

PIONEER
The Art of Entertainment

PC-1

Service Manual



* Illustration shows model VSX 4900S

ORDER NO.
ARZ2263

AUDIO/VIDEO STEREO RECEIVER

VSX-4900S

VSX-4800

VSX-51

CIRCUIT DIAGRAMS &
PATTERN LAYOUTS
WITH MICROFICHE

(MICROFICHE PORTION LOCATED INSIDE BACK COVER)

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan

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YV MAY 1991 Printed in Japan

4. SCHEMATIC AND P.C.BOARDS CONNECTION DIAGRAM

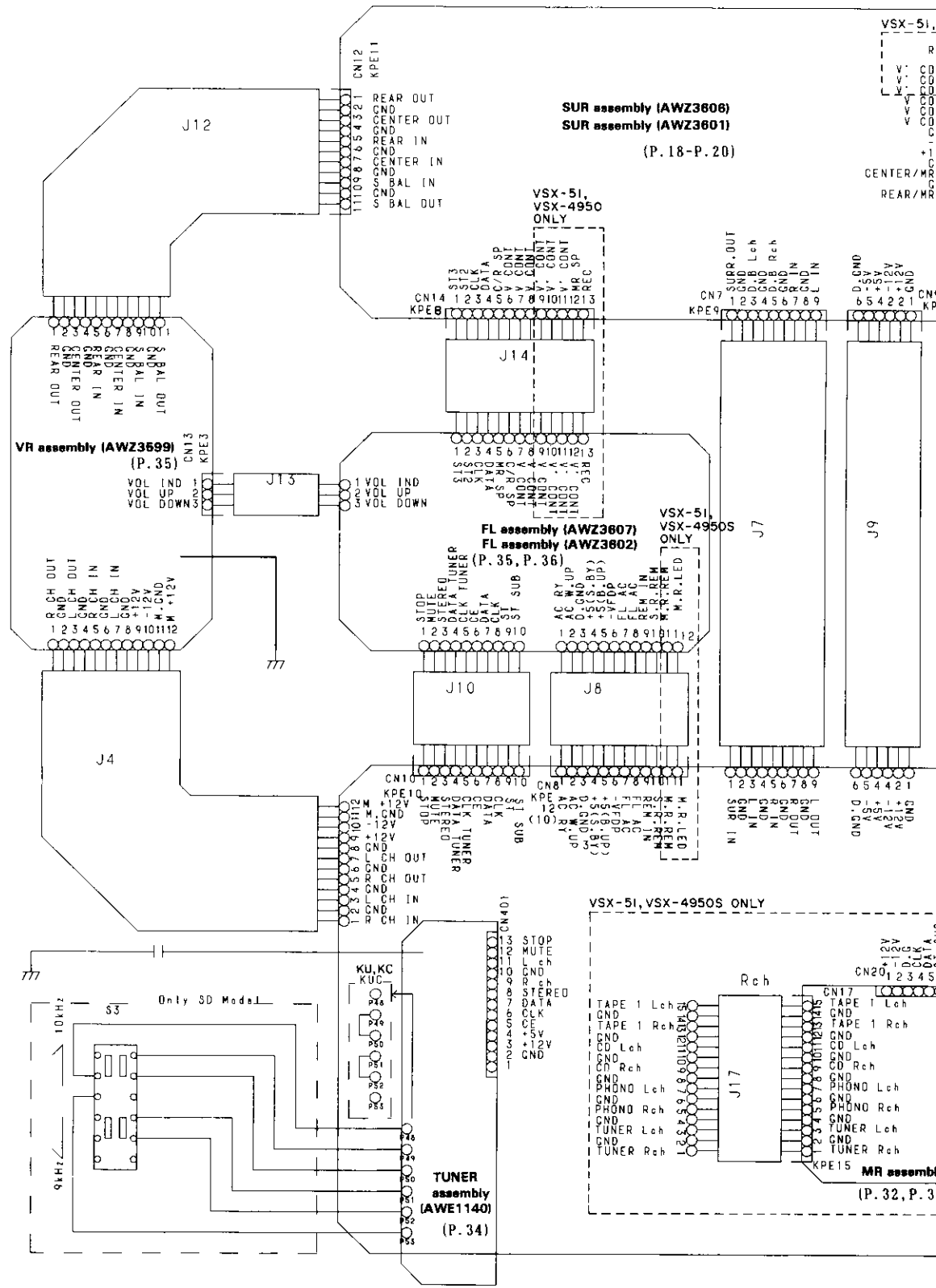
4.1 OVER ALL SCHEMATIC DIAGRAM

A

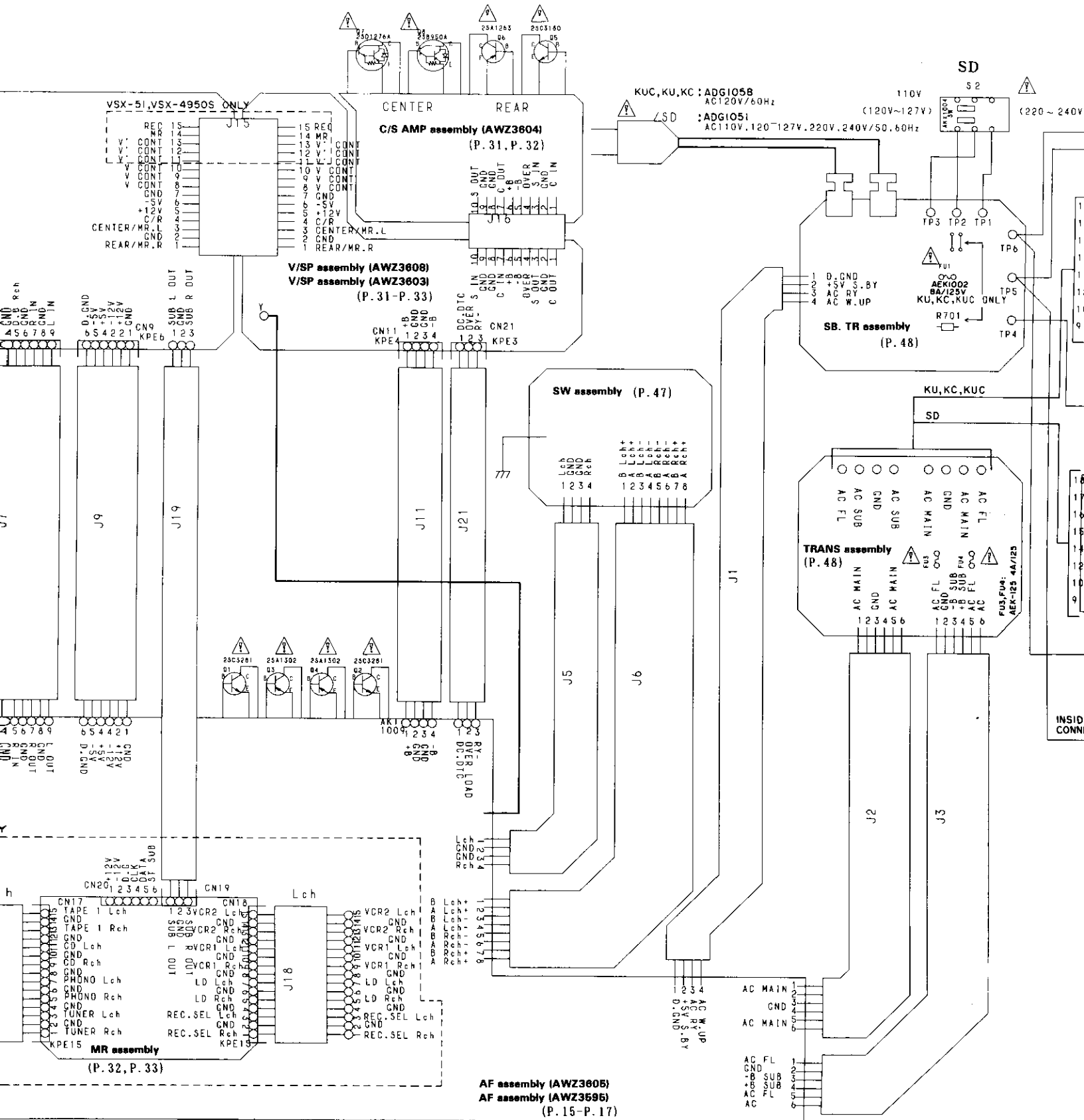
B

C

D

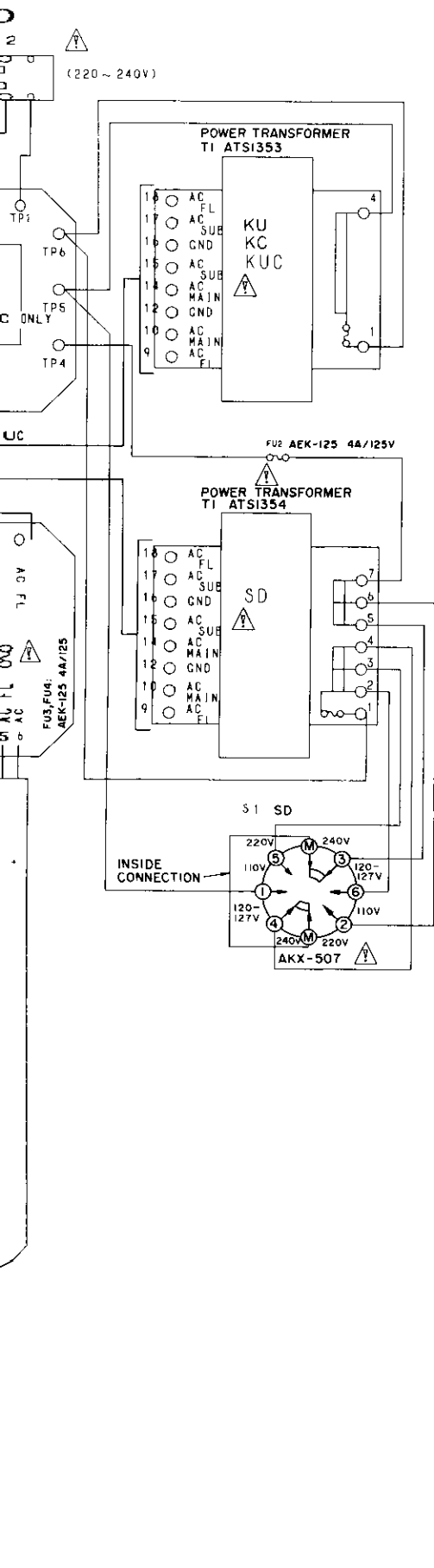


- : FRONT SIGNAL
- : TUNER AM SIGNAL
- : DOLBY PROLOGIC FR
- : DOLBY PROLOGIC CE
- : DOLBY PROLOGIC SU
- : MR (MULTI ROOM) S



- :FRONT SIGNAL
- :TUNER AM SIGNAL
- :DOLBY PROLOGIC FRONT SIGNAL
- :DOLBY PROLOGIC CENTER SIGNAL
- :DOLBY PROLOGIC SUB(REAR) SIGNAL
- :MR (MULTI ROOM) SIGNAL

AF assembly (AWZ3605)
AF assembly (AWZ3606)
 (P. 15-P. 17)



1. RESISTORS:

Indicated in Ω , $\frac{1}{4}W$, $\frac{1}{8}W$, $\pm 5\%$ tolerance unless otherwise noted k : k Ω , M : M Ω , (F) : $\pm 1\%$, (G) : $\pm 2\%$, (K) : $\pm 10\%$ (M) : $\pm 20\%$ tolerance

2. CAPACITORS:

Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:

: Signal voltage at (100W + 100W 8 Ω : FRONT) output (1kHz)
(18W + 18W 8 Ω : REAR, 20W 8 Ω : CENTER)

: DC voltage (V) at no input signal
Value in () is DC voltage at rated power.

mA : DC current at no input signal

4. OTHERS:

: Signal route.

: Adjusting point.

The mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

* marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES:

SW assembly

S581 SP-A / SP-B

FL assembly

S1001	DELAY TIME	S1031	5
S1002	3CH LOGIC	S1032	4
S1004	DOLBY PRO LOGIC	S1033	3
S1005	SIMULAT	S1034	2
S1006	STUDIO	S1035	1
S1007	RETURN	S1036	HITS
S1008	MUTING	S1037	DIRECT ACCESS
S1009	ACOUSTIC MEMORY	S1038	AUTO/MANUAL
S1010	BASS UP	S1039	FM AUTO MONO
S1011	BASS DOWN	S1040	SCAN
S1012	ACOUSTIC SELECT	S1041	SELECT
S1013	TABLE UP	S1042	(NAME)
S1014	TREBLE DOWN	S1043	STATION MEMORY
S1015	SIMULAT STEREO	S1044	FM/AM
S1016	BALANCE R	S1045	FREQ UP
S1017	BALANCE L	S1046	FREQ DOWN
S1018	PHONO	S1047	VIDEO SELECT
S1019	TUNER	S1048	REC SELECT
S1020	CD		(VSX-51, VSX-4950S ONLY)
S1021	LD	S1049	M, R & SOUSE
S1022	VCR 1	S1050	POWER ON/OFF
S1023	VCR 2		
S1024	TAPE 1	S1	VOLTAGE SELECTOR (ONLY SD MODEL)
S1025	TAPE 2		110V-127V \leftrightarrow 220V-240V
S1026	0/10	S2	VOLTAGE SELECTOR (ONLY SD MODEL)
S1027	9		110, 120-127V, 220, 240V
S1028	8	S3	BAND SELECTOR
S1029	7		(AM: 10kHz / FM: 100kHz)
S1030	6		\updownarrow
			(AM: 9kHz / FM: 50kHz)

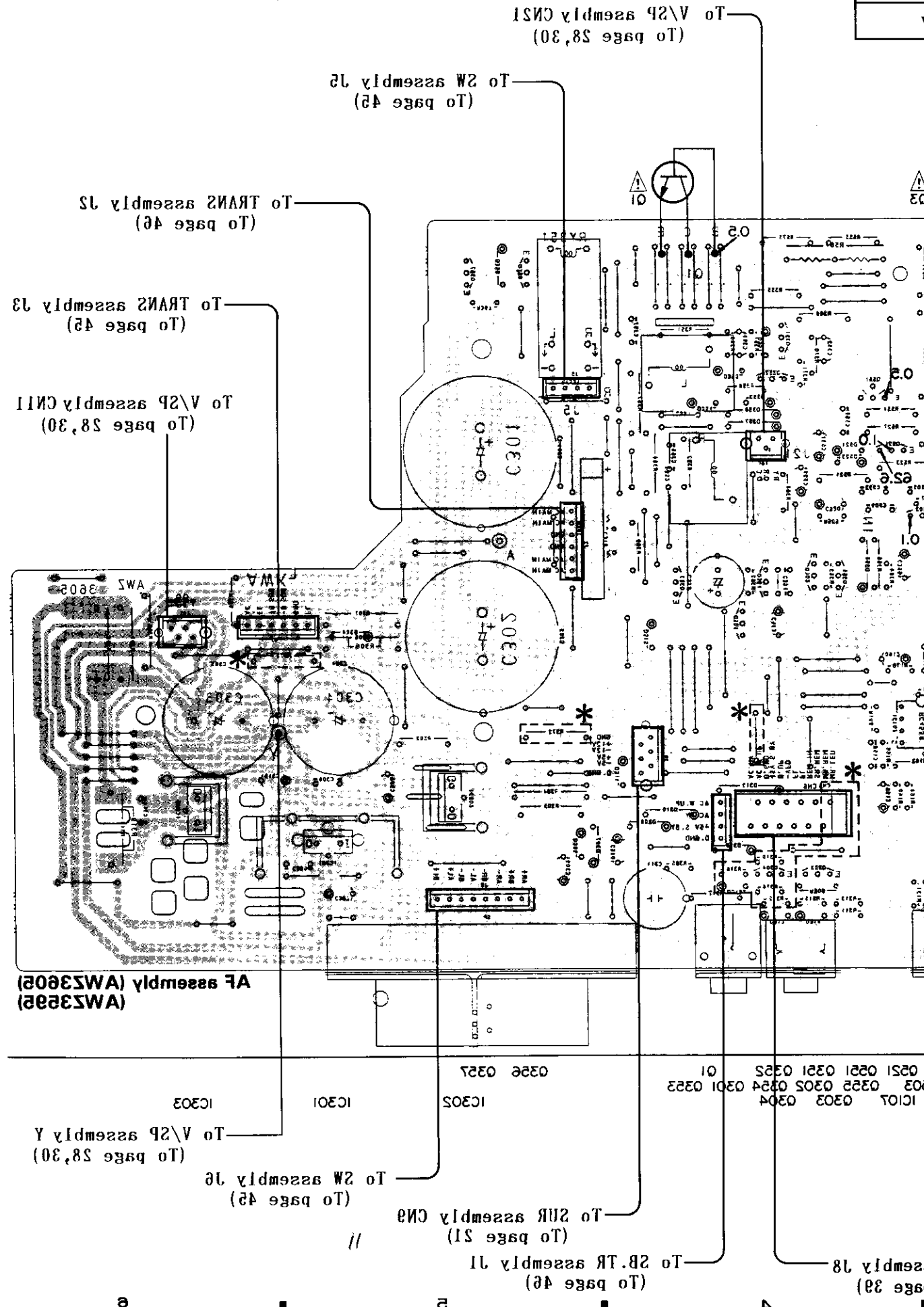
This P.C.B. connection diagram is viewed from the foil side.

A

B

C

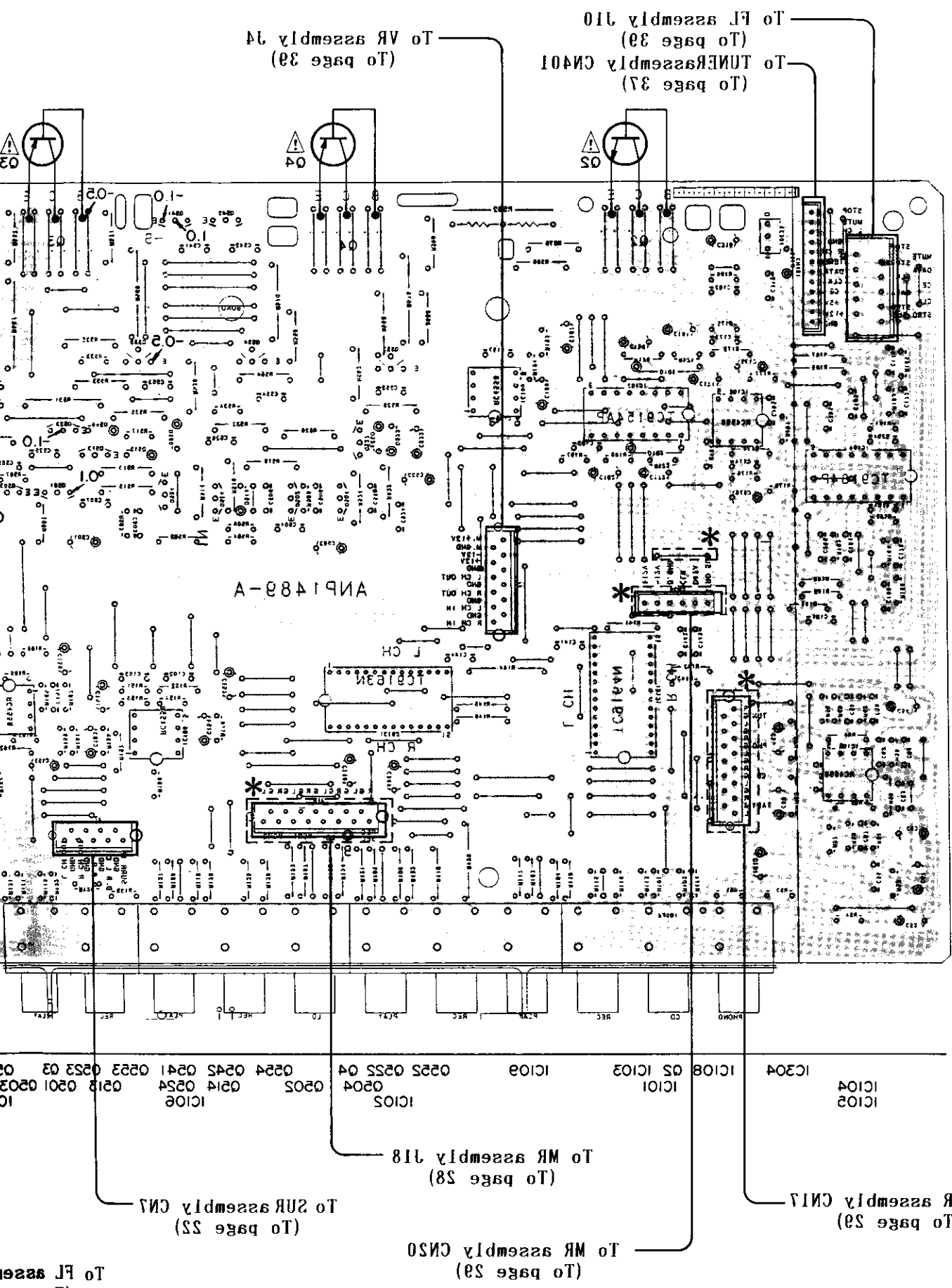
D



page only

page 30

* : V2X - 49002\KUC, V2X - 4800\KUC, 2D types
* : V2X - 41\KU and V2X - 4920\KC types only



A

B

C

D

To FL assembly 110
(To page 39)
To TUNER assembly CN401
(To page 37)

To VR assembly 14
(To page 39)

ANP1489-A

To MR assembly CN20
(To page 29)

To MR assembly 118
(To page 28)

To MR assembly CN17
(To page 29)

To SR assembly CN7
(To page 22)

To FL assem
(To page 39)

※ : VSX-4900S/KUC, VSX-4800/KUC, SD types only

* : VSX-51/KU and VSX-4950S/KC types only

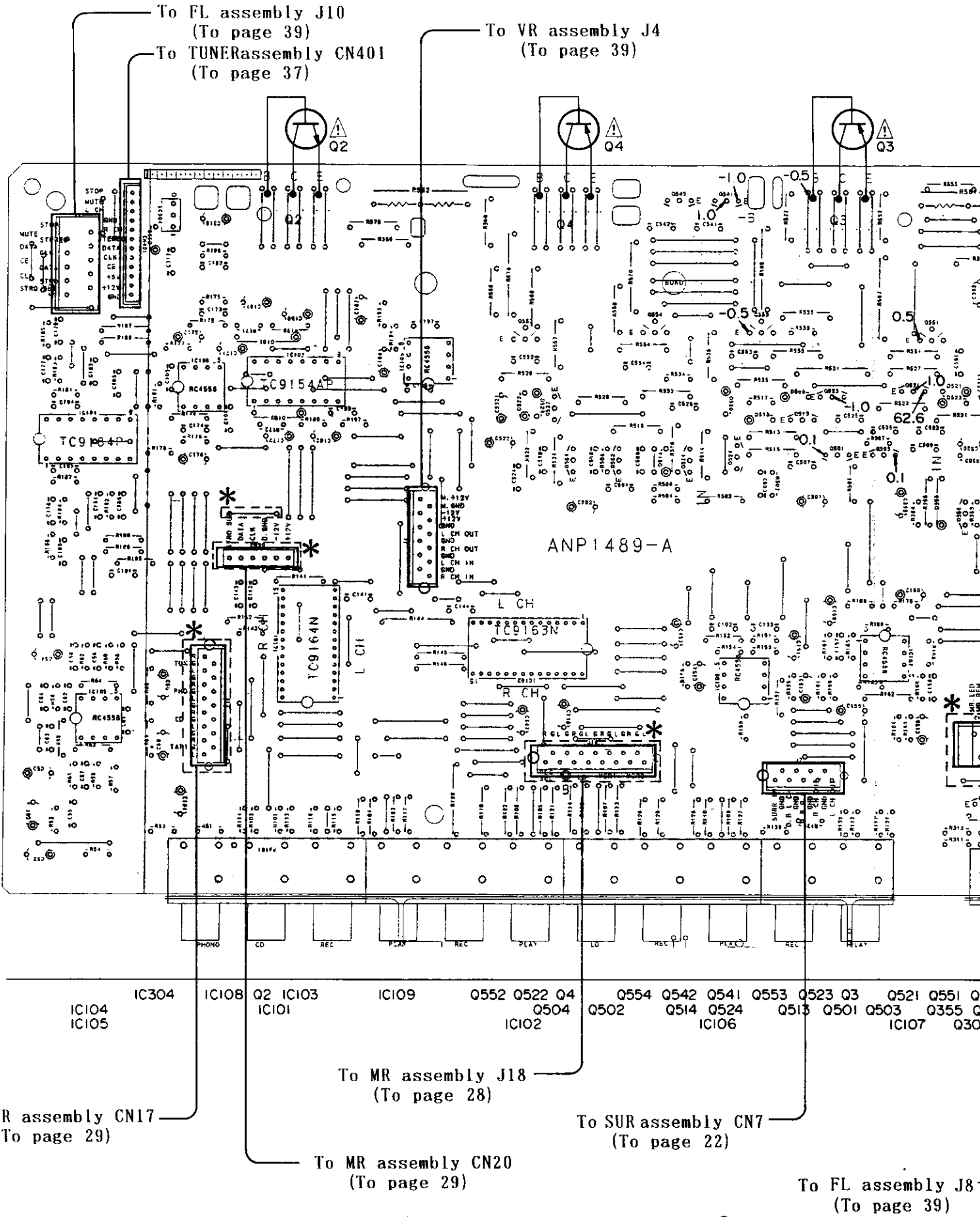
4.2 AF assembly (AWZ3605)

A

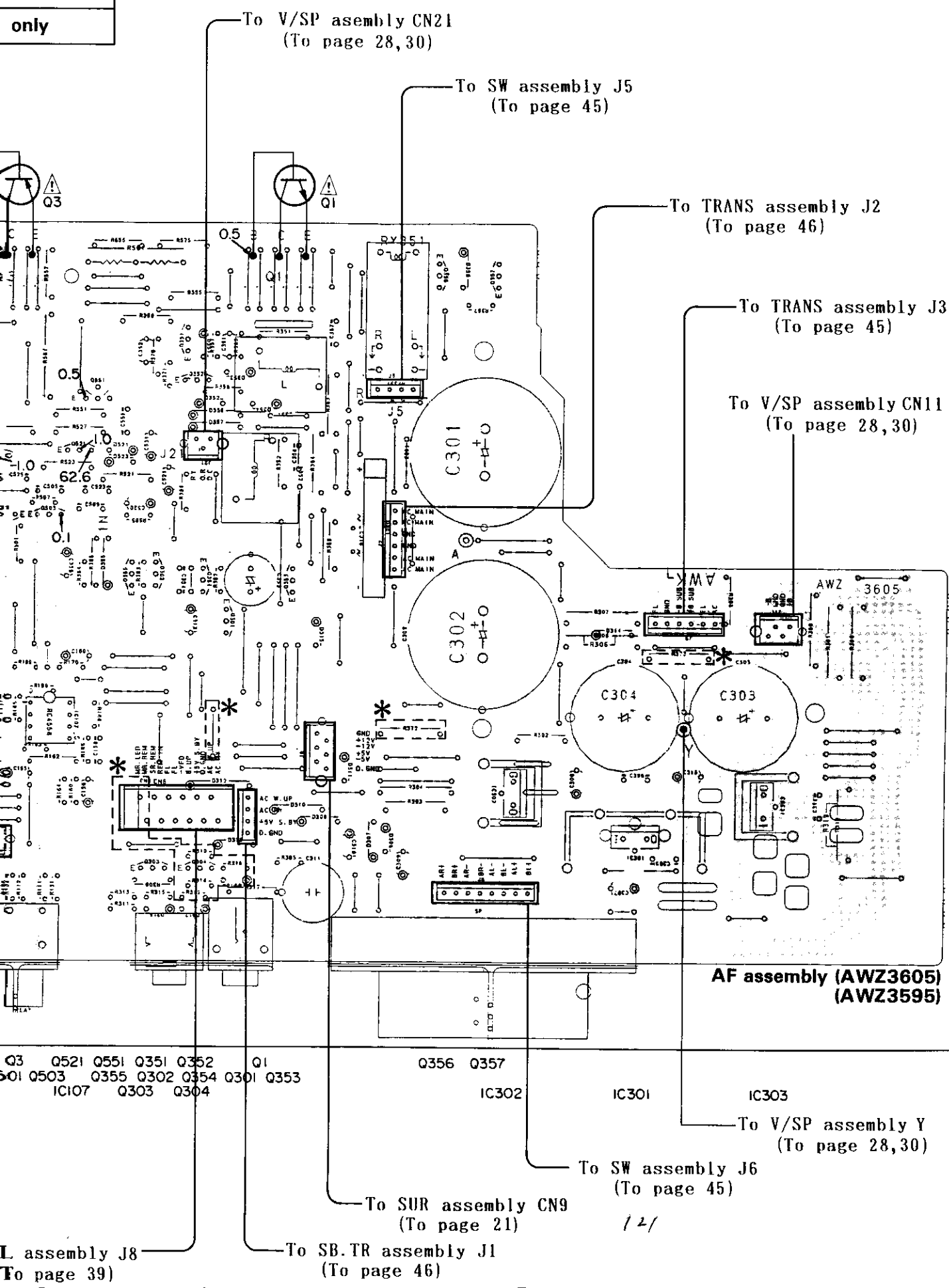
B

C

D



types only
only



B

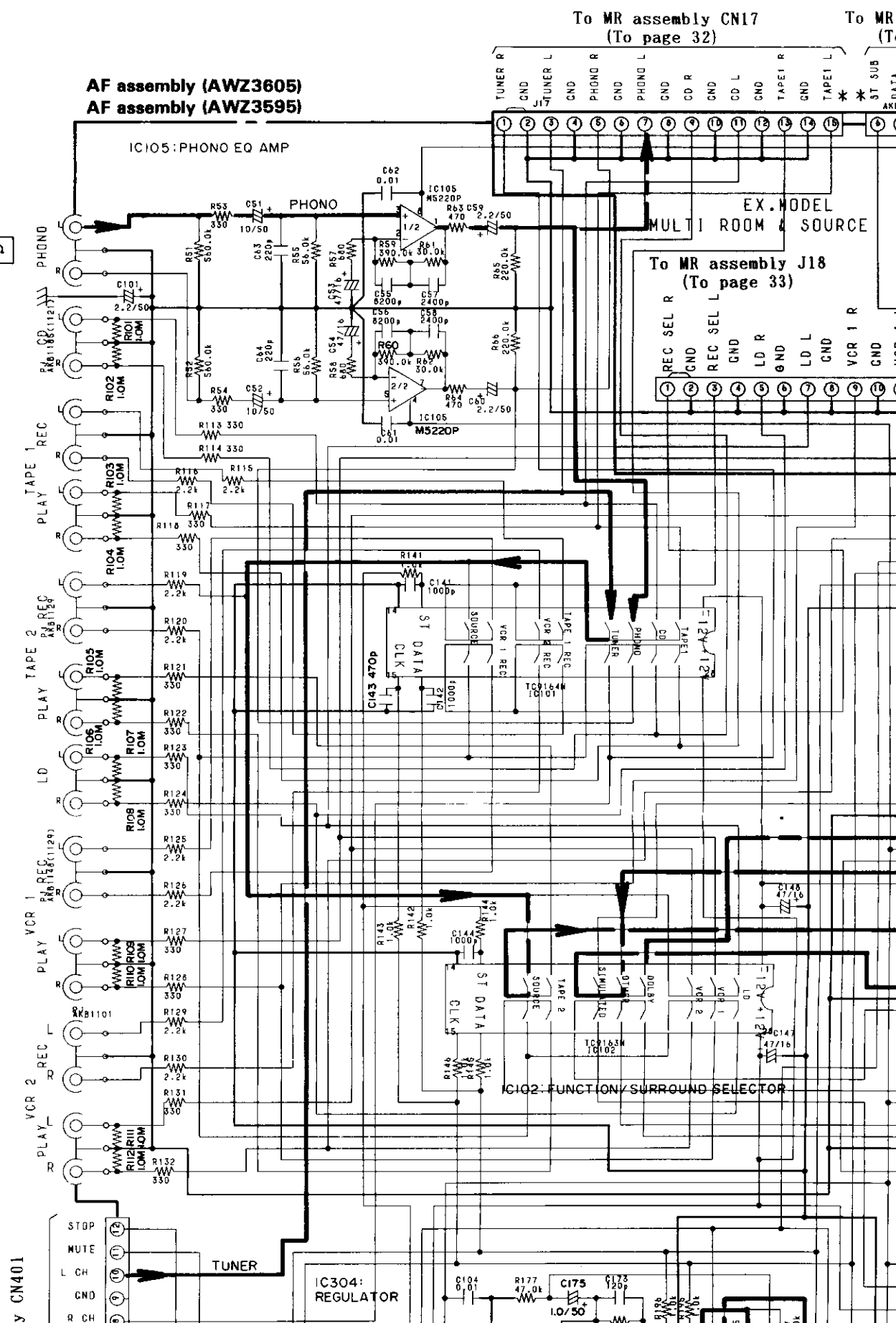
C

D

L assembly J8
To page 39)

