www.freeservicemanuals.info

TC-K1A

PRELIMINARY

US Model
AEP Model
UK Model
E Model

Free service manuals
Gratis schema`s
Digitized by
www.freeservicemanuals.info

STEREO CASSETTE DECK

www.freeservicemanuals.info

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.

'**Dolby**' and the double-D symbol are the trade marks of Dolby Laboratory Inc. Noise reduction system manufactured under license from Dolby Laboratory Inc.

SPECIFICATIONS

GENERAL

Power Requirements: 120V ac, 60Hz (US model)
110, 120, 220, 240V ac, 50/60Hz (AEP, E, UK model)

Power Consumption: 10W ac (US model)
12W ac (AEP, E, UK model)

Dimensions: Approx. 410 (w) × 145 (h) × 260 (d) mm
16 1/8 (w) × 5 3/4 (h) × 10 1/4 (d) inches
including projecting parts and controls

Weight: 5kg, 10lb 7oz

TAPE RECORDER SECTION

Track: 4-track 2-channel stereo

Fast Forward Rewind Time: Approx. 90 seconds with Sony cassette C-60

– Continued on page 2 –

SONY®
SERVICE MANUAL

It`s Free

Frequency Response: DOLBY NR OFF
With Ferri-Chrome cassette
30–15,000Hz
50–13,000Hz ±3dB
With chromium dioxide cassette
30–15,000Hz
50–13,000Hz ±3dB
With standard cassette
30–13,000Hz

Wow and Flutter: 0.08% WRMS

S/N Ratio: DOLBY NR OFF
With Ferri-Chrome cassette
55dB at peak level
With chromium dioxide cassette
53dB at peak level
DOLBY NR ON
Improved by 5dB at 1kHz,
10dB above 5kHz

Total Harmonic Distortion: 2%

Record Bias Frequency: 80kHz

Inputs: MIC (phone jacks) 2
sensitivity 0.25mV (–70dB)
for a low-impedance microphone
LINE IN (phono jacks) 2
sensitivity 77.5mV (–20dB)
input impedance 100kΩ

Outputs: LINE OUTPUT (phono plugs) 2
output level 0.435V (–5dB)
at load impedance 100kΩ
suitable load impedance more than 10kΩ
HEADPHONES 1
output level –26dB
at load impedance 8Ω

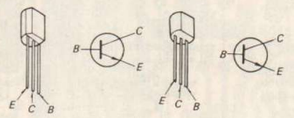
REC/PB Jack (DIN): Input impedance less than 10kΩ
Output impedance less than 10kΩ

0dB = 0.775V

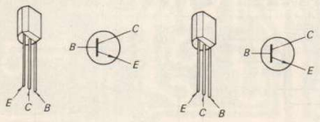
Replacement Semiconductors

For replacement, use semiconductors except in ( ).

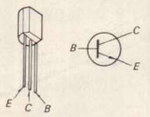
Q101, 102
Q201, 202 : **2SC1362 (2SC900E)**



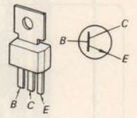
Q131, 231
Q302, 304, 305 : **2SC1364 (2SC945Q)**



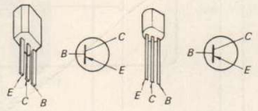
Q121, 221: 2SC2001



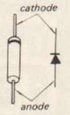
Q301: 2SC1096



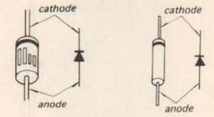
Q303: 2SA678 (2SA733Q)



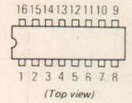
D121, 211: 1T22AM (1S188)
D301–304: 10E2 (10E1)
D307, 308: 1S953



D305: EQB01-22 (RD-22EB)



IC151, 251: NE646B



www.freeservicemanuals.info

It`s Free

1. MOUNTING DIAGRAM — *Conductor Side* —

【LAMP BOARD】

【INPUT/OUTPUT JACK BOARD】

【AUDIO AMP BOARD】

【SERVO AMP BOARD】

【LED BOARD】

•AEP,UK,E MODEL

AEP MODEL

H.E

Note:

- Signal Path
  - R-CH
  - L-CH
- Color code of sleeving over the end of the jacket.

