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SECTION 4

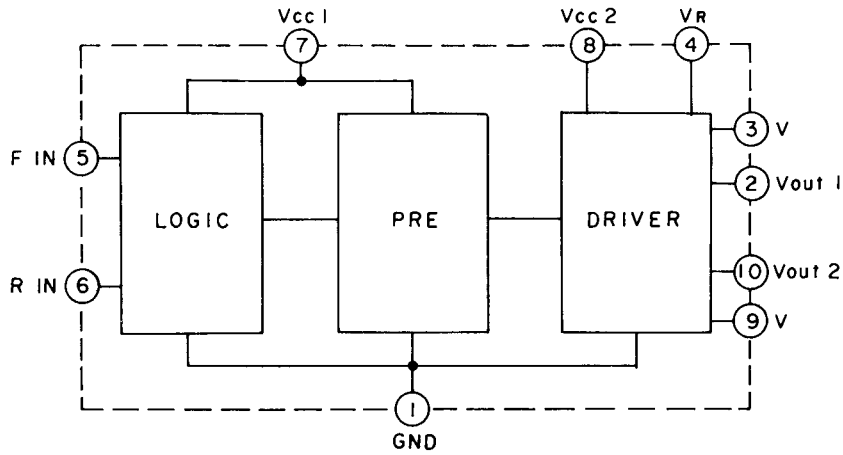
SCHEMATIC DIAGRAM

MODEL F-7/L (FD-7/L, FP-7)

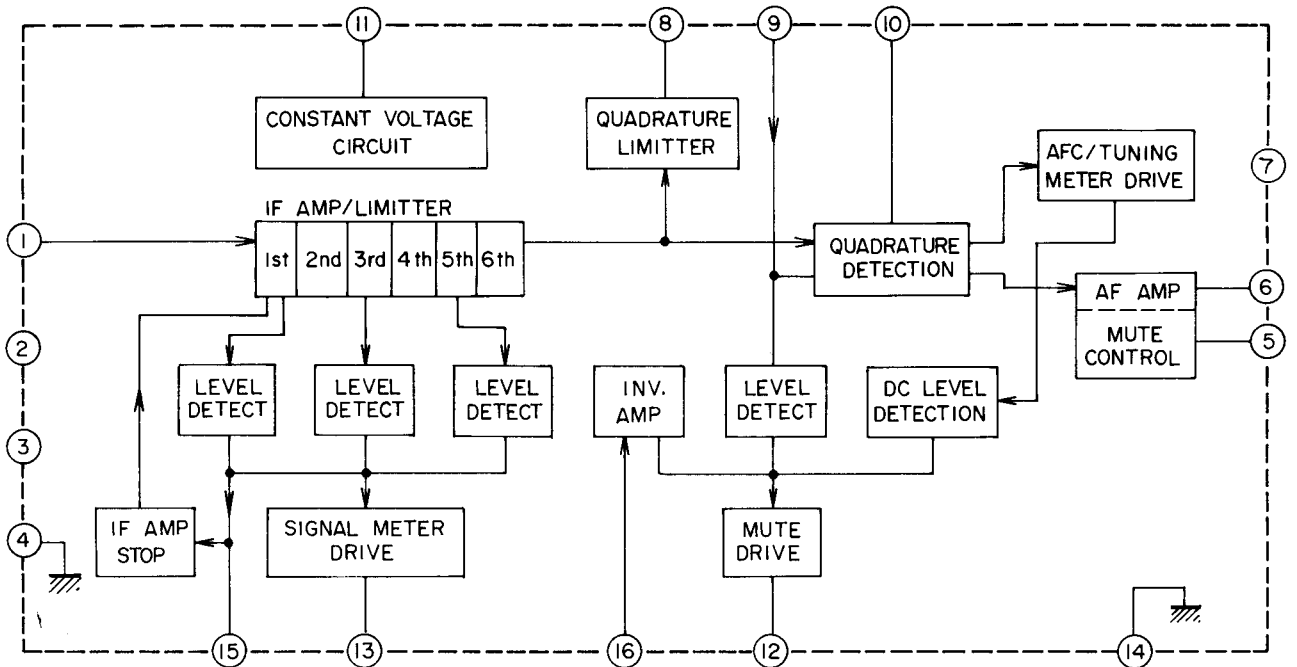
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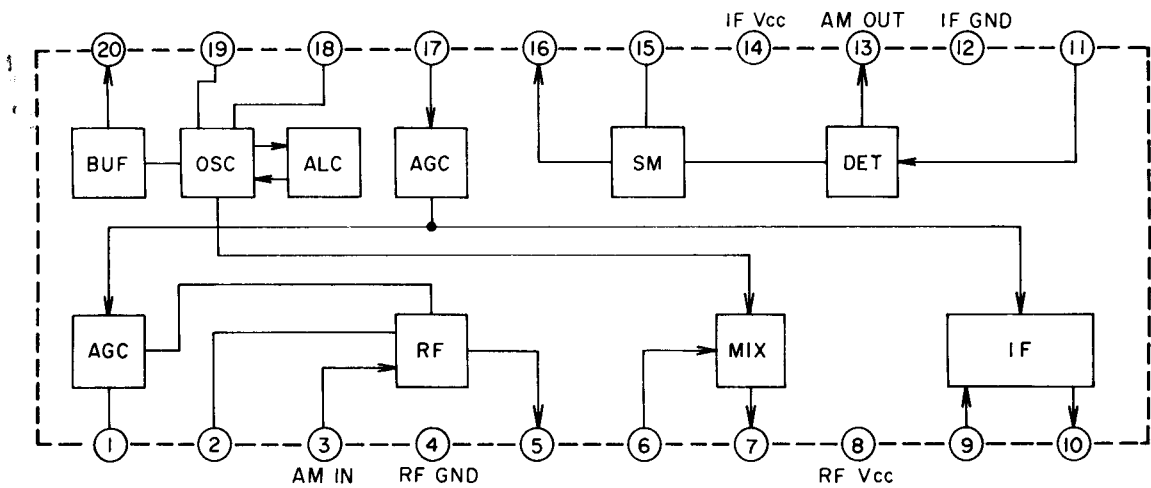
BA6109



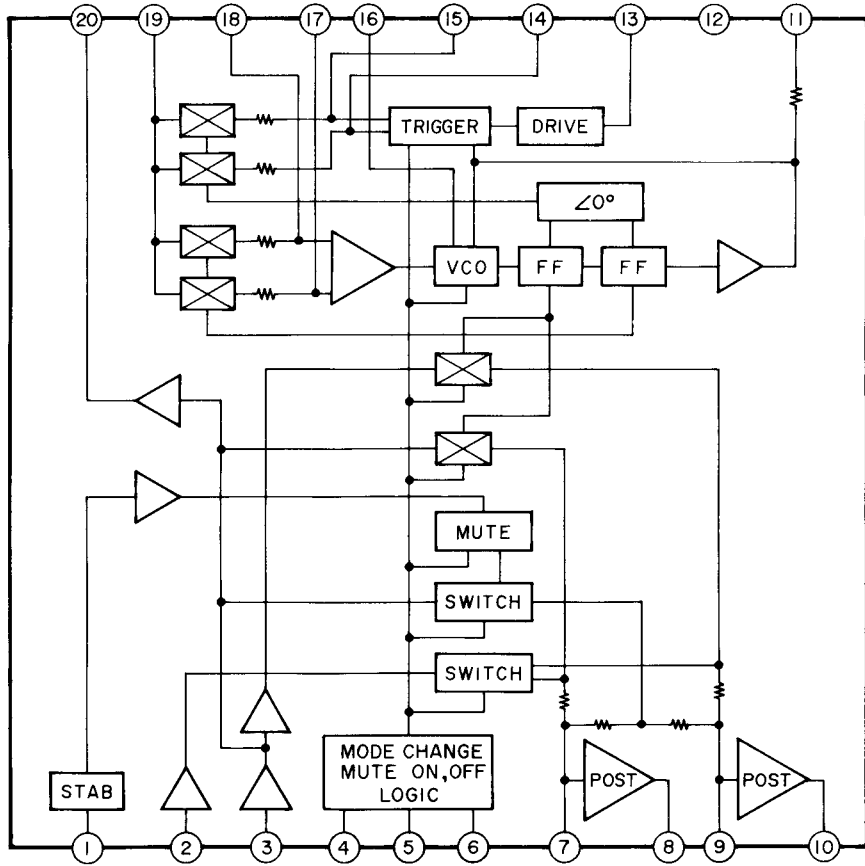
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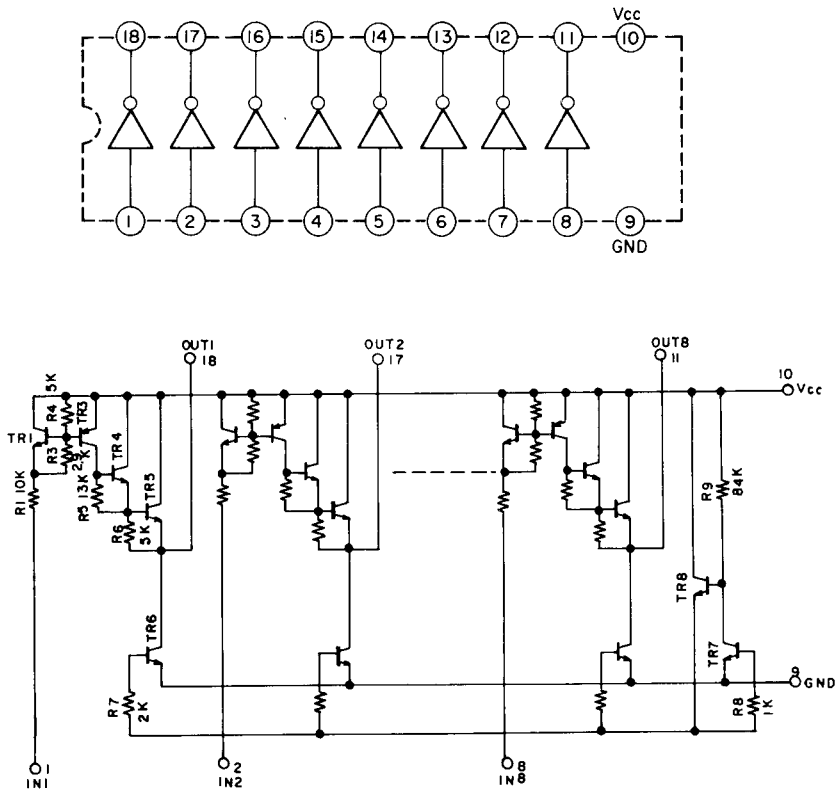
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LA3390

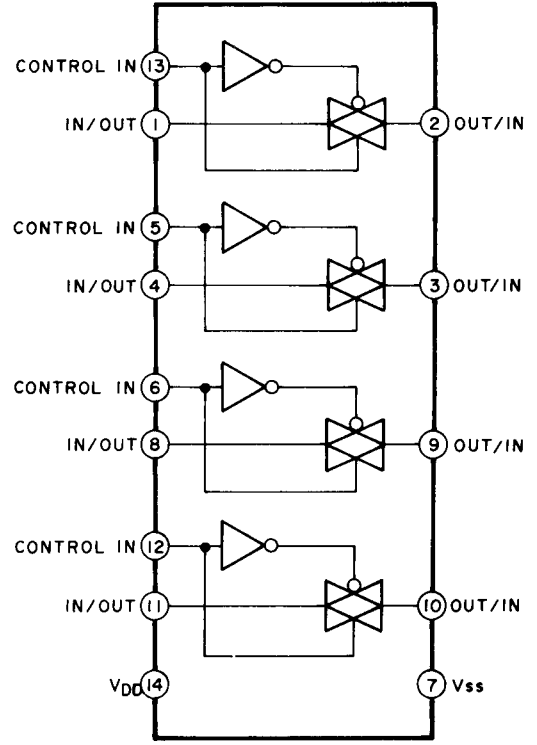
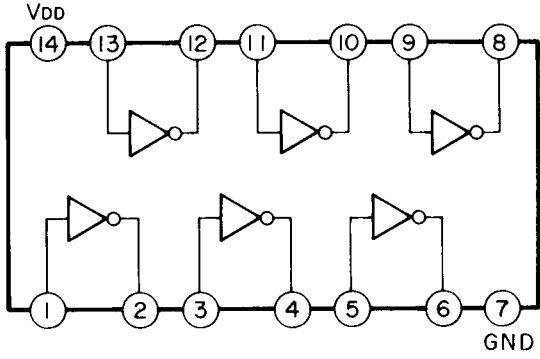


LB1240

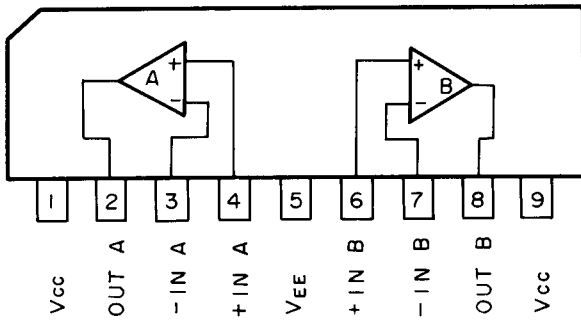


LC4069UB, MC14069UB

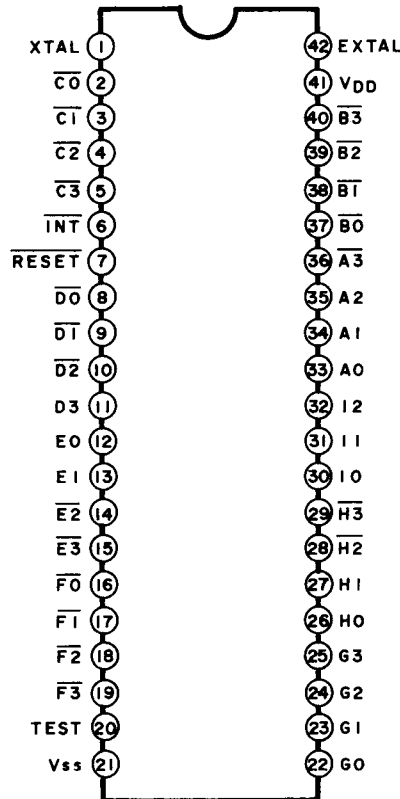
LC4016B



LC6458S



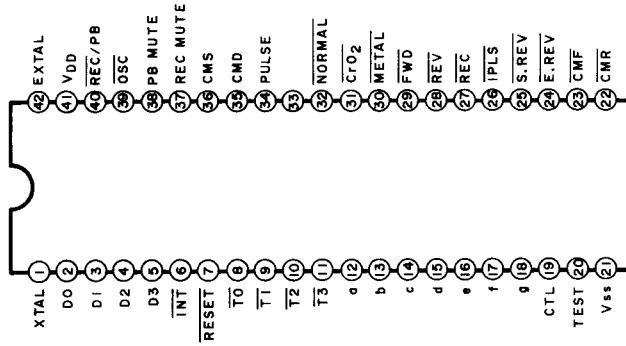
LM6402A-121



LM6402A-121

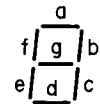
| Pin No. | Symbol | Description |
|---------|--------------------|---|
| 1 | X TAL | 400 kHz Crystal Oscillator input |
| 2 | $\overline{C0}$ | ANTI SKATING, Active at "L" |
| 3 | $\overline{C1}$ | LOW VOLTAGE } TONE ARM UP/DOWN PLUNGER DRIVE HIGH VOLTAGE } Active at "L" (HIGH DRIVE → 3 SEC) |
| 4 | $\overline{C2}$ | |
| 5 | $\overline{C3}$ | RECORD SENSOR ILLUMINATOR LAMP DRIVE, Active at "L" |
| 6 | \overline{INT} | Initialize terminal, Initialize at "L" |
| 7 | \overline{RESET} | Reset terminal, Reset at "L" |
| 8 | $\overline{D0}$ | SPEED SERVO } ARM MOTOR CONTROL signal output D0, 1, 2: Active at "L" D3 : Active at "H" |
| 9 | $\overline{D1}$ | |
| 10 | $\overline{D2}$ | |
| 11 | D3 | |
| 12 | E0 | MAIN MOTOR SPEED (33-1/3 / 45 rpm) control output, 33 at "L", 45 at "H" |
| 13 | E1 | MAIN MOTOR ON/OFF (PLAY/STOP) signal output, ON at "L", OFF at "H" |
| 14 | $\overline{E2}$ | SLIDE MOTOR DRIVE (OPEN) output } SLIDE MOTOR DRIVE (CLOSE) output } Active at "L" |
| 15 | $\overline{E3}$ | |
| 16 | $\overline{F0}$ | 33-1/3 } 45 rpm } LED DRIVE output, Active at "L" REPEAT } |
| 17 | $\overline{F1}$ | |
| 18 | $\overline{F2}$ | |
| 19 | $\overline{F3}$ | DISK END signal output, END at "H" |
| 20 | TEST | } Connected to ground |
| 21 | Vss | |
| 22 | G0 | } Not used (open) |
| 23 | G1 | |
| 24 | G2 | |
| 25 | G3 | |
| 26 | H0 | |
| 27 | H1 | Not used (Connected to ground) |
| 28 | $\overline{H2}$ | 17 cm Record Size Detection input } 30 cm Record Size Detection input } Active at "L" |
| 29 | $\overline{H3}$ | |
| 30 | I0 | Arm Location Sensor 1 input } Arm Location Sensor 2 input } Active at "H" Arm Location Sensor 3 input } |
| 31 | I1 | |
| 32 | I2 | |
| 33 | A0 | CABINET Location Detection (OPEN) input } CABINET Location Detection (CLOSE) input } Active at "H" |
| 34 | A1 | |
| 35 | A2 | Arm UP/DOWN Detection input, UP at "H", DOWN at "L" |
| 36 | $\overline{A3}$ | CABINET OPEN/CLOSE signal input, Active at "L" |
| 37 | $\overline{B0}$ | START/CUT signal input, Active at "L" |
| 38 | $\overline{B1}$ | CUE (ARM UP/DOWN) signal input, Active at "L" |
| 39 | $\overline{B2}$ | REPEAT signal input, Active at "L" |
| 40 | $\overline{B3}$ | SPEED (33/45) Selection signal input, Active at "L" |
| 41 | VDD | +5 V |
| 42 | EX TAL | 400 kHz Crystal Oscillator input |

LM6402H-155



LM6402H-155, 190

| Pin No. | Symbol | Description |
|---------|------------------|--|
| 1 | X TAL | Crystal oscillator terminal |
| 2 | D0 | } CONTROL DATA INPUT |
| 3 | D1 | |
| 4 | D2 | |
| 5 | D3 | |
| 6 | INT | Cam Motor Rotation Pulse input |
| 7 | RESET | Reset terminal |
| 8 | T0 | } FLD Digit Designation output & Matrix Digit output |
| 9 | T1 | |
| 10 | T2 | |
| 11 | T3 | |
| 12 | a | } 7 Segment Data output |
| 13 | b | |
| 14 | c | |
| 15 | d | |
| 16 | e | |
| 17 | f | |
| 18 | g | |
| 19 | CTL | Input IC selection signal output |
| 20 | TEST | } Connected to ground |
| 21 | Vss | |
| 22 | CMR | } Cam Motor control output, Active at "L" |
| 23 | CMF | |
| 24 | E. REV | } FLD Drive output, Active at "L" |
| 25 | S. REV | |
| 26 | IPLS | |
| 27 | REC | |
| 28 | REV | |
| 29 | FWD | |
| 30 | METAL | } FL Display Drive output & PRE AMP EQ Control output Active at "L" |
| 31 | CrO ₂ | |
| 32 | NORMAL | |



| Pin No. | Symbol | Description |
|---------|----------------------------|---------------------------------------|
| 33 | | |
| 34 | PULSE | Reel Rotation Pulse input |
| 35 | CMD | Cam Motor Direction signal input |
| 36 | CMS | Cam Motor STOP Detection signal input |
| 37 | REC MUTE | Recording Mute at "H" |
| 38 | PB MUTE | Playback Mute at "H" |
| 39 | $\overline{\text{OSC}}$ | Oscillator Drive at "L" |
| 40 | $\overline{\text{REC/PB}}$ | Recording at "L", Playback at "H" |
| 41 | V _{DD} | +5 V |
| 42 | EXTAL | Crystal Oscillator terminal |

KEY MATRIX (INPUT EXPANDER)

| IC3 (LM6402H) Symbol | | | T3 | T2 | T1 | T0 | CTL |
|-------------------------------|---|----|----------------|------------|--------------|-----------------|-----|
| IC3 Pin No. | | | 11 | 10 | 9 | 8 | 19 |
| IC4, 5 (LC7800) Pin No. | | | 19 | 20 | 21 | 22 | 27 |
| D3 | 5 | 23 | EJECT (STOP) ① | | | COUNTER RESET ⑮ | H |
| D2 | 4 | 24 | FWD | REW | | | H |
| D1 | 3 | 25 | REV | AUTO MUTE | REV SELECT ⑩ | | H |
| D0 | 2 | 26 | REC | REC CANCEL | IPLS ⑫ | | H |

* ○ = IC4 Pin No.

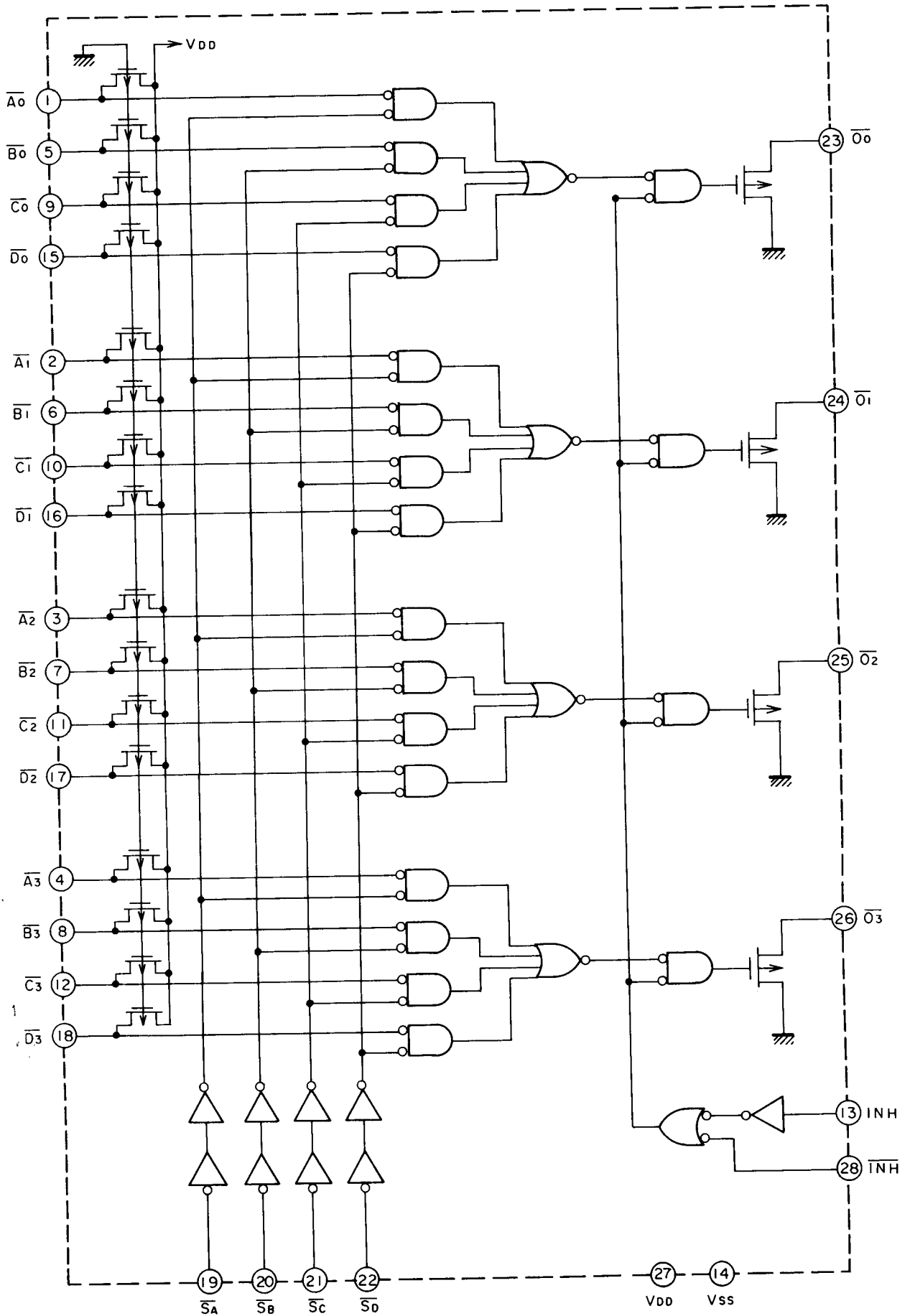
| IC3 (LM6402H) Symbol | | | T3 | T2 | T1 | T0 | CTL |
|-------------------------------|---|----|-----------------|--------------------|-----|-------------|-----|
| IC3 Pin No. | | | 11 | 10 | 9 | 8 | 19 |
| IC4, 5 (LC7800) Pin No. | | | 19 | 20 | 21 | 22 | 13 |
| D3 | 5 | 23 | CAM DIRECTION ① | CrO ₂ ⑤ | * ⑨ | IPLS ⑮ | L |
| D2 | 4 | 24 | FWD/REV ② | METAL ⑥ | * ⑩ | QUICK REV ⑯ | L |
| D1 | 3 | 25 | A.R FWD ③ | TIMER PLAY | * ⑪ | | L |
| D0 | 2 | 26 | A.R REV ④ | TIMER REC | * ⑫ | | L |

* OPERATION DATA = Refer to CONTROL DATA chart indicated next.