AF assembly (AWZ3605)
AF assembly (AWZ3595)

2.5mV/47kΩ



To MR assembly CN17
(To page 32)

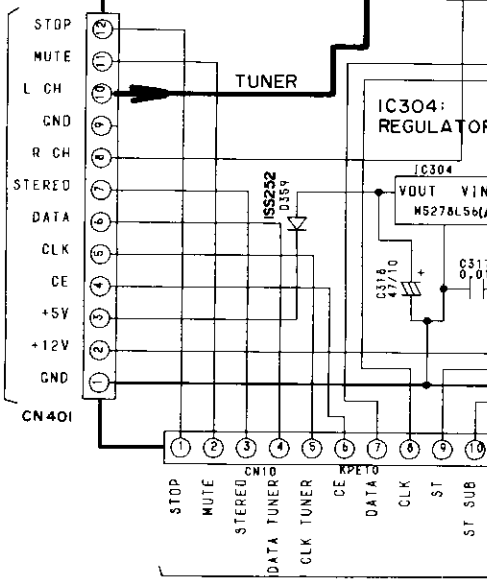
To MR
(To page 32)

EX. MODEL
MULTI ROOM & SOURCE

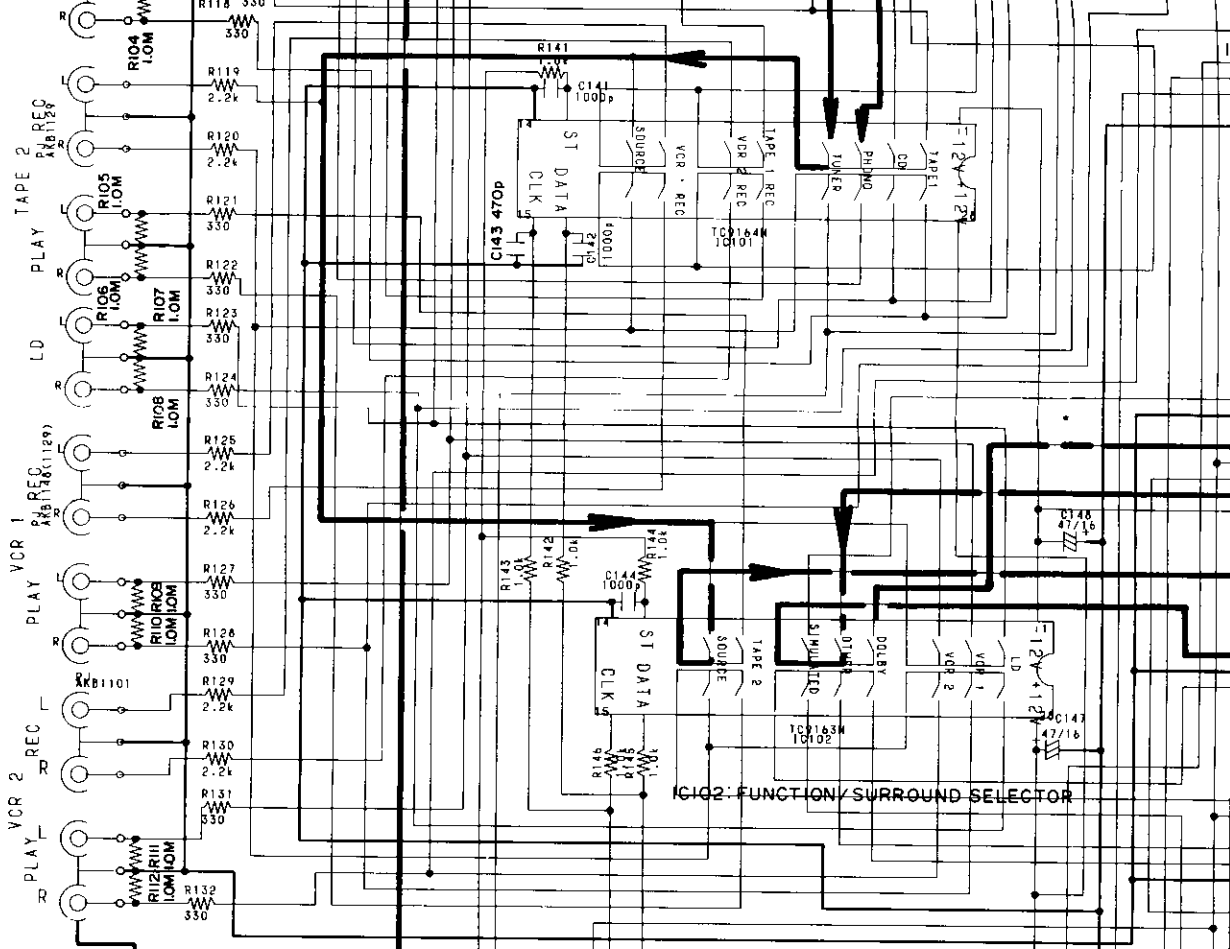
To MR assembly J18
(To page 33)

1y CN401

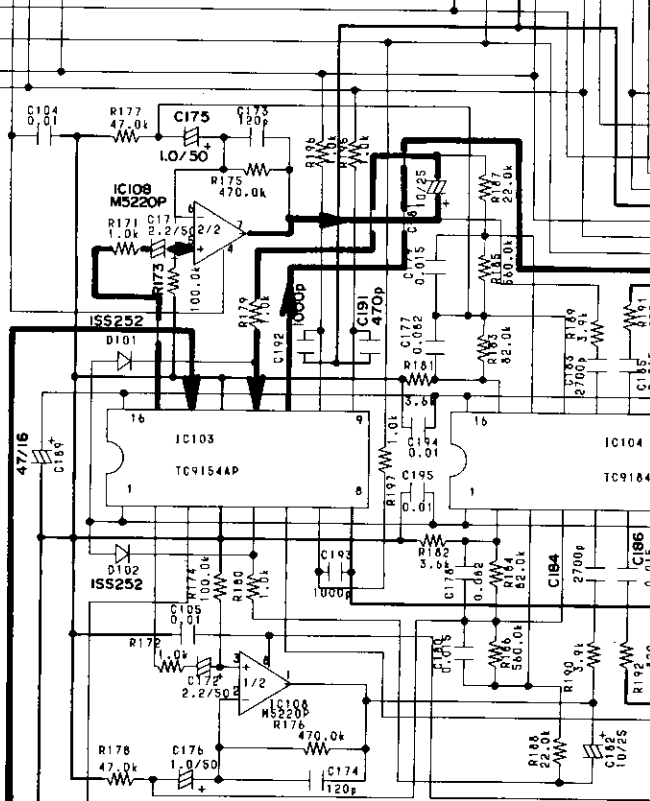
To TUNER assembly CN401
(To page 34)



To FL assembly J10
(To page 35)

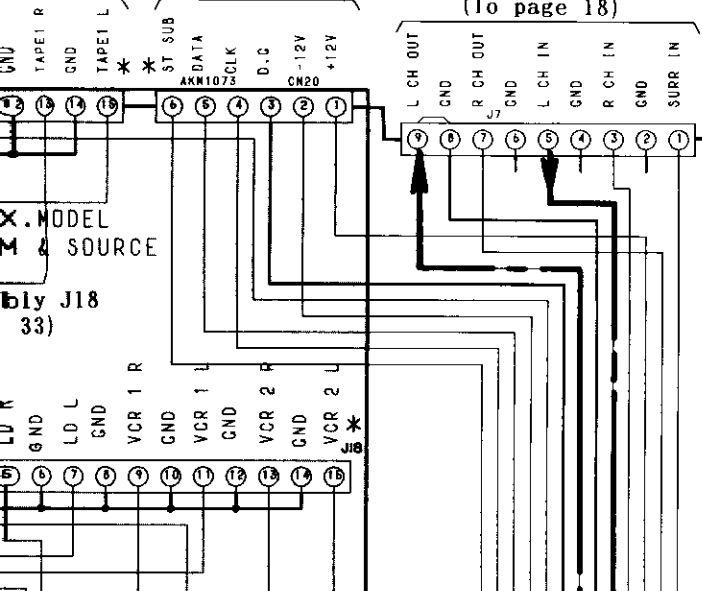


IC103, IC104, IC108: TONE B BALANCE



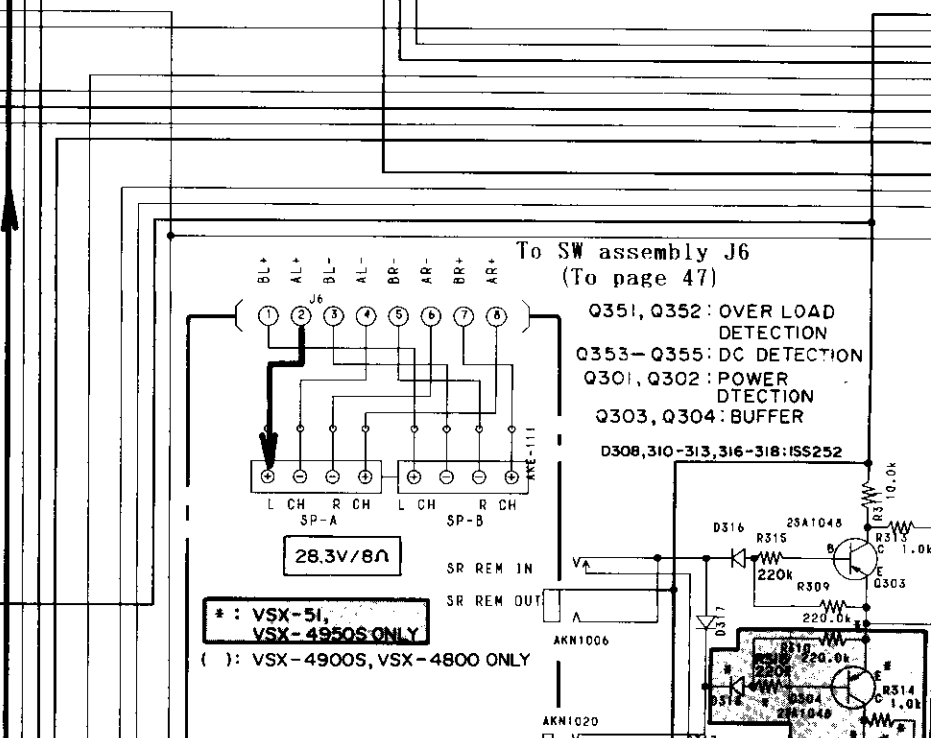
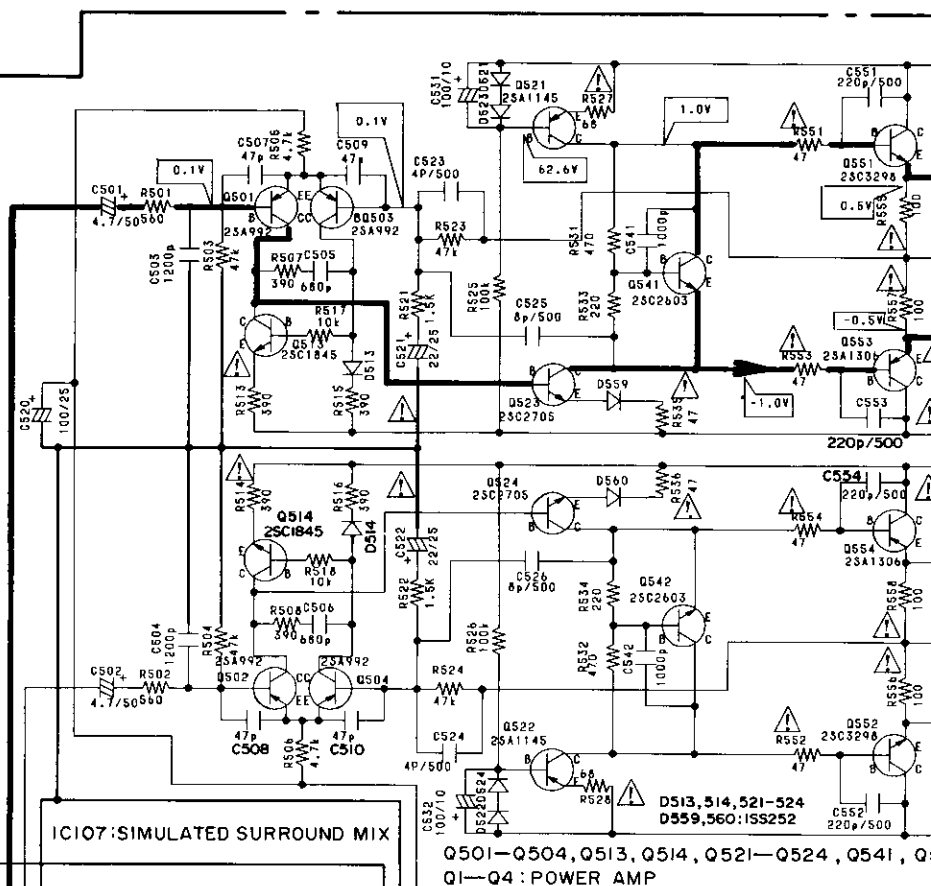
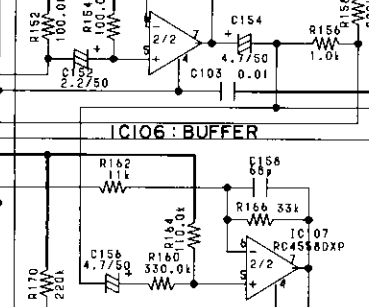
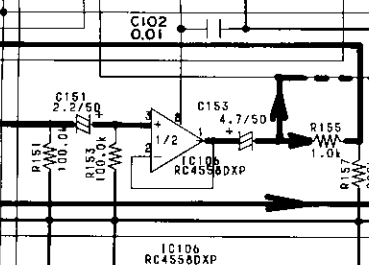
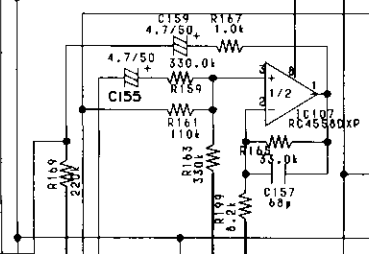
To MR assembly CN20
(To page 32)

To SUR assembly CN7
(To page 18)



X MODEL
& SOURCE
by J18
(33)

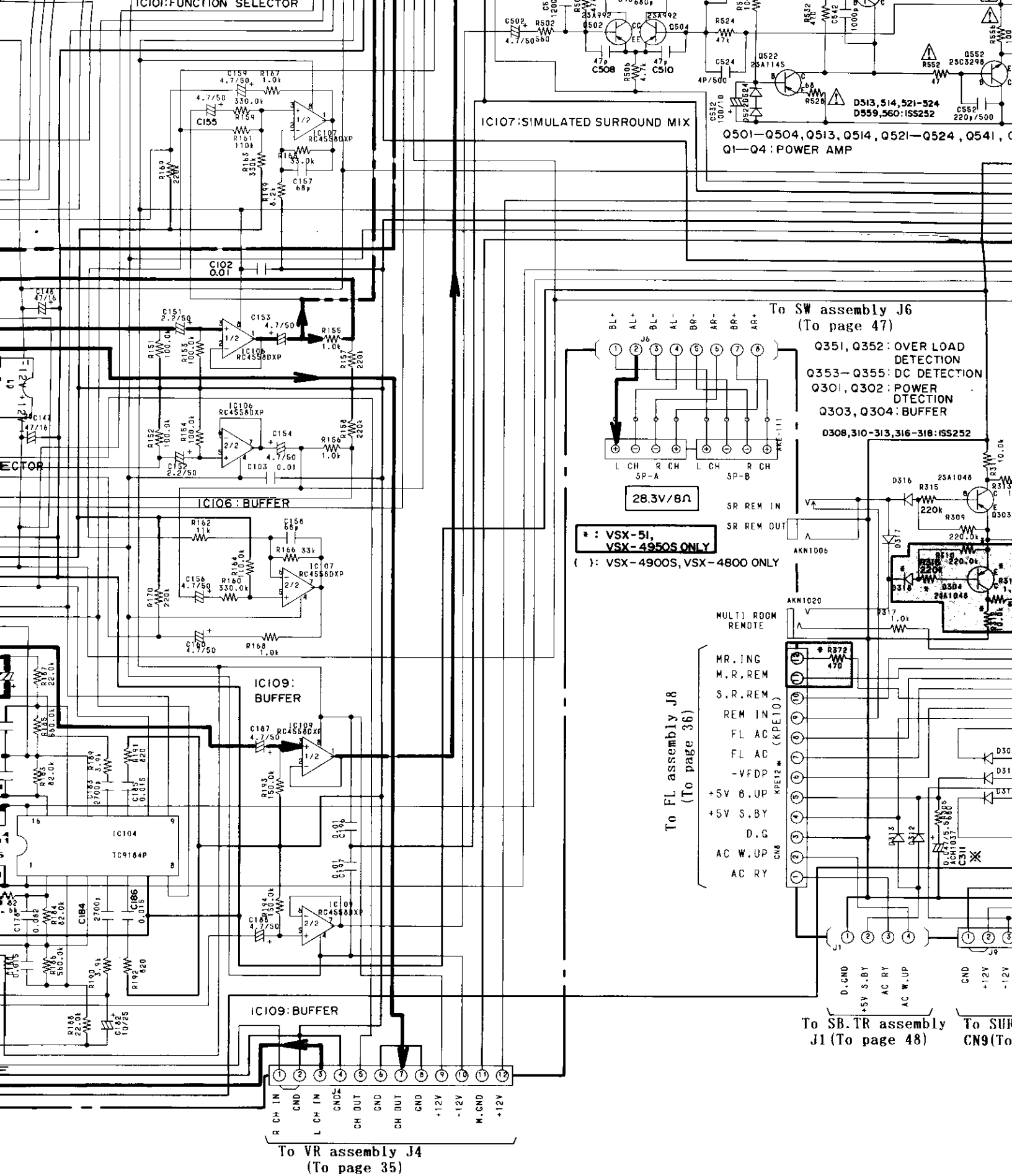
IC101:FUNCTION SELECTOR



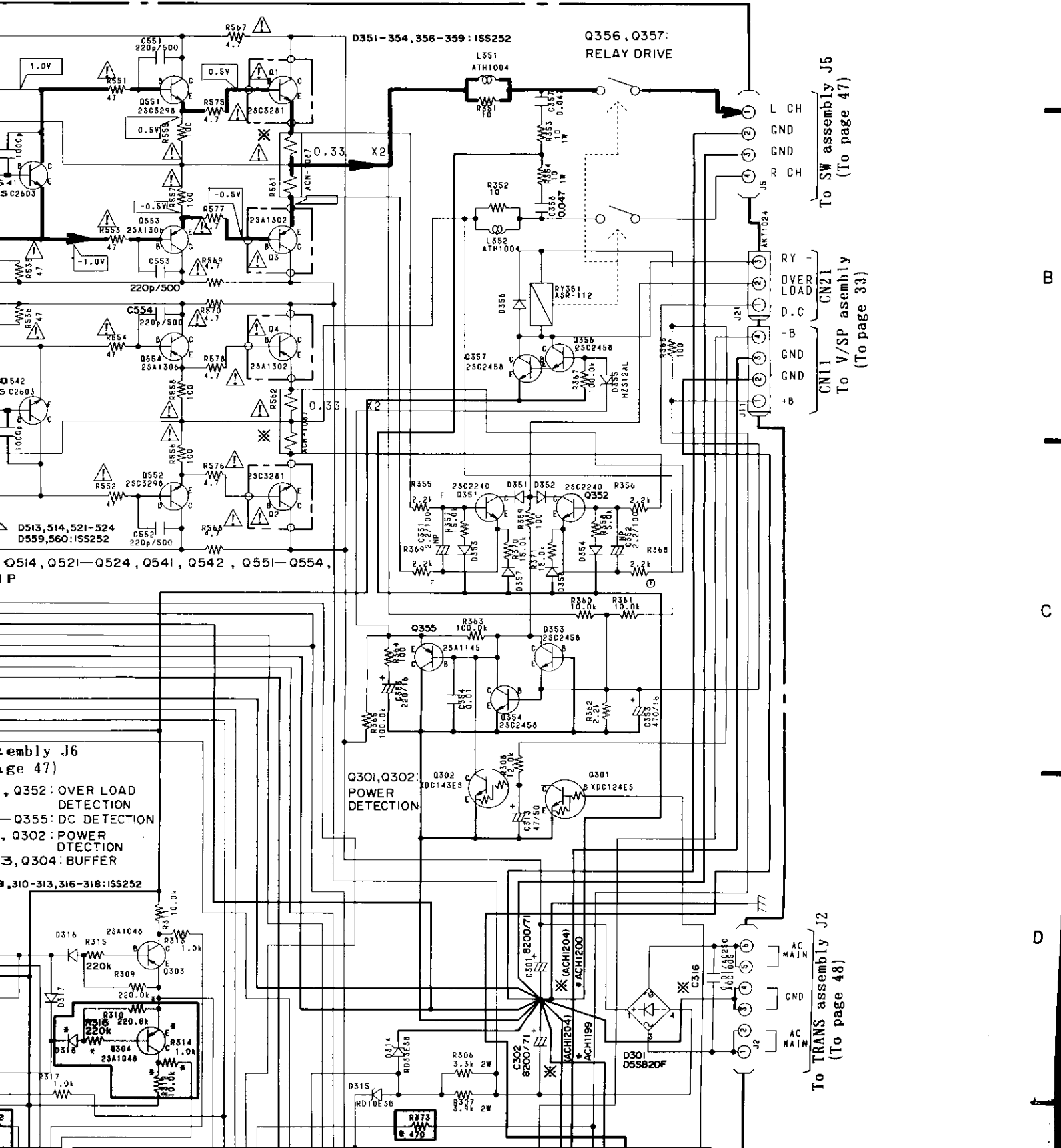
* : VSX-51,
VSX-4950S ONLY
() : VSX-4900S, VSX-4800 ONLY

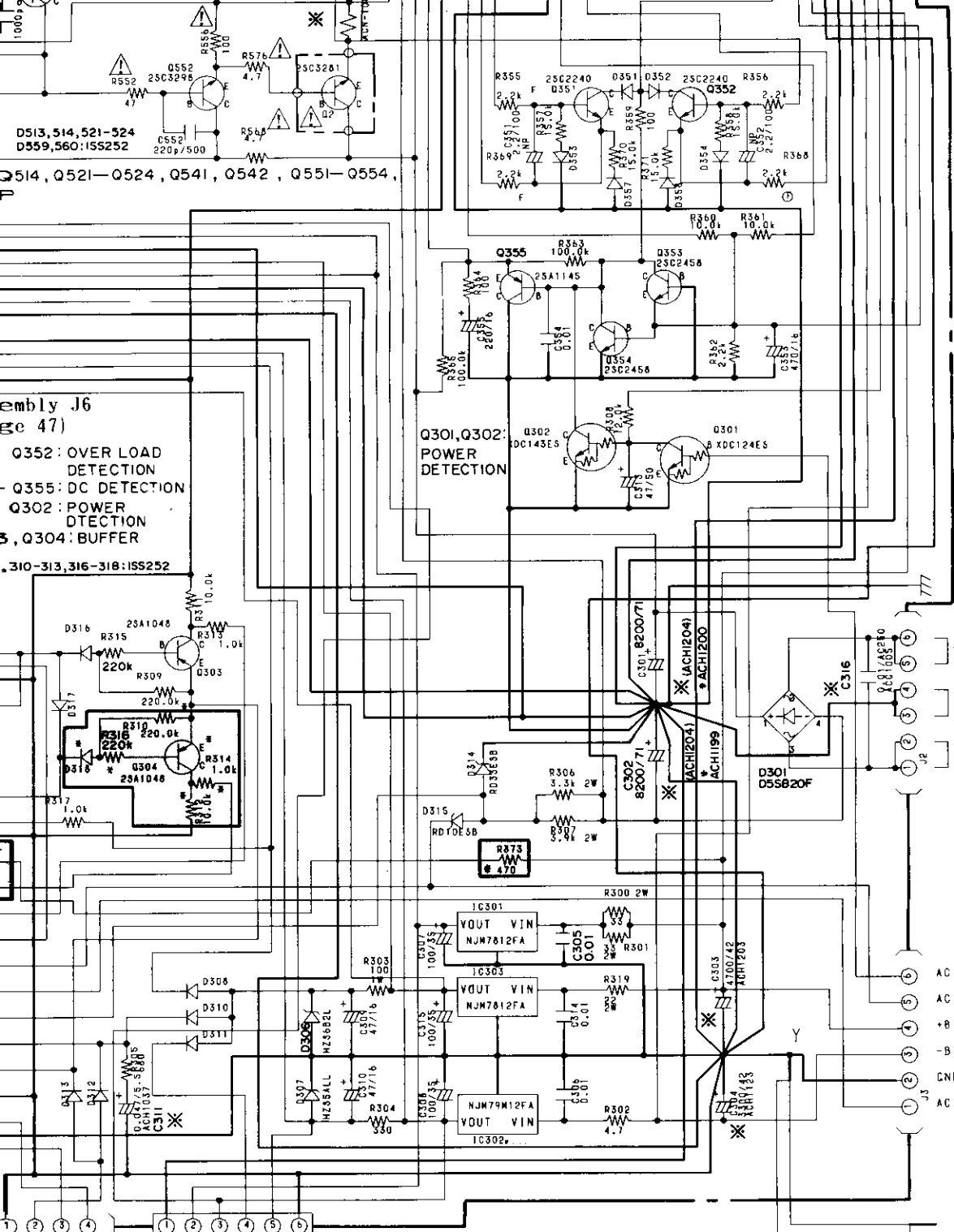
Q351, Q352 : OVER LOAD
DETECTION
Q353-Q355 : DC DETECTION
Q301, Q302 : POWER
DETECTION
Q303, Q304 : BUFFER
D308, 310-313, 316-318 : ISS252

MR. ING
M. D. DEM



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assembly J6
(page 47)

Q352: OVER LOAD
DETECTION
Q355: DC DETECTION
Q302: POWER
DETECTION
Q301, Q303: BUFFER

R310-R313, R316-R318: ISS252

Q301, Q302:
POWER
DETECTION

To TRANS assembly J2
(To page 48)

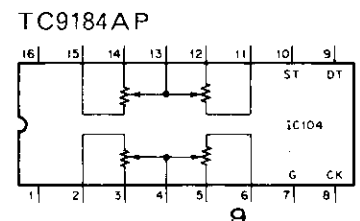
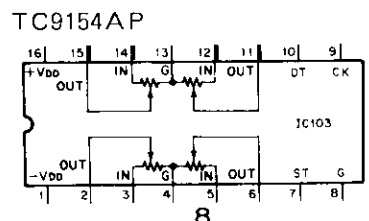
To TRANS assembly J3
(To page 48)

IC301-IC303: REGULATOR

TR assembly (To page 48)

SUR assembly CN9 (To page 18)

GND
 +12V
 -12V
 +5V
 -5V
 D.C. GND



4.3 SUR assembly (AWZ3606)

To VR assembly J12
(To page 35)

A

B

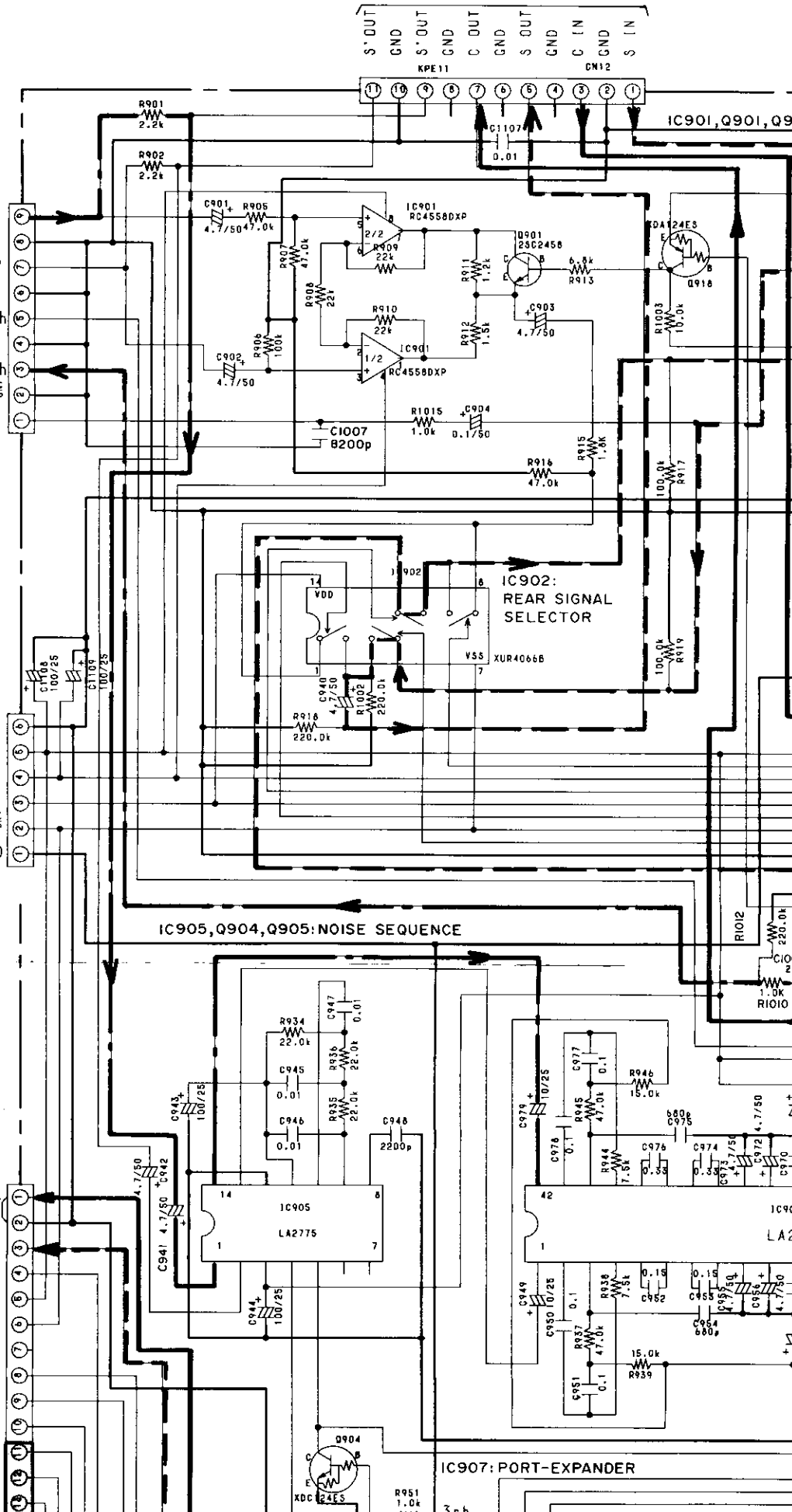
C

D

To AF assembly J7
(To page 16)

To AF assembly J9
(To page 17)

To V/SP assembly J15
(To page 33)



IC907: PORT-EXPANDER

3ch

To AF assembly J9
(To page 17)