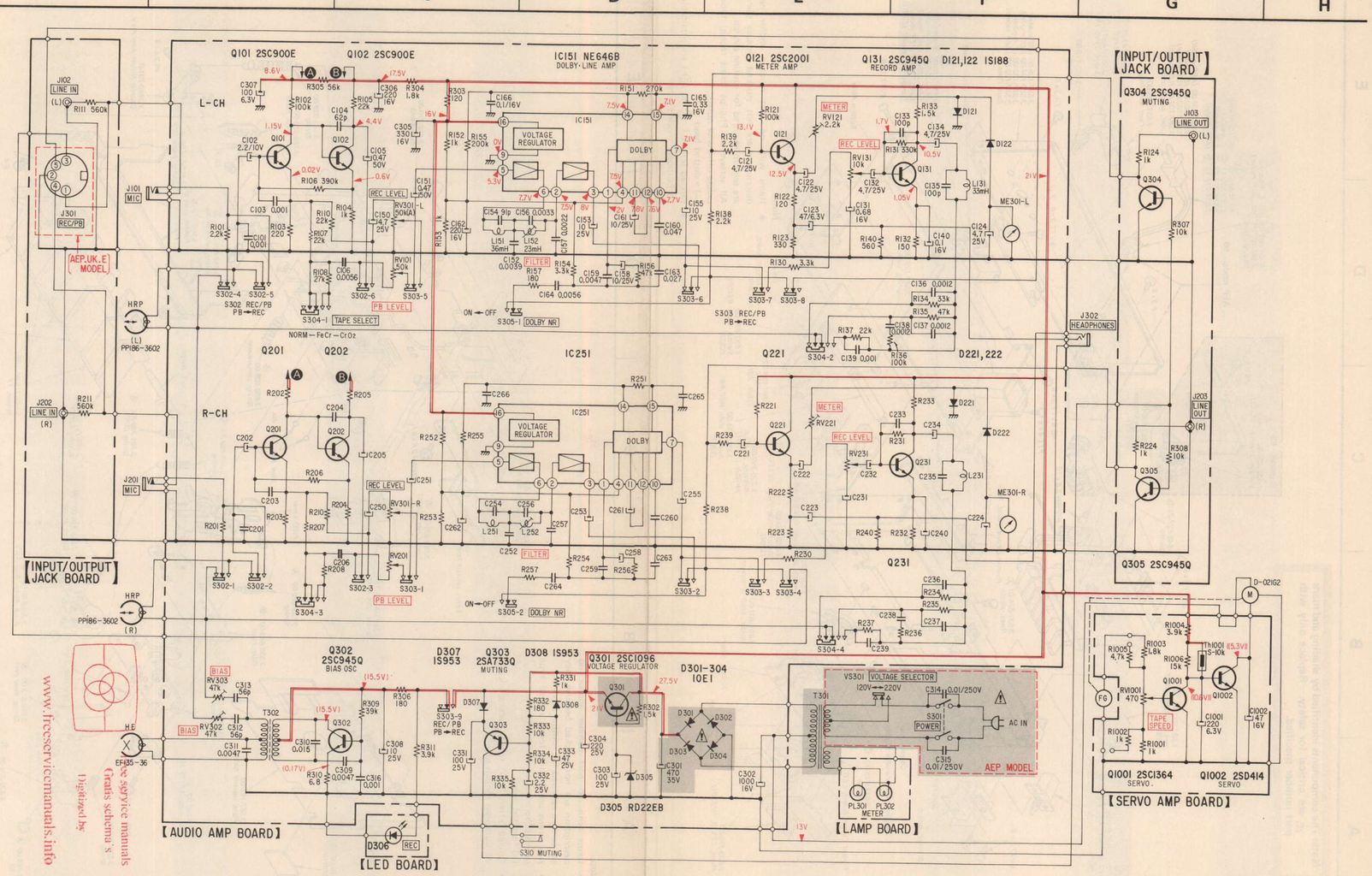
Q IC	1001 1002	121	201 202	101 102	301 IC251	303 131 231	IC151	302	304 305	Q IC
D		121, 122		222, 221	305	308	307	304 303 302 301	306	D

Free service manuals
Gratis schema's
Digitized by
www.freeservicemanuals.info

www.freeservicemanuals.info

It's Free

2. SCHEMATIC DIAGRAM

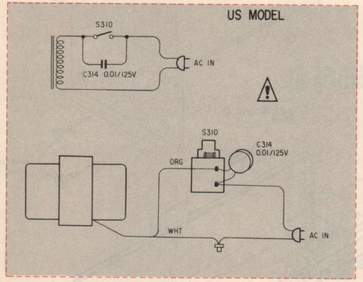


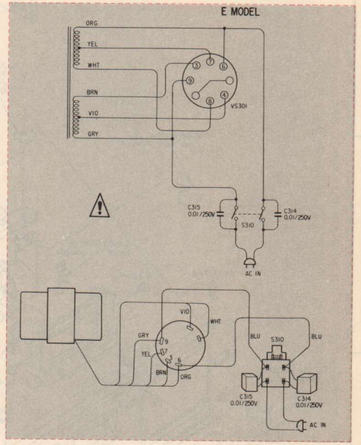
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

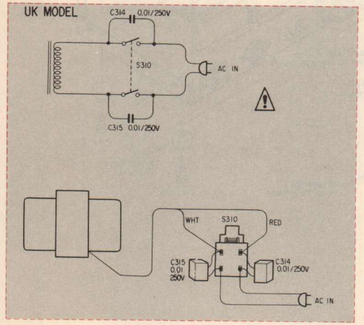
Note:

- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω; MΩ = 1000 kΩ
- ▭ : panel designation.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- Readings are taken under stop conditions with a VOM (20 kΩ/V).
  (V) : record condition
  ((V)) : forward condition
- ▭ : adjustment for repair.
- ▬ : B+ bus.
- Switch

Ref. No.	Switch	Position
S301	POWER	OFF
S302, 303	REC/PB	PB
S304	TAPE SELECT	NORM
S305	DOLBY NR	OFF





