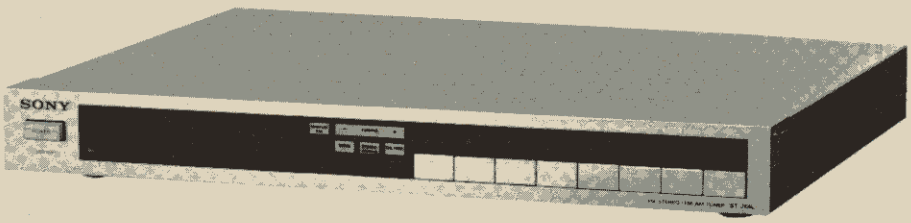
ST-JX4L

AEP Model
UK Model



QUARTZ

FM STEREO/FM-AM TUNER

SPECIFICATIONS

FM tuner section

Tuning range	87.5 MHz - 108 MHz
Antenna terminals	300 ohms, balanced
	75 ohms, unbalanced
Intermediate frequency	
	10.7 MHz
Sensitivity at 46 dB quieting (40 kHz deviation)	
	4 μV (mono)
	43 μV (30 μV)* (stereo)
Usable sensitivity	1.4 μV (S/N = 26 dB, 40 kHz deviation)
	1.8 μV, 10.3 dBf (IHF)
Limiting threshold	1 μV
Signal-to-noise ratio (40 kHz deviation)	
	80 dB (mono), 75 dB (stereo)
Harmonic distortion (40 kHz deviation)	
	0.08% (mono), 0.12% (stereo) at 100 Hz
	0.08% (mono), 0.12% (stereo) at 1 kHz
	0.1% (mono), 0.2% (stereo) at 10 kHz
IM distortion (40 kHz deviation)	
	0.08% (mono), 0.12% (stereo)
Separation	45 dB at 100 Hz
	50 dB (17 dB)* at 1 kHz
	40 dB at 10 kHz
Frequency response	40 Hz - 12.5 kHz ±0.2 dB
	30 Hz - 15 kHz $\pm^{0.2}_{2}$ dB
Selectivity	80 dB at 300 kHz
Capture ratio	1.0 dB
AM suppression ratio	
	60 dB
Image response ratio	
	80 dB
IF response ratio	100 dB
Spurious response ratio	
	100 dB

— Continued on page 2 —

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

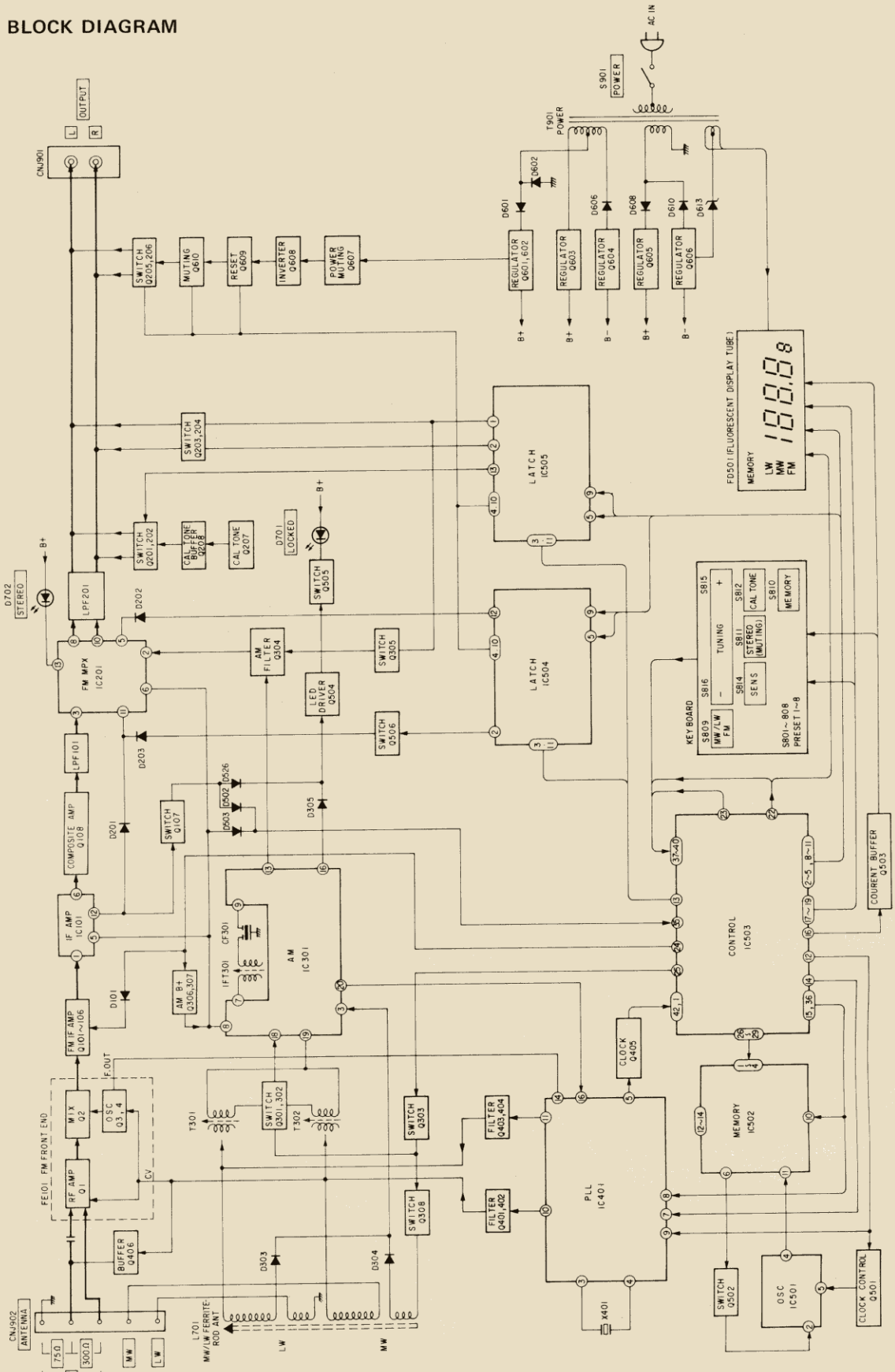
LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES ÉCLATÉES ET LA LISTE DES PIÉCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MICROFILM

