

4-CHANNEL STEREO TAPECORDER

TC-277-4

US Model

E Model

*Serial No.
15,501 and later*

Canadian Model

GEP Model

*Serial No.
23,801 and later*

SUPPLEMENT

No. 1
AUGUST, 1974

This supplement updates the service manual to include
production changes.
File this supplement with the service manual.

Subject: Changes of Circuit Boards

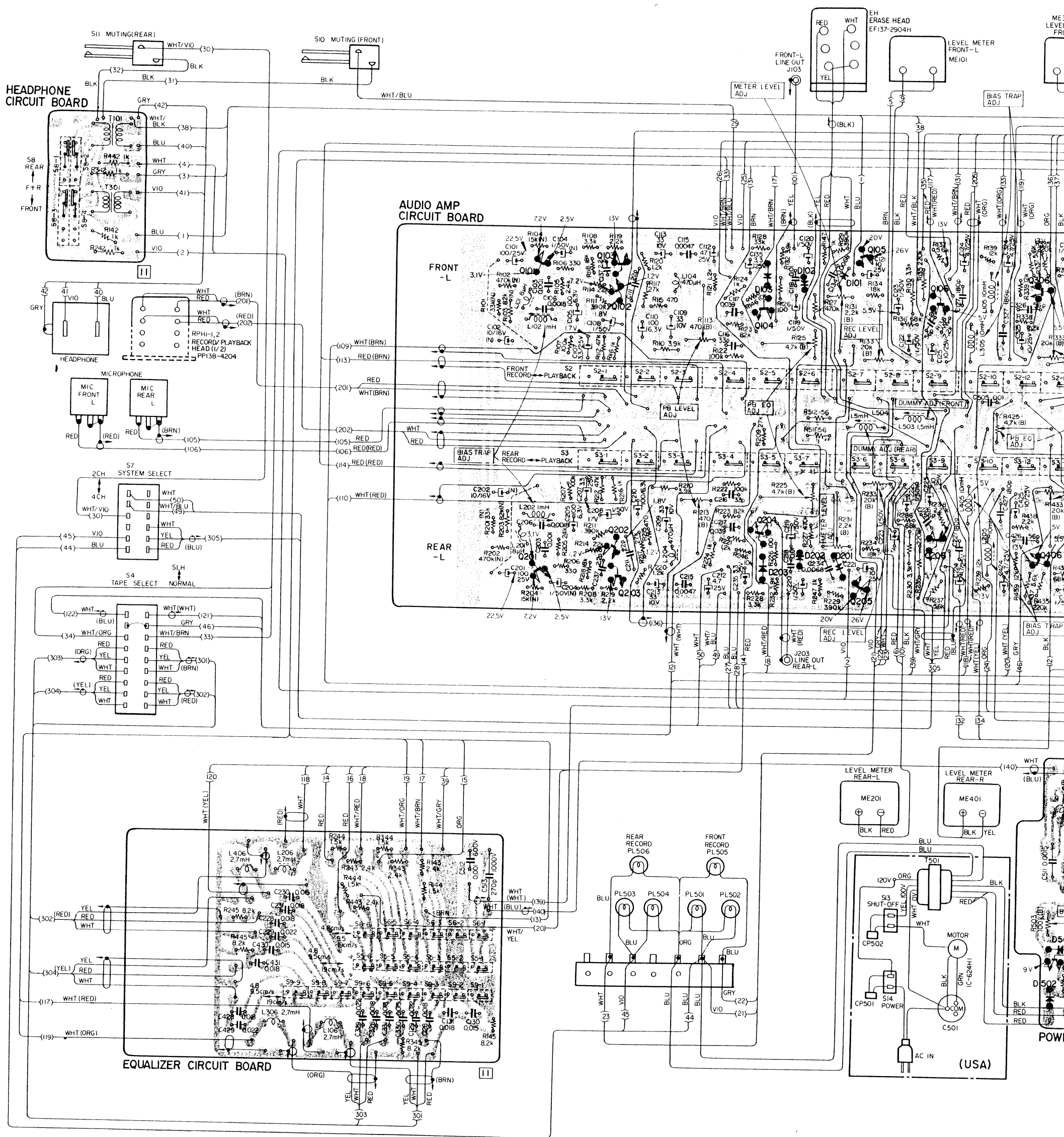
SONY

SERVICE MANUAL

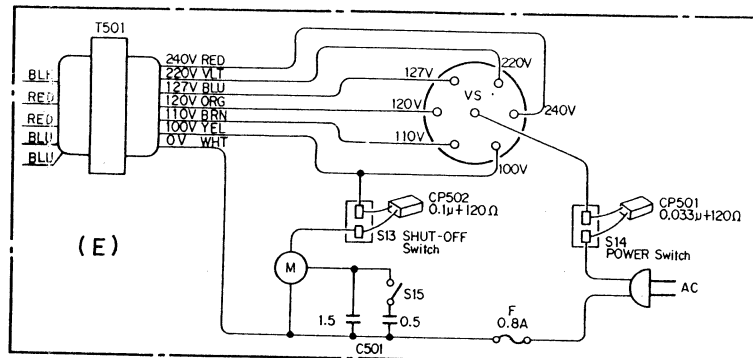
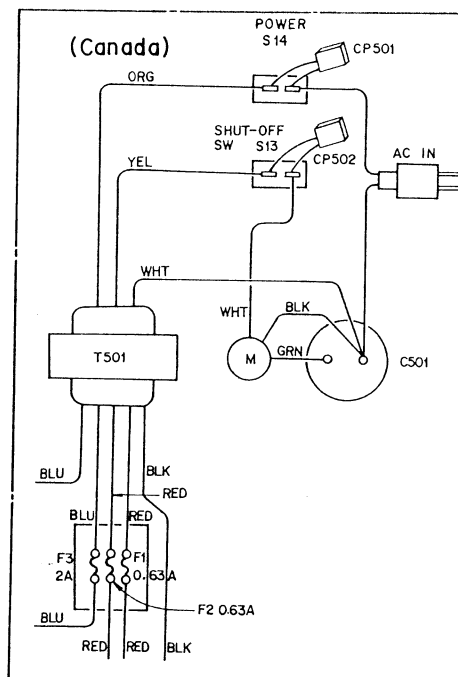
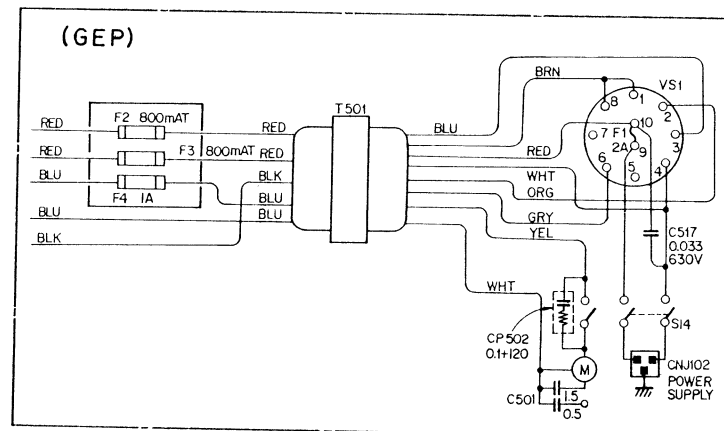
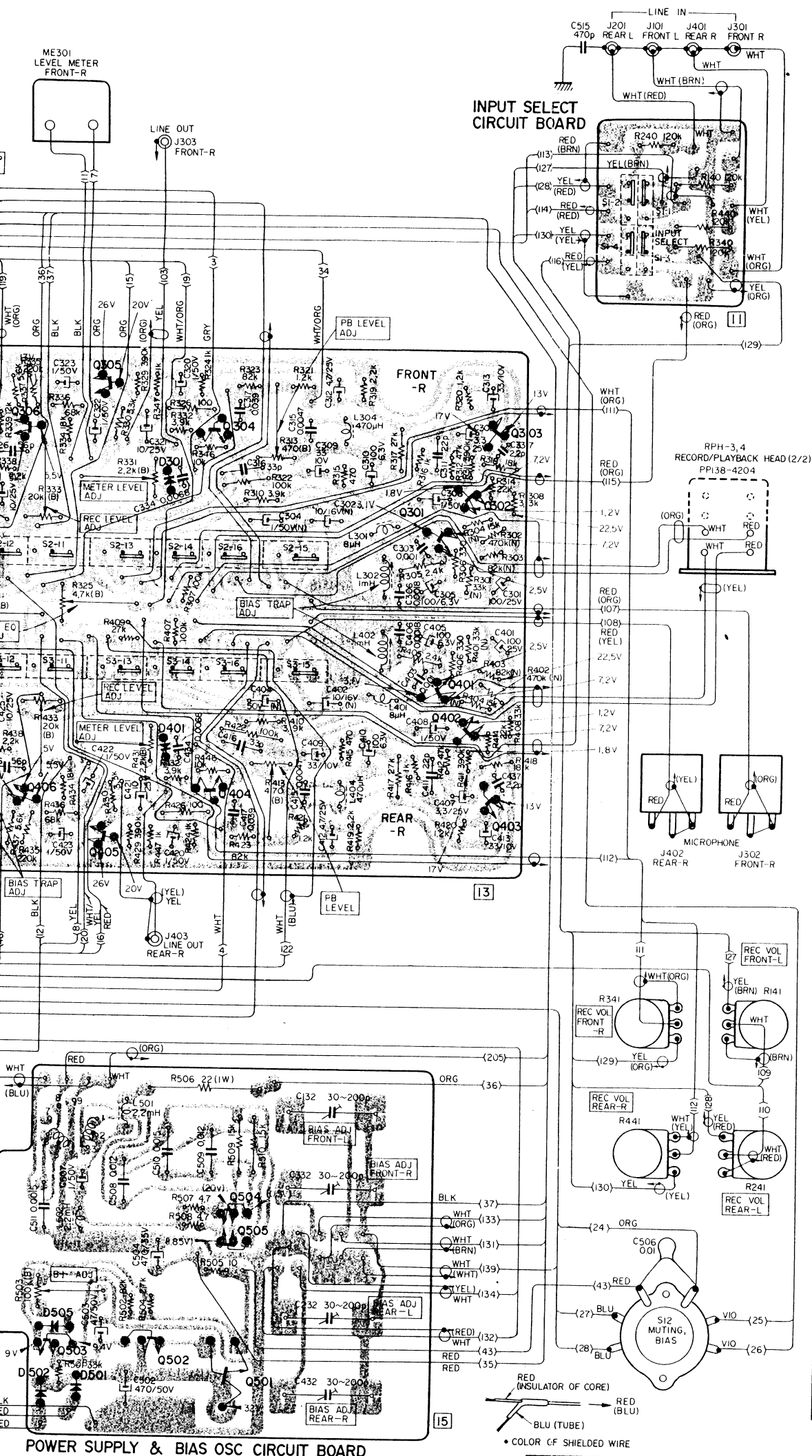
TC-277-4