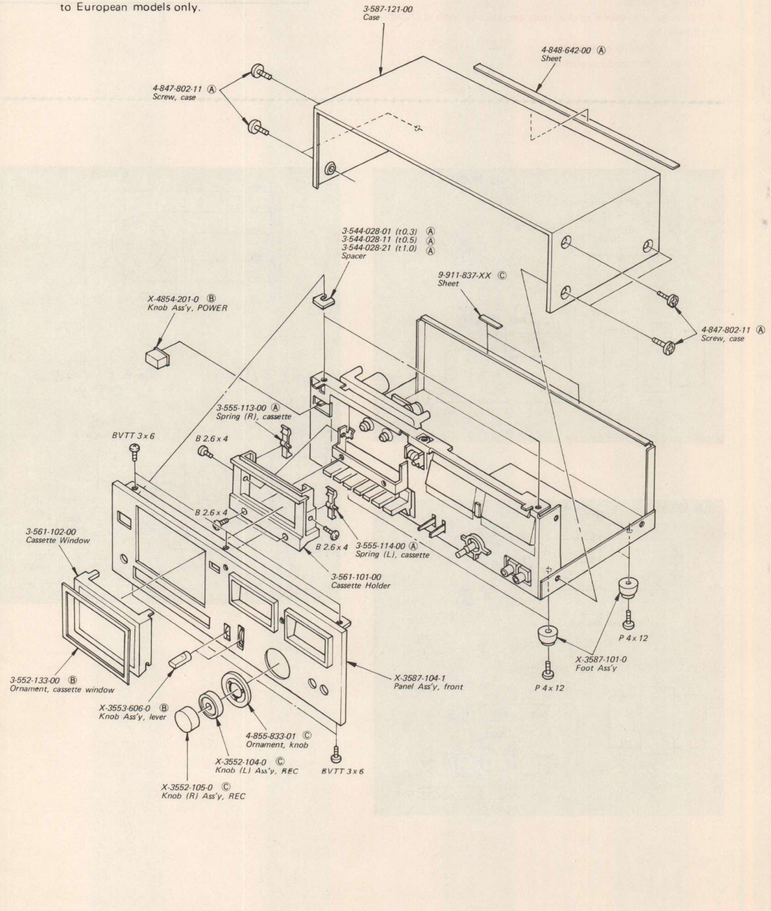


www.freeservicemanuals.info
free service manuals
gratis schema's
Digitized by

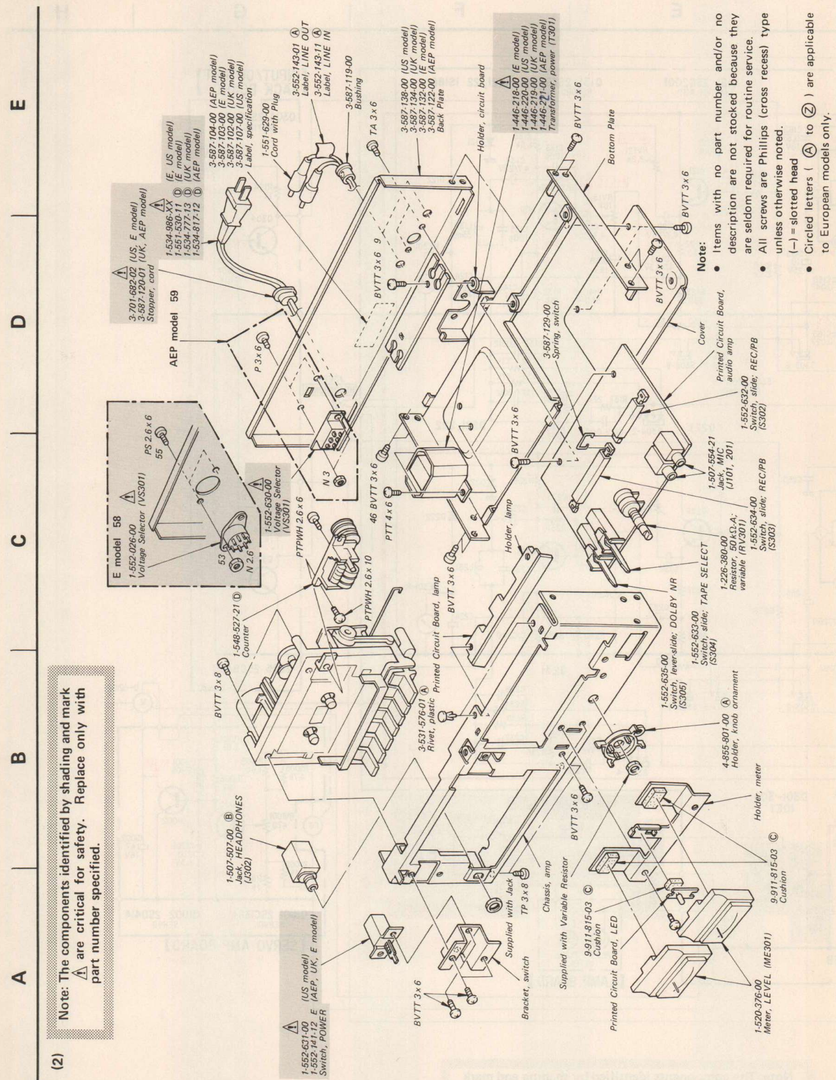
www.freeservicemanuals.info

(1) **Note:**

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

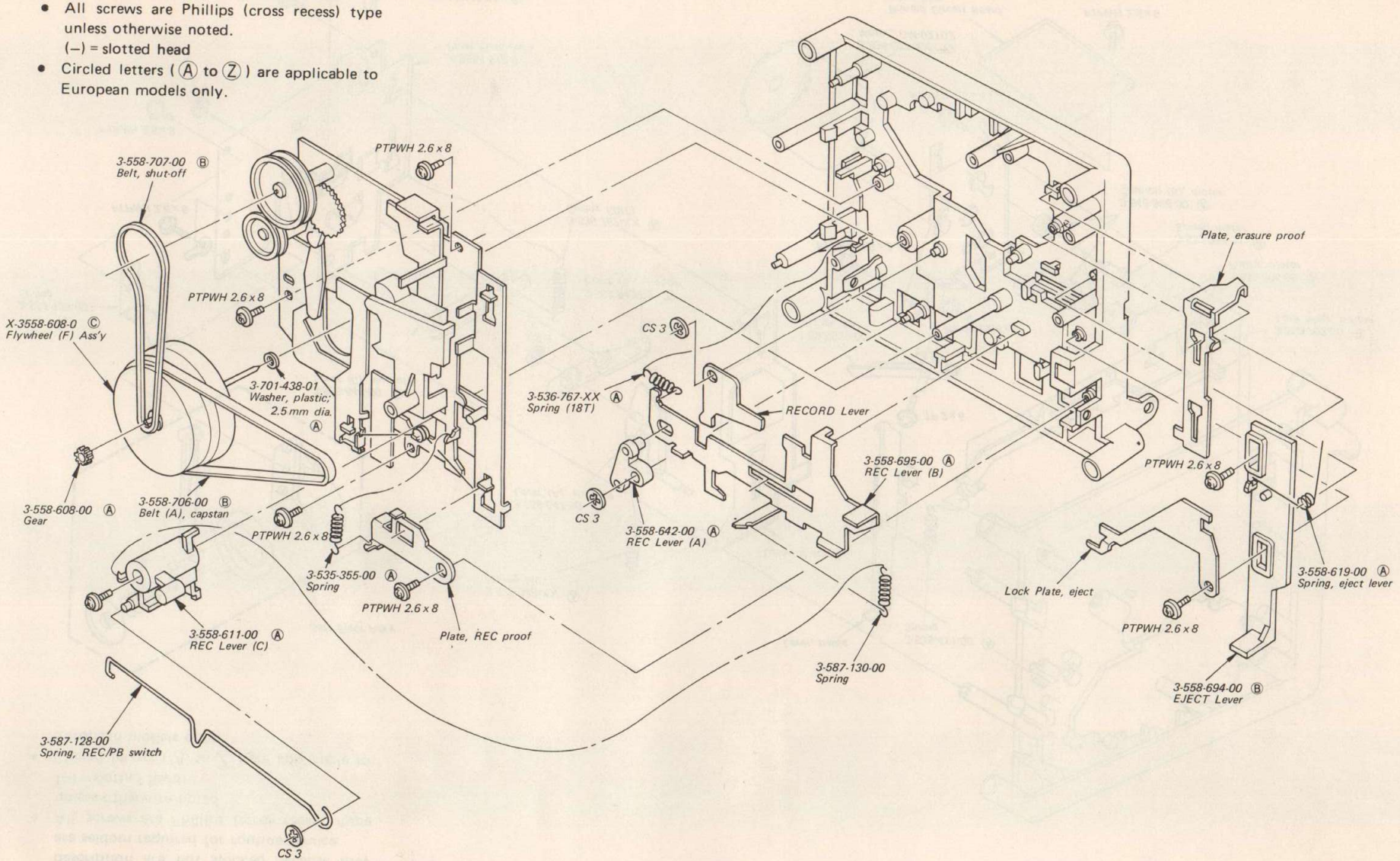


It's Free


(E, US model) 3-701-682-02 (US, E model)
3-587-120-01 (UK, AEP model) Stepper, cord
1-534-986-XX (E model)
1-534-987-11 (US model)
1-534-777-13 Ⓓ (UK model)
1-534-817-12 Ⓓ (AEP model)
AEP model 59
E model 58
1-552-026-00 Voltage Selector
PS 2.6x6
55
1-552-630-00 Voltage Selector (VS301)
PTPWH 2.6x6
3-587-104-00 (AEP model)
3-587-105-00 (E model)
3-587-106-00 (UK model)
3-587-107-00 (US model)
Label, specification
1-551-629-00 Cord with Plug
3-552-143-01 Ⓐ Label, LINE OUT
3-552-141-01 Ⓐ Label, LINE IN
3-587-119-00 Bushing
TA 3x6
3-587-138-00 (US model)
3-587-134-00 (UK model)
3-587-122-00 (E model)
3-587-123-00 (AEP model)
Back Plate
Holder, circuit board
1446-218-00 (E model)
