
SW2-4	
C	6.0V
B	5.3V
E	6.0V

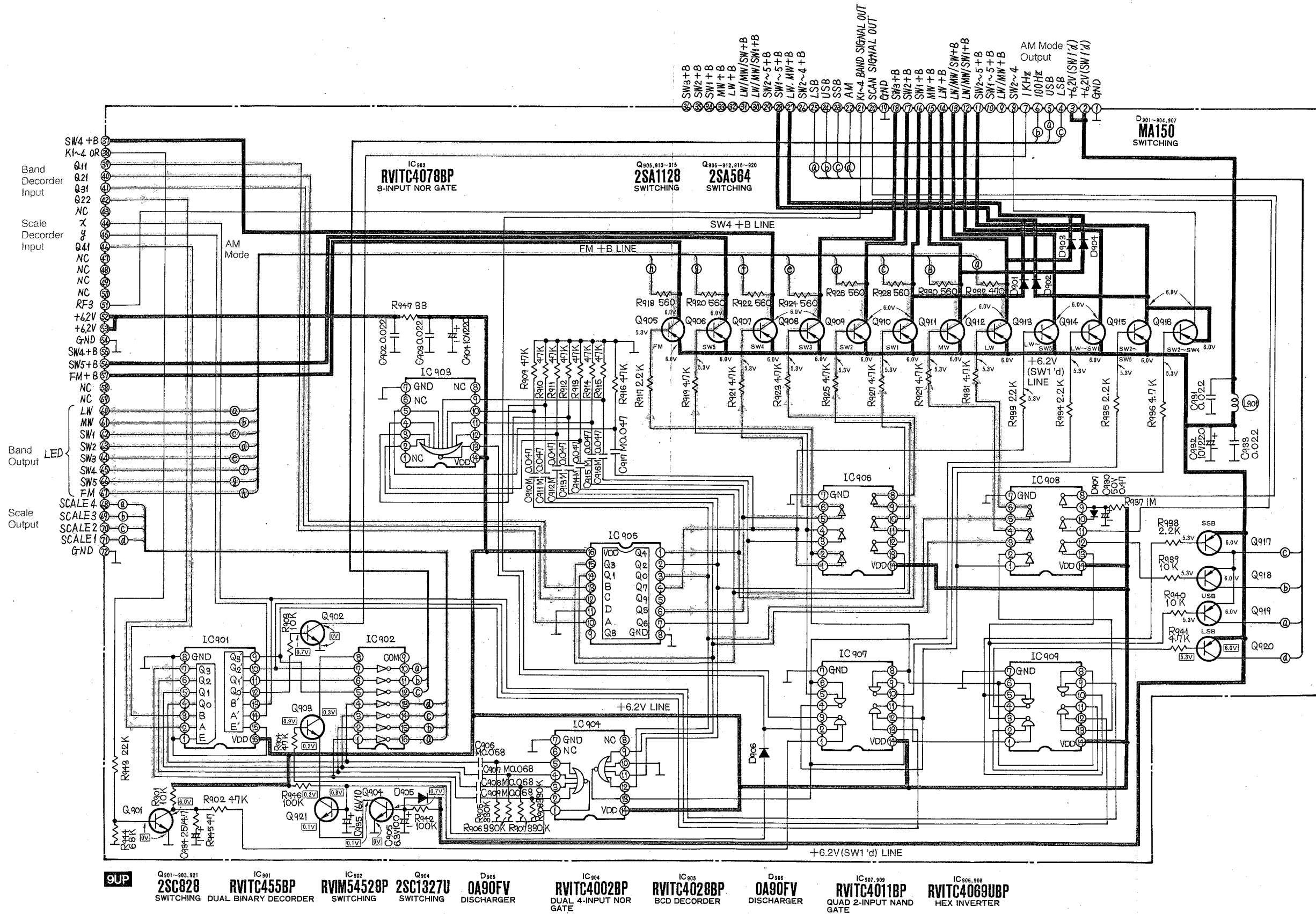
Q920	
AM	
C	6.0V
B	5.3V
E	6.0V

Q917	
SSB	
C	6.0V
B	5.3V
E	6.0V

Q918	
USB	
C	6.0V
B	5.3V
E	6.0V

Q919	
LSB	
C	6.0V
B	5.3V
E	6.0V

SCHEMATIC DIAGRAM (9 UP) . . . RADIO CONTROL-2 CIRCUIT



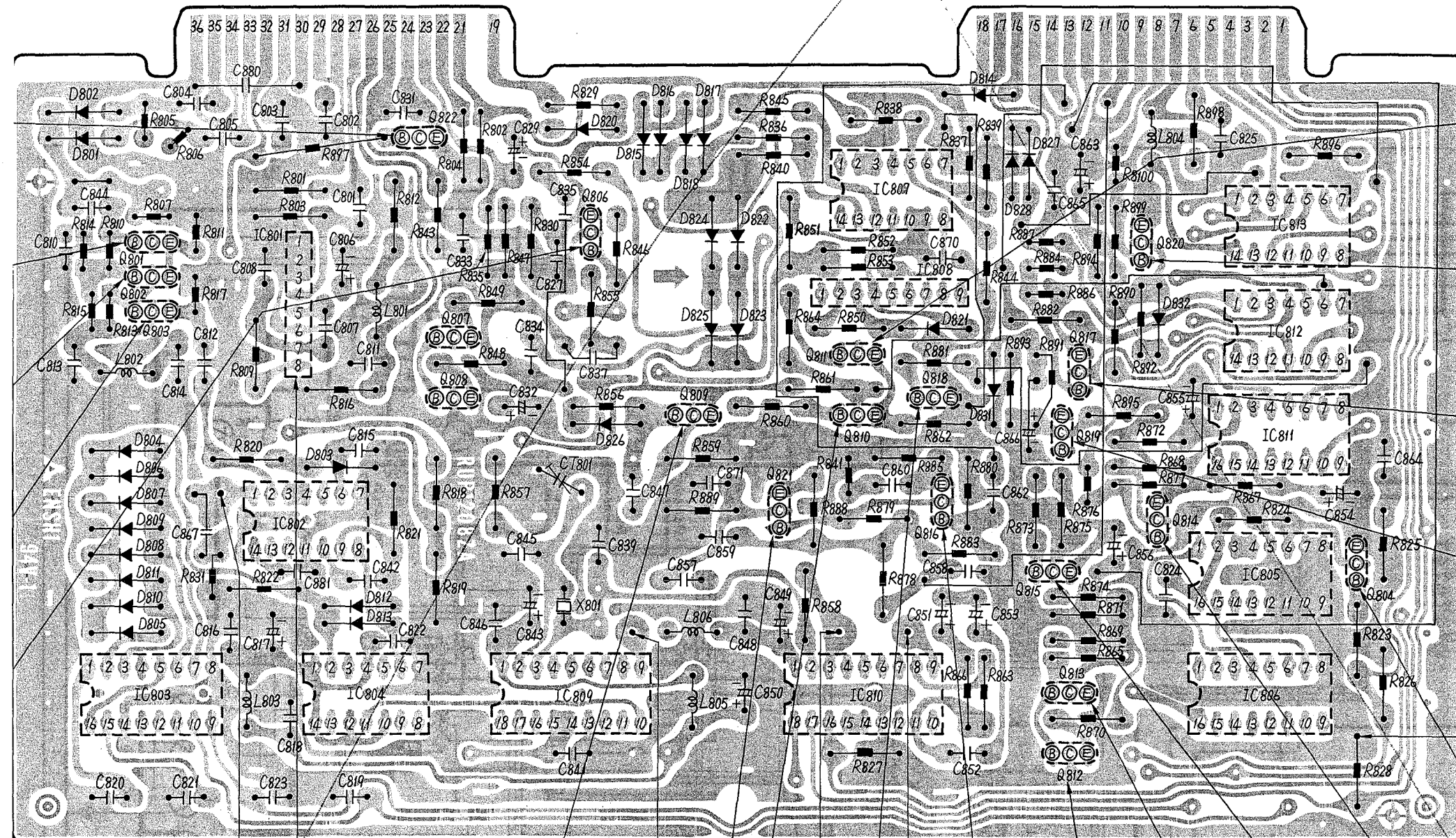
Note:
DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
☐ . . AM position,

Bemerkungen:
Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
☐ .. Stellung „AM“;

Remarque:
La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.

8 UP 8 UP

CIRCUIT BOARD WIRING VIEW (8 UP) ... 1st, 2nd PLL & CONTROL CIRCUIT



Q811

AM
C 5.1V
B 4.2V
E 3.5V

Q820

AM
C 5.2V
B 0V
E 0V

Q817

MW	SSB
C 5.2V	0V
B 0V	0.7V
E 0V	0V

Q819

AM
C 5.2V
B 0V
E 0V

804

MW
C 5.0V
B 0V
E 0V

IC801

1	2	3	4	5	6	7	8
AM	0V	0V	0V	2.8V	2.8V	0V	5.7V
							0.6V

Q809

AM
C 0V
B 5.0V
E 5.1V

Q821

AM
C 1.5V
B 4.8V
E 5.2V

Q810

AM
C 5.0V
B 0V
E 3.5V

Q818

AM
C 0V
B 0V
E 0V

Q816

AM
C 4.8V
B 1.9V
E 1.2V

Q812

AM
C 0V
B 3.3V
E 2.6V

Q813

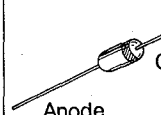
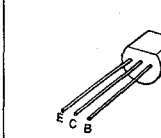
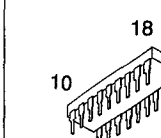
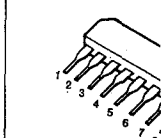
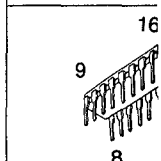
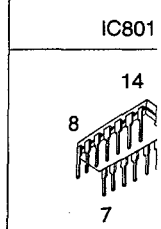
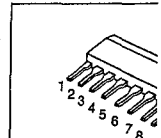
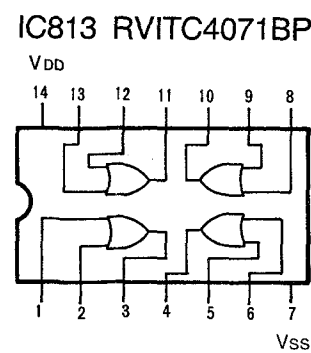
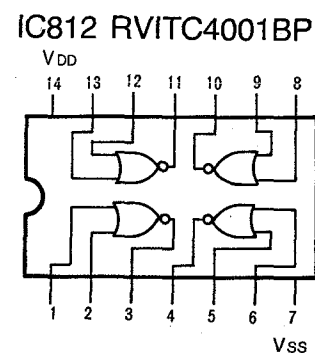
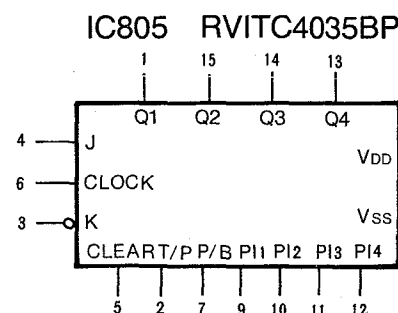
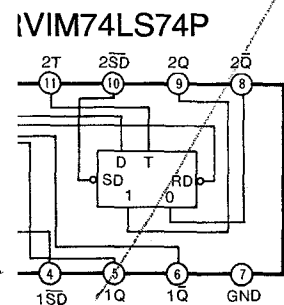
AM
C 5.12V
B 3.3V
E 2.6V