* ○ = IC5 Pin No.

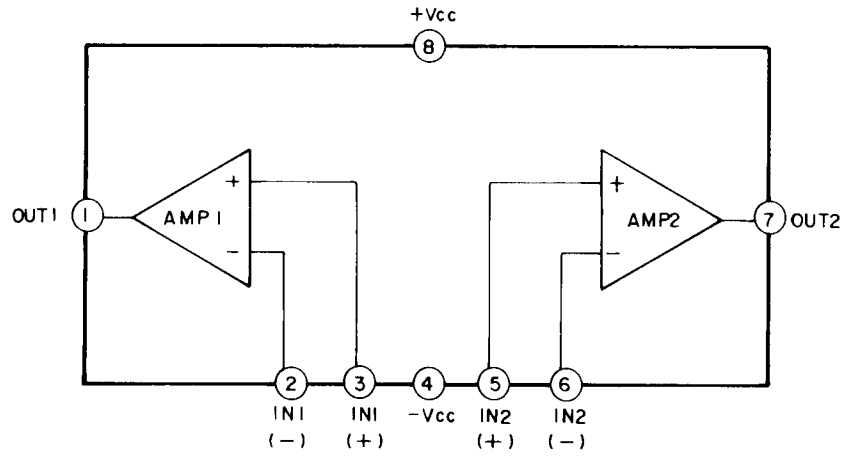
CONTROL DATA

| Mode | Control Data Input | | | | Mode | Control Data Input | | | |
|------|--------------------|----|----|----|--------------|--------------------|----|----|----|
| | D3 | D2 | D1 | D0 | | D3 | D2 | D1 | D0 |
| STOP | 0 | 0 | 0 | 0 | AUTO MUTE | 0 | 1 | 0 | 1 |
| FF | 0 | 0 | 0 | 1 | REC FWD | 0 | 1 | 1 | 0 |
| REW | 0 | 0 | 1 | 0 | REV | 1 | 0 | 1 | 1 |
| FWD | 0 | 0 | 1 | 1 | REC REV | 1 | 1 | 1 | 0 |
| REC | 0 | 1 | 0 | 0 | NO OPERATION | 1 | 1 | 1 | 1 |

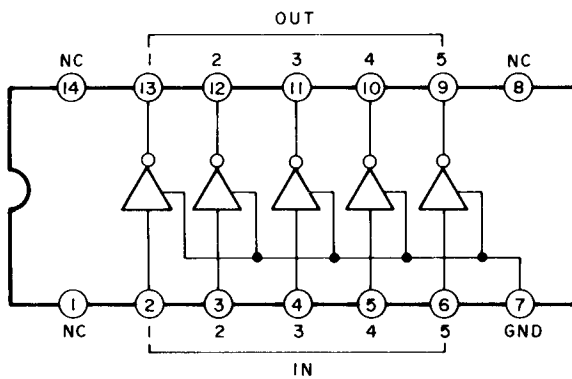


SCHEMATIC DIAGRAM FD-7/L, FP-7

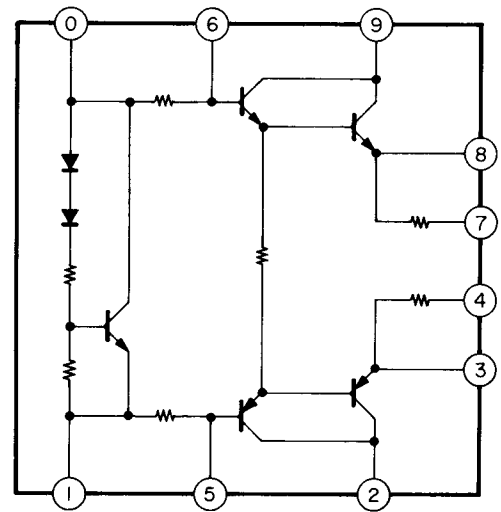
M5218LO, M5218P-21



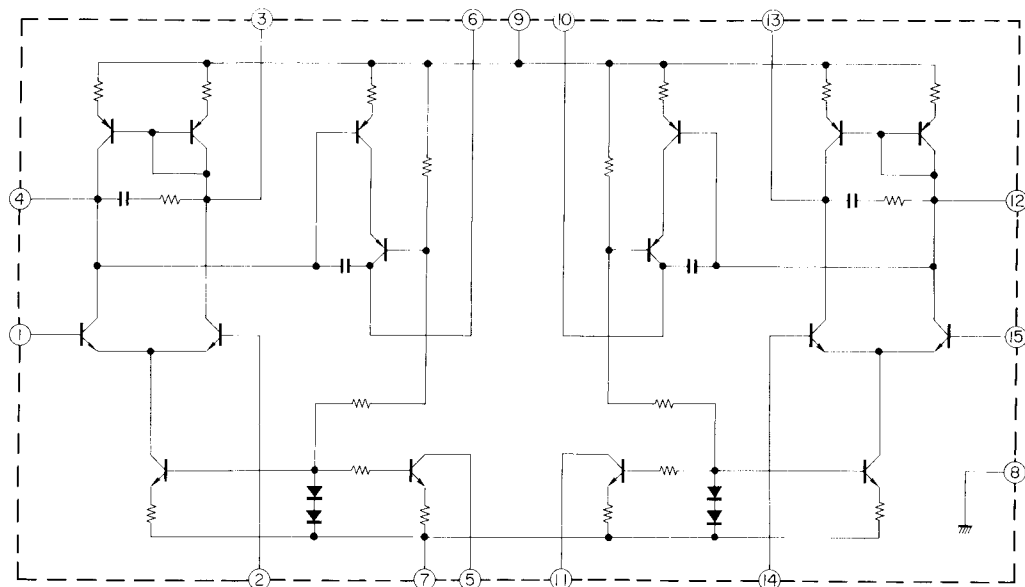
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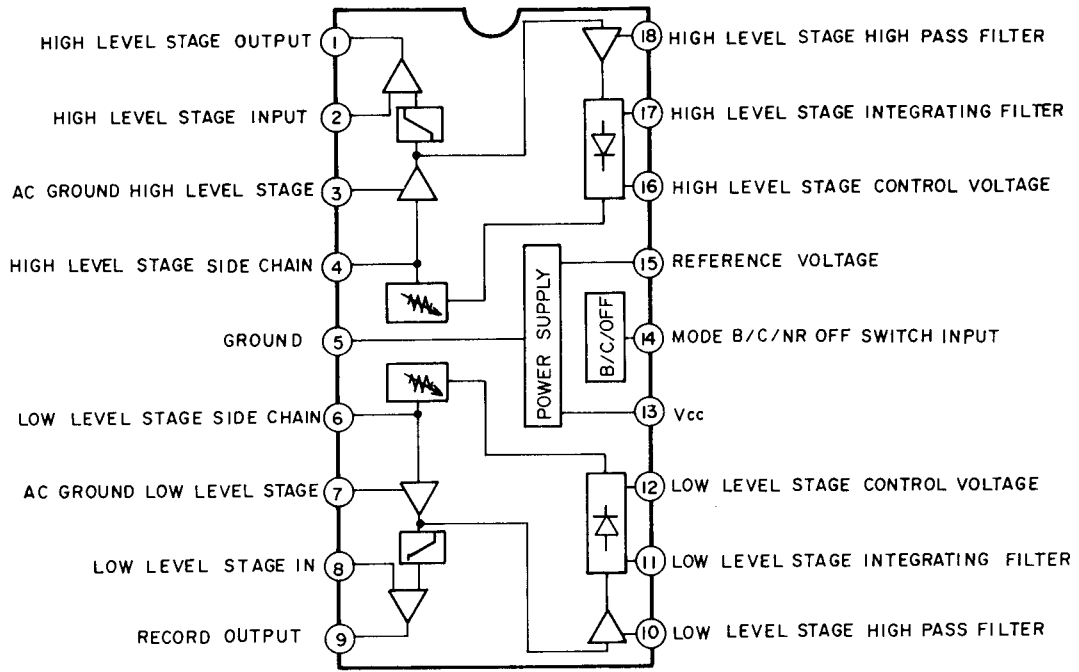
STK1050



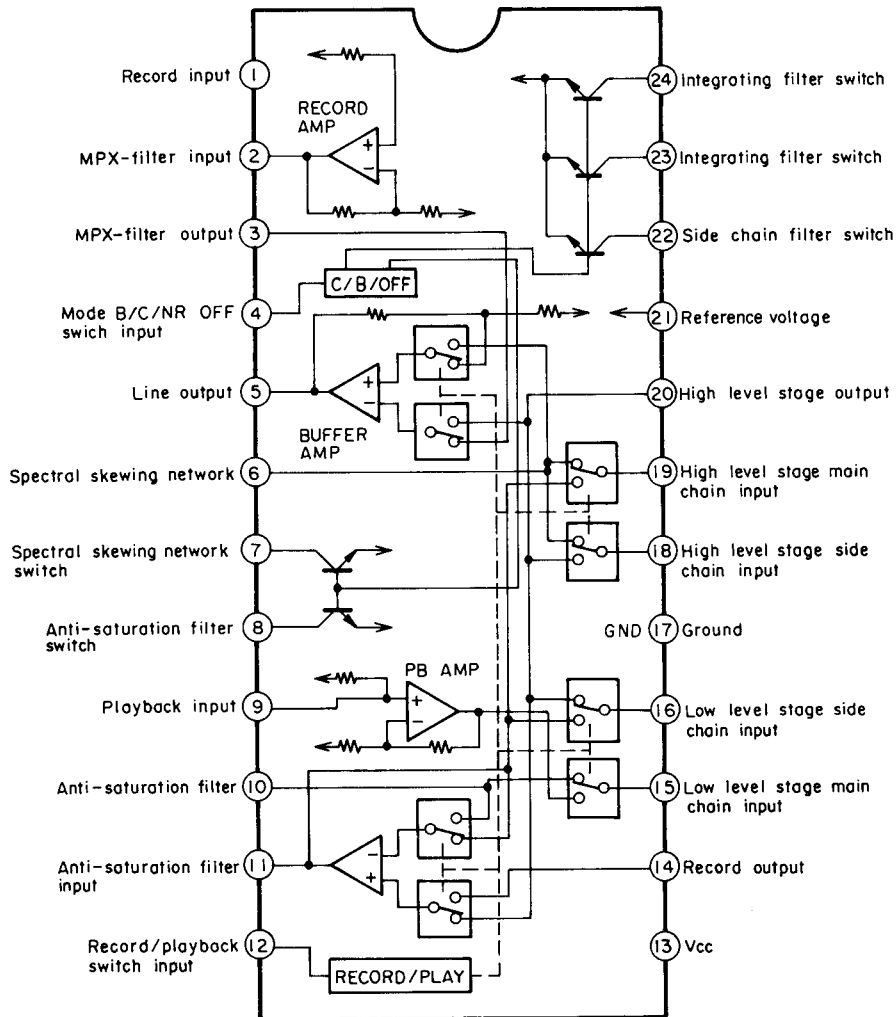
STK3042



NE652

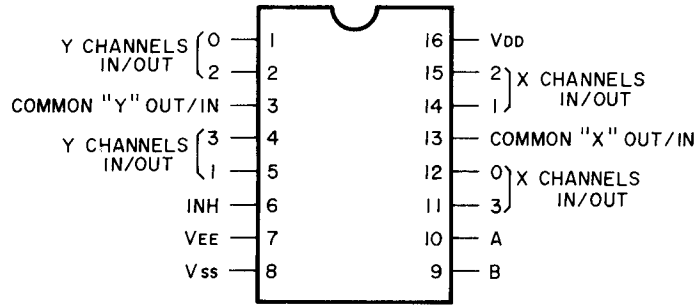


NE654



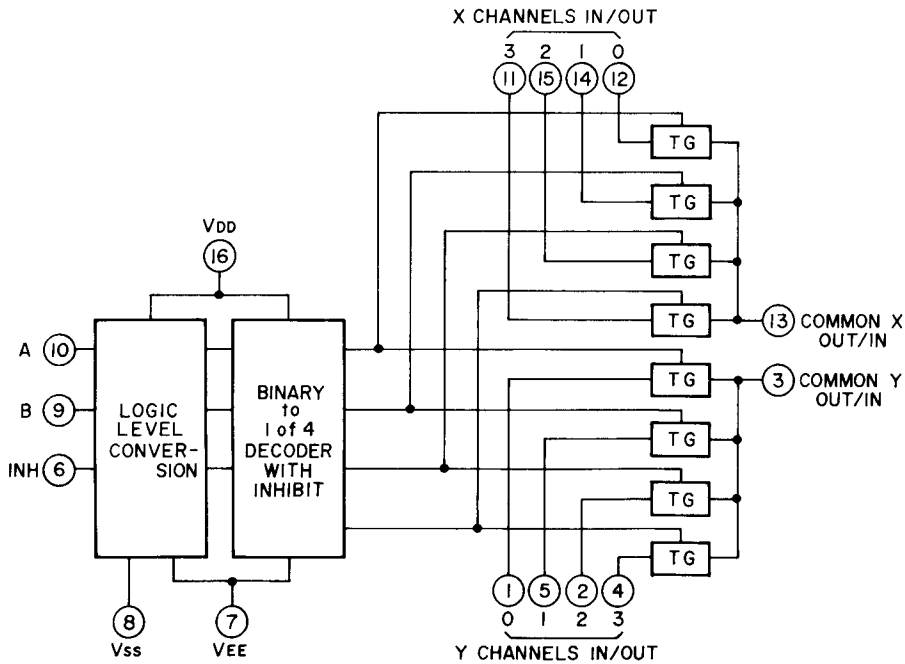
SCHEMATIC DIAGRAM FD-7/L, FP-7

TC4052BP



| INHIBIT ⑥ | A ⑩ | B ⑨ | "ON" CHANNEL |
|--------------|--------|--------|-----------------|
| L | L | L | 0X, 0Y |
| L | H | L | 1X, 1Y |
| L | L | H | 2X, 2Y |
| L | H | H | 3X, 3Y |
| H | X | X | NONE |

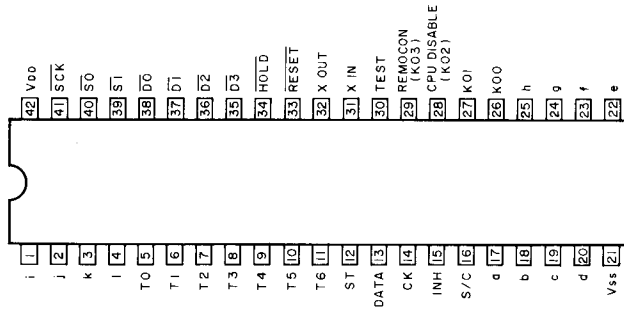
X=DON'T CARE



FUNCTION (Analogue SW IC TC4052BP) Selection Signal

| Function | Output | |
|----------|--------|---|
| | A | B |
| PHONO | 1 | 0 |
| TUNER | 0 | 1 |
| AUX | 1 | 1 |
| TAPE | 0 | 0 |

TC47C21P (NH-100)



TERMINAL DESCRIPTION OF IC1 TC47C21P (NH-100)

| Pin No. | Symbol | Description | |
|---------|---------------|---|--|
| 1 | i | } FLD Segment Data output | |
| 2 | j | | |
| 3 | k | | |
| 4 | l | | |
| 5 | T0 | 1G | } FLD Digit Designation output & Matrix Digit output |
| 6 | T1 | 2G | |
| 7 | T2 | 3G | |
| 8 | T3 | 4G | |
| 9 | T4 | 5G | |
| 10 | T5 | 6G | |
| 11 | T6 | 7G | |
| 12 | ST | Strobe Pulse | } for Electronic Volume (IC2: TC9154P) Control |
| 13 | DATA | Data Pulse | |
| 14 | CK | Clock Pulse | |
| 15 | INH | Key Input Inhibit signal input | |
| 16 | S/C | START/CUT, produces a pulse when PHONO button is depressed. | |
| 17 | a | } FLD 7 Segment Data output | |
| 18 | b | | |
| 19 | c | | |
| 20 | d | | |
| 21 | Vss | Connected to ground | |
| 22 | e | } FLD 7 Segment Data output | |
| 23 | f | | |
| 24 | g | | |
| 25 | h | FLD Segment Data | |
| 26 | K00 | } Key Matrix input | |
| 27 | K01 | | |
| 28 | DISABLE (K02) | Key Input Inhibit signal output for IC2 TC47C20P (NH-20D) | |
| 29 | REMOCON (K03) | Remote Control Data Pulse input | |
| 30 | TEST | Connected to ground | |
| 31 | X IN | } X'tal oscillator (X1: 4.2 MHz) terminals | |
| 32 | X OUT | | |

| Pin No. | Symbol | Description | |
|---------|---------------------------|--|---|
| 33 | $\overline{\text{RESET}}$ | Reset terminal | |
| 34 | $\overline{\text{HOLD}}$ | Back up Detection input | |
| 35 | $\overline{\text{D3}}$ | Control Data output for IC3 LM6402H-155, 190 | |
| 36 | $\overline{\text{D2}}$ | | |
| 37 | $\overline{\text{D1}}$ | | |
| 38 | $\overline{\text{D0}}$ | | |
| 39 | $\overline{\text{SI}}$ | Input | Serial Data between IC2 TC47C20P (NH-200) |
| 40 | $\overline{\text{SO}}$ | Output | |
| 41 | $\overline{\text{SCK}}$ | Clock | |
| 42 | VDD | +5 V | |

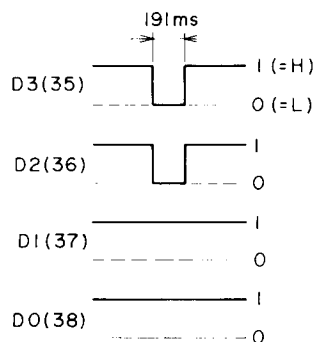
KEY INPUT MATRIX (FLD DIGIT Designation & Matrix Digit output)

| Symbol (Pin No.) \ Symbol (Pin No.) | T6 (11) | T5 (10) | T4 (9) | T3 (8) | T2 (7) | T1 (6) | T0 (5) |
|-------------------------------------|---------|-----------|-----------|------------|--------------|---------------|--------------|
| K0 (26) | REC/PB | DISK END | FWD/REV | 24h/12h | MIN | HOUR | TIMER ON/OFF |
| K1 (27) | SLEEP | TUNER REC | TAPE PLAY | TUNER PLAY | ON TIMER-SET | OFF TIMER-SET | CLOCK SET |

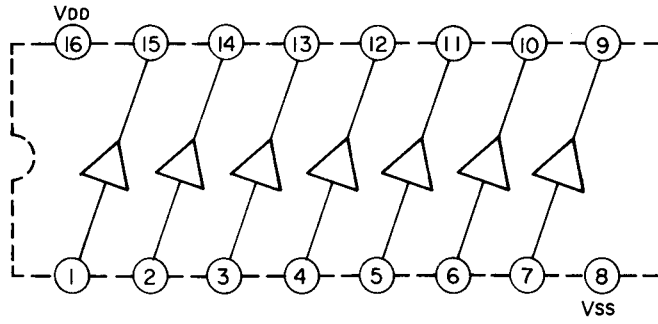
CONTROL DATA for IC3 LM6402H-155, 190

| Function \ IC Pin & Symbol | 35 D3 | 36 D2 | 37 D1 | 38 D0 |
|----------------------------|----------|----------|----------|----------|
| STOP | 0 | 0 | 0 | 0 |
| FF | 0 | 0 | 0 | 1 |
| RWD | 0 | 0 | 1 | 0 |
| FWD | 0 | 0 | 1 | 1 |
| REC | 0 | 1 | 0 | 0 |
| REC MUTE | 0 | 1 | 0 | 1 |
| REC PWD | 0 | 1 | 1 | 0 |
| REV | 1 | 0 | 1 | 1 |
| REC REV | 1 | 1 | 1 | 0 |

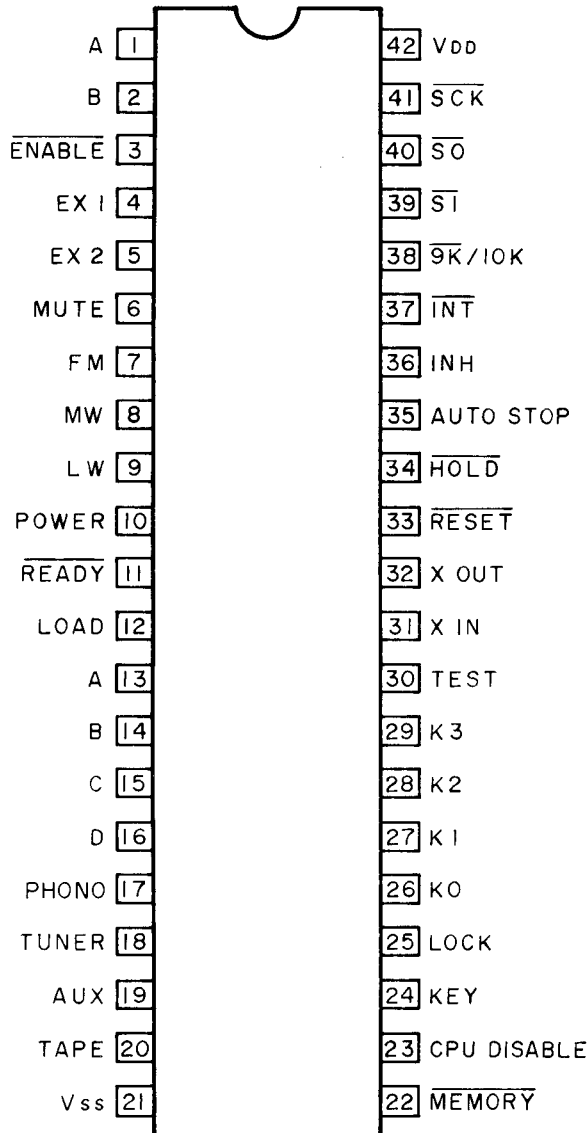
(ex) FWD



TC5066BP



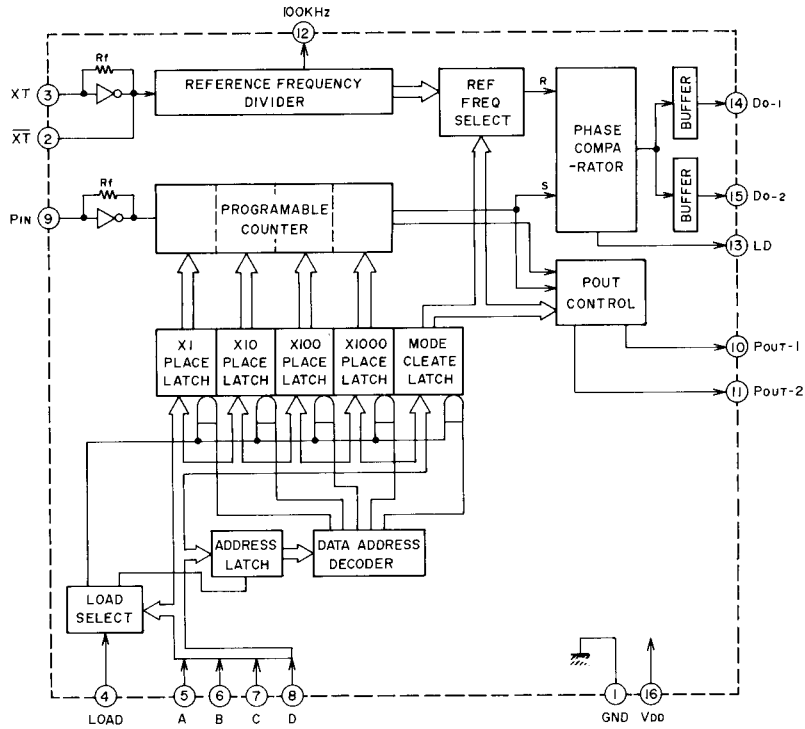
TC47C21P (NH-200)