1446-220-00 (US model)
1446-219-00 (UK model)
1446-221-00 (AEP model)
Transformer, power (T301)
BVTT 3x6
Bottom Plate
Cover
Printed Circuit Board, audio amp
3-587-120-00 Spring, switch
1-552-632-00 Switch, slide, REC/PB (S302)
1-552-634-00 Switch, slide, REC/PB (S303)
1-554-554-21 Jack, MIC (J101, 201)
1-226-380-00 Resistor, 50 kΩ-A, variable (RV301)
1-552-633-00 Switch, slide, TAPE SELECT (S304)
1-552-635-00 Switch, lever-slide, DOLBY NR (S305)
4-855-901-00 Ⓐ Holder, knob ornament
Holder, meter
9-911-815-03 Ⓒ Cushion
1-520-376-00 Meter, LEVEL (ME301)
Holder, lamp
PTT 4x6
46 BVTT 3x6
N 3
Printed Circuit Board, lamp
1-548-527-21 Ⓓ Connect
3-531-576-01 Ⓐ Rivet, plate
1-507-507-00 Ⓑ Jack, HEADPHONES (J302)
1-552-631-00 Ⓐ (US model) 1-552-141-12 Ⓔ (AEP, UK, E model) Switch, POWER
Bracket, switch
Supplied with Jack
TP 3x8
Chassis, amp
Supplied with Variable Resistor
Printed Circuit Board, LED
9-911-815-03 Ⓒ Cushion
9-911-815-03 Ⓒ Cushion
BVTT 3x6
BVTT 3x8
BVTT 3x6
BVTT 3x6
BVTT 3x6