Q815

AM
C 0V
B 0V
E 0V

Q814

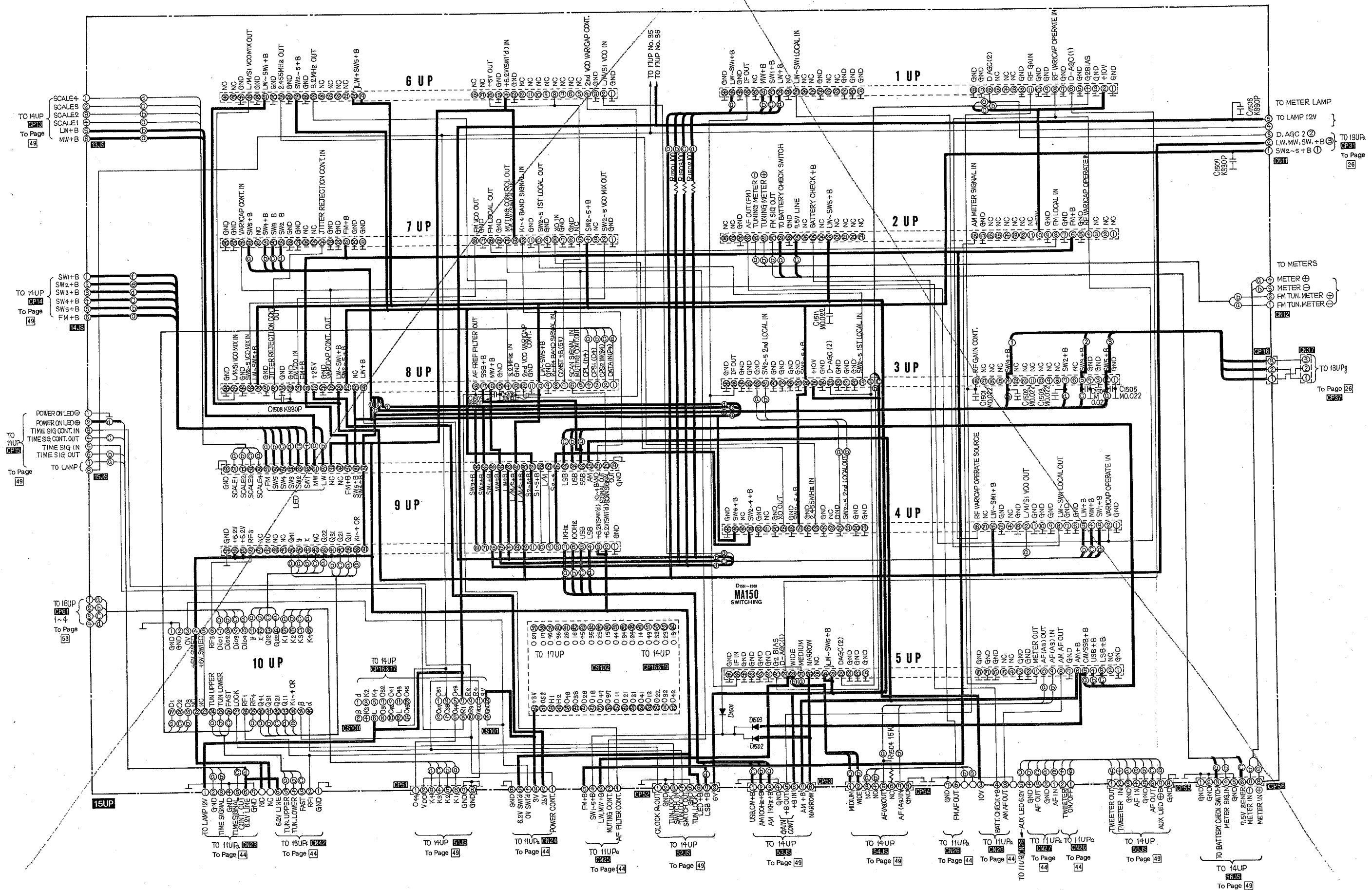
MW
C 5.1V
B 5.2V
E 5.2V



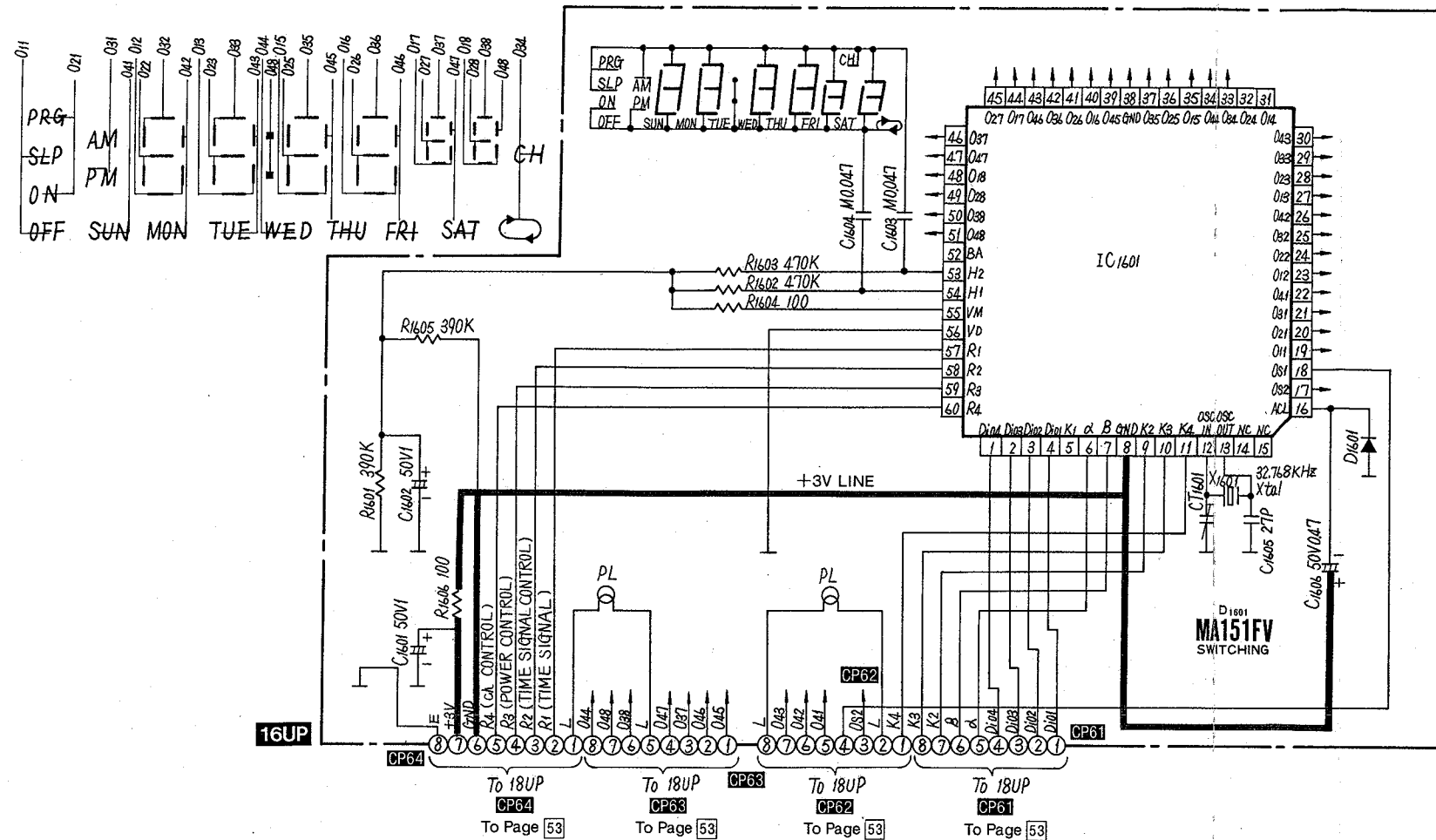
Anode

D801~818, 82
828, 831, 832

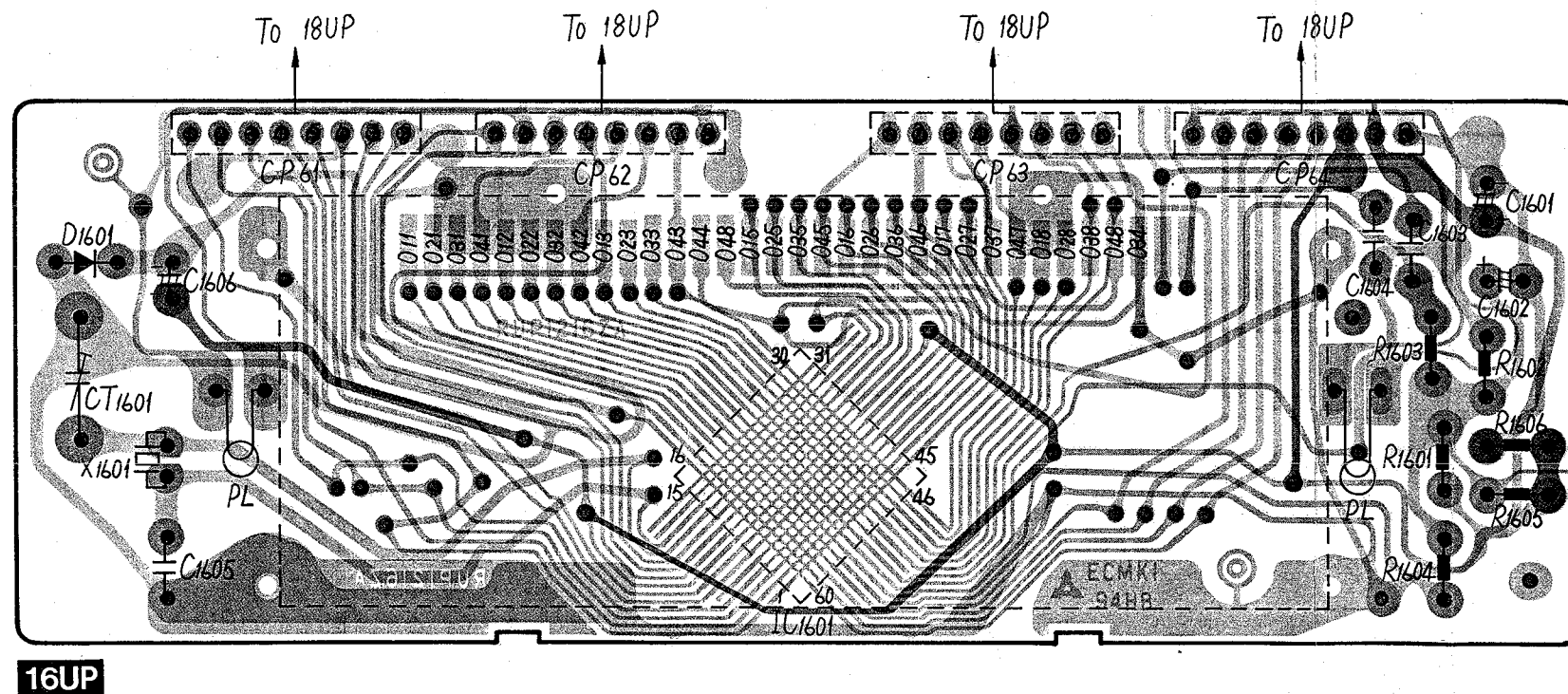
SCHEMATIC DIAGRAM (15 UP)... COMMON CIRCUIT



SCHEMATIC DIAGRAM (16 UP) ... CLOCK CIRCUIT

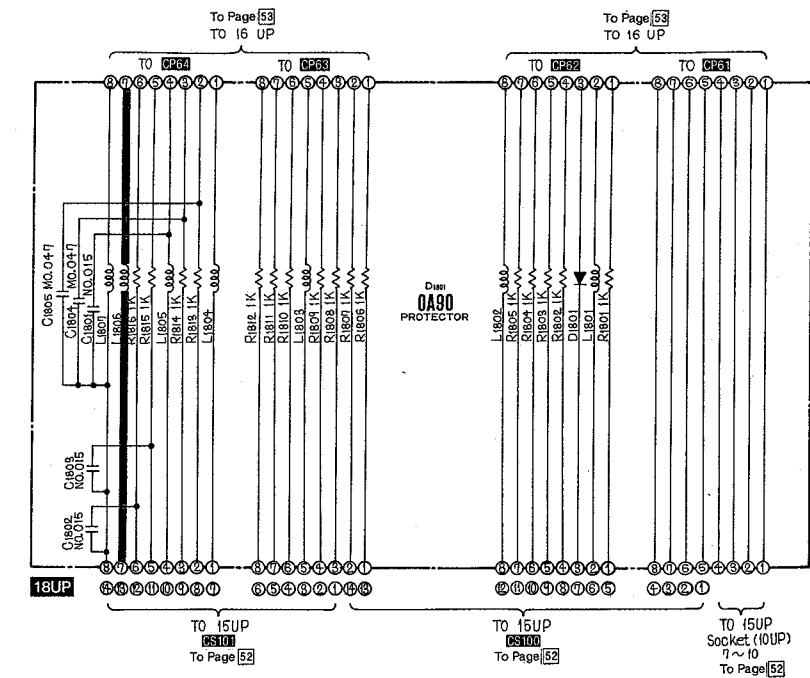


CIRCUIT BOARD WIRING VIEW (16 UP) ... CLOCK CIRCUIT

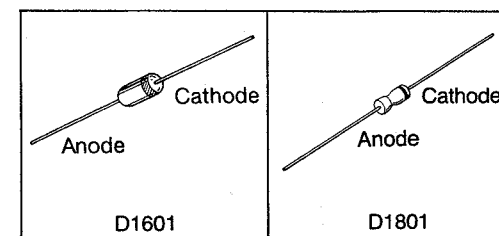
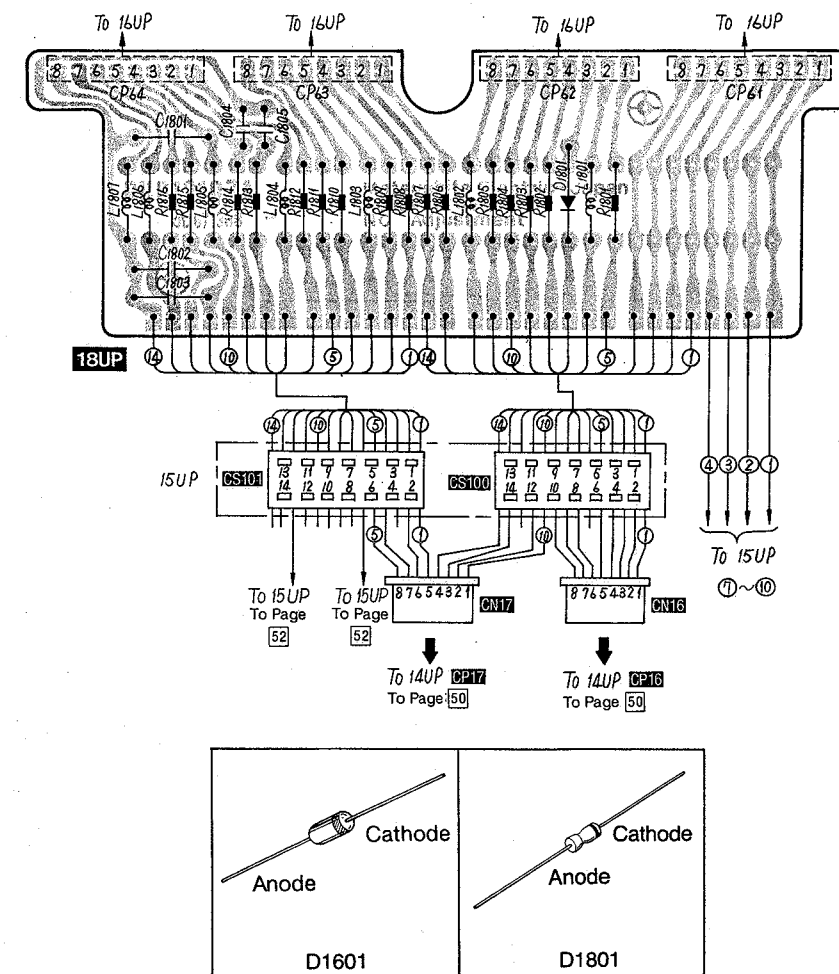


F13

SCHEMATIC DIAGRAM (18 UP) ... COMMON CIRCUIT

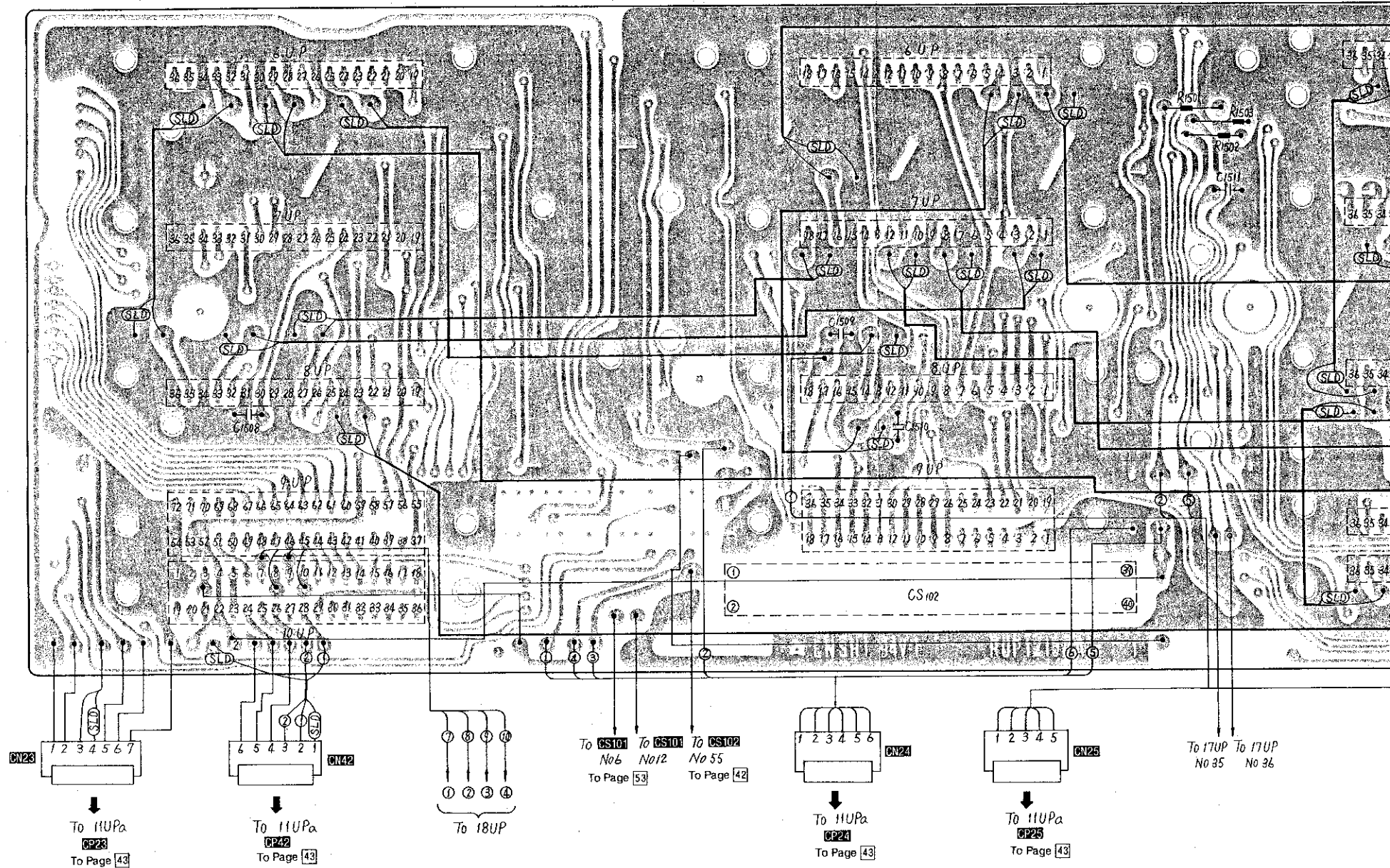


CIRCUIT BOARD WIRING VIEW (18 UP) ... COMMON CIRCUIT



F14

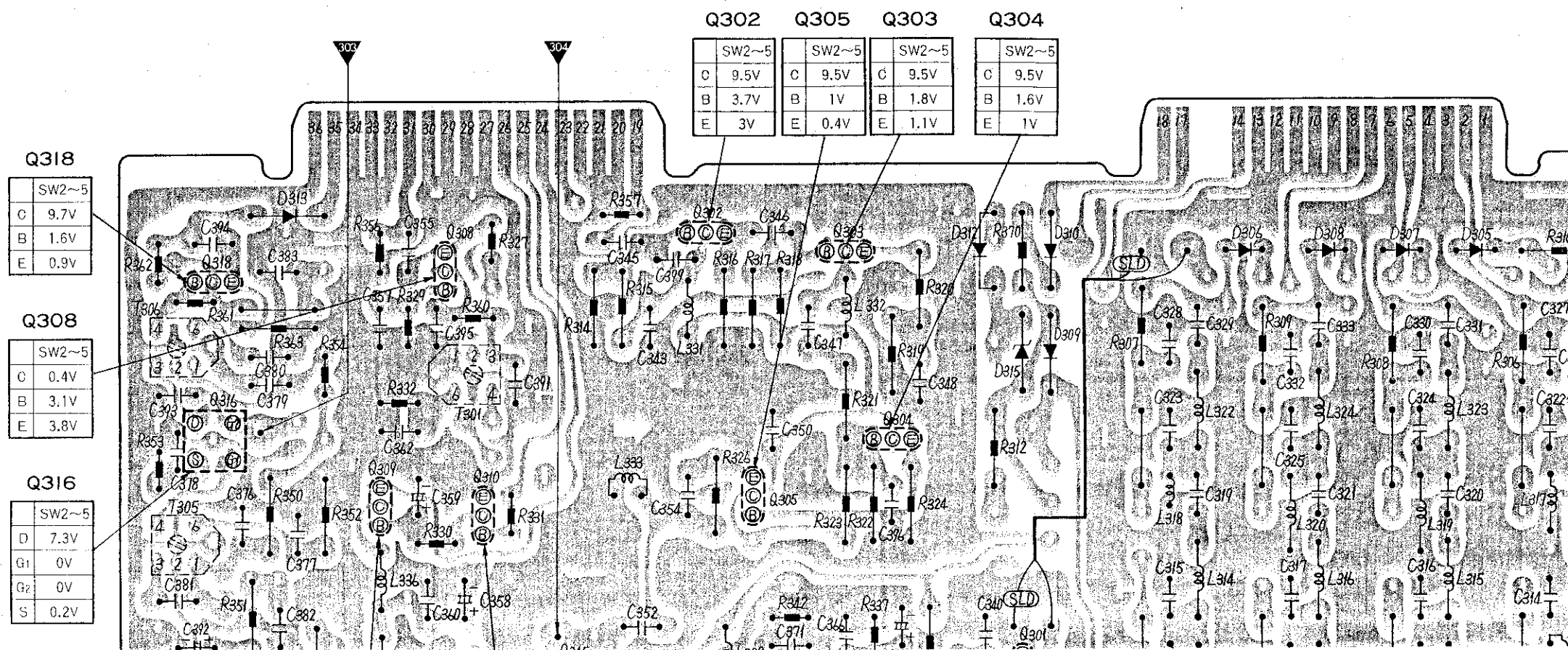
CIRCUIT BOARD WIRING VIEW



3 UP, 13 UPa, b

3 UP, 13 UPa, b

CIRCUIT BOARD WIRING VIEW (3 UP, 13 UPa



The diagram illustrates the PCB layout for a radio receiver, showing the placement of various components and their interconnections. The main board is populated with several integrated circuits (CP11, CP12, CP16, CP26, CP27), capacitors (C1501-C1505), resistors (R1504), and diodes (D1501, D1502, D1503). The layout is organized into sections for different functional blocks, with pin numbers and component values clearly marked.

Key components and connections include:

- CP11**: A multi-pin component at the top right, connected to **CN11** and **CN12**.
- CP12**: A multi-pin component below CP11, connected to **CN12** and **CN16**.
- CP16**: A multi-pin component at the bottom right, connected to **CN16** and **CN17**.
- CP26** and **CP27**: Multi-pin components at the bottom, connected to **CN26** and **CN27** respectively.
- CN11**: A multi-pin connector at the top right, connected to **CP11** and **CN12**.
- CN12**: A multi-pin connector below CN11, connected to **CP12** and **CN16**.
- CN16**: A multi-pin connector at the bottom right, connected to **CP16** and **CN17**.
- CN17**: A multi-pin connector below CN16, connected to **CP16** and **CN27**.
- CN26**: A multi-pin connector at the bottom left, connected to **CP26** and **CN27**.
- CN27**: A multi-pin connector at the bottom right, connected to **CP27** and **CN26**.

The layout also includes several test points labeled **SLD** and various capacitors (C1501-C1505) and resistors (R1504) used for signal conditioning and timing.

Connections to other boards are indicated at the bottom:

- To 11UPa**: Connected via **CP26** to **Page 43**.
- To 15UP**: Connected via **CP27** to **Page 43**.

Additional components and connections shown include:

- CP11** and **CP12** are connected to **CN11** and **CN12**.
- CP16** is connected to **CN16** and **CN17**.
- CP26** and **CP27** are connected to **CN26** and **CN27**.
- CN11** is connected to **CN12**.
- CN12** is connected to **CN16**.
- CN16** is connected to **CN17**.
- CN17** is connected to **CN27**.
- CN26** is connected to **CN27**.