TERMINAL DESCRIPTION OF IC2 TC47C20P (NH-200)

| Pin No. | Symbol | Description |
|---------|----------------------------|---|
| 1 | A | } Function (Analogue SW) Selection signal output for IC2 (TC4052BP) |
| 2 | B | |
| 3 | $\overline{\text{ENABLE}}$ | Not used and connected to +5 V line |
| 4 | EX1 | } Not used and connector to +5 V line |
| 5 | EX2 | |
| 6 | MUTE | Tuner Section Audio Mute output, active at "H" |
| 7 | FM | } Band Selection Data output, active at "H" |
| 8 | MW | |
| 9 | LW | |
| 10 | POWER | Power Relay (RL1) Drive output, active at "H" |
| 11 | $\overline{\text{READY}}$ | Not used and connected to +5 V line |
| 12 | LOAD | PLL Data Write signal (PLL Load signal) |
| 13 | A | } PLL Frequency Data output for PLL IC (IC5: TC9125BP) |
| 14 | B | |
| 15 | C | |
| 16 | D | |
| 17 | PHONO | } Function Display, lit at "H" |
| 18 | TUNER | |
| 19 | AUX | |
| 20 | TAPE | |
| 21 | VSS | Connected to ground |
| 22 | $\overline{\text{MEMORY}}$ | MEMORY (FLD) Display Drive, lit at "L" |
| 23 | DISABLE | Key Input inhibit signal output for IC1 TC47C21P (NH-101) active at "H" |
| 24 | KEY | Key Input Common signal output |
| 25 | LOCK | Key Input Lock [K0 (2/3 Band), K2 (FM Band Upper/Lower), K3 (FM Step 50kHz/100kHz)] |
| 26 | K0 | } Key Input, active at "H" |
| 27 | K1 | |
| 28 | K2 | |
| 29 | K3 | |
| 30 | TEST | Connected to ground |
| 31 | XIN | } X'tal oscillator terminals |
| 32 | XOUT | |
| 33 | $\overline{\text{RESET}}$ | Reset terminal |
| 34 | HOLD | Back-up Detection |
| 35 | AUTO STOP | AUTO STOP Detection input, AUTO STOP at "H" |
| 36 | INH | Key Input inhibit signal input, active "H" |
| 37 | $\overline{\text{INT}}$ | Connected to 5V line |
| 38 | $\overline{9K/10K}$ | AM 9 kHz/10 kHz STEP Selection input, 9 kHz at "L" & 10 kHz at "H" |
| 39 | $\overline{\text{SI}}$ | } Serial Data between IC1 TC47C21P (NH-100) |
| 40 | $\overline{\text{SO}}$ | |
| 41 | $\overline{\text{SCK}}$ | |
| 42 | VDD | +5 V |

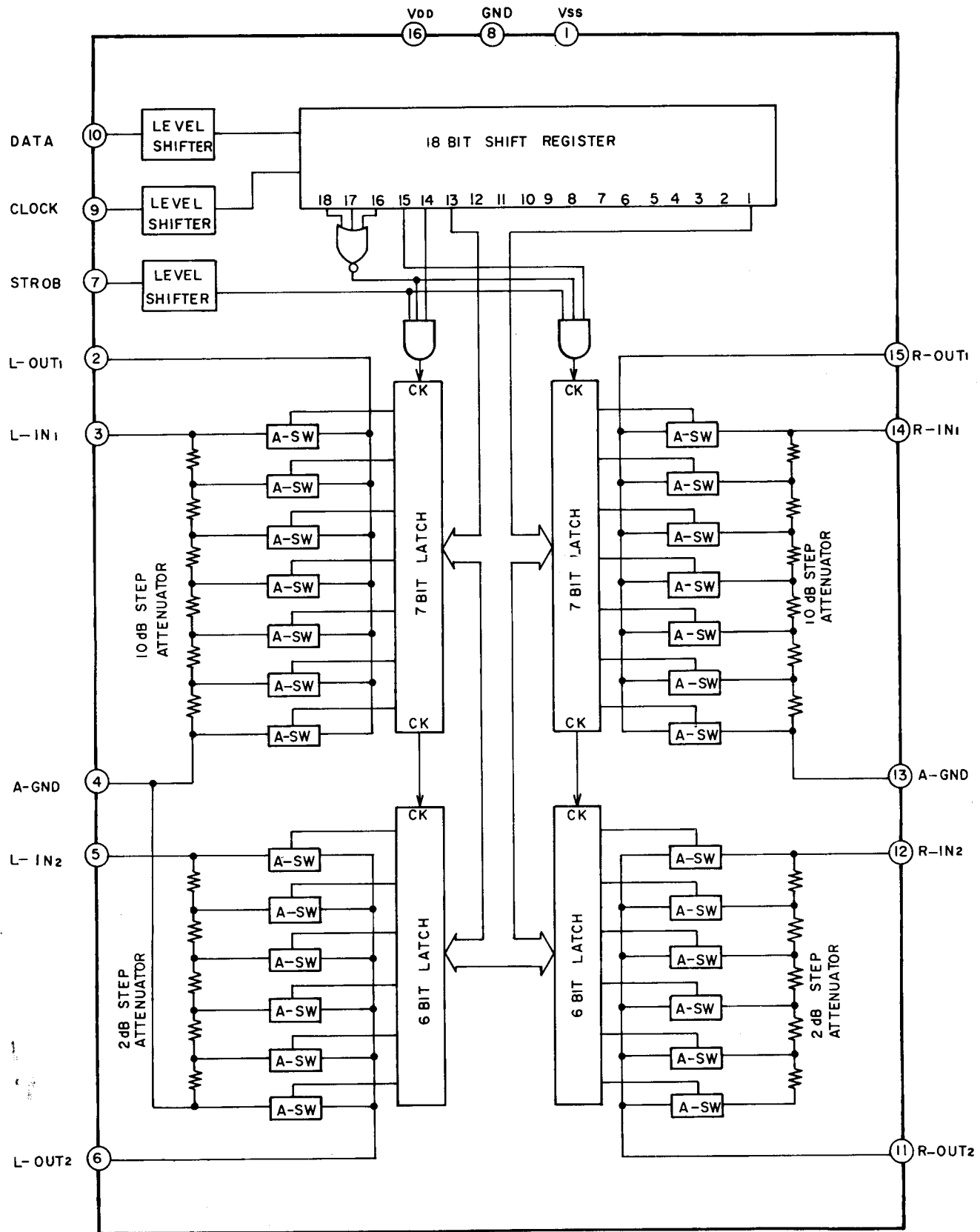
TC9125BP



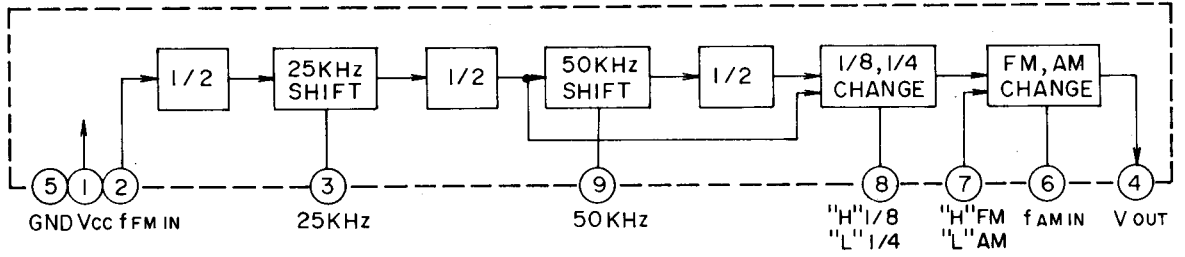
TERMINAL DESCRIPTION OF IC5 TC9125BP

| Pin No. | Symbol | Designation of terminal | Description of functions and operations |
|---------|-----------------|--|--|
| 1 | GND | Earth terminal | |
| 2 | \overline{XT} | Crystal oscillator connection terminal | Connection of 9.0MHz crystal oscillator. |
| 3 | XT | | |
| 4 | LOAD | Load input terminal | Data reading instruction input terminal for A, B, C and D. Data is read when this terminal is at "H" level, but when at "L" level, the previous data is held regardless of other inputs. |
| 5 | A | Program/data input terminals | Input terminal for reference frequency selection data and programmable counter division digit data. |
| 6 | B | | |
| 7 | C | | |
| 8 | D | | |
| 9 | PIN | Programmable counter input terminals | |
| 10 | POUT-1 | Programmable counter output terminal | To be connected to the prescaler TD6102P for fine adjustment of IF frequency in FM or for 50 kHz shift in Europe. The signal of Pout-1 and Pout-2 is output at the point of different phase. * Pout-2 is not used (No connection) |
| 11 | POUT-2 | | |
| 12 | 100 kHz | 100 kHz clock output terminal | Not used (No connection) |
| 13 | LD | Lock-out detection terminal | Not used (No connection) |
| 14 | Do-1 | Phase comparator output terminal | To be connected to low-pass filter. |
| 15 | Do-2 | | |
| 16 | VDD | Power terminal | +5 V |

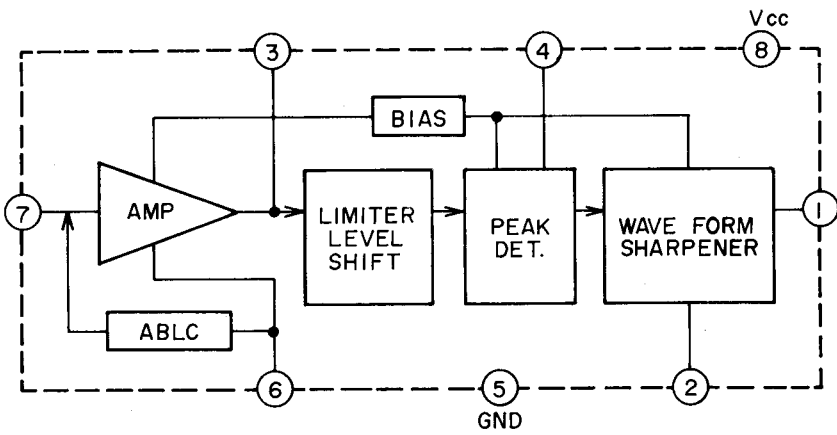
TC9154P



TD6102P



μPC1373H



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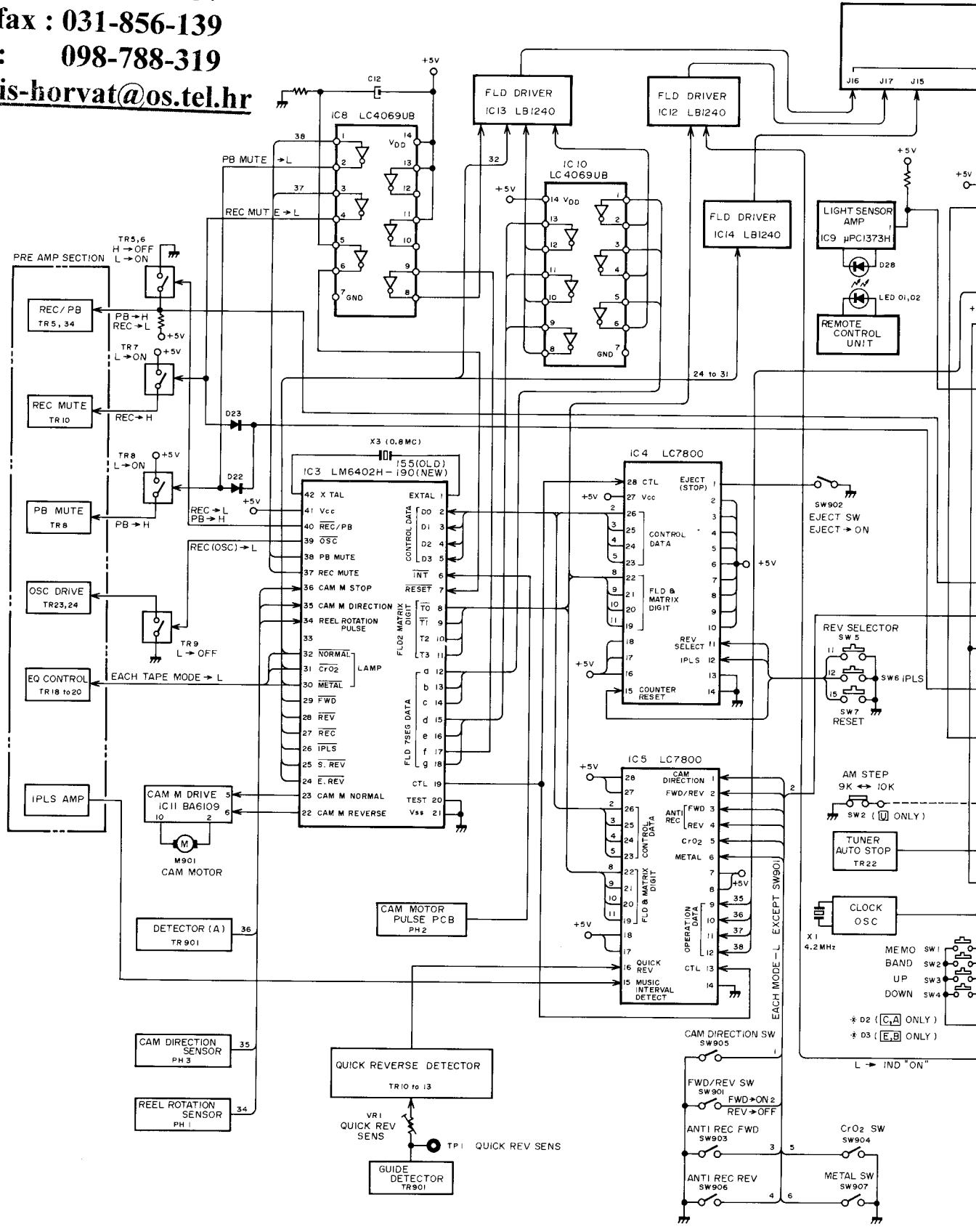
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2
3
4
5
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7
8

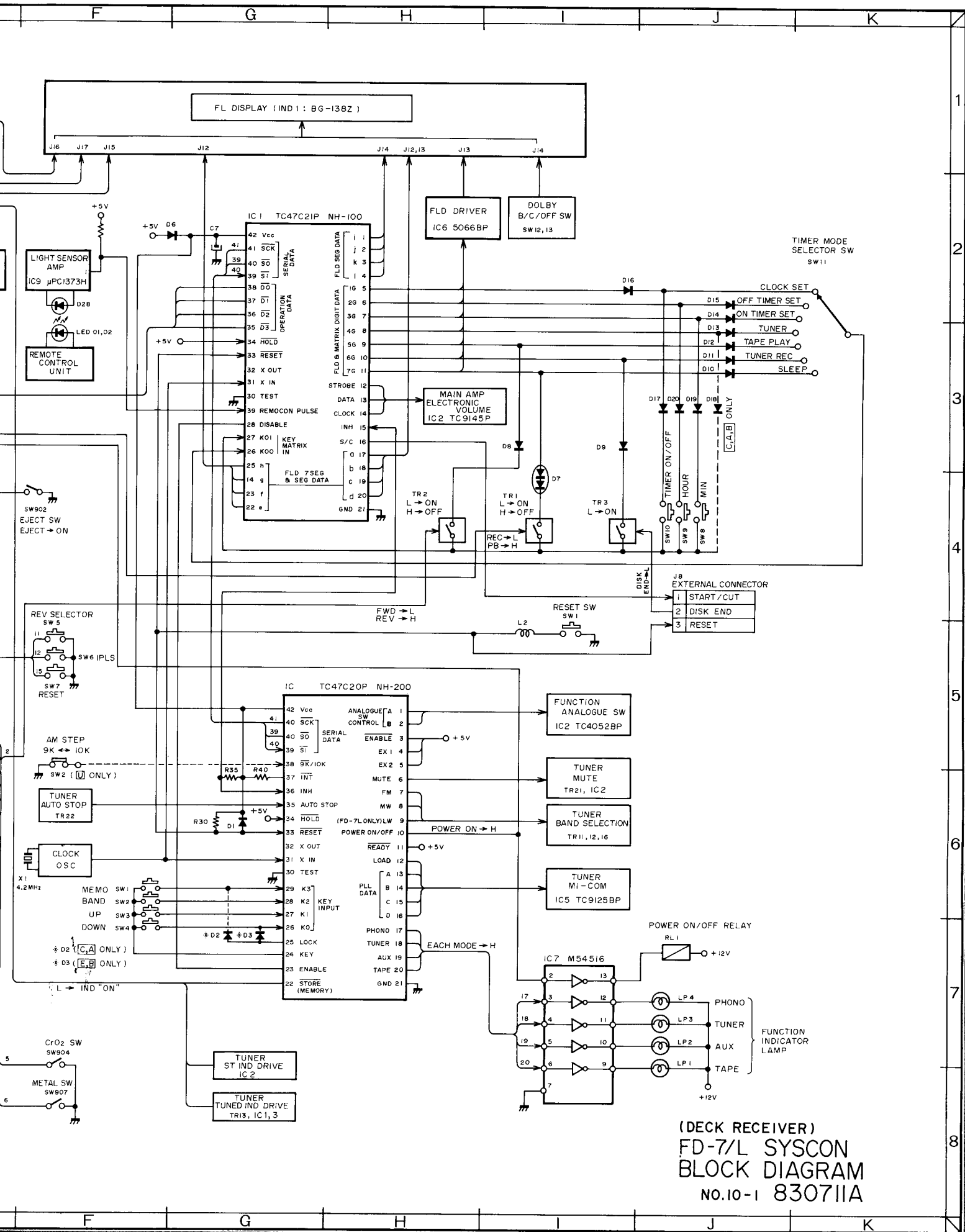


A B C D E F

MEMO SW1
BAND SW2
UP SW3
DOWN SW4

‡ D2 (C,A ONLY)
‡ D3 (E,B ONLY)

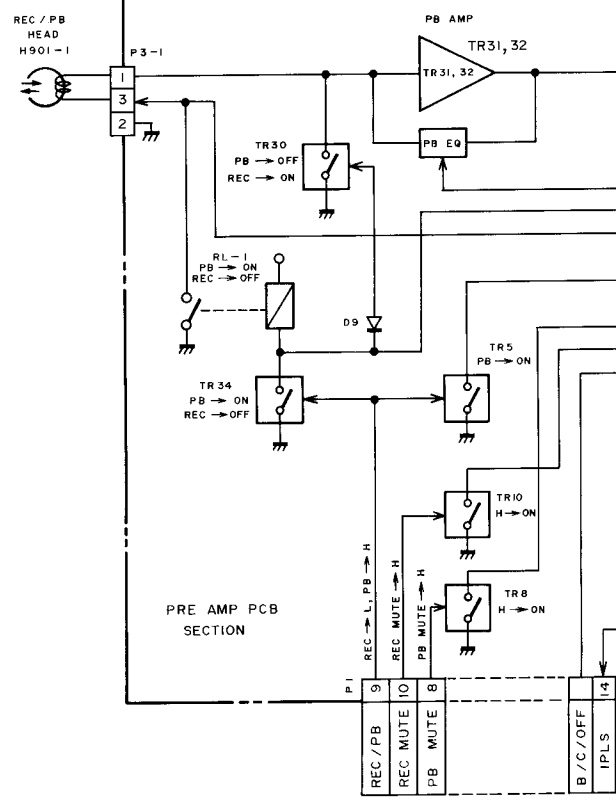
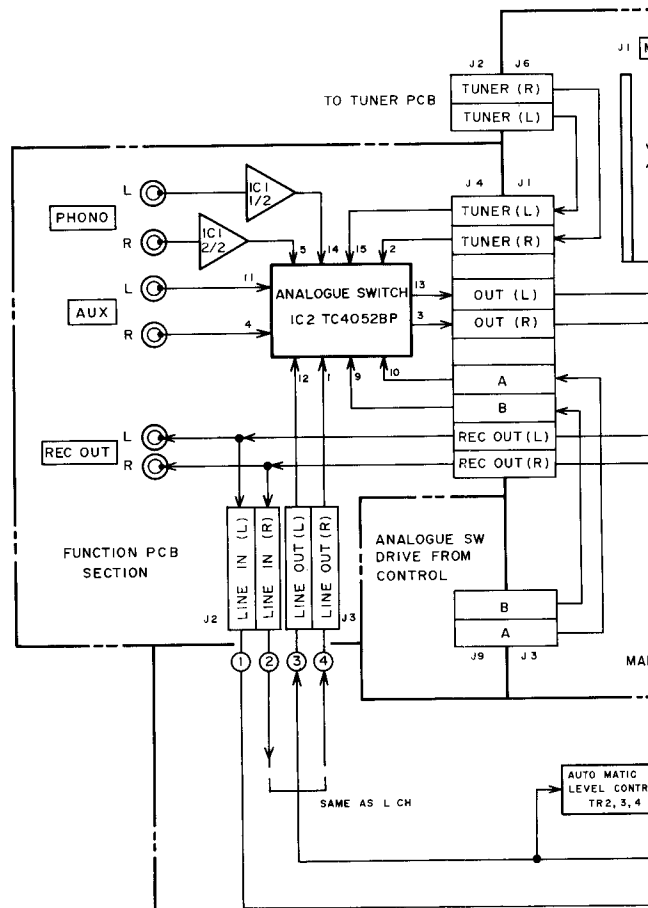
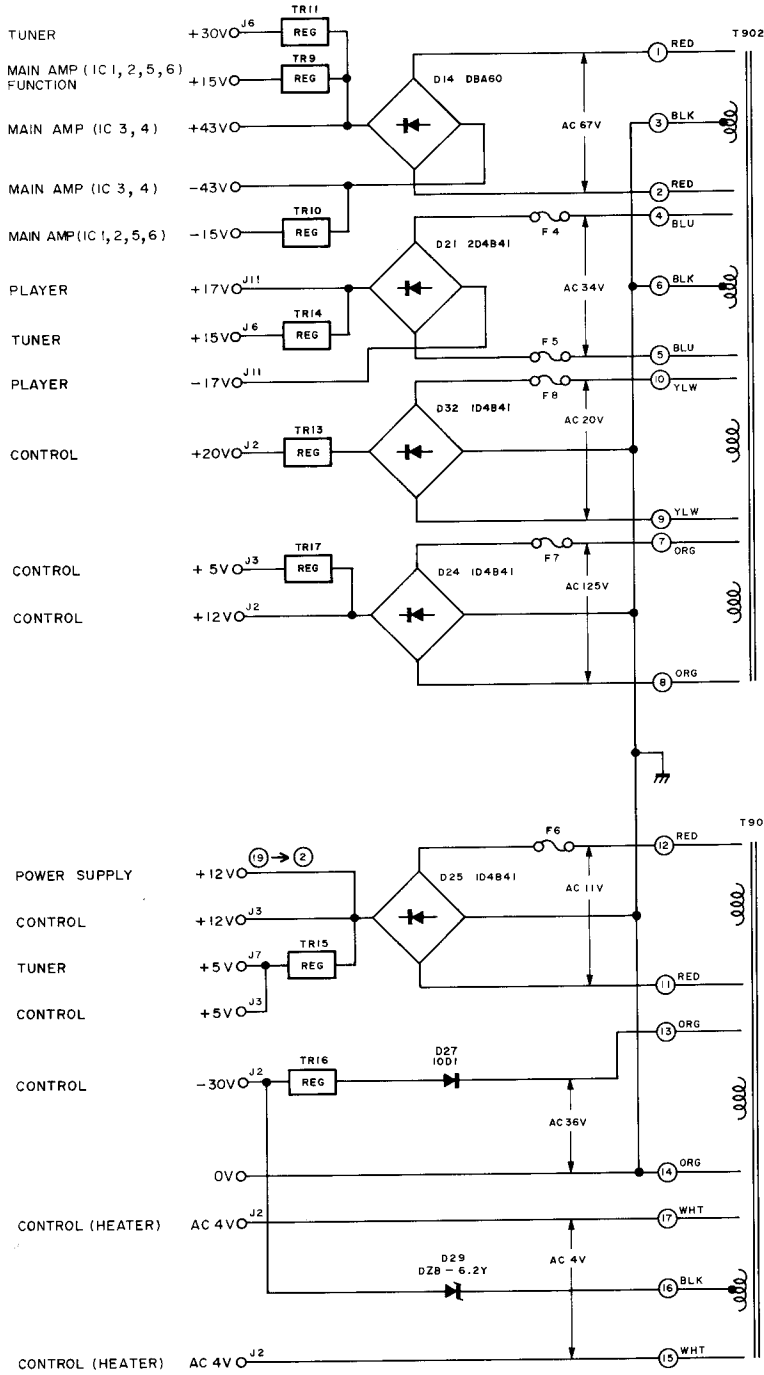
L → IND *ON