SONY®

SERVICE MANUAL

1-2. BLOCK DIAGRAM



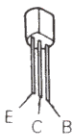
SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM

– Conductor Side –

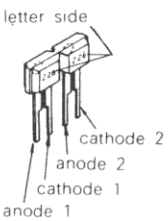
Semiconductor Lead Layouts

2SC1815
2SC1364
2SC1362
2SC1890A
2SA1015

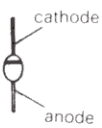


2SC710

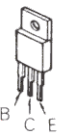
KV1226-D



MV-12N

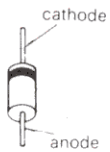


2SD880



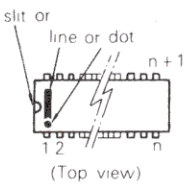
2SK30A

1S1555
10E2
EQA01-05R
EQA01-06R
HZ6B2L
HZ16-2L
HZ30-3L

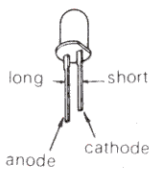


2SB733
2SB734

CX761A
CX778
LA1235
LA1245
LA3390
μPD552C-065
μPD4011C



GL-5NG10
GL-5PR5



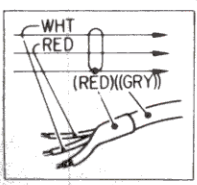
FM Ceramic Filter Adjustment

Identification color of FM ceramic filters (CF101-104)	D517	D518
black	○	○
red	×	○
white	○	×

○: to be connected, ×: to be removed

Notes:

- Color code of sleeving over the end of the jacket.