The layout also includes several test points labeled **SLD** and various capacitors (C1501-C1505) and resistors (R1504) used for signal conditioning and timing.

Connections to other boards are indicated at the bottom:

- To 11UPa**: Connected via **CP26** to **Page 43**.
- To 15UP**: Connected via **CP27** to **Page 43**.

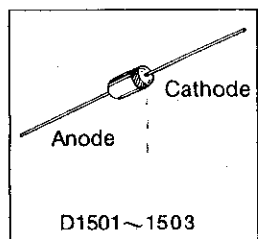
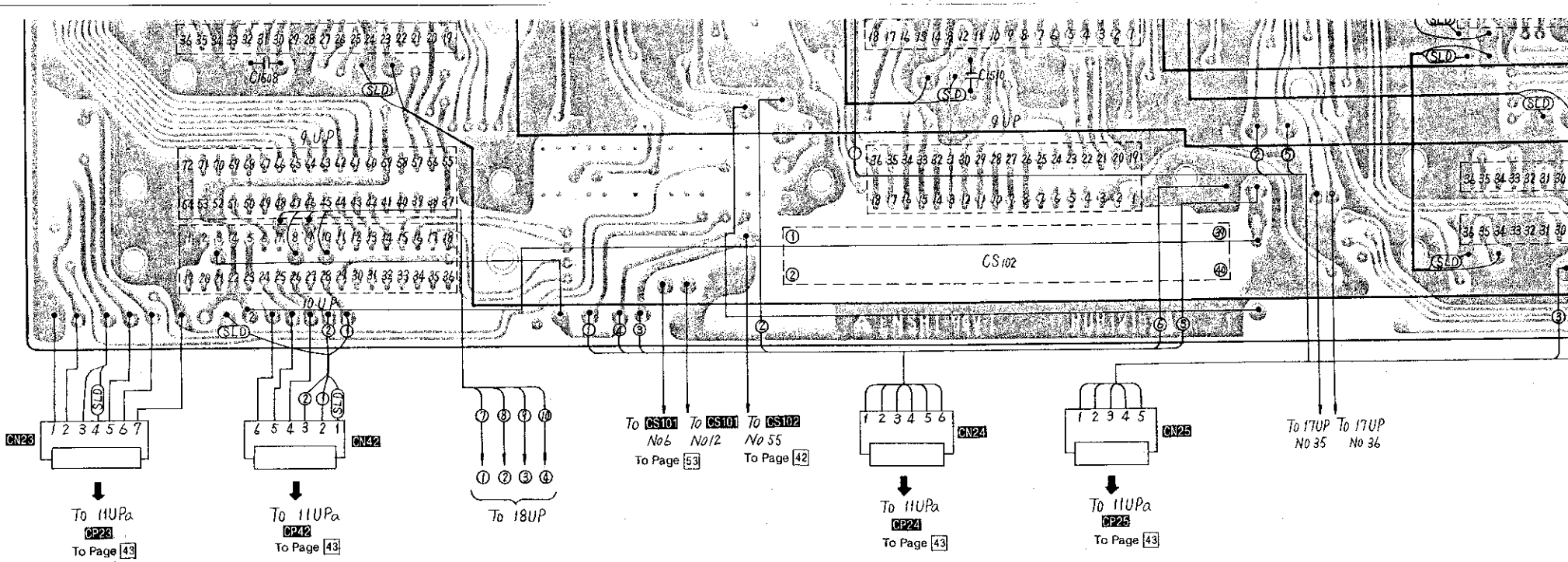
Additional components and connections shown include:

- CP11** and **CP12** are connected to **CN11** and **CN12**.
- CP16** is connected to **CN16** and **CN17**.
- CP26** and **CP27** are connected to **CN26** and **CN27**.
- CN11** is connected to **CN12**.
- CN12** is connected to **CN16**.
- CN16** is connected to **CN17**.
- CN17** is connected to **CN27**.
- CN26** is connected to **CN27**.

3 UP, 13 UPa, b

The diagram illustrates the internal circuitry of a radio receiver, showing the layout of components on a chassis. Key components and connections include:

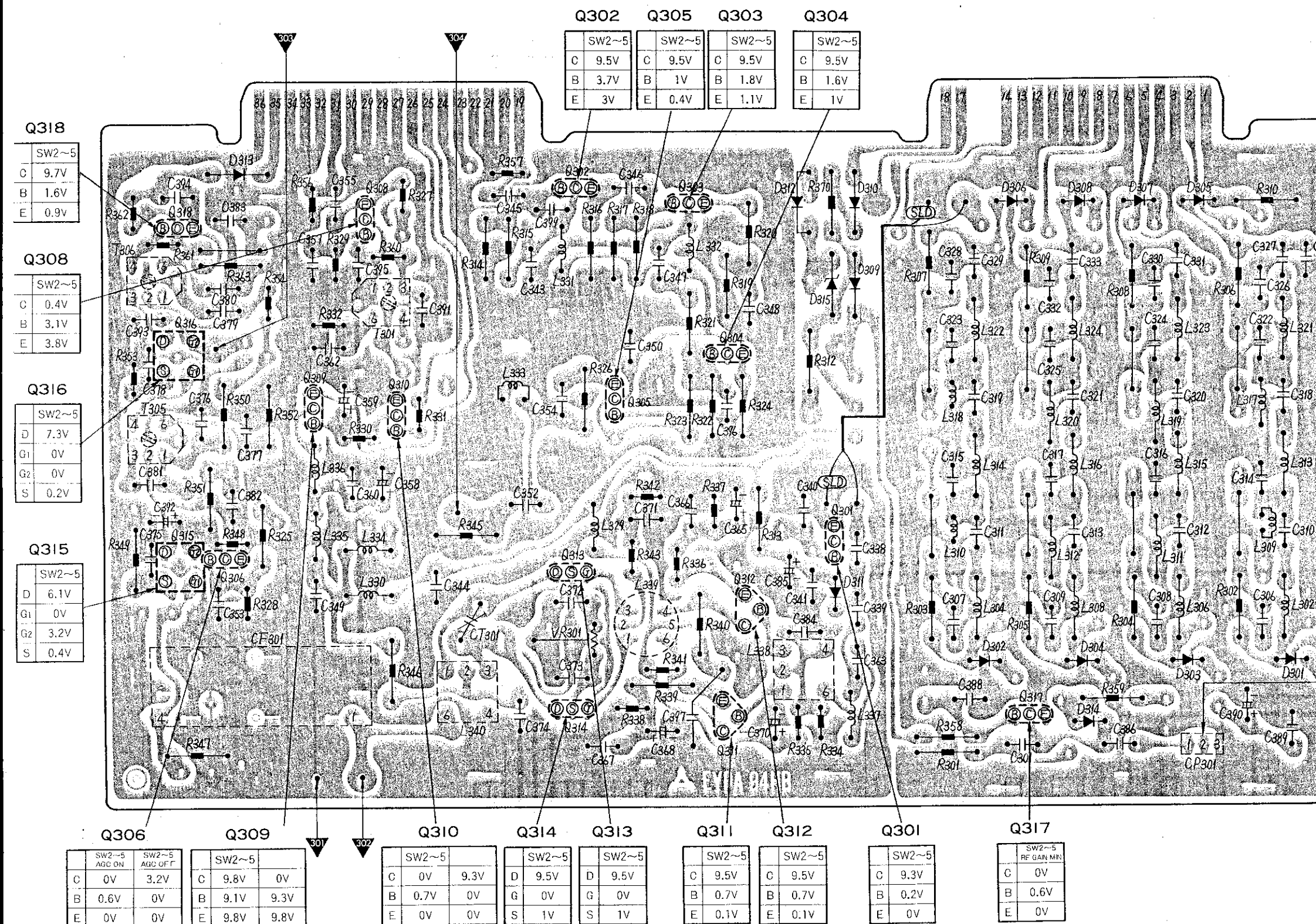
- Top Section (RYTPB 94HB / RUPAKIA):** Contains capacitors C1320, C1321, C1322, C1323, C1324, C1325, C1326, C1327, C1328, C1329, C1330, C1331, C1332, C1333, C1334, C1335, C1336, C1337, C1338, C1339, C1340, C1341, C1342, C1343, C1344, C1345, C1346, C1347, C1348, C1349, C1350, C1351, C1352, C1353, C1354, C1355, C1356, C1357, C1358, C1359, C1360, C1361, C1362, C1363, C1364, C1365, C1366, C1367, C1368, C1369, C1370, C1371, C1372, C1373, C1374, C1375, C1376, C1377, C1378, C1379, C1380, C1381, C1382, C1383, C1384, C1385, C1386, C1387, C1388, C1389, C1390, C1391, C1392, C1393, C1394, C1395, C1396, C1397, C1398, C1399, C1400, C1401, C1402, C1403, C1404, C1405, C1406, C1407, C1408, C1409, C1410, C1411, C1412, C1413, C1414, C1415, C1416, C1417, C1418, C1419, C1420, C1421, C1422, C1423, C1424, C1425, C1426, C1427, C1428, C1429, C1430, C1431, C1432, C1433, C1434, C1435, C1436, C1437, C1438, C1439, C1440, C1441, C1442, C1443, C1444, C1445, C1446, C1447, C1448, C1449, C1450, C1451, C1452, C1453, C1454, C1455, C1456, C1457, C1458, C1459, C1460, C1461, C1462, C1463, C1464, C1465, C1466, C1467, C1468, C1469, C1470, C1471, C1472, C1473, C1474, C1475, C1476, C1477, C1478, C1479, C1480, C1481, C1482, C1483, C1484, C1485, C1486, C1487, C1488, C1489, C1490, C1491, C1492, C1493, C1494, C1495, C1496, C1497, C1498, C1499, C1500, C1501, C1502, C1503, C1504, C1505, C1506, C1507, C1508, C1509, C1510, C1511, C1512, C1513, C1514, C1515, C1516, C1517, C1518, C1519, C1520, C1521, C1522, C1523, C1524, C1525, C1526, C1527, C1528, C1529, C1530, C1531, C1532, C1533, C1534, C1535, C1536, C1537, C1538, C1539, C1540, C1541, C1542, C1543, C1544, C1545, C1546, C1547, C1548, C1549, C1550, C1551, C1552, C1553, C1554, C1555, C1556, C1557, C1558, C1559, C1560, C1561, C1562, C1563, C1564, C1565, C1566, C1567, C1568, C1569, C1570, C1571, C1572, C1573, C1574, C1575, C1576, C1577, C1578, C1579, C1580, C1581, C1582, C1583, C1584, C1585, C1586, C1587, C1588, C1589, C1590, C1591, C1592, C1593, C1594, C1595, C1596, C1597, C1598, C1599, C1600, C1601, C1602, C1603, C1604, C1605, C1606, C1607, C1608, C1609, C1610, C1611, C1612, C1613, C1614, C1615, C1616, C1617, C1618, C1619, C1620, C1621, C1622, C1623, C1624, C1625, C1626, C1627, C1628, C1629, C1630, C1631, C1632, C1633, C1634, C1635, C1636, C1637, C1638, C1639, C1640, C1641, C1642, C1643, C1644, C1645, C1646, C1647, C1648, C1649, C1650, C1651, C1652, C1653, C1654, C1655, C1656, C1657, C1658, C1659, C1660, C1661, C1662, C1663, C1664, C1665, C1666, C1667, C1668, C1669, C1670, C1671, C1672, C1673, C1674, C1675, C1676, C1677, C1678, C1679, C1680, C1681, C1682, C1683, C1684, C1685, C1686, C1687, C1688, C1689, C1690, C1691, C1692, C1693, C1694, C1695, C1696, C1697, C1698, C1699, C1700, C1701, C1702, C1703, C1704, C1705, C1706, C1707, C1708, C1709, C1710, C1711, C1712, C1713, C1714, C1715, C1716, C1717, C1718, C1719, C1720, C1721, C1722, C1723, C1724, C1725, C1726, C1727, C1728, C1729, C1730, C1731, C1732, C1733, C1734, C1735, C1736, C1737, C1738, C1739, C1740, C1741, C1742, C1743, C1744, C1745, C1746, C1747, C1748, C1749, C1750, C1751, C1752, C1753, C1754, C1755, C1756, C1757, C1758, C1759, C1760, C1761, C1762, C1763, C1764, C1765, C1766, C1767, C1768, C1769, C1770, C1771, C1772, C1773, C1774, C1775, C1776, C1777, C1778, C1779, C1780, C1781, C1782, C1783, C1784, C1785, C1786, C1787, C1788, C1789, C1790, C1791, C1792, C1793, C1794, C1795, C1796, C1797, C1798, C1799, C1800, C1801, C1802, C1803, C1804, C1805, C1806, C1807, C1808, C1809, C1810, C1811, C1812, C1813, C1814, C1815, C1816, C1817, C1818, C1819, C1820, C1821, C1822, C1823, C1824, C1825, C1826, C1827, C1828, C1829, C1830, C1831, C1832, C1833, C1834, C1835, C1836, C1837, C1838, C1839, C1840, C1841, C1842, C1843, C1844, C1845, C1846, C1847, C1848, C1849, C1850, C1851, C1852, C1853, C1854, C1855, C1856, C1857, C1858, C1859, C1860, C1861, C1862, C1863, C1864, C1865, C1866, C1867, C1868, C1869, C1870, C1871, C1872, C1873, C1874, C1875, C1876, C1877, C1878, C1879, C1880, C1881, C1882, C1883, C1884, C1885, C1886, C1887, C1888, C1889, C1890, C1891, C1892, C1893, C1894, C1895, C1896, C1897, C1898, C1899, C1900, C1901, C1902, C1903, C1904, C1905, C1906, C1907, C1908, C1909, C1910, C1911, C1912, C1913, C1914, C1915, C1916, C1917, C1918, C1919, C1920, C1921, C1922, C1923, C1924, C1925, C1926, C1927, C1928, C1929, C1930, C1931, C1932, C1933, C1934, C1935, C1936, C1937, C1938, C1939, C1940, C1941, C1942, C1943, C1944, C1945, C1946, C1947, C1948, C1949, C1950, C1951, C1952, C1953, C1954, C1955, C1956, C1957, C1958, C1959

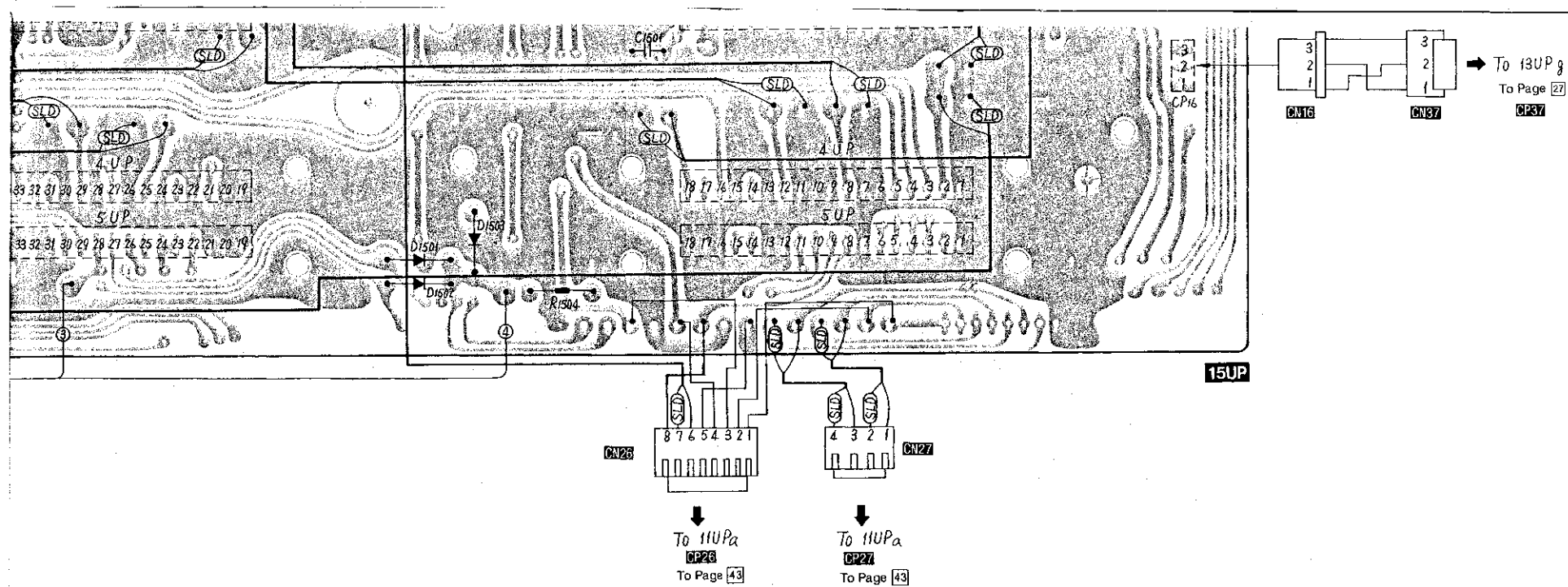


3 UP, 13 UPa, b

3 UP, 13 UPa, b

CIRCUIT BOARD WIRING VIEW (3 UP, 13 UPa, b)