(4) **Note:**

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

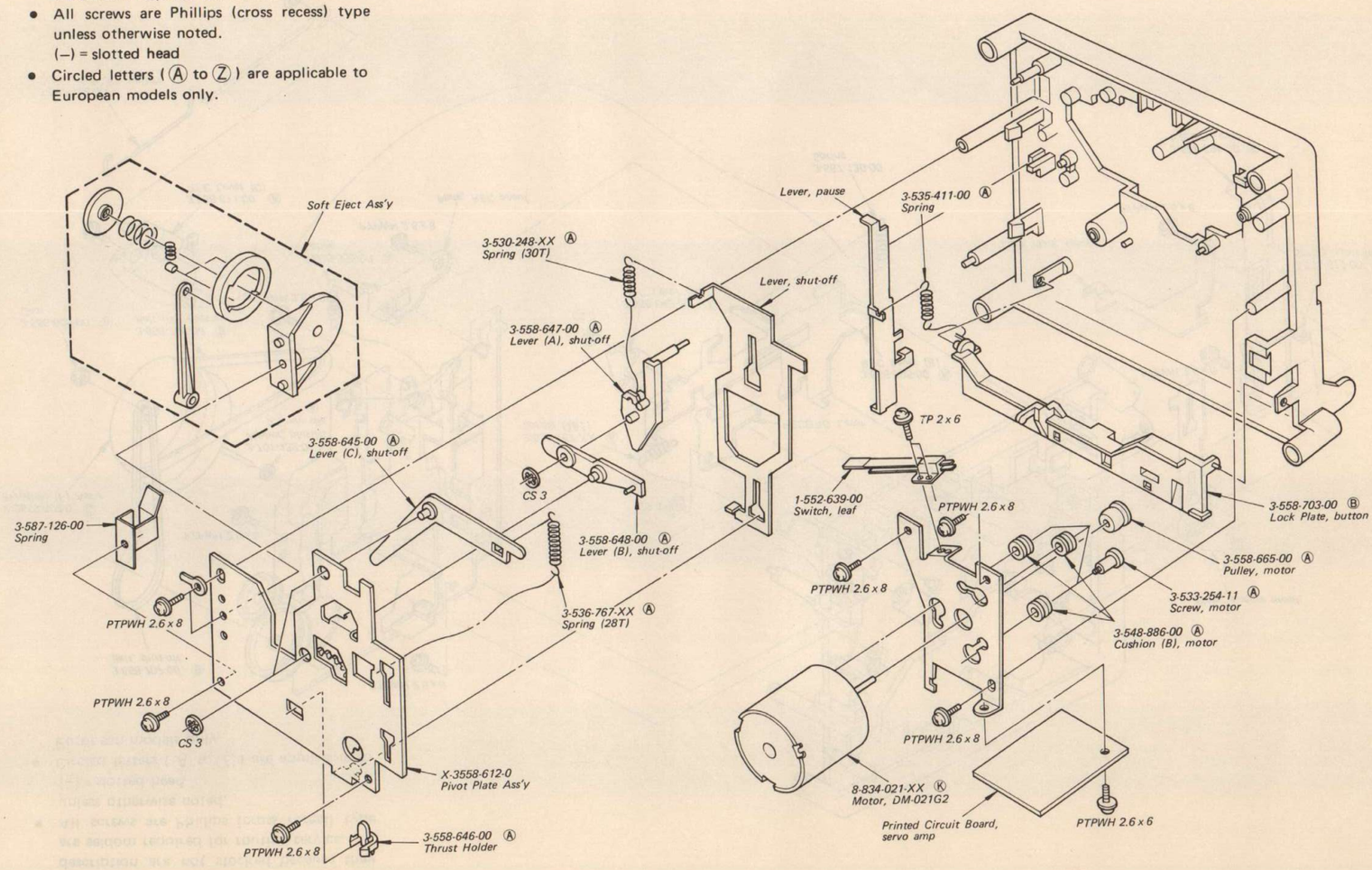


www.freeservicemanuals.info
It's Free

www.freeservicemanuals.info

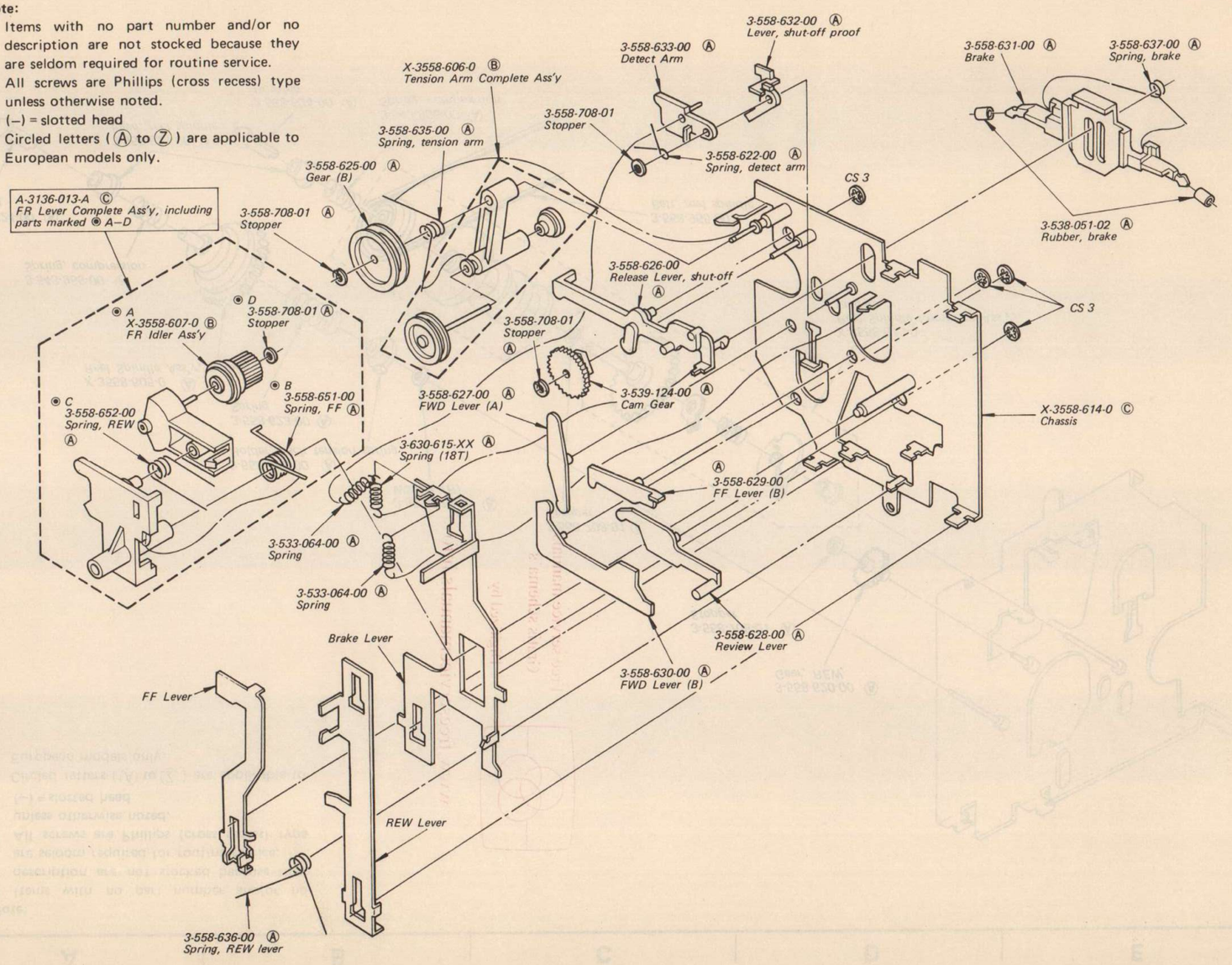
(5) **Note:**

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

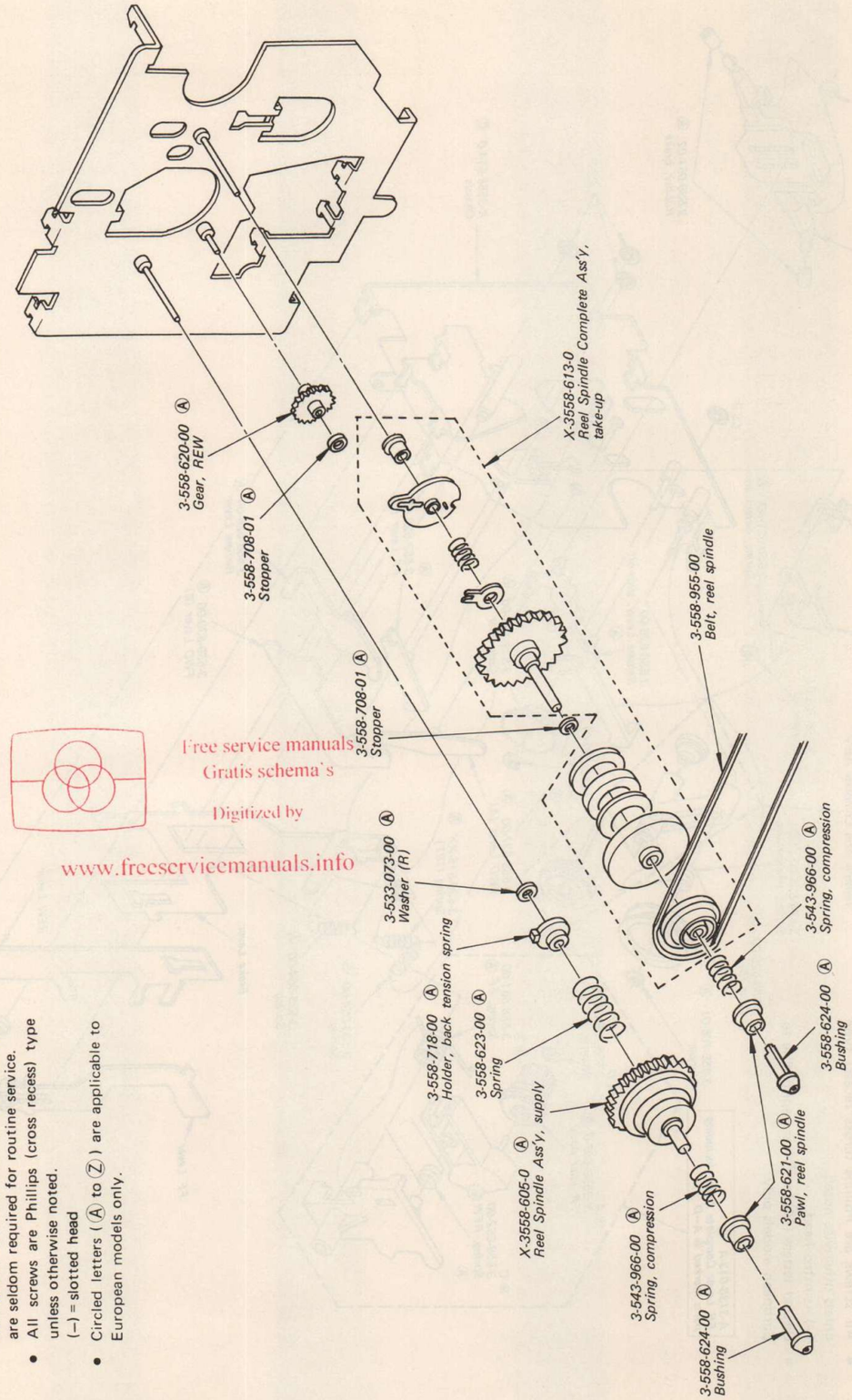


(6) **Note:**

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



www.freeservicemanuals.info



Free service manuals
Gratis schema's
Digitized by
www.freeservicemanuals.info

(7) Note:
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

TC-K1A

4. ELECTRICAL PARTS LIST

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description
SEMICONDUCTORS		
Transistors		