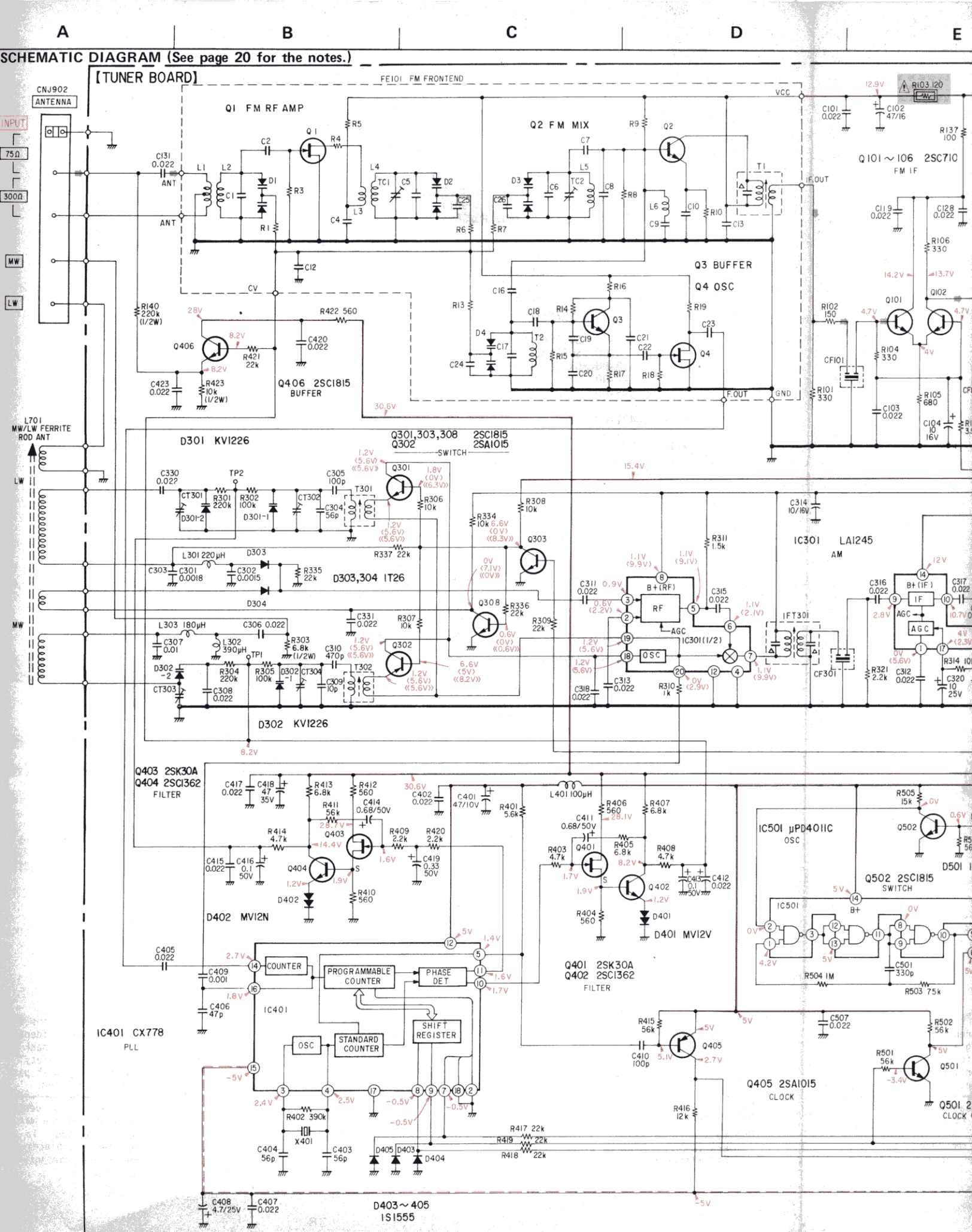


- : indicates side identified with part number.
- : B + pattern
- : B – pattern
- : signal path
- : L-CH signal path
- : R-CH signal path