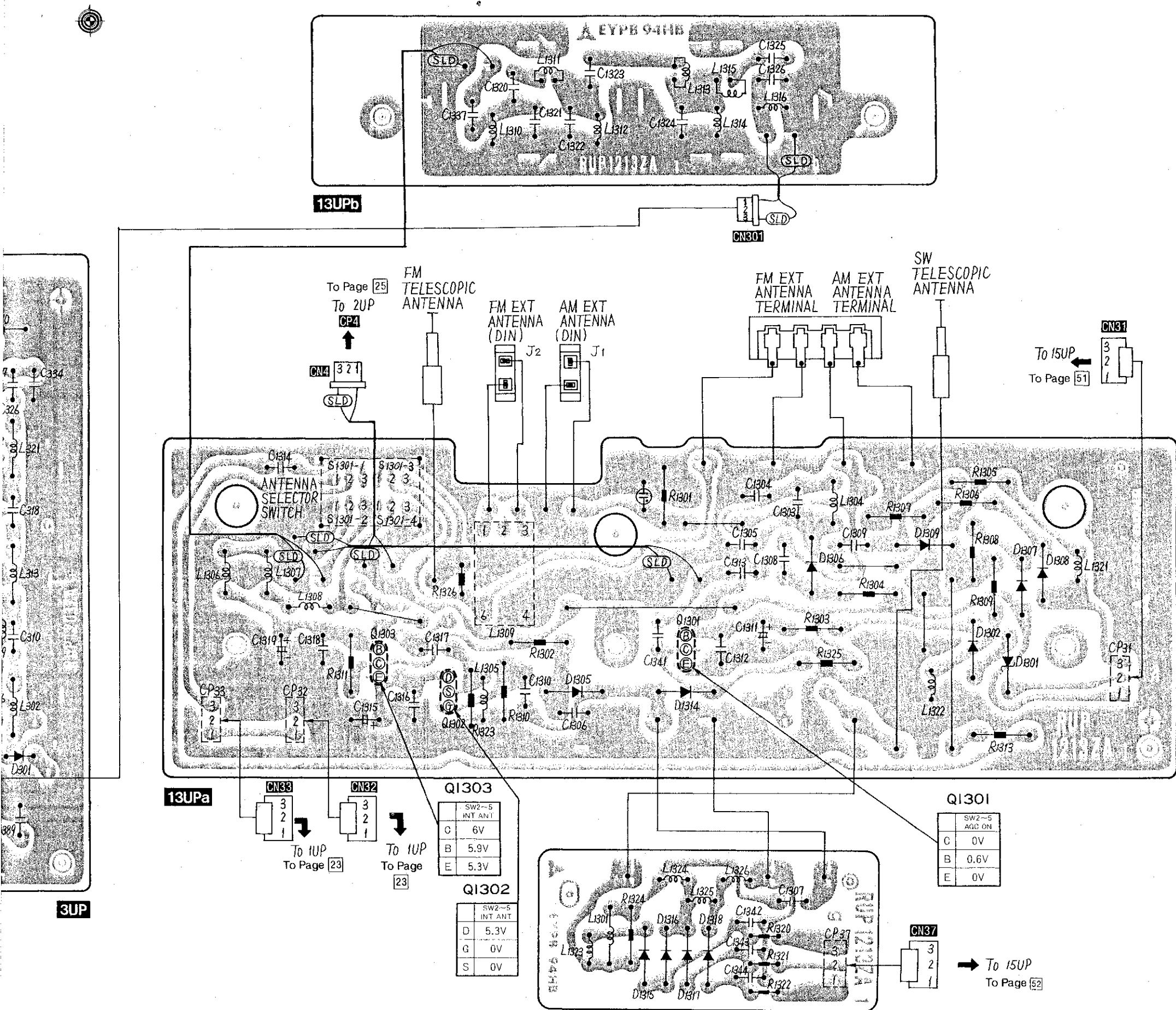




3 UP, 13 UPa, b

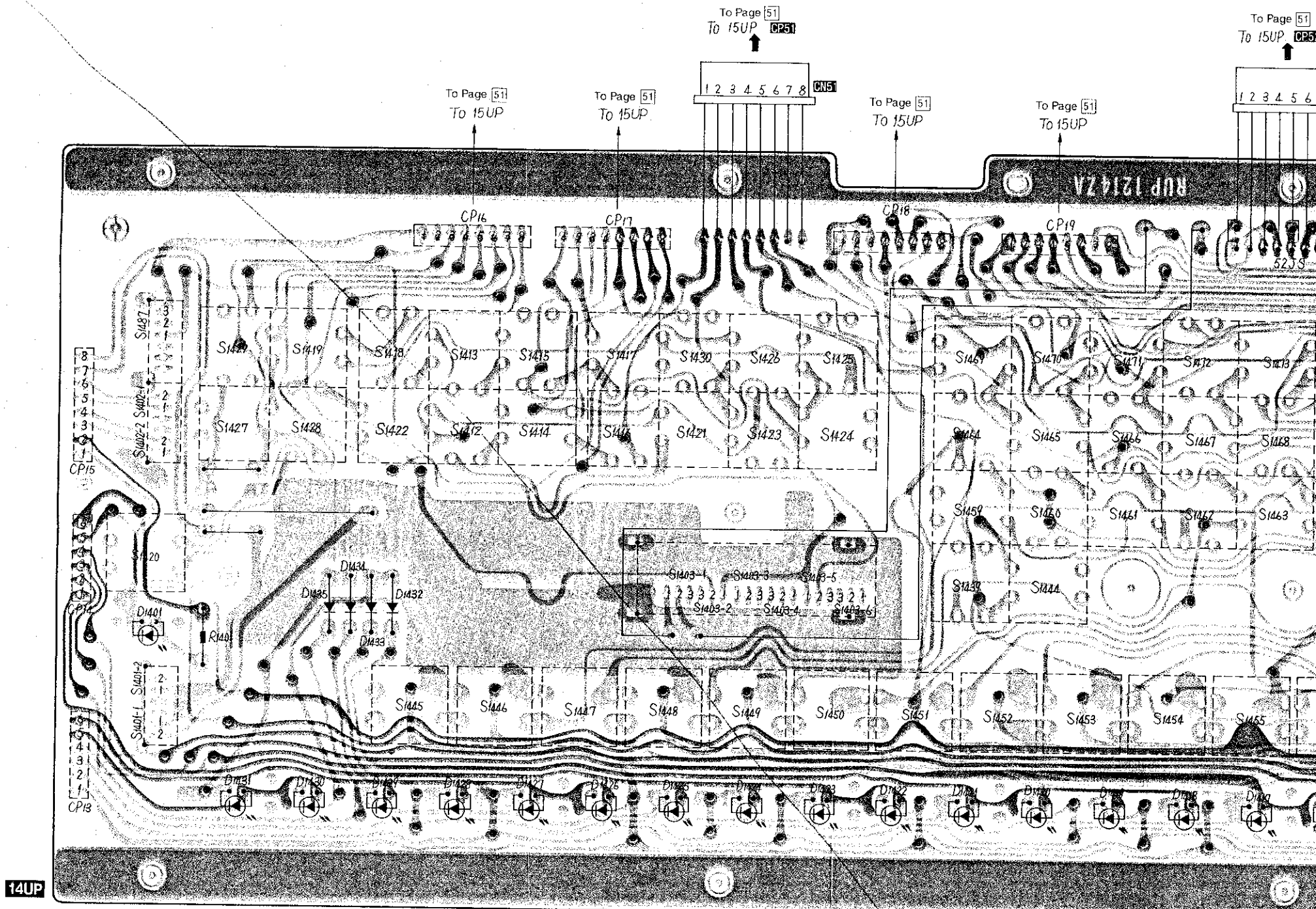
3 UP, 13 UPa, b

, b) ...SW2~5 BPF, RF—IF & ANTENNA CIRCUIT



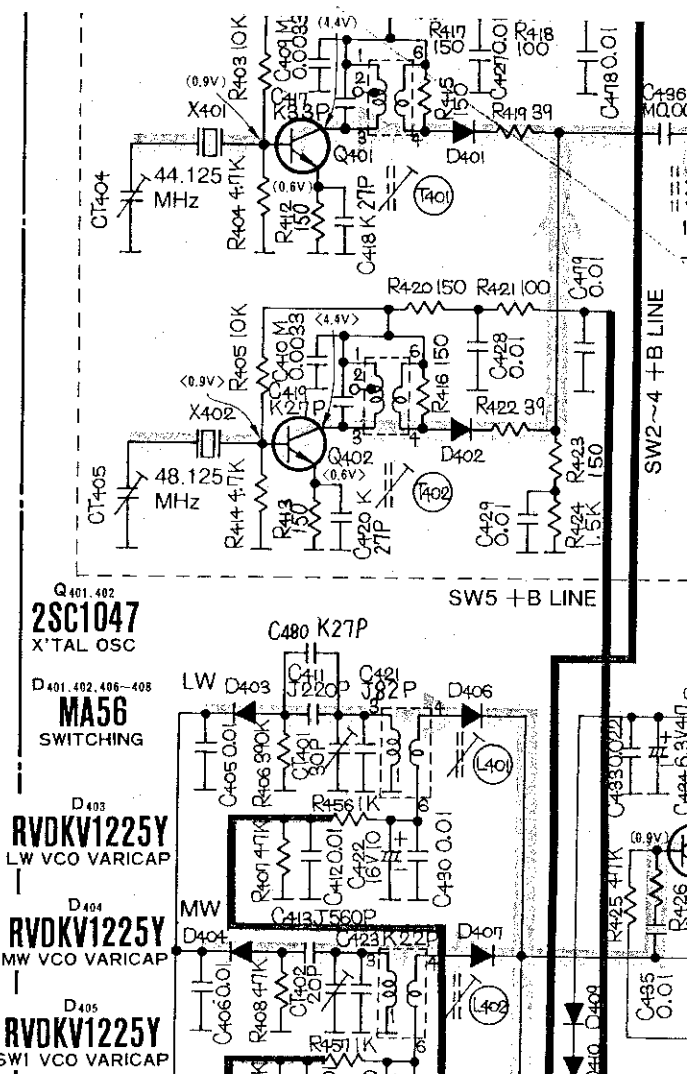
G3

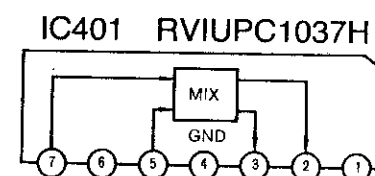
G4



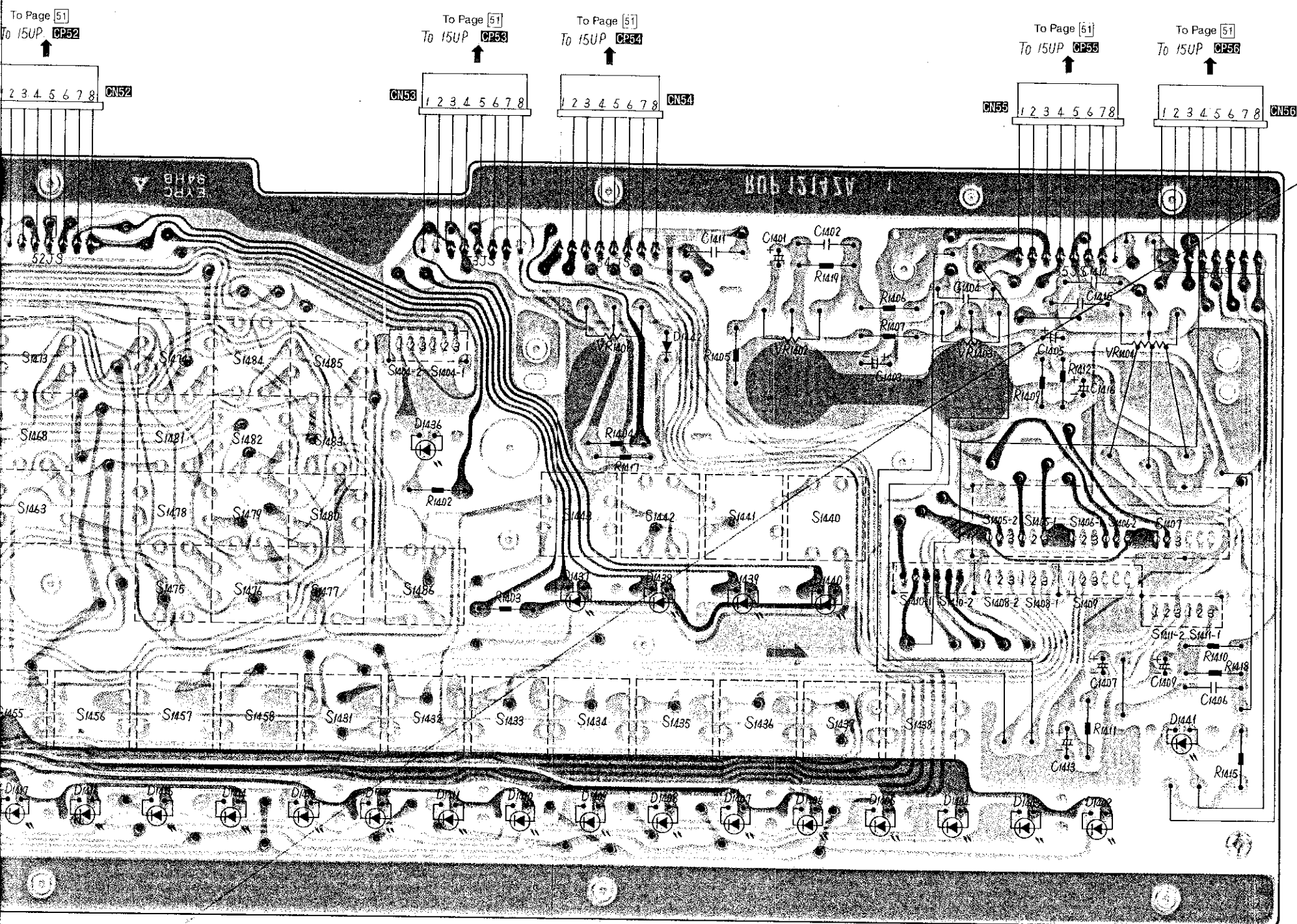
Remarques:

1. S1401: Commutateur marche/arrêt du l'éclairage en position "Arrêt".
2. S1402-1, S1402-2: Interrupteur de signal horaire.
3. S1403-1~S1403-2: Commutateur du sélecteur de programme en position "Manual" (manuel).
4. S1404-1, S1404-2: Interrupteur de blocage d'accord.
5. S1405-1, S1405-2: Interrupteur de bande AM étroite (Narrow).
6. S1406-1, S1406-2: Interrupteur de bande AM moyenne (MED).
7. S1407 : Interrupteur de bande AM large (Wide).
8. S1408-1, S1408-2: Commutateur d'écarter automatique de bruit (ANL).
9. S1409: Interrupteur de haut-parleur d'aigus (Tweeter).
10. S1410-1, S1410-2: Commutateur Signal/Battery en position "Battery" (piles).
11. S1411-1, S1411-2: Interrupteur de Loudness.
12. S1412: Réglage Mois/Heure: avance.
13. S1413: Réglage Mois/Heure: retour en arrière.
14. S1414: Réglage Minutes/Date: avance.
15. S1415: Réglage Minutes/Date: retour en arrière.
16. S1416: Interrupteur d'avance de l'affichage du canal.
17. S1417: Interrupteur de recul de l'affichage du canal.
18. S1418: Interrupteur 12/24 heures.
19. S1419: Commutateur "Sommeil".
20. S1420: Marche/arrêt.
21. S1421: Commutateur d'inversion de jour de programmation.
22. S1422: Interrupteur d'avance du jour de programmation (Day UP).
23. S1423: Interrupteur de mémoire journalière.
24. S1424: Interrupteur de contrôle de mémoire de programmation.
25. S1425: Commutateur de programmeur ON/OFF.
26. S1426: Interrupteur d'effacement de mémoire de programmation.
27. S1427: Interrupteur d'affichage Mois/Date.
28. S1428: Interrupteur d'affichage de l'heure sur un autre fuseau horaire.
29. S1429: Interrupteur d'affichage de l'heure.
30. S1430: Commutateur de programmation unique.
31. S1431: Touche de syntonisation automatique sur 15,3 MHz.
32. S1432: Touche de syntonisation automatique sur 17,8 MHz.
33. S1433: Touche de syntonisation automatique sur 21,2 MHz.
34. S1434: Touche de syntonisation automatique sur 21,6 MHz.
35. S1435: Touche de syntonisation automatique sur 25,9 MHz.
36. S1436: Touche de syntonisation automatique sur 28,5 MHz.
37. S1437: Touche de syntonisation automatique sur 95 MHz.
38. S1438: Touche de syntonisation automatique sur 101 MHz.
39. S1439: Interrupteur de lecture de mémoire et arrêt sur mémoire.
40. S1440: Interrupteur de fréquence AM pas à pas 1/5 kHz.
41. S1441: Interrupteur de fréquence AM pas à pas 100/500 Hz.
42. S1442: Interrupteur de fréquence USB/CW pas à pas 100/500 Hz.
43. S1443: Interrupteur de fréquence LSB/CW pas à pas 100/500 Hz.
44. S1444: Interrupteur de mémoire.
45. S1445: Touche de syntonisation automatique sur 0,2 MHz.
46. S1446: Touche de syntonisation automatique sur 0,8 MHz.
47. S1447: Touche de syntonisation automatique sur 1,3 MHz.
48. S1448: Touche de syntonisation automatique sur 1,9 MHz.
49. S1449: Touche de syntonisation automatique sur 2,4 MHz.