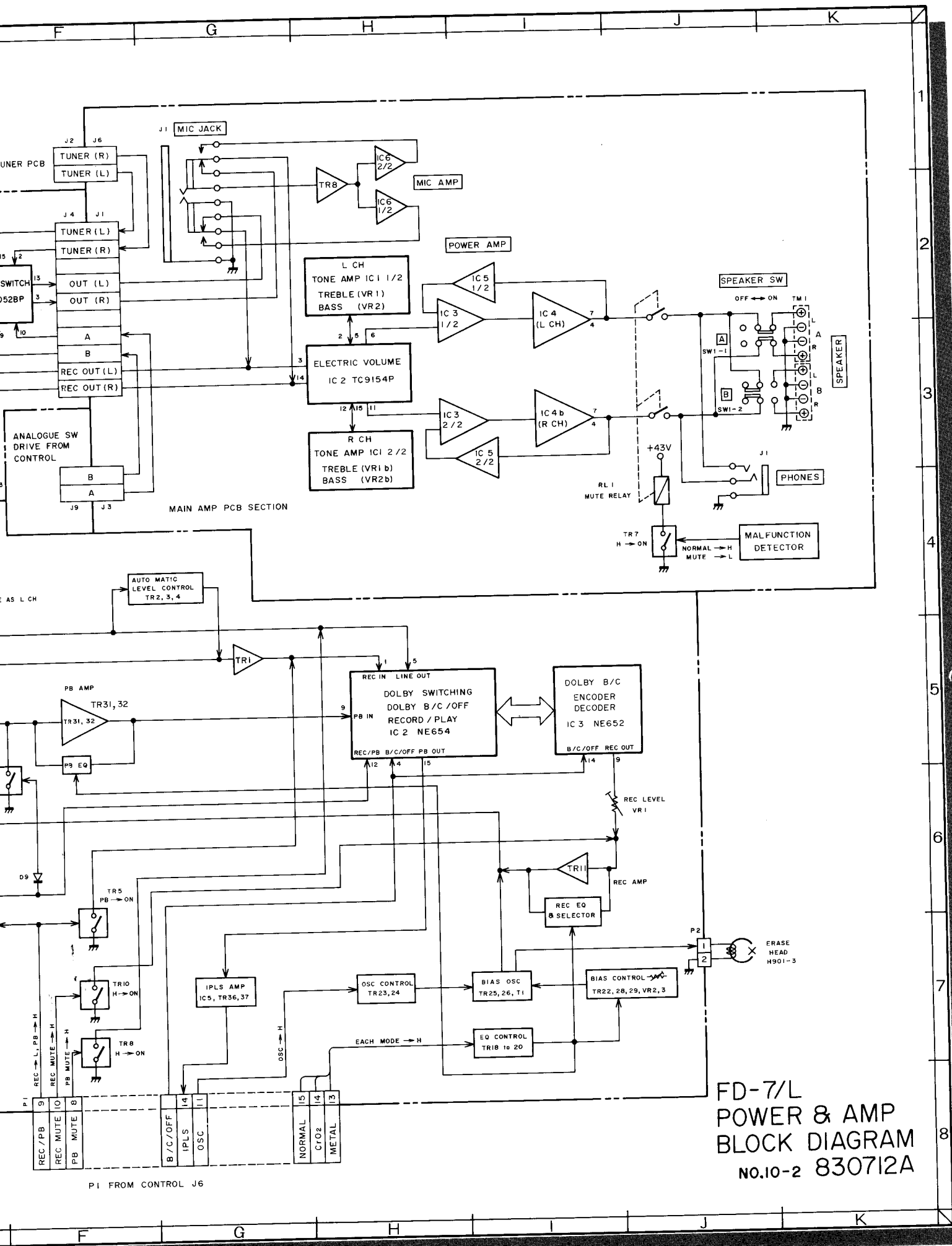
(DECK RECEIVER)
 FD-7/L SYSCON
 BLOCK DIAGRAM
 NO.10-1 830711A

FD-7/L

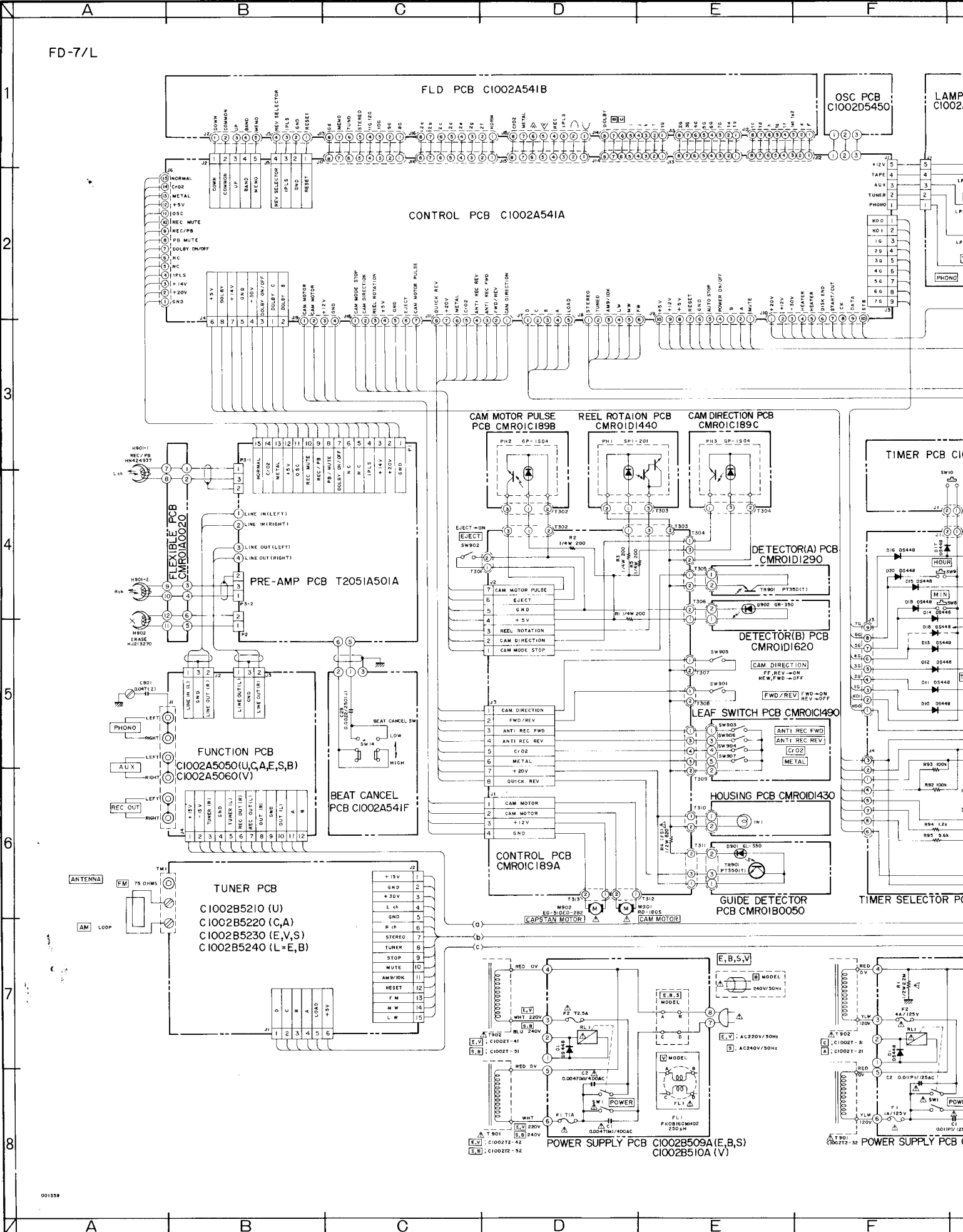
1
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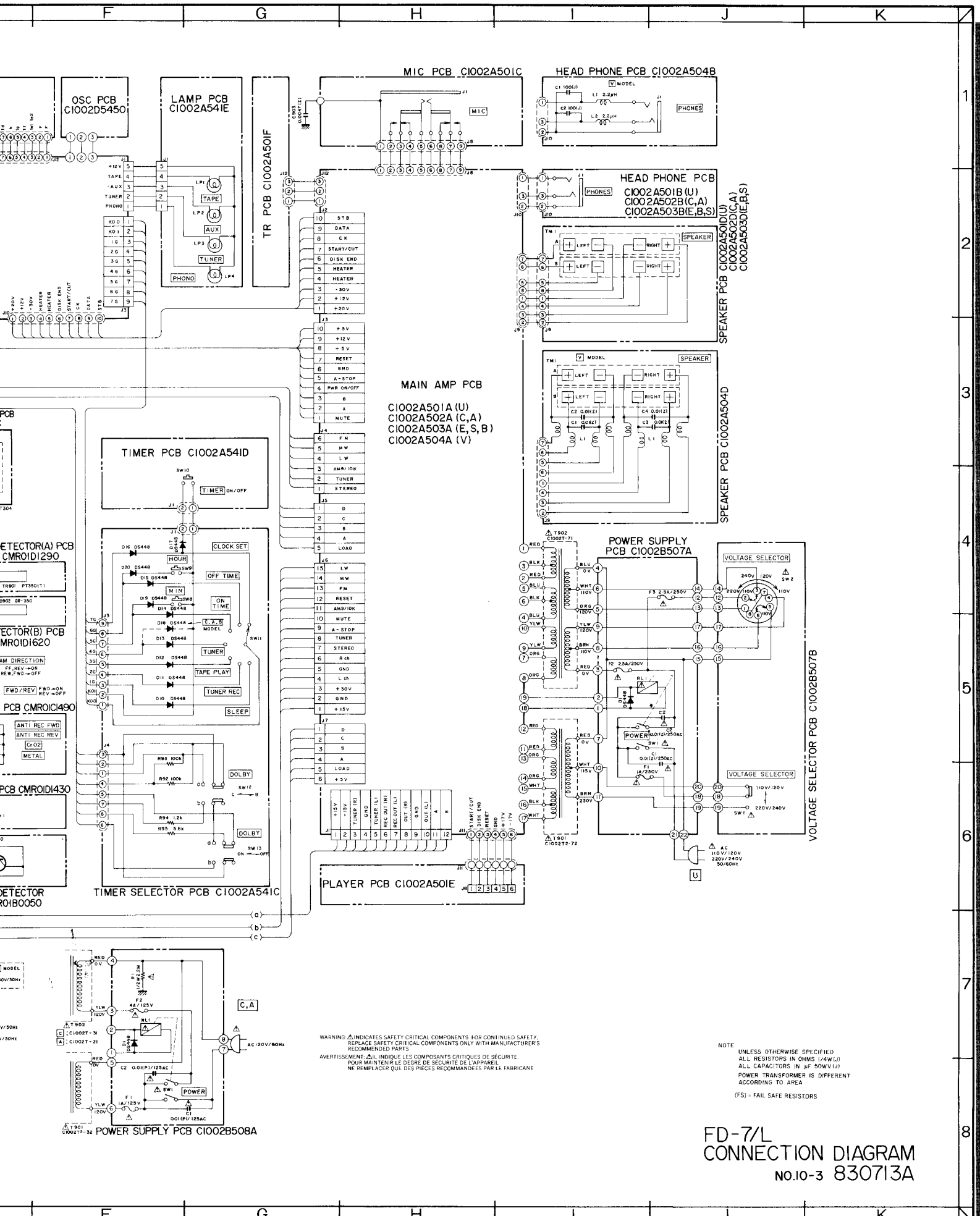


A B C D E F



FD-7/L
 POWER & AMP
 BLOCK DIAGRAM
 NO.10-2 830712A





WARNING ▲ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT ▲ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

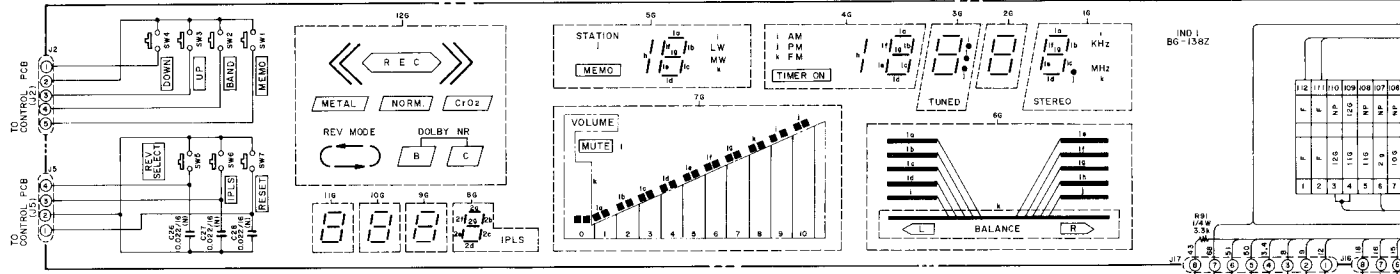
NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS (1/4W) (J)
 ALL CAPACITORS IN µF (50WV) (J)
 POWER TRANSFORMER IS DIFFERENT
 ACCORDING TO AREA
 (FS) - FAIL SAFE RESISTORS

FD-7/L
 CONNECTION DIAGRAM
 NO.10-3 830713A

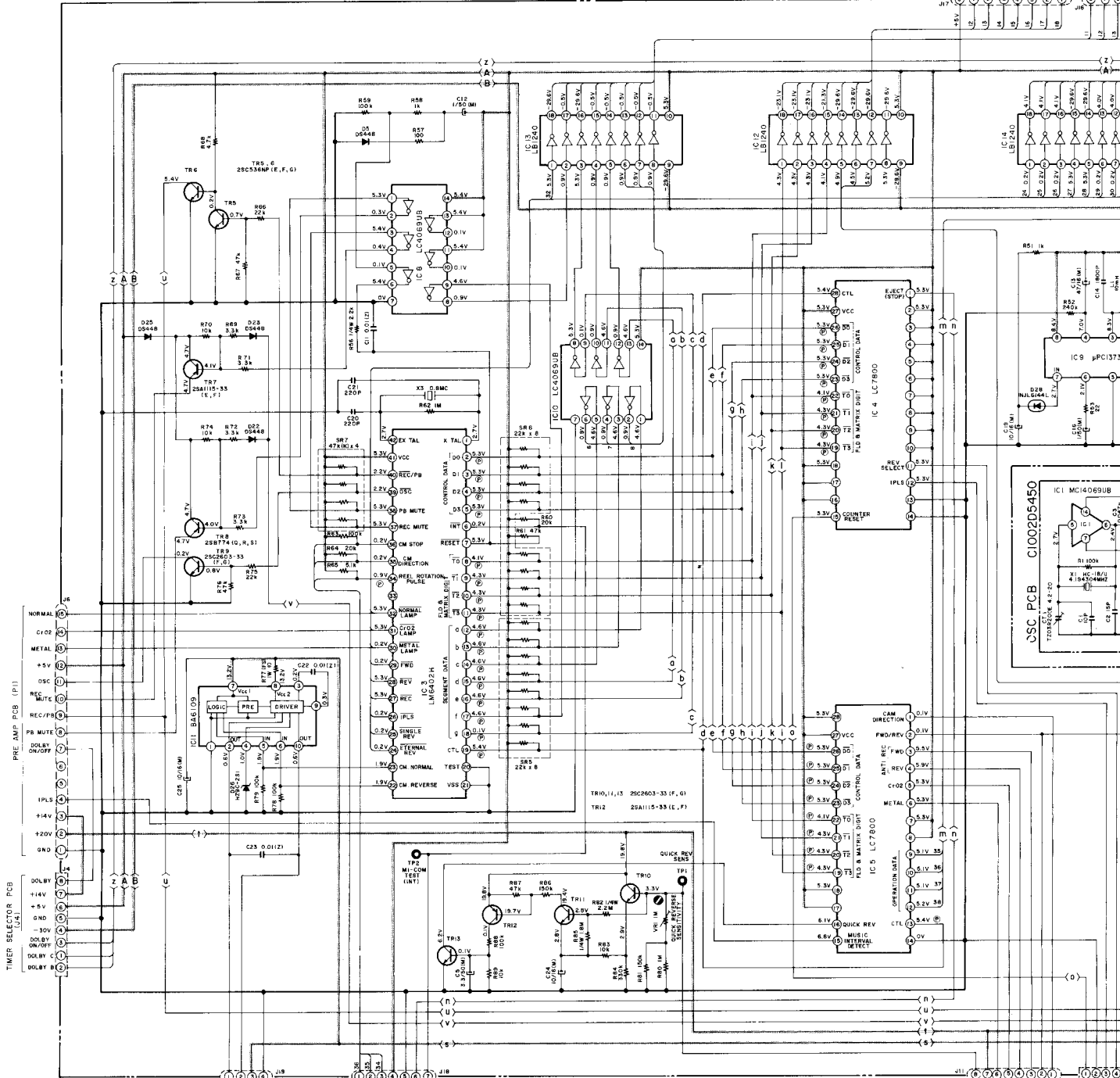
FD-7/L

FLD PCB C1002A541B

NO. 1
BG-138Z



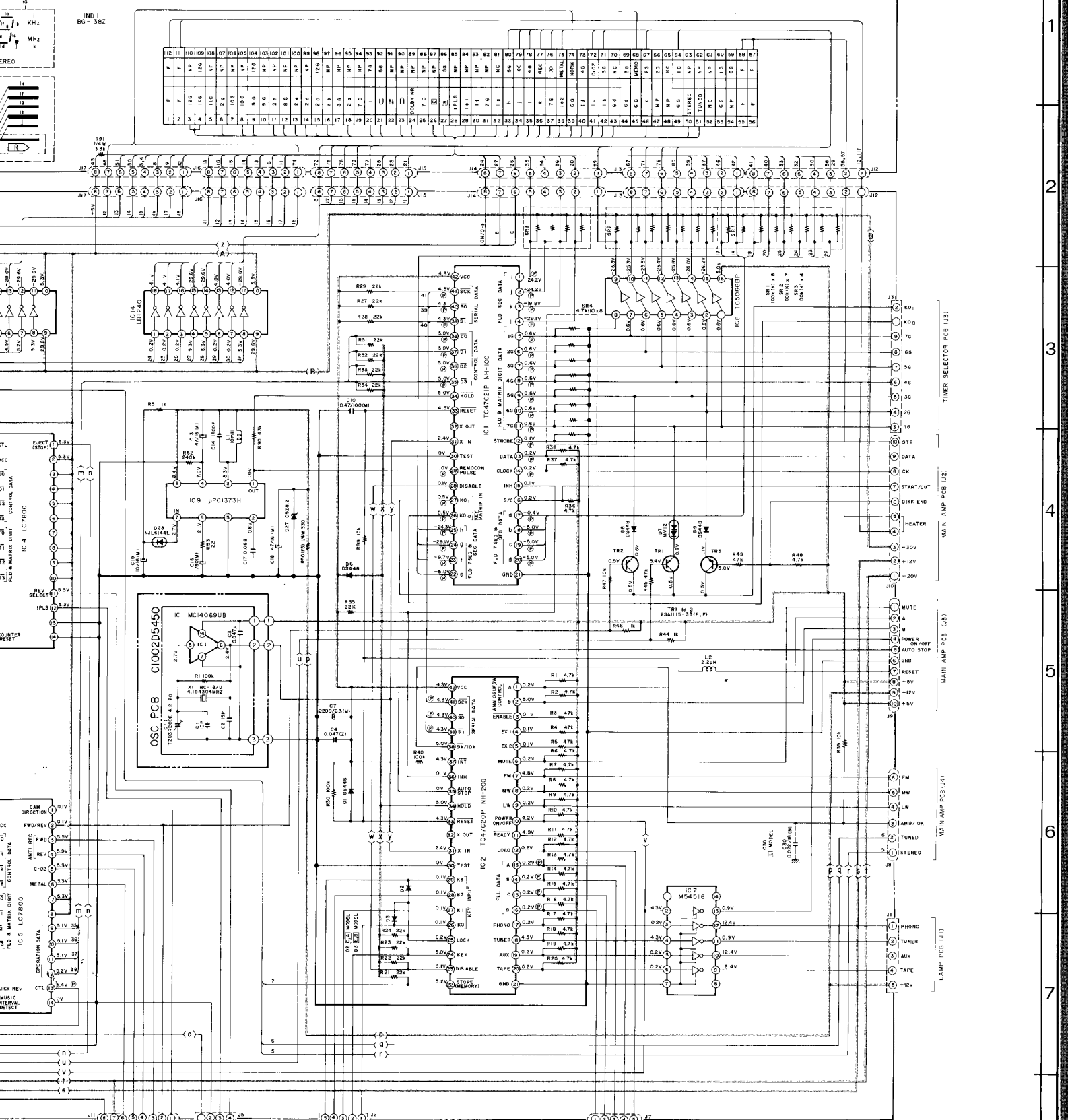
CONTROL PCB C1002A541A



USC PCB C100205450

VOLTAGES ARE MEASURED AT FOLLOWING CONDITIONS
 DISPLAY: >> METAL, C2 DOLBY-B,
 0000, IPLS-ON, VOLUME-4
 BALANCE-FLAT, 0-00, STATION-10
 FM
 MODE = B (POWER SUPPLY) LINE

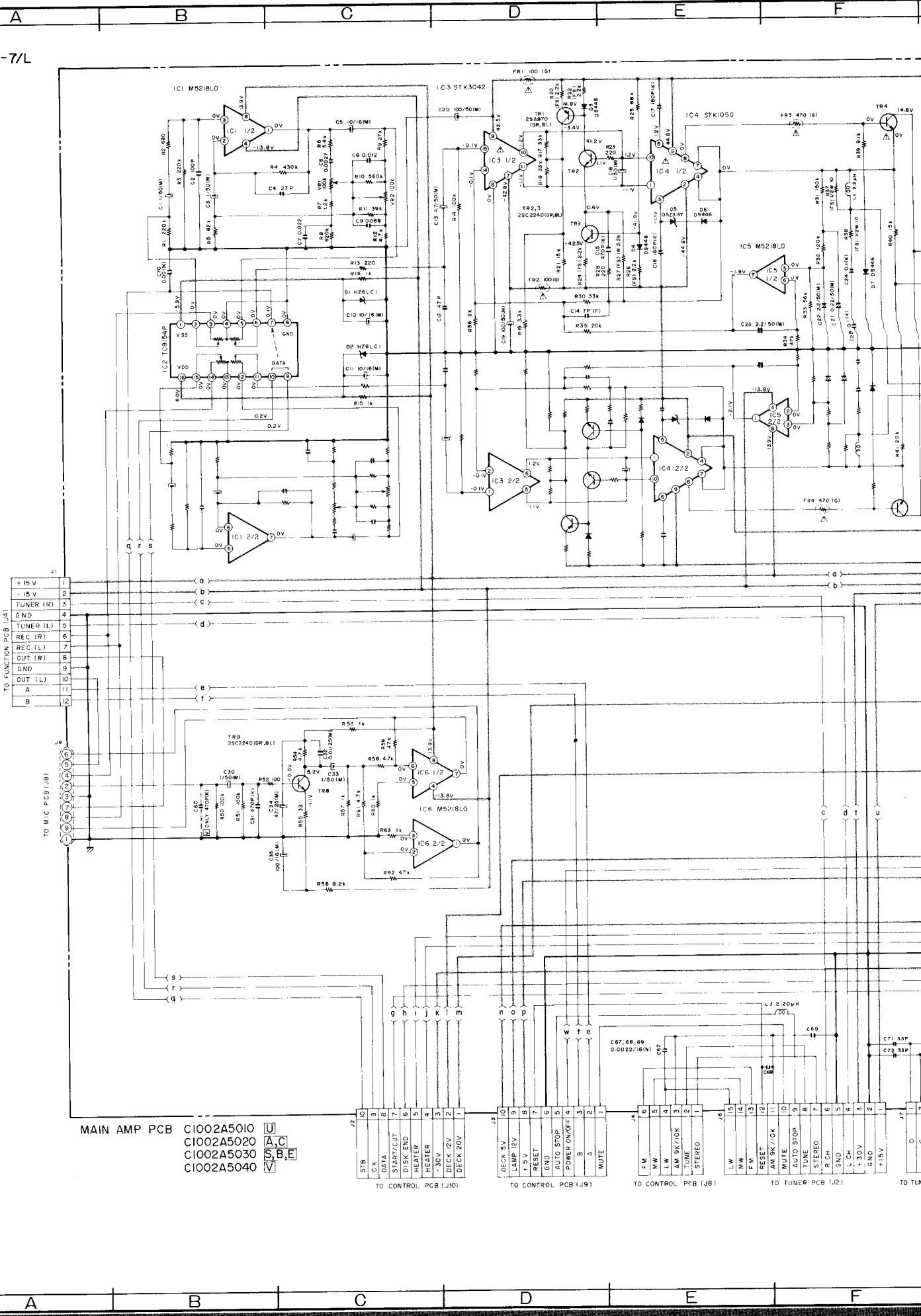
001364



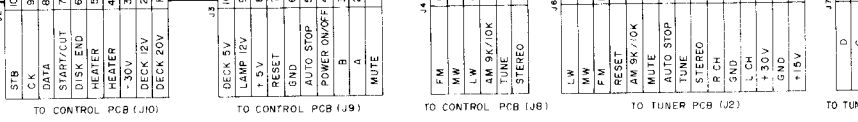
FD-7/L
CONTROL
SCHEMATIC DIAGRAM
NO. 10-4 830714A