⇒ Q101,201 ⇒ Q102,202	8-729-665-47	Ⓑ 2SC1362
Q121,221	8-729-100-13	Ⓑ 2SC2001
⇒ Q131,231	8-729-663-47	Ⓑ 2SC1364
Q301	⚠ 8-919-380-00	Ⓒ 2SC1096
⇒ Q302	8-729-663-47	Ⓑ 2SC1364
⇒ Q303	8-727-788-00	Ⓑ 2SA678
⇒ Q304,305	8-729-663-47	Ⓑ 2SC1364
ICs		
IC151,251		
Diodes		
⇒ D121,211	8-719-422-21	Ⓐ 1T22AM
⇒ D301–304	⚠ 8-719-200-02	Ⓑ 10E2
⇒ D305	8-719-931-22	Ⓑ EQB01-22
⇒ D307,308	8-719-815-55	Ⓐ 1S1555
COILS		
L131,231	1-408-155-00	33 mH, microinductor
L151,251	1-408-157-00	36 mH, microinductor
L152,252	1-408-156-00	23 mH, microinductor
TRANSFORMERS		
T301	⚠ 1-446-218-00	Power (E1, E2 model)
	1-446-219-00	Power (UK model)
	1-446-220-00	Power (US model)
	1-446-221-00	Power (AEP model)
T302	1-405-823-00	Oscillator