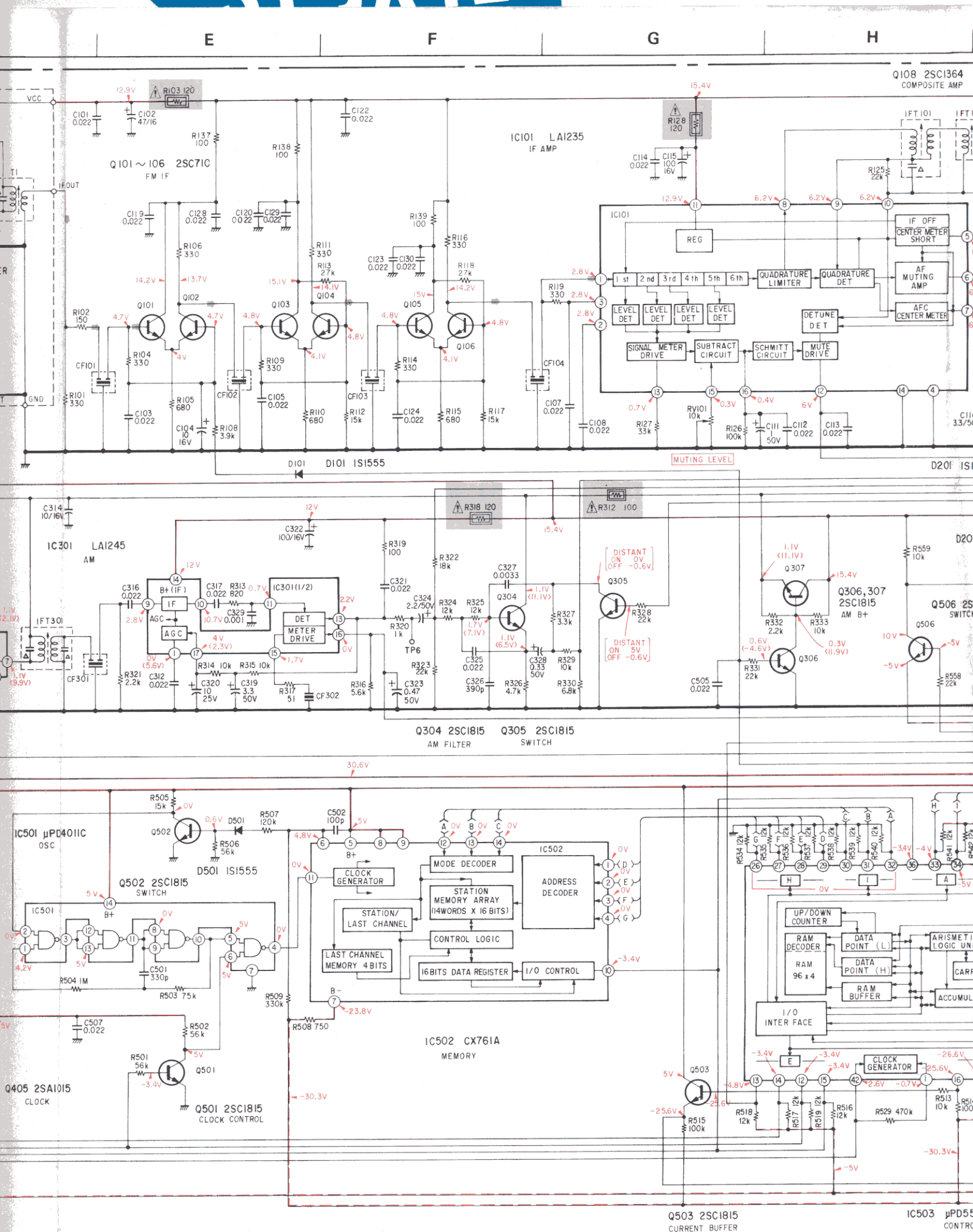
A B C D E

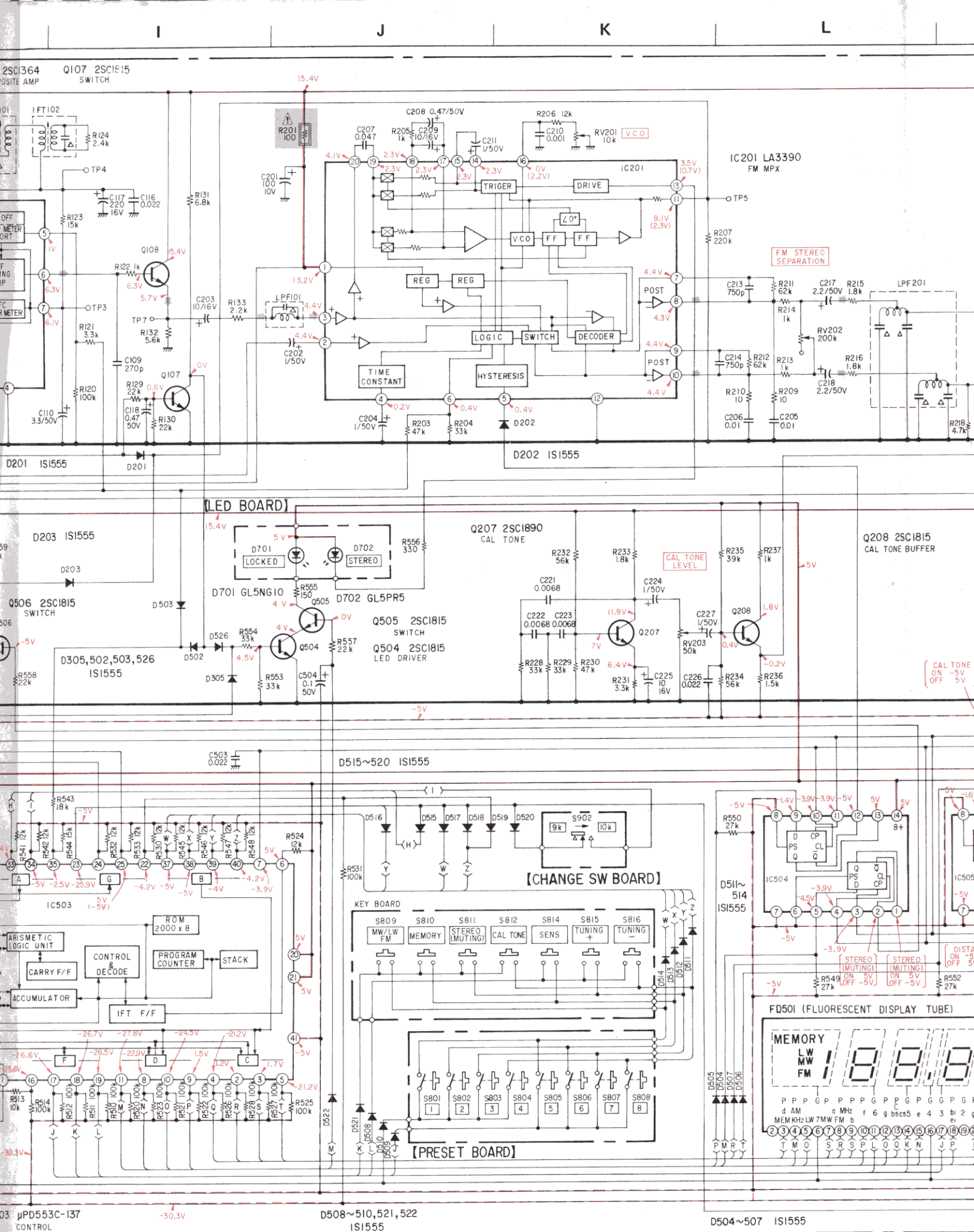