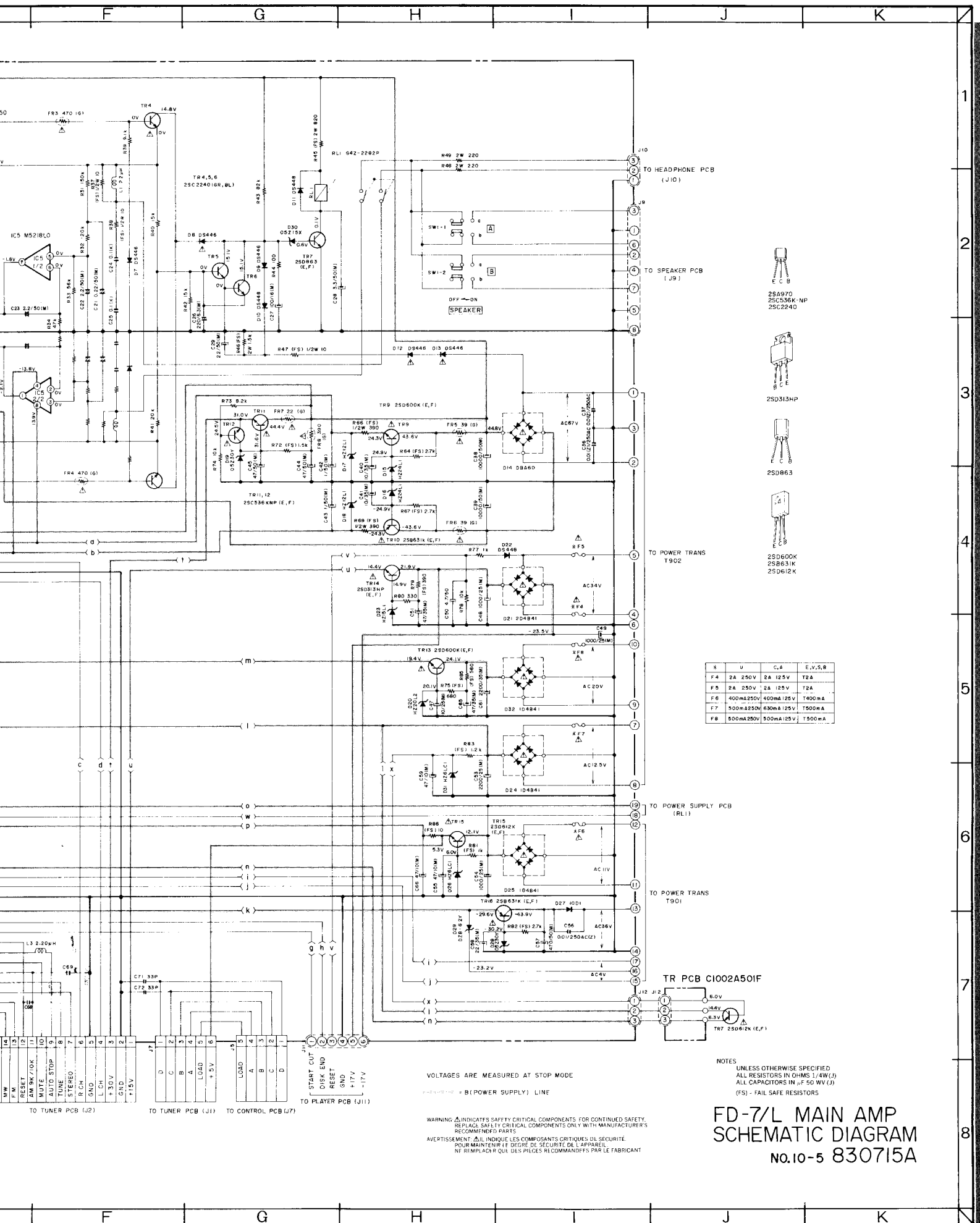
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS (Ω) OR KΩ (K)
ALL CAPACITORS IN µF (µ) OR MFD (M)
(FS) = FAIL SAFE RESISTORS

FD-7/L



MAIN AMP PCB C1002A5010 U
 C1002A5020 A,C
 C1002A5030 S,B,E
 C1002A5040 V





| S | U | C,4 | E,V,S,R |
|----|-------|------|-------------------|
| F4 | 2A | 250V | 2A 125V T2A |
| F5 | 2A | 250V | 2A 125V T2A |
| F6 | 400mA | 250V | 400mA 125V T400mA |
| F7 | 500mA | 250V | 500mA 125V T500mA |
| F8 | 500mA | 250V | 500mA 125V T500mA |

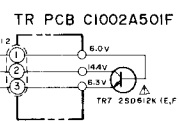
NOTES
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS (1/4W.)
 ALL CAPACITORS IN μ F 50 WV (1)
 (FS) - FAIL SAFE RESISTORS

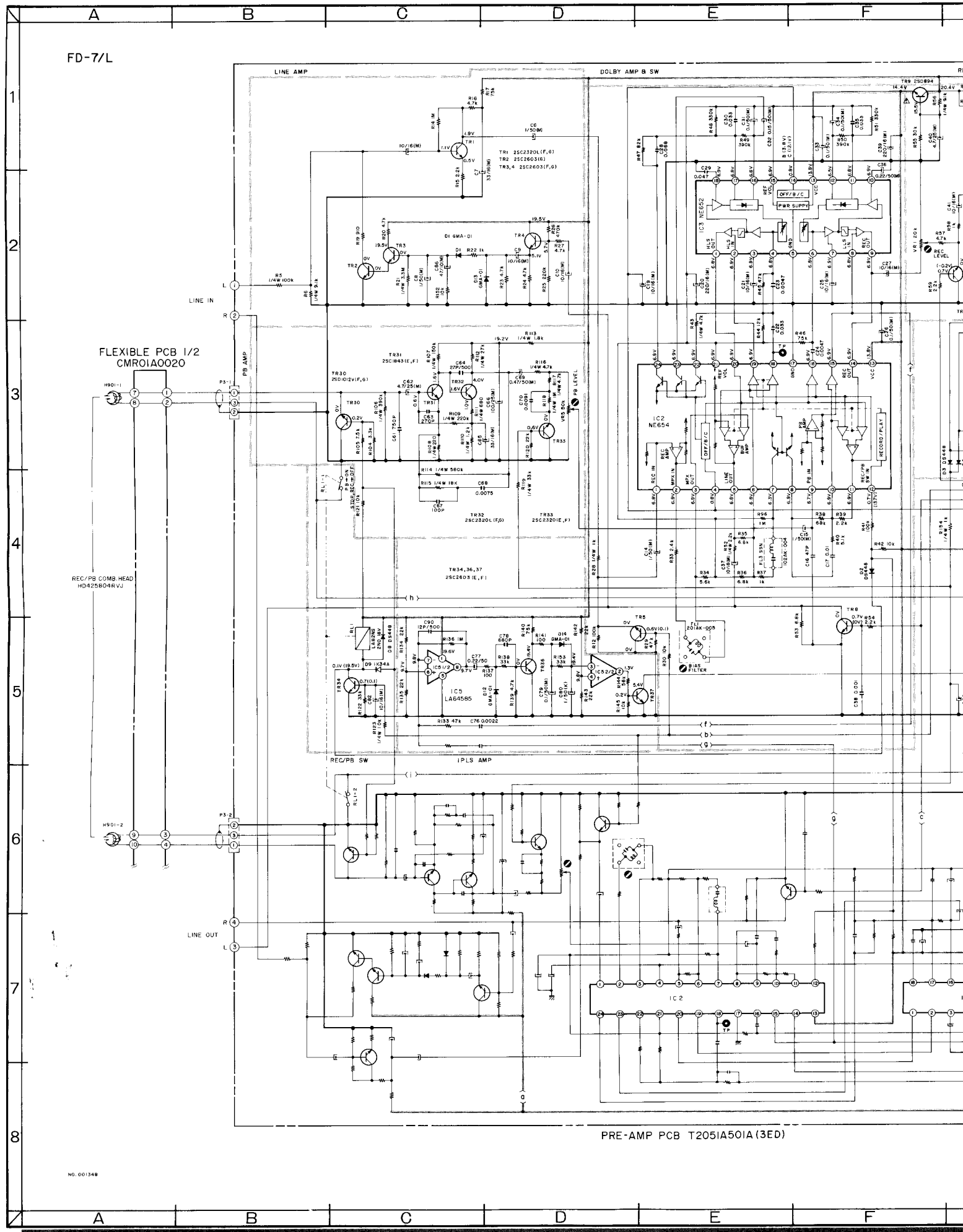
VOLTAGES ARE MEASURED AT STOP MODE
 * (POWER SUPPLY) LINE

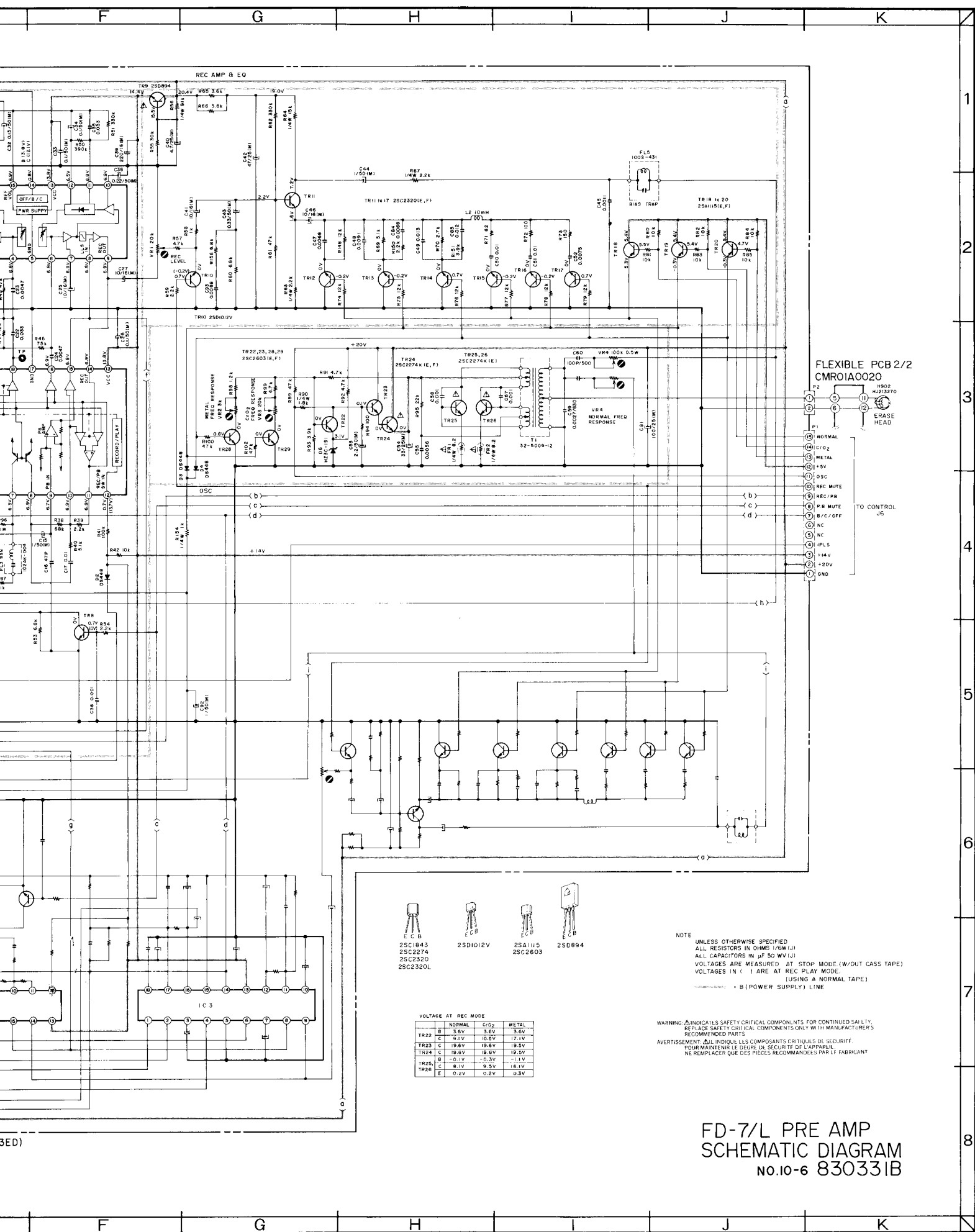
WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
 REPLACEMENT OF SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
 RECOMMENDED PARTS.
 AVERTISSEMENT: Δ INDIQUE LES COMPOSANTS CRITIQUES DE LA SECURITE.
 POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL,
 NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.

FD-7/L MAIN AMP SCHEMATIC DIAGRAM No.10-5 830715A

- 25A970
- 25C36K-NP
- 25C224D
- 25D313HP
- 25D863
- 25D600K
- 25B631K
- 25D612K

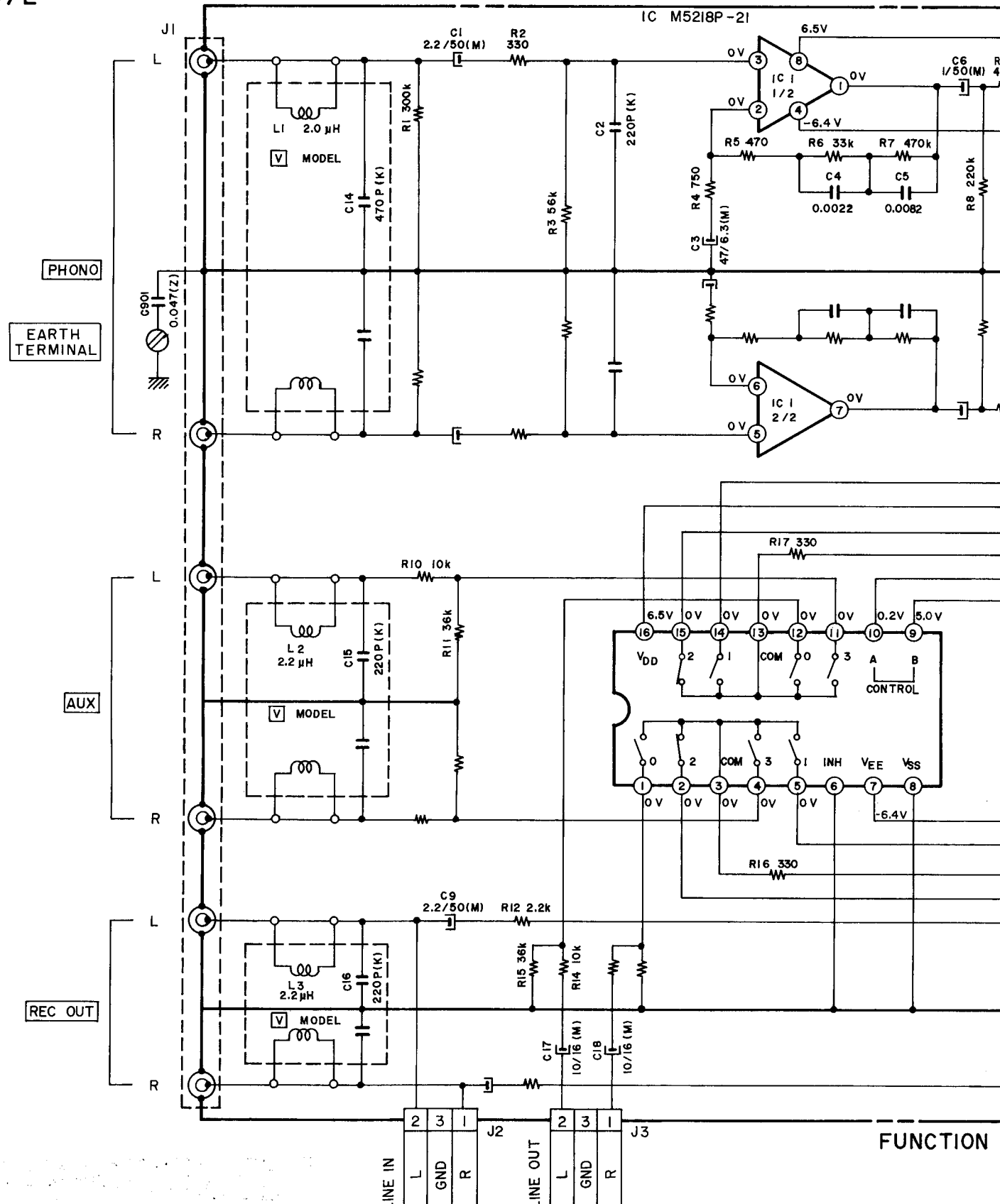






FD-7/L PRE AMP
SCHEMATIC DIAGRAM
No.10-6 830331B

FD-7/L



RTV servis Horvat

Kešinci, 31402 Semeljci

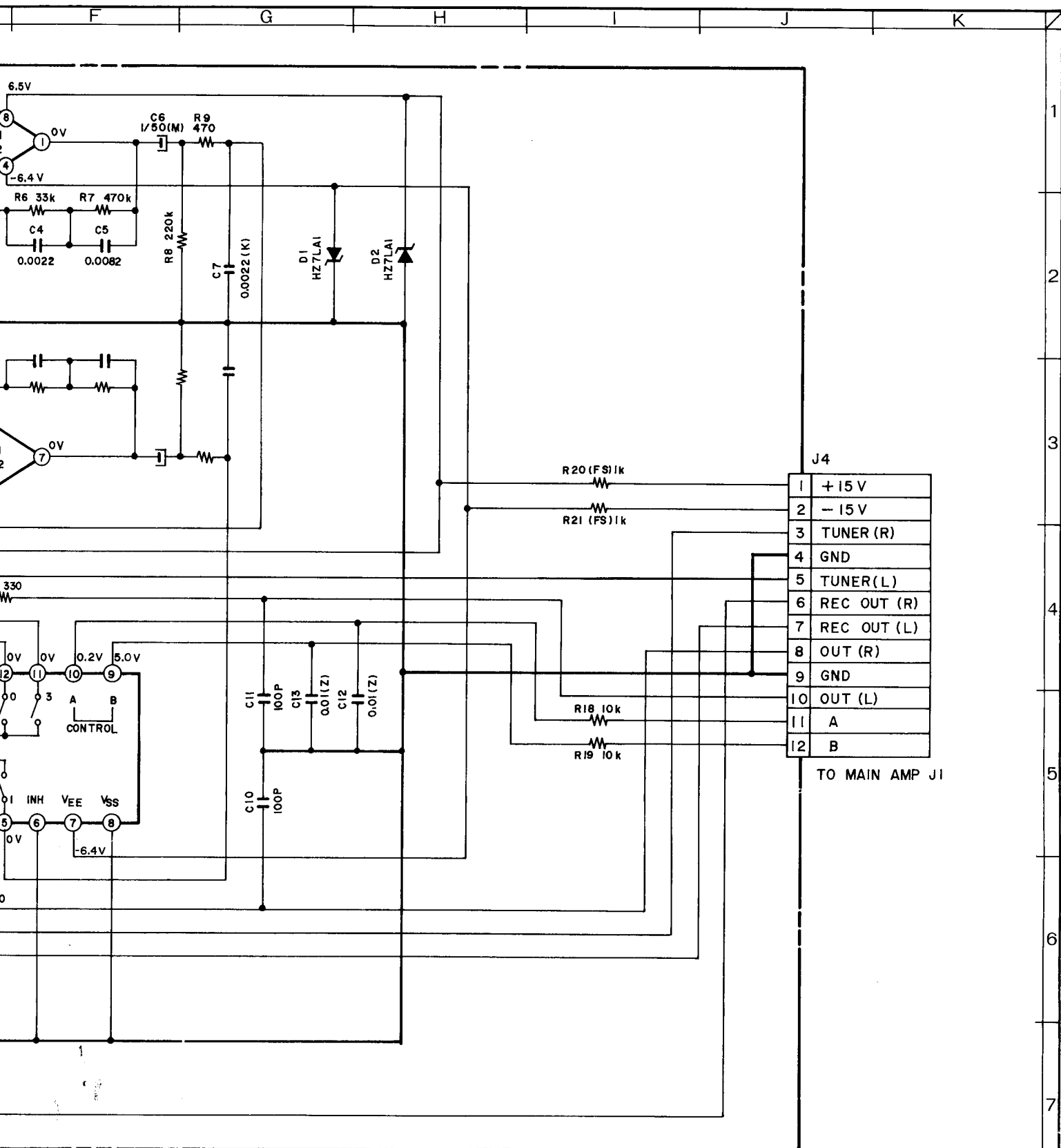
Tel : 031-856-637

Tel / fax : 031-856-139

Mob : 098-788-319

rtv-servis-horvat@os.tel.hr

VOLTAGES ARE MEASURED AT STOP MODE



FUNCTION PC BOARD C1002A5050(2ED) C,A,U,E,S,B
 C1002A5060(2ED) V

NOTES
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/4W(J)
 ALL CAPACITORS IN μ F 50 WV(J)
 (FS) = FAIL SAFE RESISTORS