MEMO

1. MOUNTING DIAGRAM
—Conductor Side—

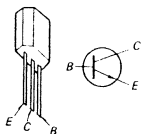


Q	101 201	103,102 202,203	104 204	105 205	106 206	306,406
D			103 203	102 202	101 201	503 504 505 502

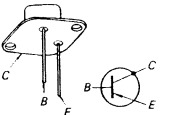


$Q_{301, 401}^{101, 201}$: 2SC632A

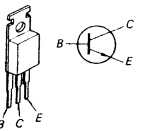
$\left. \begin{array}{l} Q_{102, 202} \\ Q_{302, 402} \\ Q_{103, 203} \\ Q_{303, 403} \\ Q_{104, 204} \\ Q_{304, 404} \\ Q_{105, 205} \\ Q_{305, 405} \\ Q_{106, 206} \\ Q_{306, 406} \\ Q_{502, 503} \end{array} \right\} : 2SC634A$



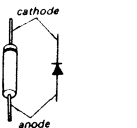
Q501: 2SD291



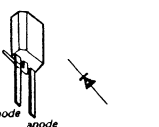
Q504, 505: 2SC1173



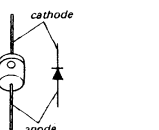
D101, 201
D103, 203: 1T22
D301, 401



D102, 202 : MZ-09
D503



D501, 502: 10D-2



306,406	305,405	304,404	301	302	303
503	502	504,505,501	401	402	403
505	301				
502	501	401			

2. ELECTRICAL PARTS

Ref. No. Part No. Description

MOUNTED CIRCUIT BOARDS

X-35100-51-1 Audio Amp
X-35100-52-1 Power & Bias Osc
X-35100-53-1 Equalizer Switch
X-35100-54-1 Headphone Switch
X-35100-55-1 Input Select Switch

SEMICONDUCTORS

Q101, 201, Transistor 2SC632A
Q301, 401
Q102, 202, Transistor 2SC634A
Q302, 402
Q103, 203, Transistor 2SC634A
Q303, 403
Q104, 204, Transistor 2SC634A
Q304, 404
Q105, 205, Transistor 2SC634A
Q305, 405

Q106, 206, Transistor 2SC634A
Q306, 406
Q501 Transistor 2SD291
Q502 Transistor 2SC634A
Q503 Transistor 2SC634A
Q504 Transistor 2SC1173
Q505 Transistor 2SC1173