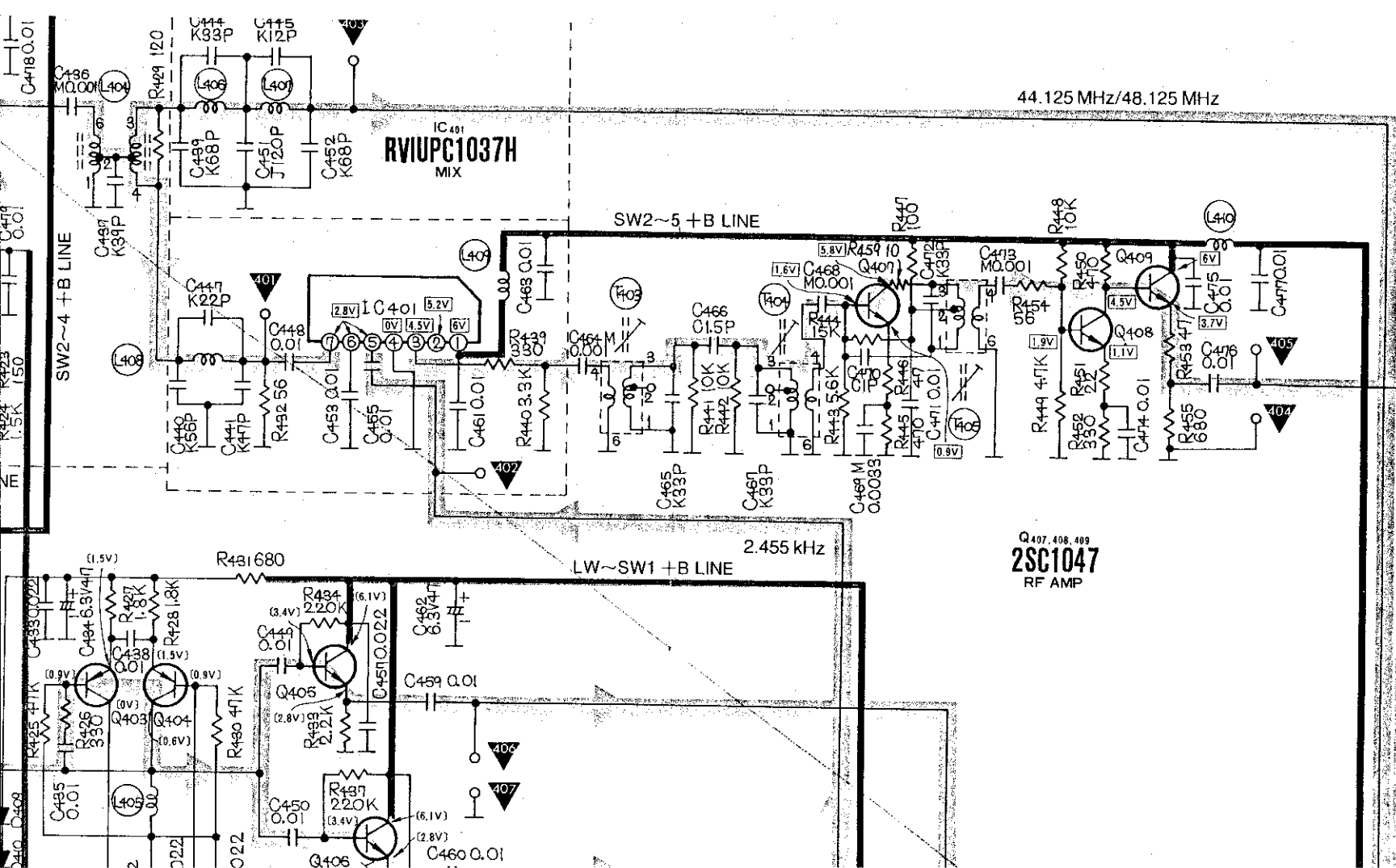
VIEW (14 UP)... KEY BOARD CIRCUIT



50. S1450: Touche de syntonisation automatique sur 3,3 MHz.
 51. S1451: Touche de syntonisation automatique sur 3,5 MHz.
 52. S1452: Touche de syntonisation automatique sur 4,0 MHz.
 53. S1453: Touche de syntonisation automatique sur 4,9 MHz.
 54. S1454: Touche de syntonisation automatique sur 6,1 MHz.
 55. S1455: Touche de syntonisation automatique sur 7,1 MHz.
 56. S1456: Touche de syntonisation automatique sur 9,6 MHz.
 57. S1457: Touche de syntonisation automatique sur 11,8 MHz.
 58. S1458: Touche de syntonisation automatique sur 14,2 MHz.
 59. S1459: Commutateur de présélection de syntonisation du canal 1.
 60. S1460: Commutateur de présélection de syntonisation du canal 2.
 61. S1461: Commutateur de présélection de syntonisation du canal 3.
 62. S1462: Commutateur de présélection de syntonisation du canal 4.
 63. S1463: Commutateur de présélection de syntonisation du canal 5.

64. S1464: Commutateur de présélection de syntonisation du canal 6.
 65. S1465: Commutateur de présélection de syntonisation du canal 7.
 66. S1466: Commutateur de présélection de syntonisation du canal 8.
 67. S1467: Commutateur de présélection de syntonisation du canal 9.
 68. S1468: Commutateur de présélection de syntonisation du canal 10.
 69. S1469: Commutateur de présélection de syntonisation du canal 11.
 70. S1470: Commutateur de présélection de syntonisation du canal 12.
 71. S1471: Commutateur de présélection de syntonisation du canal 13.
 72. S1472: Commutateur de présélection de syntonisation du canal 14.

73. S1473: Commutateur de présélection de syntonisation du canal 15.
 74. S1474: Touche de syntonisation directe 0.
 75. S1475: Touche de syntonisation directe 1.
 76. S1476: Touche de syntonisation directe 2.
 77. S1477: Touche de syntonisation directe 3.
 78. S1478: Touche de syntonisation directe 4.
 79. S1479: Touche de syntonisation directe 5.
 80. S1480: Touche de syntonisation directe 6.
 81. S1481: Touche de syntonisation directe 7.
 82. S1482: Touche de syntonisation directe 8.
 83. S1483: Touche de syntonisation directe 9.
 84. S1484: Touche de syntonisation directe 0.
 85. S1485: Touche de fin de syntonisation directe.
 86. S1486: Touche de début de syntonisation directe.
 87. S1487: Interrupteur de réglage de l'horloge.
 88. VR1401... Contrôle de gain, VR1402... Bass control, VR1403... Treble control, VR1404... Volume control.



electronics voltmeter from negative re
 of battery.

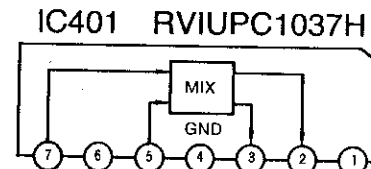
- SW2~SW5 position,
 SW2~SW4 position,
 SW5 position,
 LW, MW, SW1 position.

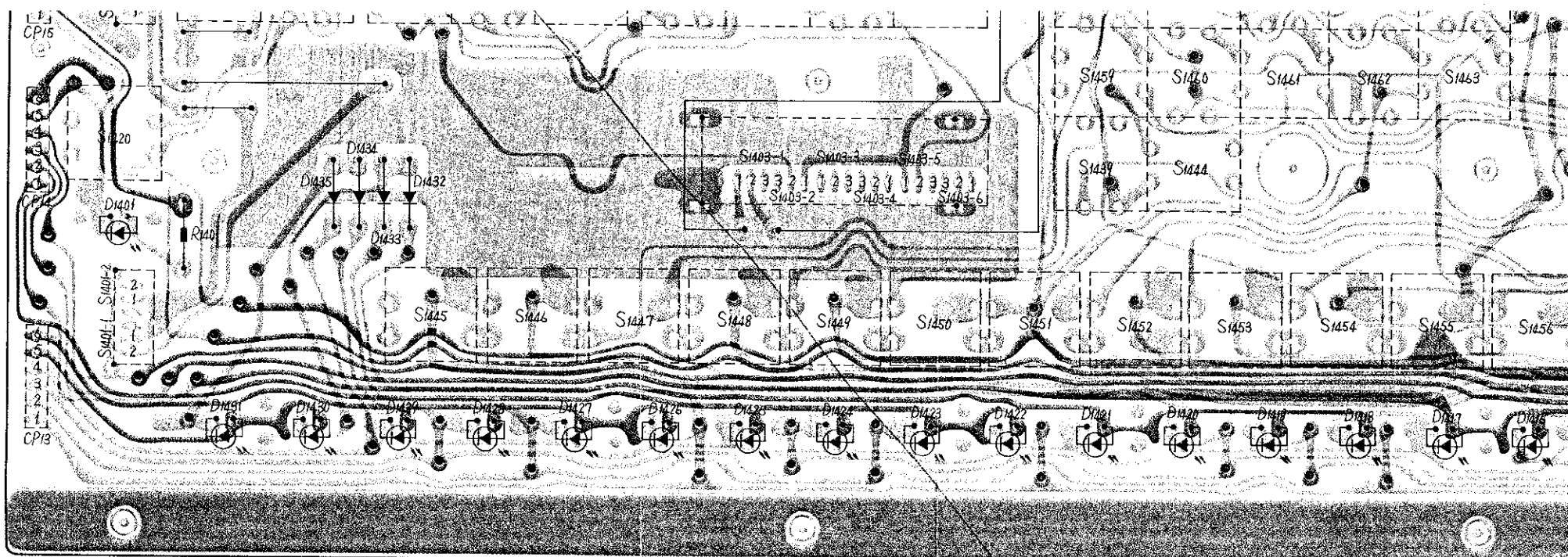
Bemerkungen:

1. Die Markierung (▼) bezeichnet
 Meßpunkt, z.B.: ▼ = Meßpunkt 1.
 2. Alle Gleichspannungen sind mit
 Elektronikvoltmeter vom negativen Ba
 anschluß aus zu messen.
 Stellung „KW2~KW5“,
 Stellung „KW2~KW4“,
 Stellung „KW5“,
 Stellung „LW, MW, KW 1“.

Remarques:

1. La marque (▼) signale un poi
 vérification. EX.: ▼ = point de vérificati
 2. La tension c.c. est mesurée au moyer
 voltmètre électronique à partir de la
 négative de la pile.
 Position OC2~OC5,
 Position OC2~OC4,
 Position OC5,
 Position GO, PO, OC1.



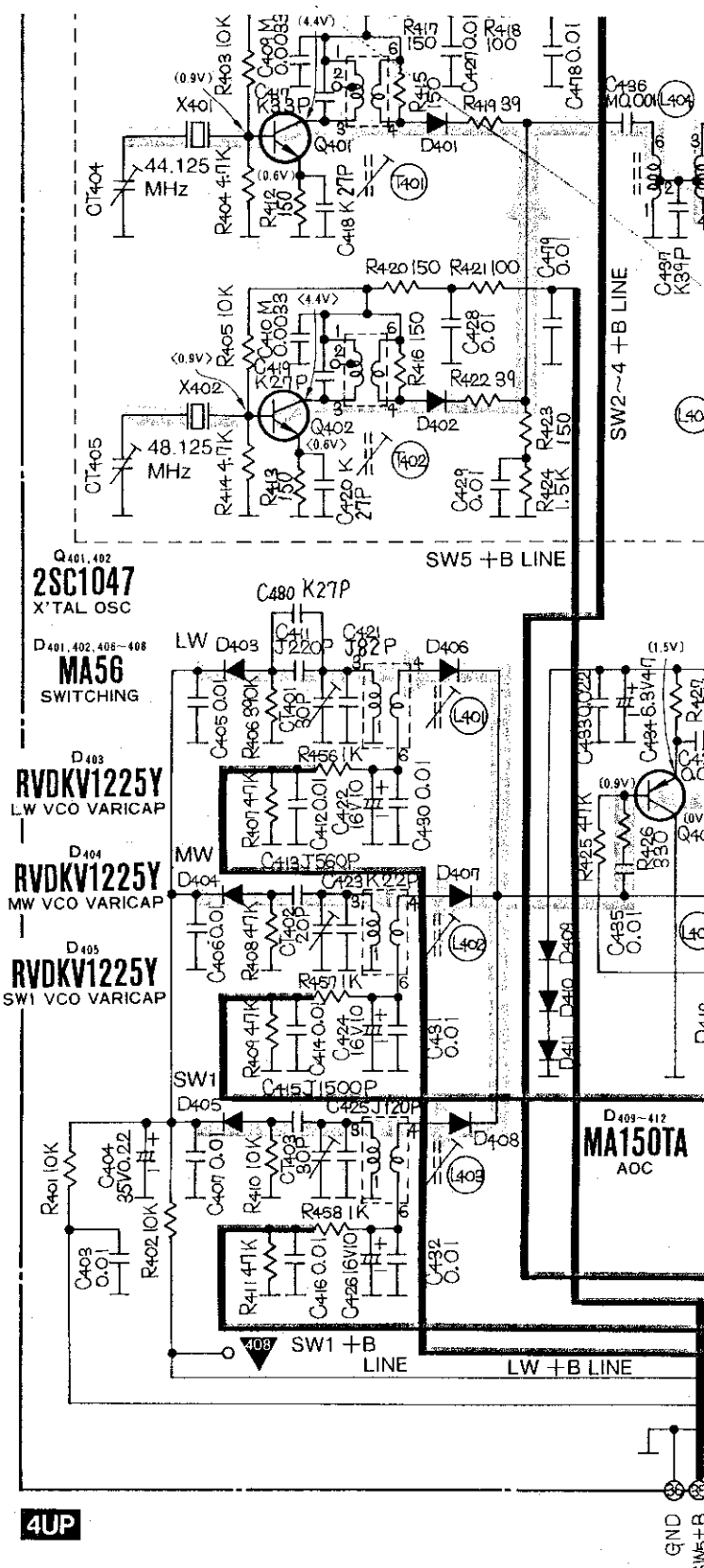


14UP

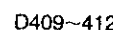
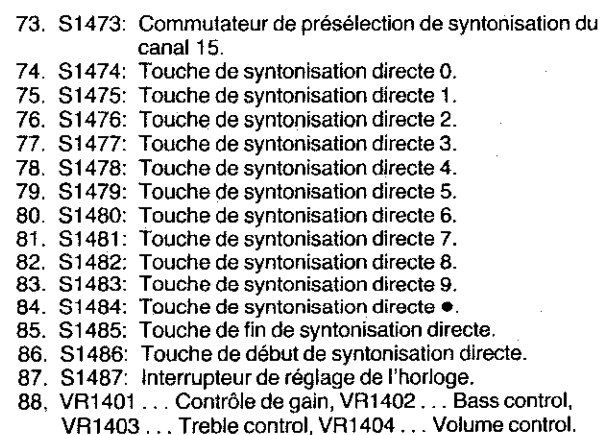
Remarques:

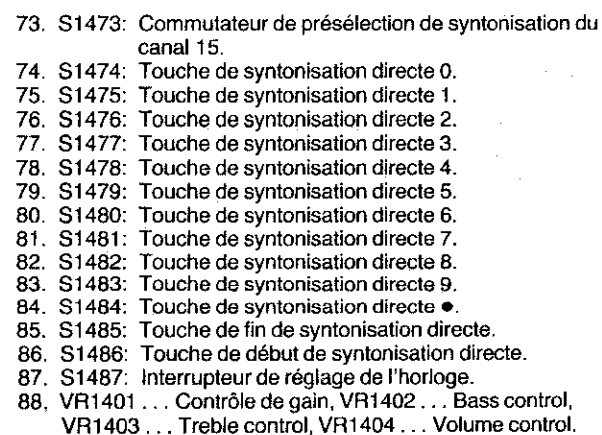
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2. S1402-1, S1402-2: Interrupteur de signal horaire.
3. S1403-1~S1403-2: Commutateur du sélecteur de programme en position "Manual" (manuel).
4. S1404-1, S1404-2: Interrupteur de blocage d'accord.
5. S1405-1, S1405-2: Interrupteur de bande AM étroite (Narrow).
6. S1406-1, S1406-2: Interrupteur de bande AM moyenne (MED).
7. S1407 : Interrupteur de bande AM large (Wide).
8. S1408-1, S1408-2: Commutateur d'écarter automatique de bruit (ANL).
9. S1409: Interrupteur de haut-parleur d'aigus (Tweeter).
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12. S1412: Réglage Mois/Heure: avance.
13. S1413: Réglage Mois/Heure: retour en arrière.
14. S1414: Réglage Minutes/Date: avance.
15. S1415: Réglage Minutes/Date: retour en arrière.
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21. S1421: Commutateur d'inversion de jour de programmation.
22. S1422: Interrupteur d'avance du jour de programmation (Day UP).
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25. S1425: Commutateur de programmeur ON/OFF.
26. S1426: Interrupteur d'effacement de mémoire de programmation.
27. S1427: Interrupteur d'affichage Mois/Date.
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47. S1447: Touche de syntonisation automatique sur 1,3 MHz.
48. S1448: Touche de syntonisation automatique sur 1,9 MHz.
49. S1449: Touche de syntonisation automatique sur 2,4 MHz.

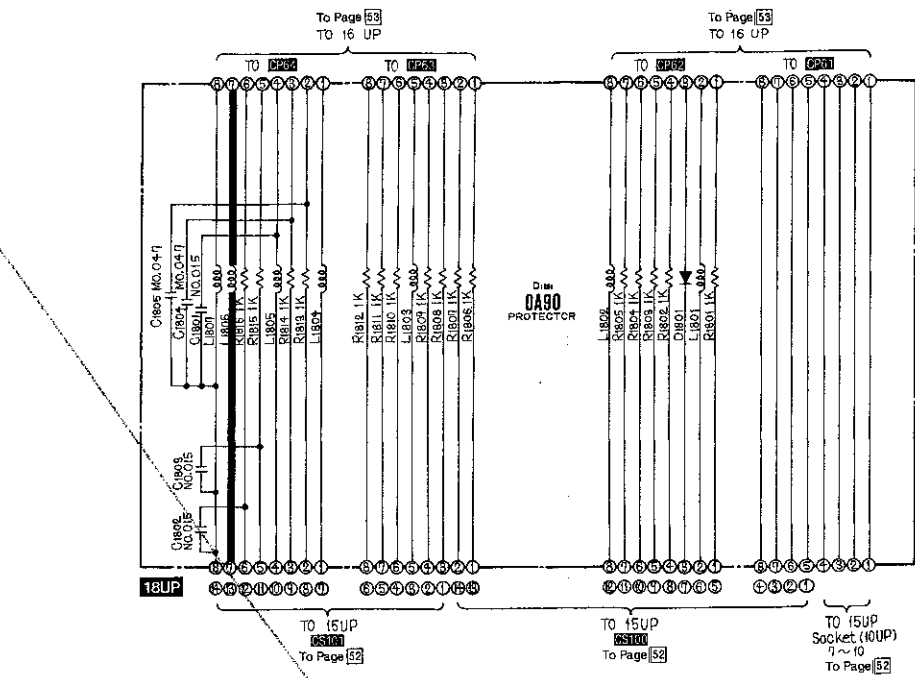


4UP

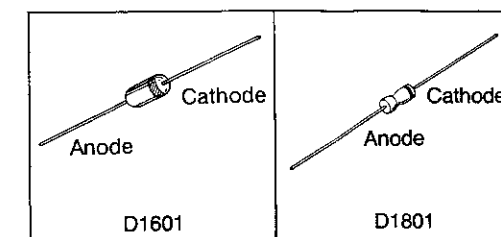
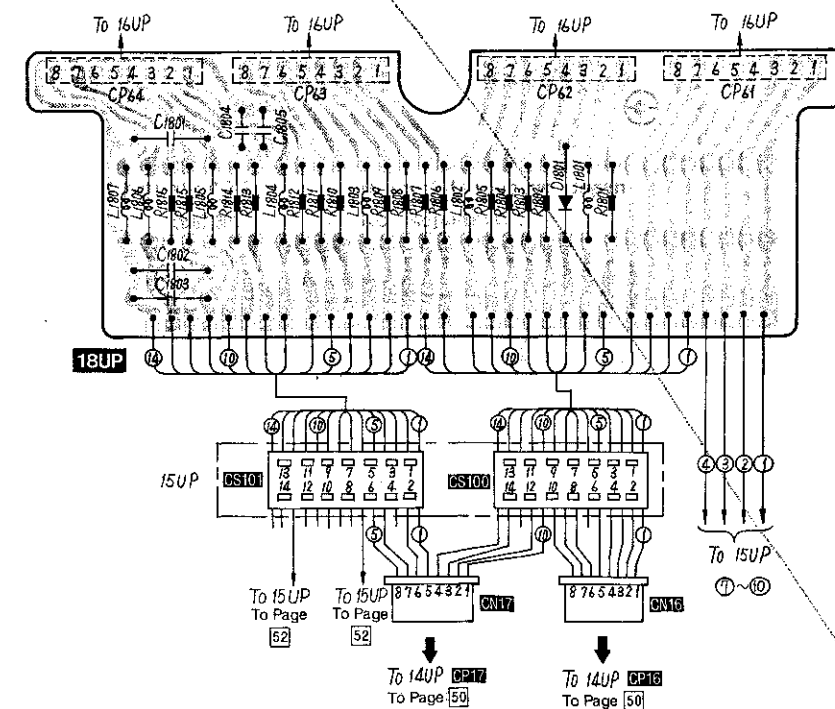