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description		
CAPACITORS				
All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics. p: μμF, elect = electrolytic				
C101,201	1-102-074-11	Ⓐ 0.001		
C102,202	1-131-459-11	Ⓐ 2.2	10V	tantalum
C103,203	1-102-074-11	Ⓐ 0.001		
C104,204	1-101-886-11	Ⓐ 62p		
C105,205	1-121-726-11	Ⓐ 0.47	50V	elect
C106,206	1-108-573-12	Ⓐ 0.0056		mylar
C121,221 C122,222	1-121-395-11	Ⓐ 4.7	25V	elect
C123,223		47	6.3V	elect
C124,224	1-121-395-11	Ⓐ 4.7	25V	elect
C131,231	1-131-456-11	Ⓐ 0.68	16V	tantalum
C132,232	1-121-395-11	Ⓐ 4.7	25V	elect
C133,233	1-102-973-11	Ⓐ 100p		
C134,234	1-121-395-11	Ⓐ 4.7	25V	elect
C136–138 C236–238	1-108-351-12	Ⓐ 0.0012		mylar
C139,239	1-108-221-12	Ⓐ 0.001		mylar
C140,240	1-131-451-11	Ⓐ 0.1	16V	tantalum
C150,250	1-121-395-11	Ⓐ 4.7	25V	elect
C151,251	1-121-726-11	Ⓐ 0.47	50V	elect
C152,252	1-108-354-12	Ⓐ 0.0039		mylar
C153,253	1-121-398-11	Ⓐ 10	25V	elect
C154,254	1-102-972-11	Ⓐ 91p		
C155,255	1-121-398-11	Ⓐ 10	25V	elect
C156,256	1-108-232-12	Ⓐ 0.0033		mylar
C157,257	1-108-230-12	Ⓐ 0.0022		mylar
C158,258	1-121-398-11	Ⓐ 10	25V	elect
C159,259	1-108-234-12	Ⓐ 0.0047		mylar
C160,260	1-108-246-12	Ⓐ 0.047		mylar
C161,261	1-121-398-11	Ⓐ 10	25V	elect
C162,262	1-121-421-11	Ⓑ 220	16V	elect
C163,263	1-108-359-12	Ⓐ 0.027		mylar
C164,264	1-108-355-12	Ⓐ 0.0056		mylar

www.freeservicemanuals.info

• Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.		Description		
C165,265	1-131-454-11	Ⓐ	0.33	16 V	tantalum
C166,266	1-131-451-11	Ⓐ	0.1	16 V	tantalum
C301	⚠1-121-361-11	Ⓑ	470	35 V	elect
C302	1-121-245-11	Ⓑ	1000	16 V	elect
C303	1-121-416-11	Ⓑ	100	25 V	elect
C304	1-121-422-11	Ⓑ	220	25 V	elect
C305	1-121-521-11	Ⓑ	330	16 V	elect
C306	1-121-421-11	Ⓑ	220	16 V	elect
C307			100	6.3 V	elect
C308	1-121-398-11	Ⓐ	10	25 V	elect
C309	1-108-234-12	Ⓐ	0.0047		mylar
C310	1-108-240-12	Ⓐ	0.015		mylar
C311	1-108-373-12	Ⓐ	0.0047	100 V	mylar
C312,313	1-107-056-11		56 p	500 V	silvered mica
C314	⚠1-130-151-11		0.01	125 V	(US model)
C314,315	⚠1-130-196-11		0.01	250 V	polyethylene
			(AEP, UK, E model)		
C316	1-108-221-12	Ⓐ	0.001		mylar
C331	1-121-416-11	Ⓑ	100	25 V	elect
C332	1-121-454-11		2.2	50 V	elect
C333	1-121-410-11	Ⓑ	47	25 V	elect

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted.
Refer to the list on the last page for their part numbers.

RV121,221	1-226-234-00	2.2 k (B), adjustable; METER
RV131,231	1-226-236-00	10 k (B), adjustable; REC LEVEL
RV301	1-226-380-00	50 k (A), variable; REC LEVEL
RV302,303	1-226-238-00	47 k (B), adjustable; BIAS
RV1001		470 (B), adjustable; TAPE SPEED

SWITCHES

S301	⚠1-552-141-12	Ⓔ	Push, POWER (AEP, UK, E model)
S301	⚠1-552-631-00		Push, POWER (US model)
S302	1-552-632-00		Slide, REC/PB
S303	1-552-634-00		Slide, REC/PB
S304	1-552-633-00		Lever-slide, TAPE SELECT
S305	1-552-635-00		Lever-slide, DOLBY NR
S310	1-552-639-00		Leaf, muting

MISCELLANEOUS

HE	8-825-506-00	Ⓒ	Head, erase; EF135-36
HRP	8-829-374-00	Ⓗ	Head, record/playback; PP186-3602
J101,201	1-507-554-21		Jack, MIC
J301	1-507-618-00		Connector, REC/PB (AEP, UK, E model)
J302	1-507-507-00	Ⓑ	Jack, HEADPHONES
M	8-834-021-XX	Ⓚ	Motor, D-021G2
ME301	8-834-377-00		Meter, VU
PL301,302	1-518-351-00		Lamp
VS301	⚠1-552-026-00	Ⓔ	Voltage Selector (E model)
VS301	⚠1-552-630-00		Voltage Selector (AEP model)
	⚠1-534-817-XX	Ⓔ	Cord, power (AEP model)
	⚠1-534-986-XX		Cord, power (US model)
	1-551-629-00		Cord with Plug

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

It's Free

TC-K1A

• Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

ACCESSORIES & PACKING MATERIALS

Part No.		Description
X-3701-105-0	Ⓐ	Tips Ass'y, head cleaning
⚠1-534-777-00	Ⓓ	Cord, power (UK model)
⚠1-534-986-XX		Cord, power (E model)
⚠1-551-530-11	Ⓓ	Cord, power (E model)
3-587-101-00		Cushion
3-587-112-00		Carton (US model)
3-587-113-00		Carton (AEP, UK, E model)
3-701-630-00	Ⓐ	Bag, polyethylene
3-770-562-11		Manual, instruction
4-855-809-00	Ⓑ	Bag, polyethylene

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

www.freeservicemanuals.info It`s Free

1/4 WATT CARBON RESISTORS Ⓐ

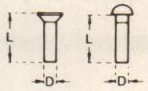
Note: Circled letter Ⓐ is applicable to European models only.