SCHEMATIC DIAGRAM (See page 20 for the notes.)

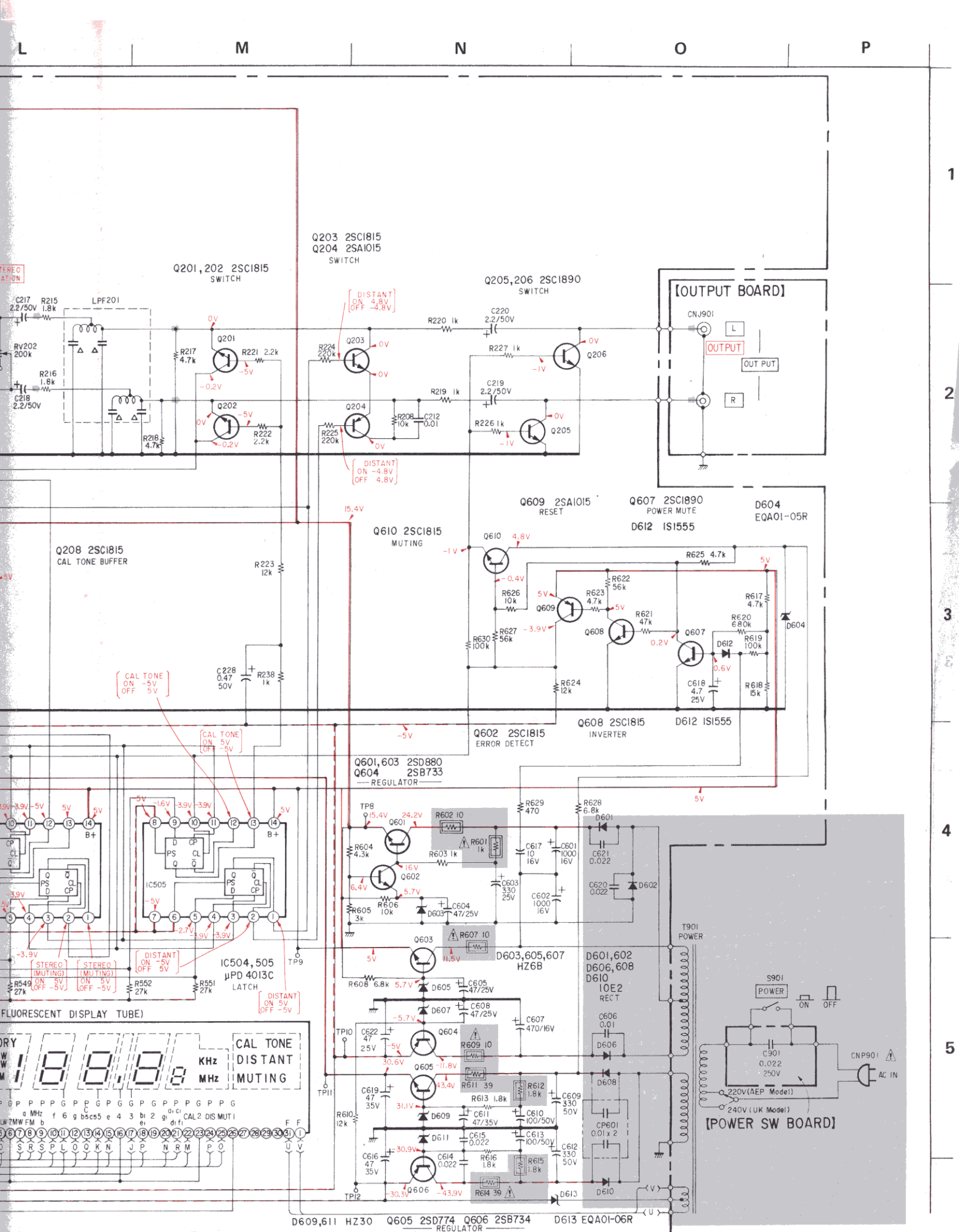
[TUNER BOARD]



E F G H


Q108 2SC1364
COMPOSITE AMP
IC101 LA1235
IF AMP
Q101 ~ 106 2SC710
FM IF
IC101
REG
1st 2nd 3rd 4th 5th 6th
QUADRATURE LIMITER
QUADRATURE DET
IF OFF CENTER METER SHORT
AF MUTING AMP
AFC CENTER METER
LEVEL DET
DETUNE DET
SIGNAL METER DRIVE
SUBTRACT CIRCUIT
SCHMITT CIRCUIT
MUTE DRIVE
MUTING LEVEL
D101 IS1555
IC301 LA1245
AM
IF
AGC
DET
METER DRIVE
Q304 2SC1815
AM FILTER
Q305 2SC1815
SWITCH
Q306,307
2SC1815
AM B+
IC501 μPD4011C
OSC
Q502 2SC1815
SWITCH
D501 IS1555
IC502
MODE DECODER
ADDRESS DECODER
CLOCK GENERATOR
STATION MEMORY ARRAY (14WORDS X 16 BITS)
STATION/ LAST CHANNEL
CONTROL LOGIC
LAST CHANNEL MEMORY 4 BITS
16BITS DATA REGISTER
I/O CONTROL
IC502 CX761A
MEMORY
Q405 2SA1015
CLOCK
Q501 2SC1815
CLOCK CONTROL
UP/DOWN COUNTER
RAM DECODER
RAM 96 x 4
DATA POINT (L)
DATA POINT (H)
RAM BUFFER
I/O INTER FACE
CLOCK GENERATOR
Q503 2SC1815
CURRENT BUFFER
IC503 μPD55
CONTRO


I
J
K
L
2SC1364
POSITE AMP
Q107 2SC1815
SWITCH
IC201 LA3390
FM MPX
IC201
TRIGER
DRIVE
VCO
FF
FF
REG
REG
LOGIC
SWITCH
DECODER
TIME CONSTANT
HYSTERESIS
POST
POST
FM STEREO SEPARATION
LPF201
RV201 10k VCO
RV202 200k
D201 IS1555
D202 IS1555
D203 IS1555
(LED BOARD)
D701 GL5NG10
D702 GL5PR5
LOCKED
STEREO
Q506 2SC1815
SWITCH
Q505 2SC1815
SWITCH
Q504 2SC1815
LED DRIVER
D305,502,503,526
IS1555
Q207 2SC1890
CAL TONE
CAL TONE LEVEL
Q208 2SC1815
CAL TONE BUFFER
CAL TONE ON -5V OFF 5V
D515~520 IS1555
IC503
ROM 2000 x 8
ARISMETIC LOGIC UNIT
CONTROL & DECODE
PROGRAM COUNTER
STACK
CARRY F/F
ACCUMULATOR
IFT F/F
μPD553C-137
CONTROL
(CHANGE SW BOARD)
KEY BOARD
S809 MW/LW FM
S810 MEMORY
S811 STEREO (MUTING)
S812 CAL TONE
S814 SENS
S815 TUNING +
S816 TUNING −
(PRESET BOARD)
S801 1
S802 2
S803 3
S804 4
S805 5
S806 6
S807 7
S808 8
D508~510,521,522
IS1555
D504~507 IS1555
IC504
D511~514
IS1555
FD501 (FLUORESCENT DISPLAY TUBE)
MEMORY
LW
MW
FM
STEREO (MUTING) ON 5V OFF -5V
STEREO (MUTING) ON 5V OFF -5V


L
M
N
O
P
1
2
3
4
5
Q203 2SC1815
Q204 2SA1015
SWITCH
Q201,202 2SC1815
SWITCH
Q205,206 2SC1890
SWITCH
[OUTPUT BOARD]
CNJ901
L
OUTPUT
OUT PUT
R
C217 2.2/50V
R215 1.8k
LPF201
RV202 200k
R216 1.8k
C218 2.2/50V
R217 4.7k
Q201
R221 2.2k
R218 4.7k
Q202
R222 2.2k
R224 220k
Q203
R225 220k
Q204
R208 10k
C212 0.01
R220 1k
C220 2.2/50V
R227 1k
Q206
R219 1k
C219 2.2/50V
R226 1k
Q205
DISTANT ON 4.8V OFF -4.8V
DISTANT ON -4.8V OFF 4.8V
Q208 2SC1815
CAL TONE BUFFER
R223 12k
C228 0.47 50V
R238 1k
CAL TONE ON -5V OFF 5V
Q610 2SC1815
MUTING
Q609 2SA1015
RESET
Q607 2SC1890
POWER MUTE
D612 IS1555
D604 EQA01-05R
Q610 4.8V
R625 4.7k
R626 10k
R622 56k
R623 4.7k
Q609
R621 47k
Q608
Q607
D612
R620 6.8k
R619 100k
R617 4.7k
D604
R627 56k
R630 100k
R624 12k
C618 4.7 25V
R618 15k
Q608 2SC1815
INVERTER
D612 IS1555
Q602 2SC1815
ERROR DETECT
Q601,603 2SD880
Q604 2SB733
REGULATOR
CAL TONE ON 5V OFF -5V
IC505
IC504,505 μPD 4013C
LATCH
STEREO (MUTING) ON 5V OFF -5V
STEREO (MUTING) ON -5V OFF -5V
DISTANT ON -5V OFF 5V
DISTANT ON 5V OFF -5V
R549 27k
R552 27k
R551 27k
TP9
FLUORESCENT DISPLAY TUBE)
CAL TONE
DISTANT
MUTING
KHz
MHz
TP8
Q601
R602 10
R601 1k
R603 1k
R604 4.3k
Q602
R606 10k
R605 3k
D603
C604 47/25V
C603 330 25V
C617 10 16V
C601 1000 16V
C602 1000 16V
R629 470
R628 6.8k
D601
C621 0.022
C620 0.022
D602
Q603
R607 10
R608 6.8k
D605
C605 47/25V
D607
C608 47/25V
C607 470/16V
TP10
C622 47 25V
Q604
R609 10
Q605
R611 39
R612 1.8k
R613 1.8k
C609 330 50V
TP11
R610 12k
C619 47 35V
D609
C611 47/35V
C610 100/50V
D611
C615 0.022
C613 100/50V
C612 330 50V
C616 47 35V
C614 0.022
R616 1.8k
R615 1.8k
Q606
R614 39
TP12
D613
D603,605,607 HZ6B
D601,602 D606,608 D610 10E2 RECT
C606 0.01
D606
D608
CP601 0.01 x 2
D610
T901 POWER
S901
POWER
ON
OFF
C901 0.022 250V
CNP901
AC IN
220V(AEP Model)
240V(UK Model)
[POWER SW BOARD]
D609,611 HZ30
Q605 2SD774
Q606 2SB734
REGULATOR
D613 EQA01-06R