D101, 201 Diode 1T22
D102, 202 Diode MZ-09
D103, 203 Diode 1T22
D301, 401 Diode 1T22
D501, 502 Diode 10D-2
D503 Diode MZ-09

COILS

L101, 201, 1-407-519-00 Microinductor, 8 μ H
L301, 401
L102, 202, 1-409-237-00 Trap, 1 mH
L302, 402
L103, 203, -----
L303, 403
L104, 204, 1-407-488-00 Microinductor, 470 μ H
L304, 404
L105, 205, 1-407-290-00 Inductor, variable; 10 mH
L305, 405

L106, 206, 1-407-199-00 Microinductor, 2.7 mH
L306, 406
L501, 502 1-407-198-00 Microinductor, 2.2 mH
L503, 504 1-407-285-00 Inductor, variable; 1.5 mH

TRANSFORMERS

T101, 301 1-427-299-00 Output
1-441-829-00 Power (USA, Canada)
T501 (1-441-877-00 Power (E)
1-441-924-00 Power (GEP)
T502 1-433-152-00 Bias Osc

CAPACITORS

All capacitors are in μ F unless otherwise indicated.
(p = μ F, elect = electrolytic)

Ref. No. Part No. Description

C101, 201, 1-121-416-11 100 25 V elect
C301, 401
C102, 202, 1-121-916-11 10 16 V elect
C302, 402
C103, 203, 1-106-058-12 0.001 50 V mylar
C303, 403
C104, 204, 1-121-391-11 1 50 V elect
C304, 404
C105, 205, 1-121-413-11 100 6.3 V elect
C305, 405

C106, 206, 1-105-504-12 0.0018 50 V mylar
C306, 406
C107, 207, 1-121-392-11 3.3 25 V elect
C307, 407
C108, 208, 1-121-391-11 1 50 V elect
C308, 408
C109, 209, 1-121-402-11 33 10 V elect
C309, 409
C110, 210, 1-121-413-11 100 6.3 V elect
C310, 410

C111, 211, 1-107-115-11 22 p 50 V silvered mica
C311, 411
C112, 212, 1-121-395-11 4.7 25 V elect
C312, 412
C113, 213, 1-121-402-113 33 10 V elect
C313, 413
C114, 214, -----
C314, 414
C115, 215, 1-105-509-12 0.0047 50 V mylar
C315, 415

C116, 216, 1-107-119-11 33 p 50 V silvered mica
C316, 416
C117, 217, 1-105-520-12 0.039 50 V mylar
C317, 417
C118, 218, 1-105-520-12 0.01 50 V mylar
C318, 418
C119, 219, 1-121-391-11 1 50 V elect
C319, 419
C120, 220, 1-121-391-11 1 50 V elect
C320, 420
C121, 221, 1-121-398-11 10 25 V elect
C321, 421

C122, 222, 1-121-391-11 1 50 V elect
C322, 422
C123, 223, 1-121-391-11 1 50 V elect
C323, 423
C124, 224, 1-121-395-11 4.7 25 V elect
C324, 424
C125, 225, 1-121-398-11 10 25 V elect
C325, 425
C126, 226, 1-107-125-11 56 p 50 V silvered mica
C326, 426

C127, 227, 1-107-175-11 180 p 500 V silvered mica
C327, 427
C128, 228, 1-106-301-12 0.018 50 V mylar
C328, 428
C129, 229, 1-106-033-12 0.022 50 V mylar
C329, 429
C130, 230, 1-106-029-12 0.015 50 V mylar
C330, 430
C131, 231, 1-106-031-12 0.018 50 V mylar
C331, 431
C132, 232, 1-141-034-11 30 p ~ 200 p trimmer
C332, 432

Ref. No. Part No. Description

C133, 233, -----
C333, 433
C134, 234, 1-105-671-12 0.0068 50 V mylar
C334, 434
C135, 235, 1-121-392-11 3.3 25 V elect
C335, 435
C136, 236, 1-105-671-12 0.0068 50 V mylar
C336, 436
C137, 237, 1-107-042-11 2.2 p 500 V silvered mica
C337, 437

C501 (1-117-034-11 1.5 250 V metalized paper (USA, Canada)
1-117-036-11 1.5 + 0.5 350 V metalized paper (E, GEP)

C502 1-121-810-11 470 50 V elect
C503 1-121-411-11 47 50 V elect
C504 1-121-361-11 470 35 V elect

C505, 506 1-105-520-12 0.01 50 V mylar
C507 1-121-396-11 4.7 50 V elect
C508, 509 1-129-715-11 0.012 630 V polypropylene
C510 1-129-795-11 0.015 200 V polypropylene
C511 1-129-704-11 1500 p 630 V polypropylene