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-244-601-11	10	1-244-625-11	100	1-244-649-11	1.0k	1-244-673-11	10 k	1-244-697-11	100k	1-244-721-11	1.0M	1-244-745-11
1.1	1-244-602-11	11	1-244-626-11	110	1-244-650-11	1.1k	1-244-674-11	11 k	1-244-698-11	110k	1-244-722-11	1.1M	1-244-746-11
1.2	1-244-603-11	12	1-244-627-11	120	1-244-651-11	1.2k	1-244-675-11	12 k	1-244-699-11	120k	1-244-723-11	1.2M	1-244-747-11
1.3	1-244-604-11	13	1-244-628-11	130	1-244-652-11	1.3k	1-244-676-11	13 k	1-244-700-11	130k	1-244-724-11	1.3M	1-244-748-11
1.5	1-244-605-11	15	1-244-629-11	150	1-244-653-11	1.5k	1-244-677-11	15 k	1-244-701-11	150k	1-244-725-11	1.5M	1-244-749-11
1.6	1-244-606-11	16	1-244-630-11	160	1-244-654-11	1.6k	1-244-678-11	16 k	1-244-702-11	160k	1-244-726-11	1.6M	1-244-750-11
1.8	1-244-607-11	18	1-244-631-11	180	1-244-655-11	1.8k	1-244-679-11	18 k	1-244-703-11	180k	1-244-737-11	1.8M	1-244-751-11
2.0	1-244-608-11	20	1-244-632-11	200	1-244-656-11	2.0k	1-244-680-11	20 k	1-244-704-11	200k	1-244-728-11	2.0M	1-244-752-11
2.2	1-244-609-11	22	1-244-633-11	220	1-244-657-11	2.2k	1-244-681-11	22 k	1-244-705-11	220k	1-244-729-11	2.2M	1-244-753-11
2.4	1-244-610-11	24	1-244-634-11	240	1-244-658-11	2.4k	1-244-682-11	24 k	1-244-706-11	240k	1-244-730-11	2.4M	1-244-754-11
2.7	1-244-611-11	27	1-244-635-11	270	1-244-659-11	2.7k	1-244-683-11	27 k	1-244-707-11	270k	1-244-731-11	2.7M	1-244-755-11
3.0	1-244-612-11	30	1-244-636-11	300	1-244-660-11	3.0k	1-244-684-11	30 k	1-244-708-11	300k	1-244-732-11	3.0M	1-244-756-11
3.3	1-244-613-11	33	1-244-637-11	330	1-244-661-11	3.3k	1-244-685-11	33 k	1-244-709-11	330k	1-244-733-11	3.3M	1-244-757-11
3.6	1-244-614-11	36	1-244-638-11	360	1-244-662-11	3.6k	1-244-686-11	36 k	1-244-710-11	360k	1-244-734-11	3.6M	1-244-758-11
3.9	1-244-615-11	39	1-244-639-11	390	1-244-663-11	3.9k	1-244-687-11	39 k	1-244-711-11	390k	1-244-735-11	3.9M	1-244-759-11
4.3	1-244-616-11	43	1-244-640-11	430	1-244-664-11	4.3k	1-244-688-11	43 k	1-244-712-11	430k	1-244-736-11	4.3M	1-244-760-11
4.7	1-244-617-11	47	1-244-641-11	470	1-244-665-11	4.7k	1-244-689-11	47 k	1-244-713-11	470k	1-244-737-11	4.7M	1-244-761-11
5.1	1-244-618-11	51	1-244-642-11	510	1-244-666-11	5.1k	1-244-690-11	51 k	1-244-714-11	510k	1-244-738-11	5.1M	1-244-762-11
5.6	1-244-619-11	56	1-244-643-11	560	1-244-667-11	5.6k	1-244-691-11	56 k	1-244-715-11	560k	1-244-739-11		
6.2	1-244-620-11	62	1-244-644 11	620	1-244-668-11	6.2k	1-244-692-11	62 k	1-244-716-11	620k	1-244-740-11		
6.8	1-244-621-11	68	1-244-645-11	680	1-244-669-11	6.8k	1-244-693-11	68 k	1-244-717-11	680k	1-244-741-11		
7.5	1-244-622-11	75	1-244-646-11	750	1-244-670-11	7.5k	1-244-694-11	75 k	1-244-718-11	750k	1-244-742-11		
8.2	1-244-623-11	82	1-244-647-11	820	1-244-671-11	8.2k	1-244-695-11	82 k	1-244-719-11	820k	1-244-743-11		
9.1	1-244-624-11	91	1-244-648-11	910	1-244-672-11	9.1k	1-244-696-11	91 k	1-244-720-11	910k	1-244-744-11		

HARDWARE NOMENCLATURE

Screw: – P 3 x 10

- *L: Length in mm*
- *D: Diameter in mm*
- *Type of head*
- *Indicated slotted-head only.*
- *Unless otherwise indicated, it means cross-recessed head (Phillips type).*



Nut, Washer, Retaining ring:

N 3

- *Diameter of usable screw or shaft*
- *Reference designation*

Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

Sony Corporation

© 1978

9-954-679-01

78G0619-1
Printed in Japa