FD-7/L FUNCTION
 SCHEMATIC DIAGRAM
 No.10-7 830628B

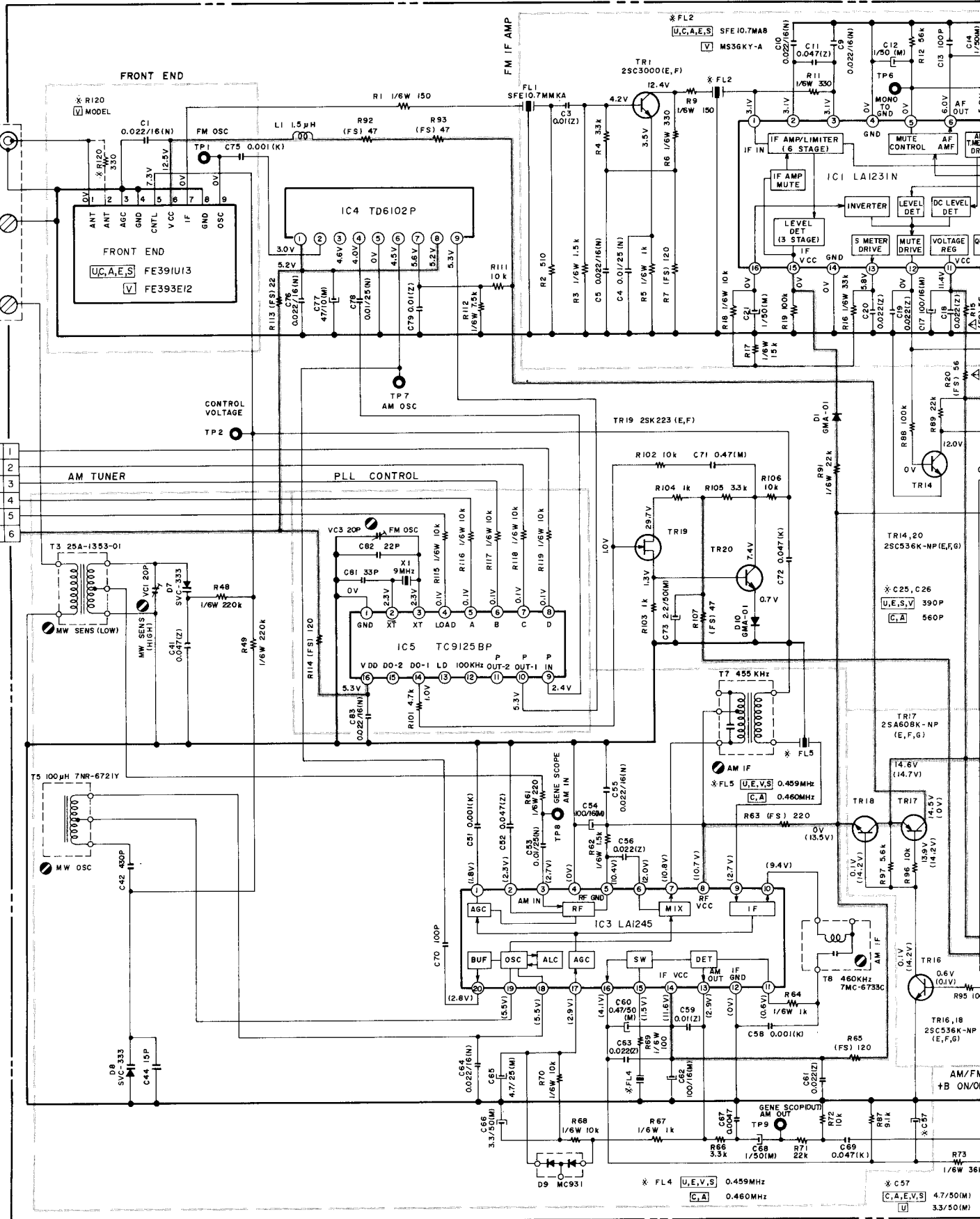
VOLTAGES ARE MEASURED
 STOP MODE

FD-7

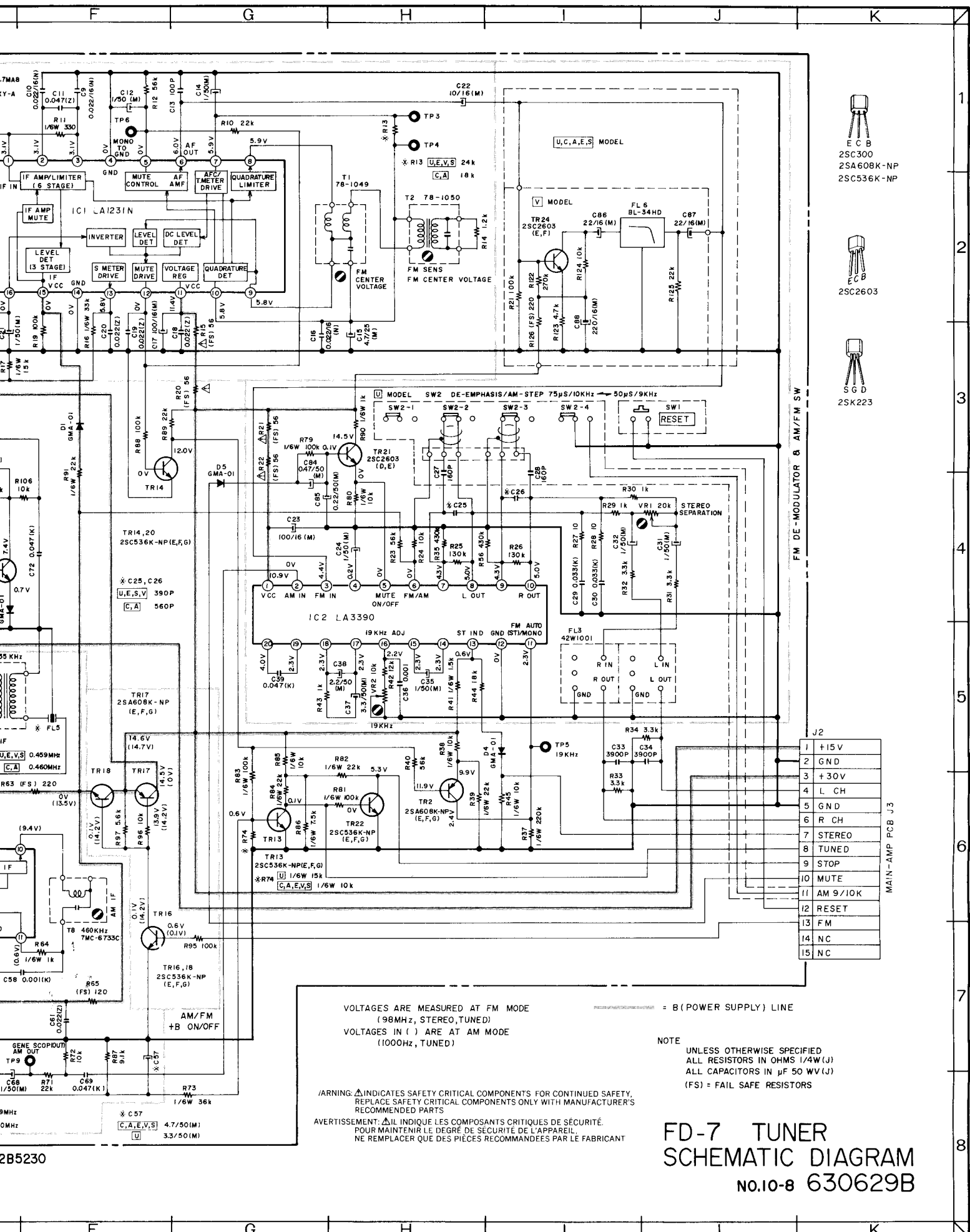
ANTENNA
TMI
FM 75.0

AM
LOOP ANT

TO MAIN AMP PCB J2
D 1
C 2
B 3
A 4
L 5
+5V 6



TUNER PCB U C1002B5210, C,A C1002B5220, E,V,S C1002B5230



ECB
2SC300
2SA608K-NP
2SC536K-NP

ECB
2SC2603

SGD
2SK223

FM DE-MODULATOR & AM/FM SW

MAIN-AMP PCB J3

- | | |
|----|----------|
| 1 | +15V |
| 2 | GND |
| 3 | +30V |
| 4 | L CH |
| 5 | R CH |
| 6 | TUNED |
| 7 | STEREO |
| 8 | AM 9/10K |
| 9 | MUTE |
| 10 | RESET |
| 11 | FM |
| 12 | NC |
| 13 | NC |
| 14 | NC |
| 15 | NC |

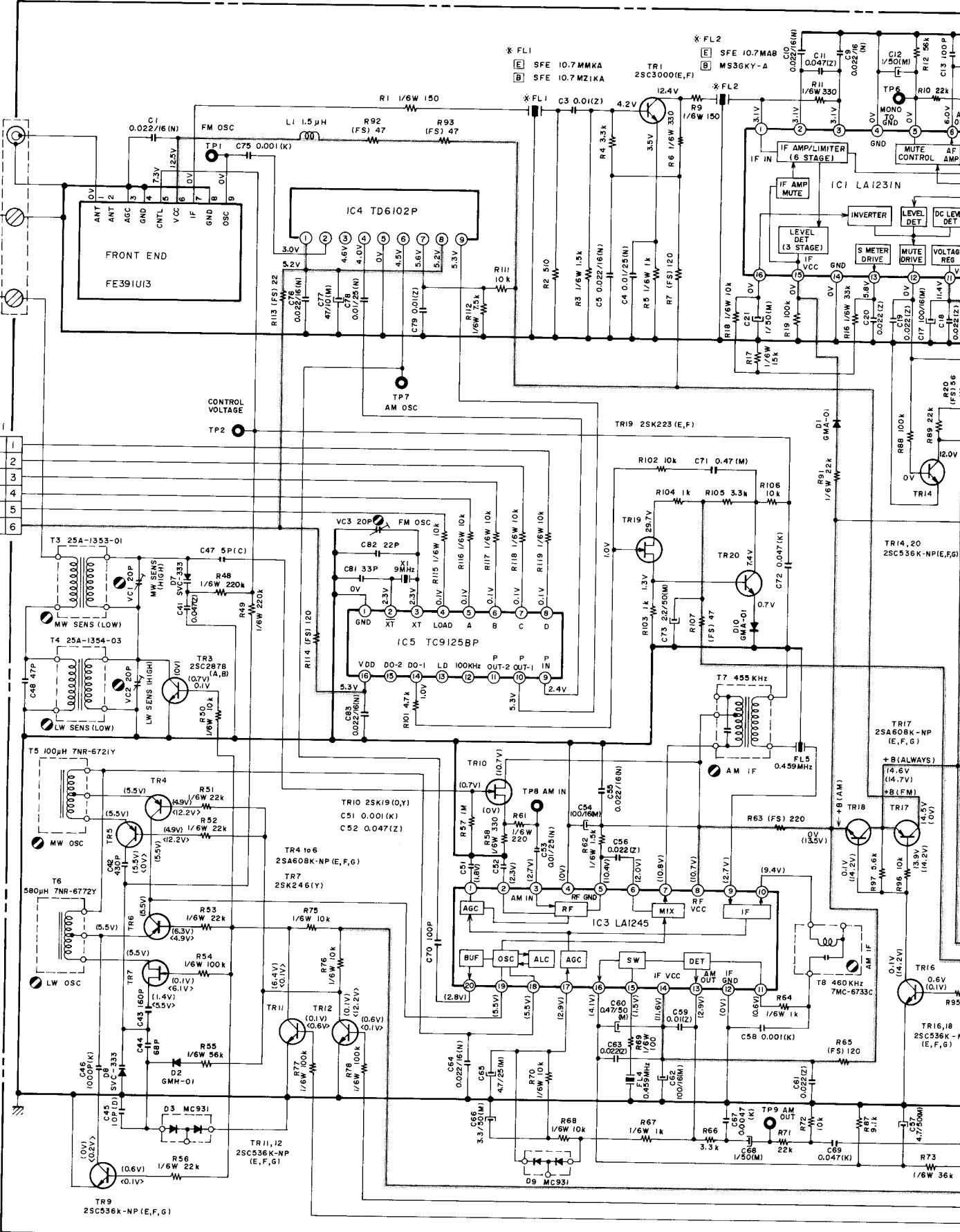
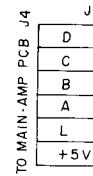
VOLTAGES ARE MEASURED AT FM MODE
(98MHz, STEREO, TUNED)
VOLTAGES IN () ARE AT AM MODE
(1000Hz, TUNED)

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN µF 50 WV(J)
(FS) = FAIL SAFE RESISTORS

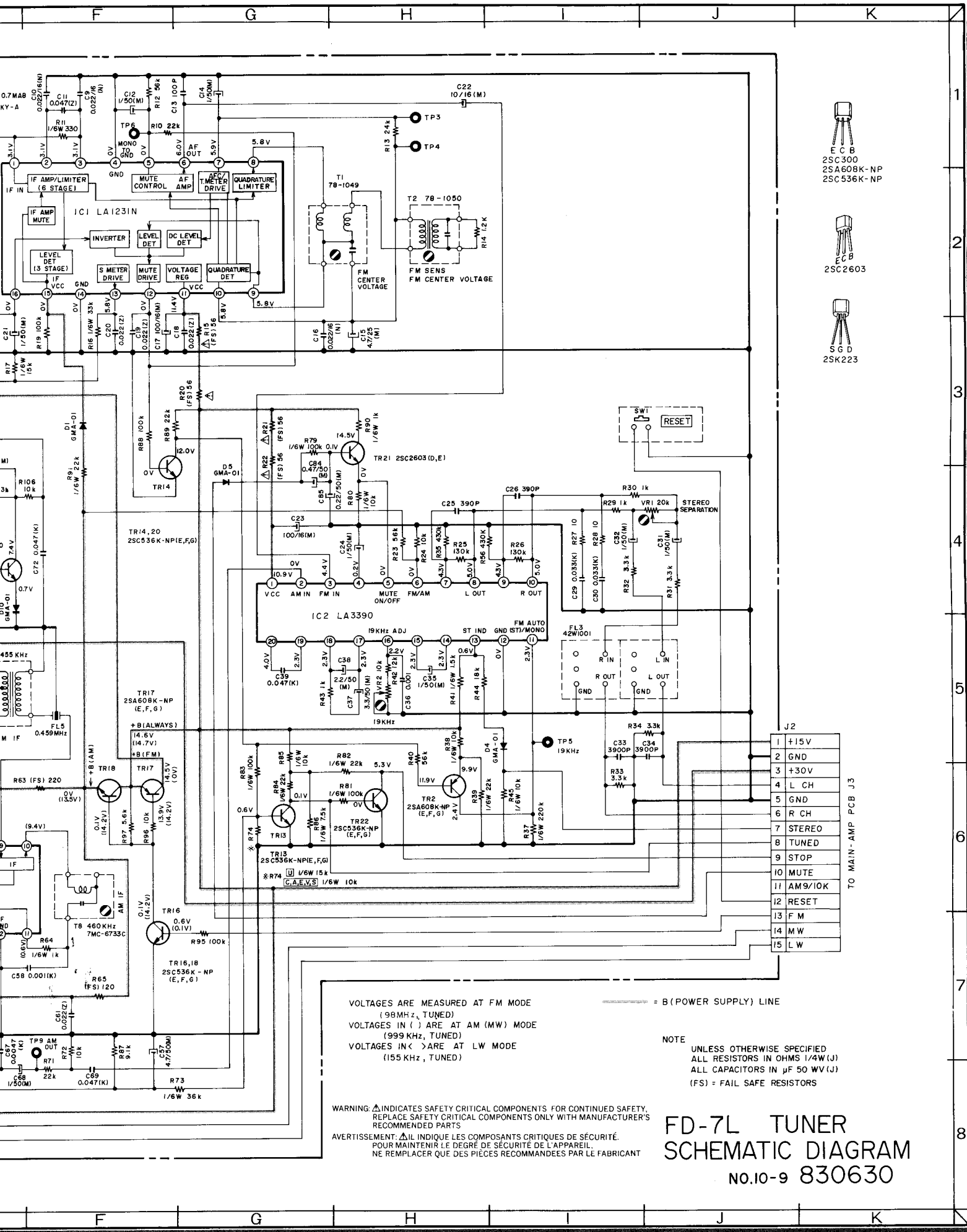
WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS.
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

FD-7 TUNER SCHEMATIC DIAGRAM No.10-8 630629B

FD-7L



TUNER PCB E, B C1002B5240



- 1 E C B
2SC300
2SA608K-NP
2SC536K-NP
- 2 E C B
2SC2603
- 3 S G D
2SK223

| | | |
|----|----|---------|
| J2 | 1 | +15V |
| | 2 | GND |
| | 3 | +30V |
| | 4 | L CH |
| | 5 | GND |
| | 6 | R CH |
| | 7 | STEREO |
| | 8 | TUNED |
| | 9 | STOP |
| | 10 | MUTE |
| | 11 | AM9/10K |
| | 12 | RESET |
| | 13 | FM |
| | 14 | MW |
| | 15 | LW |

TO MAIN - AMP PCB J3

VOLTAGES ARE MEASURED AT FM MODE
(98MHz, TUNED)
VOLTAGES IN () ARE AT AM (MW) MODE
(999 KHz, TUNED)
VOLTAGES IN < > ARE AT LW MODE
(155 KHz, TUNED)

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50 WV (J)
(FS) = FAIL SAFE RESISTORS

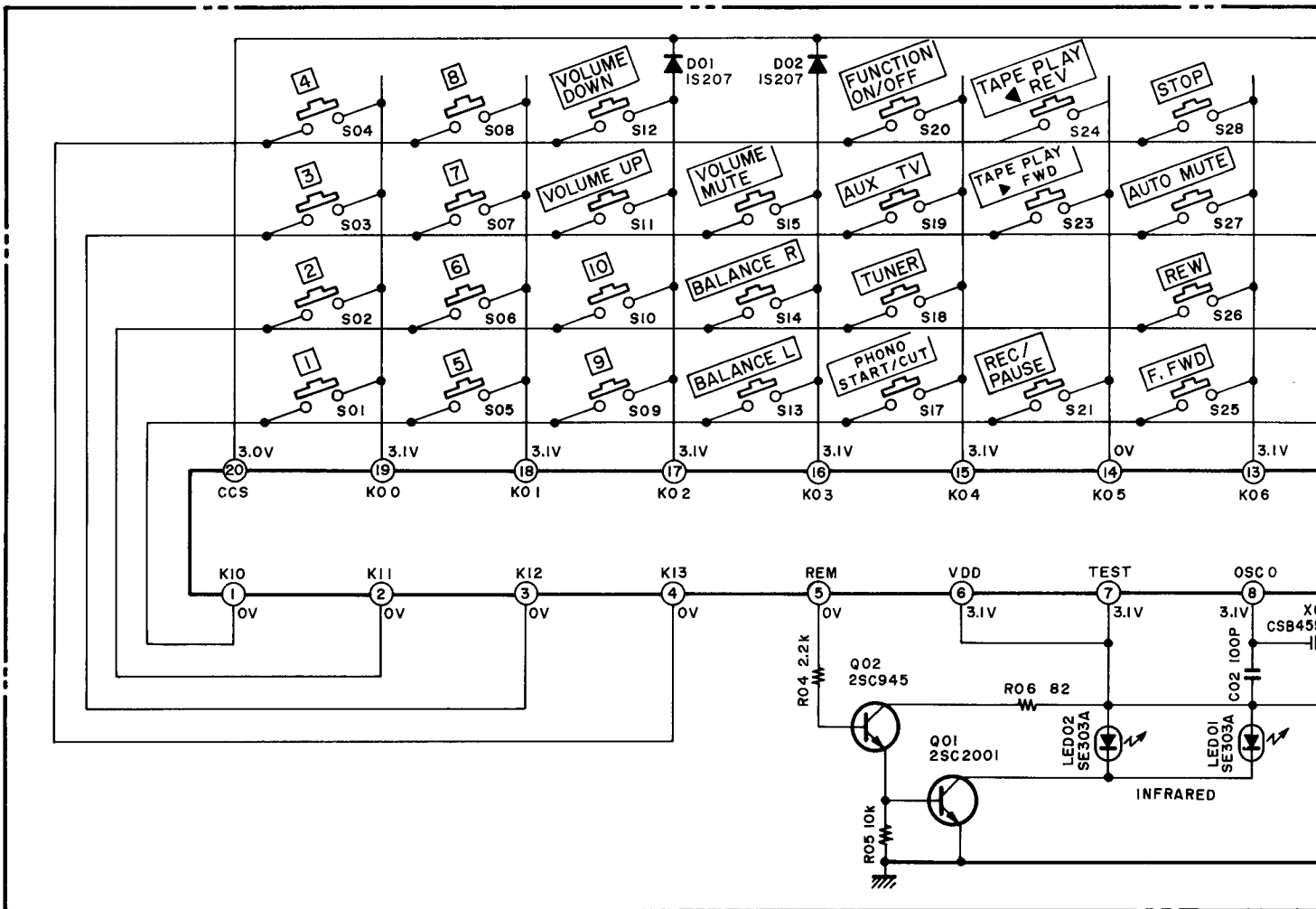
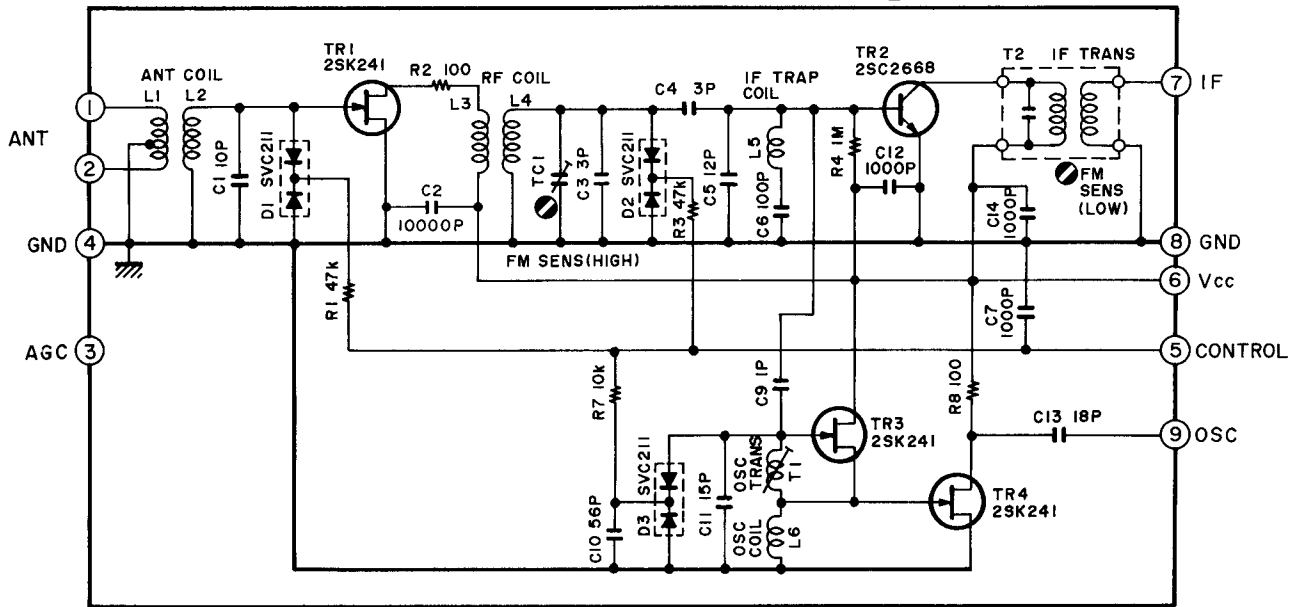
WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