C512 1-106-029-12 0.001 600 V mylar
C513 1-107-254-11 270 p 1000 V silvered mica
C514 1-107-125-11 56 p 50 V silvered mica
C515 1-107-244-11 470 p 50 V silvered mica
C516 1-107-125-11 56 p 50 V silvered mica

RESISTORS

All resistors are in Ω . $\frac{1}{4}$ W, $\pm 5\%$, carbon resistors (except particular type) are omitted. Check the schematic diagram for the resistance values. (k = 1000)

R101, 201, 1-242-709-09 33 k low noise
R301, 401
R102, 202, 1-242-739-09 470 k low noise
R302, 402
R103, 203, 1-242-719-09 82 k low noise
R303, 403
R104, 204, 1-242-701-09 15 k low noise
R304, 404

R113, 213, 1-222-770-11 470 (B) adjustable
R313, 413
R125, 225, 1-222-773-11 4.7 k (B) adjustable
R325, 425
R131, 231, 1-222-772-11 2.2 k (B) adjustable
R331, 431
R133, 233, 1-222-715-11 20 k (B) adjustable
R333, 433
R141, 241, 1-222-306-11 20 k (A), variable; MIC VOL
R341, 441

R506 1-209-204-11 22 1 W, 10 %
R511, 512 1-206-481-11 56 2 W metal oxide

SWITCHES

S1 1-514-814-00 Slide, INPUT SELECT
S2 1-514-961-00 Slide, rec/pb, front
S3 1-514-961-00 Slide, rec/pb, rear
S4 1-514-867-00 Slide, TAPE SELECT
S5 1-514-453-00 Slide, playback; equalizer and bias switch front

Ref. No. Part No. Description

S6 1-514-861-21 Slide, playback; equalizer and bias switch rear
S7 1-514-768-00 Slide, SYSTEM SELECT
S8 1-514-869-00 Slide, HEADPHONE
S9 1-514-454-00 Slide, record equalizer
S10 1-514-266-00 Leaf, muting; front

S11 1-514-266-00 Leaf, muting, rear
S12 1-514-548-00 Rotary, bias osc
S13 1-514-039-00 Micro, shut-off
S14 (1-514-655-31 Seesaw, POWER (GEP)
1-514-655-31 Seesaw, POWER (E, US, Canadian)
1-514-655-71 Seesaw, POWER (USA, Canada)
S15 1-514-512-00 Rotary, frequency change (E, GEP)

HEADS

RPH 8-829-342-40 Record/playback, PP138-4204
EH 8-825-527-00 Erase, EF137-2904H

JACKS

J101, 201, 1-507-163-00 4 P phono, LINE IN
J301, 401
J102, 202, 1-507-251-00 M-10, mini; MICROPHONE
J302, 402
J103, 203, 1-507-163-00 4 P phono, LINE OUT
J303, 403
J501 1-507-282-00 JM65, M-15; HEADPHONE

MISCELLANEOUS

CP501 (1-231-057-00 Encapsulated Component, C-R
0.033 μ F + 120 Ω (E, GEP)
1-231-057-31 Encapsulated Component, C-R
0.033 μ F + 120 Ω (USA, Canada)
CP502 (1-101-534-12 Encapsulated Component, C-R
0.1 μ F + 120 Ω (E, GEP)
1-101-534-31 Encapsulated Component, C-R
0.1 μ F + 120 Ω (USA, Canada)

PL501 ~ 1-518-093-11 Lamp, 0.1 A
506
ME101 ~ 1-524-078-11 Meter, level
401
M 8-832-624-09 Motor, IC-624H1

VS (1-509-427-00 Connector, power voltage selector (E)
1-509-482-00 Connector, power voltage selector (GEP)
F1 (1-532-163-00 Fuse, 0.8 A (E)
1-532-263-XX Fuse, 0.63 A (Canada)
F2 (1-532-215-00 Fuse, 800 mA (GEP)
1-532-263-XX Fuse, 0.63 A (Canada)
F3 (1-532-215-00 Fuse, 800 mA (GEP)
1-532-268-XX Fuse, 2 A (Canada)
F4 1-532-063-00 Fuse, 1 A (GEP)

1-533-006-01 Holder, fuse; w/cover (E)
1-533-026-31 Holder, fuse (GEP)

1-534-487-00 Cord, power (E)
1-534-538-21 Cord, power (USA, Canada)
1-536-154-00 Terminal Strip, A type 3L3