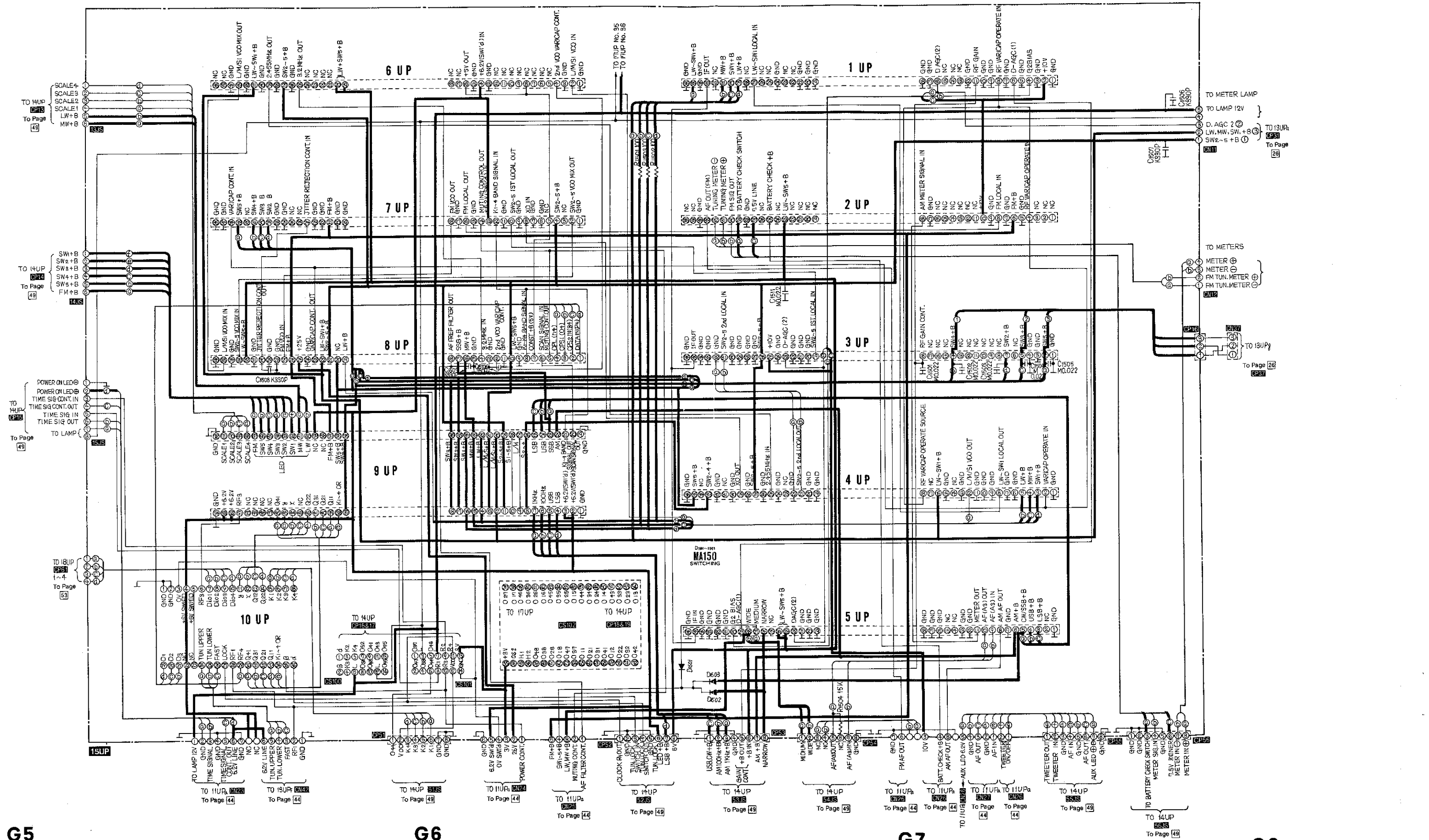
SCHEMATIC DIAGRAM (18 UP) . . . COMMON CIRCUIT



CIRCUIT BOARD WIRING VIEW (16 UP) ... CLOCK CIRCUIT



SCHEMATIC DIAGRAM (15 UP)... COMMON CIRCUIT

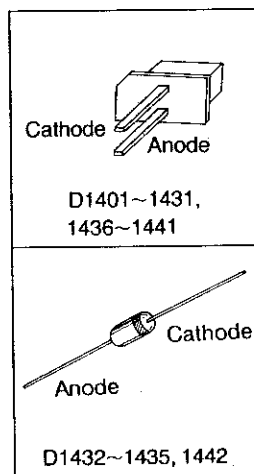


Notes:

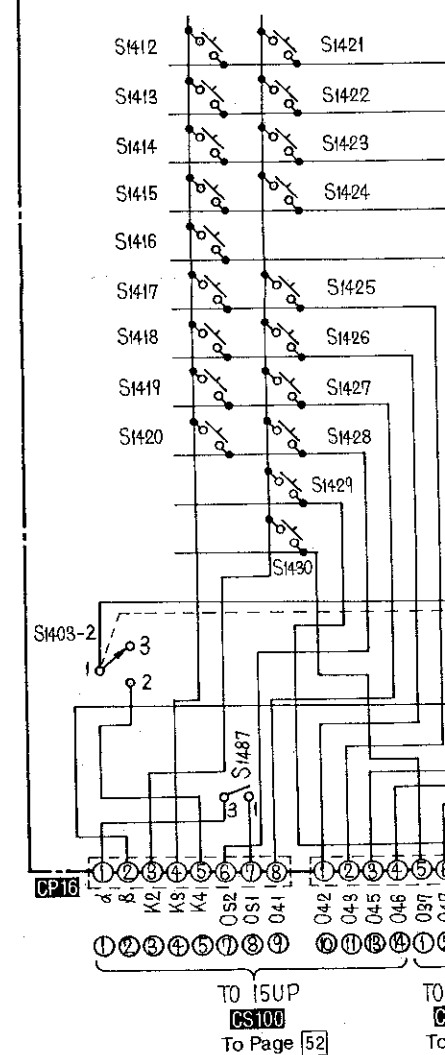
1. S1401: Light switch in "OFF" position.
2. S1402-1, S1402-2: Time signal switch.
3. S1403-1, S1403-2: Program selector switch in "Manual" position.
4. S1404-1, S1404-2: Tuning lock switch.
5. S1405-1, S1405-2: AM band width narrow switch.
6. S1406-1, S1406-2: AM band width MED switch.
7. S1407: AM band width wide switch.
8. S1408-1, S1408-2: ANL switch.
9. S1409: Tweeter switch.
10. S1410-1, S1410-2: Signal/Battery switch in "Battery" position.
11. S1411-1, S1411-2: Loudness switch.
12. S1412: HR./MO. up switch.
13. S1413: HR./MO. down switch.
14. S1414: MIN./DATE up switch.
15. S1415: MIN./DATE down switch.
16. S1416: Channel up switch.
17. S1417: Channel down switch.
18. S1418: 12/24 HR. switch.
19. S1419: Sleep switch.
20. S1420: Power switch.
21. S1421: Day reciprocal switch.
22. S1422: Day up switch.
23. S1423: Day Memory switch.
24. S1424: Program review switch.
25. S1425: ON/OFF time switch.
26. S1426: Program CLR switch.
27. S1427: Time display switch.
28. S1428: Dual time switch.
29. S1429: MO./DATE display switch.
30. S1430: One time switch.
31. S1431: Direct touch tuning 15.3 MHz switch.
32. S1432: Direct touch tuning 17.8 MHz switch.
33. S1433: Direct touch tuning 21.2 MHz switch.
34. S1434: Direct touch tuning 21.6 MHz switch.
35. S1435: Direct touch tuning 25.9 MHz switch.
36. S1436: Direct touch tuning 28.5 MHz switch.
37. S1437: Direct touch tuning 95 MHz switch.
38. S1438: Direct touch tuning 101 MHz switch.
39. S1439: Scan/Stop switch.
40. S1440: Frequency step AM 1/5 kHz switch.
41. S1441: Frequency step AM 100/500 Hz switch.
42. S1442: Frequency step USB/CW 100/500 Hz switch.
43. S1443: Frequency step LSB/CW 100/500 Hz switch.
44. S1444: Memory switch.
45. S1445: Direct touch tuning 0.2 MHz switch.
46. S1446: Direct touch tuning 0.8 MHz switch.
47. S1447: Direct touch tuning 1.3 MHz switch.
48. S1448: Direct touch tuning 1.9 MHz switch.
49. S1449: Direct touch tuning 2.4 MHz switch.
50. S1450: Direct touch tuning 3.3 MHz switch.
51. S1451: Direct touch tuning 3.5 MHz switch.
52. S1452: Direct touch tuning 4.0 MHz switch.
53. S1453: Direct touch tuning 4.9 MHz switch.
54. S1454: Direct touch tuning 6.1 MHz switch.
55. S1455: Direct touch tuning 7.1 MHz switch.
56. S1456: Direct touch tuning 9.6 MHz switch.
57. S1457: Direct touch tuning 11.8 MHz switch.
58. S1458: Direct touch tuning 14.2 MHz switch.
59. S1459: Preset tuning CH1 switch.
60. S1460: Preset tuning CH2 switch.
61. S1461: Preset tuning CH3 switch.
62. S1462: Preset tuning CH4 switch.
63. S1463: Preset tuning CH5 switch.
64. S1464: Preset tuning CH6 switch.
65. S1465: Preset tuning CH7 switch.
66. S1466: Preset tuning CH8 switch.
67. S1467: Preset tuning CH9 switch.
68. S1468: Preset tuning CH10 switch.
69. S1469: Preset tuning CH11 switch.
70. S1470: Preset tuning CH12 switch.
71. S1471: Preset tuning CH13 switch.
72. S1472: Preset tuning CH14 switch.
73. S1473: Preset tuning CH15 switch.
74. S1474: Direct-Access tuning 0 switch.
75. S1475: Direct-Access tuning 1 switch.
76. S1476: Direct-Access tuning 2 switch.
77. S1477: Direct-Access tuning 3 switch.
78. S1478: Direct-Access tuning 4 switch.
79. S1479: Direct-Access tuning 5 switch.
80. S1480: Direct-Access tuning 6 switch.
81. S1481: Direct-Access tuning 7 switch.
82. S1482: Direct-Access tuning 8 switch.
83. S1483: Direct-Access tuning 9 switch.
84. S1484: Direct-Access tuning SET switch.
85. S1485: Direct-Access tuning SET switch.
86. S1486: Direct-Access tuning Frequency switch.
87. S1487: Clock adjust switch.
88. VR1401 ... Gain control, VR1402 ... Bass control, VR1403 ... Treble control, VR1404 ... Volume control.

Bemerkungen:

1. S1401: Lichtschalter auf „AUS“.
2. S1402-1, S1402-2: Zeitsignal-Schalter.
3. S1403-1, S1403-2: Betriebsartenschalter auf „manuell“.
4. S1404-1, S1404-2: Scharfstellumschalter.
5. S1405-1, S1405-2: AM-Bandbreitenschalter NARROW.
6. S1406-1, S1406-2: AM-Bandbreitenschalter MED.
7. S1407: AM-Bandbreitenschalter WIDE.
8. S1408-1, S1408-2: Geräuschunterdrückungsschalter.
9. S1409: Hochtönerschalter.
10. S1410-1, S1410-2: Signalstärke-/Batteriekontrollschalter auf „Batteriekontrolle“.
11. S1411-1, S1411-2: Frequenzgangkorrekturschalter.
12. S1412: Stunden/Monat-Taste UP.
13. S1413: Stunden/Monat-Taste DOWN.
14. S1414: Minuten/Datum-Taste UP.
15. S1415: Minuten/Datum-Taste DOWN.
16. S1416: Stationsnummer-Taste UP.
17. S1417: Stationsnummer-Taste DOWN.
18. S1418: 12/24-Stundenzyklus-Schalter.
19. S1419: Abschaltautomatik-Schalter („Sleep“).
20. S1420: Netzschalter.
21. S1421: Tagesumkehrschalter.
22. S1422: Wochentag-Taste UP.
23. S1423: Tagsprogrammierschalter.
24. S1424: Programmkontrollschalter.
25. S1425: Beginnzeit/Endzeit-Umschalter.
26. S1426: Löschtaste.
27. S1427: Zeitanzeigenschalter.
28. S1428: Zeitzone-Umschalter.
29. S1429: Monat/Datum-Anzeigenschalter.
30. S1430: Schalter für einmalige Programmausführung.
31. S1431: Frequenzbandschalter 15.3 MHz.
32. S1432: Frequenzbandschalter 17.8 MHz.
33. S1433: Frequenzbandschalter 21.2 MHz.
34. S1434: Frequenzbandschalter 21.6 MHz.
35. S1435: Frequenzbandschalter 25.9 MHz.
36. S1436: Frequenzbandschalter 28.5 MHz.
37. S1437: Frequenzbandschalter 95 MHz.
38. S1438: Frequenzbandschalter 101 MHz.
39. S1439: Senderabfragetaste.
40. S1440: AM-Frequenzintervallschalter 1/5 kHz.
41. S1441: AM-Frequenzintervallschalter 100/500 Hz.
42. S1442: USB/CW-Frequenzintervallschalter 100/500 Hz.
43. S1443: LSB/CW-Frequenzintervallschalter 100/500 Hz.
44. S1444: Speichertaste.
45. S1445: Frequenzbandschalter 0,2 MHz.
46. S1446: Frequenzbandschalter 0,8 MHz.
47. S1447: Frequenzbandschalter 1,3 MHz.
48. S1448: Frequenzbandschalter 1,9 MHz.
49. S1449: Frequenzbandschalter 2,4 MHz.
50. S1450: Frequenzbandschalter 3,3 MHz.
51. S1451: Frequenzbandschalter 3,5 MHz.
52. S1452: Frequenzbandschalter 4,0 MHz.
53. S1453: Frequenzbandschalter 4,9 MHz.
54. S1454: Frequenzbandschalter 6,1 MHz.
55. S1455: Frequenzbandschalter 7,1 MHz.
56. S1456: Frequenzbandschalter 9,6 MHz.
57. S1457: Frequenzbandschalter 11,8 MHz.
58. S1458: Frequenzbandschalter 14,2 MHz.
59. S1459: Festsendertaste CH1.
60. S1460: Festsendertaste CH2.
61. S1461: Festsendertaste CH3.
62. S1462: Festsendertaste CH4.
63. S1463: Festsendertaste CH5.
64. S1464: Festsendertaste CH6.
65. S1465: Festsendertaste CH7.
66. S1466: Festsendertaste CH8.
67. S1467: Festsendertaste CH9.
68. S1468: Festsendertaste CH10.
69. S1469: Festsendertaste CH11.
70. S1470: Festsendertaste CH12.
71. S1471: Festsendertaste CH13.
72. S1472: Festsendertaste CH14.
73. S1473: Festsendertaste CH15.
74. S1474: Frequenz-Direktwahl taste 0.
75. S1475: Frequenz-Direktwahl taste 1.
76. S1476: Frequenz-Direktwahl taste 2.
77. S1477: Frequenz-Direktwahl taste 3.
78. S1478: Frequenz-Direktwahl taste 4.
79. S1479: Frequenz-Direktwahl taste 5.
80. S1480: Frequenz-Direktwahl taste 6.
81. S1481: Frequenz-Direktwahl taste 7.
82. S1482: Frequenz-Direktwahl taste 8.
83. S1483: Frequenz-Direktwahl taste 9.
84. S1484: Frequenz-Direktwahl taste SET.
85. S1485: Frequenz-Direktwahl taste SET.
86. S1486: Frequenz-Direktwahl taste FREQUENCY.
87. S1487: Uhrzeit-Einstellschalter.
88. VR1401 ... Verstärkungsregler, VR1402 ... Bass control, VR1403 ... Treble control, VR1404 ... Volume control.



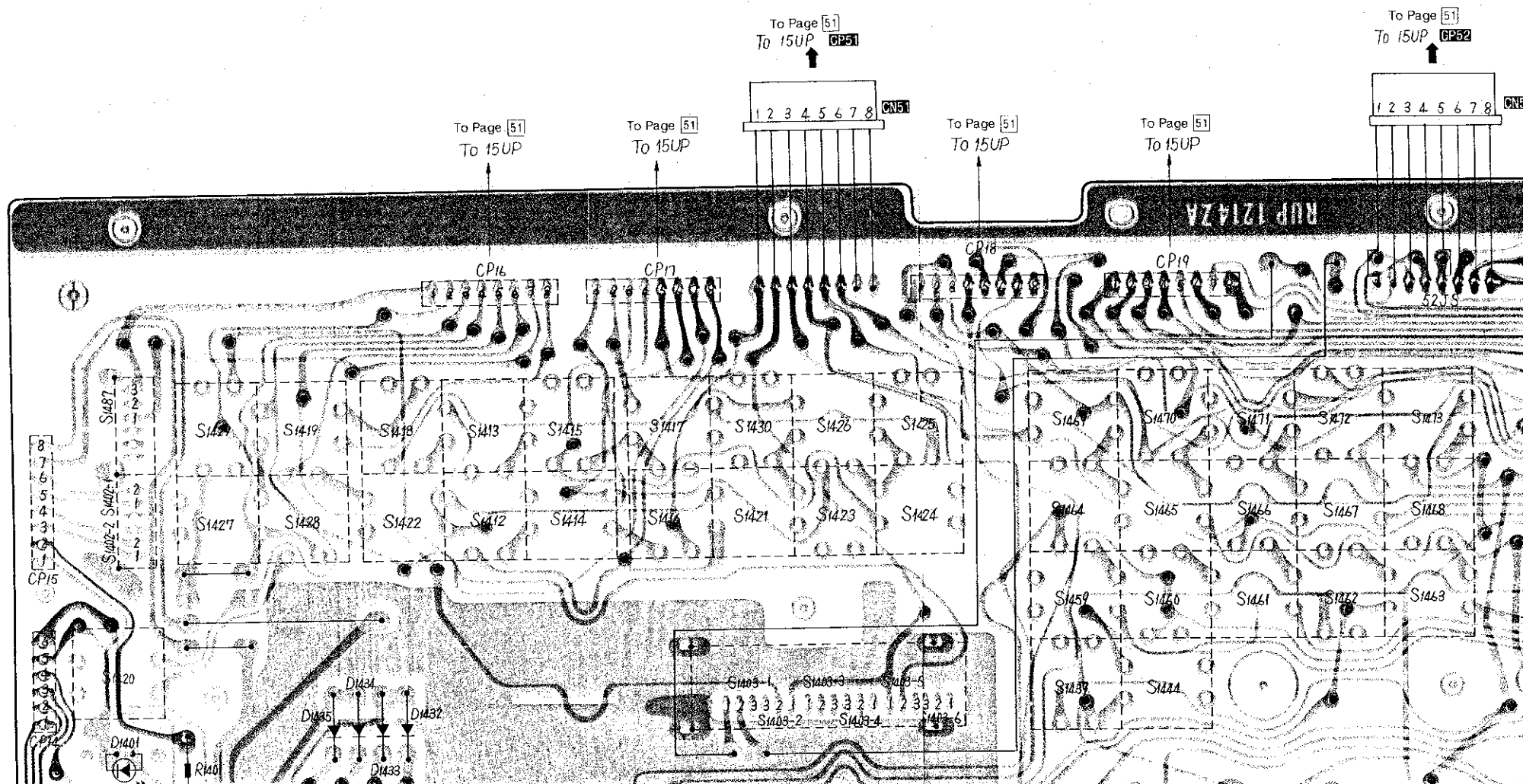
14UP



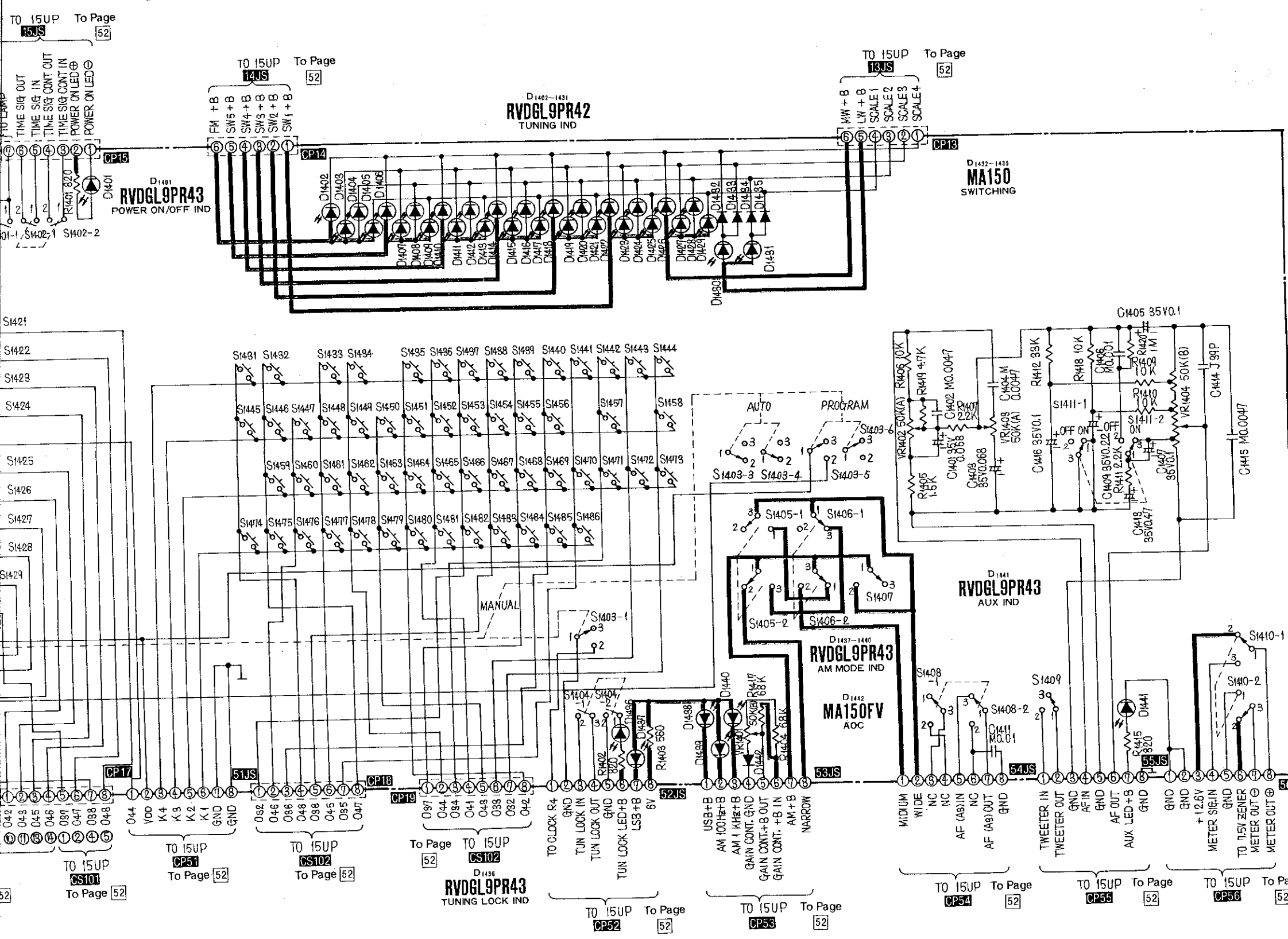
14 UP

14 UP

CIRCUIT BOARD WIRING VIEW (14)

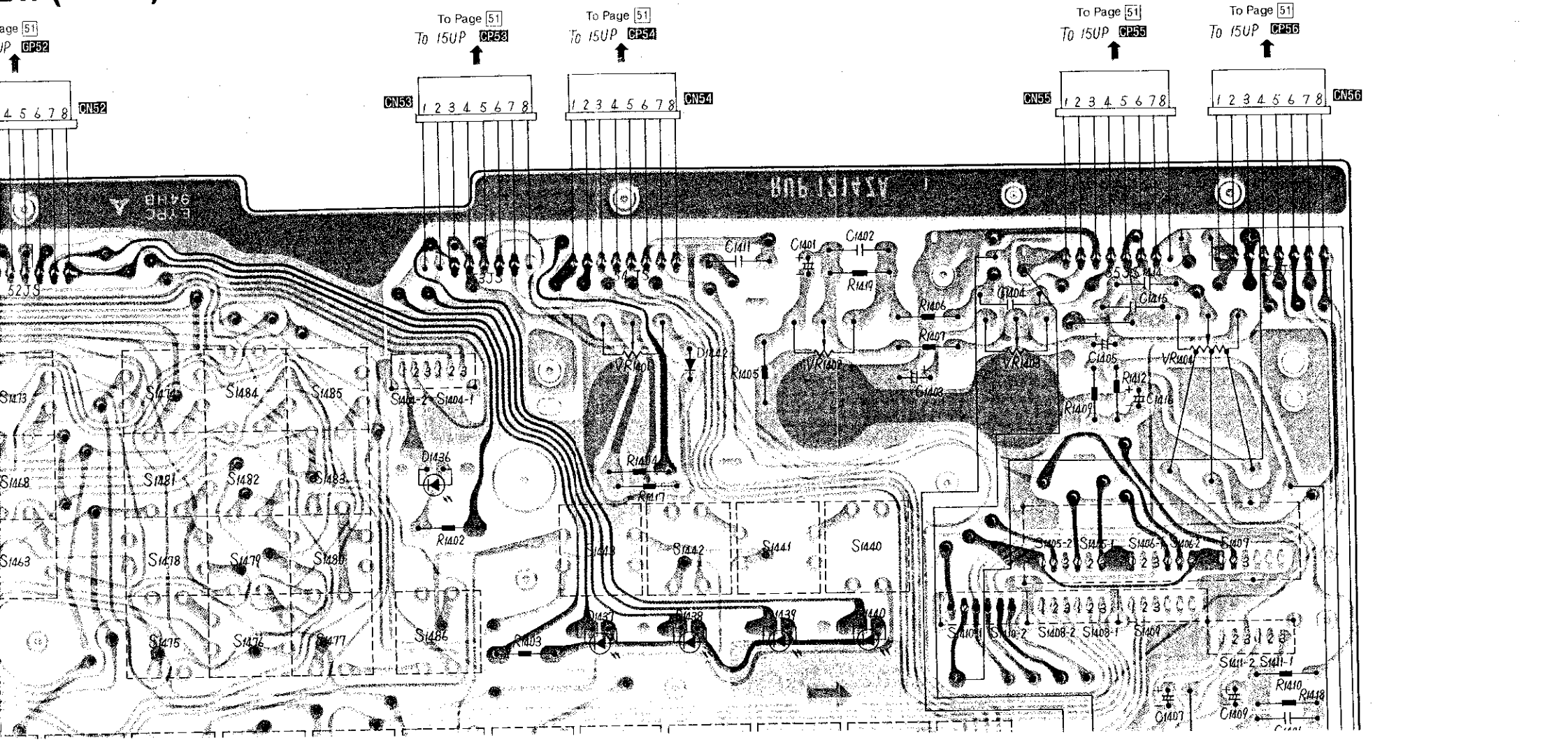


SCHEMATIC DIAGRAM (14 UP) ... KEY BOARD CIRCUIT



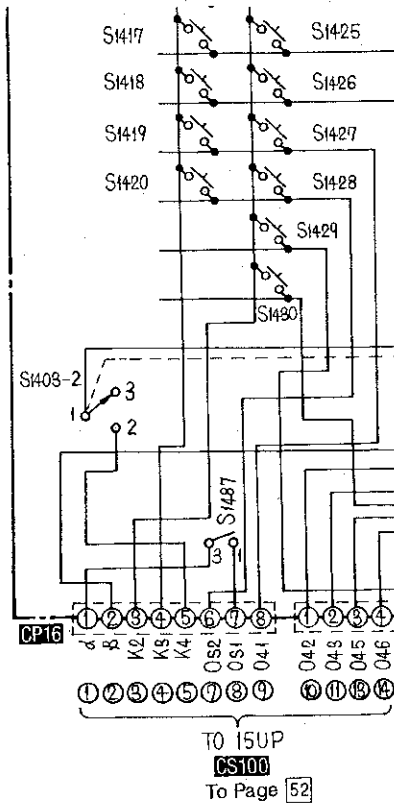
14 UP 14 UP

EW (14 UP) ... KEY BOARD CIRCUIT



38. S1438: Direct touch tuning 101 MHz switch.
39. S1439: Scan/Stop switch.
40. S1440: Frequency step AM 1/5 kHz switch.
41. S1441: Frequency step AM 100/500 Hz switch.
42. S1442: Frequency step USB/CW 100/500 Hz switch.
43. S1443: Frequency step LSB/CW 100/500 Hz switch.
44. S1444: Memory switch.
45. S1445: Direct touch tuning 0.2 MHz switch.
46. S1446: Direct touch tuning 0.8 MHz switch.
47. S1447: Direct touch tuning 1.3 MHz switch.
48. S1448: Direct touch tuning 1.9 MHz switch.
49. S1449: Direct touch tuning 2.4 MHz switch.
50. S1450: Direct touch tuning 3.3 MHz switch.
51. S1451: Direct touch tuning 3.5 MHz switch.
52. S1452: Direct touch tuning 4.0 MHz switch.
53. S1453: Direct touch tuning 4.9 MHz switch.
54. S1454: Direct touch tuning 6.1 MHz switch.
55. S1455: Direct touch tuning 7.1 MHz switch.
56. S1456: Direct touch tuning 9.6 MHz switch.
57. S1457: Direct touch tuning 11.8 MHz switch.
58. S1458: Direct touch tuning 14.2 MHz switch.
59. S1459: Preset tuning CH1 switch.
60. S1460: Preset tuning CH2 switch.
61. S1461: Preset tuning CH3 switch.
62. S1462: Preset tuning CH4 switch.
63. S1463: Preset tuning CH5 switch.
64. S1464: Preset tuning CH6 switch.
65. S1465: Preset tuning CH7 switch.
66. S1466: Preset tuning CH8 switch.
67. S1467: Preset tuning CH9 switch.
68. S1468: Preset tuning CH10 switch.
69. S1469: Preset tuning CH11 switch.
70. S1470: Preset tuning CH12 switch.
71. S1471: Preset tuning CH13 switch.
72. S1472: Preset tuning CH14 switch.
73. S1473: Preset tuning CH15 switch.
74. S1474: Direct-Access tuning 0 switch.
75. S1475: Direct-Access tuning 1 switch.
76. S1476: Direct-Access tuning 2 switch.
77. S1477: Direct-Access tuning 3 switch.
78. S1478: Direct-Access tuning 4 switch.
79. S1479: Direct-Access tuning 5 switch.
80. S1480: Direct-Access tuning 6 switch.
81. S1481: Direct-Access tuning 7 switch.
82. S1482: Direct-Access tuning 8 switch.
83. S1483: Direct-Access tuning 9 switch.
84. S1484: Direct-Access tuning • switch.
85. S1485: Direct-Access tuning SET switch.
86. S1486: Direct-Access tuning Frequency switch.
87. S1487: Clock adjust switch.
88. VR1401 ... Gain control, VR1402 ... Bass control, VR1403 ... Treble control, VR1404 ... Volume control.

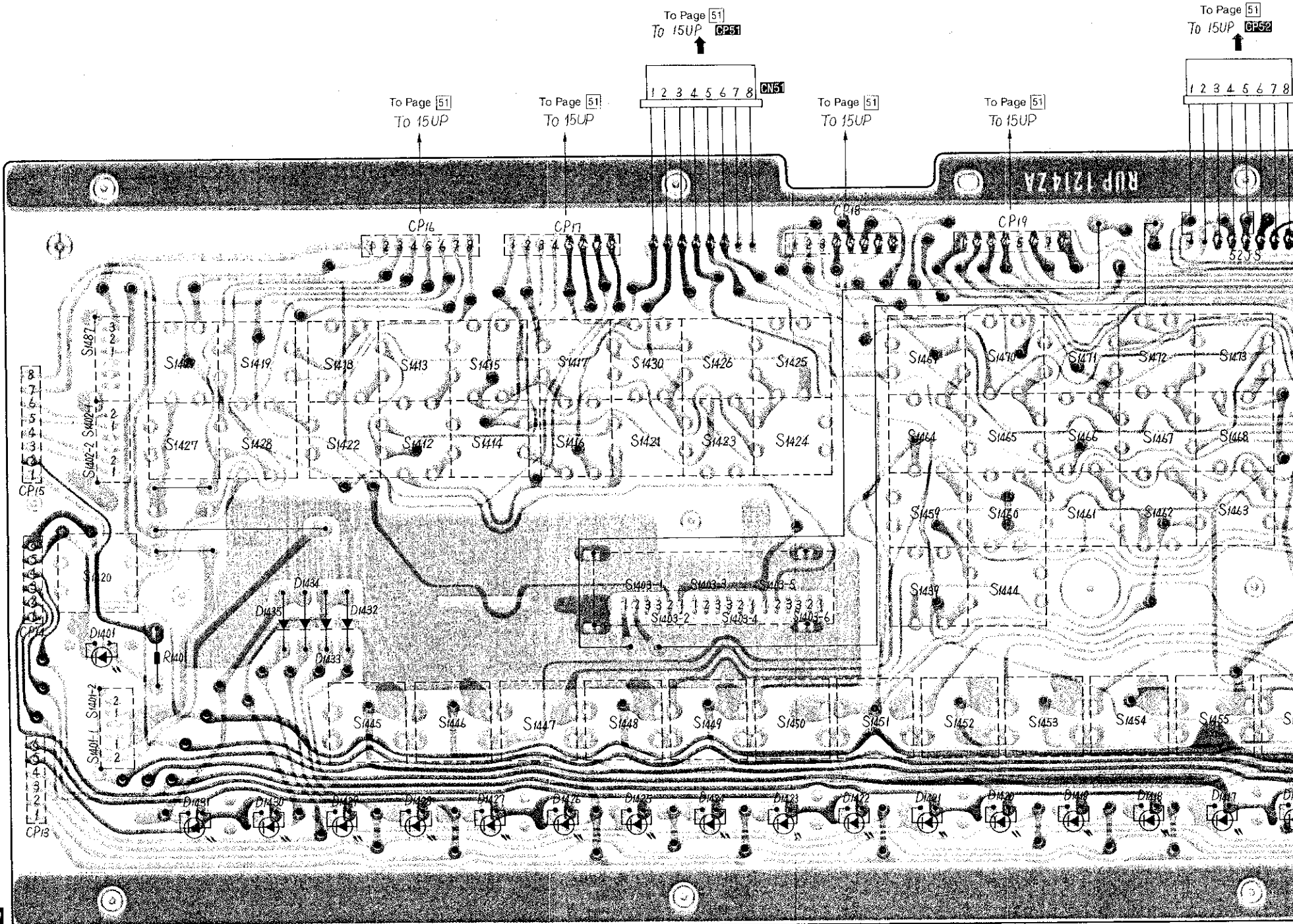
38. S1438: Frequenzbandschalter 101 MHz.
39. S1439: Senderabfragetaste.
40. S1440: AM-Frequenzintervallschalter 1/5 kHz.
41. S1441: AM-Frequenzintervallschalter 100/500 Hz.
42. S1442: USB/CW-Frequenzintervallschalter 100/500 Hz.
43. S1443: LSB/CW-Frequenzintervallschalter 100/500 Hz.
44. S1444: Speichertaste.
45. S1445: Frequenzbandschalter 0,2 MHz.
46. S1446: Frequenzbandschalter 0,8 MHz.
47. S1447: Frequenzbandschalter 1,3 MHz.
48. S1448: Frequenzbandschalter 1,9 MHz.
49. S1449: Frequenzbandschalter 2,4 MHz.
50. S1450: Frequenzbandschalter 3,3 MHz.
51. S1451: Frequenzbandschalter 3,5 MHz.
52. S1452: Frequenzbandschalter 4,0 MHz.
53. S1453: Frequenzbandschalter 4,9 MHz.
54. S1454: Frequenzbandschalter 6,1 MHz.
55. S1455: Frequenzbandschalter 7,1 MHz.
56. S1456: Frequenzbandschalter 9,6 MHz.
57. S1457: Frequenzbandschalter 11,8 MHz.
58. S1458: Frequenzbandschalter 14,2 MHz.
59. S1459: Festsendertaste CH1.
60. S1460: Festsendertaste CH2.
61. S1461: Festsendertaste CH3.
62. S1462: Festsendertaste CH4.
63. S1463: Festsendertaste CH5.
64. S1464: Festsendertaste CH6.
65. S1465: Festsendertaste CH7.
66. S1466: Festsendertaste CH8.
67. S1467: Festsendertaste CH9.
68. S1468: Festsendertaste CH10.
69. S1469: Festsendertaste CH11.
70. S1470: Festsendertaste CH12.
71. S1471: Festsendertaste CH13.
72. S1472: Festsendertaste CH14.
73. S1473: Festsendertaste CH15.
74. S1474: Frequenz-Direktwahl taste 0.
75. S1475: Frequenz-Direktwahl taste 1.
76. S1476: Frequenz-Direktwahl taste 2.
77. S1477: Frequenz-Direktwahl taste 3.
78. S1478: Frequenz-Direktwahl taste 4.
79. S1479: Frequenz-Direktwahl taste 5.
80. S1480: Frequenz-Direktwahl taste 6.
81. S1481: Frequenz-Direktwahl taste 7.
82. S1482: Frequenz-Direktwahl taste 8.
83. S1483: Frequenz-Direktwahl taste 9.
84. S1484: Frequenz-Direktwahl taste •.
85. S1485: Frequenz-Direktwahl taste SET.
86. S1486: Frequenz-Direktwahl taste FREQUENCY.
87. S1487: Uhrzeit-Einstellschalter.
88. VR1401 ... Verstärkungsregler, VR1402 ... Bass control, VR1403 ... Treble control, VR1404 ... Volume control.



14 UP

14 UP

CIRCUIT BOARD WIRING VIEW (1)



Remarques:

1. S1401: Commutateur marche/arrêt du l'éclairage en position "Arrêt".
2. S1402-1, S1402-2: Interrupteur de signal horaire.
3. S1403-1~S1403-2: Commutateur du sélecteur de programme en position "Manual" (manuel).
4. S1404-1, S1404-2: Interrupteur de blocage d'accord.
5. S1405-1, S1405-2: Interrupteur de bande AM étroite (Narrow).
6. S1406-1, S1406-2: Interrupteur de bande AM moyenne (MED).
7. S1407 : Interrupteur de bande AM large (Wide).
8. S1408-1, S1408-2: Commutateur d'écrêteur automatique de bruit (ANL).
9. S1409: Interrupteur de haut-parleur d'aigus (Tweeter).
10. S1410-1, S1410-2: Commutateur Signal/Battery en position "Battery" (piles).
11. S1411-1, S1411-2: Interrupteur de Loudness.
12. S1412: Réglage Mois/Heure: avance.
13. S1413: Réglage Mois/Heure: retour en arrière.
14. S1414: Réglage Minutes/Date: avance.
15. S1415: Réglage Minutes/Date: retour en arrière.

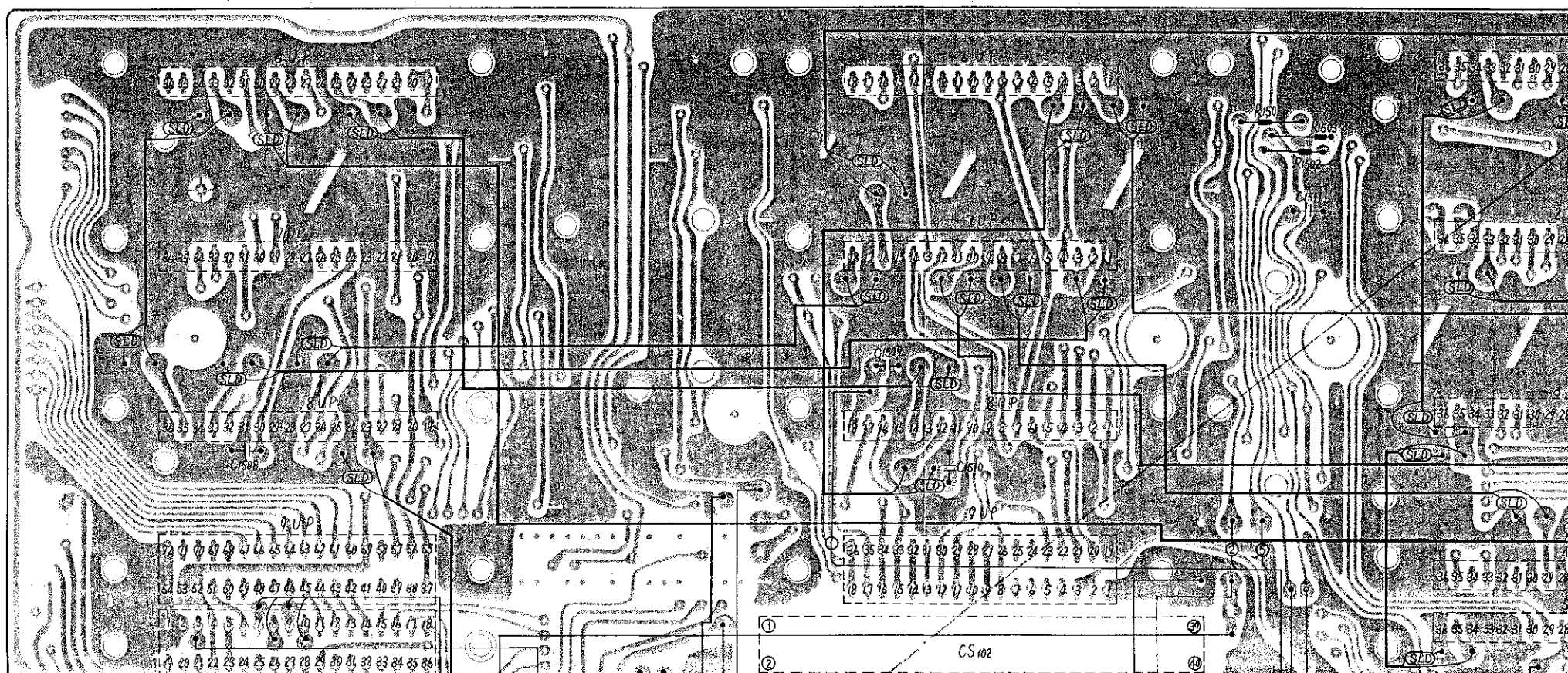
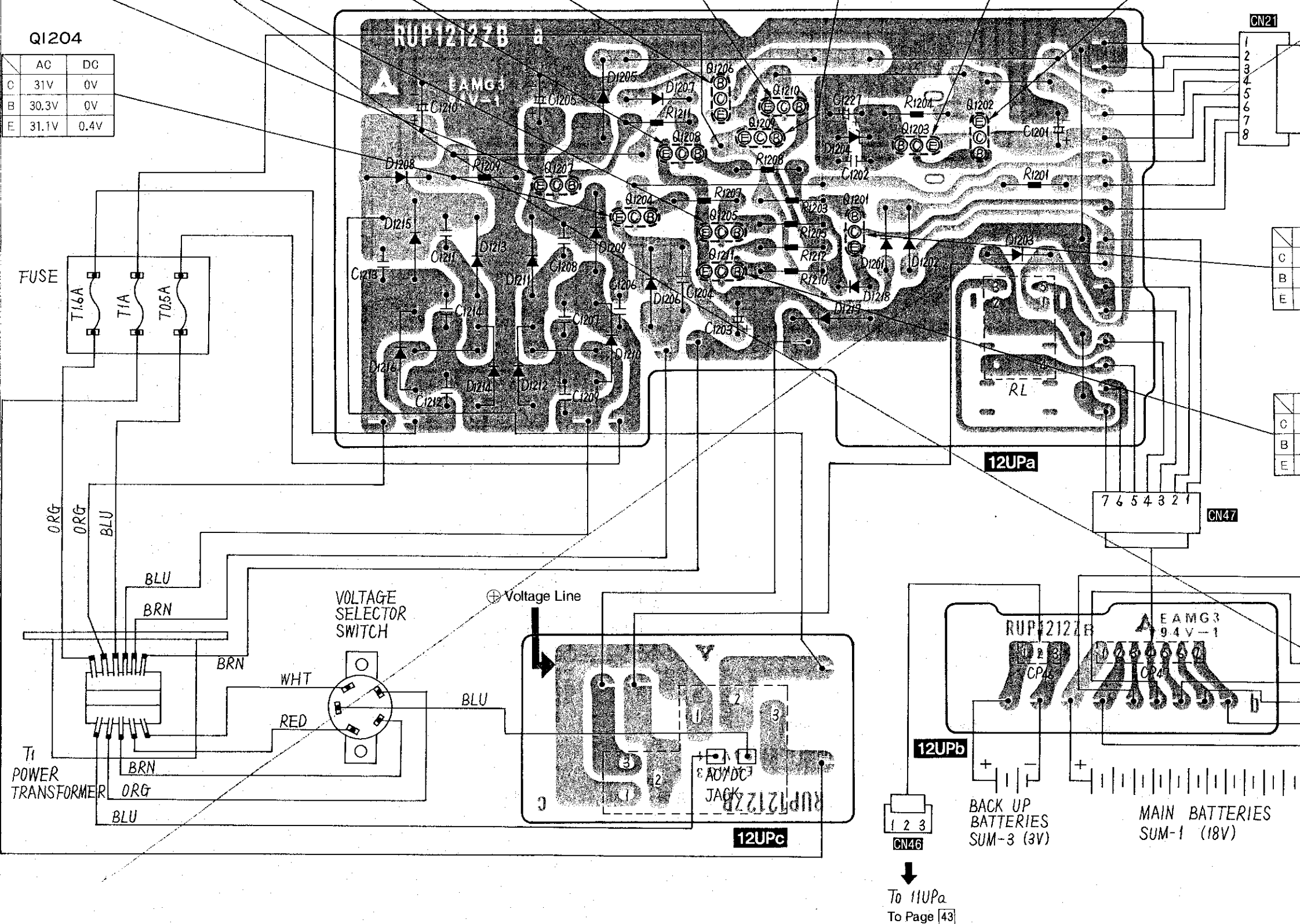
16. S1416: Interrupteur d'avance de l'affichage du canal.
17. S1417: Interrupteur de recul de l'affichage du canal.
18. S1418: Interrupteur 12/24 heures.
19. S1419: Commutateur "Sommeil".
20. S1420: Marche/arrêt.
21. S1421: Commutateur d'inversion de jour de programmation.
22. S1422: Interrupteur d'avance du jour de programmation (Day UP).
23. S1423: Interrupteur de mémoire journalière.
24. S1424: Interrupteur de contrôle de mémoire de programmation.
25. S1425: Commutateur de programmeur ON/OFF.
26. S1426: Interrupteur d'effacement de mémoire de programmation.
27. S1427: Interrupteur d'affichage Mois/Date.
28. S1428: Interrupteur d'affichage de l'heure sur un autre fuséau horaire.
29. S1429: Interrupteur d'affichage de l'heure.
30. S1430: Commutateur de programmation unique.
31. S1431: Touche de syntonisation automatique sur 15,3 MHz.
32. S1432: Touche de syntonisation automatique sur 17,8 MHz.

33. S1433: Touche de syntonisation automatique sur 21,2 MHz.
34. S1434: Touche de syntonisation automatique sur 21,6 MHz.
35. S1435: Touche de syntonisation automatique sur 25,9 MHz.
36. S1436: Touche de syntonisation automatique sur 28,5 MHz.
37. S1437: Touche de syntonisation automatique sur 95 MHz.
38. S1438: Touche de syntonisation automatique sur 101 MHz.
39. S1439: Interrupteur de lecture de mémoire et arrêt sur mémoire.
40. S1440: Interrupteur de fréquence AM pas à pas 1/5 kHz.
41. S1441: Interrupteur de fréquence AM pas à pas 100/500 Hz.
42. S1442: Interrupteur de fréquence USB/CW pas à pas 100/500 Hz.
43. S1443: Interrupteur de fréquence LSB/CW pas à pas 100/500 Hz.
44. S1444: Interrupteur de mémoire.
45. S1445: Touche de syntonisation automatique sur 0,2 MHz.
46. S1446: Touche de syntonisation automatique sur 0,8 MHz.
47. S1447: Touche de syntonisation automatique sur 1,3 MHz.
48. S1448: Touche de syntonisation automatique sur 1,9 MHz.
49. S1449: Touche de syntonisation automatique sur 2,4 MHz.

CIRCUIT BOARD WIRING VIEW (12 UPa, b, c) . . . POWER SUPPLY, BACK UP, TIMER OUT, CONNECT

Q1207			Q1205			Q1208			Q1206			Q1210			Q1209			Q1203			Q1202		
	AC	DC		AC	DC		AC	DC		AC	DC		AC	DC		AC	DC		AC	DC		AC	DC
C	14.9V	0.4V	C	0.1V	0V	C	0.1V	0V	C	14.2V	16.3V	C	21.3V	16.5V	C	21.3V	16.5V	C	20.6V	15.8V	C	12V	11.8V
B	14.3V	0V	B	0.7V	0.6V	B	0.7V	0.6V	B	20.7V	15.7V	B	20.9V	15.7V	B	21.6V	16.5V	B	12.6V	12.4V	B	20.6V	15.8V
E	15V	0.4V	E	0V	0V	E	0V	0V	E	21.3V	16.5V	E	21.6V	16.5V	E	22.2V	17.2V	E	12V	11.8V	E	21.2V	16.4V

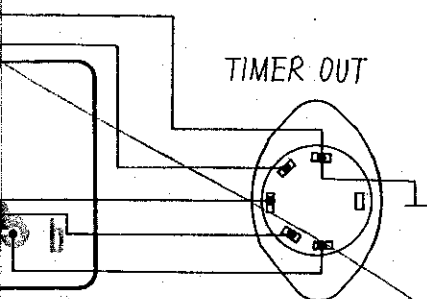
	AC	DG
C	31V	0V
B	30.3V	0V
E	31.1V	0.4V



Q1211

	AC	DC
C	0.1V	0V
B	0.7V	0.7V
E	0V	0V

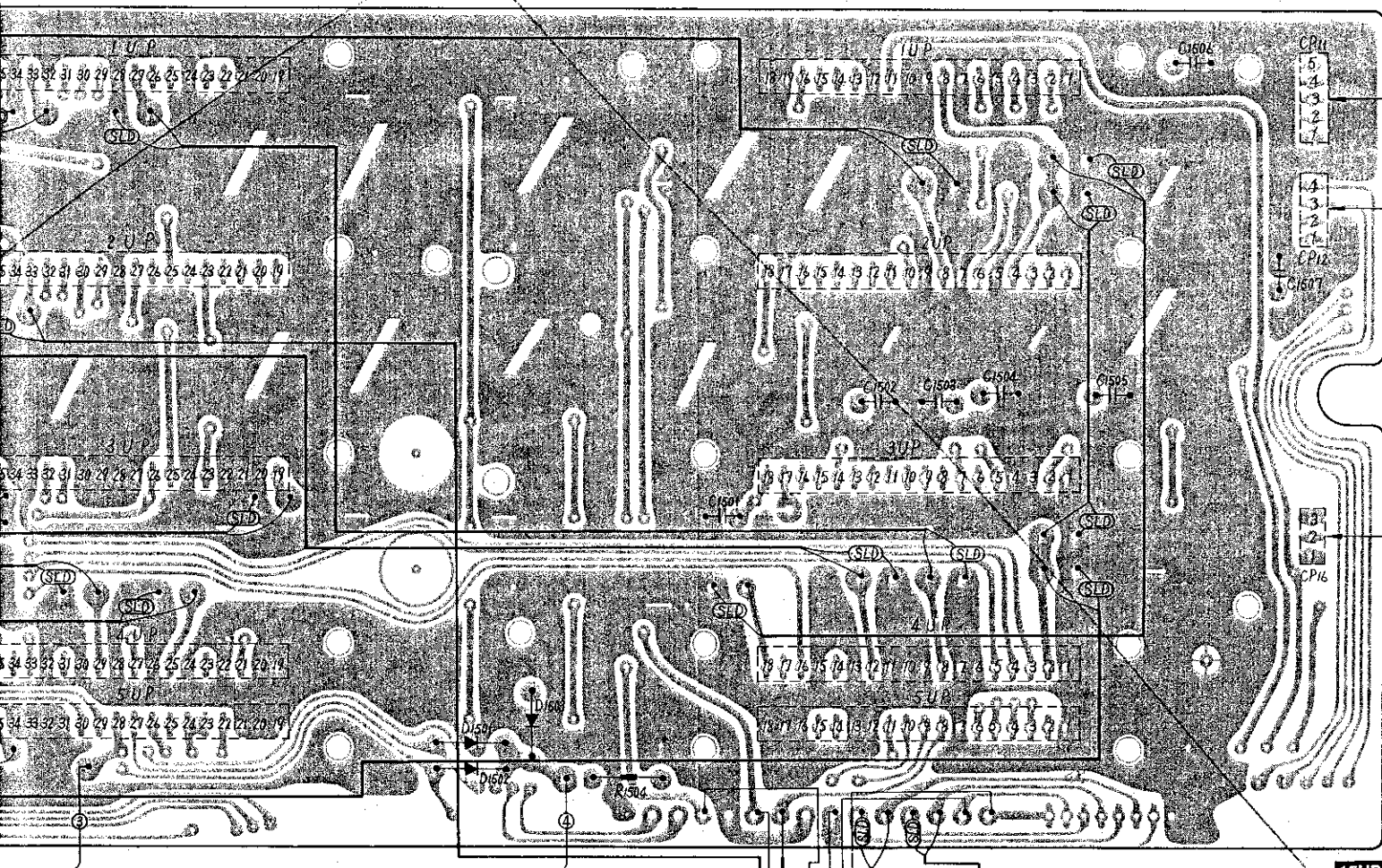
47



TERIES
(V)

46

47



15UP