FD-7L TUNER SCHEMATIC DIAGRAM

No.10-9 830630

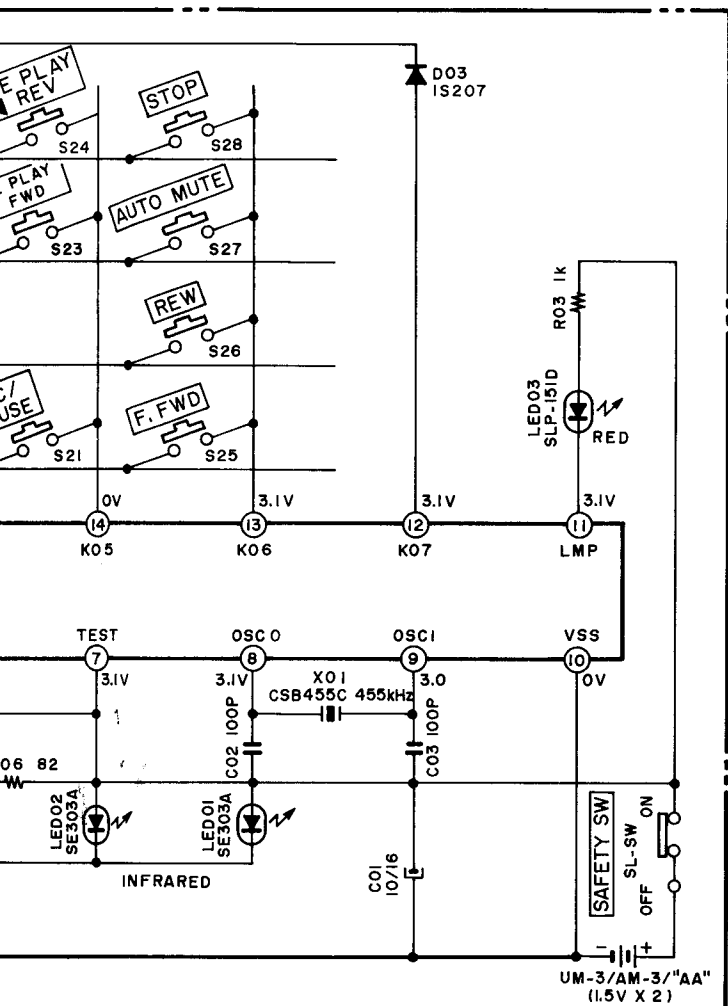
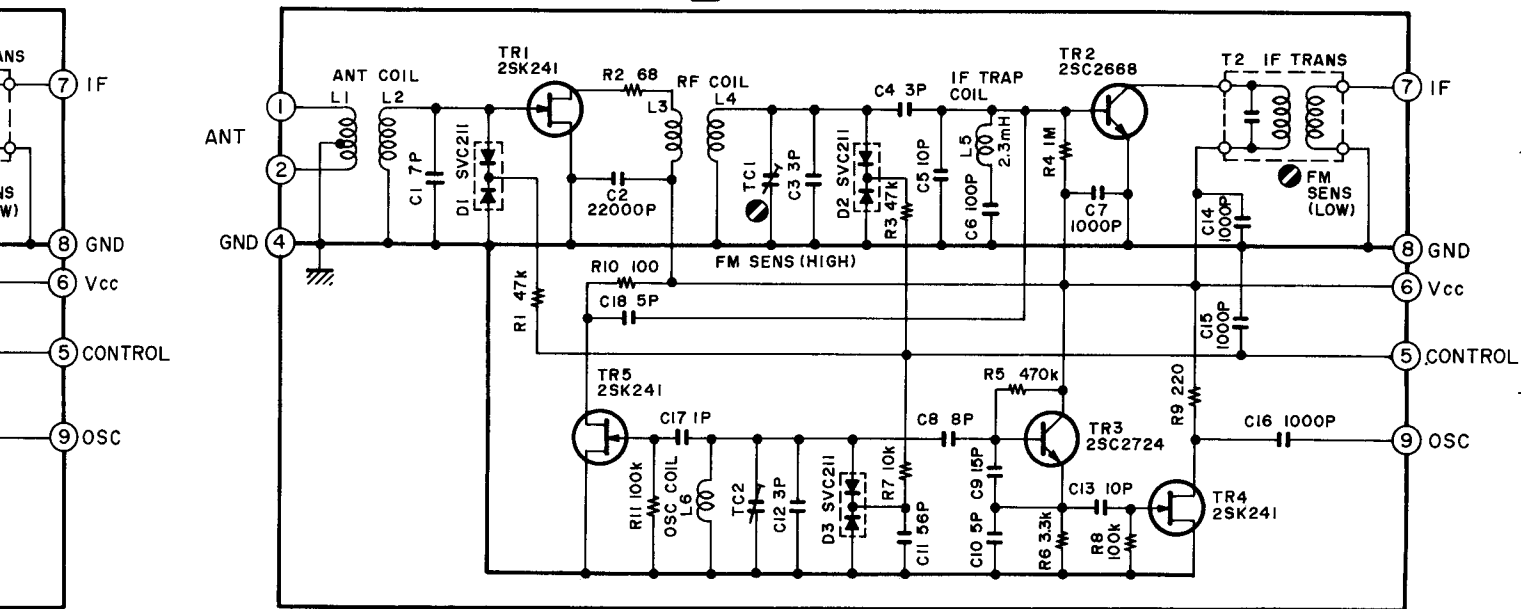
FD-7/L

FRONT END FE39IU13 (ALL MODELS EXCEPT **V** MODEL)



REMOTE CONTROL P.C B 12KH107A
(FD-7/L REMOTE CONTROL UNIT KHHFA032)

FRONT END FE393E12 (V MODEL)



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Mob : 098-788-319

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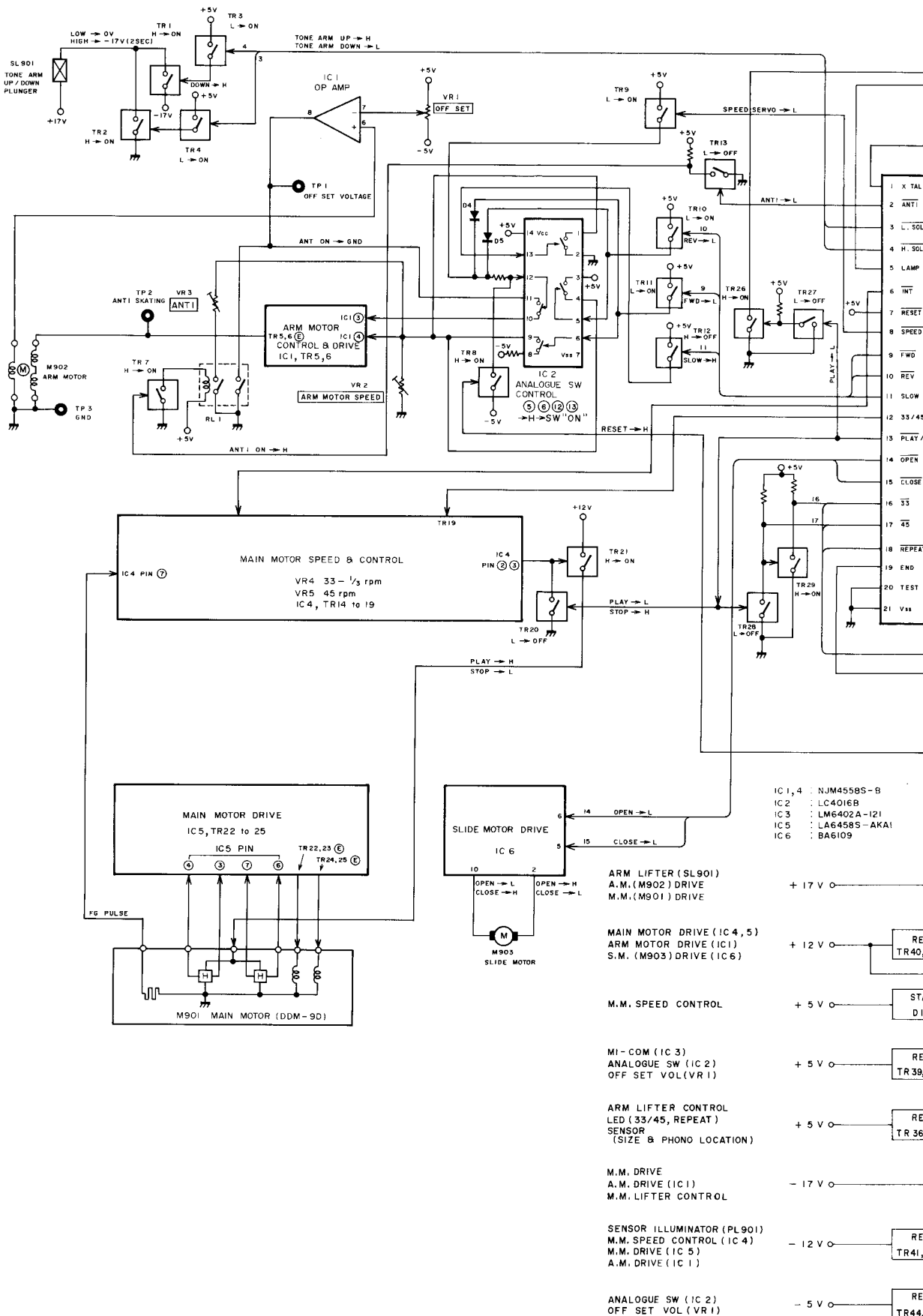


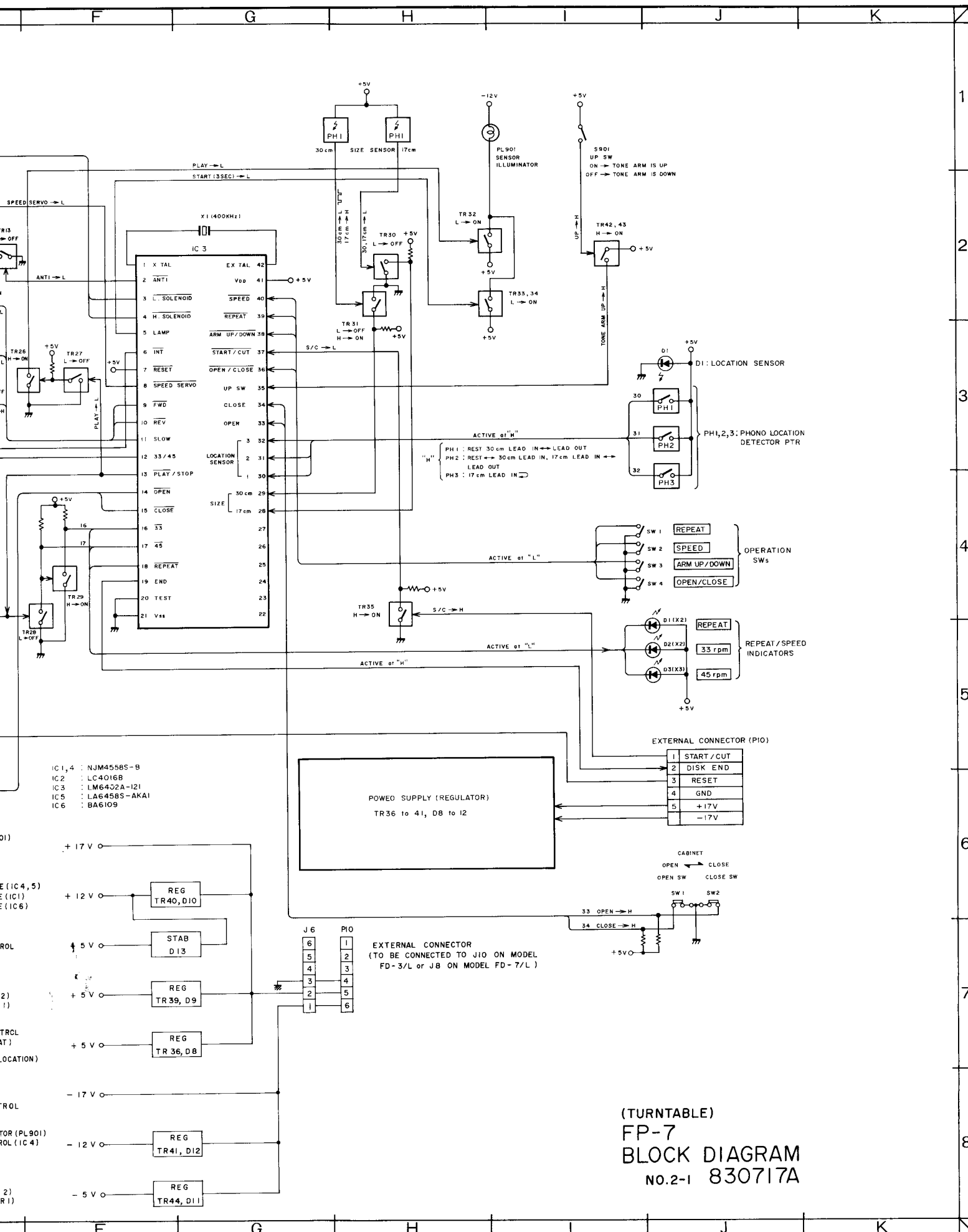
ECB
2SC945
2SC2001

NOTES
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μ F 50 WV (J)

FD-7/L
FRONT END / REMOCON
SCHEMATIC DIAGRAM
NO.10-10 830633B

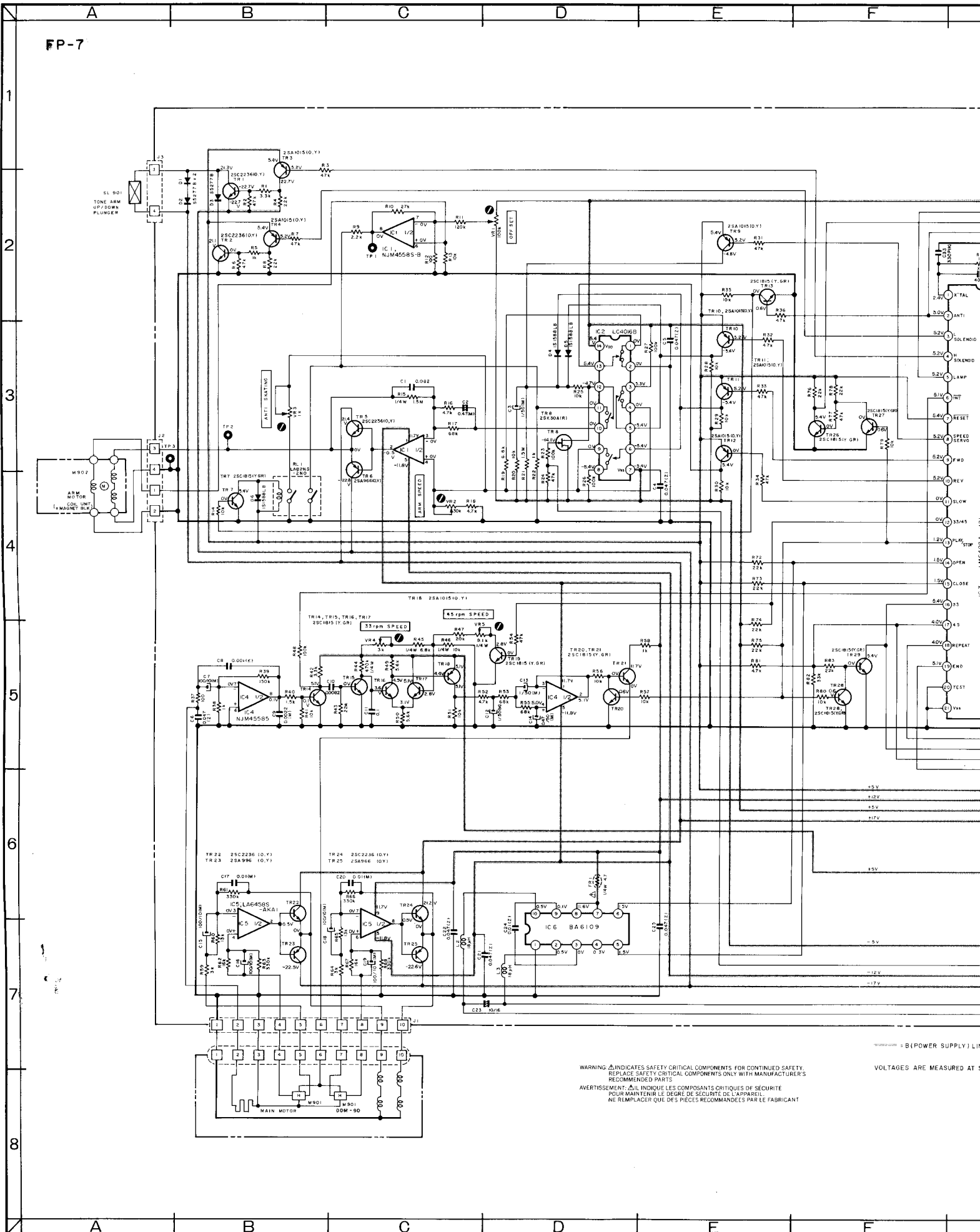
FP-7





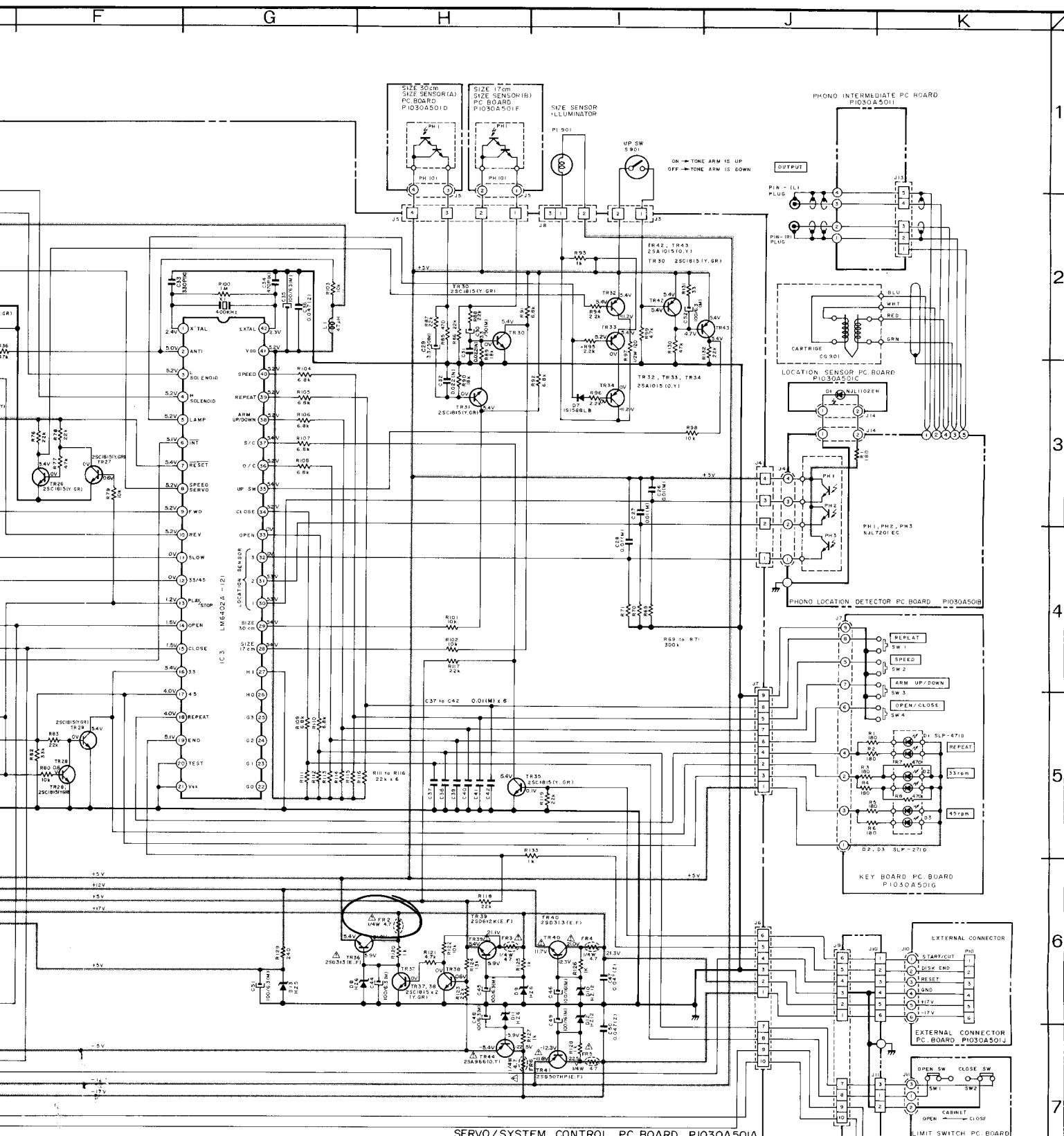
(TURNTABLE)
 FP-7
 BLOCK DIAGRAM
 NO.2-1 830717A

FP-7

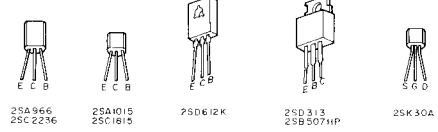


WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

VOLTAGES ARE MEASURED AT



(POWER SUPPLY) LINE
 VOLTAGES ARE MEASURED AT STOP MODE

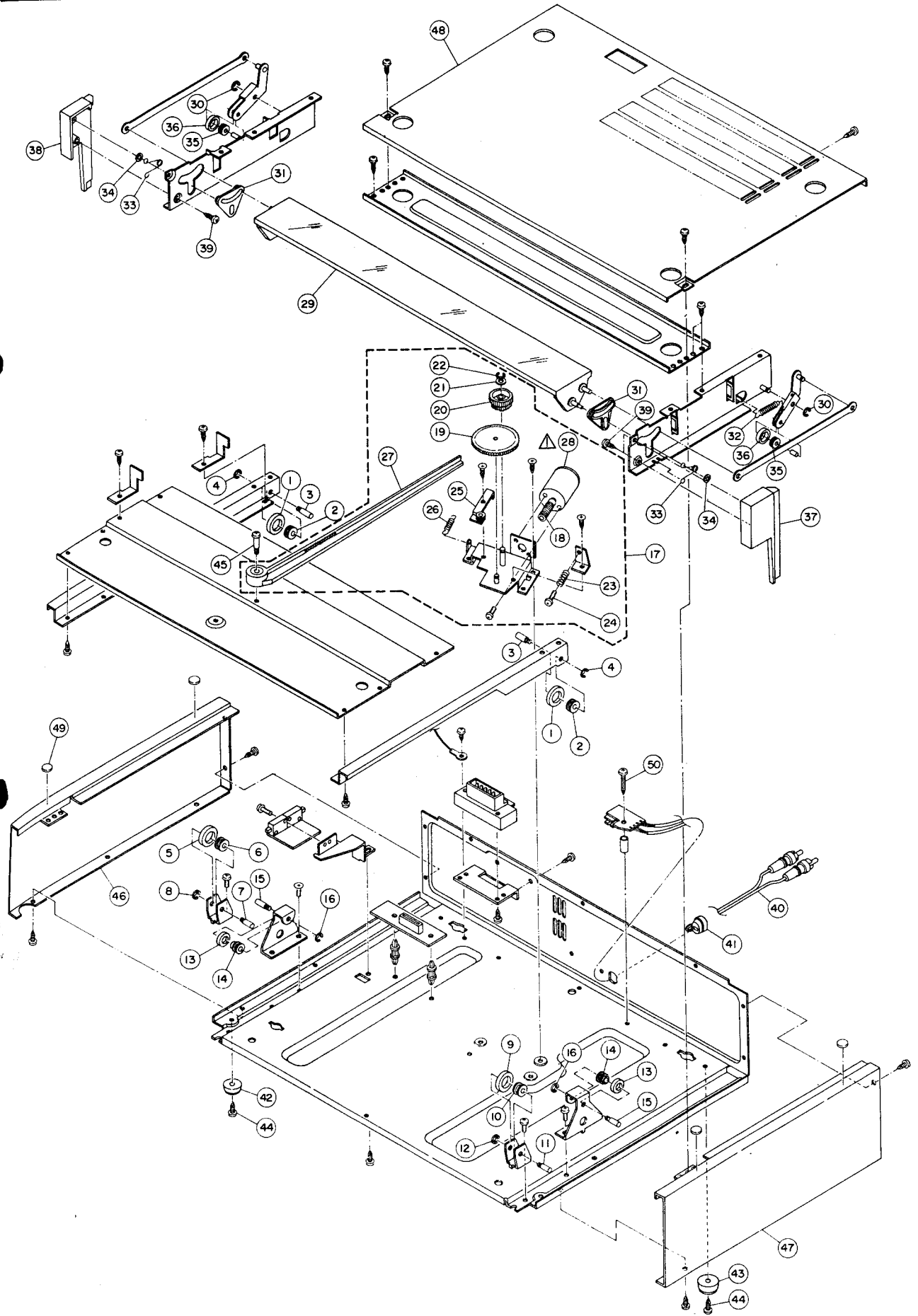


NOTES
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/6W (J)
 ALL CAPACITORS IN μ F 50 WV (J)
 (FS) - FAIL SAFE RESISTORS