- GND
- +12V
- 12V
- +5V
- 5V
- D.GND

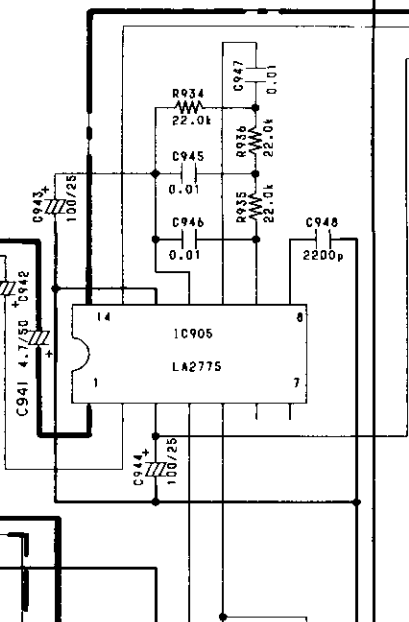
To V/SP assembly J15
(To page 33)

- CENTER/MR.L
- GND
- REAR/MR.R
- C/R
- +12V
- 5V
- GND
- V CONT
- V CONT
- V CONT
- V⁻ CONT
- V⁻ CONT
- V⁻ CONT
- MR
- REC *

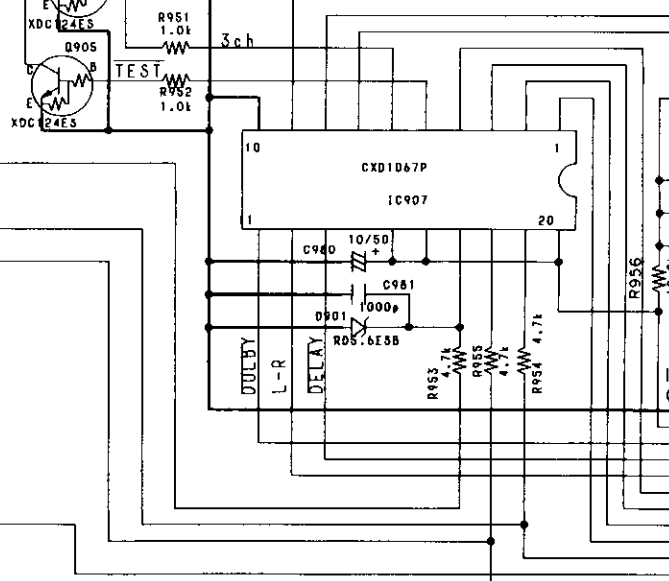
To FL assembly J14
(To page 35)

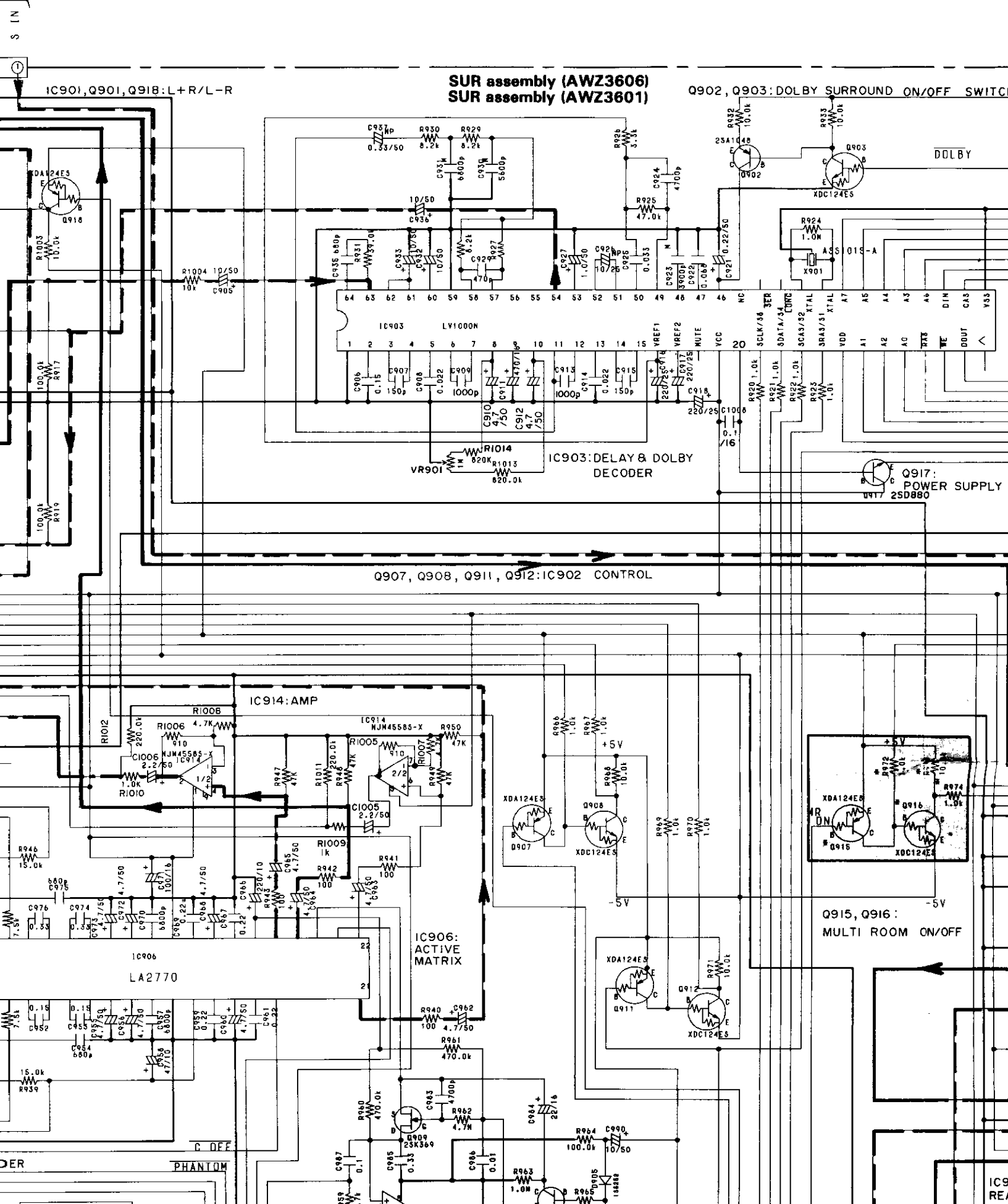
- ST3
- ST2
- CLK
- DATA
- C/R SP
- V CONT
- V CONT
- V CONT
- V⁻ CONT
- V⁻ CONT
- V⁻ CONT
- MR SP
- REC *

IC905, Q904, Q905: NOISE SEQUENCE



IC907: PORT-EXPANDER





SUR assembly (AWZ3606)
SUR assembly (AWZ3601)

Q902, Q903: DOLBY SURROUND ON/OFF SWITCH

IC901, Q901, Q918: L+R/L-R

DOLBY

Q907, Q908, Q911, Q912: IC902 CONTROL

IC914: AMP

IC906: ACTIVE MATRIX

Q915, Q916: MULTI ROOM ON/OFF

Q917: POWER SUPPLY
 U917 25D880

IC903: DELAY & DOLBY DECODER

S IN

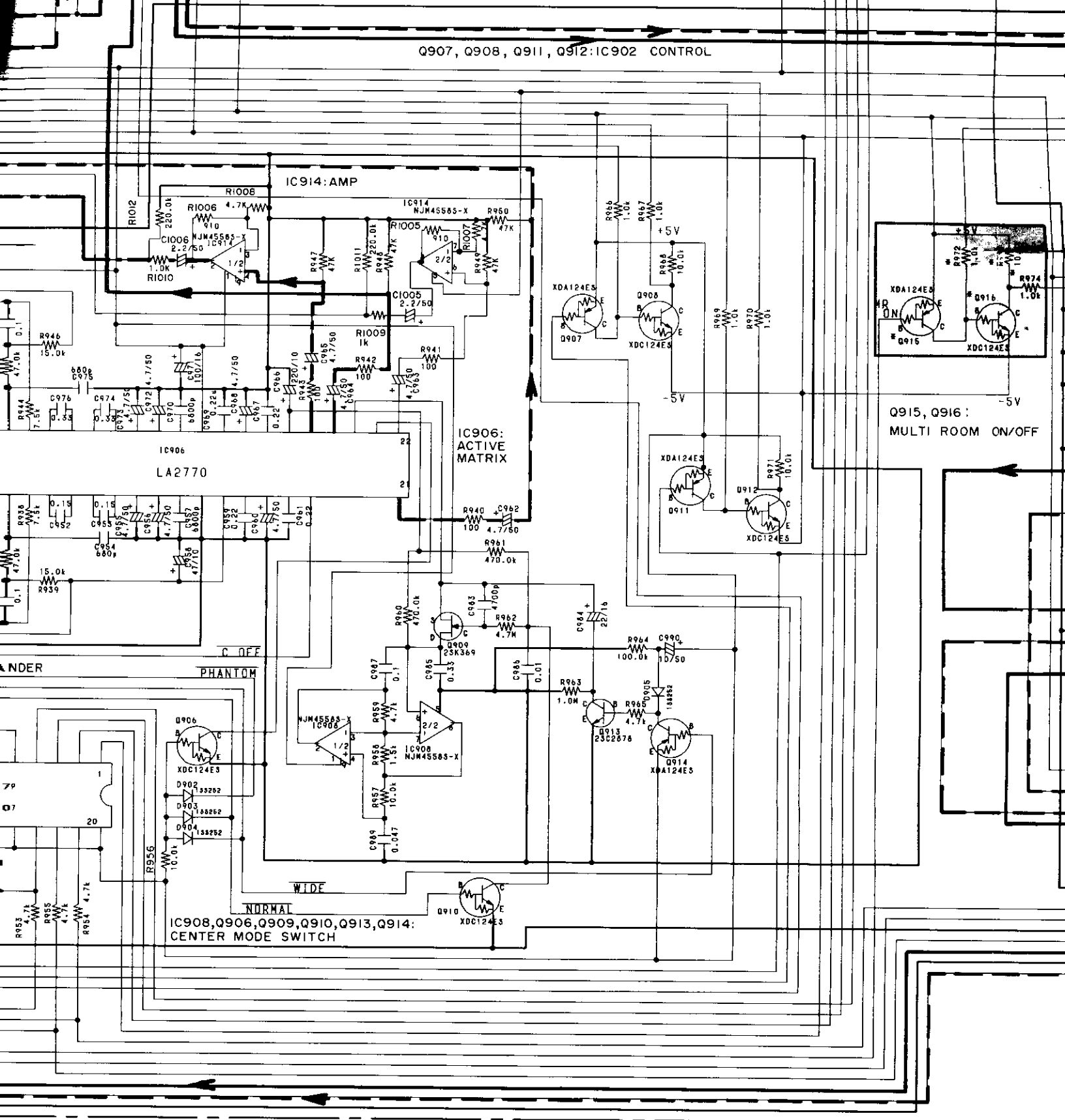
DER

PHANTOM

C DEF

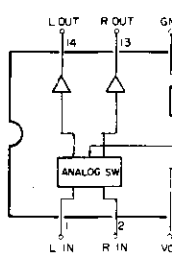
IC9 RE

Q907, Q908, Q911, Q912: IC902 CONTROL

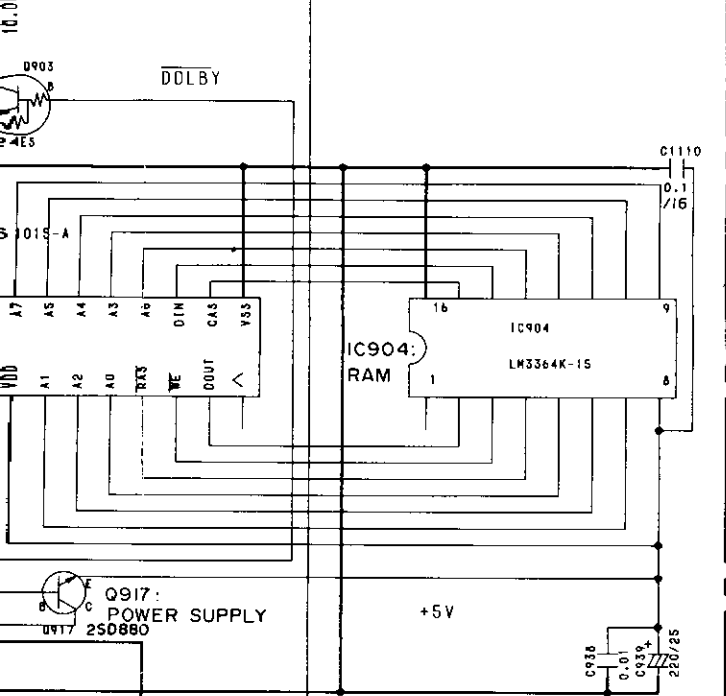


14

LA2775



SURROUND ON/OFF SWITCH

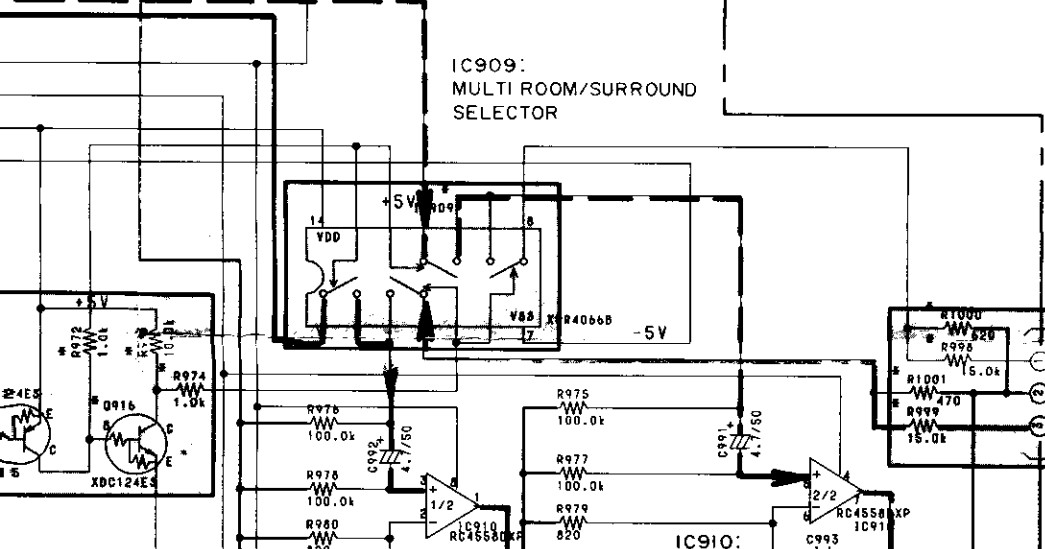


Q917:
POWER SUPPLY
0917 250880

+5V

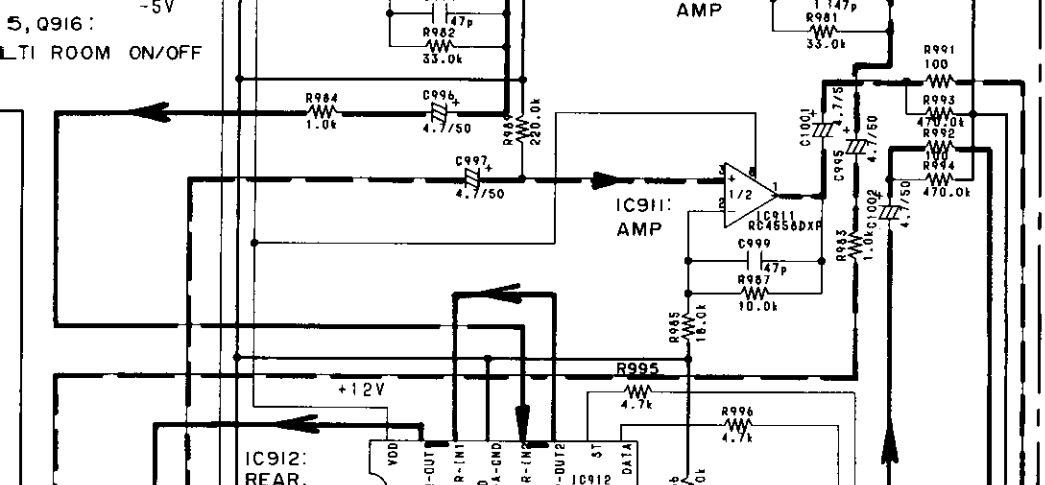
Q916:
MULTI ROOM ON/OFF

IC909:
MULTI ROOM/SURROUND
SELECTOR



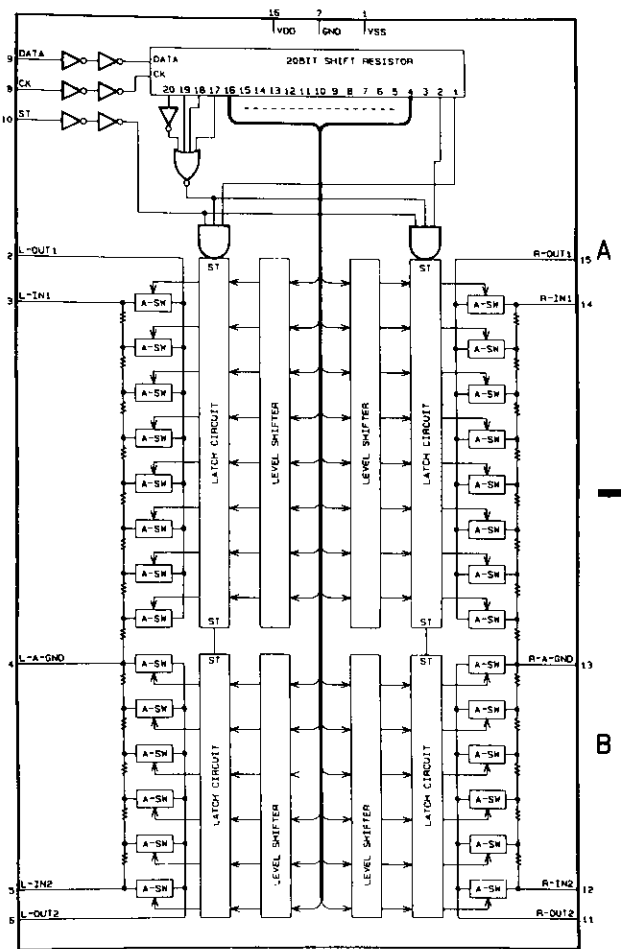
IC910:
AMP

IC911:
AMP



X:VSX-51,
VSX-4950S
ONLY

To MR assembly CN19
(To page 33)



TC9176P

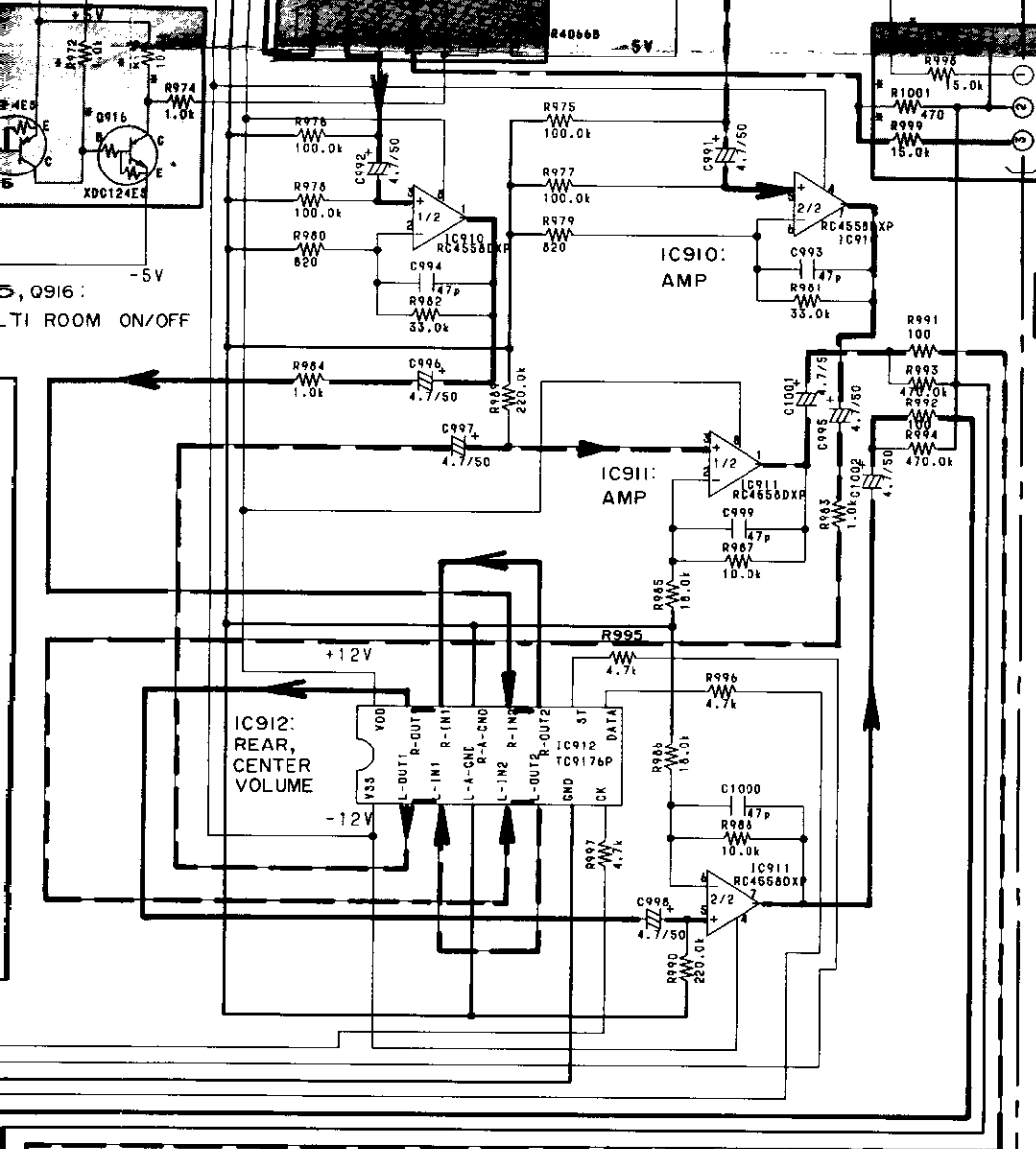
A

B

C

D

IC909:
MULTI ROOM/SURROUND
SELECTOR



To MR assembly CN19
(To page 33)

X:VSX-51,
VSX-4950S
ONLY

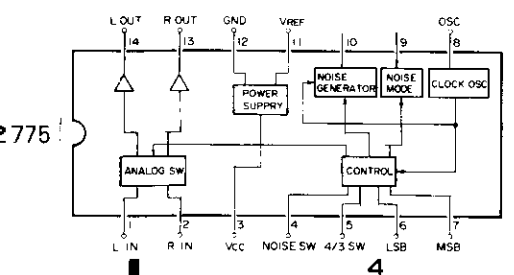
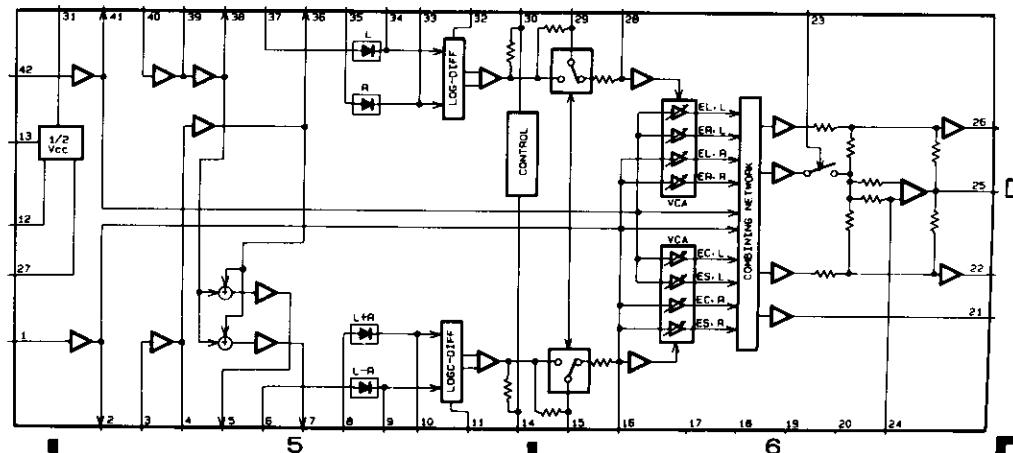
5, Q916:
MULTI ROOM ON/OFF

IC912:
REAR,
CENTER
VOLUME

IC910:
AMP

IC911:
AMP

LA2770



2775!

4

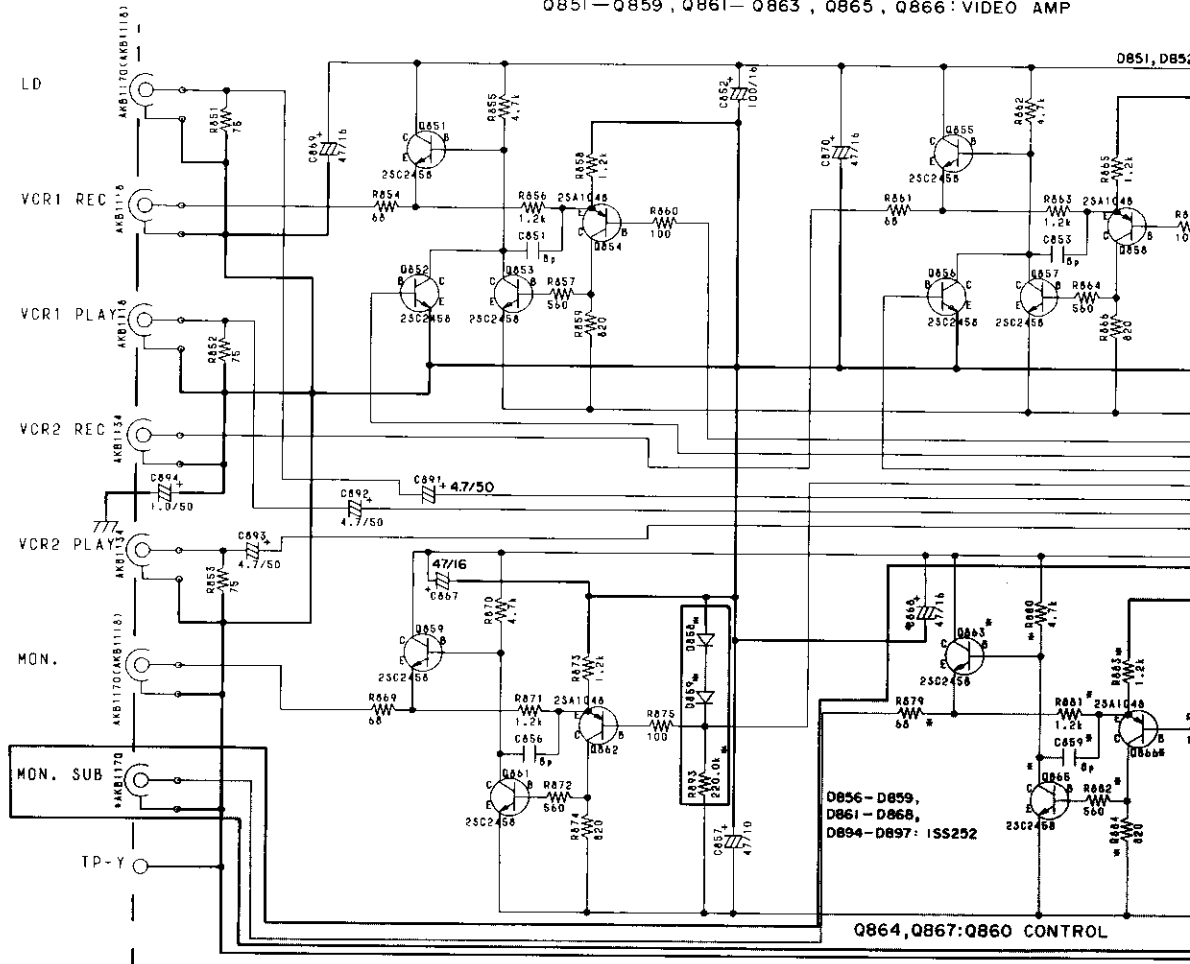
5

6

30

V/SP assembly (AWZ3608)
V/SP assembly (AWZ3603)

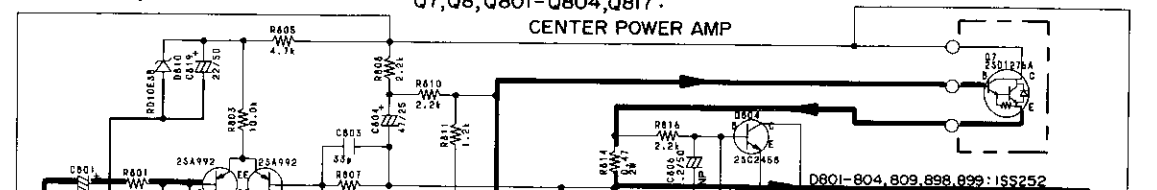
Q851-Q859, Q861-Q863, Q865, Q866: VIDEO AMP

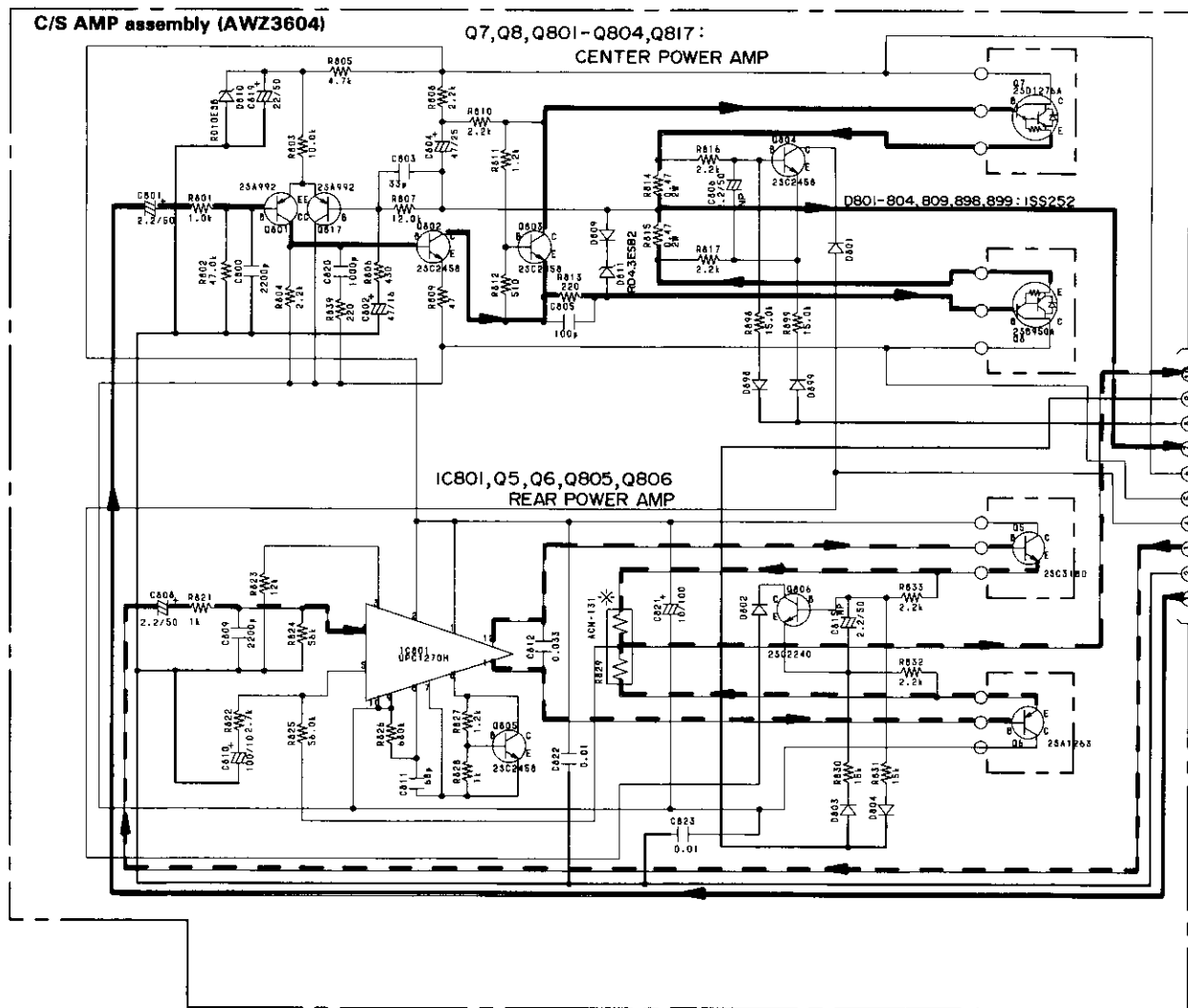
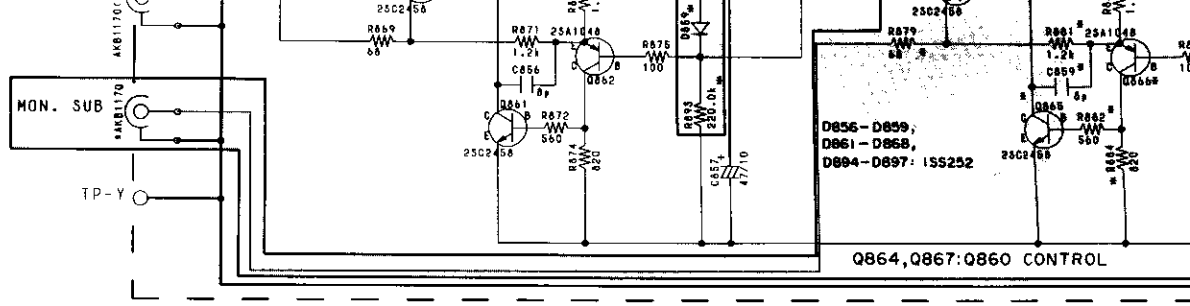


C/S AMP assembly (AWZ3604)

Q7, Q8, Q801-Q804, Q817:

CENTER POWER AMP





To AF assembly
(To page 17)
J11 J21

EO AMP

D851, D852 : ISS252

IC851: SELECTOR

IC852: SELECTOR

Q850: SELECTOR CONTROL

Q807, Q808: RELAY DRIVE

D805-D808: ISS

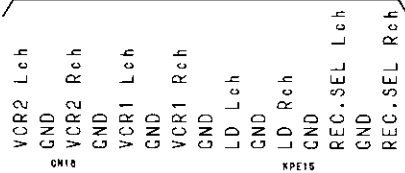
Q860 CONTROL

Q860: SWITCH

IC853: SELECTOR

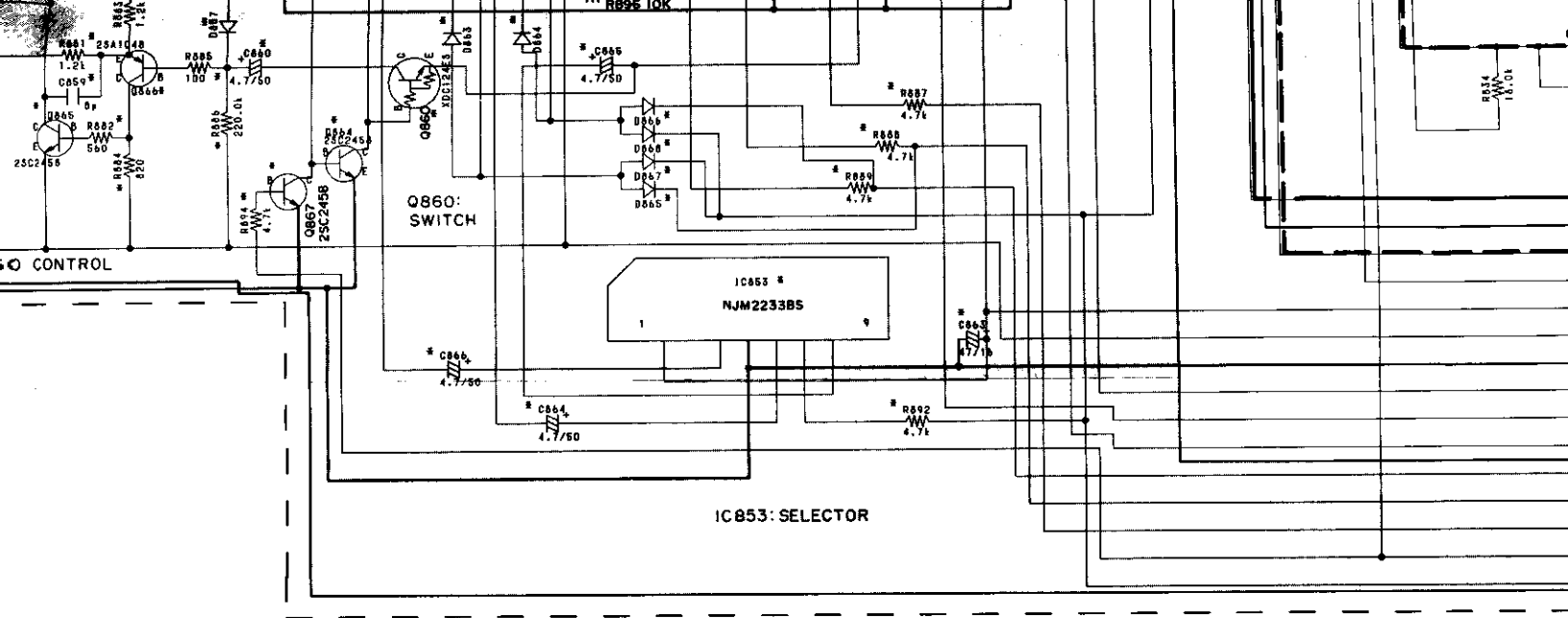
* : VSX-51, VSX-4950S ONLY
() : VSX-4900S, VSX-4800 ONLY

To AF assembly J18
(To page 15)

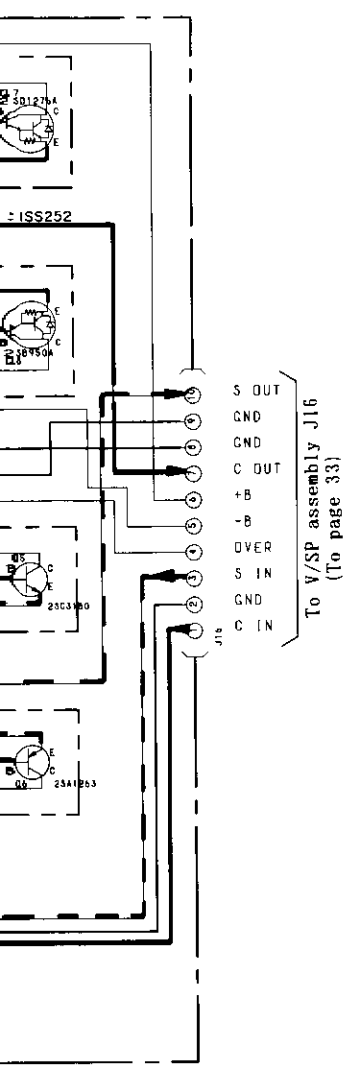


MR assembly (VS

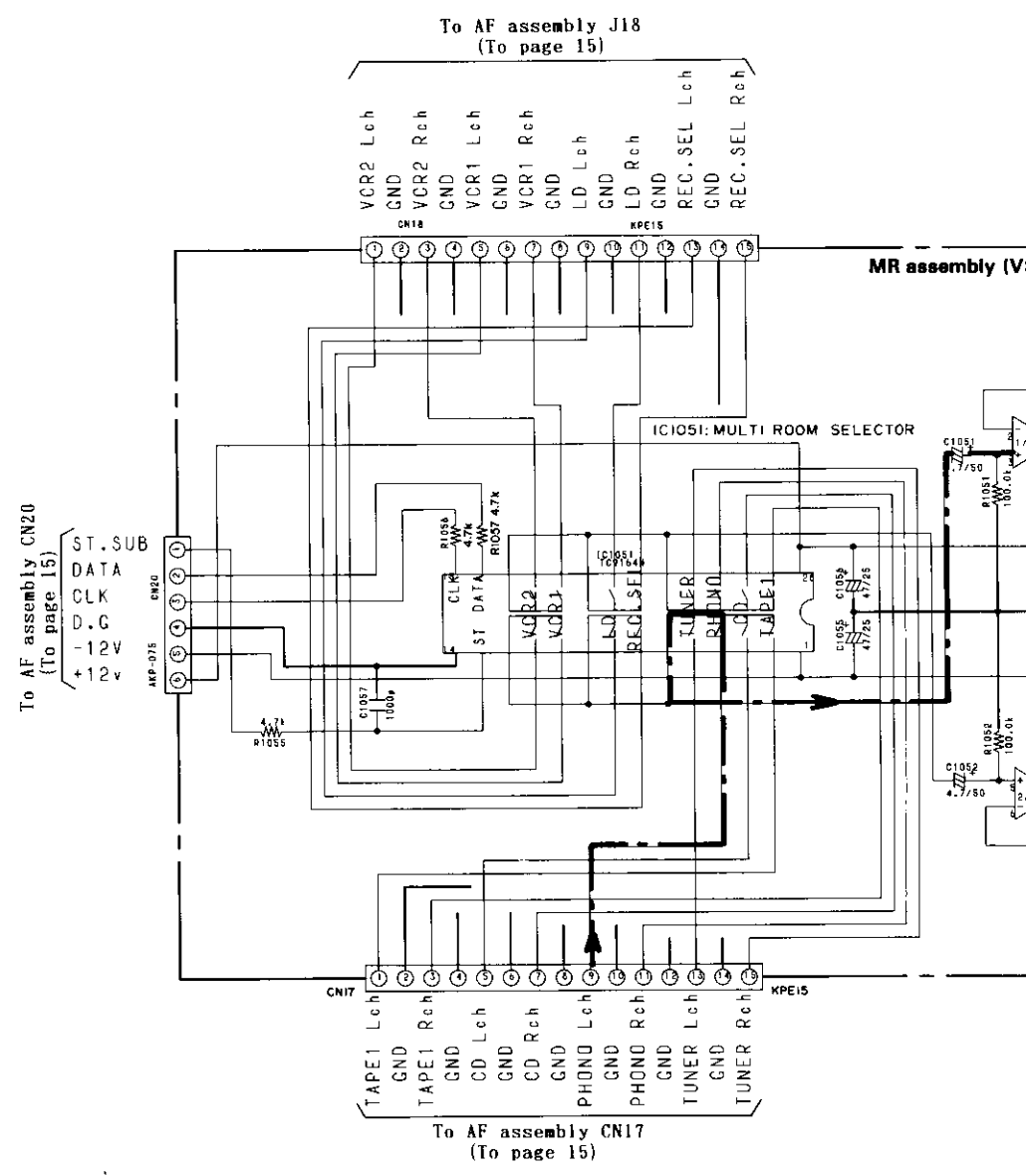
ISS252



* : VSX-51, VSX-4950S ONLY
 () : VSX-4900S, VSX-4800 ONLY



To V/SP assembly J16
 (To page 33)

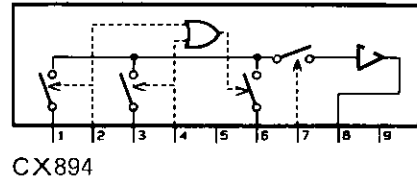
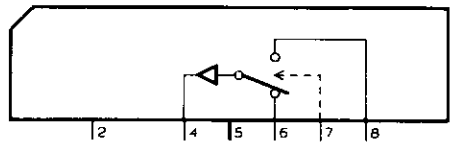
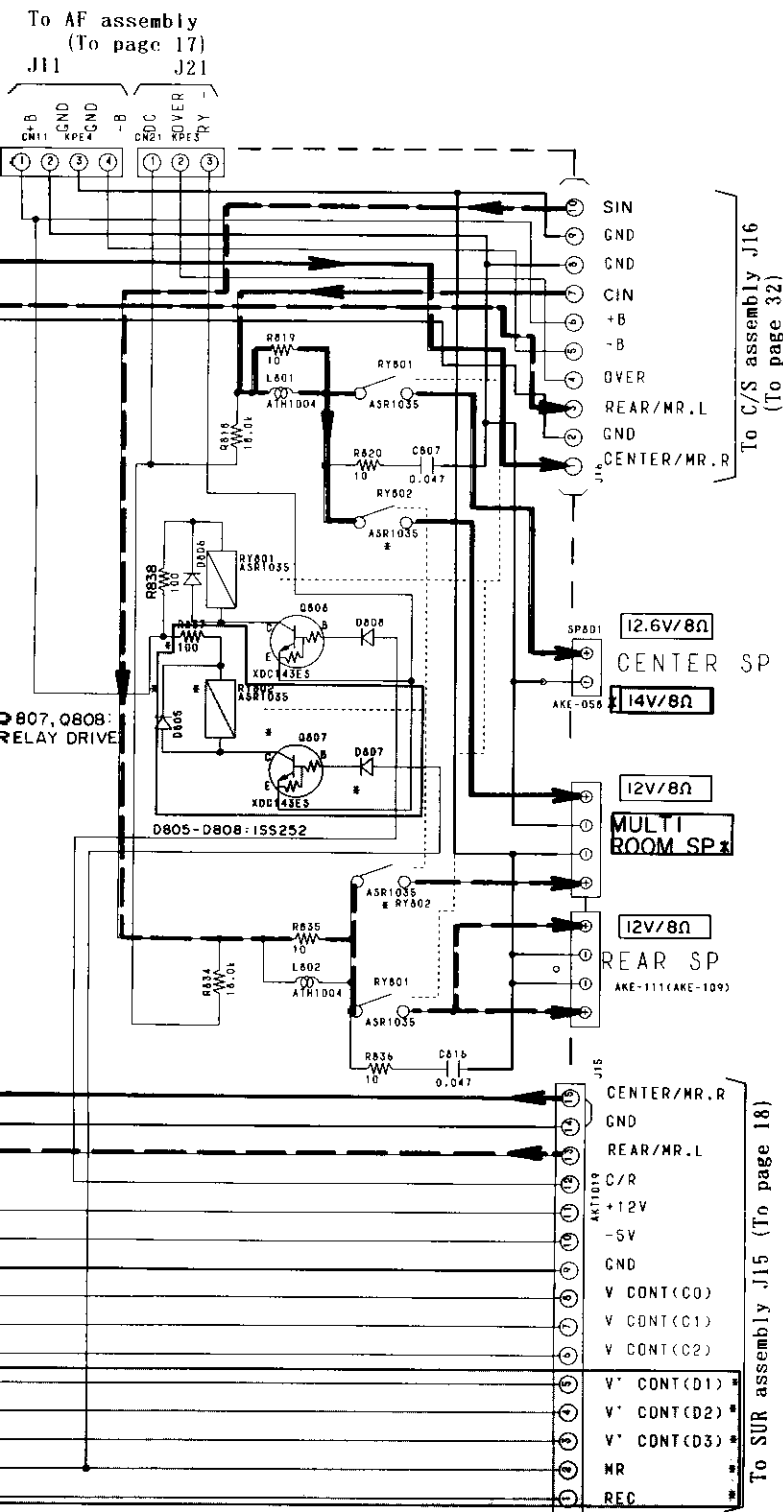


To AF assembly CN20
 (To page 15)

To AF assembly J18
 (To page 15)

To AF assembly CN17
 (To page 15)

32

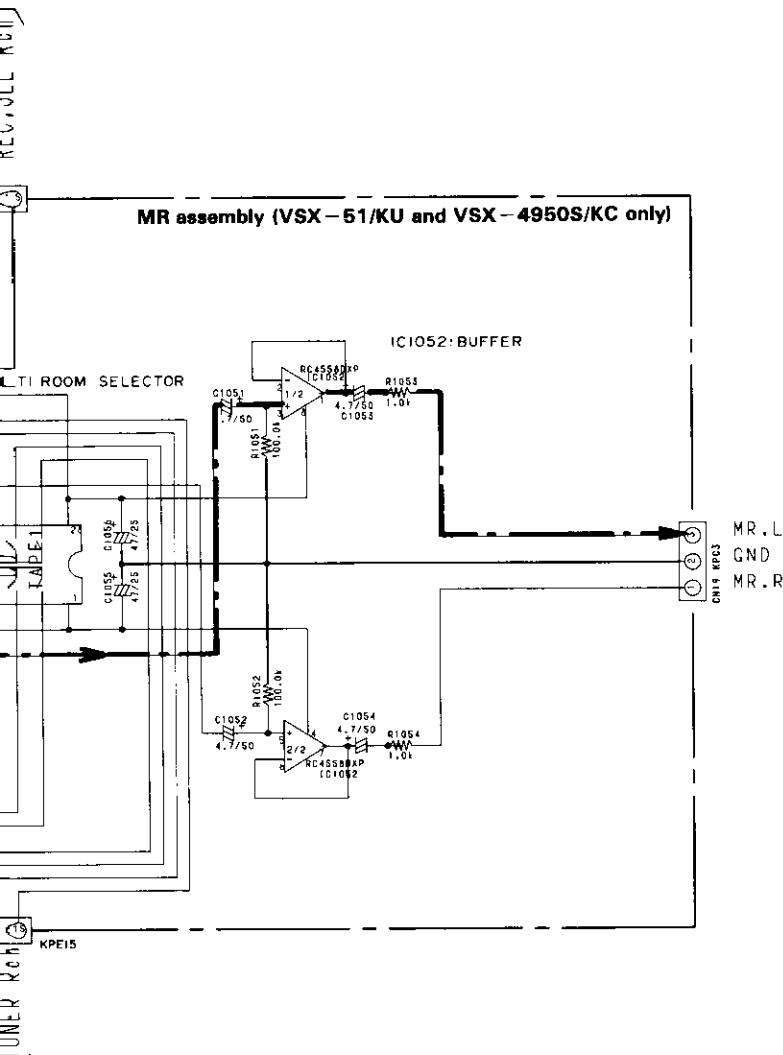
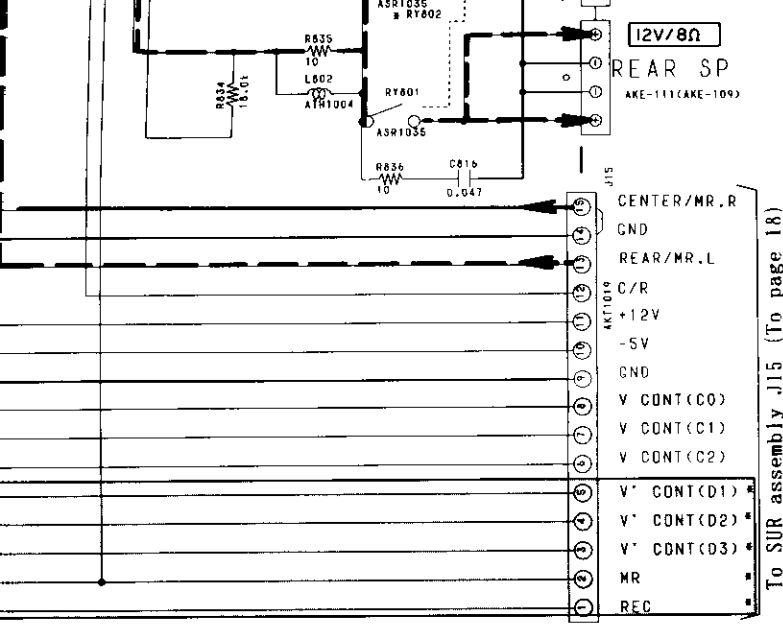


A

B

C

D



C

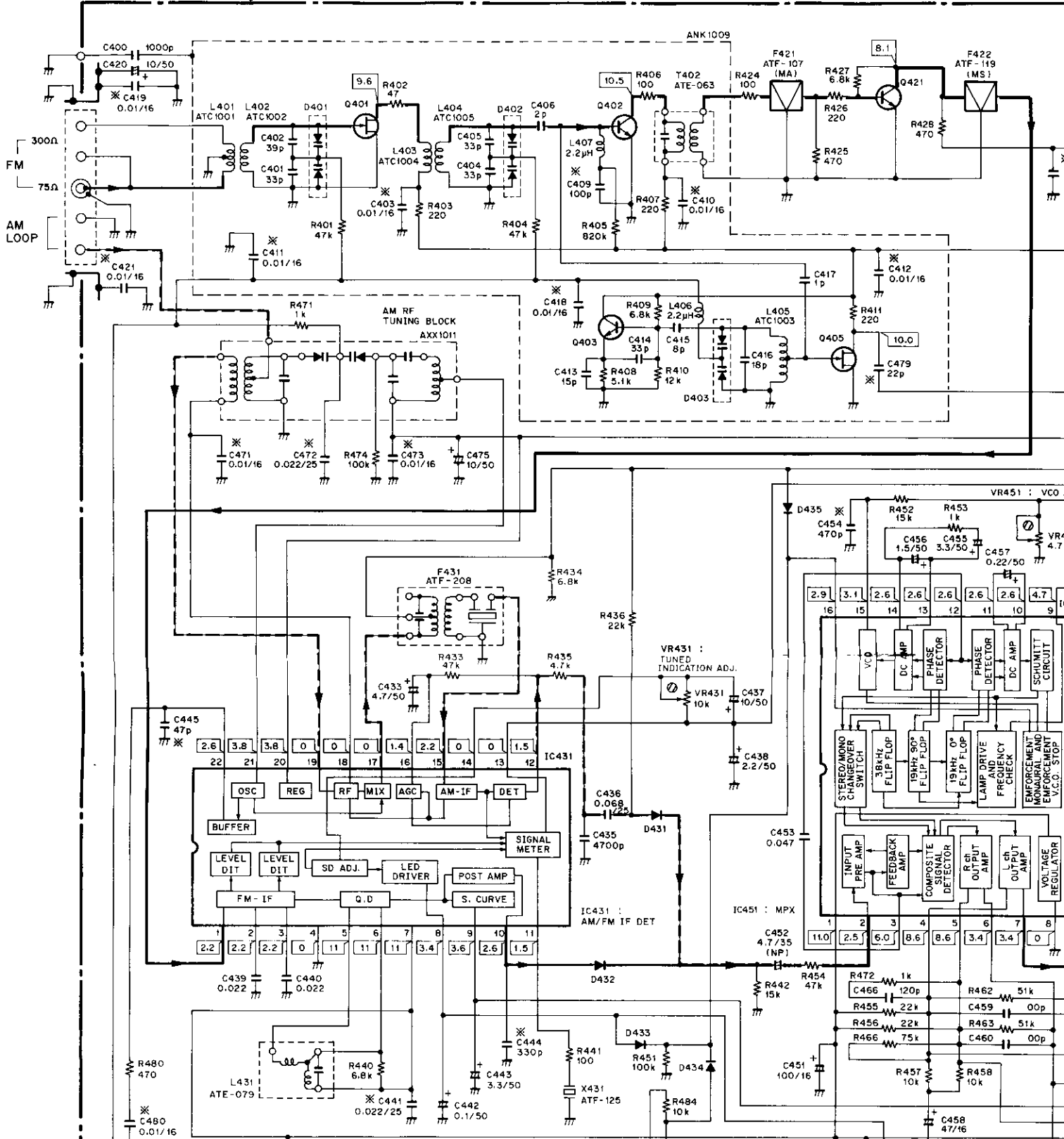
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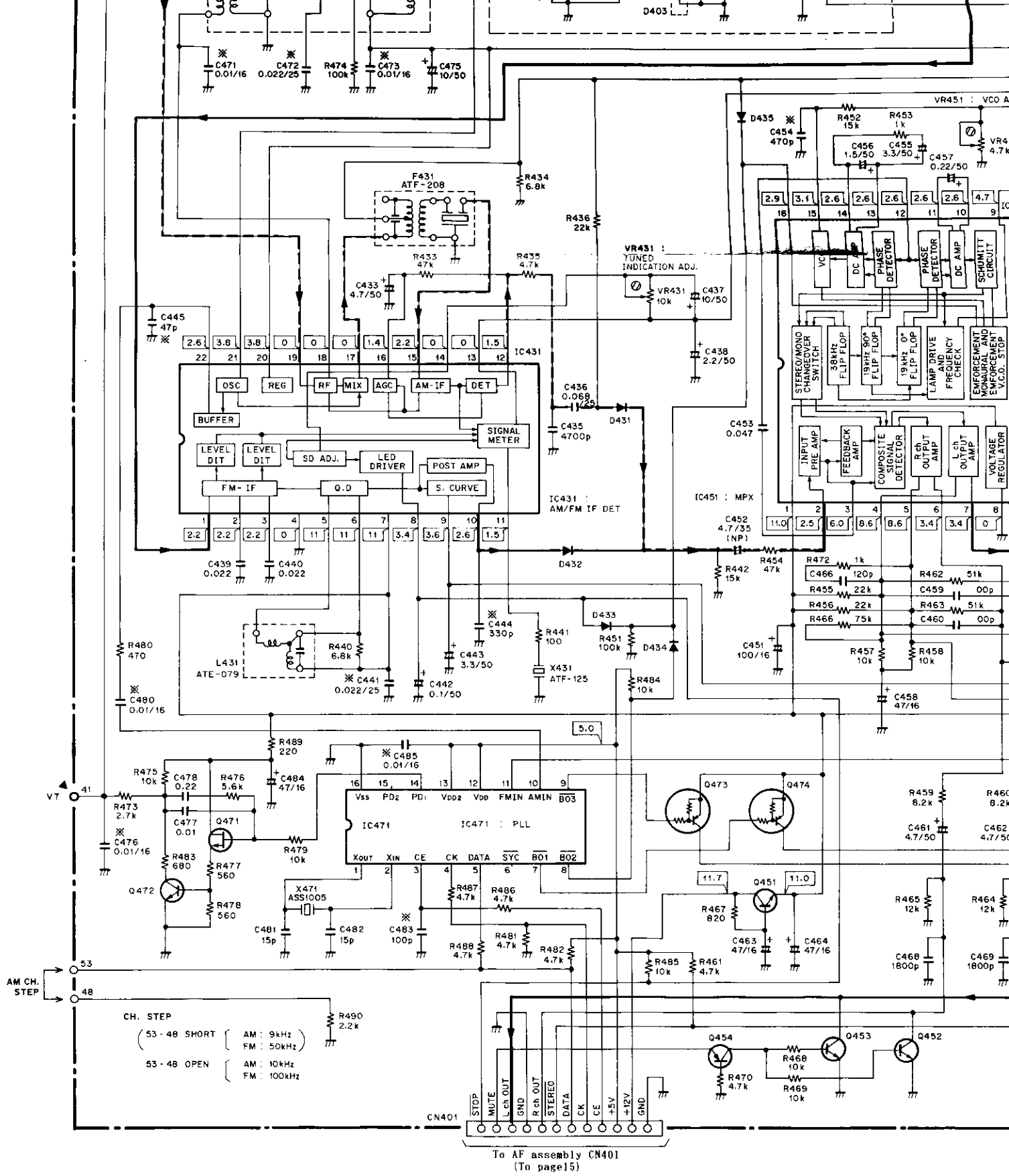
C

D

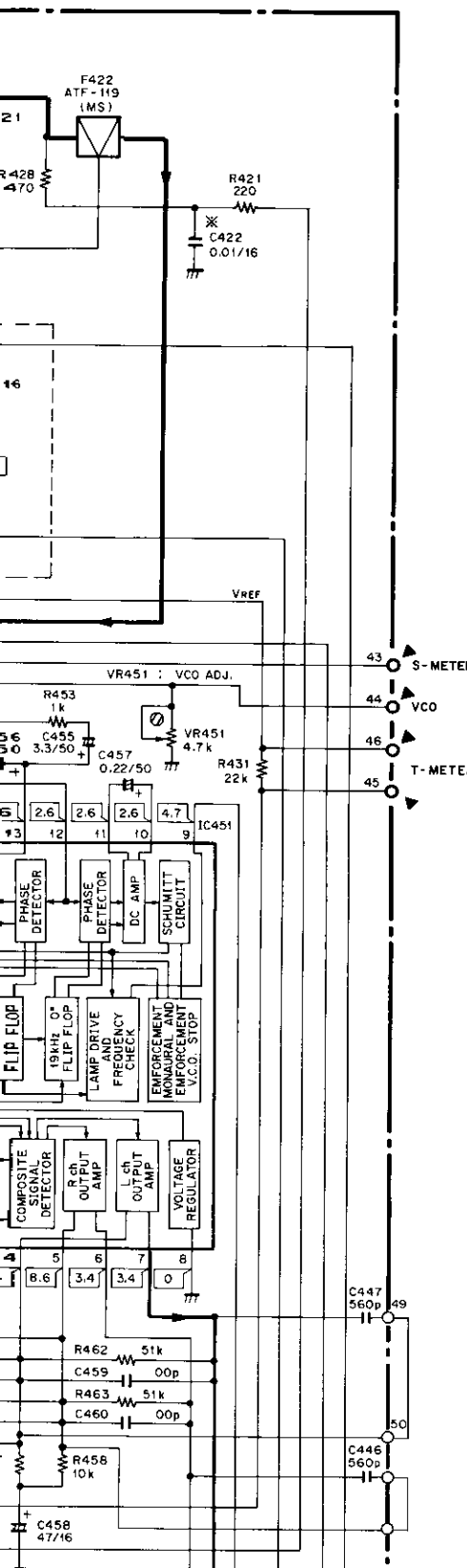
4.5 TUNER (AWE1140), FL (AWZ3607) and VR assembly (AWZ3599)

TUNER assembly (AWE1140)

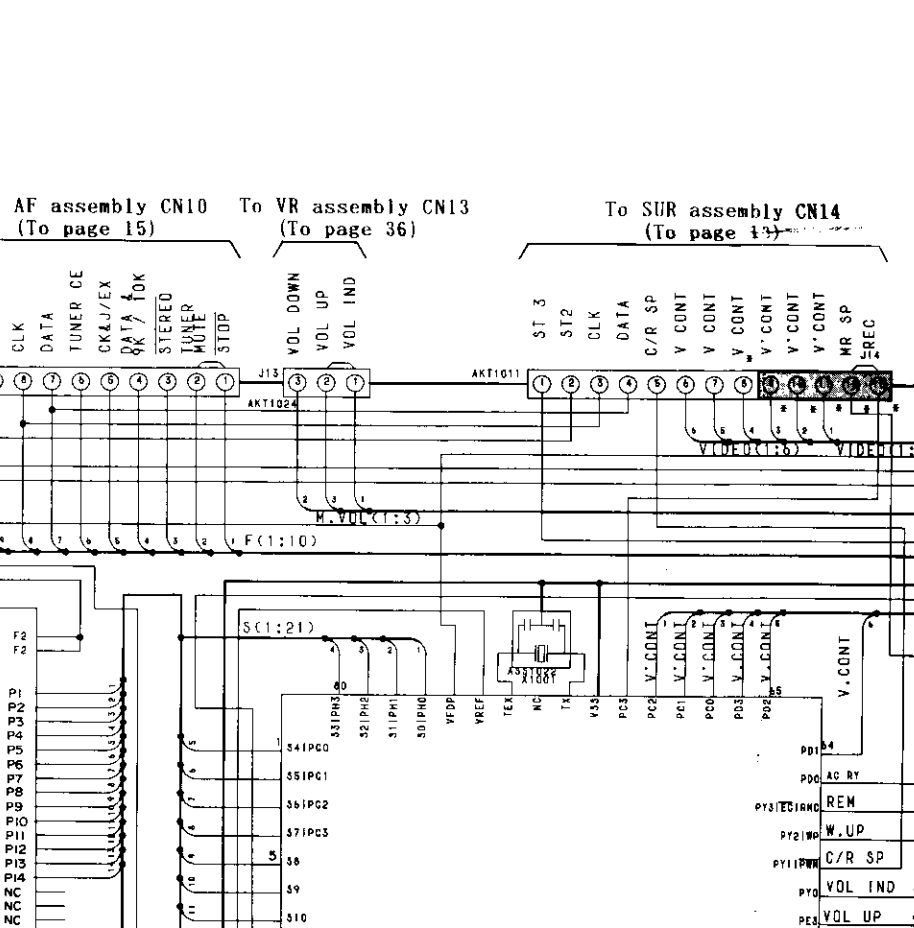
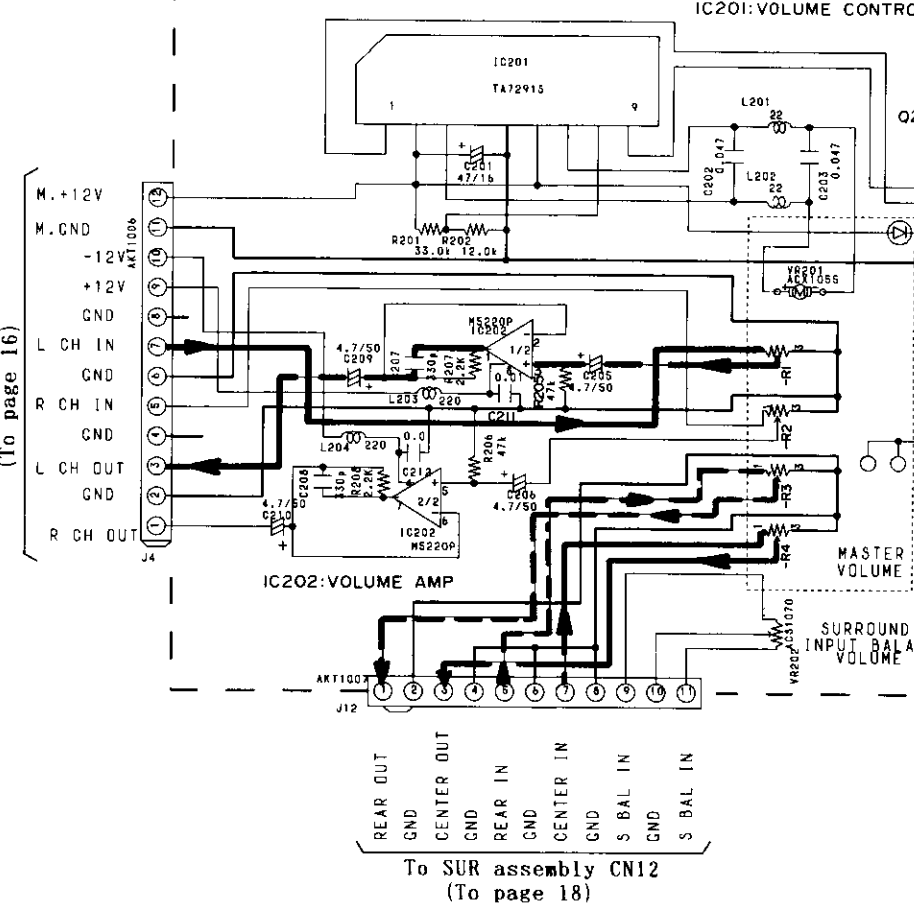


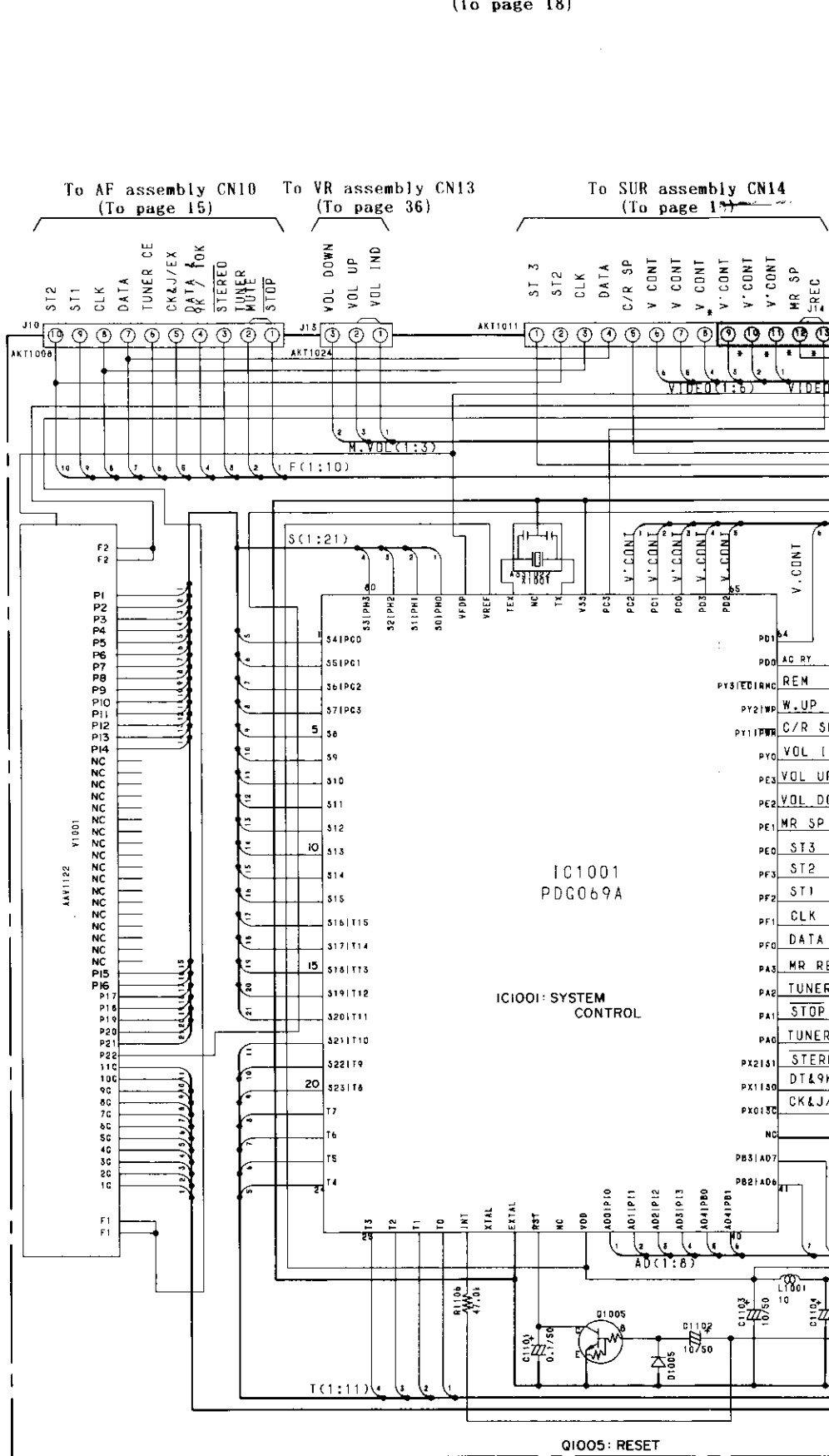
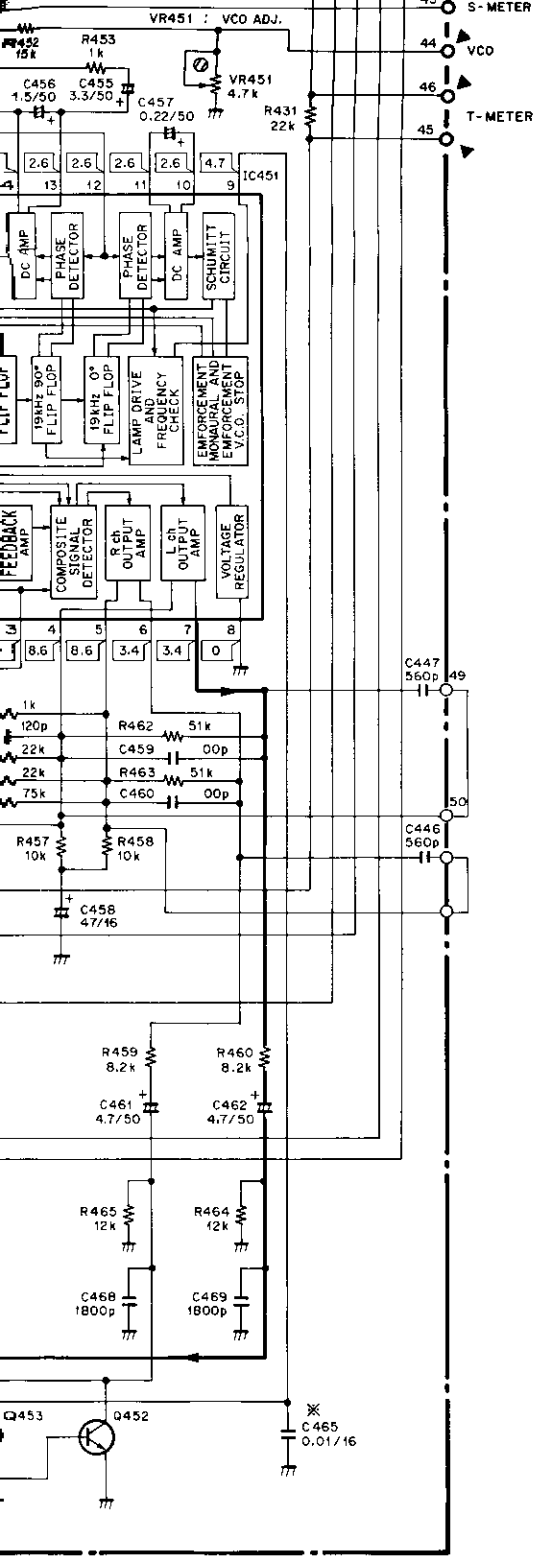


To AF assembly CN401
(To page 15)



VR assembly (AWZ3599)

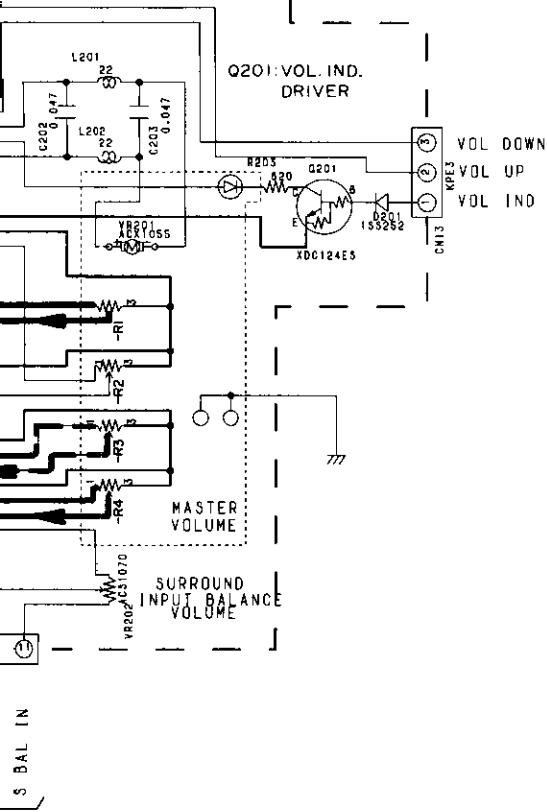




35

IC201: VOLUME CONTROL

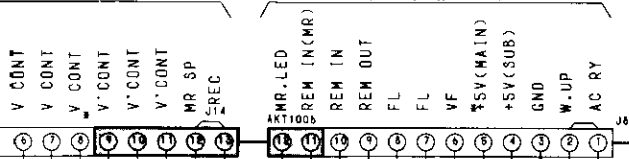
Q201: VOL. IND. DRIVER



To FL assembly J13
(To page 35)

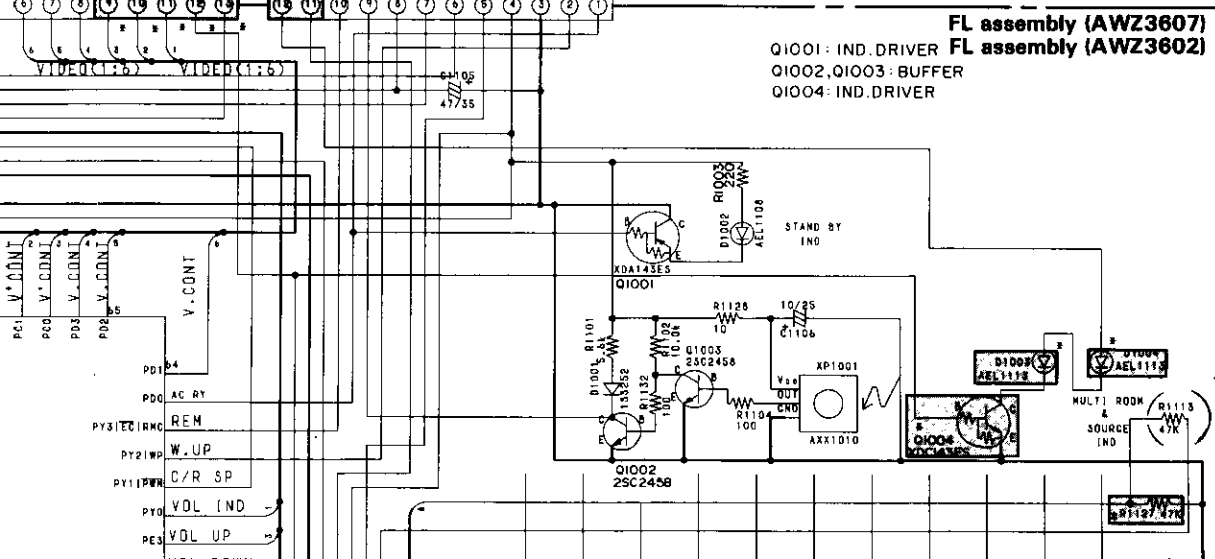
assembly CN14
page 1

To AF assembly CN8
(To page 16)



FL assembly (AWZ3607)
FL assembly (AWZ3602)

- Q1001: IND. DRIVER
- Q1002, Q1003: BUFFER
- Q1004: IND. DRIVER



A

B

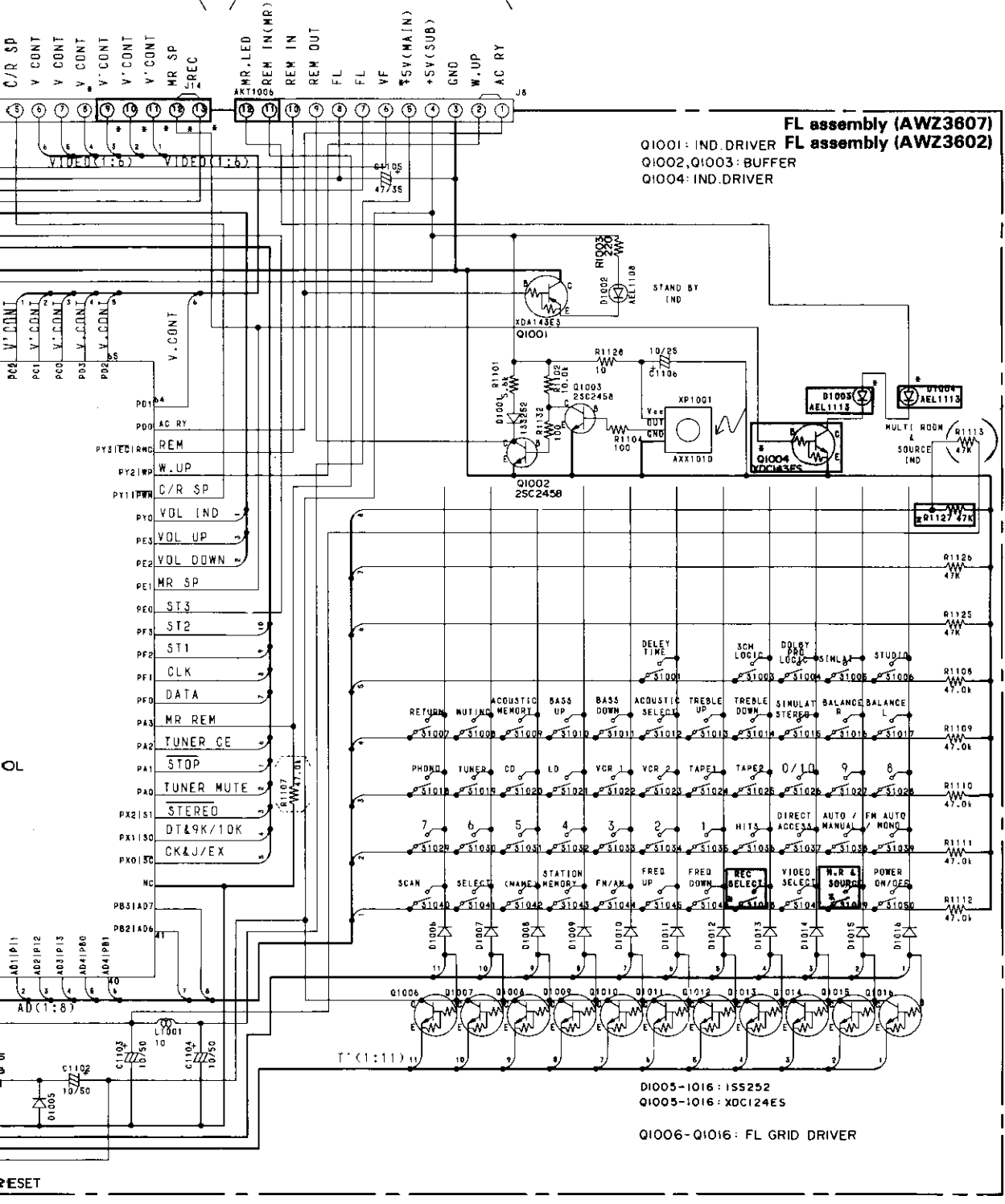
C

D

2
S BAL IN

SUR assembly CN14
(To page 17)

To AF assembly CN8
(To page 16)



36

A

B

C

D

IC912
IC911 Q917
Q902 IC904 Q903

IC909 IC910
Q912 Q916 Q911
IC903

To AF assembly J9
(To page 14)

To FL assembly J14
(To page 39)

NOTE

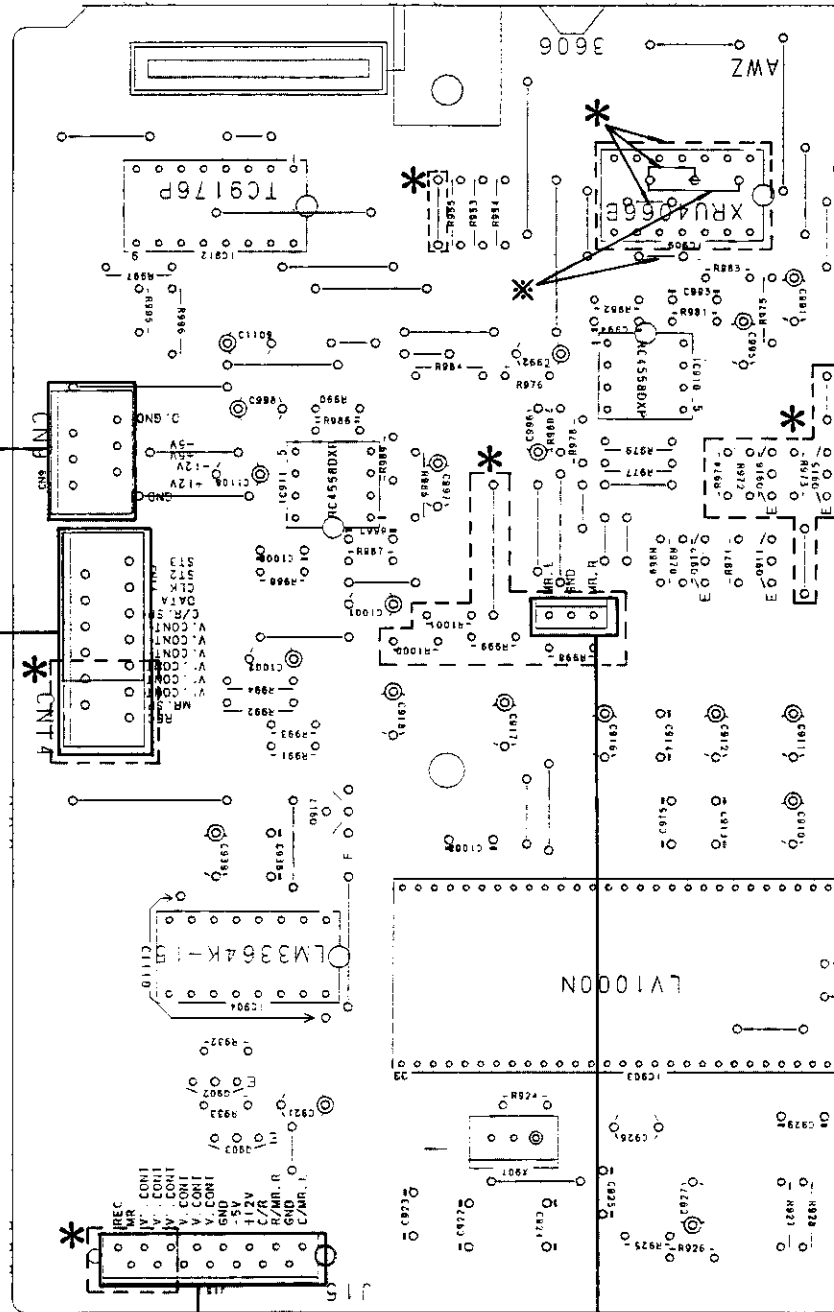
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
	IC
	Switch
	Relay
	Coil
	Filter
	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with @ (double circles) shows negative terminal.
4. The diode terminal marked with @ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.



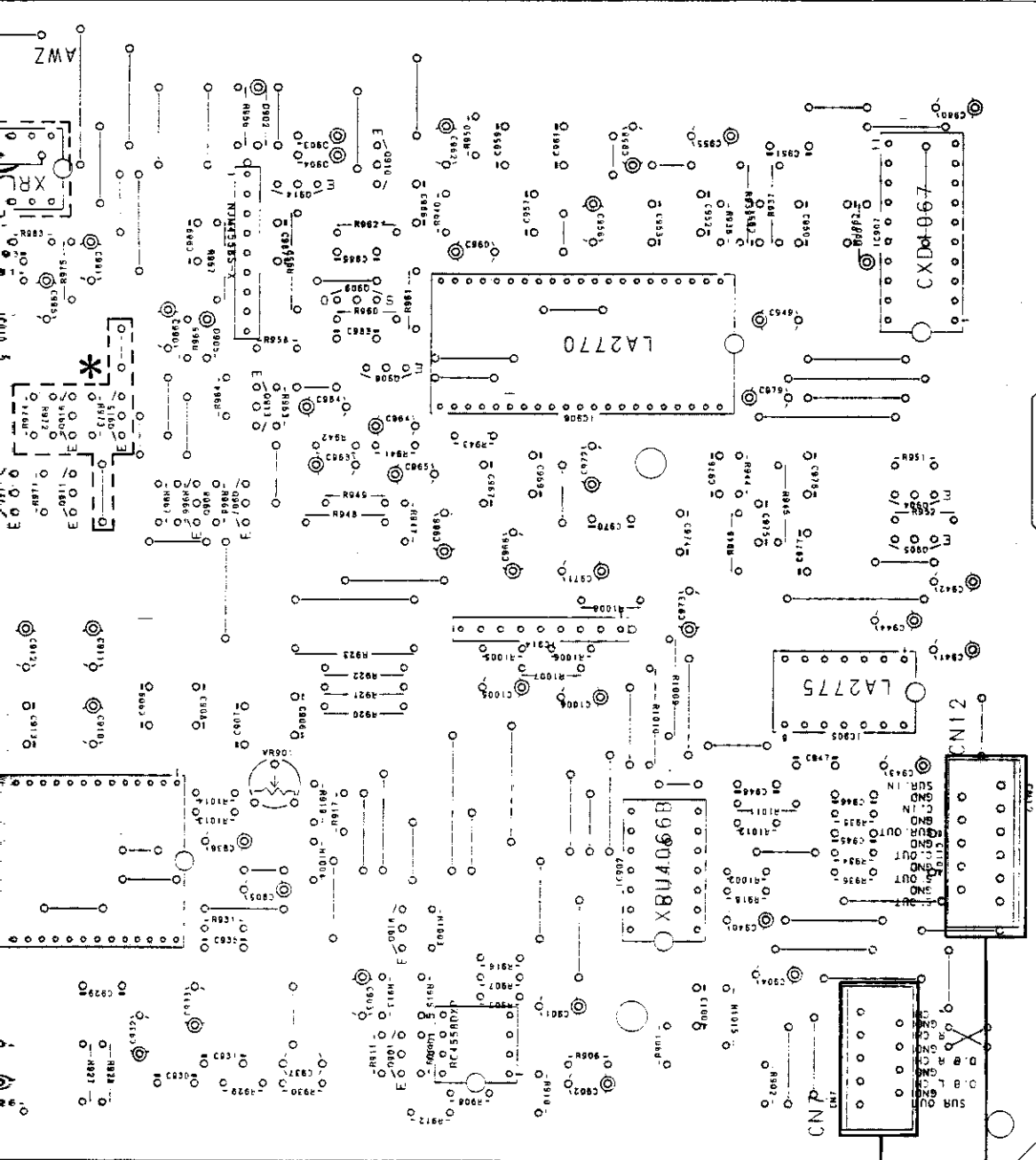
SUR assembly (AWZ3606)
(AWZ3601)

To MR ass
(To pa

To V/SP assembly J15
(To page 28,30)

IC910 IC908 Q914 Q909 Q910 Q906 IC907
 Q916 Q911 Q915 Q908 Q907 Q913 IC914 IC906 IC905 Q904 Q905
 Q918 Q901 IC901 IC902

VR901



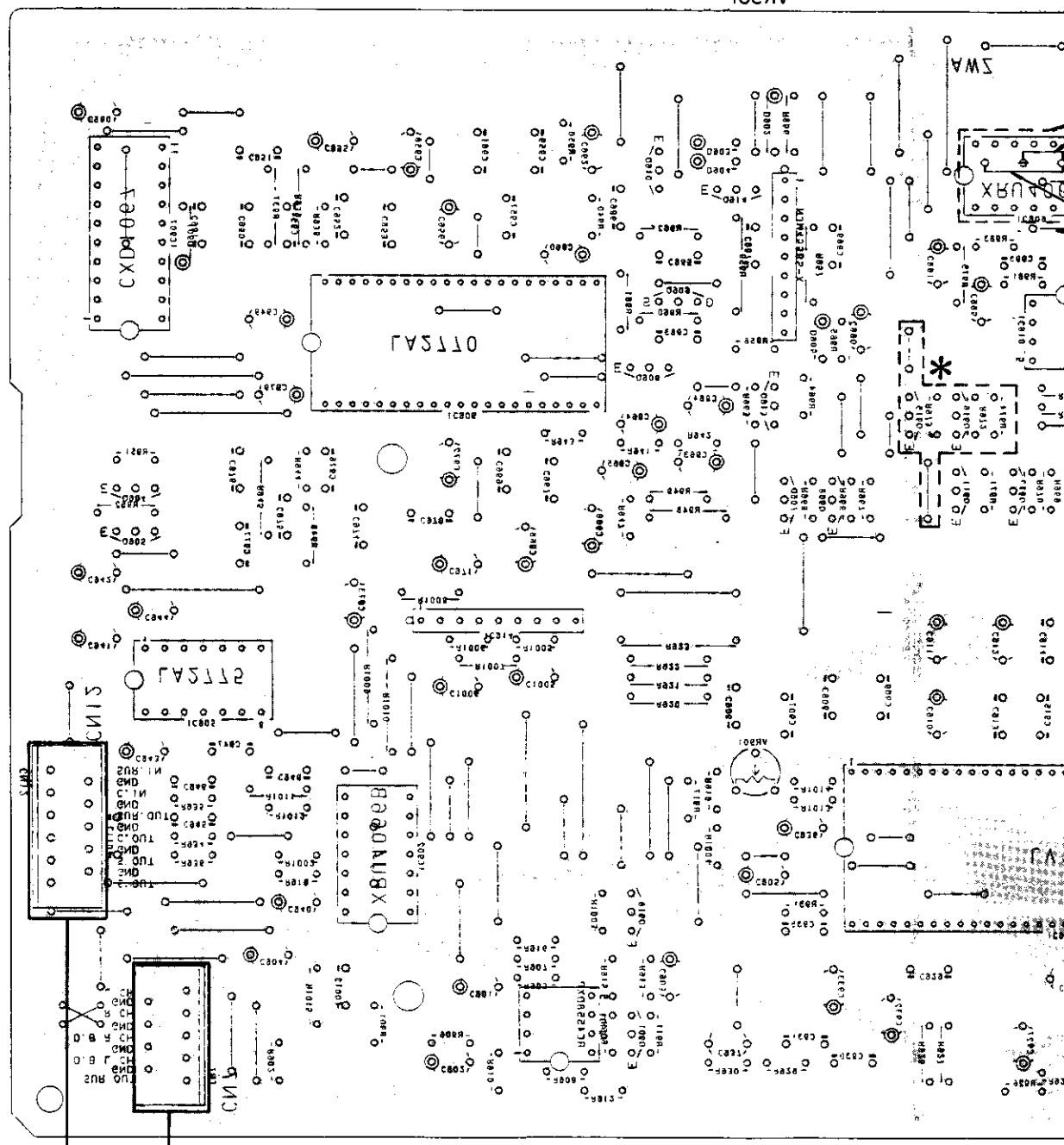
To AF assembly J7
 (To page 13)

To MR assembly CN19
 (To page 28)

To VR assembly J12
 (To page 39)

— To MR assembly C119
(To page 28)

To VR assembly J15
(To page 30)
To AF assembly J1
(To page 13)



VR101

003
DATE DALL DATE
008 002 013

ICAO5
DATE 001 ICAO1

ICAO2 000 002
ICAO7

A

V2X-73002

4

2

e

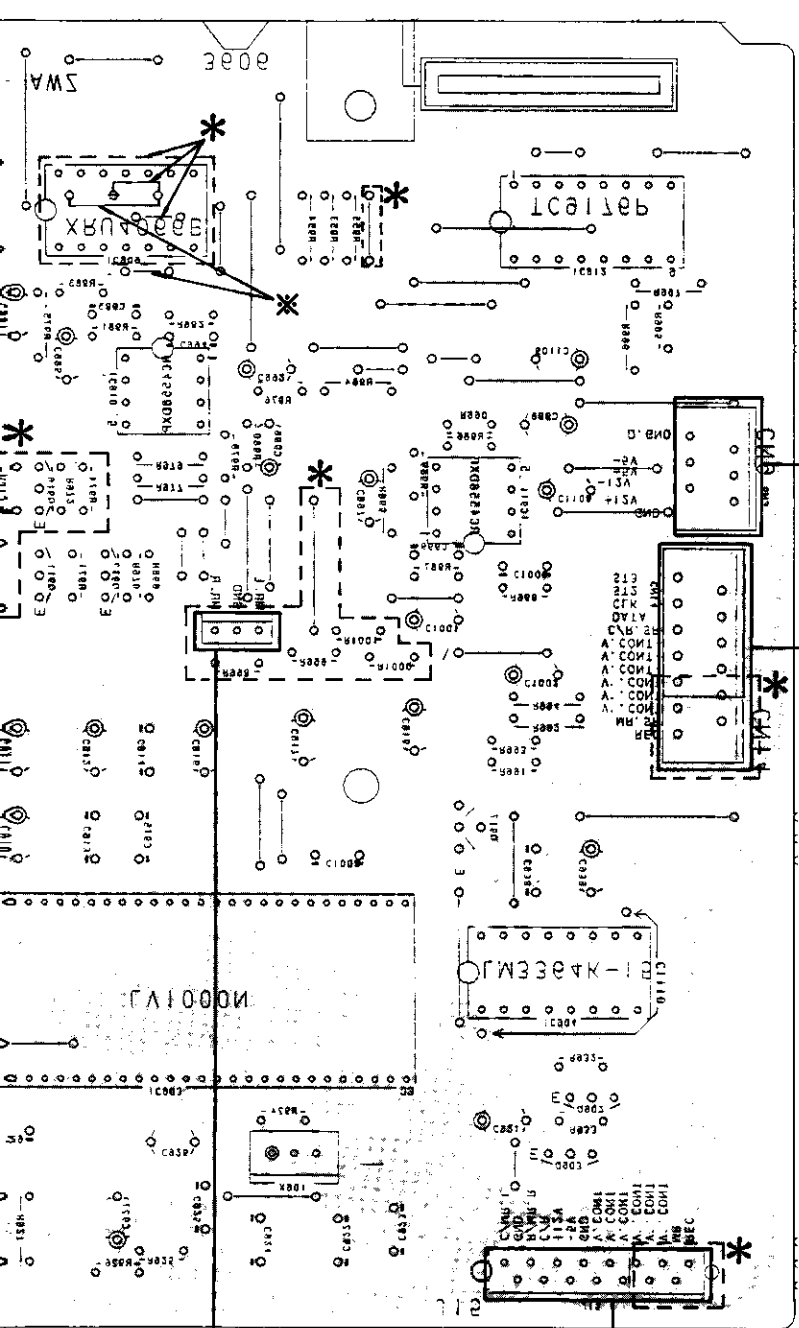
23

D

C

B

ICAO3
ICAO1
ICAO2
ICAO3
ICAO4
ICAO5



SUR assembly (WZ360)
(WZ360)

To VSP assembly 112
(To page 28,30)

To FE assembly 113
(To page 14)

To FL assembly 114
(To page 30)

A

B

C

D

3

5

1

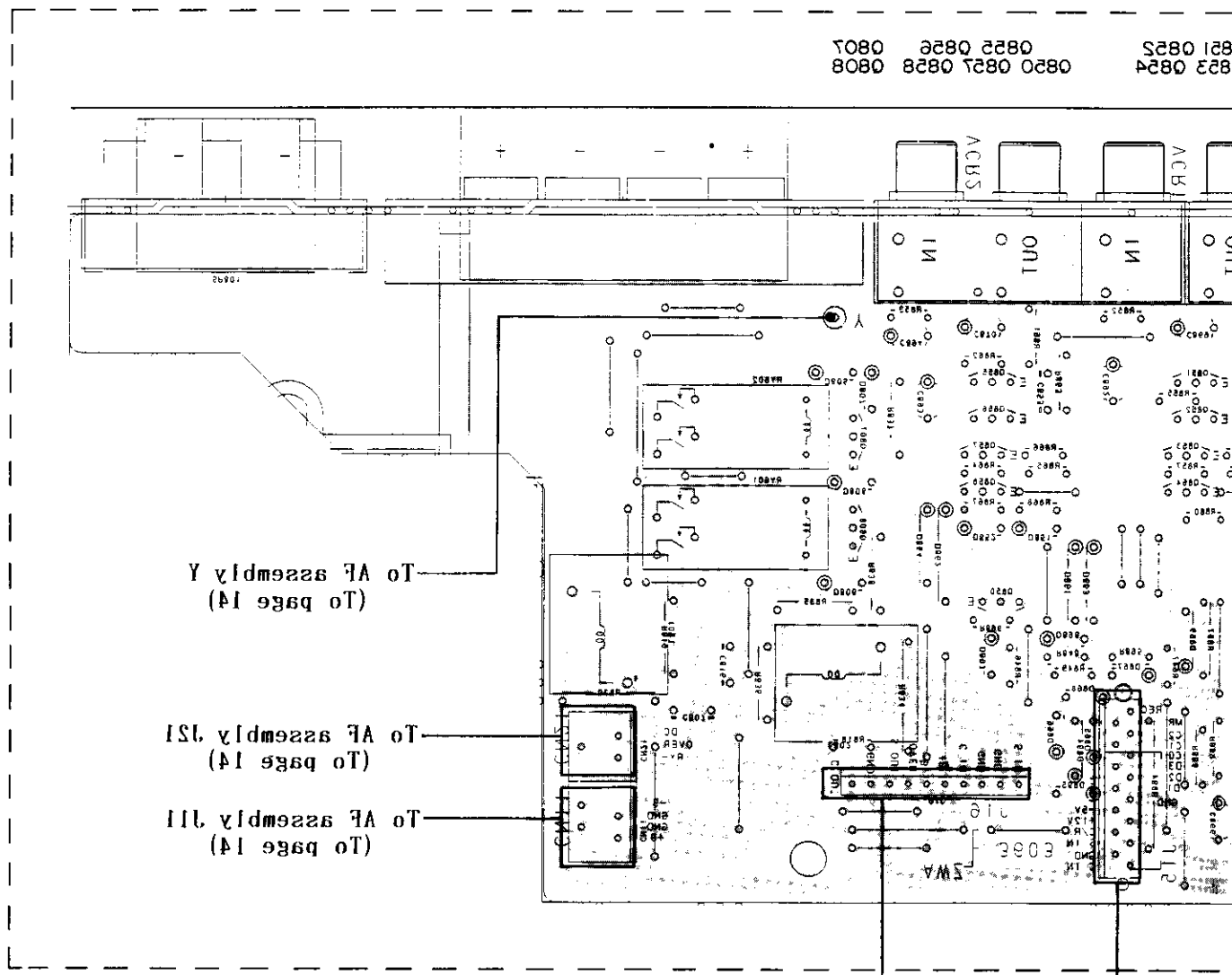
2 2

3

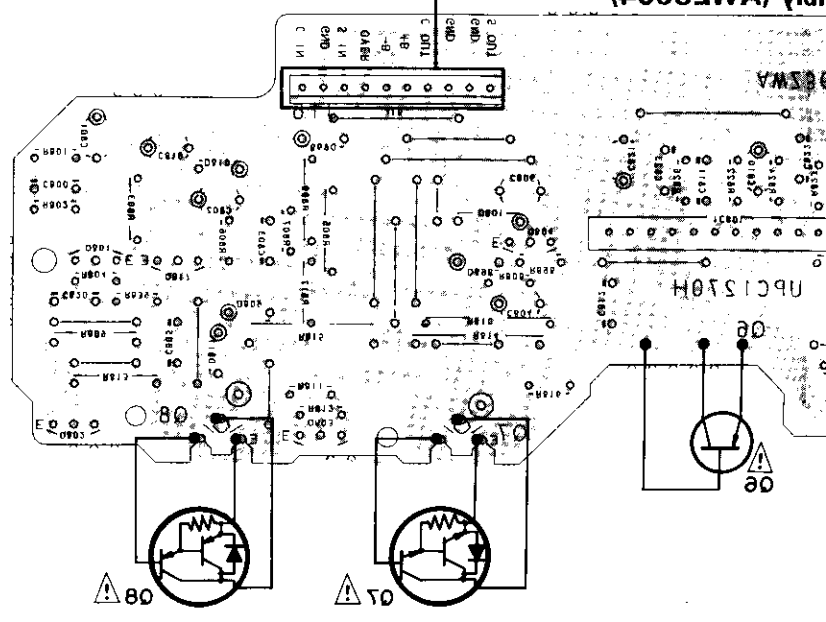
5

1

823 0824
0820 0821 0828 0808
0822 0826
0807



ply (W3304)



25

A

B

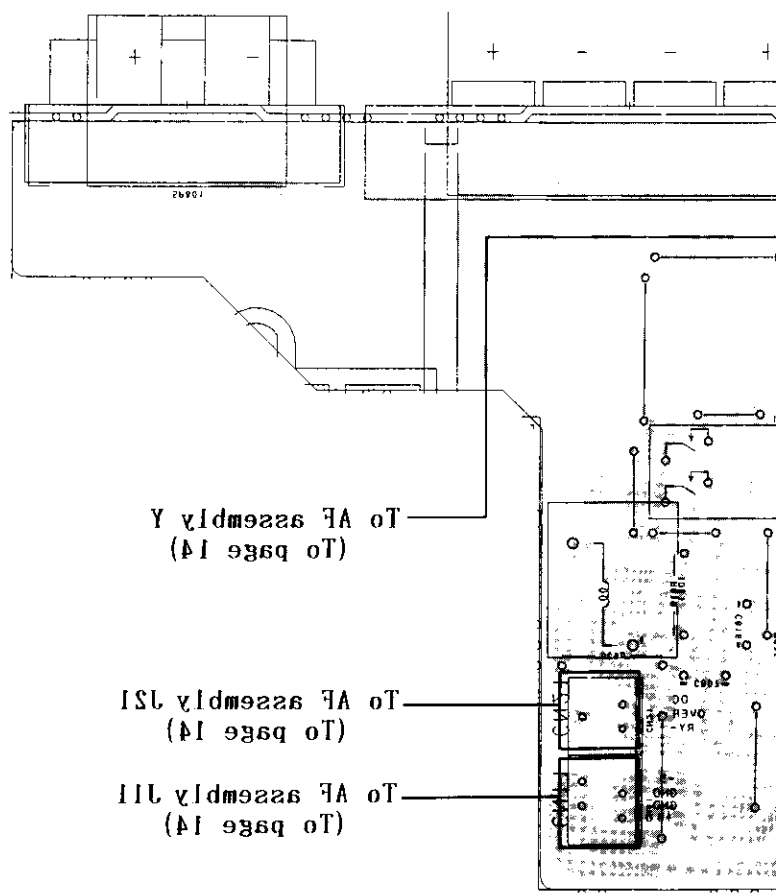
C

D

e

8

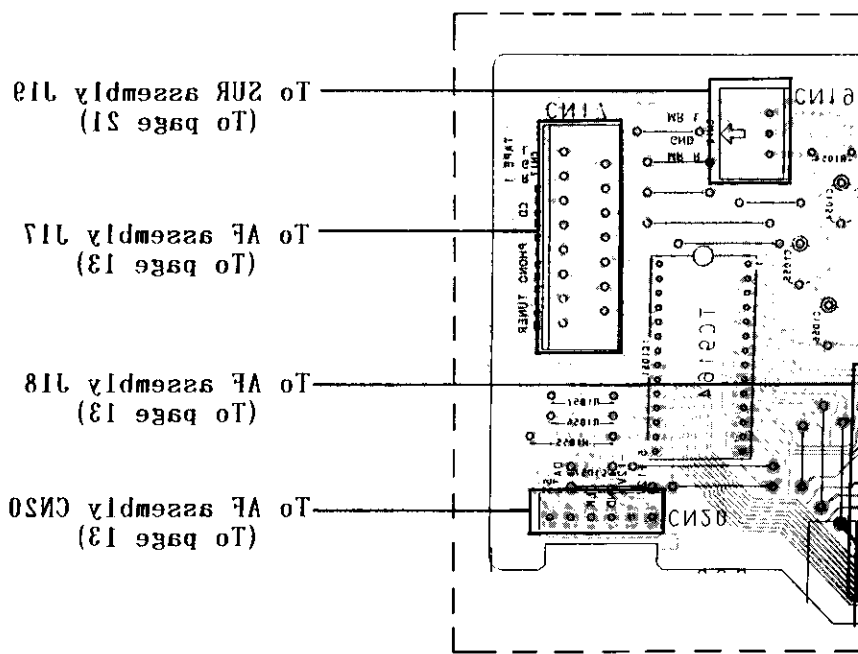
7



To AF assembly Y
(To page 14)

To AF assembly X21
(To page 14)

To AF assembly 111
(To page 14)

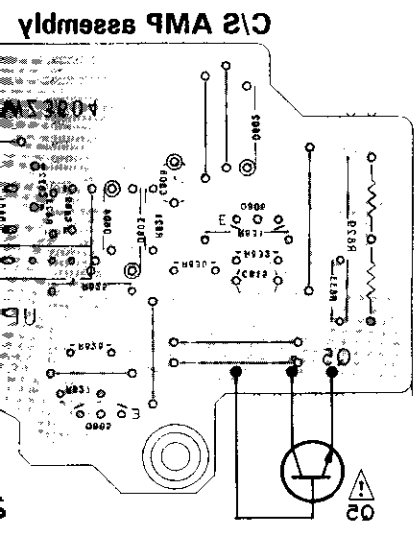


To AF assembly C50
(To page 13)

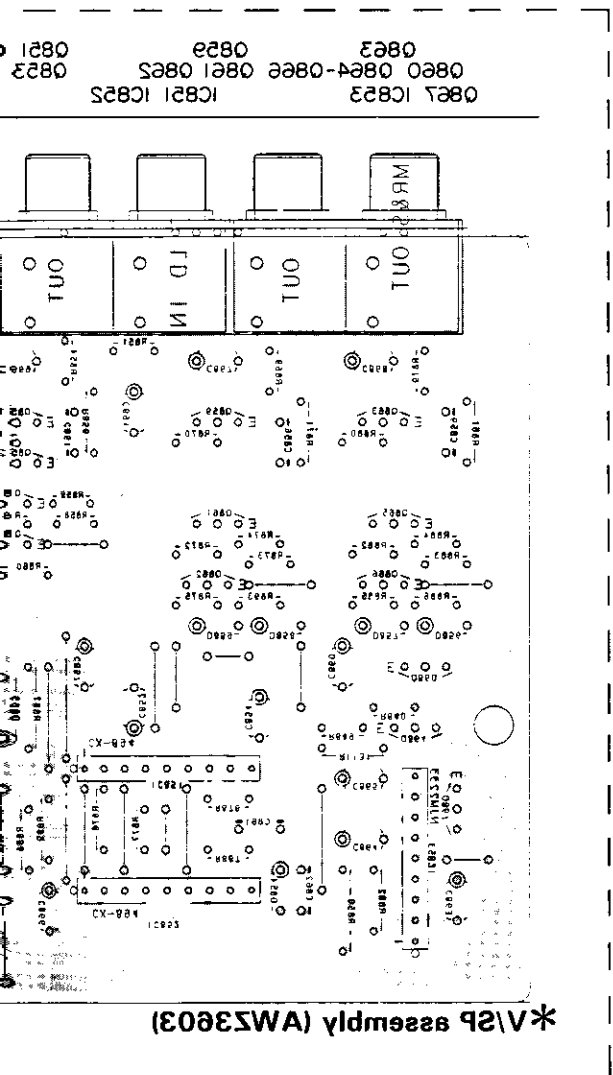
To AF assembly 118
(To page 13)

To AF assembly 117
(To page 13)

To RUR assembly 119
(To page 21)



C/S AMP assembly



*VSP assembly (AW3303)

To RUR assembly 115 (To page 21)

To AF assembly 112 (To page 21)

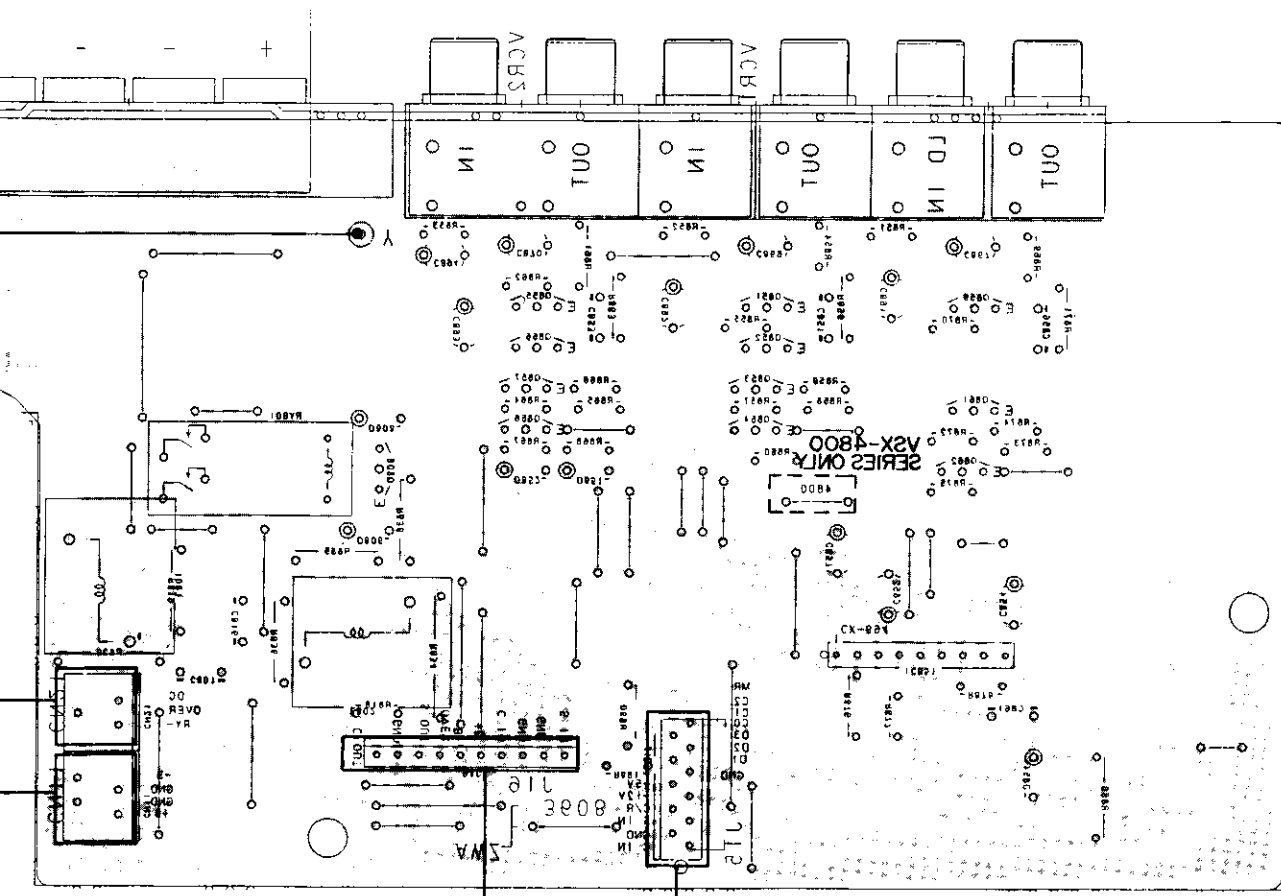
08E3 IC853
08E0 08E4-08E6 08E1 08E5
08E2 IC851 IC852
08E3
08E2

A

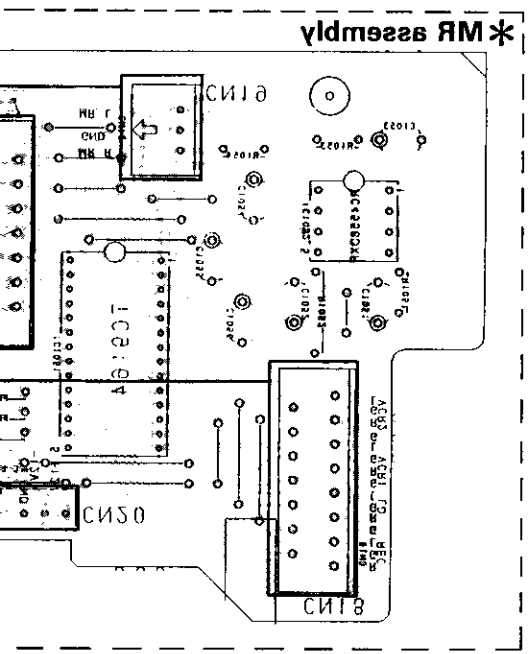
B

C

D



V/SP assembly (WZ3608)
 To SUR assembly 112 (To page 21)



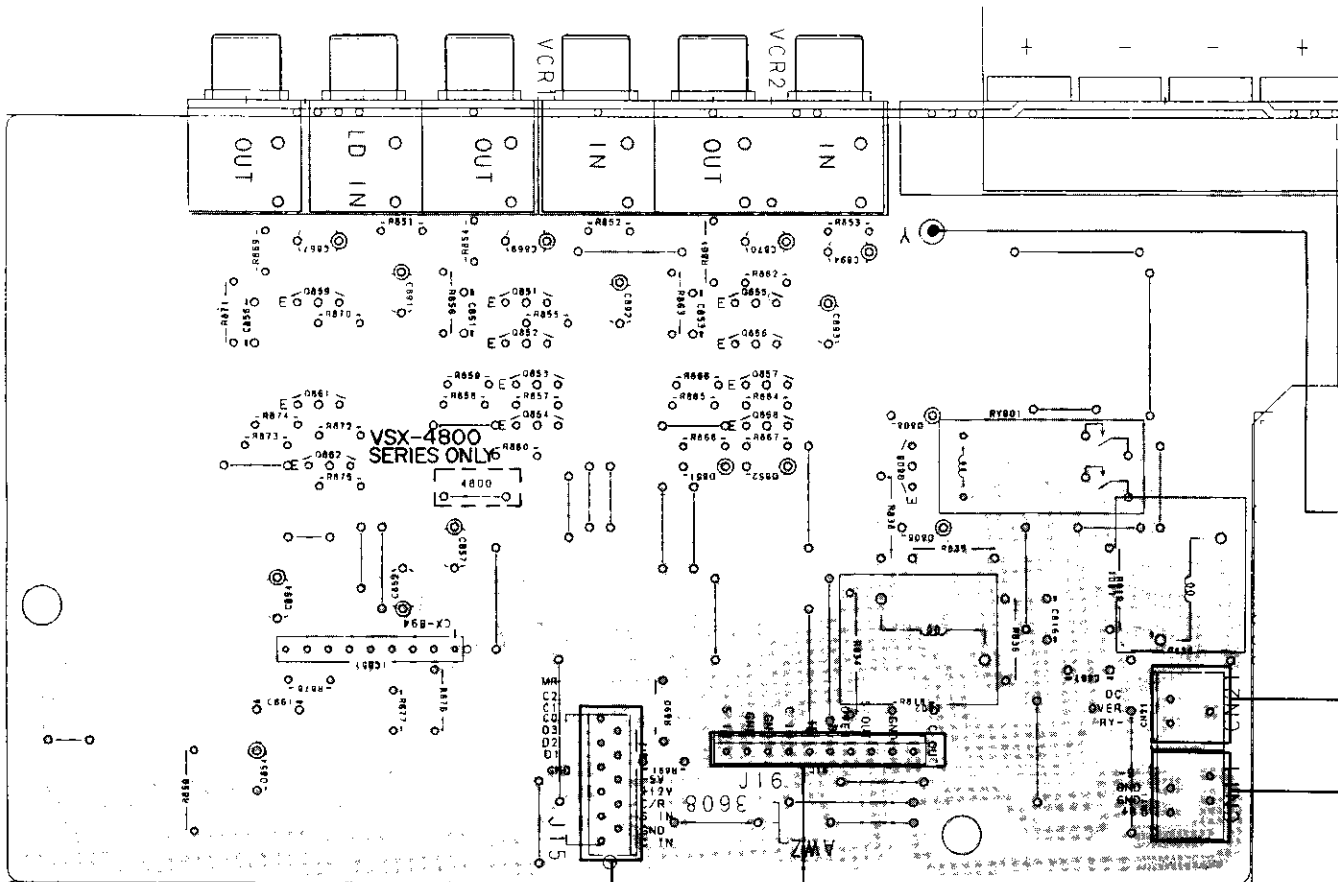
3

2

1

4.4 V/SP (AWZ3608 and AWZ3603), C/S AMP (AWZ3604) and MR assembly

A



V/SP assembly (AWZ3608)

To SUR assembly J15 (To page 21)

NOTE

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

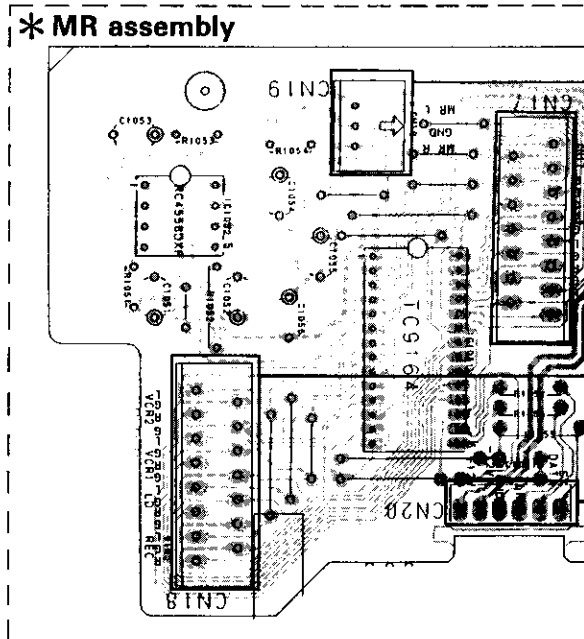
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

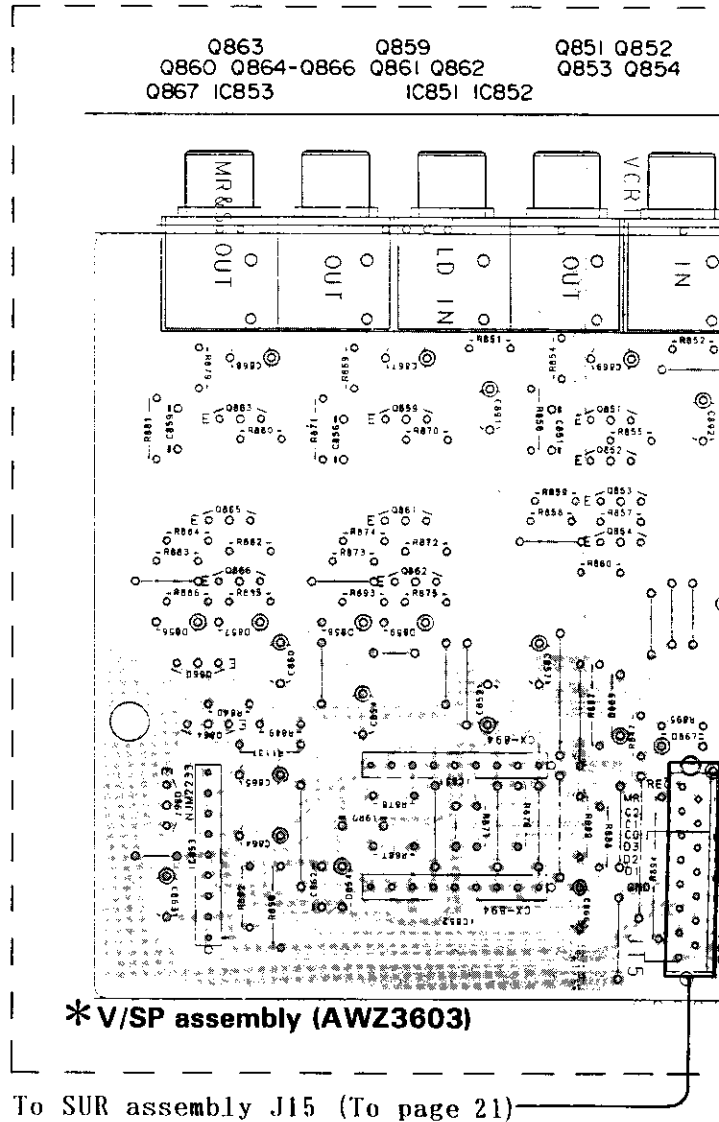
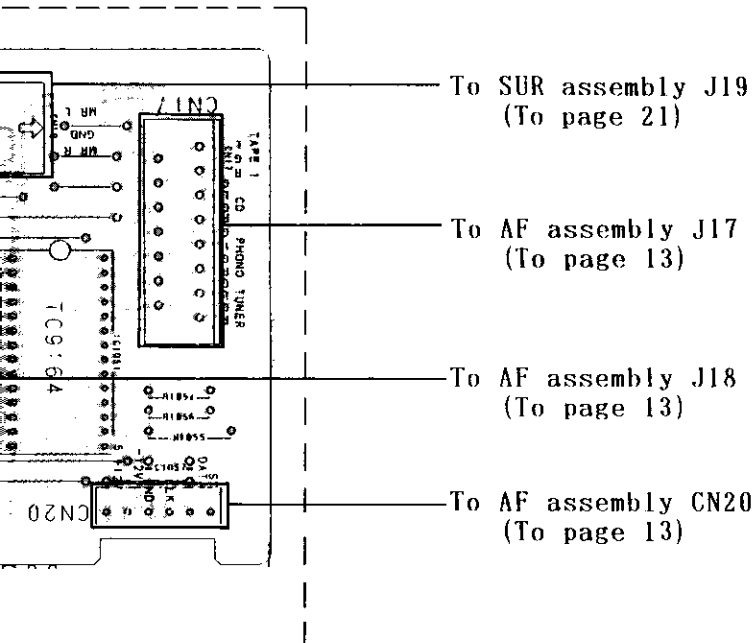
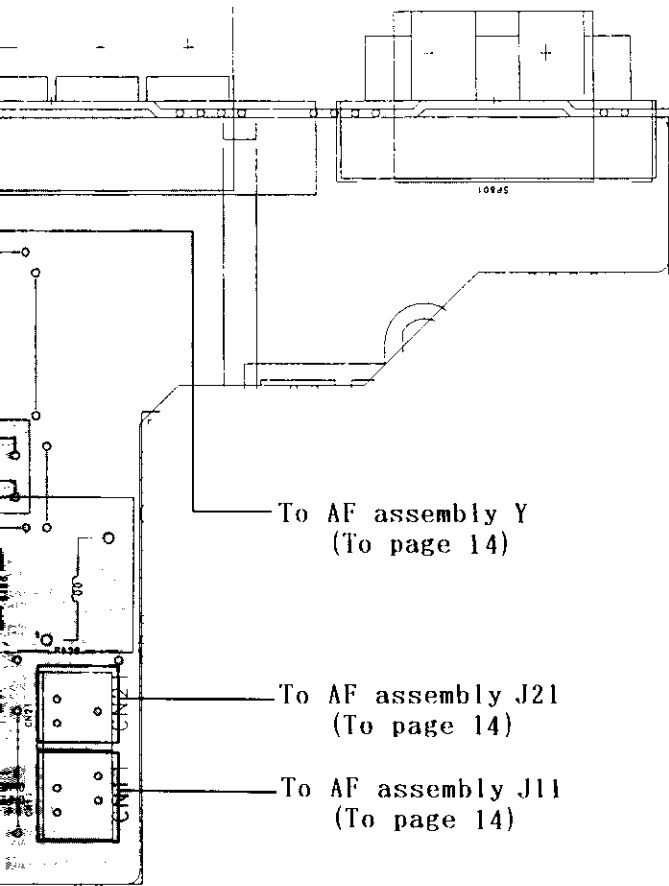
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with ⊕ (double circles) shows negative terminal.
4. The diode terminal marked with ⊕ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

D

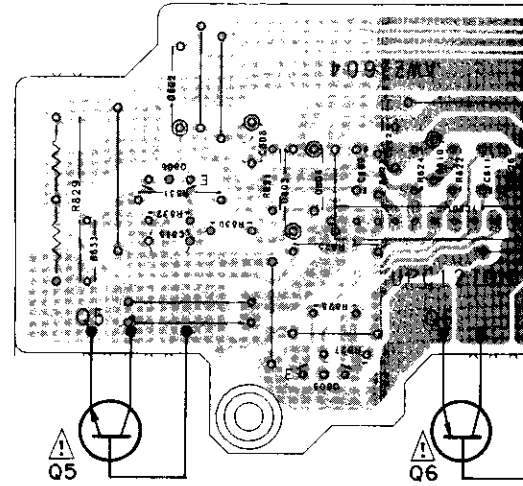


* MR assembly

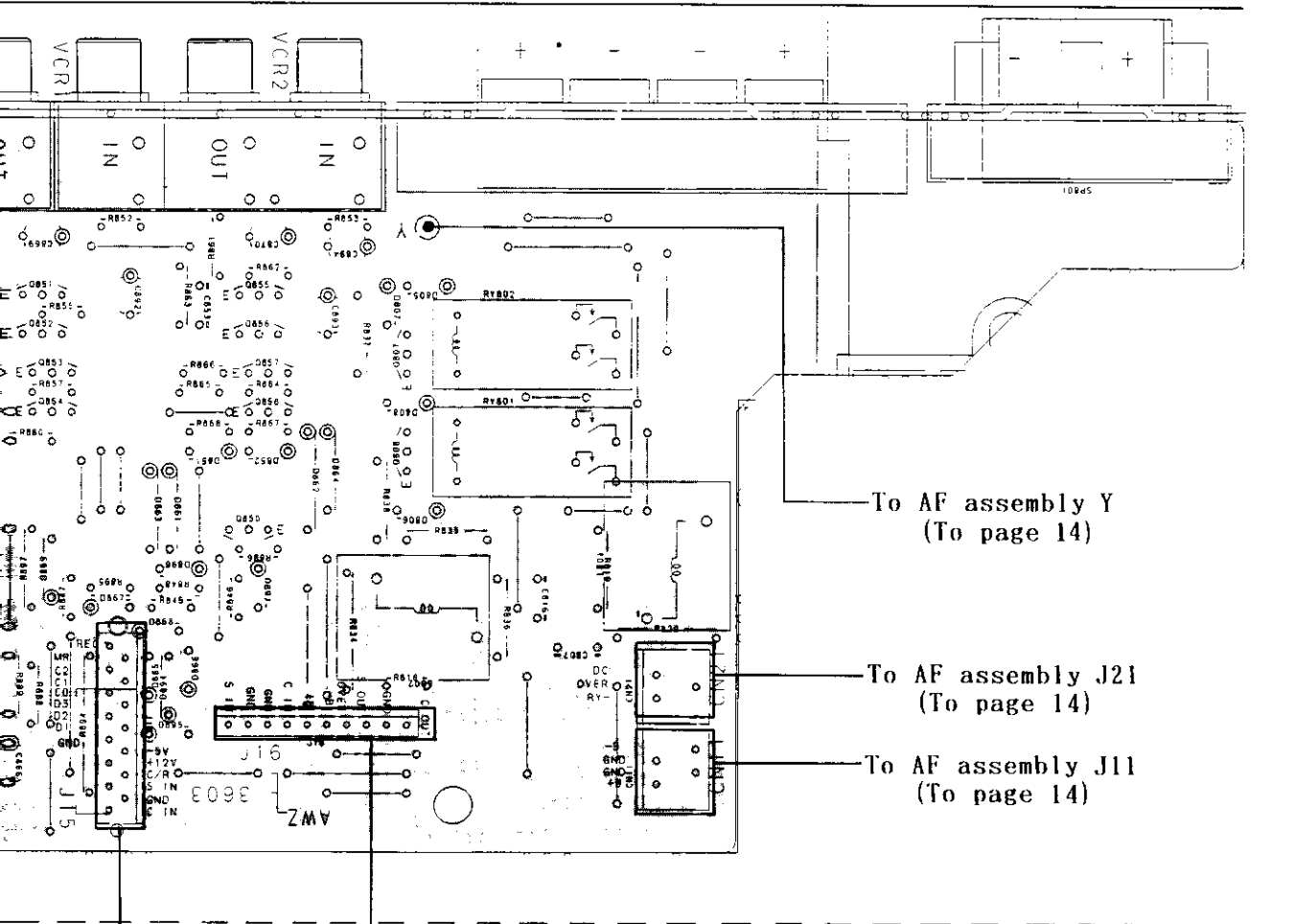


To SUR assembly J15 (To page 21)

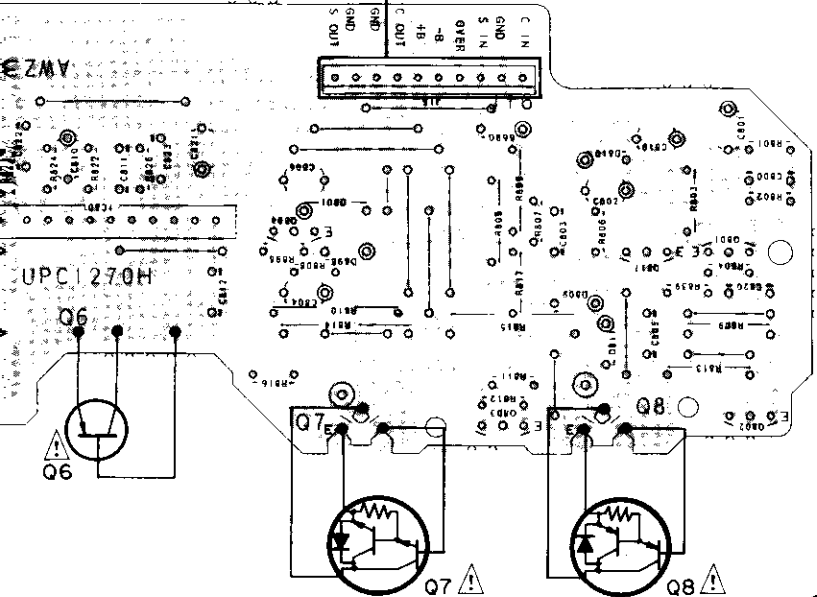
C/S AMP assembly (AWZ3604)



Q851 Q852 Q855 Q856 Q807
 Q853 Q854 Q850 Q857 Q858 Q808



Assembly (AWZ3604)



A

B

C

D

NOTE

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
	IC
	Switch
	Relay
	Coil
	Filter
	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with ⊕ (double circles) shows negative terminal.
4. The diode terminal marked with ⊕ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

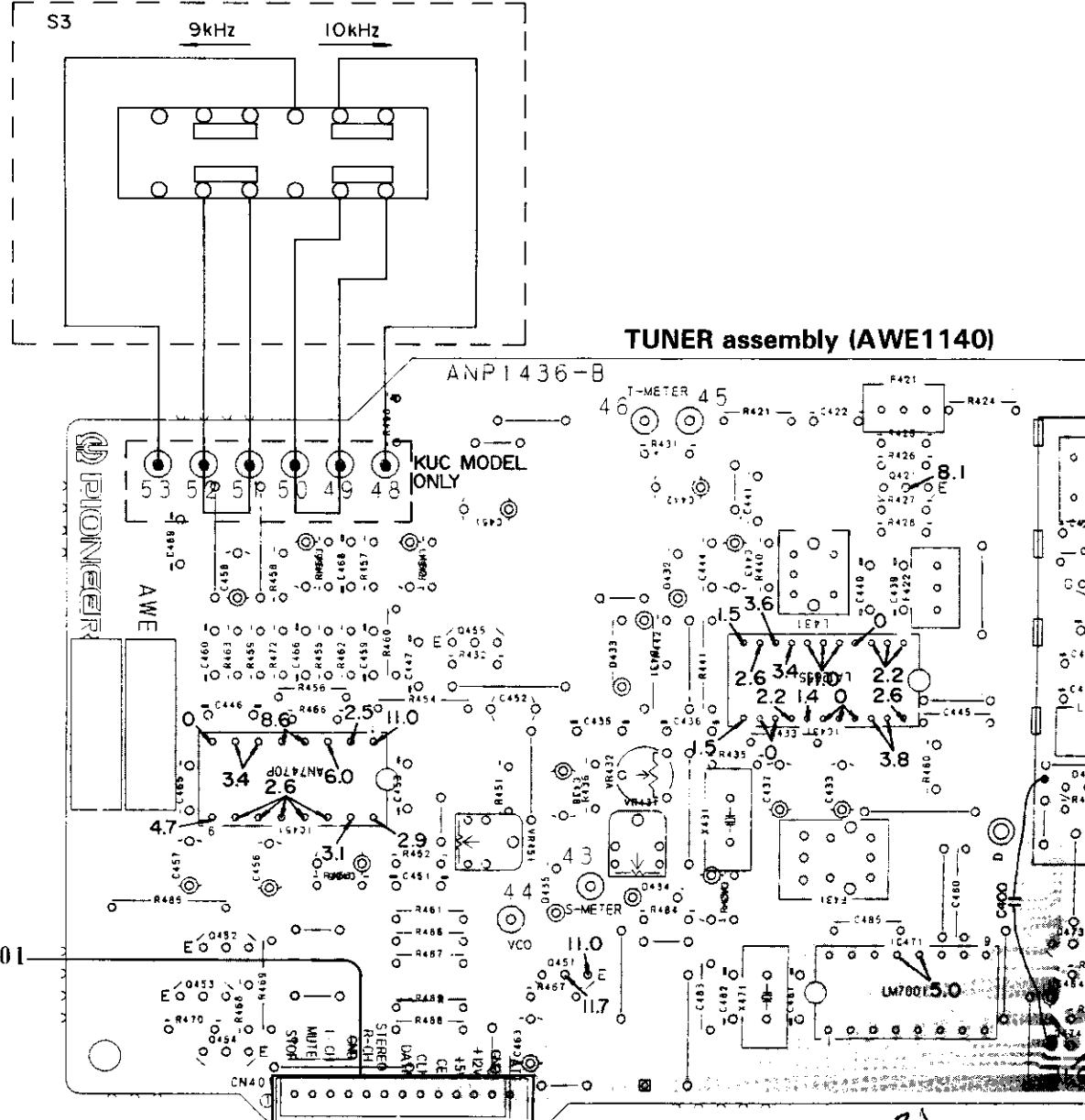
A

B

C

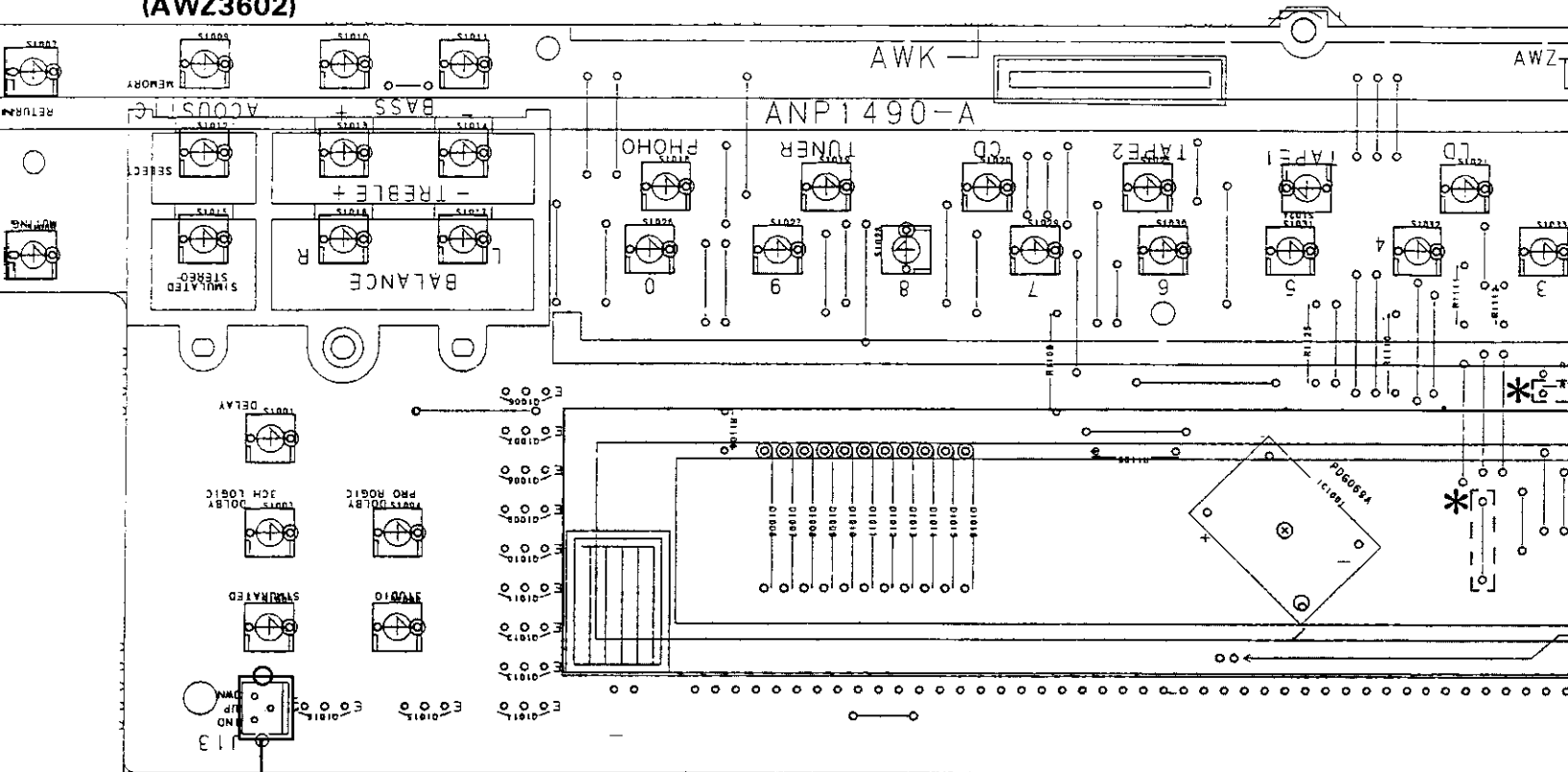
D

VSX-4800/SD ONLY

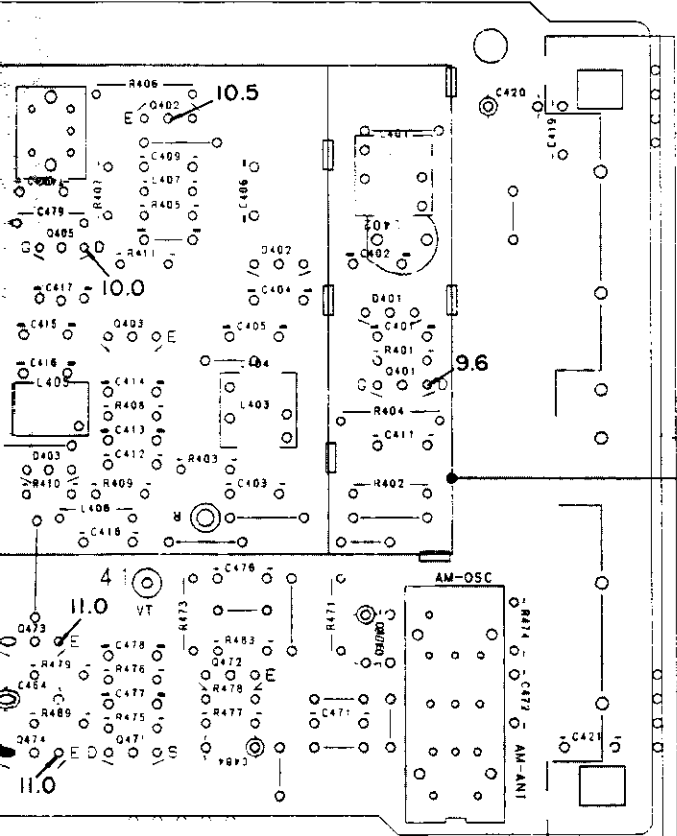


To AF assembly CN401
(To page 13)

assembly (AWZ3607)
(AWZ3602)



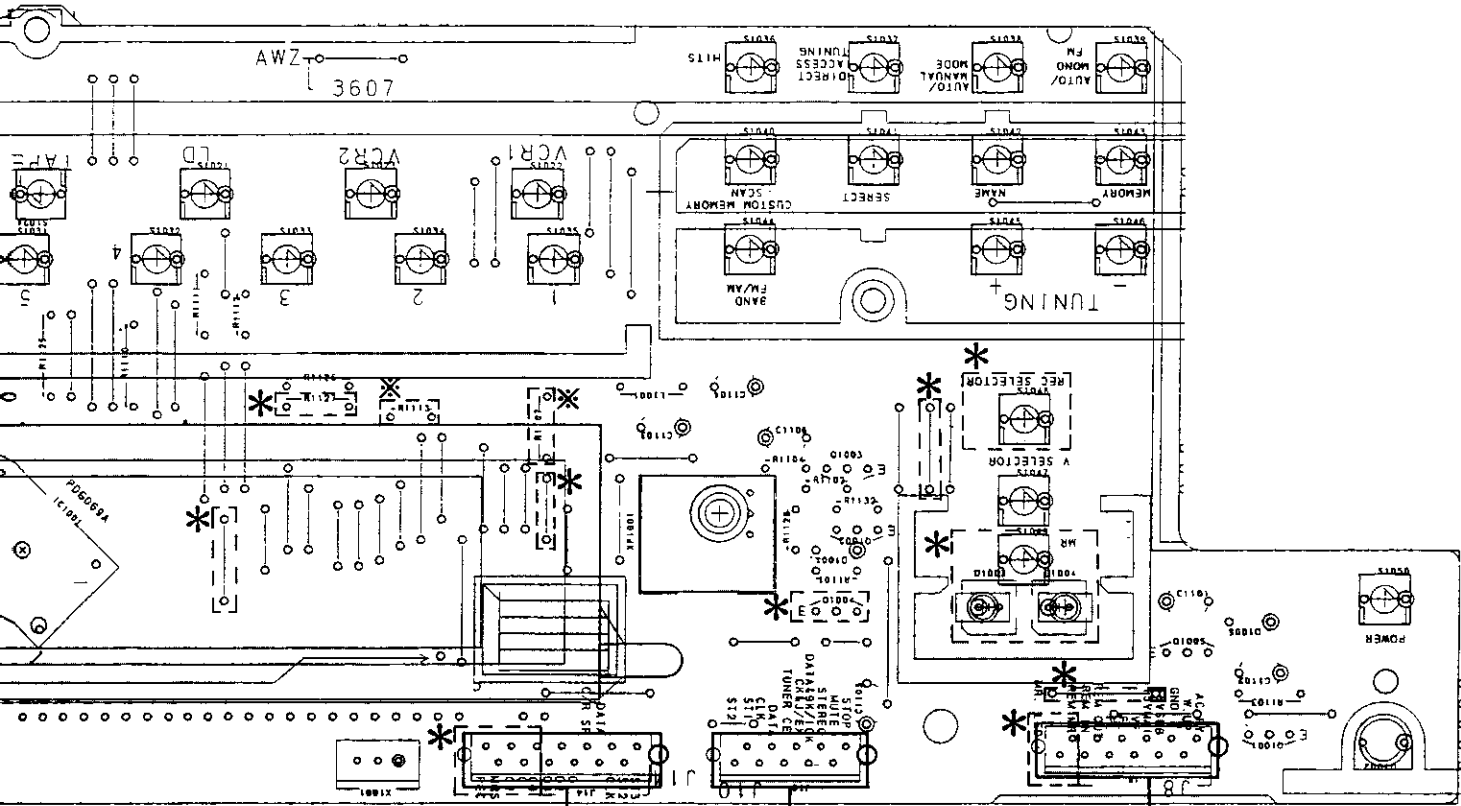
To SUR assembly CN1
(To page 21)



To SUR assembly CN12
(To page 22)

To AF assembly J4
(To page 13)

38



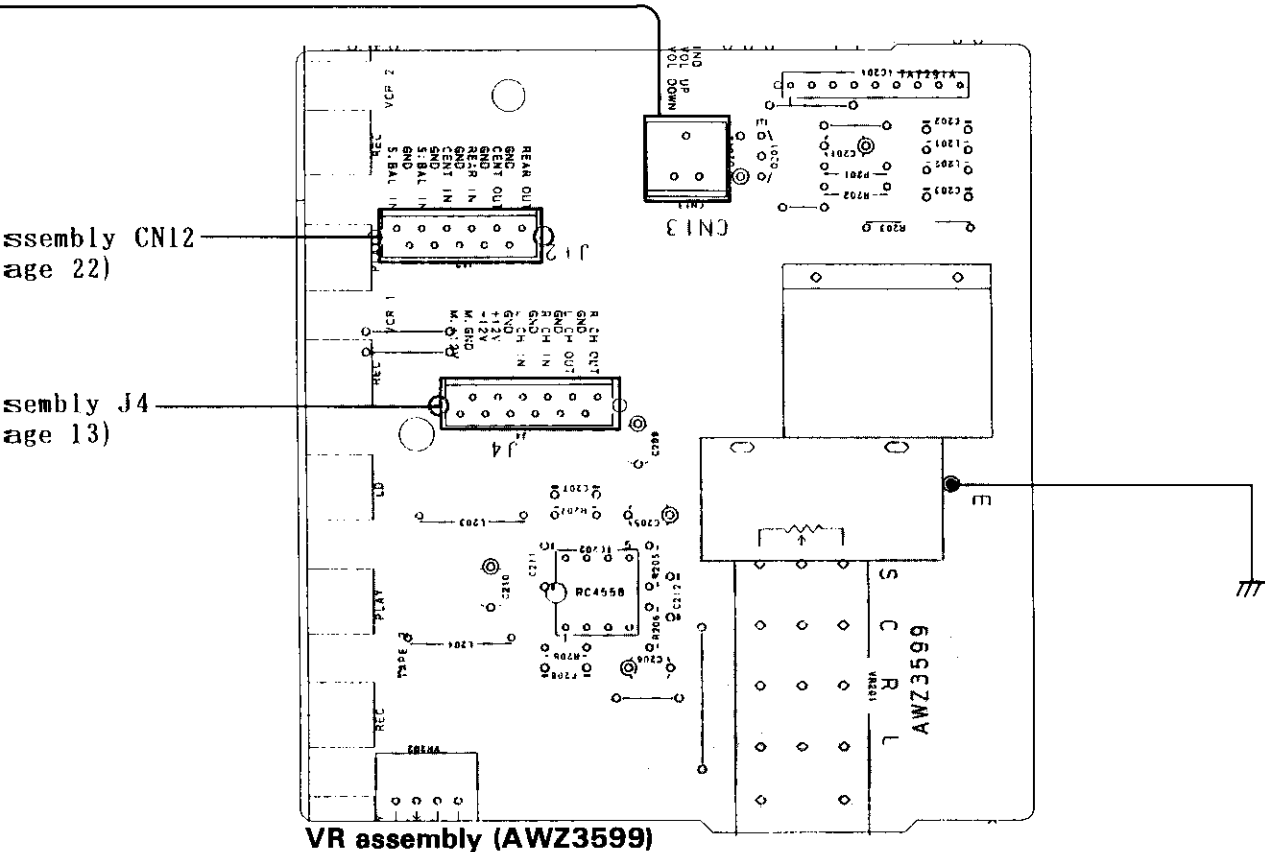
A

B

To SUR assembly CN14
(To page 21)

To AF assembly CN10
(To page 13)

To AF assembly CN8
(To page 14)



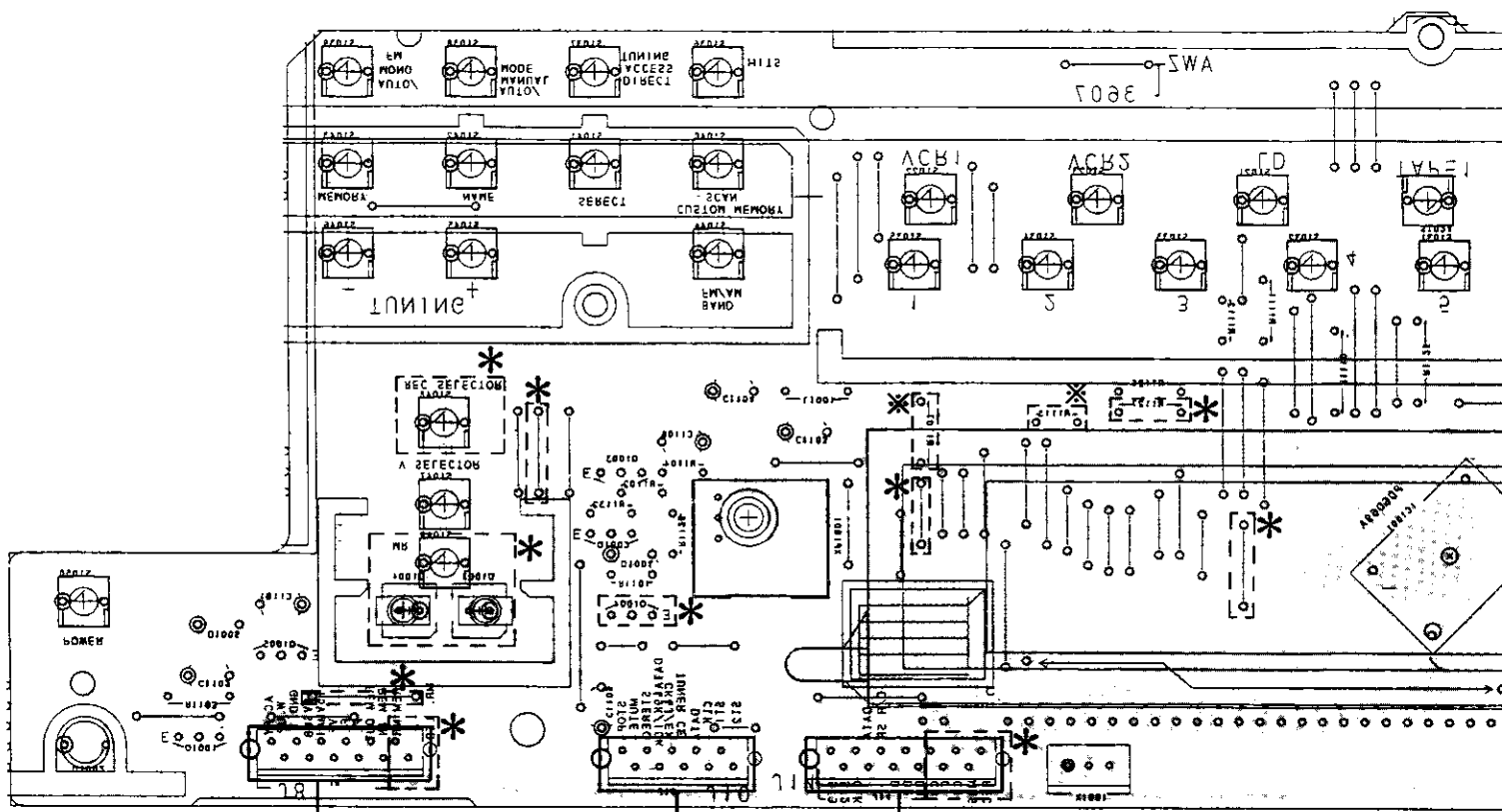
C

D

VR assembly (AWZ3599)

A

B



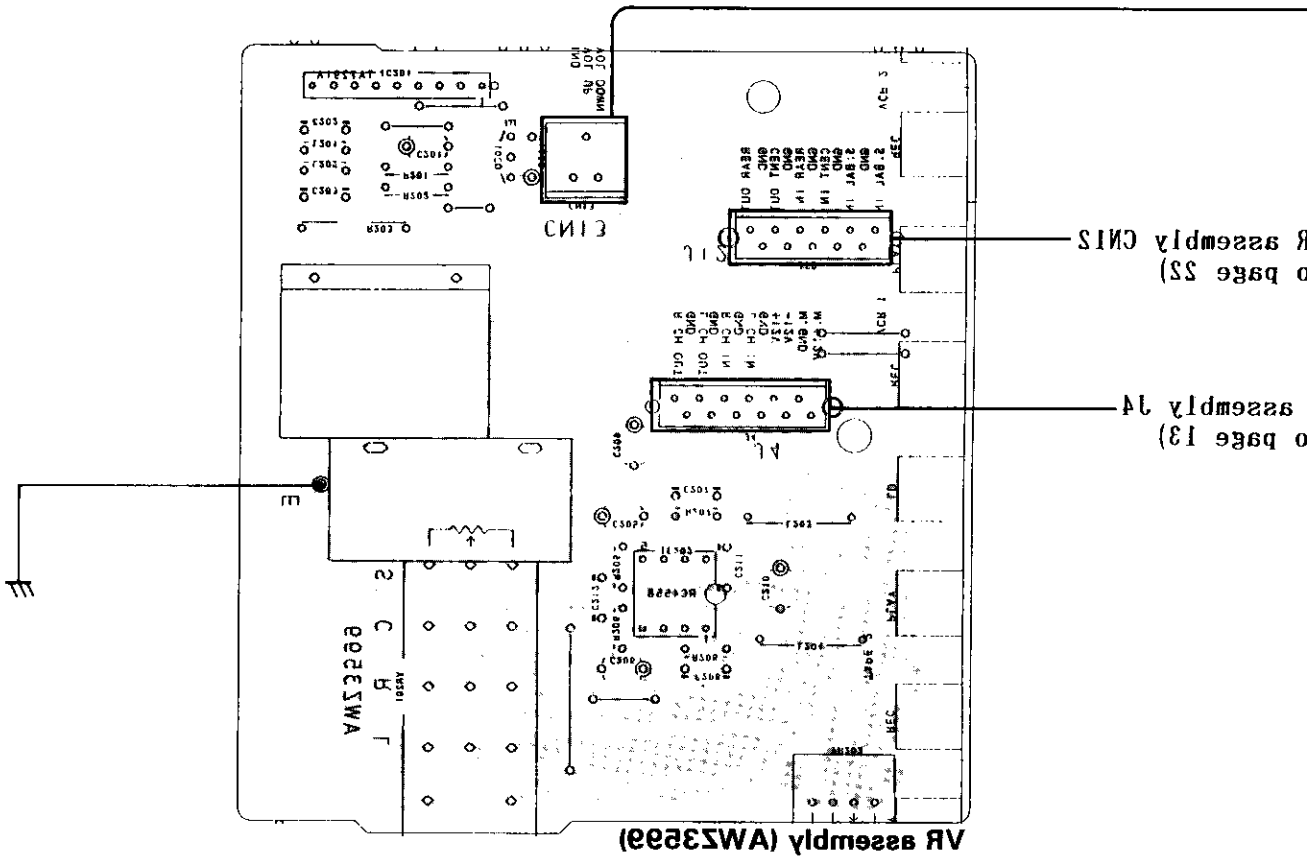
To AF assembly C14
(To page 21)

To AF assembly C10
(To page 13)

To AF assembly C18
(To page 14)

C

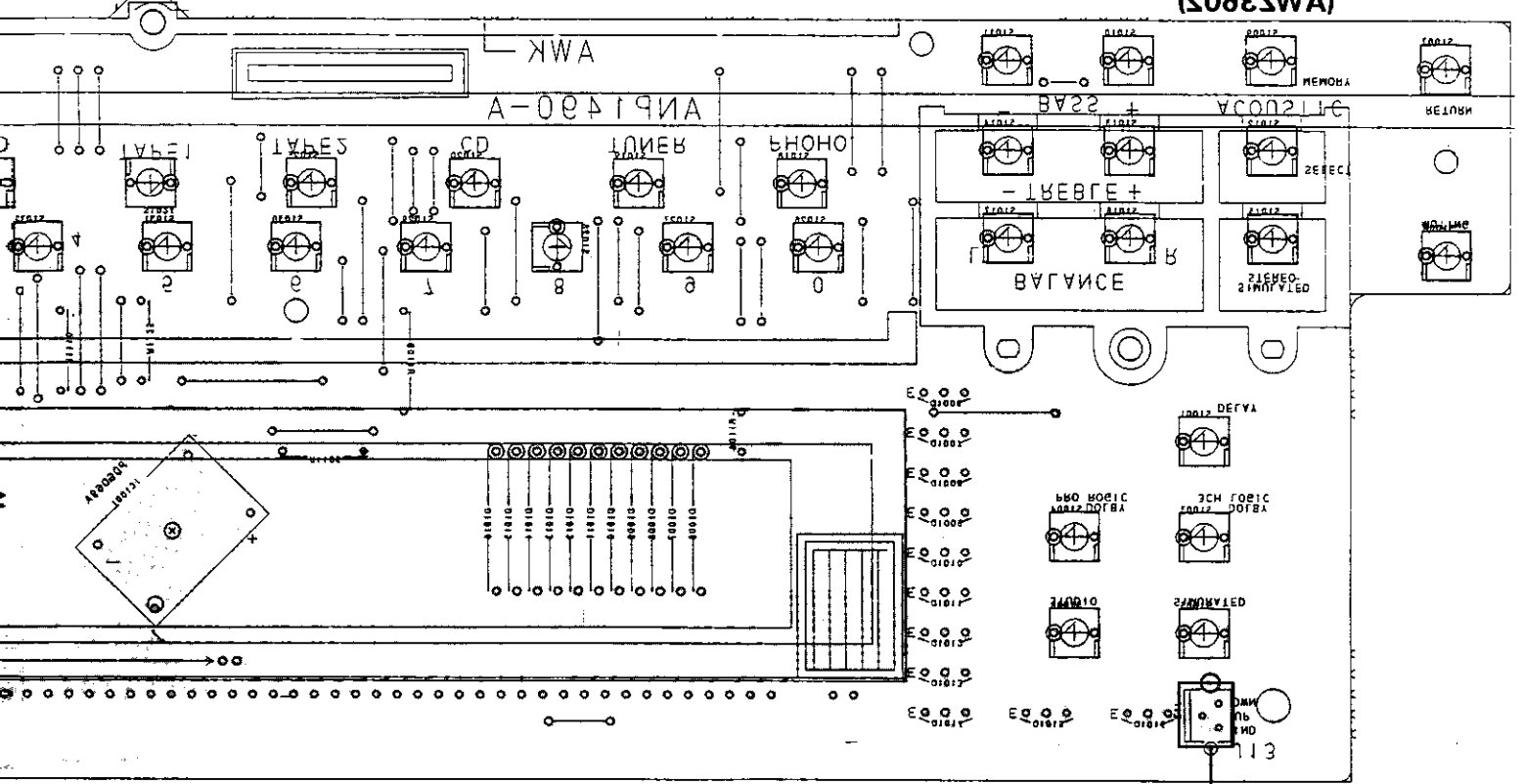
D



To assembly C15
(To page 23)

To assembly 14
(To page 13)

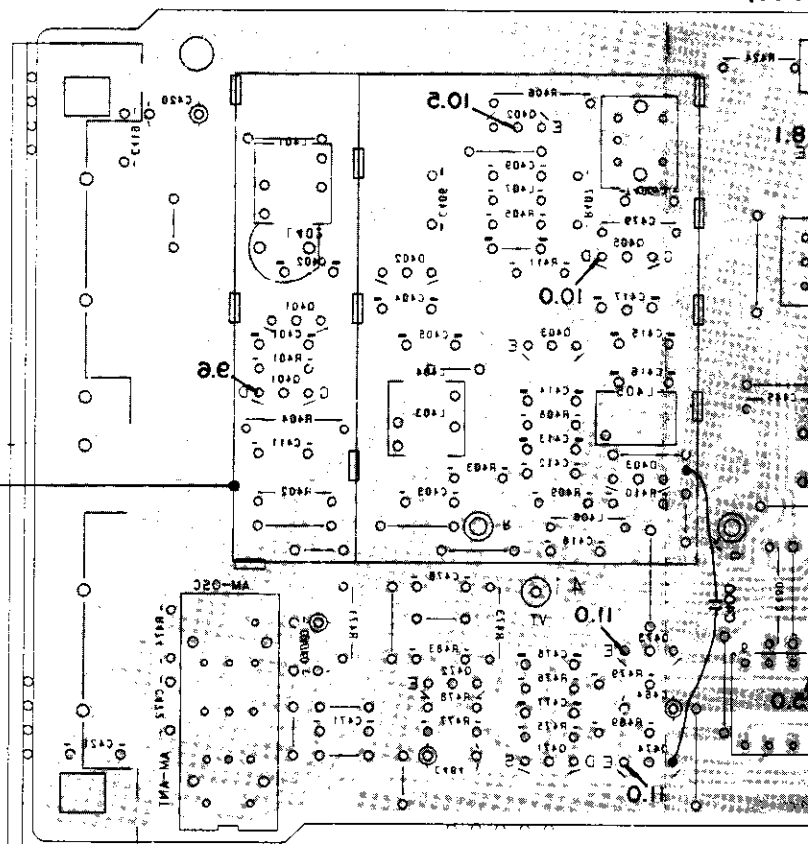
VR assembly (WZ353)

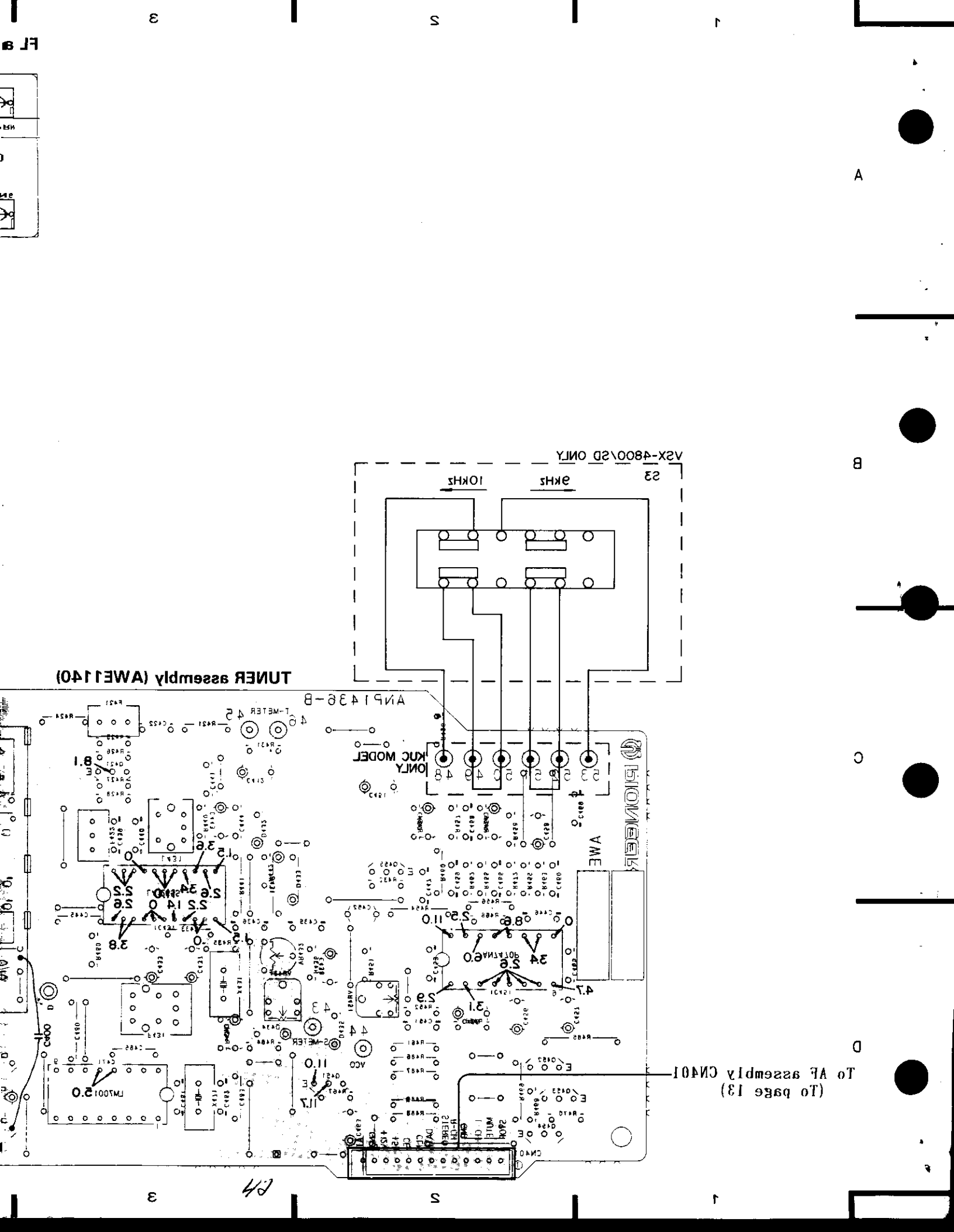


To SUR ass (To page 13)

To SUR assembly CNT (To page 22)

To AF assembly 14 (To page 13)





TUNER assembly (AW1140)

AW1143B-B

KNC MODEL ONLY

PIONEER WME

23

3KHZ 10KHZ

(To page 13) (To AF assembly CW401)

3

PH

S

1

A

B

C

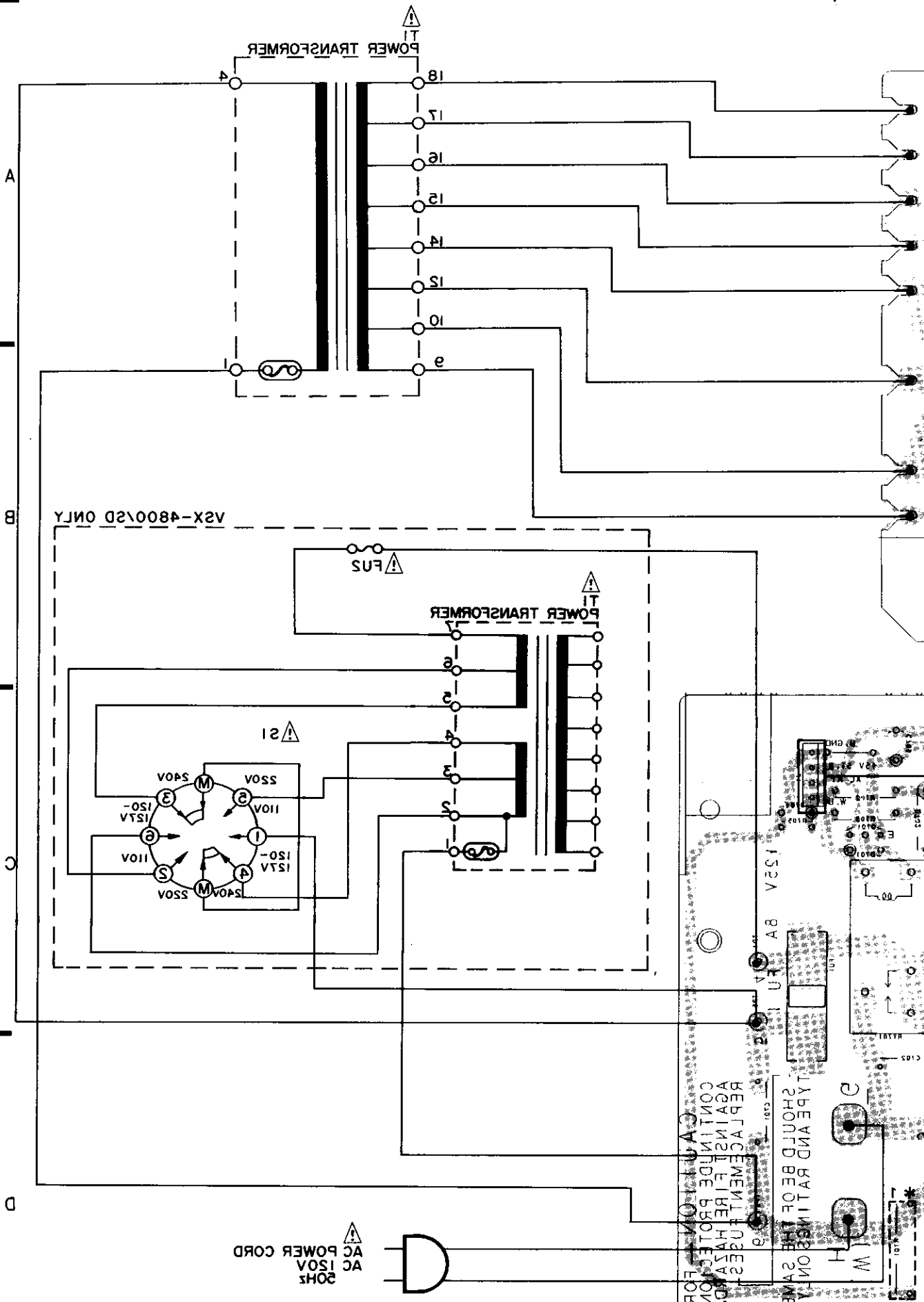
D

FL B

3

S

1



43

6

2

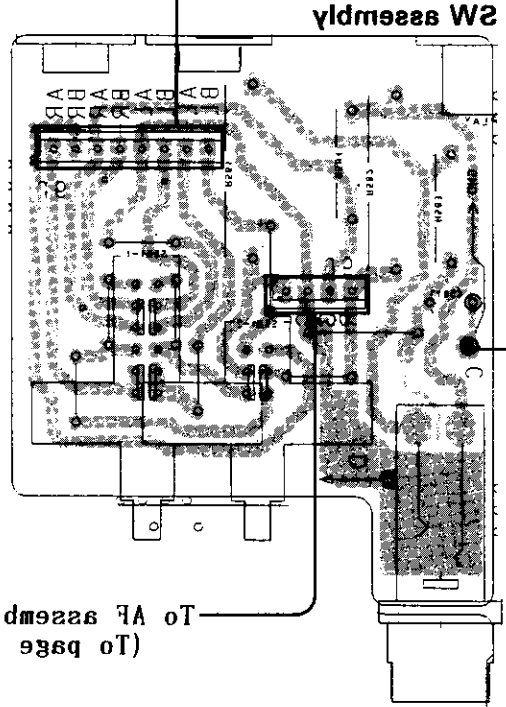
4

6

2

4

A
B
C
D



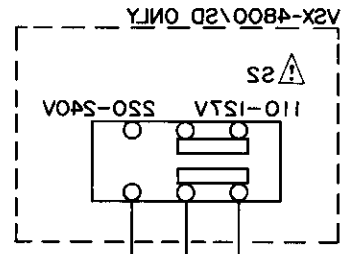
To AF assembly 16
(To page 14)

To AF assembly 13
(To page 14)

To AF assembly 12
(To page 14)

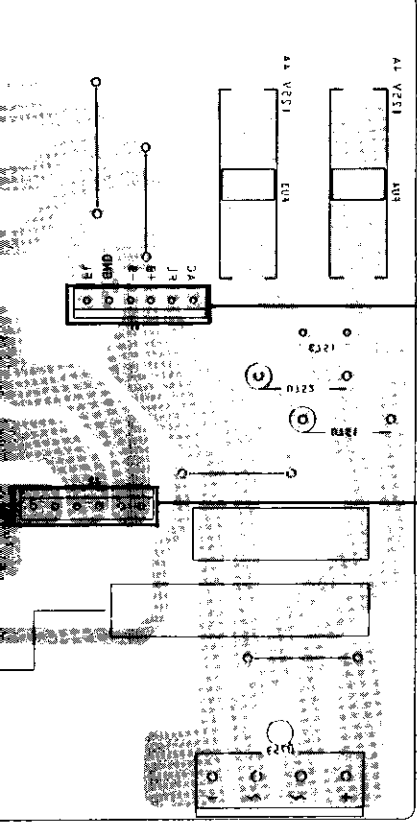
To AF assembly 12
(To page 14)

To AF assembly 11
(To page 14)

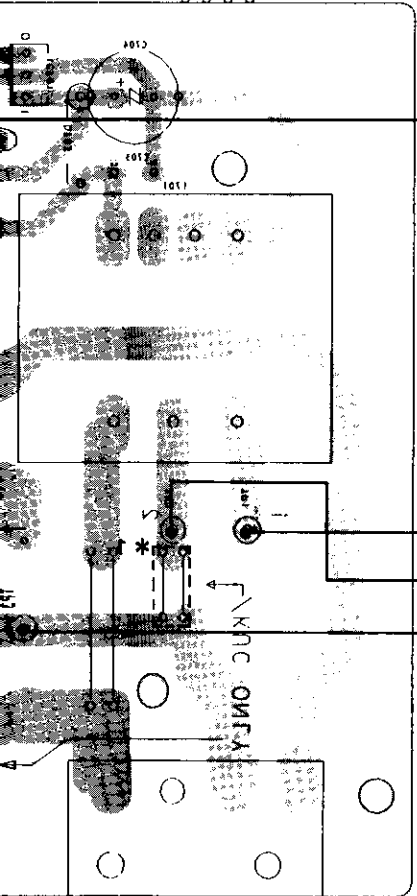


(NOTE)
When replace the SB TR assembly of 2D type,
cut the part *1.

TRANS assembly



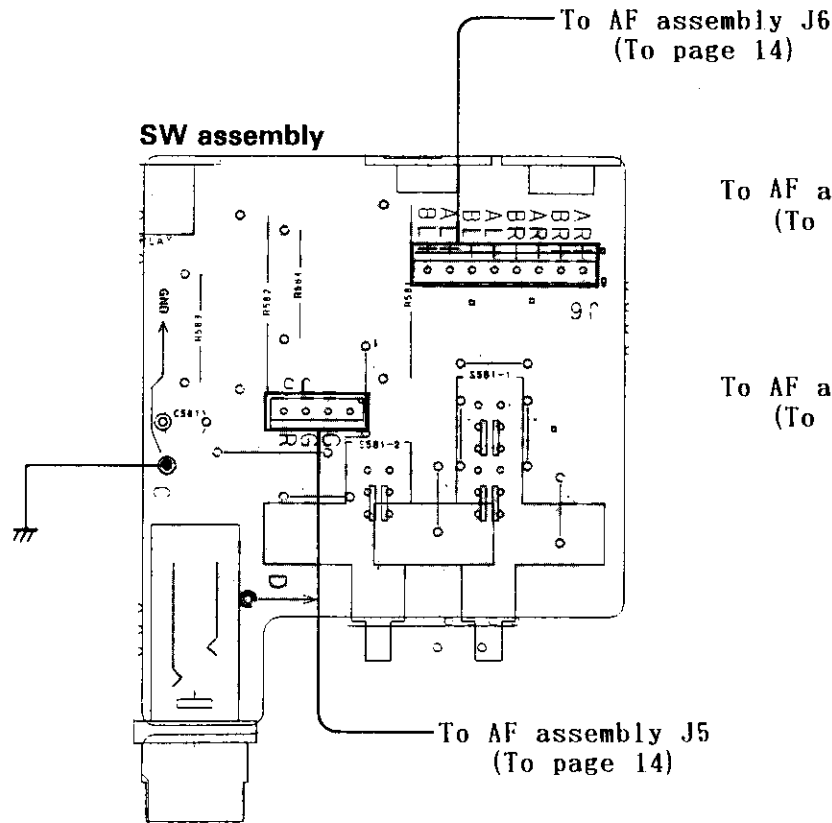
SB TR assembly



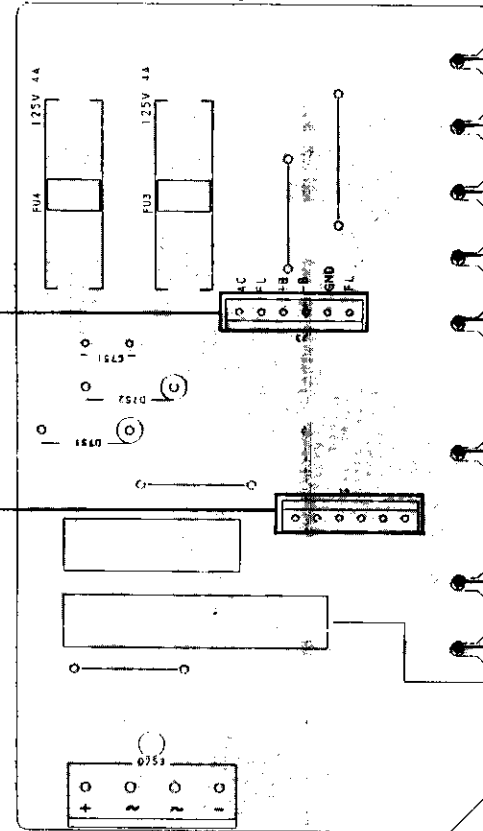
4.6 SW, TRANS and SB. TR assembly

A

SW assembly



TRANS assembly



NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

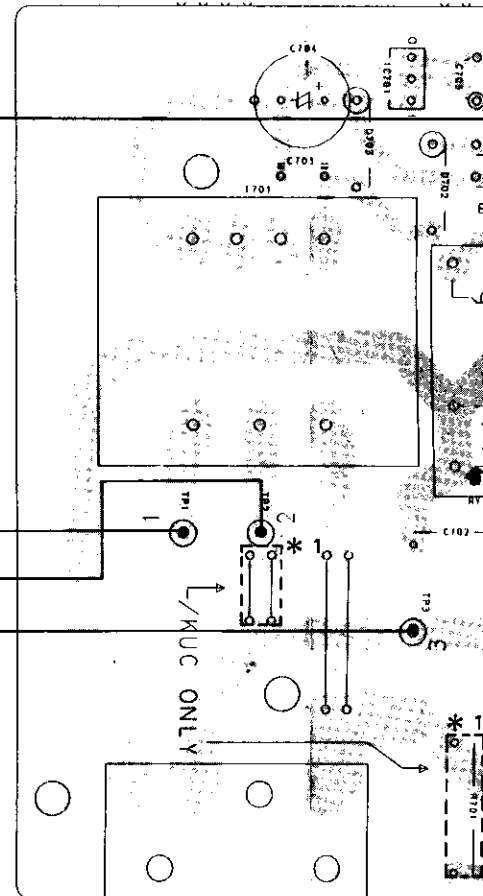
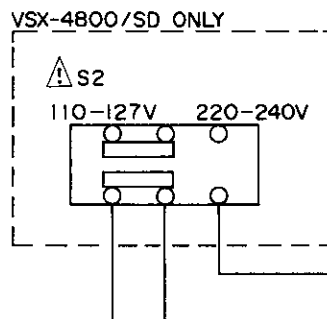
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

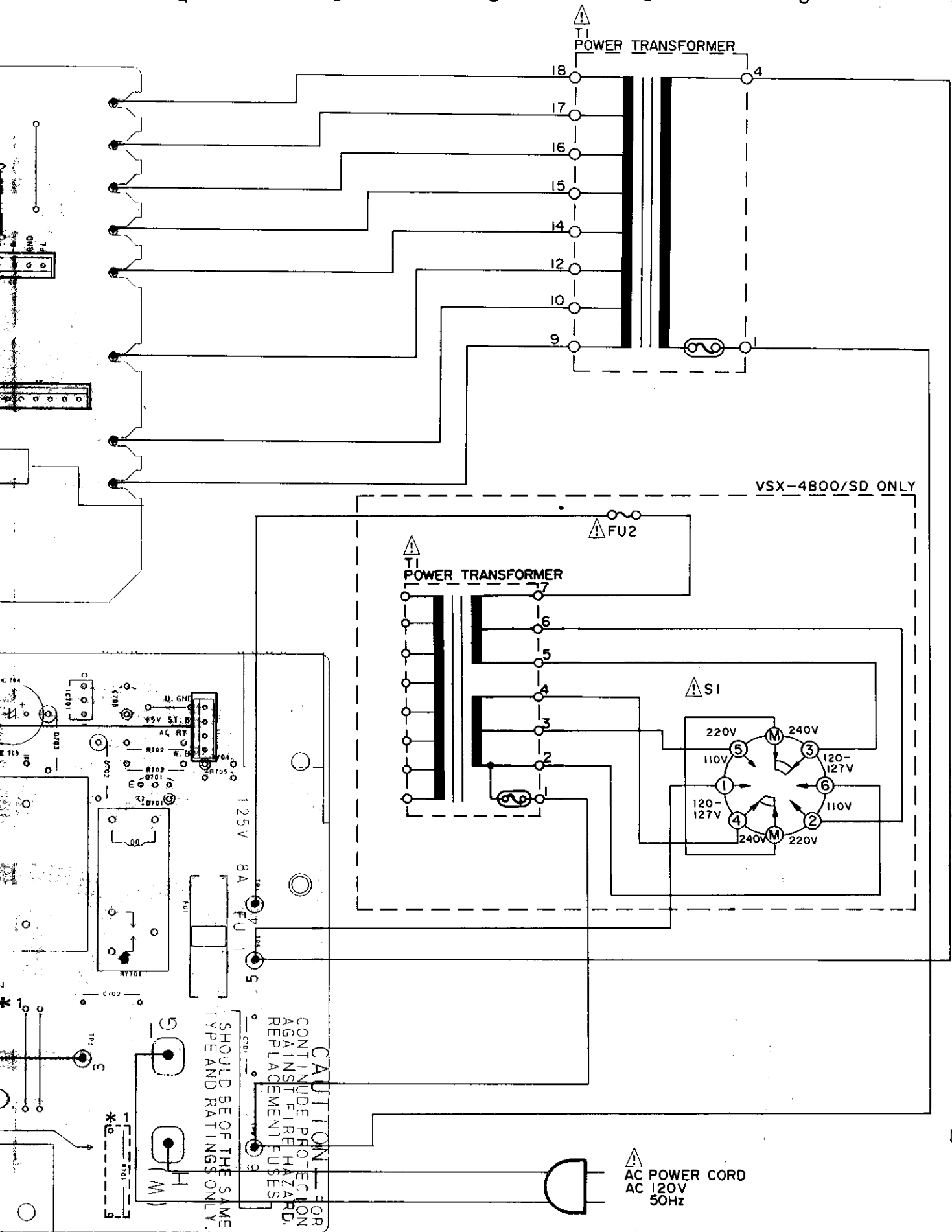
3. The capacitor terminal marked with ⊖ (double circles) shows negative terminal.
4. The diode terminal marked with ⊕ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

To AF assembly J1
(To page 14)



SB. TR assembly

NOTE)
When replace the SB.TR assembly of SD type,
cut the part *1.



A

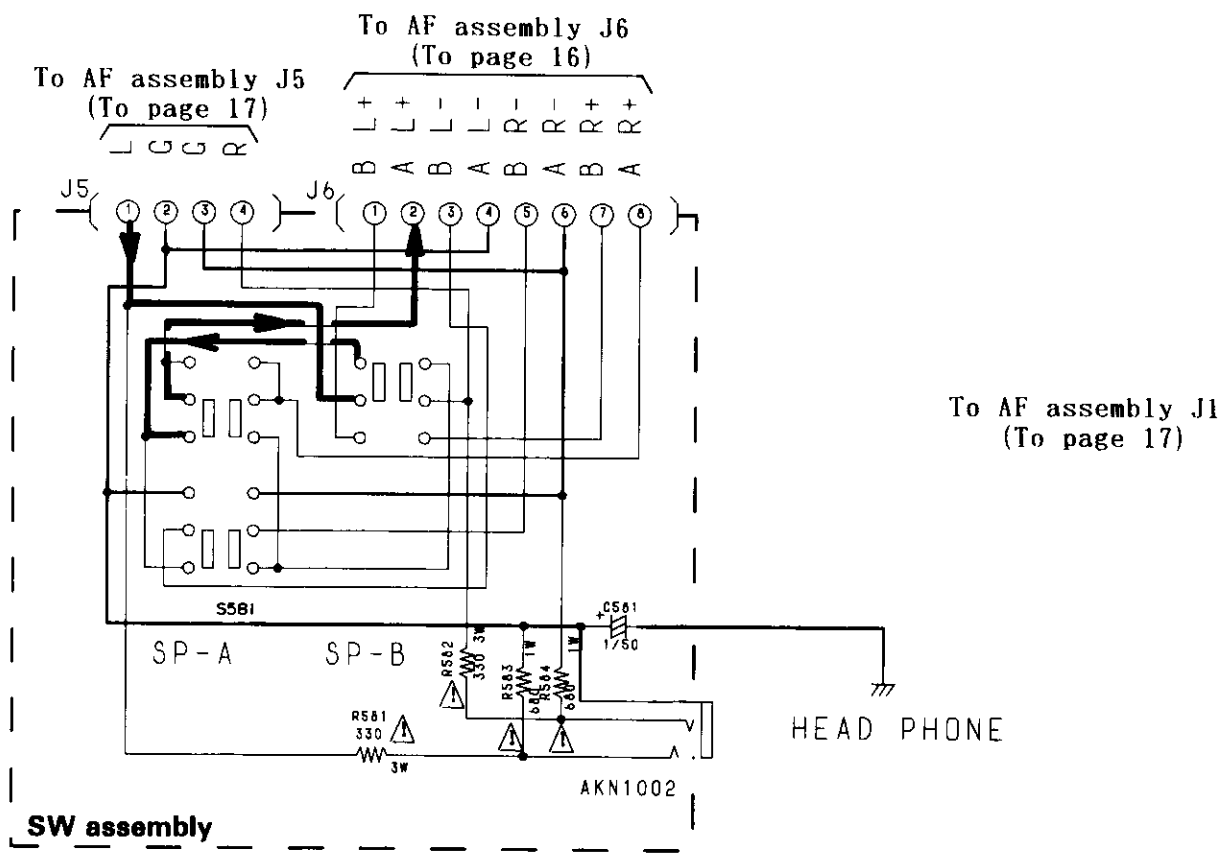
B

C

D

To AF
(To

To AF ass
(To pa

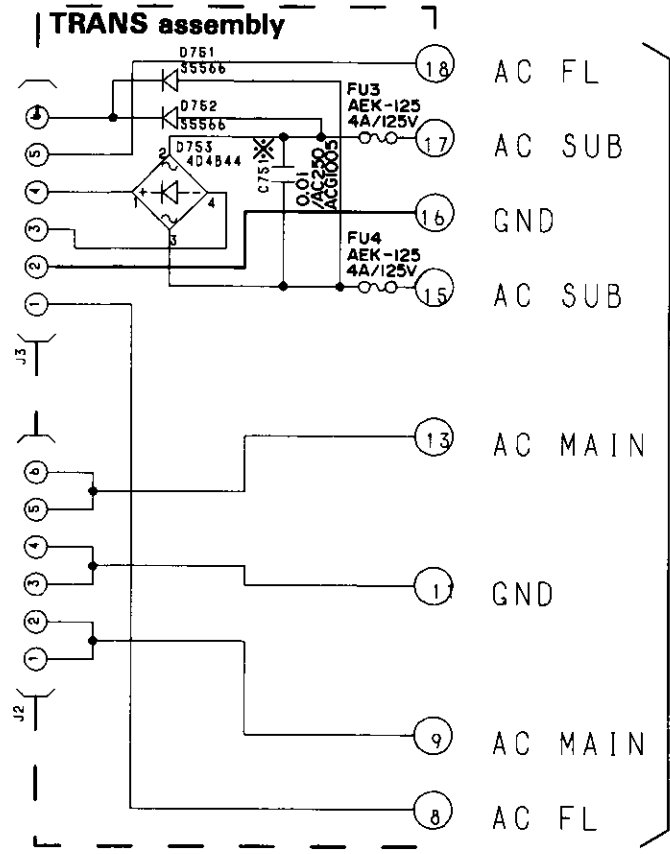


2/7

TRANS assembly

To AF assembly J3
(To page 17)

To AF assembly J2
(To page 17)



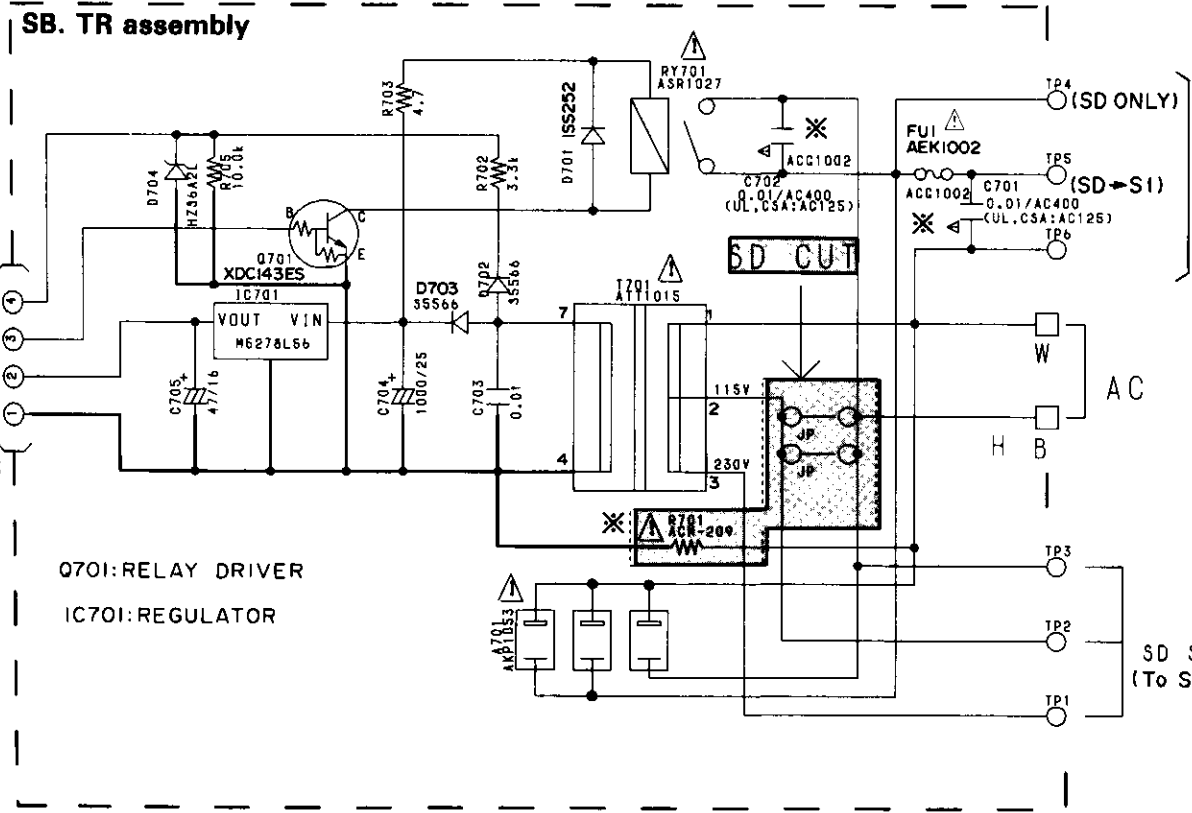
A

B

SB. TR assembly

W UP
RY
+5V ST BY
GND

To T1



C

D