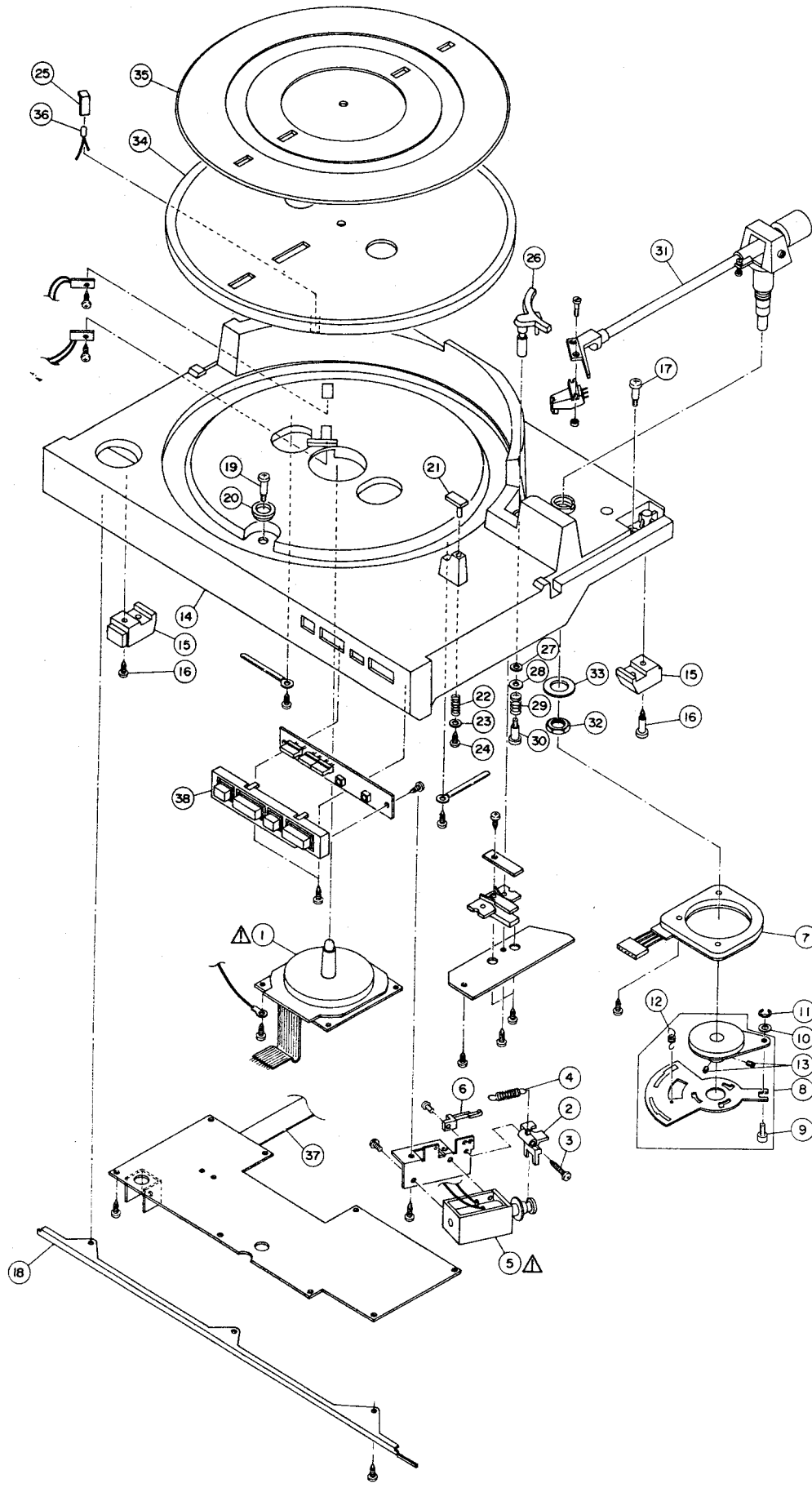
FP-7
SCHEMATIC DIAGRAM
 No.2-2 830718A

1
2
3
4
5
6
7
8

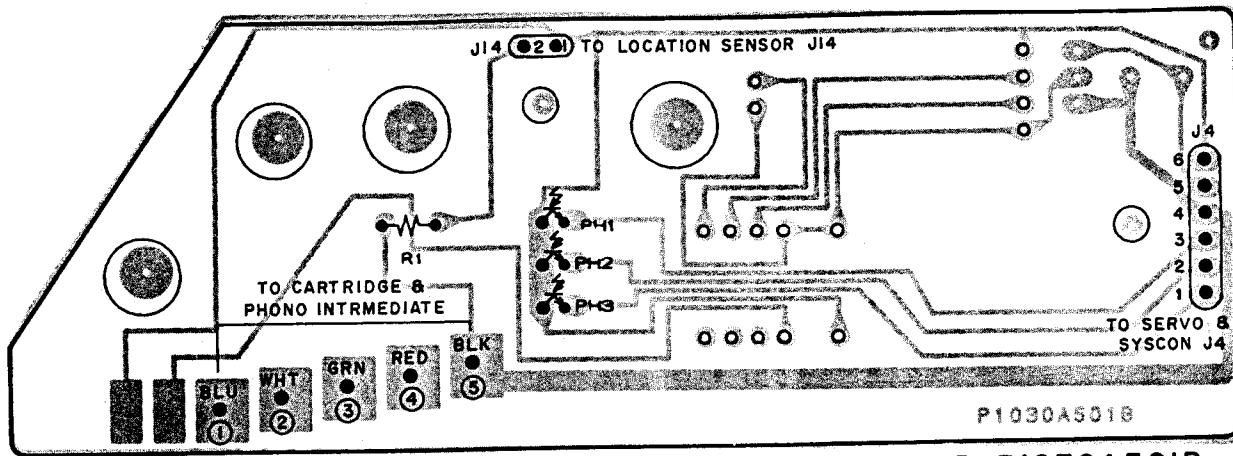
ASSEMBLY BLOCK



FINAL ASSEMBLY BLOCK

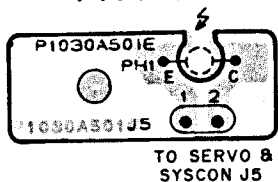


2) OTHER P.C BOARDS

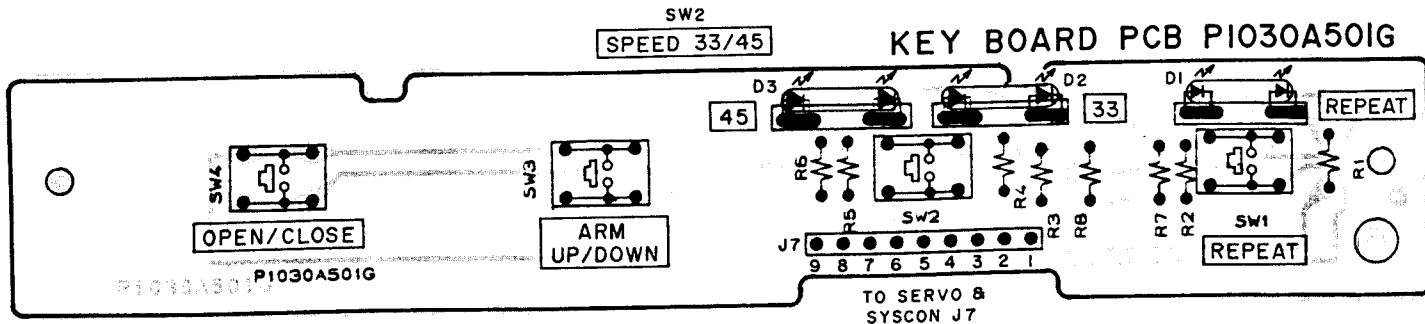
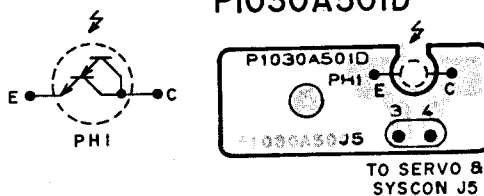


PHONO LOCATION DETECTOR PCB P1030A501B

SIZE SENSOR (B) PCB P1030A501E



SIZE SENSOR (A) PCB P1030A501D



RTV servis Horvat

Kešinci, 31402 Semeljci

Tel : 031-856-637

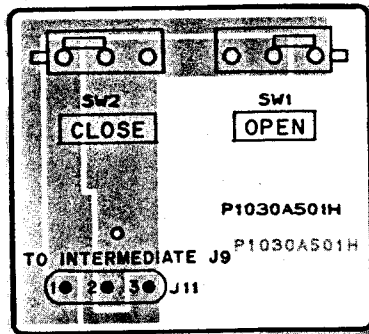
Tel / fax : 031-856-139

Mob : 098-788-319

rtv-servis-horvat@os.tel.hr

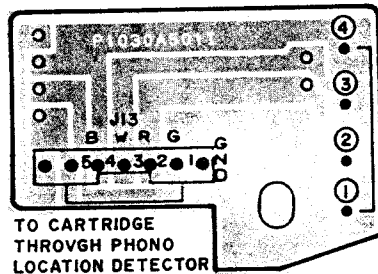


IB



LIMIT SWITCH PCB
P1030A50IH

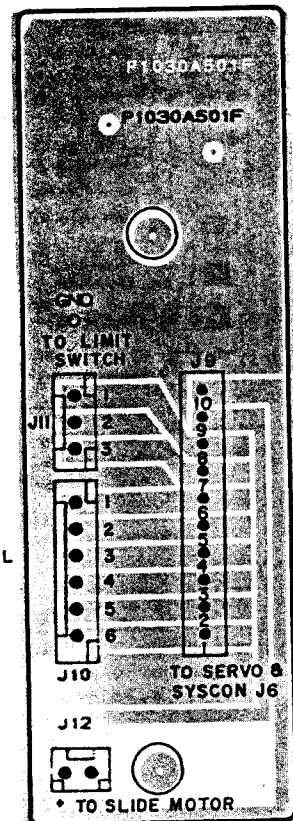
PHONO INTERMEDIATE PCB
P1030A50II



TO CARTRIDGE
THROUGH PHONO
LOCATION DETECTOR

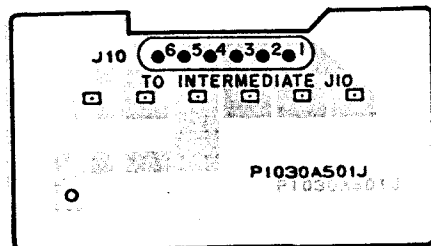
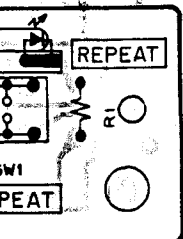
TO EXTERNAL
CONNECTOR

TO OUTPUT PLUG

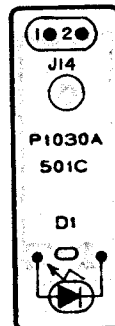


INTERMEDIATE PCB
P1030A50IF

P1030A50IG



EXTERNAL CONNECTOR PCB
P1030A50IJ

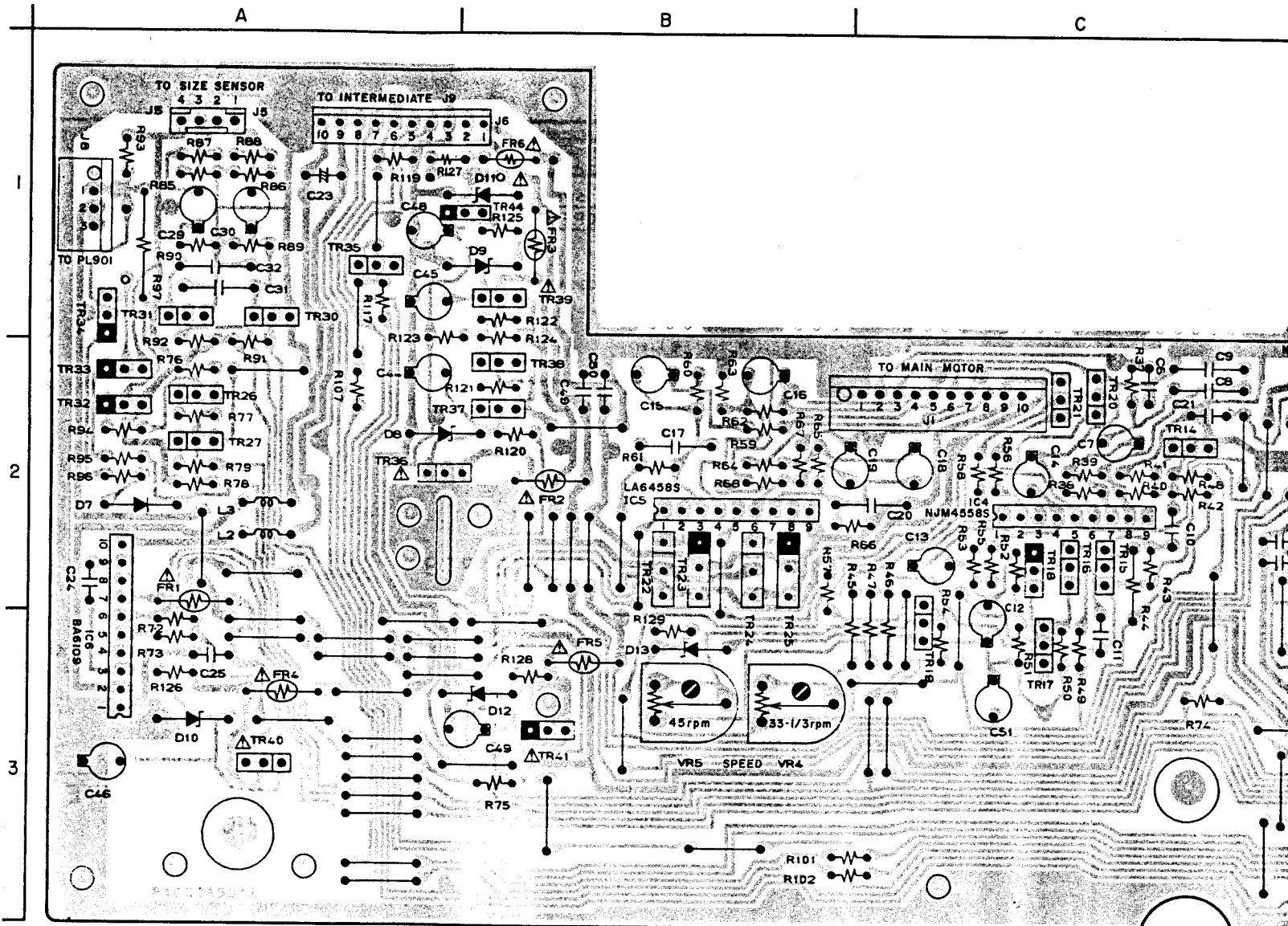


TO PHONO LOCATION
DETECTOR

LOCATION SENSOR PCB
P1030A50IC

8-2 COMPOSITION OF VARIOUS P.C BOARDS

1) SERVO/SYSTEM CONTROL P.C BOARD PI030A501A



SERVO/SYSTEM CONTROL PCB PI030A501A

LOCATION OF COMPONENTS

| | |
|-------------------|--------------|
| TR | TR41.....B3 |
| TR1 to 6.....D1 | TR42.....D1 |
| TR7.....D2 | TR43.....E1 |
| TR8 to 12.....D3 | TR44.....B1 |
| TR13.....D2 | |
| TR14 to 16.....C2 | IC |
| TR17.....C3 | IC1.....D1 |
| TR18.....C2 | IC2.....D2 |
| TR19.....C3 | IC3.....E2 |
| TR20, 21.....C2 | IC4.....C2 |
| TR22 to 25.....B2 | IC5.....B2 |
| TR26, 27.....A2 | IC6.....A3 |
| TR28, 29.....E1 | |
| TR30, 31.....A1 | TERMINALS |
| TR32, 33.....A2 | J1.....C2 |
| TR34, 35.....A1 | J2, 3.....D1 |
| TR36.....A2 | J4.....E1 |
| TR37, 38.....B2 | J5, 6.....A1 |
| TR39.....B1 | J7.....E3 |
| TR40.....A3 | J8.....A1 |

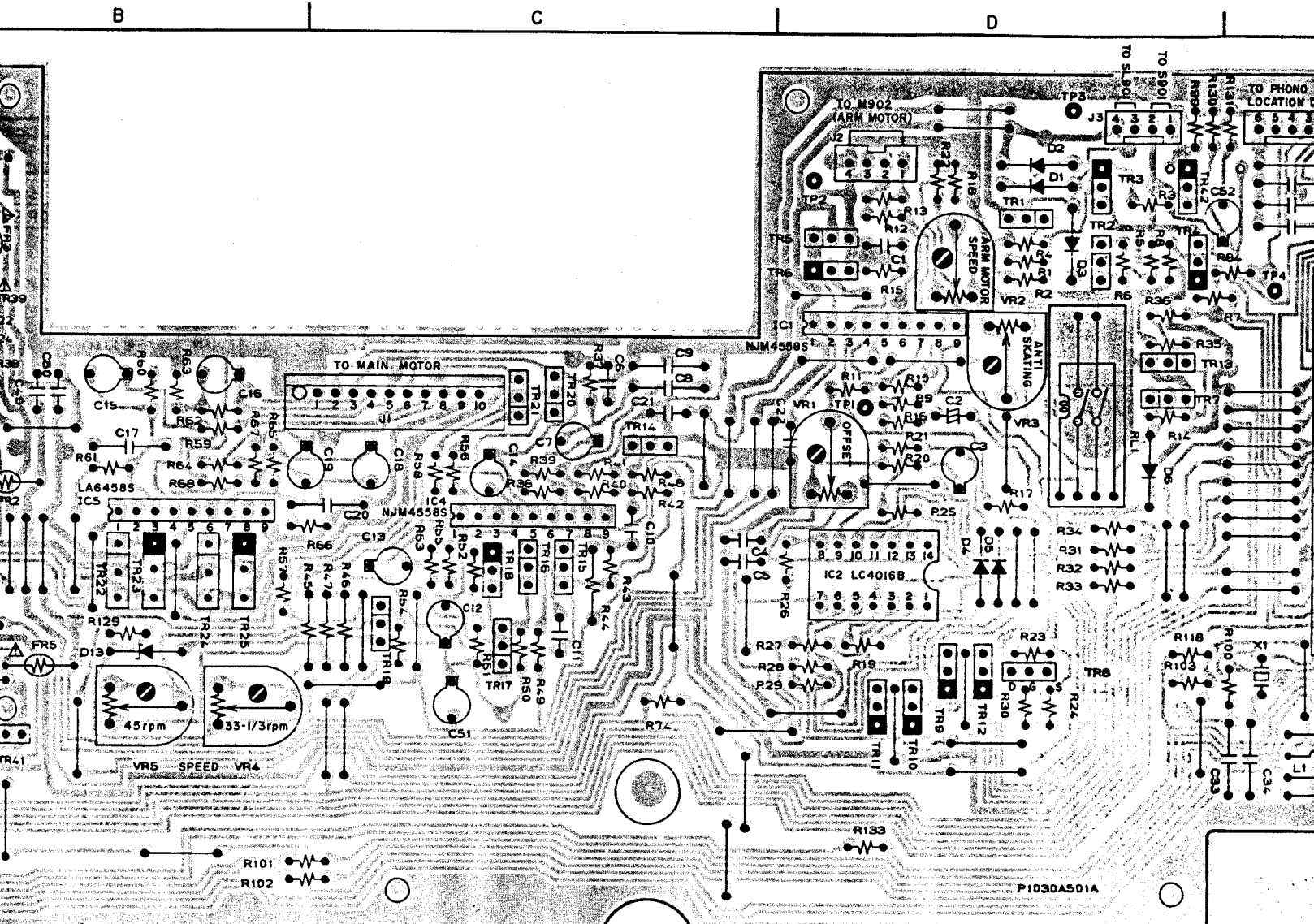
| | |
|---------------------------|-----------------|
| TR1, 2, 5, 22, 24..... | 2SC2236 (O, Y) |
| TR3, 4, 9 to 12, | |
| 18, 32 to 34, 42, 43..... | 2SA1015 (O, Y) |
| TR6, 23, 25, 44..... | 2SA966 (O, Y) |
| TR7, 13 to 17, 19 to 21, | |
| 26 to 31, 35, 37, 38..... | 2SC1815 (Y, GR) |
| TR8..... | 2SK30A (R) |
| TR36, 40..... | 2SD313 (E, F) |
| TR39..... | 2SD612K (E, F) |
| TR41..... | 2SB507HP (E, F) |



2SA1015
2SC1815

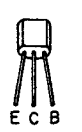


2SA966
2SC2236

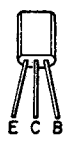


0/SYSTEM CONTROL PCB PI030A501A

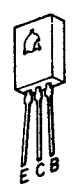
- TR1, 2, 5, 22, 24.....2SC2236 (O, Y)
- TR3, 4, 9 to 12,
18, 32 to 34, 42, 43.....2SA1015 (O, Y)
- TR6, 23, 25, 44.....2SA966 (O, Y)
- TR7, 13 to 17, 19 to 21,
26 to 31, 35, 37, 38...2SC1815 (Y, GR)
- TR8.....2SK30A (R)
- TR36, 40.....2SD313 (E, F)
- TR39.....2SD612K (E, F)
- TR41.....2SB507HP (E, F)



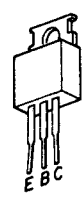
2SA1015
2SC1815



2SA966
2SC2236



2SD612K



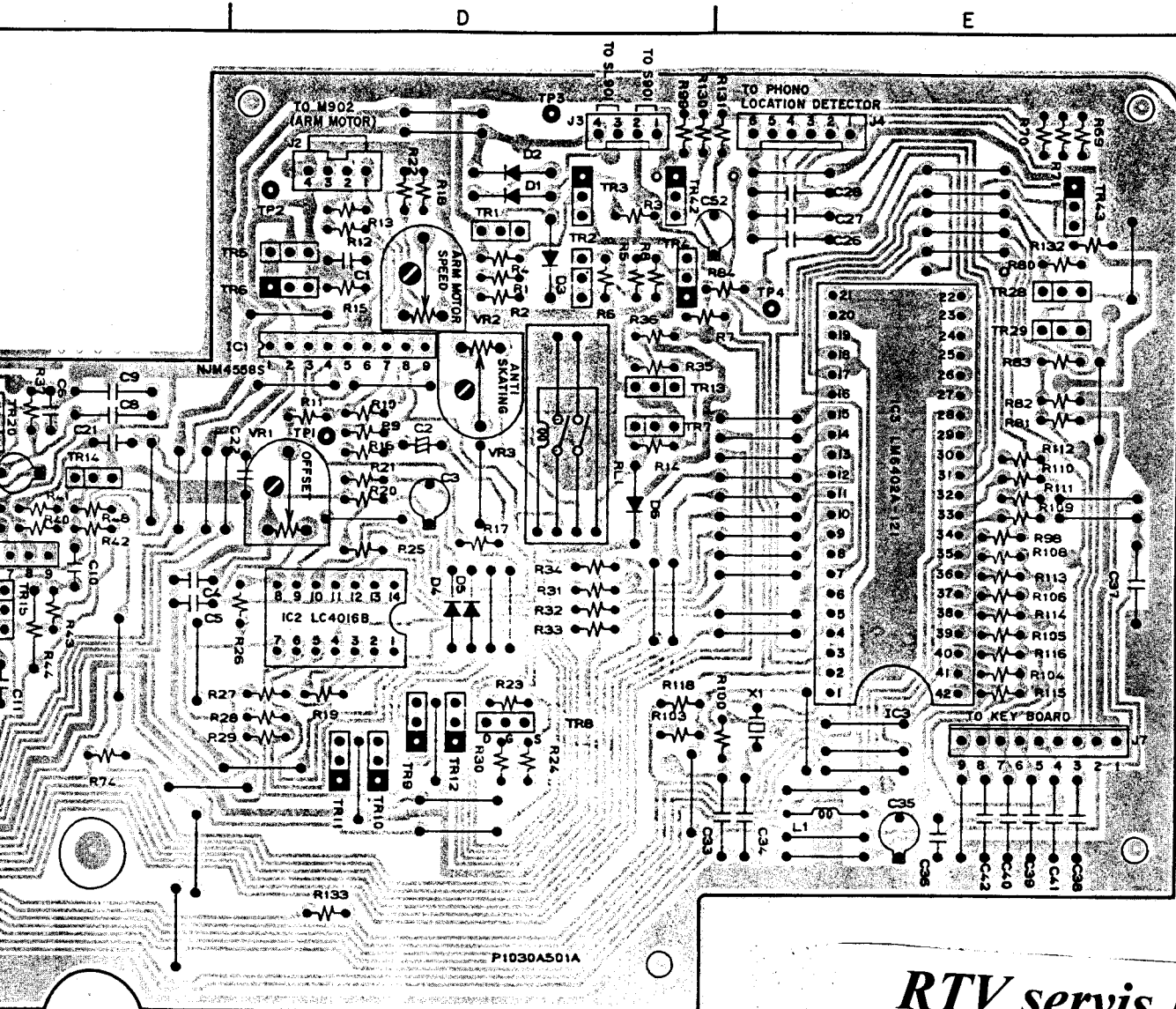
2SB507HP
2SD313



2SK30A

WARNING: Δ INDICATES SAFETY CRITICAL PARTS. REPLACE SAFETY CRITICAL PARTS WITH RECOMMENDED PARTS.

AVERTISSEMENT: Δ IL INDIQUE LES PARTIES CRITIQUES EN MATIÈRE DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES.



RTV servis Horvat

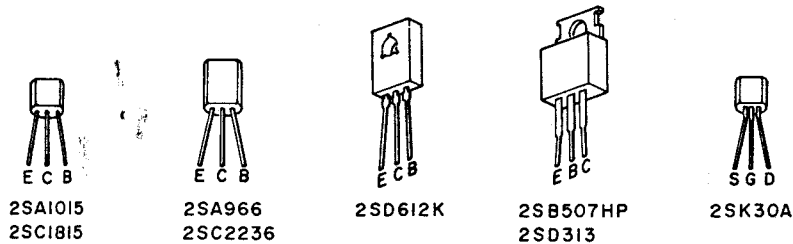
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WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: Δ I INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT