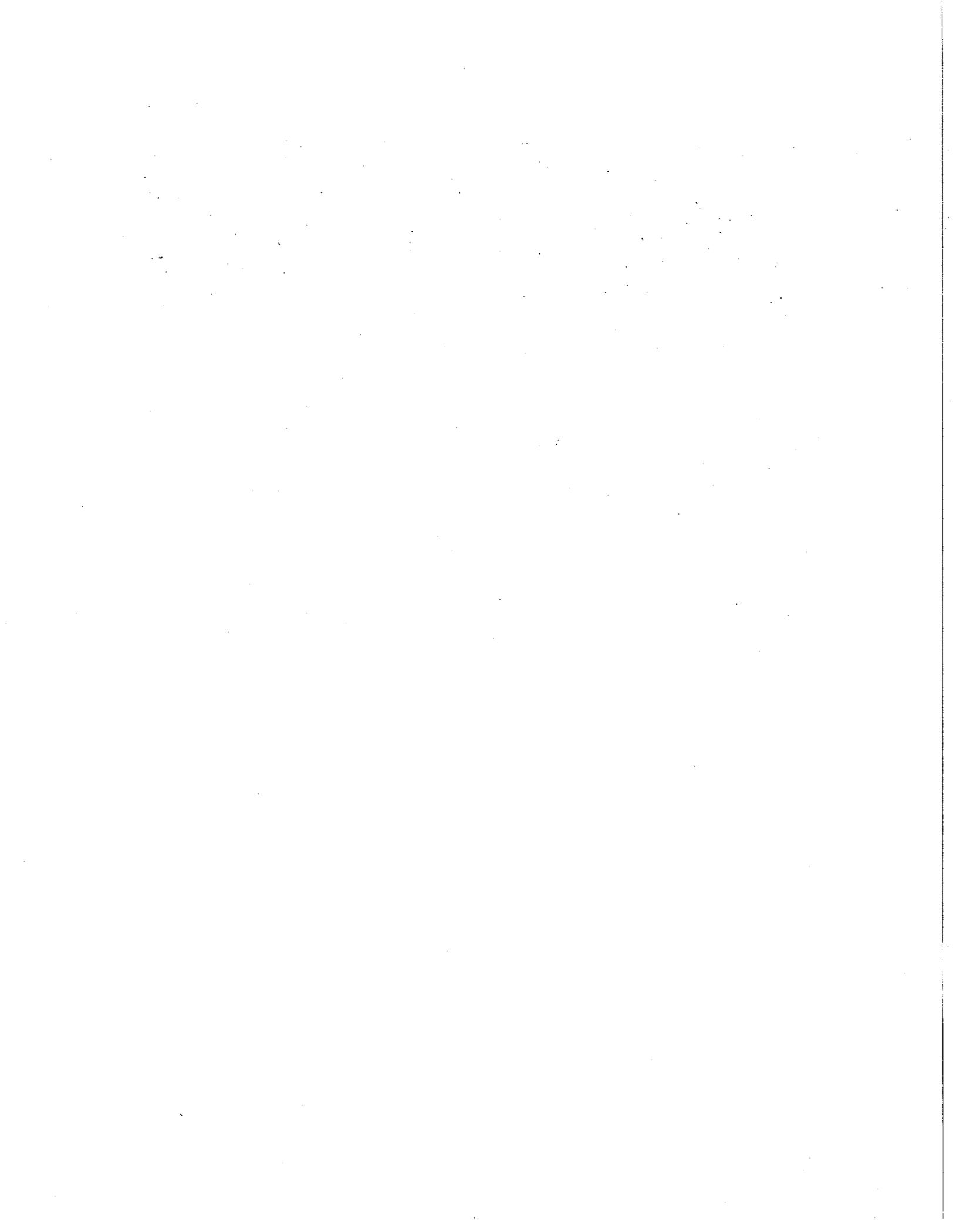


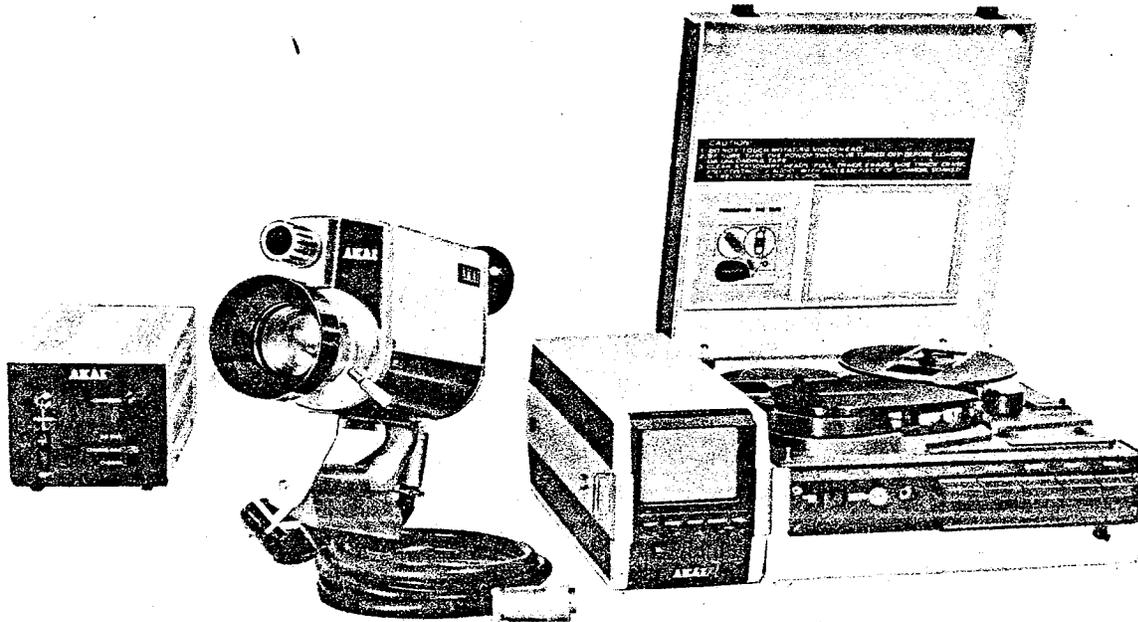
# **SERVICE MANUAL**

**AKAI PORTABLE VIDEO  
TAPE RECORDER SET**

**MODEL VTS-110**

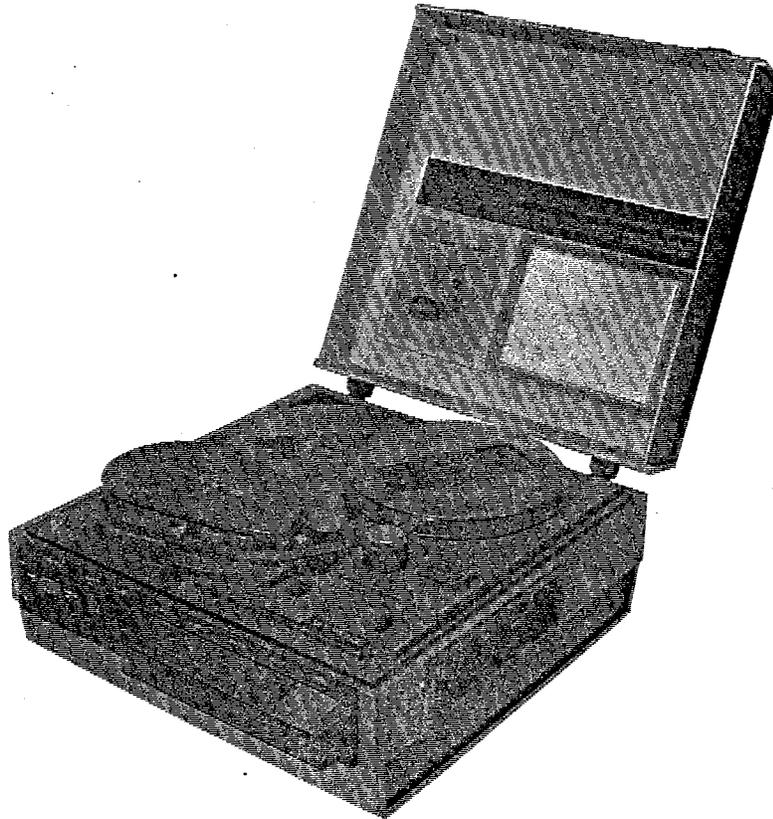
ALSO APPLICABLE TO MODEL VTS-110DX & VTS-100S





**PORTABLE VIDEO  
TAPE RECORDER SET  
MODEL VTS-110**

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**SECTION 1**  
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**AND ALIGNMENT**

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When placing order for parts, please use Separate  
PARTS LIST or PRICE LIST FOR PARTS.

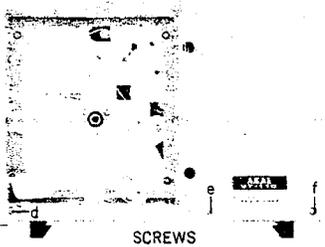
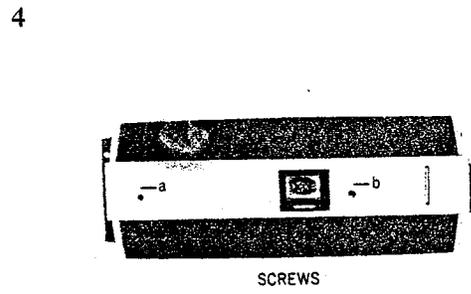
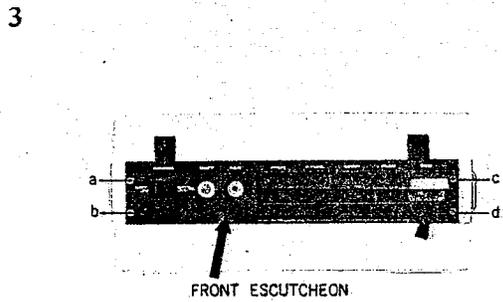
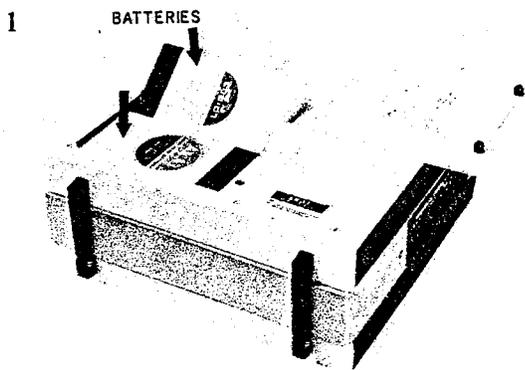
# I. SPECIFICATIONS ( Video Tape Recorder )

(2)

TV SIGNAL	: U.S. Standard TV Signal or C.C.I.R. Standard TV Signal	AUDIO SIGNAL TO NOISE RATIO	: Better than 38 dB
RECORDING SYSTEM	: Twin Rotating Heads (Helical Scan format)	MIC. INPUT LEVEL	: -60 dB, 600Ω (External Microphone Jack)
RECORDING TIME	: 20 minutes using a 1,100 ft. tape (C.C.I.R. type 24 minutes)	AUDIO OUTPUT LEVEL	: 1 V r.m.s. plus/minus 3 dB (Monitor Connector)
TAPE SPEED	: U.S. Type 11-1/4 ips (plus/minus 0.7%) C.C.I.R. Type 23.85 cm/sec. (plus/minus 0.7%)	EARPHONE IMPEDANCE	: More than 10 kΩ
TAPE WIDTH	: 1/4 inch tape	AUDIO DISTORTION LEVEL	: Less than 6%
HORIZONTAL RESOLUTION	: 200 lines	WOW AND FLUTTER	: Less than 0.17% r.m.s.
VIDEO SIGNAL TO NOISE RATIO	: Better than 40 dB	FAST FORWARD AND REWIND TIME	: 5 minutes using a 1,100 ft. tape
VIDEO INPUT LEVEL	: 1.4 V p-p (composite video signal, 75Ω) (0.5 to 2 V p-p acceptable)	POWER SOURCE	: DC 12 V (AC Adapter VA-110 or Batteries)
VIDEO OUTPUT LEVEL	: 1.4 V p-p, 75Ω (Monitor Connector)	BATTERIES	: Two rechargeable batteries (6 V ea) (AKAI LC-303 or Zonnen Shine 3G x 3/U)
AUDIO BAND WIDTH	: 100 Hz to 10,000 Hz (plus/minus 3 dB)	WEIGHT	: 5 Kg (11 lbs.)
		DIMENSIONS	: 255(W) x 122(H) x 263(D) mm (10 x 44 x 10.3")

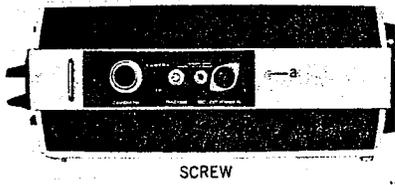
## II. CASE REMOVAL

In case of trouble, etc, necessitating disassembly, please disassemble in the order shown in photographs. Reassemble in reverse order.

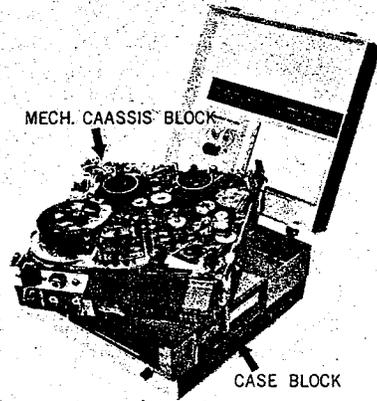


(3)

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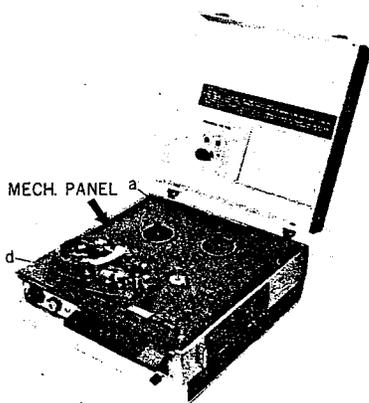
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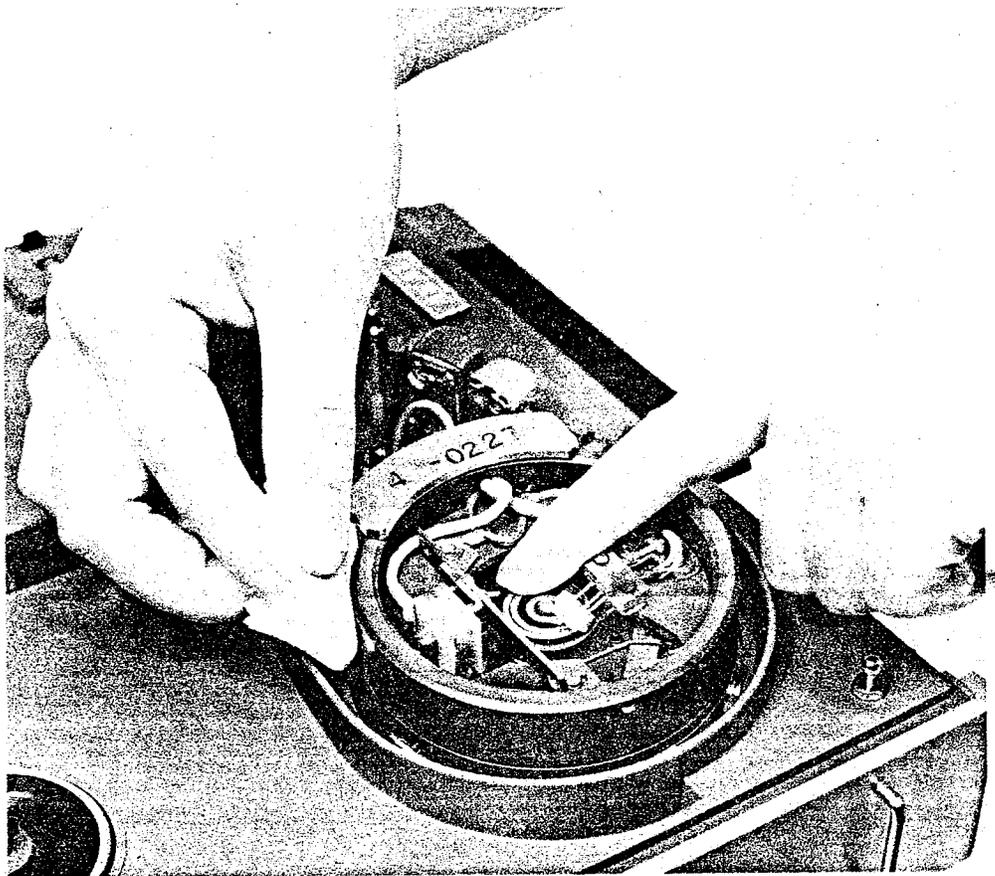


8



### III. CLEANING THE HEADS

(4)



Sudden fading out of picture on monitor screen during playback or at the beginning of playback after the tape has been rewound due to a dirty video head is very common.

When cleaning video or other heads and tape guide, etc., please proceed as follows :

- (1) Remove Video Head Cover.
- (2) Soak a small piece of chamois with Freon Liquid or alcohol and clean the outer part of the video head drum by touching very lightly (ref. above figure).
- (3) With rotating motion, pass finger lightly over the slip ring part of the video head center, so that the surface of the chamois passes over the video head tip.
- (4) Clean the entire surface of the video head drum and the upper part of the drum guide band with chamois.
- (5) Clean surfaces of full track erase head, side track erase head, and control and audio heads.
- (6) If oxide deposits, etc. are adhering to tape guide, clean tape guide.

(5)

## 1. CALIBRATION OF THE MICROSCOPES

- (a) As shown in Fig. 1, to adjust the position of the microscopes, with the prop positioned in the center of the microscopes, align the center line of the microscopes (microscopes attached to fixture plate) (A and A') with the mark on the fixture (ref. Fig. 2).

Confirm that when the fixture is rotated 180°, the mark is within 10  $\mu$  from the center line.

- (b) Adjust microscopes (B and B') so that the edge of the fixture overlaps the center lines by 50  $\mu$ .

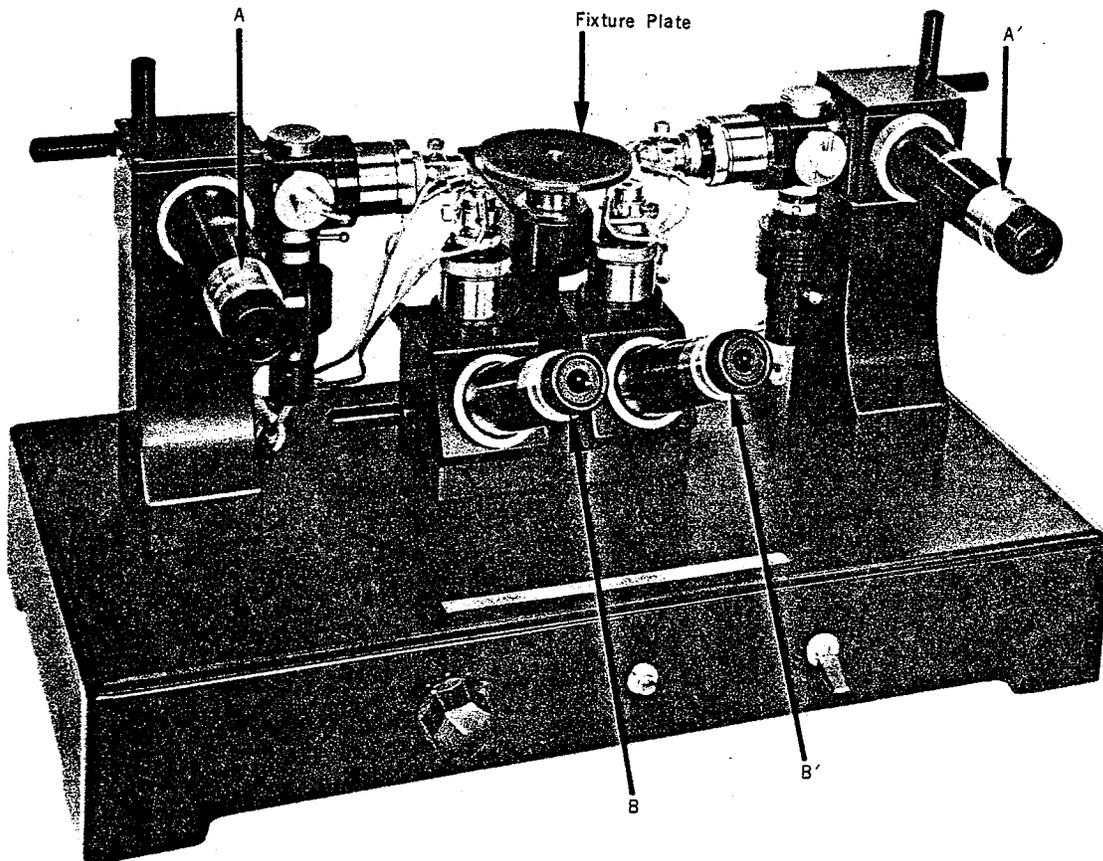


Fig. 1

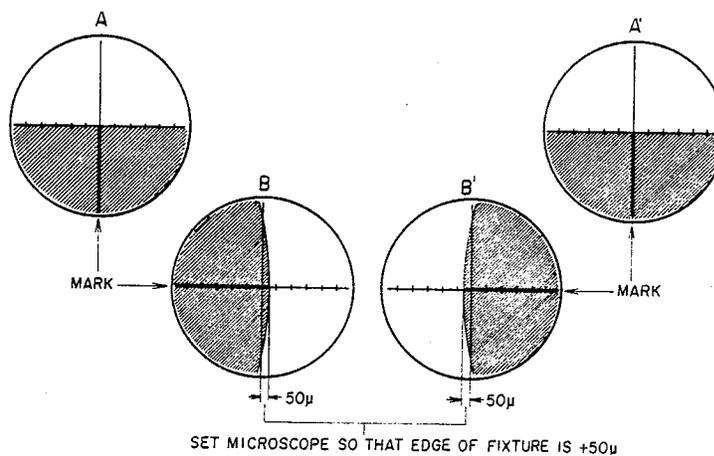


Fig. 2 Microscopic Views of Fixture

## 2. 180° SPACING AND PROTRUSION OF VIDEO HEAD TIPS

- (a) Screw down the head plate at the center part of the microscope, positioning the brass plate so that it is located on the forward side of the head plate as shown in Figs. 3, 4, and 5.
- (b) Adjust the protrusion of the head tips so that they are aligned with the center line of microscopes (B) and (B') as shown in Fig. 4.
- (c) In case the left hand head gap comes above the

center line of microscope (A), adjust by bringing the right hand head gap  $236 \mu (\pm 10 \mu)$  to the left of the microscope's center line.

- (d) Rotate the head plate  $180^\circ$ . When the position of the left and right head tips are reversed, verify that the position of the right hand head gap is  $236 \mu (\pm 10 \mu)$  away from the microscope's center line.

Note : In case the position of the head gap is further away from this position ( $236 \mu$ ), this means there is a discrepancy in the calibration of the microscope.

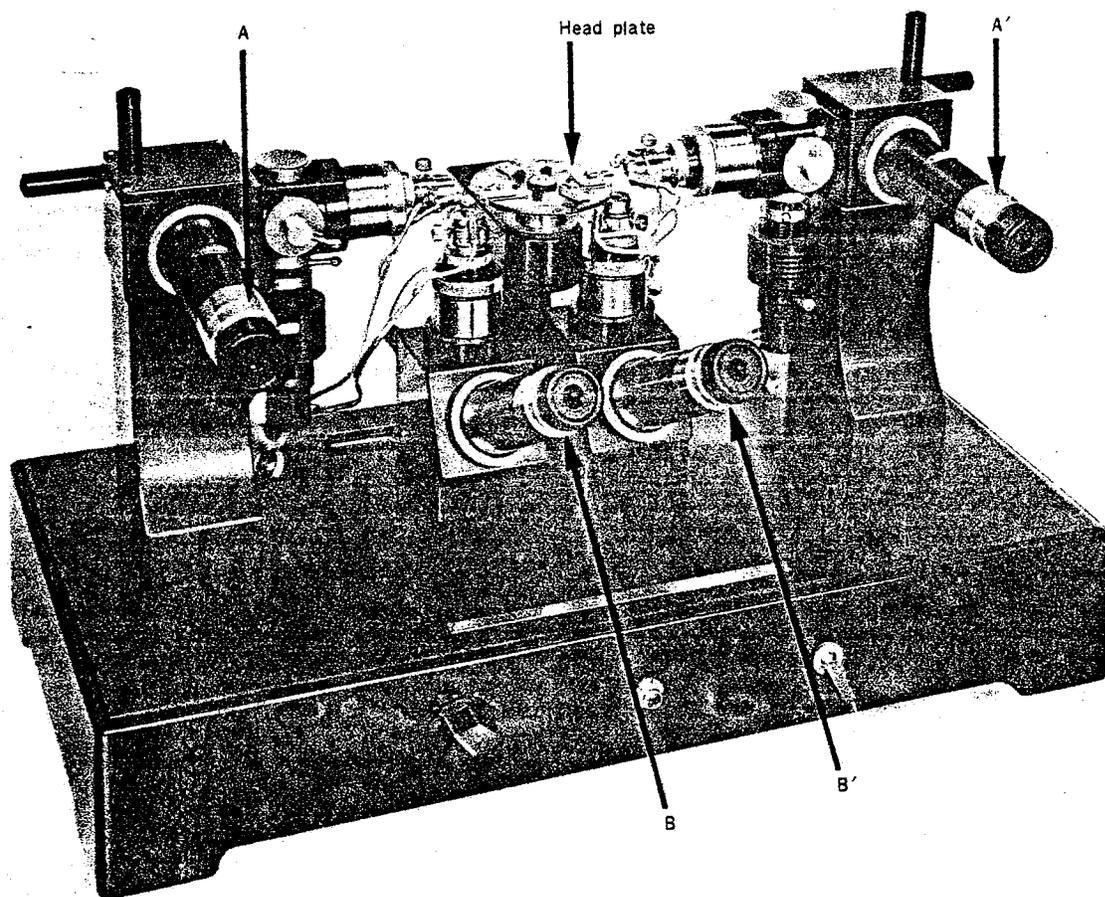


Fig. 3

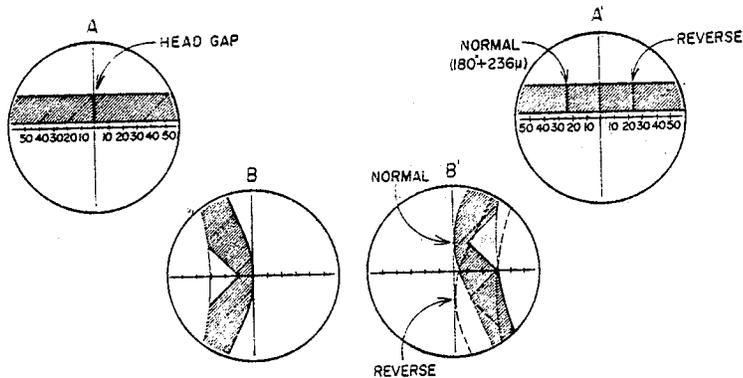


Fig. 4 Microscopic Views of Head Tip

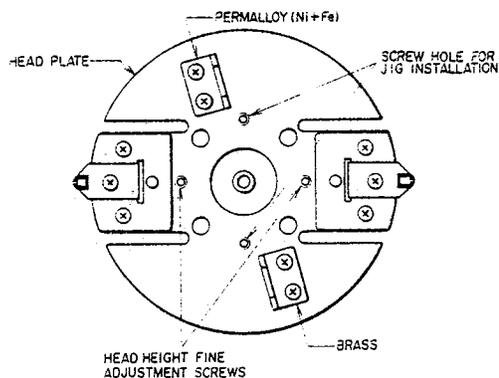


Fig. 5 Video Head Plate

(7)

### 3. DEGREE OF ROUNDNESS OF VIDEO HEAD'S LOWER DRUM (Ref. Fig. 6)

- (a) A 0.002 mm Dial Gauge is used to check the lower drum's degree of roundness.
- (b) The limited tolerance of roundness of the lower drum's outside circumference is within  $5 \mu$ .
- (c) In case the variation of the outside circumference exceeds  $5 \mu$ , loosen the 4 lower drum holding screws and correct the discrepancy.

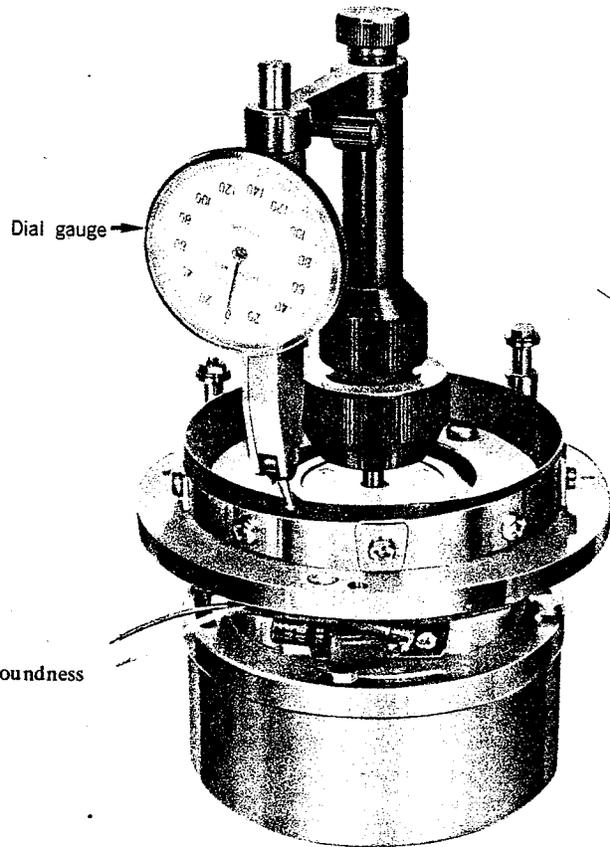


Fig. 6 Check the lower drum's degree of roundness

### 4. VIDEO HEAD HEIGHT ADJUSTMENT

Video Head Height Adjustment can be made using either a Single Microscope or Double Microscope.

#### A. Single Microscope Method

- (a) Fit the head height adjustment jig to the head plate (made for angle and protrusion adjustments). As per Fig. 7 and 8, fit head plate to upper part of head motor (Screw (b) of height adjustment jig should be at lowest position).

- (b) Loosen screw (b) of height adjustment jig slightly and lower position of head plate slightly. With height adjustment microscope, observe the spacing between the lower end of the head tip and the upper end of the lower drum.  
Caution : If the position of the head plate is too low, the head tip will come in contact with the lower drum and become irreparably damaged.

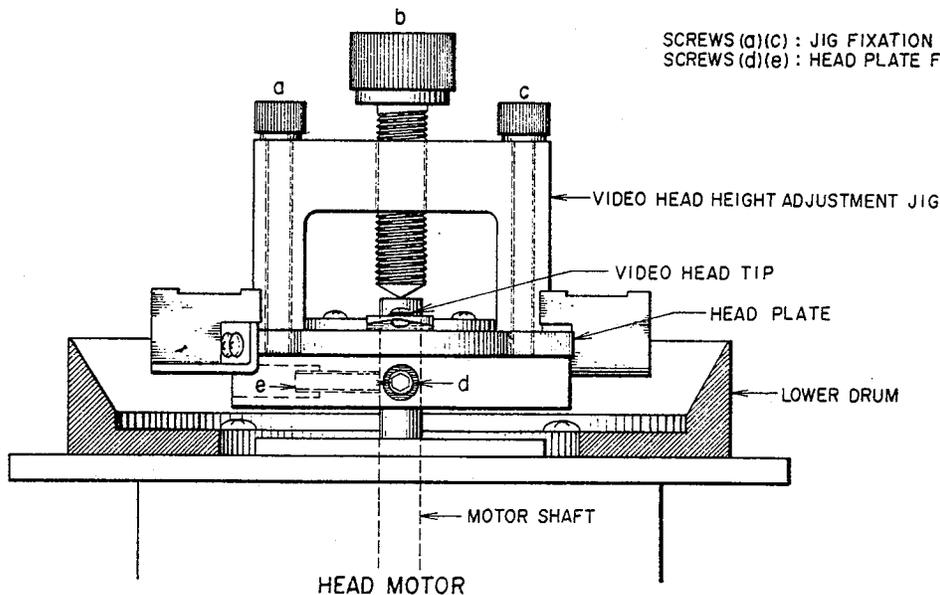


Fig. 7 Video Head Height Adjustment

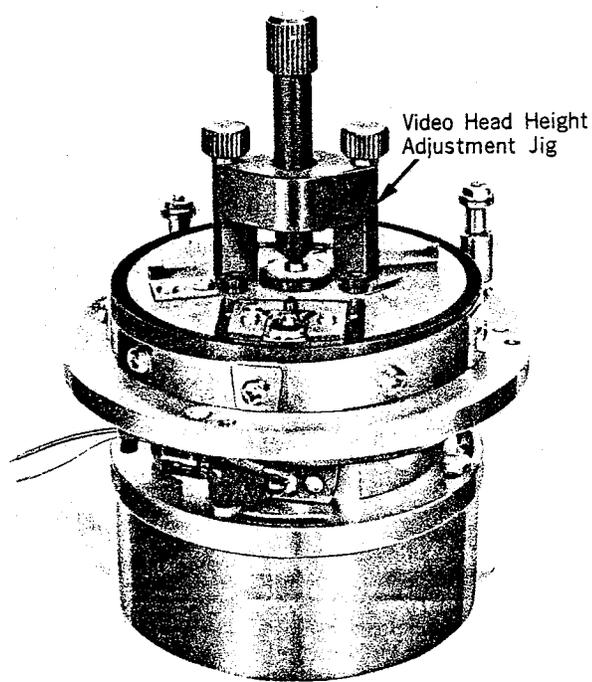


Fig. 8

- (c) At the point where the lower end of the head tip is positioned at  $430 \mu$  from the top of the lower drum, tighten the two hexagonal screws on the lower part of the head plate (under brass pick-up plate and to right of this position). After the hexagonal screws have been tightened and the head plate secured to motor shaft, remove the height adjustment jig.
- (d) Regulate each of the head tip height fine adjustment screws so that the head tip height is within a range of from  $450 \mu$  to  $460 \mu$  from the upper end of the lower drum. (Ref. Figs. 9 and 10).

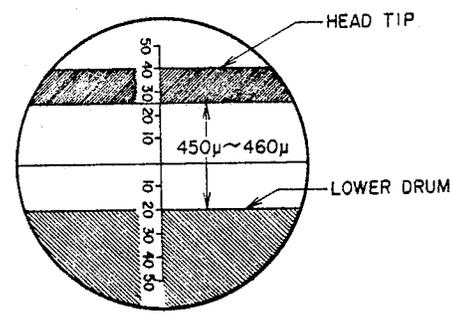


Fig. 10 Microscopic View of Head Height

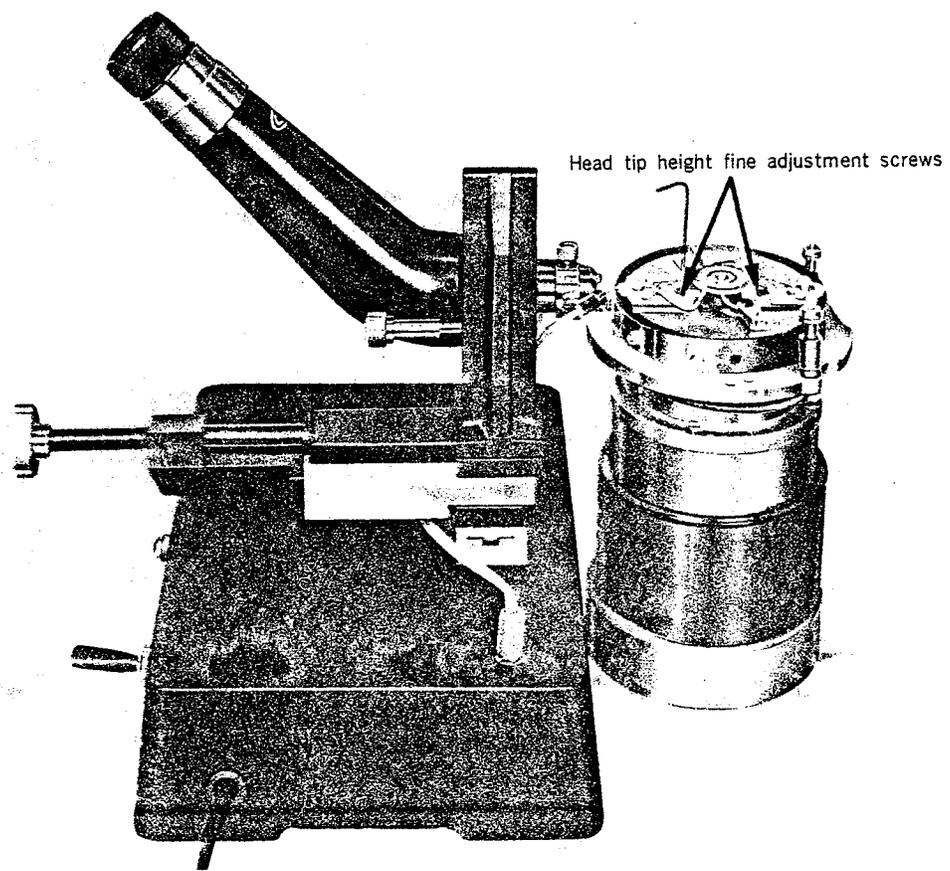


Fig. 9 Head Height Adjustment

(9)

B. Double Microscope Method

- (a) Use a Master Gauge as shown in Fig. 11 and adjust Knob "C" so that the edge of the Master Gauge can be seen above the center lines of both microscopes A and B.
- (b) Next, remove Master Gauge and set Video Head Assembly.
- (c) With Knob "C", adjust microscope height so that the motor flange edge can be seen above the center line of microscope A as shown in Fig. 12.
- (d) Fit the Head Height Adjustment Jig to the head plate and fix the head plate to motor shaft at position at which the lower end of the head tip is  $10\ \mu$  to  $20\ \mu$  below the center line of microscope B (Refer to Fig. 7).
- (e) After head plate has been fixed at proper position, remove Head Height Adjustment Jig.
- (f) Adjust each of the various Head Tip Height Fine Adjustment Screws until the lower end of head tip can be seen above the center line of Microscope B as shown in Fig. 12.

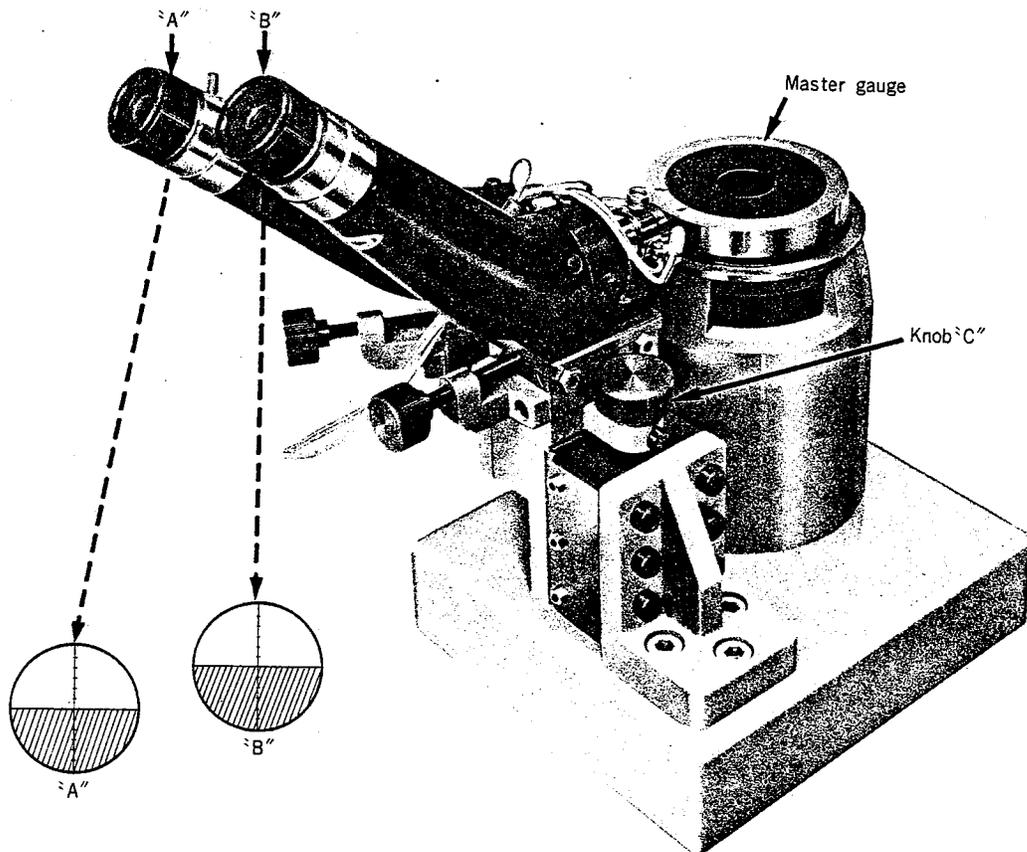


Fig. 11 Microscopic Views of Master Gauge

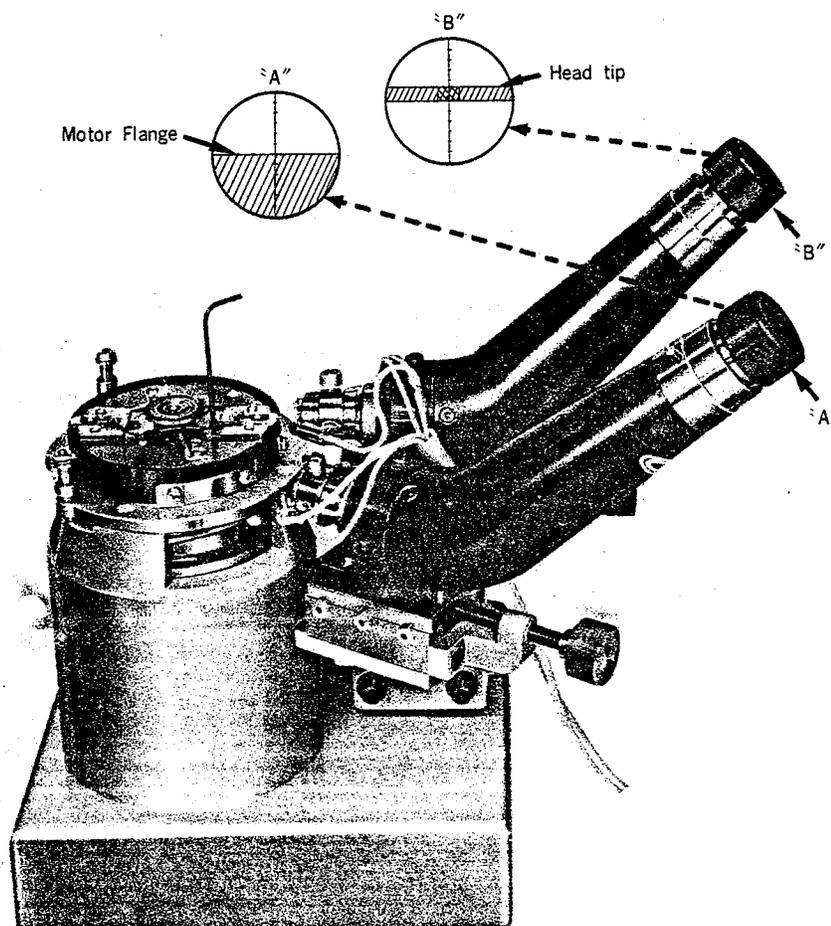


Fig. 12 Microscopic Views of Head Height

### 5. UPPER DRUM PROTRUSION

- (a) After completion of head tip height adjustment, fit Dial Gauge (0.002 mm scale) to motor shaft in the upper drum and check the protrusion of the upper drum (Refer to Fig. 13).
- (b) The necessary protrusion is from 0 to 10  $\mu$  at the center part of the upper drum.
- (c) In case the protrusion is not within the necessary range, insert a spacer between the drum and drum support and adjust.

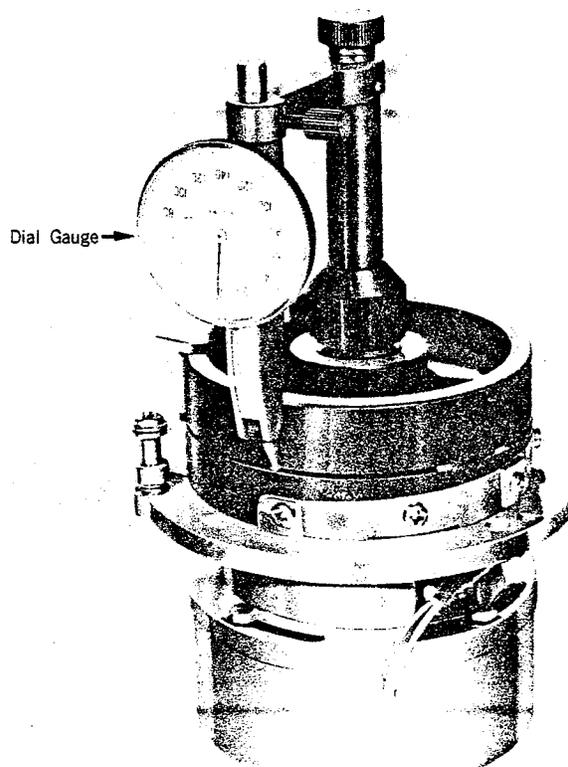


Fig. 13 Upper Drum Protrusion

### 6. WIRING ON SLIP RING

- (a) Be careful that the slip ring is positioned so that it does not slide around as the shaft rotates.
- (b) The color of the wire closest to the brass pick-up plate is yellow (wire on opposite side is red). (Refer to Fig. 14).

### 7. BRUSH TENSION ADJUSTMENT

- (a) Adjust brush tension by tightening tension adjustment screw (from place where brushes touch surface of slip ring) about 1/4 turn. (Refer to Fig. 15).

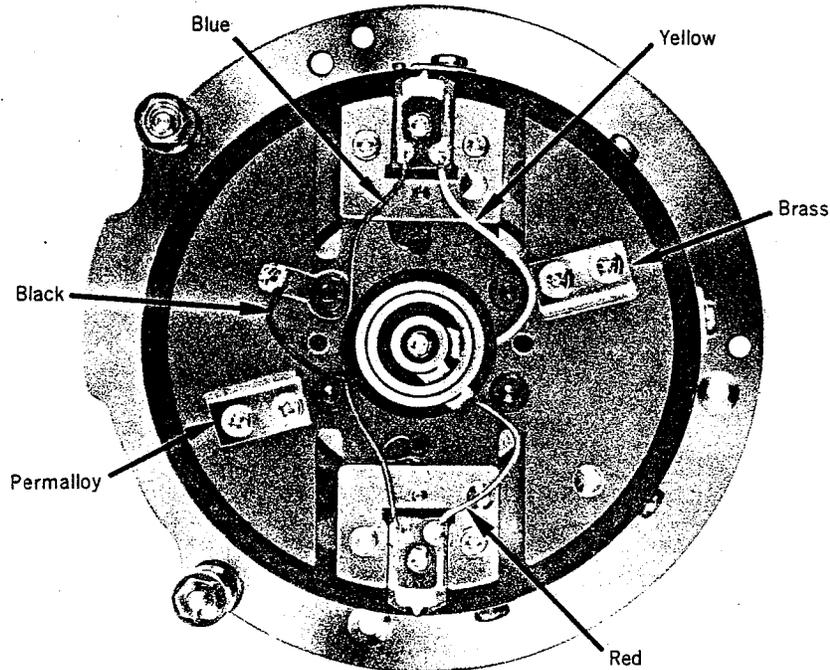


Fig. 14

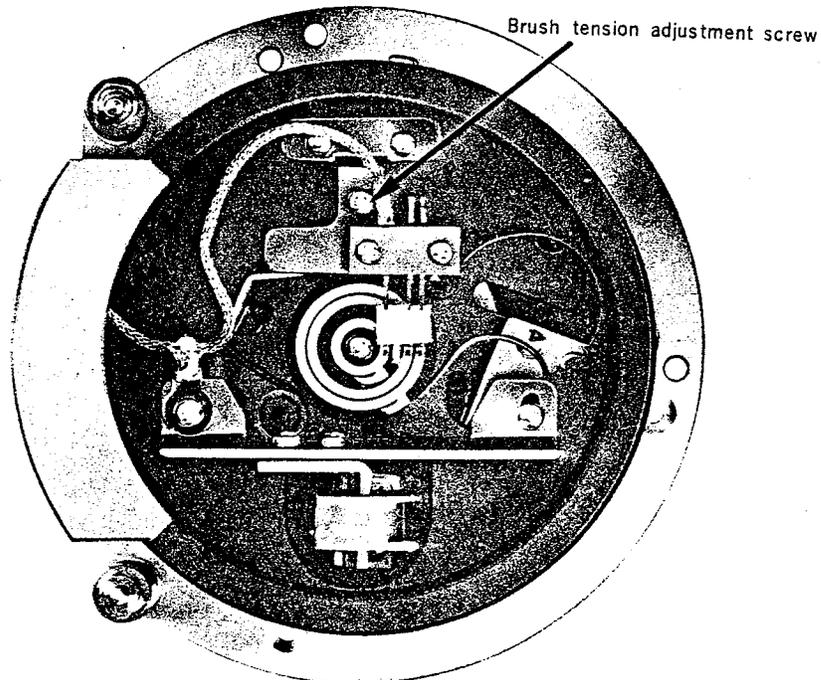


Fig. 15

# V. ADJUSTMENT OF TAPE TRANSPORT MECHANISM (12)

## 1. MECHANISM SPECIFICATIONS

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>(a) Main Pinch Roller Pressure 1.3 to 1.5 Kgr.</li> <li>(b) Sub Pinch Roller Pressure 40 to 50 gr.</li> <li>(c) Space between Pinch Roller and Capstan                             <ul style="list-style-type: none"> <li>Main : 1.5 to 2 mm</li> <li>Sub : 2 to 3 mm</li> </ul> </li> <li>(d) Take-up Torque (with tape being rolled off of reel) 80 to 100 gr.</li> <li>(e) Drive Idler Pressure 280 to 350 gr.</li> <li>(f) Tape Hold-back Tension 8 to 10 gr.</li> <li>(g) Fast Forward and Rewind Torque (while winding tape back on reel) more than 120 gr.</li> <li>(h) Brake Torque                             <ul style="list-style-type: none"> <li>Supply Side : 80 to 130 gr.</li> <li>Take-up Side : 60 to 80 gr.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>(i) Reel Shaft Clearance 0.2 to 0.5 mm</li> <li>(j) Capstan Shaft Clearance 0.3 to 0.5 mm</li> <li>(k) Space between Drive Idler and Capstan Pulley 1 mm</li> <li>(l) Space between Take-up Pulley and Take-up Drum 1 mm</li> <li>(m) Space between Brake Shoe and Take-up Drum 1 mm</li> <li>(n) Gap between Brake Lever and Brake Arm 0.1 mm</li> <li>(o) Tape Speed (at playback of a 1,000 Hz tape) less than <math>\pm 0.7\%</math></li> <li>(p) Wow and Flutter (at playback of a 3,000 Hz tape) less than 0.17% rms (Wow should be less than 0.07%)</li> </ul> |
|---|--|

## 2. MECHANISM ADJUSTMENT

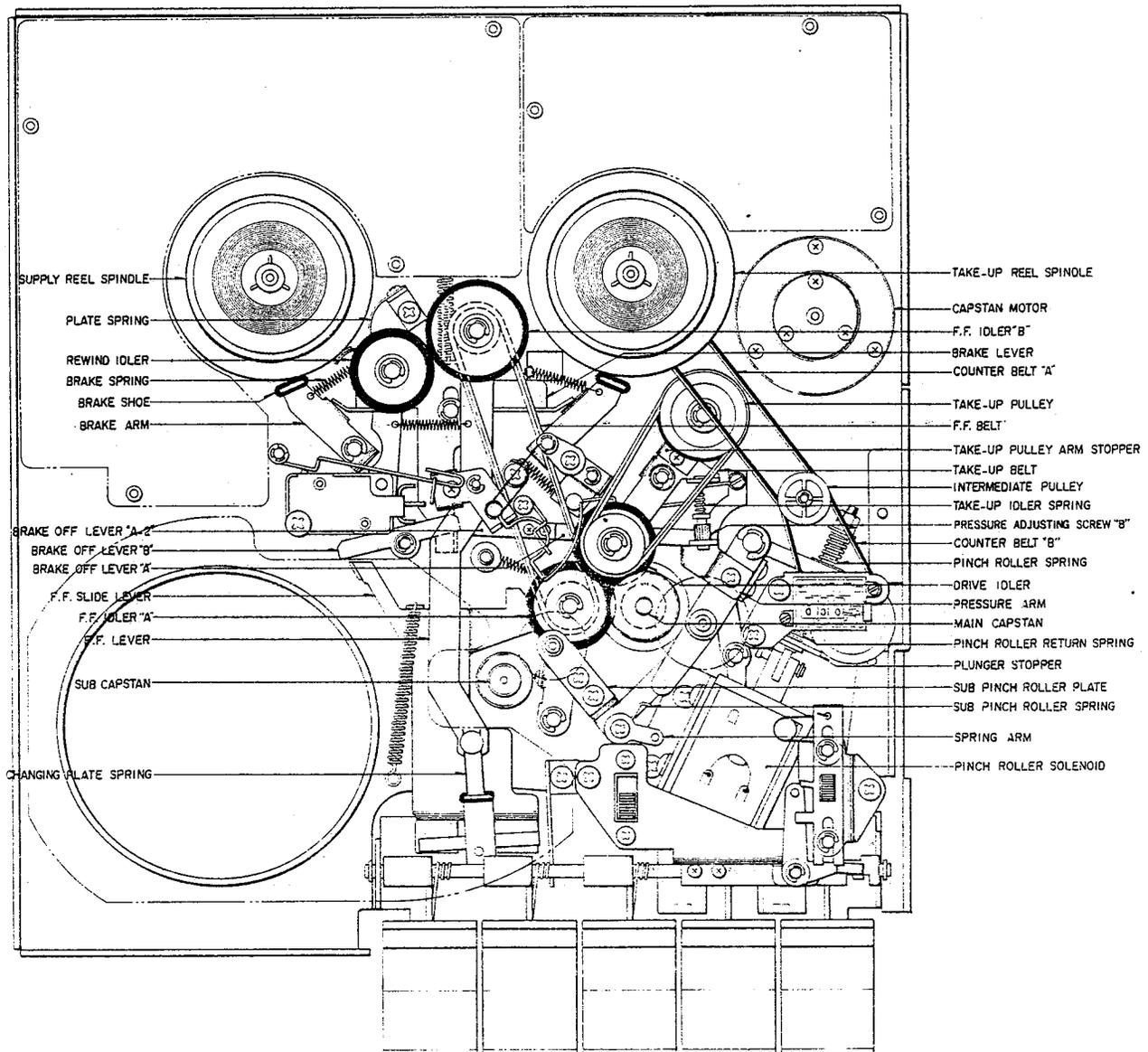
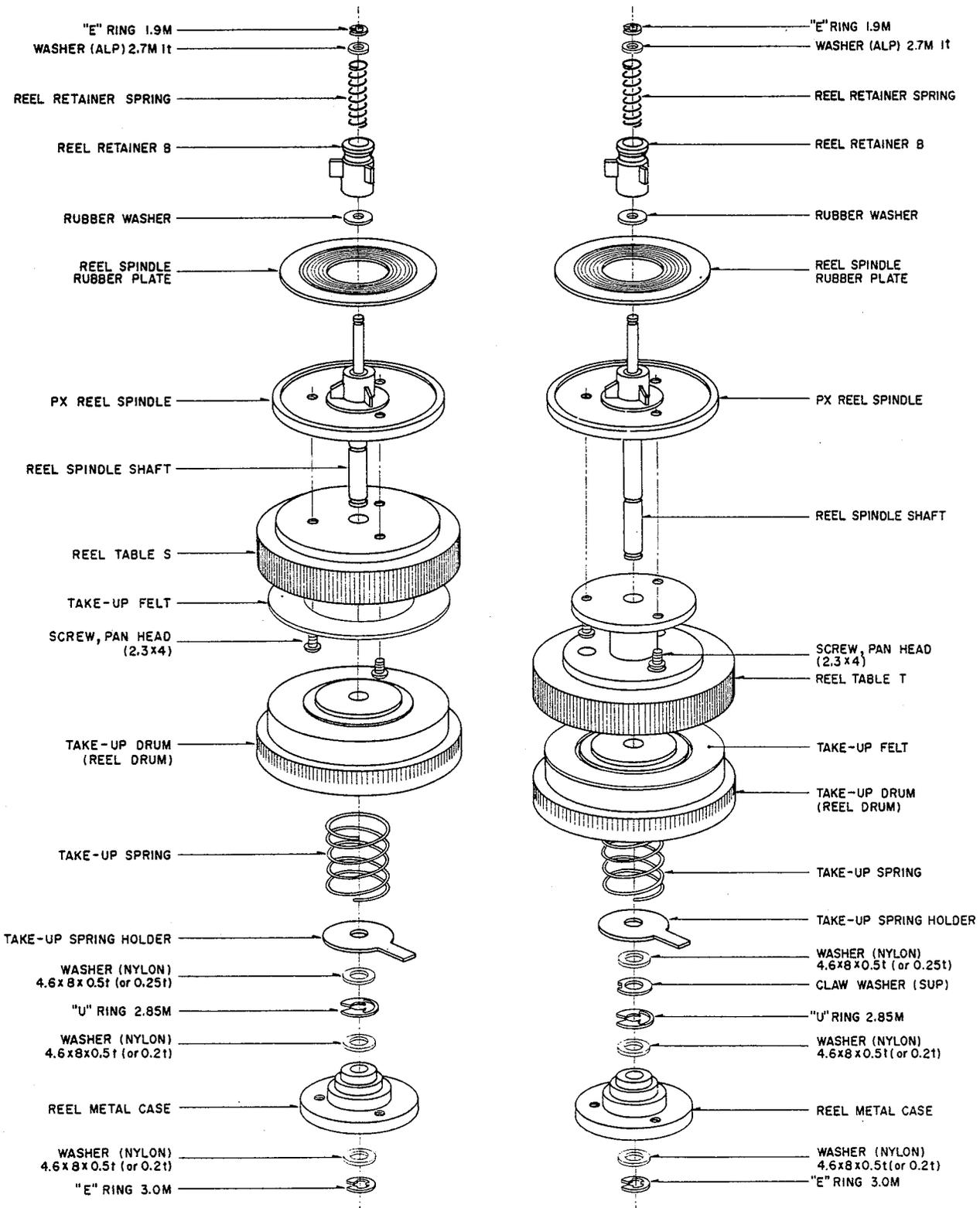


Fig. 1 Tape Transport Mechanism



SUPPLY REEL SPINDLE

TAKE-UP REEL SPINDLE

Fig. 2 Reel Spindle Assembly

**(1) Main Pinch Roller Pressure Adjustment**

- (a) To position Pinch Roller Solenoid, loosen Solenoid Bracket Holding Screws and reset to center of oval shaped holes.
- (b) Adjust position of Plunger Stopper so that the space between Pinch Roller and Capstan is 1.5 to 2 mm.
- (c) At playback mode, measure Pinch Roller Pressure by connecting a 0 to 2 Kg. Spring Gauge to the Pinch Roller Shaft as shown in Fig. 3. Read the value on the Spring Gauge the moment the pinch roller revolutions stop. Specified value is 1.3 to 1.5 grams.
- (d) At playback mode, loosen Pinch Roller Spring Lock Nut, and adjust pressure with Adjustment Nut.

After adjustment has been made, tighten Lock Nut.  
**CAUTION:** When Pinch Roller Pressure is adjusted, because the space between Pinch Roller and Capstan is sometimes altered, readjust Plunger Stopper.

**(2) Sub Pinch Roller Adjustment**

- (a) At stop mode, set Sub Pinch Roller Plate Holding Screw so that the space between Sub Pinch Roller and Sub Capstan is 2 to 3 mm.
- (b) Measure Sub Pinch Roller Pressure by connecting a 0 to 50 gram Spring Gauge to the Sub Pinch Roller Shaft as shown in Fig. 4. Specified value is 40 to 50 grams.
- (c) Pressure is adjusted by changing the angle of the Spring Arm (at playback mode). Refer to Fig. 1.

**(3) Drive Idler Pressure Adjustment**

- (a) At stop mode, set Pressure Arm Holding Screw (Refer to Fig. 1) so that the space between Drive Idler and Capstan Pulley is 1 mm.
- (b) Measure Drive Idler Pressure by connecting a 0 to 500 gram Spring Gauge to the upper part of Drive Idler Shaft as shown in Fig. 5. At playback mode, the moment the Drive Idler Revolutions stop, read the value on the Spring Gauge. Specified value is 280 to 350 grams.
- (c) Adjust pressure by rotating Pressure Adjustment Screw "B" (shown in Fig. 1).
- (d) Brake Off Lever Adjustment

At playback mode, set Brake Off Lever "A" and Brake Off Lever "A-2" Holding Screws so that the space between Brake Shoe and Take-up Drum (reel drum) is about 1 mm.

**CAUTION:** At stop mode, confirm that there is a clearance of more than 0.1 mm between Pressure Arm and Brake Off Lever "A".

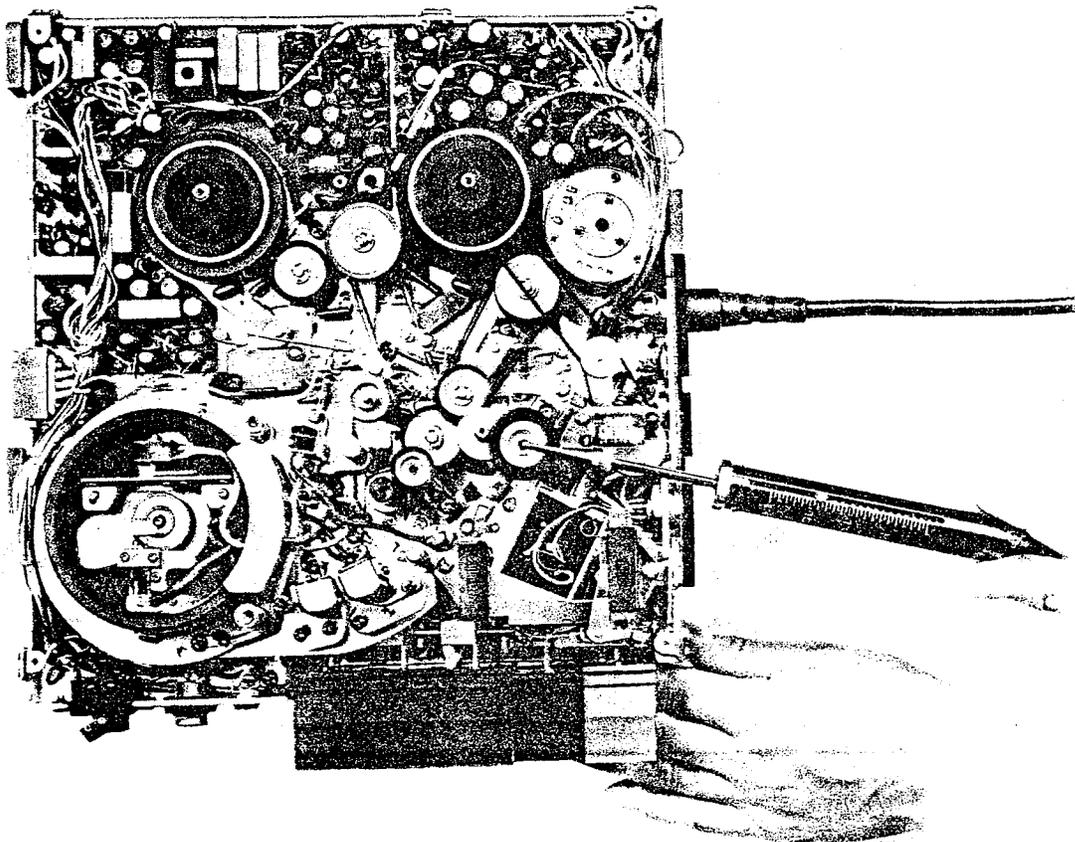


Fig. 3 Pinch Roller Pressure Measurement

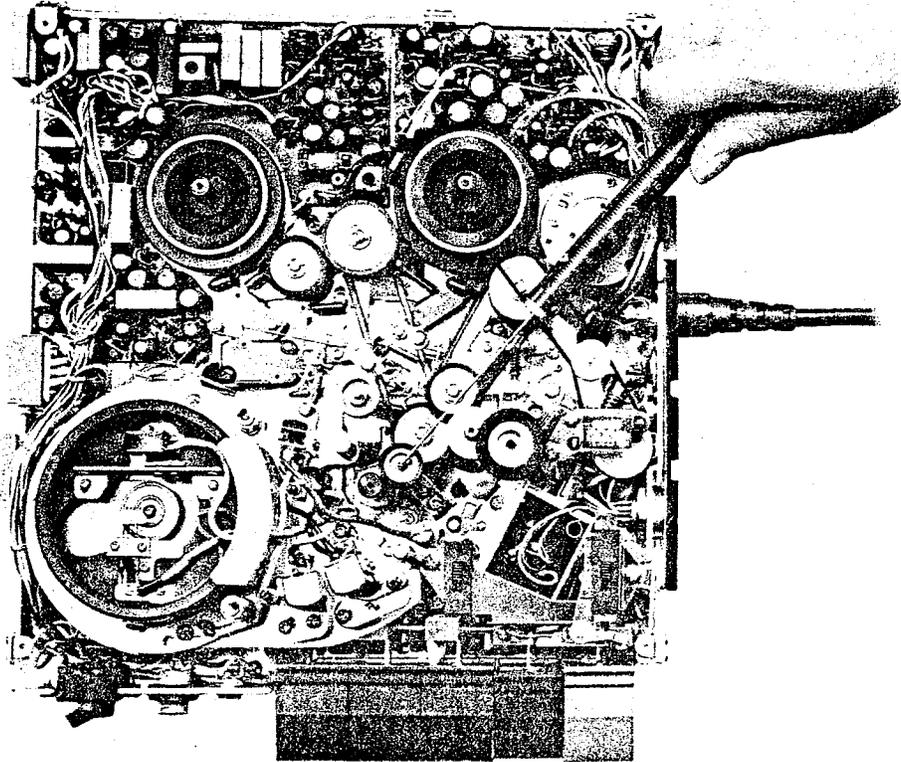


Fig. 4 Sub Pinch Roller Pressure Measurement

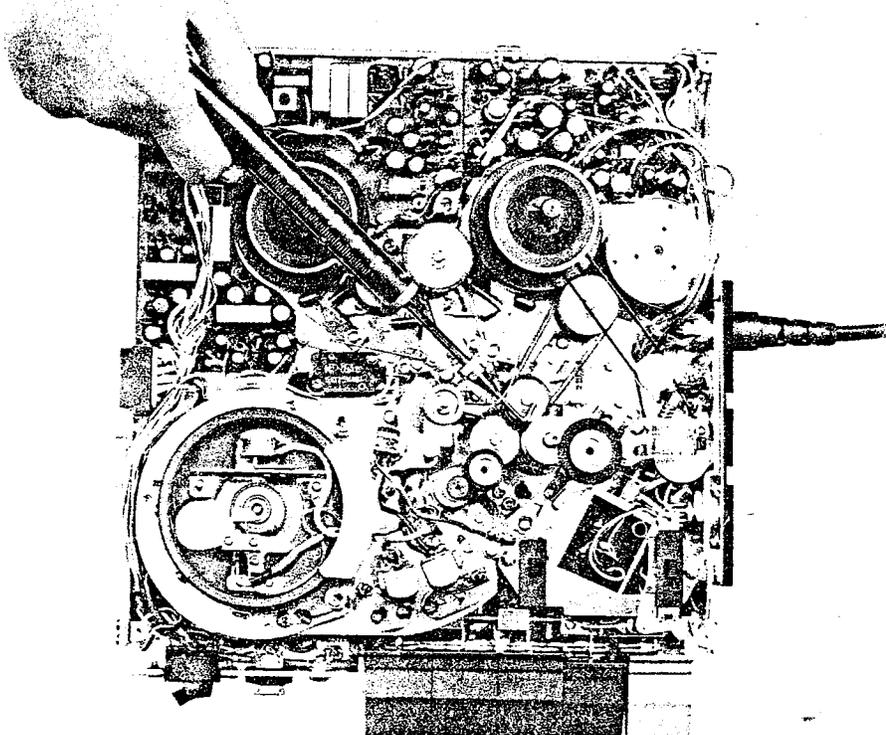


Fig. 5 Drive Idler Pressure Measurement

#### (4) Take-Up Torque Adjustment

- (a) At stop mode, set Take-Up Pulley Arm Stopper Holding Screw so that the space between Take-up Pulley and Take-Up Drum (reel drum) is about 1 mm. (Refer to Fig. 1 and Fig. 6).
- (b) Take-up Torque is determined mostly by the Take-up Spring inside the Take-up Reel Spindle Assembly. Consequently, if the torque is not within specifications, adjust by regulating Take-up Spring Tension.

#### (5) Tape Hold-Back Tension Adjustment

- (a) As shown in Fig. 7, measure Tape Hold-Back Tension by connecting a 0 to 50 gram Spring Gauge to a 50 mm diameter tape. Specified tension is 8 to 10 grams.
- (b) Adjust tension by changing the angle of Plate Spring Bracket (See Fig. 8).

CAUTION : At this time, be sure not to bend the Plate Spring.

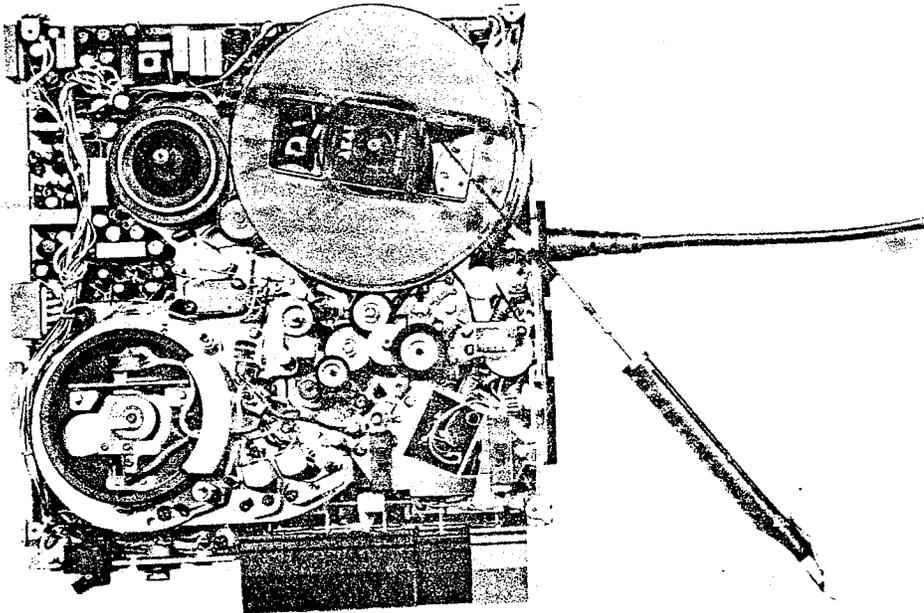


Fig. 6 Take up Torque Measurement

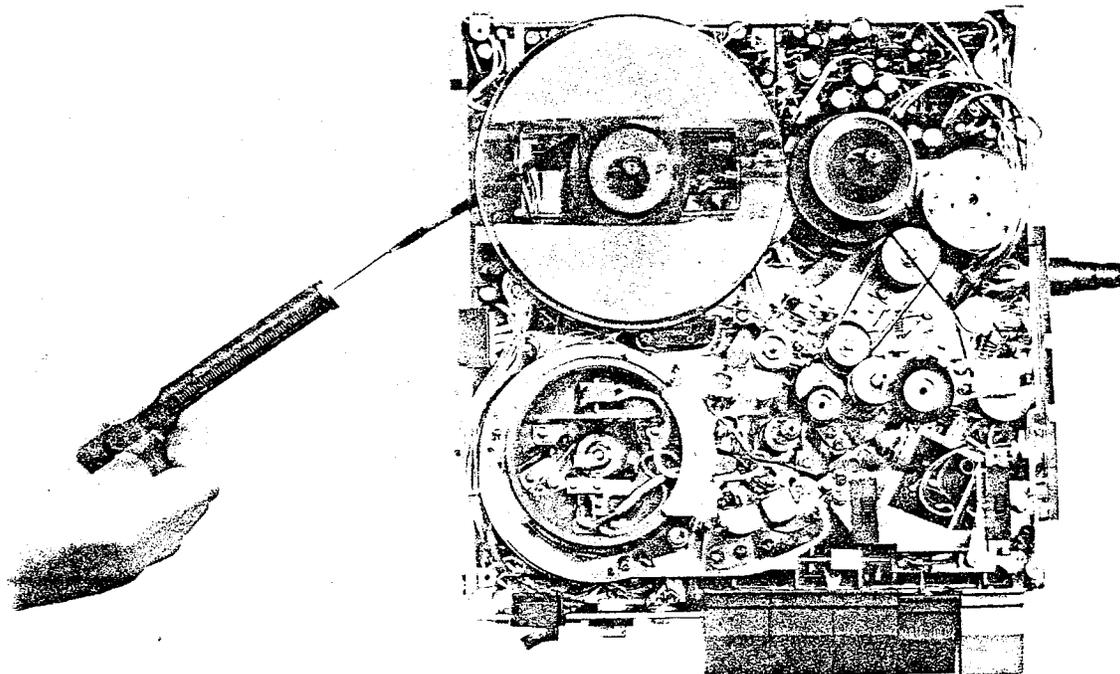


Fig. 7 Tape Hold Back Tension Measurement

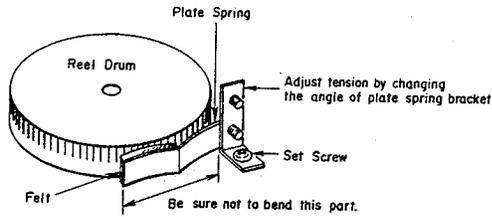


Fig. 8

### (6) Fast Forward and Rewind Torque Measurement

- (a) Utilize a 50 mm diameter tape and a 0 to 500 gram Spring Gauge to measure both Fast Forward and Rewind Torque.

**CAUTION:** Read gauge value while winding tape back on reel.

Specified value is more than 120 grams.

- (b) In the event that Fast Forward or Rewind Torque is below the specified value, check to see whether the Fast Forward Belt is stretched or whether there is oil or other foreign matter adhering to FF Idler "A" or "B".

- (c) If at Fast Forward or Rewind Mode, tape travel is slow in spite of FF and Rewind Torque being above specified value, check to see whether mechanisms relative to tape travel are working properly (check tape guide height, whether reel spindle is rotating smoothly, etc.).

### (7) Brake Torque Measurement

- (a) At stop mode, confirm that the gap between Brake Lever and Brake Arm is about 0.1 to 0.2 mm. In case the gap is too wide or too narrow, adjust by bending the tip of Brake Lever.

- (b) Utilize a 50 mm diameter tape and a 0 to 300 gram Spring Gauge to measure Brake Torque.

Specified value (supply side) 80 to 130 grams

(take-up side) 60 to 80 grams

- (c) Because Brake Torque is determined by the Take-Up Spring inside the Reel Spindle Assembly, in case brake torque is not within specifications, adjust Take-Up Spring.

### (8) Shut-Off Mechanism Adjustment (Ref. Figs. 9, and 10)

- (a) Position of Shut-Off Arm "C"

At stop mode, set Shut-Off Arm and tighten Screw (1) so that when the Play Key is gently depressed to the point at which the tip of Play Key is about 3 mm downward from normal position, the Release Arm begins to operate.

- (b) Position of Release Arm

Set Release Arm position and tighten Screw (2) so that when Play, Fast Forward, Rewind, or Record Key is depressed, Tension Bar "A" lowers to position indicated by the dotted lines in Fig. 9, and at stop mode, Tension Bar "A" contacts Tension Bar "A" Stopper.

- (c) Position of Tension Bar "A" Stopper

Set Tension Bar A stopper and tighten Screw (3) so that the space between Tension Bar A and Drive Idler is 2 mm. (stop mode).

- (d) Position of Tension Adjuster

Set Tension Adjuster and tighten Screw (4) so that when the tip of Tension Bar A reaches the center line (lined up with the center of Sub Capstan and Center of Guide Roller Shaft, as shown in Fig. 10) the microswitch is turned "off".

**CAUTION:** At this time (after Tension Bar "A" is at stop condition), confirm that when Tension Bar A is pressed with your finger toward direction of Guide Roller, the microswitch clicks "off".

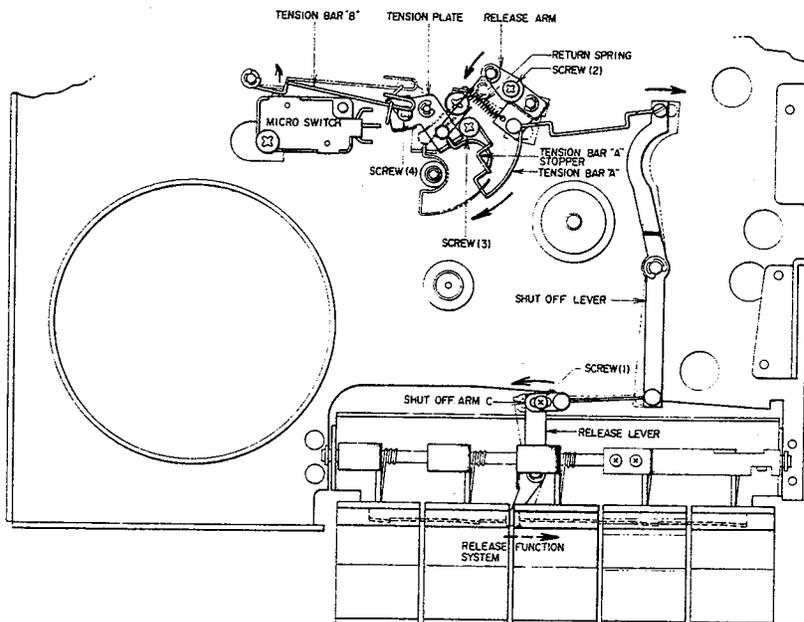


Fig. 9 Shut-off Mechanism

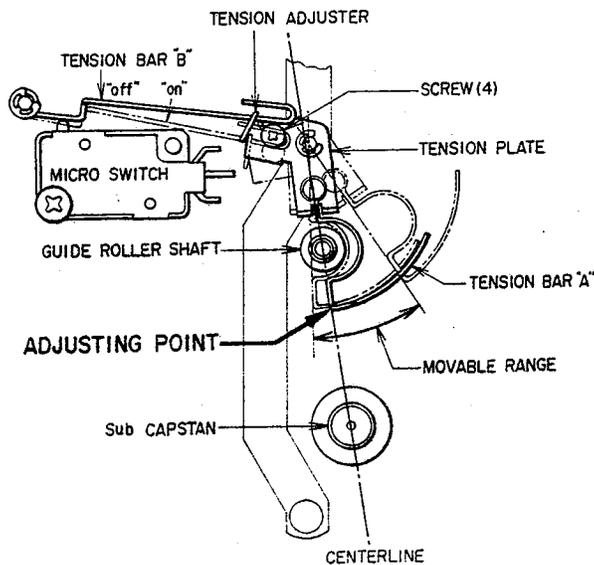


Fig. 10 Shut-off Function Adjustment

**(9) Tape Travel and Head Height Adjustment****(a) Sub Pinch Roller Shaft Angle Adjustment**

Load a tape and adjust angle of Sub Pinch Roller Shaft so that the tape runs on the same part of Sub Pinch Roller at all operating modes (Fast Forward, Rewind, and Playback) and also during playback mode, the tape enters the tape guide smoothly and runs in the center of the outer circumference of the Head Drum with no up and down movement.

(b) Connect an Oscilloscope to Video Amp P.C. Board TP-1.

(c) Play back a Video Reference Tape and observe R.F. Envelope.

(d) Try to maintain an almost square shaped R.F. Envelope as shown in Fig. 11 (amplitude fluctuation should be very small).

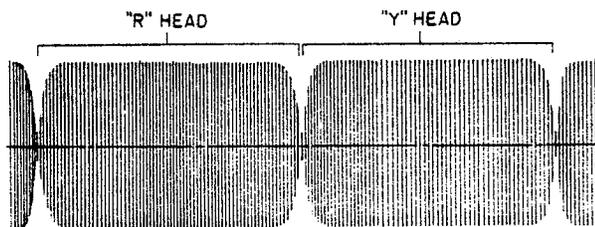


Fig. 11

(e) If Tracking Crossover appears on R.F. Envelope as shown in Fig. 12, adjust height of Tape Guides 'A' and 'B' (Refer to Fig. 13.).

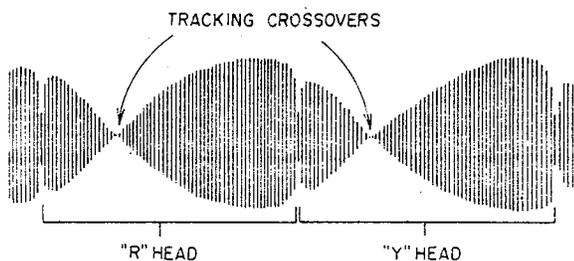


Fig. 12

(f) Loosen Screws 'E' and 'F' (Fig. 13) and move position of CTL Head to right and left. Set at position at which the RF Envelope amplitude is maximum and almost square shaped.

(g) If RF Envelope amplitude fluctuates, the source is up and down movement of the tape at the center of the outer circumference of the Head Drum during tape travel. In this case, carefully adjust the angle of Sub Pinch Roller Shaft as well as height of Tape Guides 'A' and 'B' so that the R.F. Envelope amplitude fluctuation is minimum. (RF Envelope amplitude fluctuation must be within 10% of peak to peak value).

(h) If R.F. Envelope amplitude fluctuation still exists even after the above adjustments have been carefully completed, loosen Video Head Assembly Holding Screw and turn Screws 'G' and 'H' clockwise 1/2 or 1 turn (Fig. 13). At this condition, again carry out adjustment described in item (g) above.

(i) If leading edges of R.F. Envelope are not square, adjust height of Tape Guide 'B' as well as the slant of Side Track Erase Head and CTL Head.

(j) For proper Head Height (Side Track Erase Head, as well as CTL and Audio Head), adjust to position as shown in Fig. 2-15.

**CAUTION:** To properly judge each head height, the recorded tape must be dipped in developing solution, developed, and observed with a microscope. However, head height can also be judged by visually checking the position of each head or repeating recording/playback and observing R.F. Envelope.

(k) Record and playback a Test Pattern Signal and observe R.F. Envelope. Confirm that amplitude is stable (does not fluctuate).

R.F. Envelope amplitude must exceed 0.6 V peak to peak at recording/playback and the difference in amplitude of the two heads should be less than 3 dB.

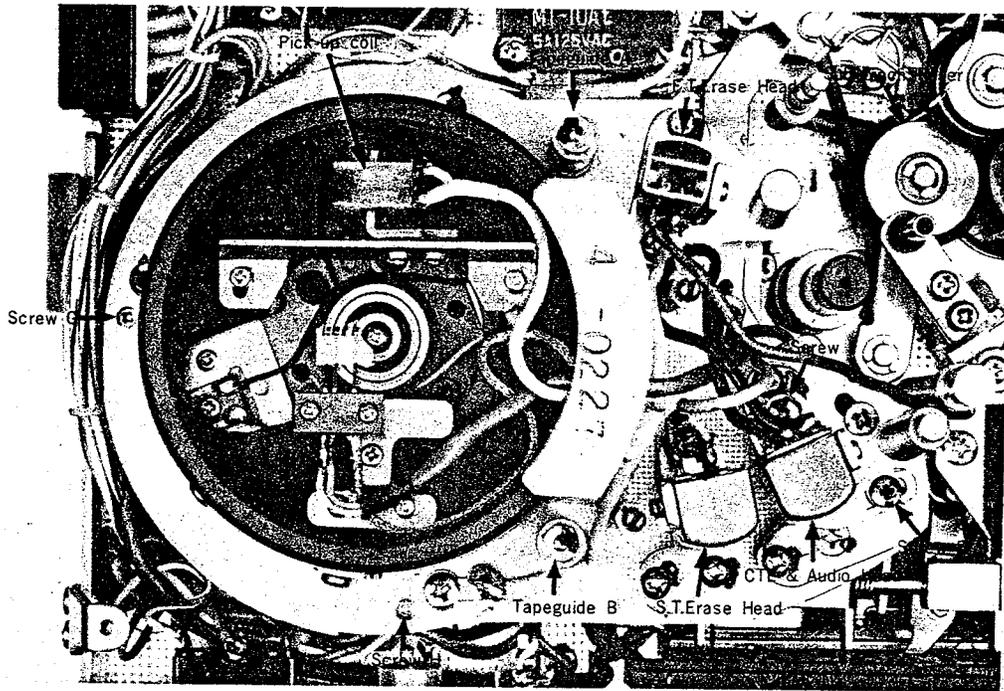


Fig. 13

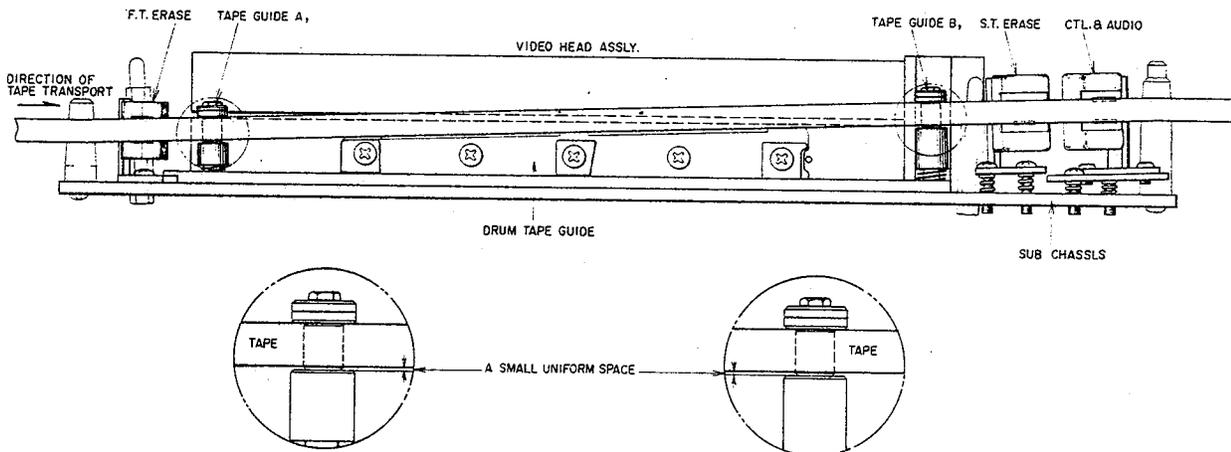


Fig. 14 Adjustment of Tape Guide

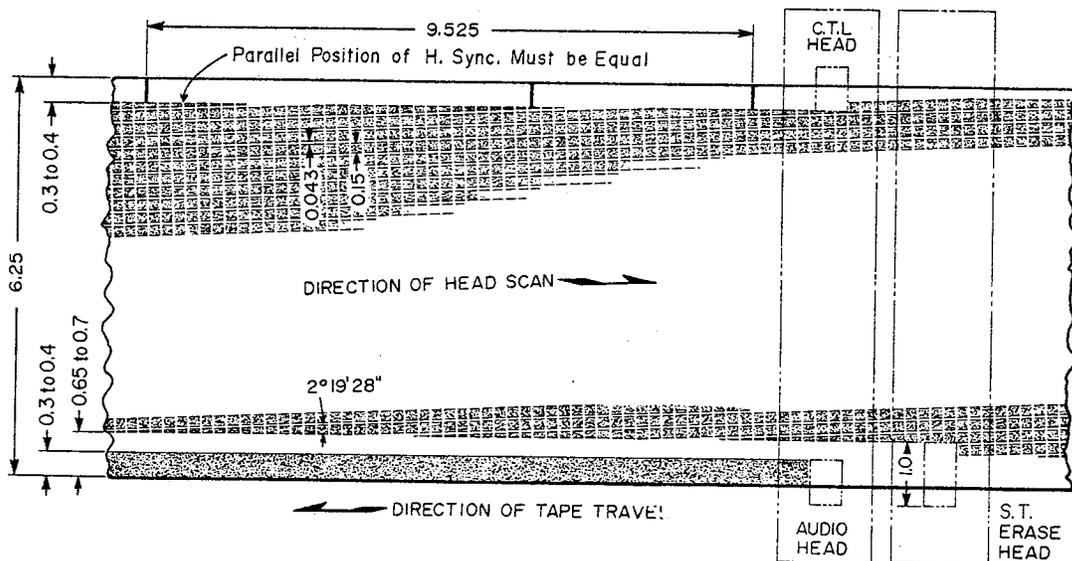


Fig. 15 Recorded Pattern of Video Tape (Viewed from center of head drum)



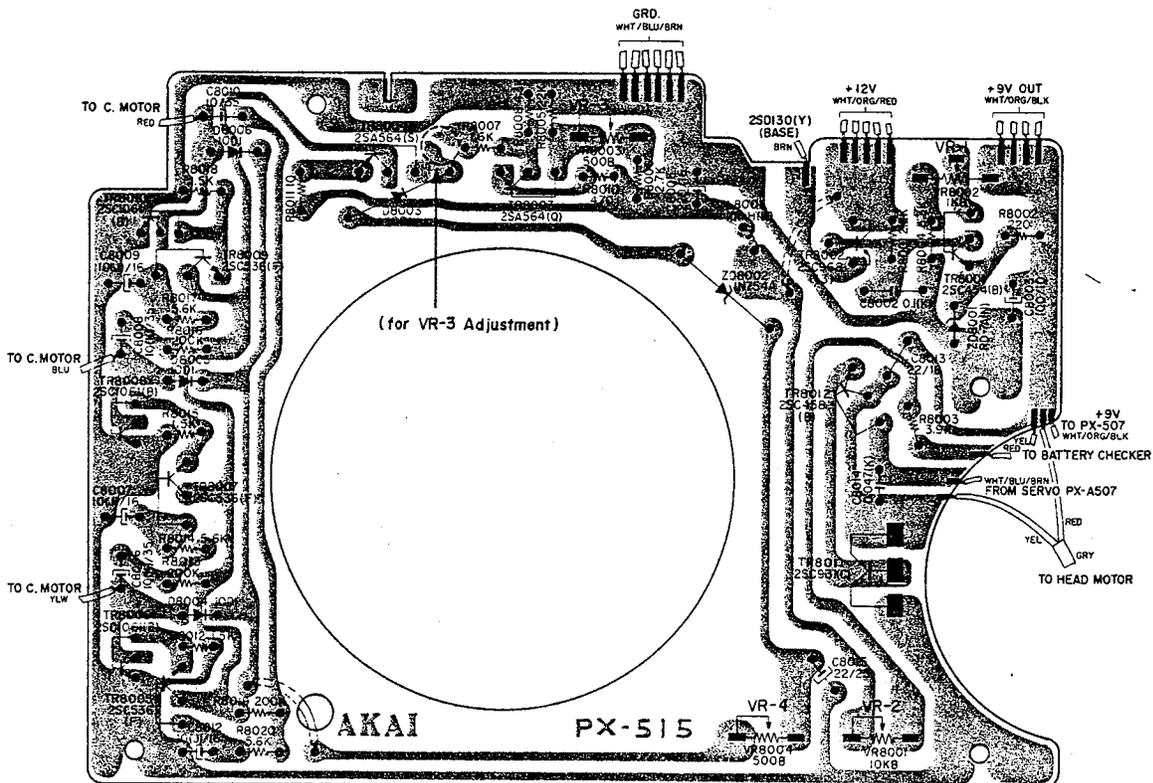


Fig. 3 C.M.D. P.C. Board (PX-515)

## 1. POWER VOLTAGE REGULATOR CIRCUIT

- (a) Connect a High Sensitivity D.C. Voltmeter or a V.T.V.M. (must be calibrated) between the +12 V Terminal of PX-513 and the chassis and confirm that the meter indication is within a  $12\text{ V} \pm 0.2\text{ V}$  range. (Refer to Figs. 1 and 2).

CAUTION: In case this voltage is not within specifications, adjust with AC Adapter Potentiometer VR 1001 (300  $\Omega$  B).

- (b) Connect a D.C. Voltmeter or V.T.V.M. to the 9 V Terminal of PX-513 and adjust VR-1 (1 KB) so that the meter indicates 9 V.

Following this adjustment, confirm that at both Recording and Playback Mode, the meter indication is within a  $9\text{ V} \pm 0.1\text{ V}$  range.

- (c) Battery Checker Adjustment

(Adjust only in case of absolute necessity)

With AC Adapter Potentiometer VR 1001 (300  $\Omega$  B), set +12 V Terminal Voltage to 11 Volts. Next, with PX-513 VR-2 (10 KB), adjust so that position of battery checker indicator needle is at the dividing point between red zone and green zone. Then reset terminal voltage to 12 V (AC Adapter VR 1001).

## 2. TAPE SPEED ADJUSTMENT

- (a) Connect a Frequency Counter between Pin "J" of 10P Monitor Connector (J3005) and chassis.
- (b) Play back a Tape Speed Test Tape (1000 Hz pre-recorded tape).
- (c) Adjust VR 4 (500  $\Omega$  B) or PX-513 or PX-515 so that the values indicated on the Frequency Counter

Meter are as follows :

Using AC Adapter : 999 Hz. at beginning of tape winding.

992 Hz. at end of tape winding.

Using Batteries : 1000 Hz  $\pm$  7 Hz from beginning to end of tape winding.

- (d) In case of tape speed instability

Remove the solder from the place marked  $\odot$  on printed pattern PX-513 or PX-515 and connect a V.T.V.M. between B+ circuit and TR8003 Collector. Adjust VR-3 (500  $\Omega$  B) so that the V.T.V.M. indication is 5.3 V. After adjustment has been made, resolder at  $\odot$ . Adjust tape speed again with VR-4.

- (e) When the tape speed has been properly adjusted, the AC current waveform flowing to the capstan motor coil becomes about an 83.3 Hz sinewave as shown in Fig. 4. In case motor revolutions are unstable, connect an Oscilloscope to Collector of Transistor 2SC 1061 B (TR 8006, TR 8008, TR 8010) and check this waveform and frequency.



2SC1061(B) COLLECTOR WAVEFORM  
(83.3Hz)

Fig. 4 2SC 1061 (B) Collector Waveform (83.3 Hz.)

# VII. S.S.G. (Sync. Signal Generator) PX-A504

(22)

When making S.S.G. P.C. Board Adjustments, solder Test Pin to Test Point (Refer to Fig. 1).

The waveform and frequency at each part of S.S.G. P.C. Board is as shown in Fig. 3 as well as Fig. 4.

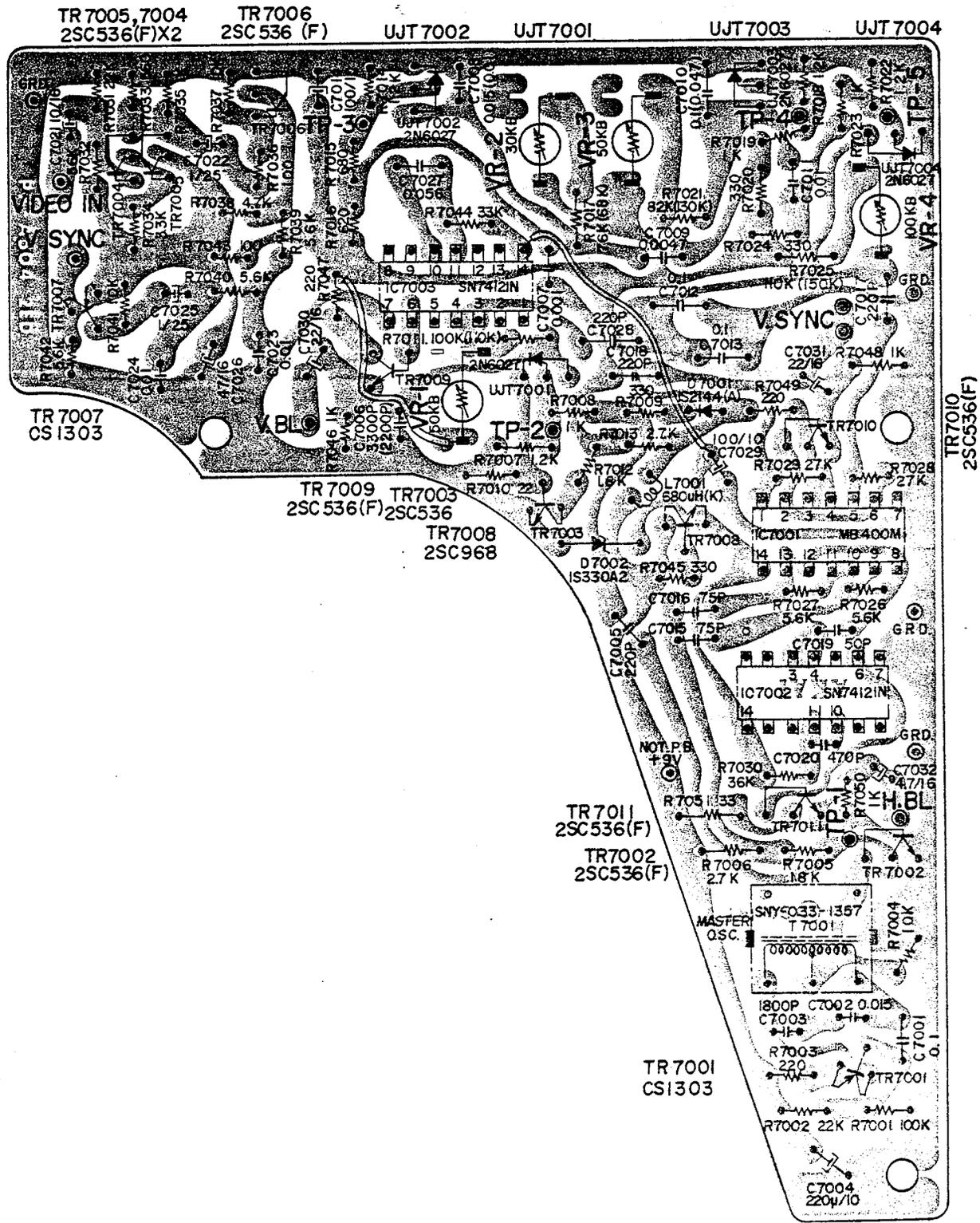


Fig. 1 S.S.G. P.C. Board (PX-A504)

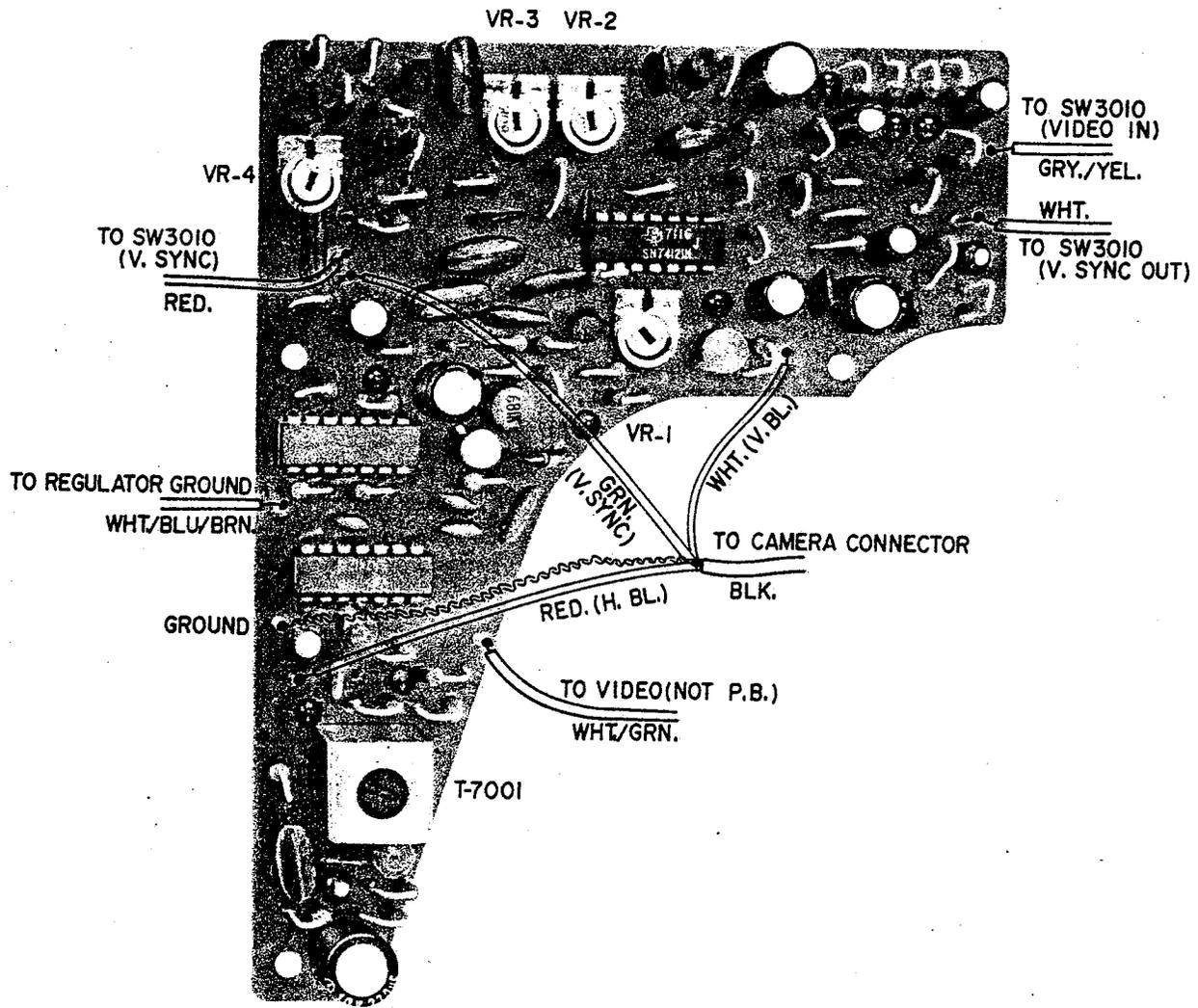


Fig. 2 S.S.G. P.C. Board (PX-A504)

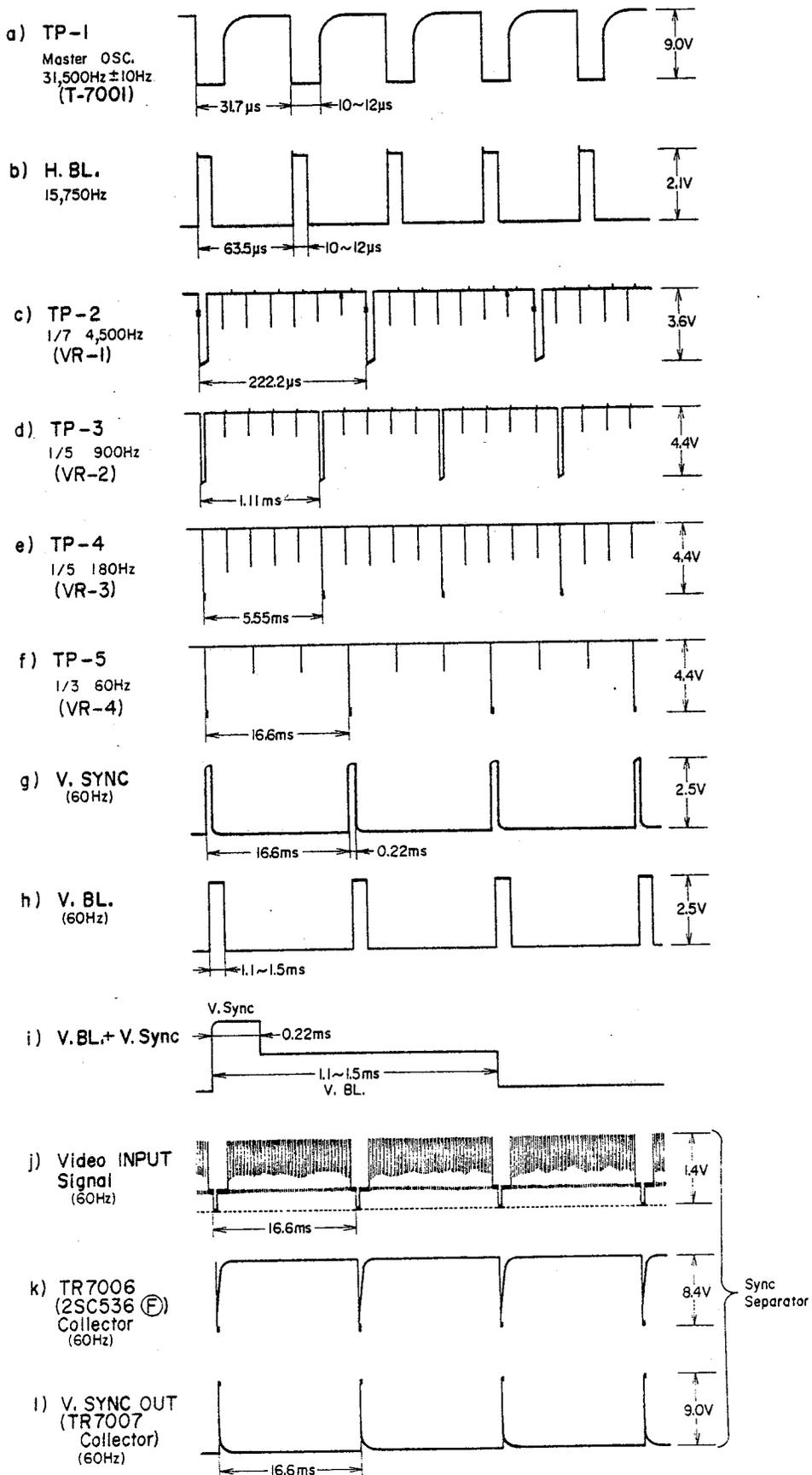


Fig. 3 S.S.G. Waveforms (PX-A504) U.S. Standard Type

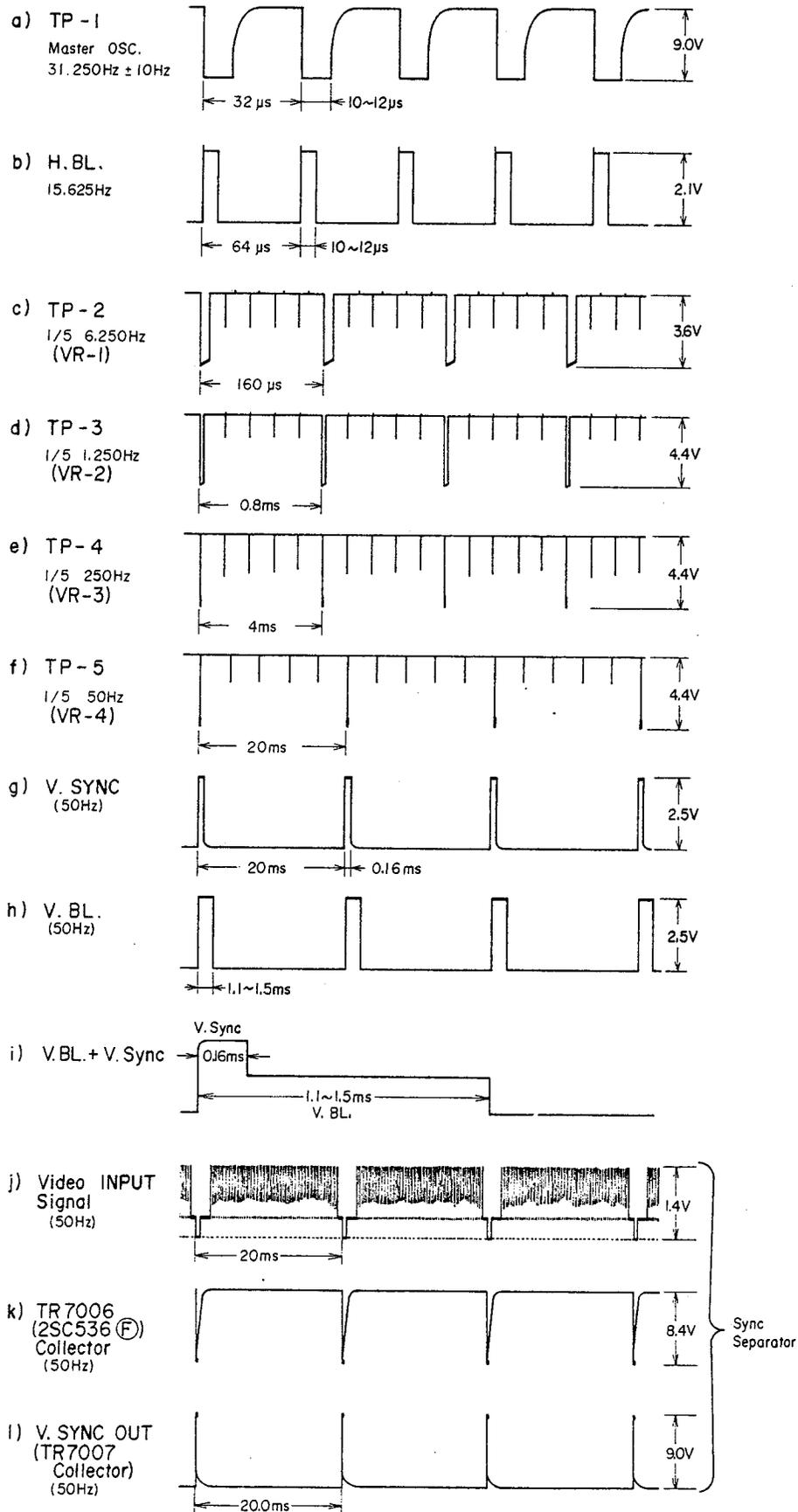


Fig. 4 S.S.G. Waveforms (PX-A504) C.C.I.R Type

## 1. MASTER OSCILLATOR ADJUSTMENT

- (a) Connect an Oscilloscope to TP-1 of S.S.G. P.C. Board (PX-A504) and connect a Frequency Counter to the Signal Out Terminal of the Oscilloscope.  
**CAUTION:** When the Frequency Counter is connected directly to TP-1, the oscillation frequency of the Master Oscillator changes, and proper adjustment cannot be made.
- (b) Adjust the core of Oscillator Coil (T-7001) to obtain the waveform and frequency as shown in Fig. 5.

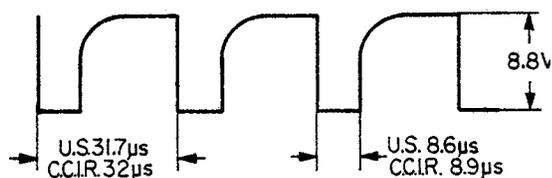


Fig. 5

## 2. FREQUENCY DIVIDER ADJUSTMENT

- (a) Because the waveform which appears at TP-2 is as shown in Fig. 6, adjust VR-1 so that triggering takes place at the 7th pulse (C.C.I.R. Type 5th pulse). When making VR-1 adjustment, give special attention to the points outlined in Fig. 6.

Confirm that the frequency of the waveform appearing at TP-2 is:

U.S. Type : 4,500 Hz.  
 C.C.I.R. Type : 6,250 Hz.

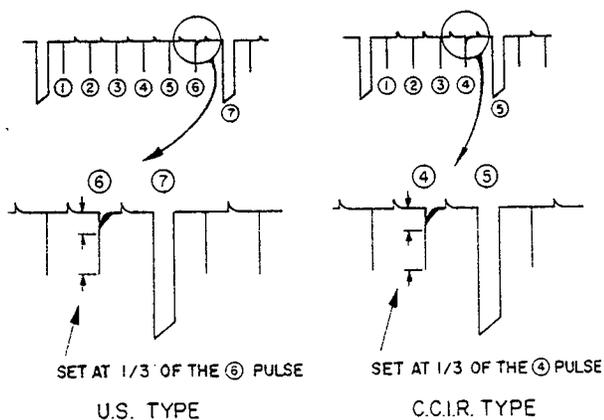


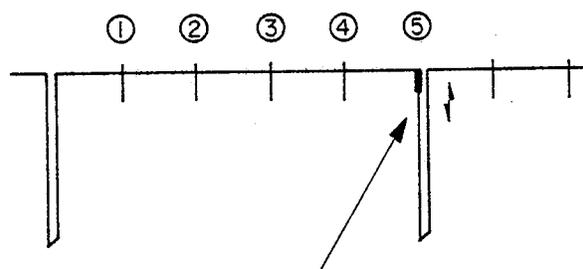
Fig. 6

- (b) Because the waveform which appears at TP-3 is as shown in Fig. 7, adjust VR-2 so that triggering takes place at the 5th pulse.

At this time, because the amplitude fluctuation of the overlapping bright pulse (5th pulse) varies when VR-2 is rotated, set VR-2 so that the tip of the overlapping bright pulse is positioned near the center of its variable range. (See Fig. 7).

Confirm that the frequency of the waveform appearing at TP-3 is:

U.S. Type : 900 Hz.  
 C.C.I.R. Type : 1,250 Hz.



SET AT CENTER OF VARIABLE RANGE

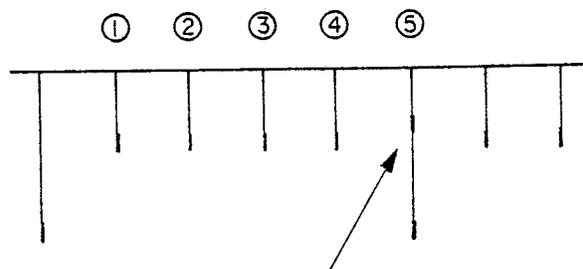
Fig. 7

- (c) Because the waveform which appears at TP-4 is as shown in Fig. 8, adjust VR-3 so that triggering takes place at the 5th pulse.

As in item (b) above, set VR-3 so that the tip of overlapping bright pulse at the 5th pulse is positioned at the center of the variable range.

Confirm that the frequency of the waveform appearing at TP-4 is:

U.S. Type : 180 Hz.  
 C.C.I.R. Type : 250 Hz.



SET AT CENTER OF VARIABLE RANGE

Fig. 8

(27)

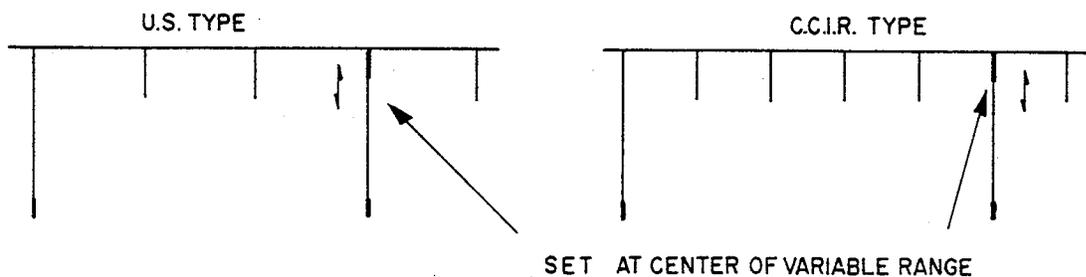


Fig. 9

- (d) Because the waveform which appears at TP-5 is as shown in Fig. 9, adjust VR-4 so that triggering takes place at the 3rd pulse (C.C.I.R. Type 5th pulse). In this case also set VR-4 so that the overlapping bright pulse at the 3rd pulse (or 5th pulse) is at the center of the variable range.

Confirm that the frequency of the waveform appearing at TP-4 is :

U.S. Type : 60 Hz.  
C.C.I.R. Type : 50 Hz.

### 3. CONFIRMATION OF VERTICAL SYNC. SIGNAL

Connect Oscilloscope to the Vertical Sync. Terminal of P.C. Board (PX-A504). Confirm that the Vertical Sync. Signal Pulse width and intervals are as shown in Fig. 3 (g) and Fig. 4 (g).

### 4. CONFIRMATION OF VERTICAL BLANKING SIGNAL

Connect Oscilloscope to the Vertical Blanking Terminal of PC Board (PX-A504) and confirm that the vertical blanking signal pulse width and intervals as shown in Fig. 3 (h) and Fig. 4 (h).

### 5. CONFIRMATION OF SYNC. SEPARATOR OPERATION

- (a) Connect Monitor TV to Monitor Connector and set Camera/TV Selector to "TV" position.
- (b) Connect Oscilloscope to the Vertical Sync. Out Terminal of P.C. Board (PX-A504). Confirm that the vertical sync. appears as shown in Fig. 3 (l) and Fig. 4 (l).

# VIII. SERVO (Head Motor Servo Circuit) PX-A505 or PX-A507

The waveforms of the various parts of the Servo Circuit are shown in Fig. 4 and 5 and are also indicated in the

Schematic Diagram marked (a) through (q) as well as (A) through (J).

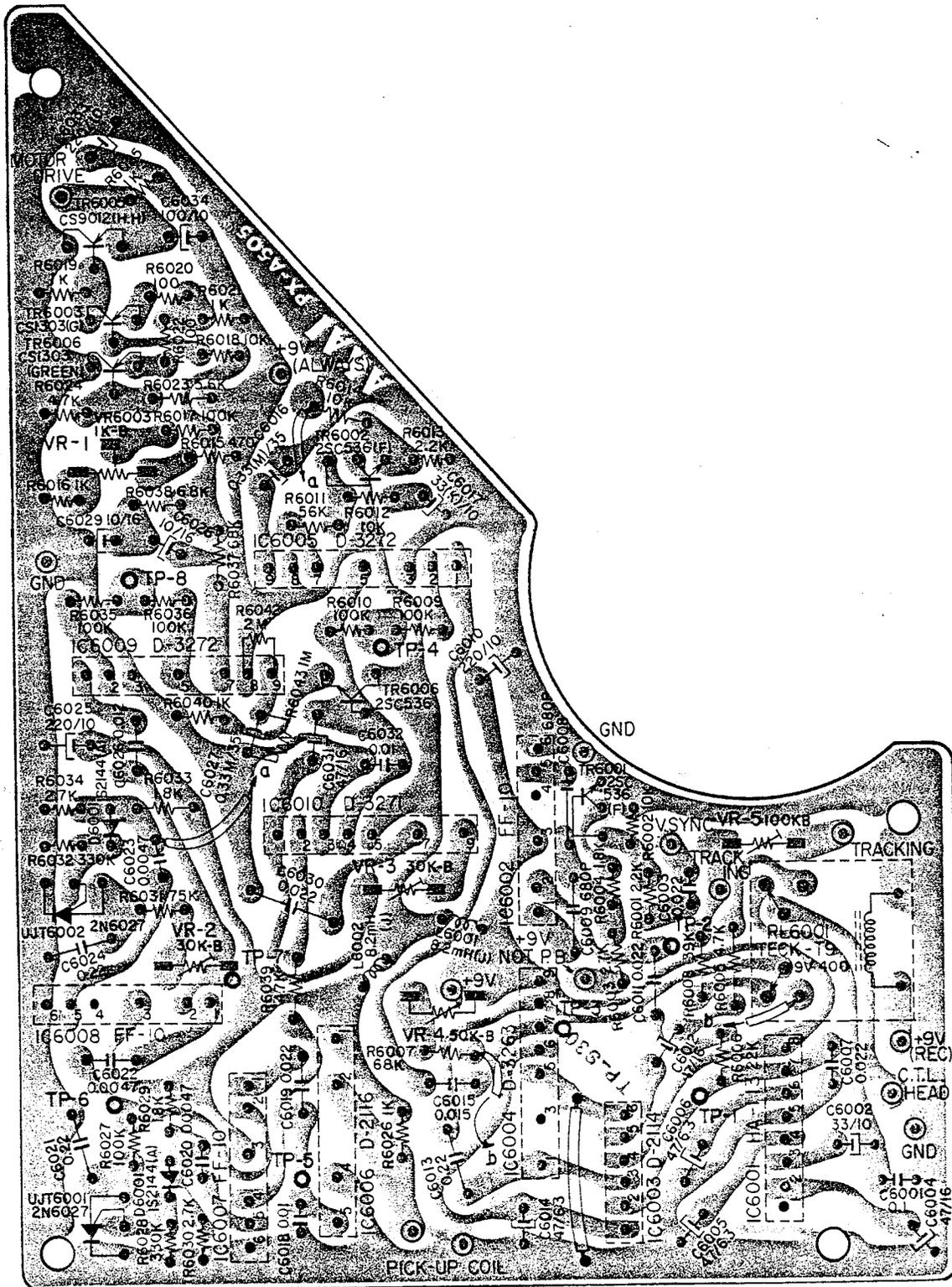


Fig. 1 Servo P.C. Board (PX-A505)

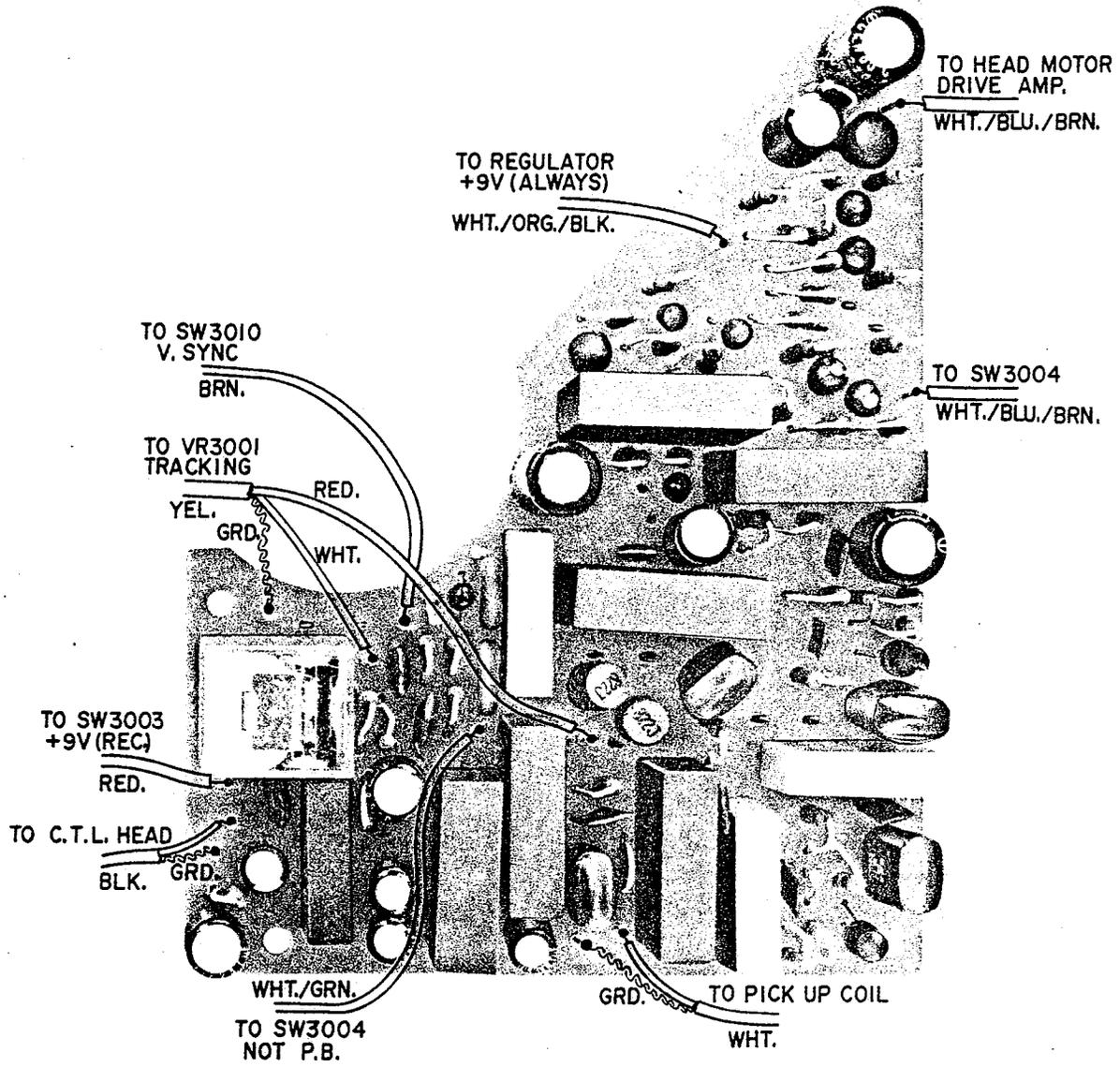


Fig. 2 Servo P.C. Board (PX-A505)

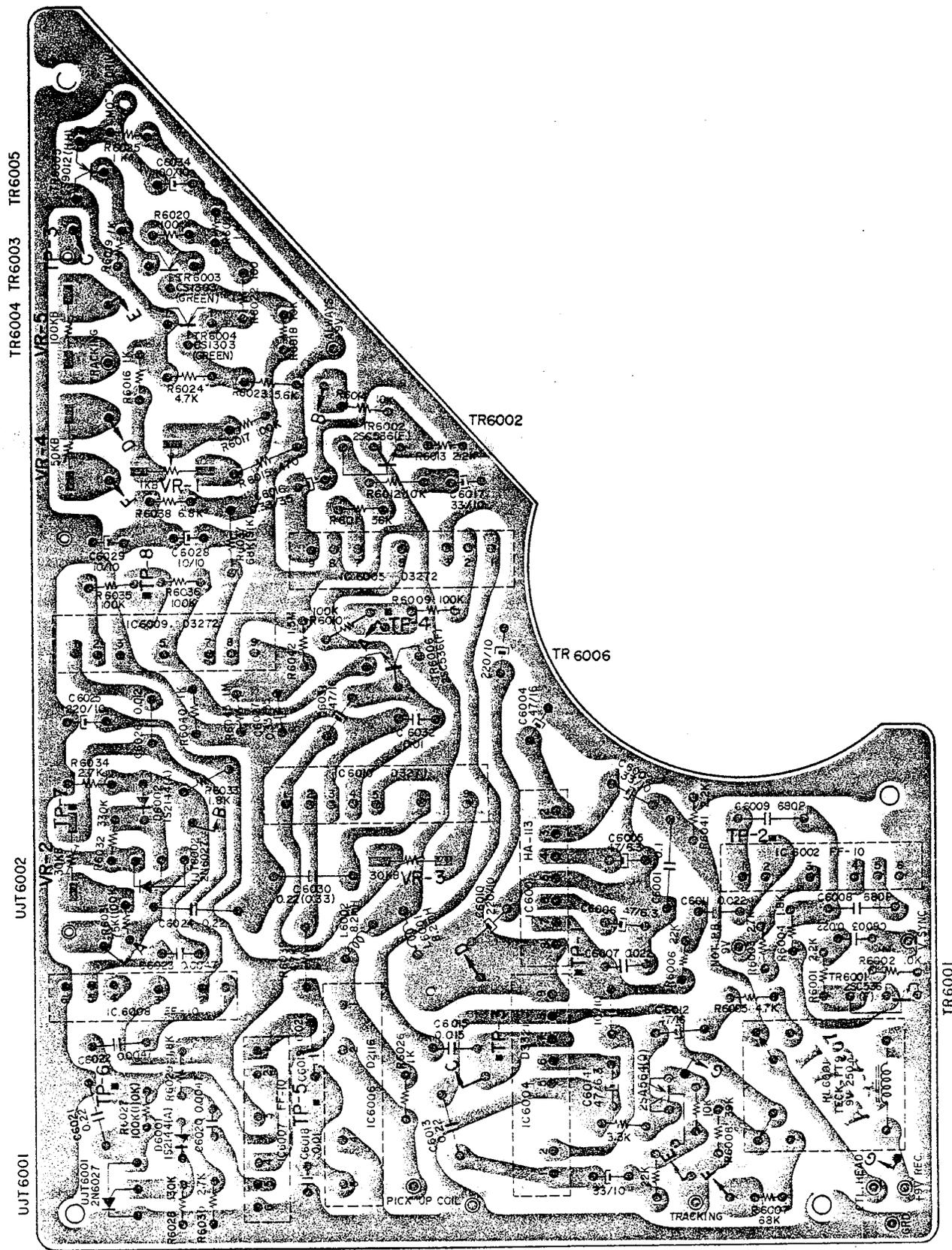


Fig. 3 Servo P.C. Board (PX-A507)

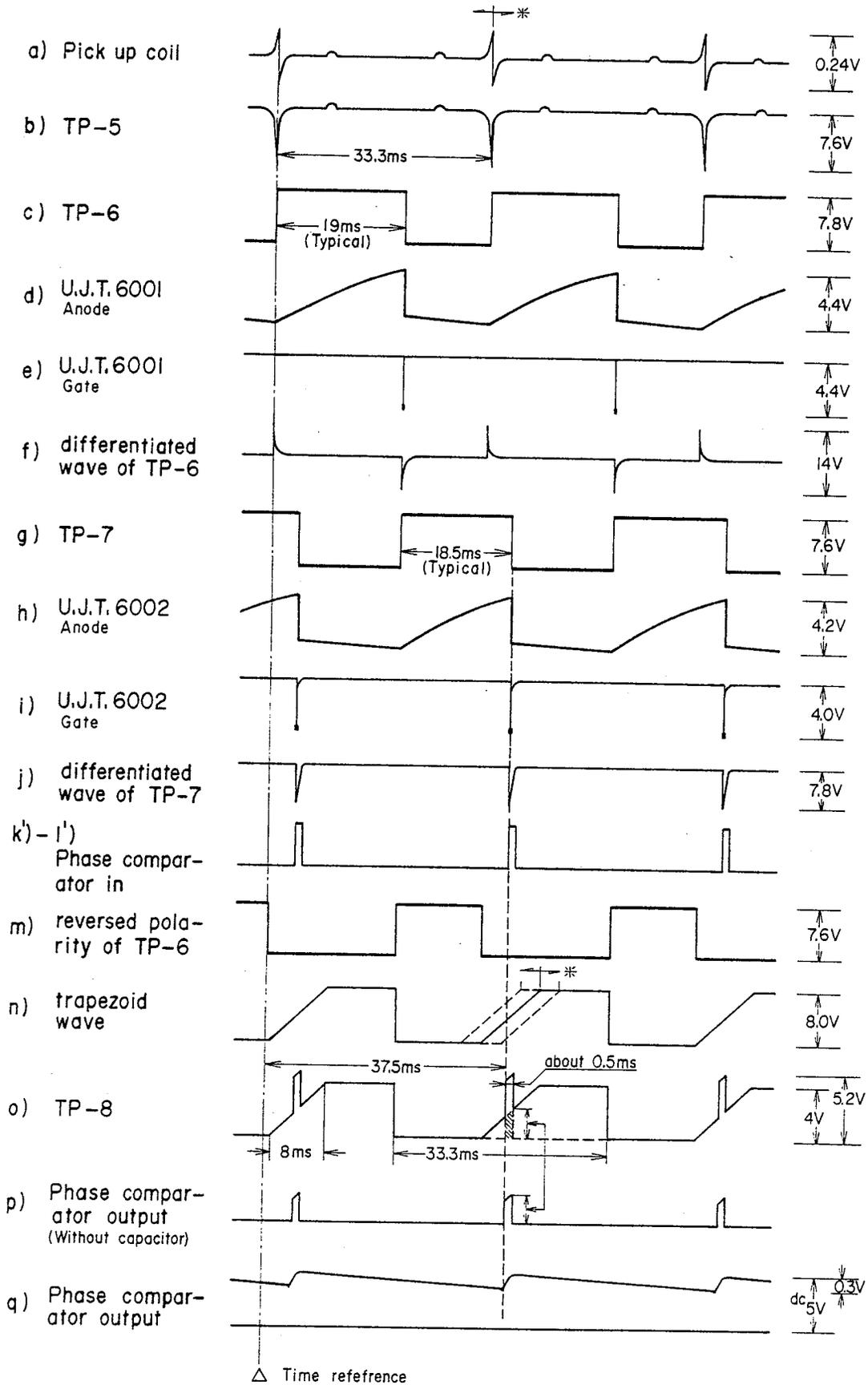


Fig. 4 (A) SERVO (PX-A505 / PX-A507) Waveforms. ① Speed Control (U.S. Standard Type)

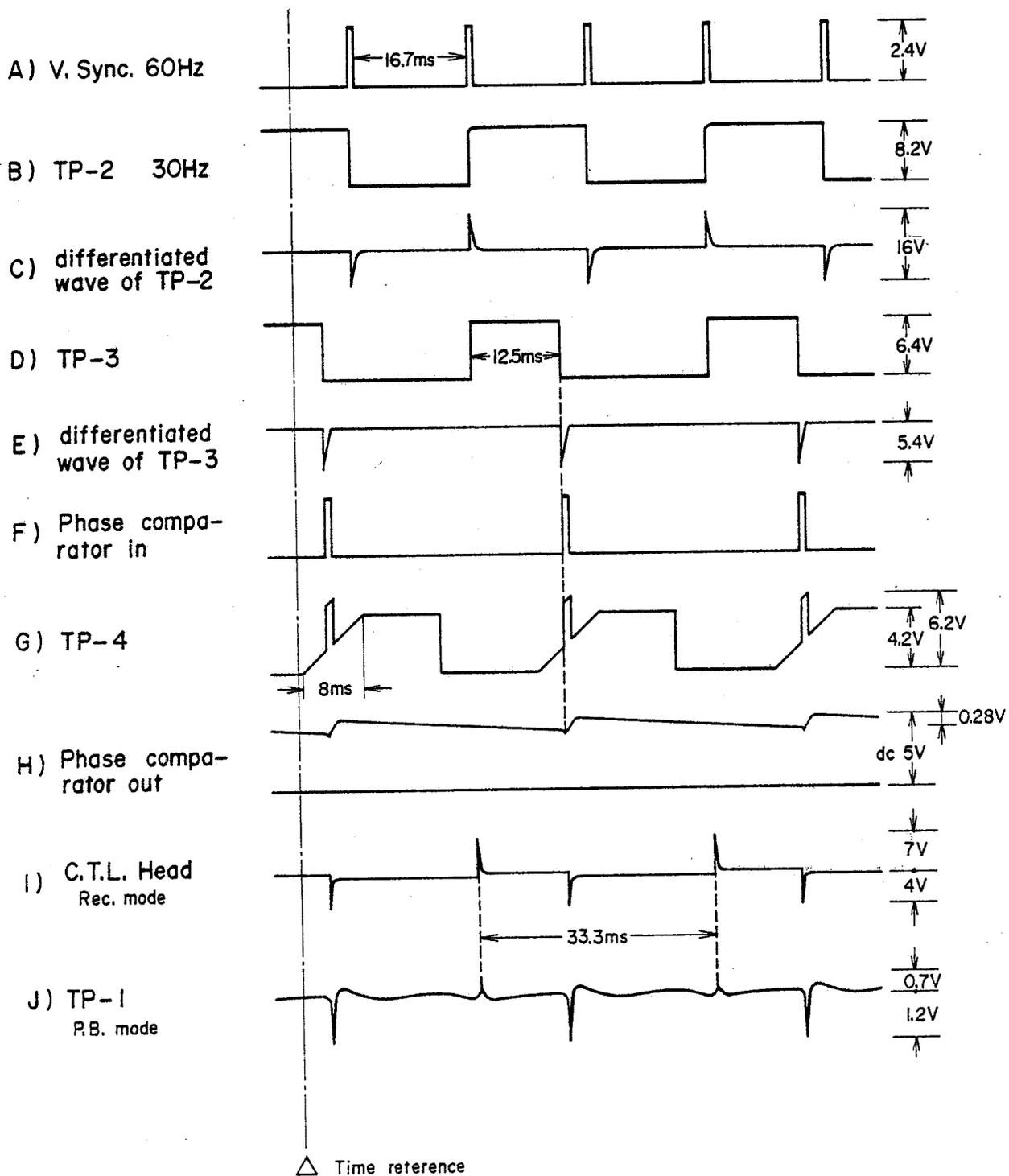


Fig. 4 (B) SERVO (PX-A505) Waveforms. ©Phase Control (U.S. Standard Type)

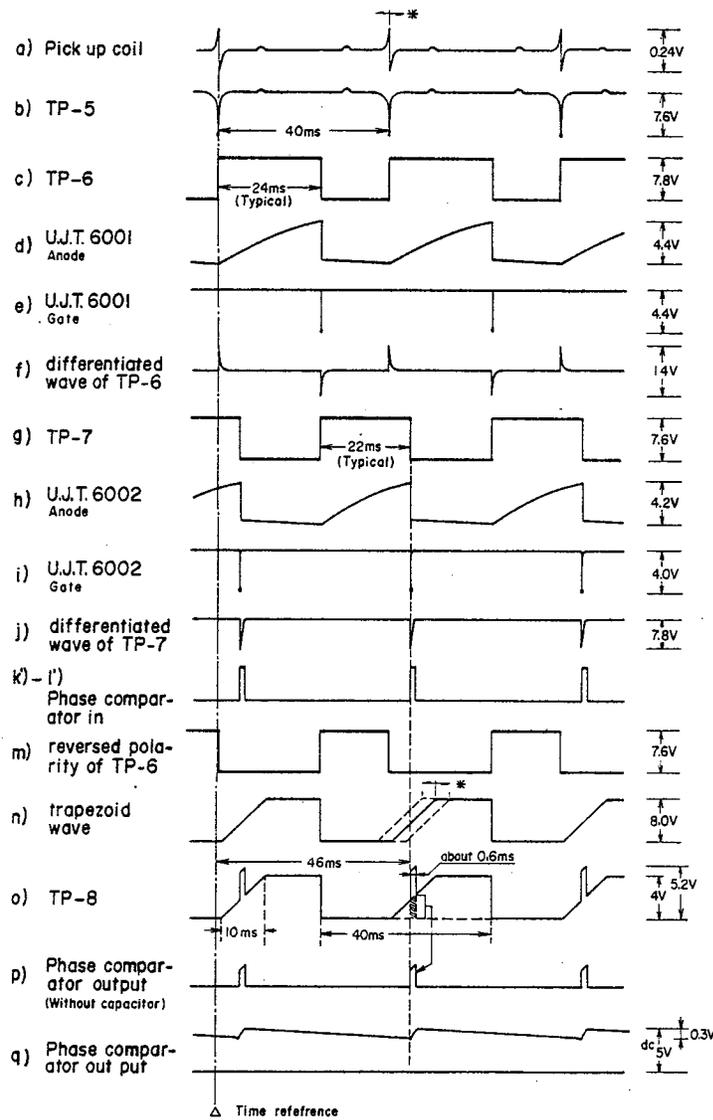


Fig. 5 (A) SERVO (PX-A505) Waveforms. ① Speed Control (C.C.I.R. Type)

5-1 Adjustment at Stop Mode

- (1) Connect Oscilloscope to TP-2 and confirm that the waveform obtained is as shown in Fig. 6.

CAUTION: Set Camera/TV Selector Switch to "Camera" position.

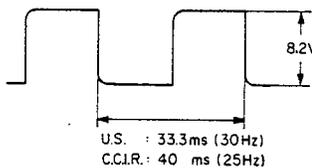


Fig. 6

- (2) Connect Oscilloscope to TP-3 and adjust VR-5 (100 KB) to obtain a waveform as shown in Fig. 7. CAUTION: This is the preliminary adjustment and VR-5 must be readjusted as outlined in Item 5-2 (2) below.

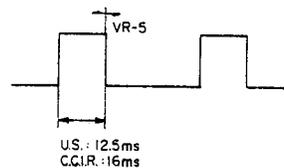


Fig. 7

- (3) Connect Oscilloscope to TP-5 and confirm that the pick-up pulse amplitude is more than 7 V, as shown in Fig. 8 and that the pulse peaks are clipping. (In case the amplitude is less than 7 V, or the pulse peaks are not clipping, adjust the angle of the pick up coil in the upper part of the head drum and adjust the gap between the pick up coil and pick up plate).

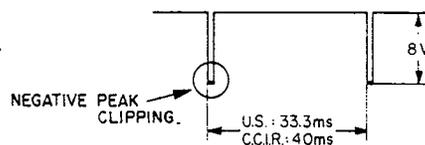


Fig. 8

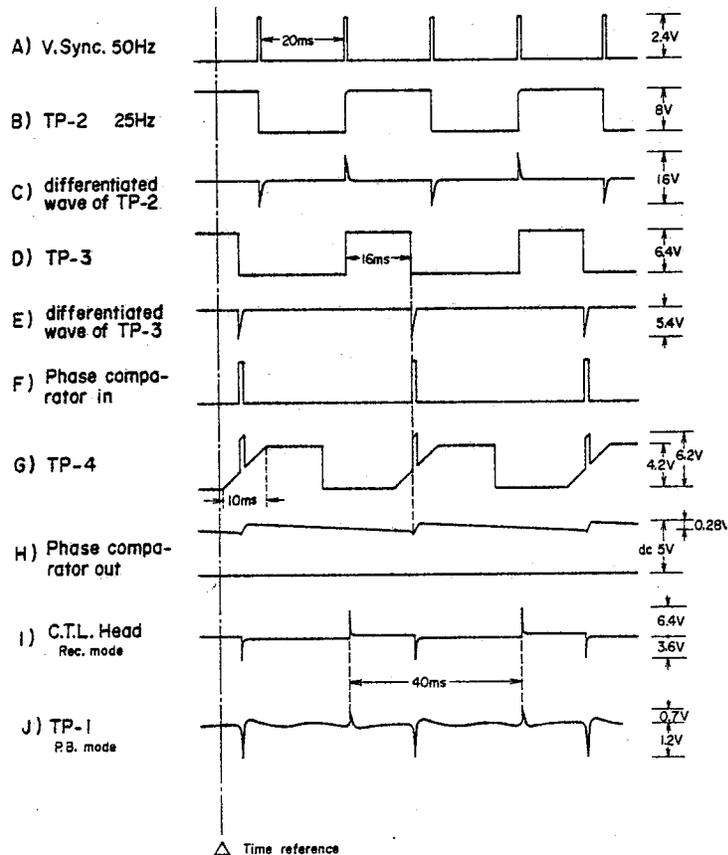


Fig. 5 (B) SERVO (PX-A505) Waveforms. © Phase Control (C.C.I.R. Type)

- (4) Connect Oscilloscope to TP-8 and adjust VR-3 (30 KB) so that the Trapezoid Wave Ramp Slope is 8 ms (C.C.I.R. 10 ms) as shown in Fig. 9. Further, adjust VR-1 (1 KB) so that the Speed Control Sampling Pulse is positioned slightly below the center of the Ramp Slope.

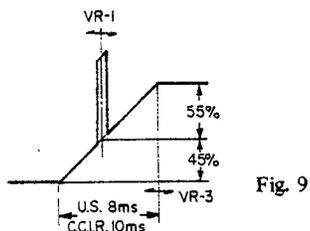


Fig. 9

- (5) Connect Oscilloscope to TP-4. Adjust VR-2 (30 KB) so that the Phase Control Sampling Pulse is positioned in the center of the Ramp Slope as shown in Fig. 10.

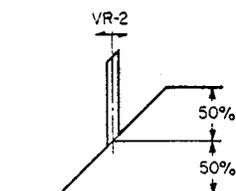


Fig. 10

## 5-2 Adjustments at Recording and Playback Modes PLAYBACK MODES

- (1) Video Head Switching Point Adjustment  
Record and play back a signal supplied from TV or Camera and observe monitor screen.  
Adjust VR-4 (50 KB) so that the Video Head Switching Point is 5 to 10 horizontal lines above the vertical blanking.
- (2) After Item (1) above has been perfected, connect Oscilloscope to TP-3 and at recording mode, and measure the width of the positive part of the square wave.  
Next, at stop mode, adjust VR-5 (100 KB) so that the width of the positive part of the square wave equals the above measured value (Ref. to Fig. 11).

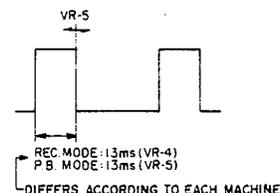


Fig. 11

# IX. VIDEO AMPLIFIER P.C. BOARD (PX-A503)

(35)

TR4001-14S048, TR4002 TR4003-2SC645, TR4004 TR4005-2SC460, TR4006-2SC458, TR4007-2SC711(E)  
TR4008-2SC968(3) D4001, D4002-IS2144(A) X2

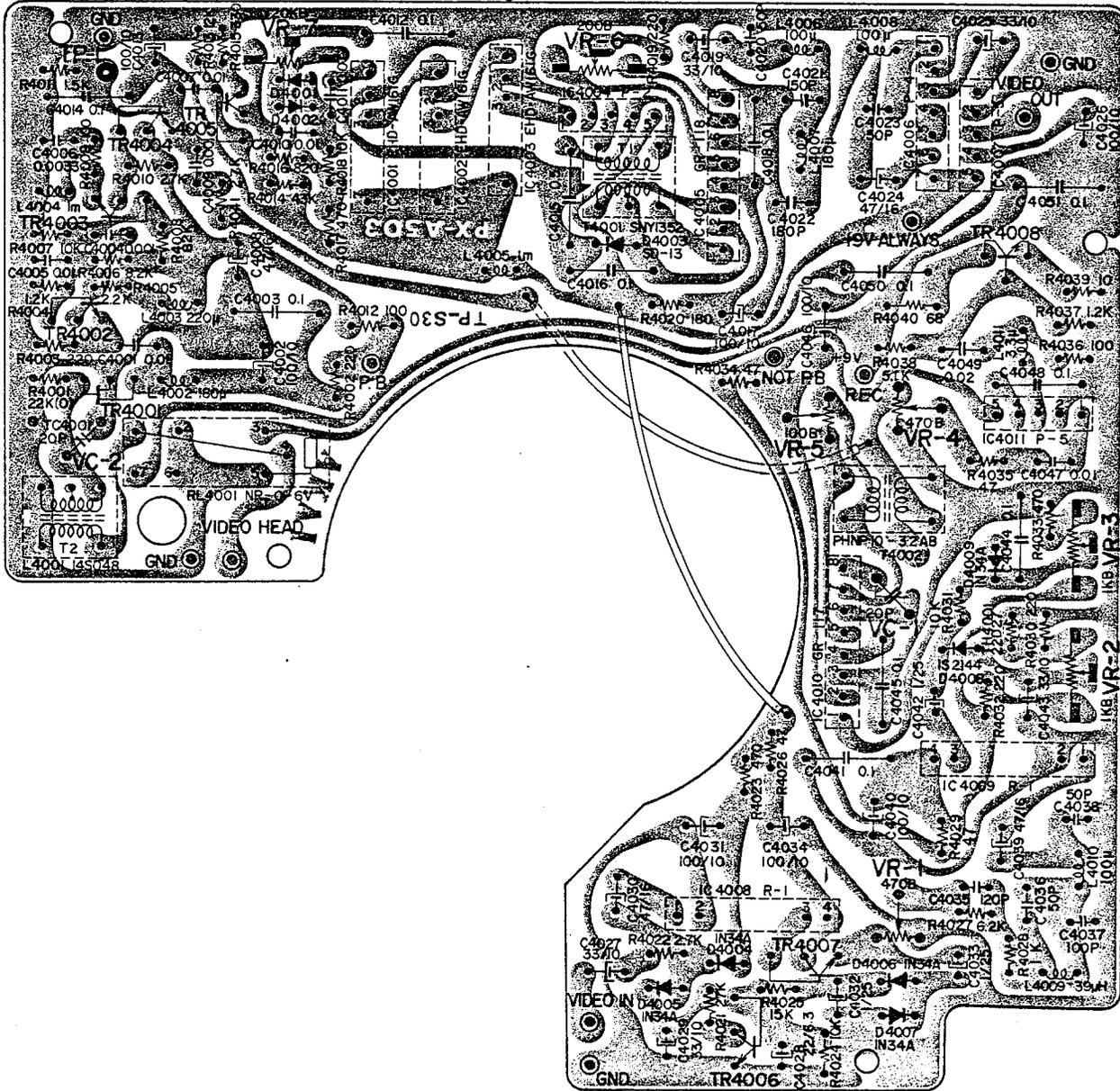


Fig. 1 Video Amp. P.C. Board (PX-A503)

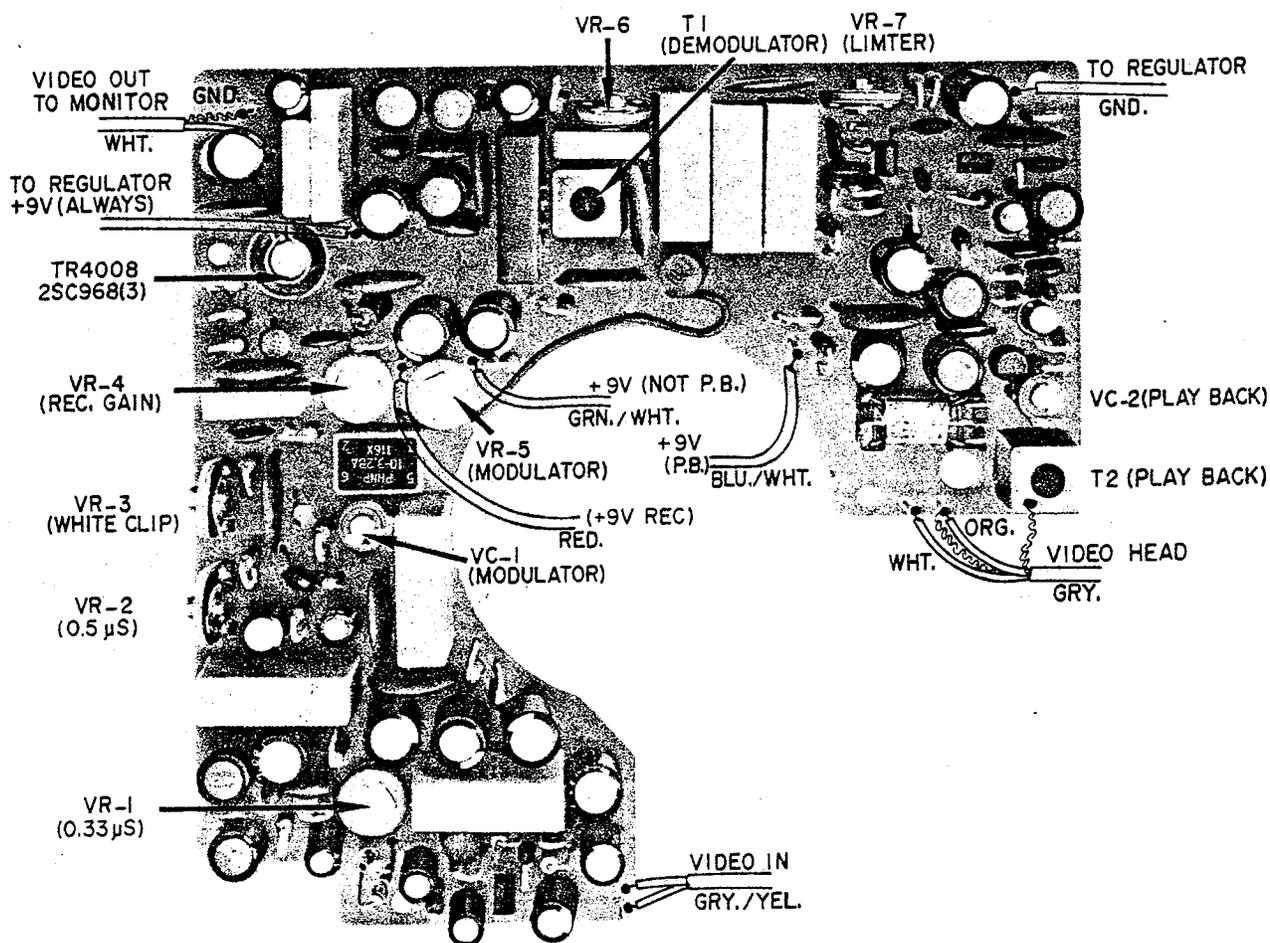


Fig. 2 Video Amp. P.C. Board (PX-A503)

### 1. MODULATOR BALANCE ADJUSTMENT (Stop Mode)

- Connect Oscilloscope to TP-1.
- Turn VR-1 fully counter-clockwise and VR-3 fully clockwise. Set VR-2 and VR-5 to center point.
- Adjust VC-1 so that the positive and negative part of waveform is equal as shown in Fig. 3.

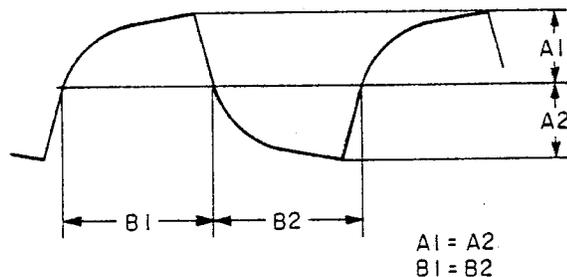


Fig. 3

### 2. FREQUENCY DEVIATION ADJUSTMENT (Stop Mode)

- Connect a Test Pattern Signal (1.4 V p-p) supplied from a monoscope between Pin "B" of Monitor Connector and Chassis (Pin "D").  
(If a monoscope is not available, with Vidicon Camera VC-110, photograph the resolution chart (intensity of chart must be 1000 lux and video signal 1.4 V p-p).)
- Connect Oscilloscope to TP-1.
- Adjust VR-2 so that  $T_1$  in Fig. 4 is  $0.5 \mu\text{s}$  (2 MHz).
- Adjust VR-1 so that  $T_2$  in Fig. 4 is  $0.33 \mu\text{s}$  (3 MHz).

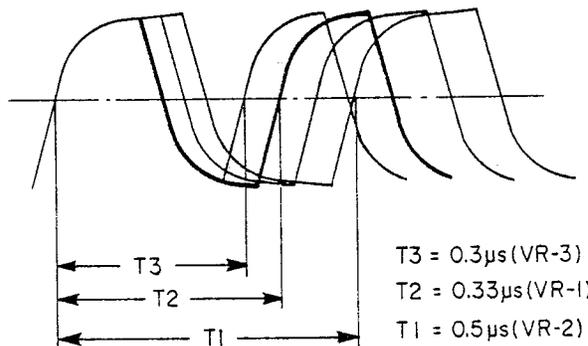


Fig. 4

- (e) Adjust VR-3 so that  $T_3$  in Fig. 4 is  $0.3 \mu\text{s}$  (3.3 MHz).

CAUTION:  $T_3$  is white clip level adjustment and because the line which appears on the oscilloscope is extremely thin and hard to see, aim camera at a particularly bright subject and alternately put on and remove lens cover to confirm function of white clip at  $0.3 \mu\text{s}$ .

### 3. CARRIER LEAK ADJUSTMENT (Modulator Balance, Limiter Balance, Demodulator Balance)

- Disconnect Video Input Signal.
  - Connect Oscilloscope to Video Output Terminal or Pin "F" of Monitor Connector (8P). Set Oscilloscope Vertical Gain Control to maximum.
  - Adjust VC-1, VR-6, and VR-7 so that the amplitude of the waveform appearing on oscilloscope is minimum. (It is ideal for the waveform to be a single thin horizontal line).
- CAUTION: If carrier leak cannot be adjusted with VC-1, VR-6, and VR-7, try adjusting VR-5 also.

### 4. VIDEO OUTPUT LEVEL ADJUSTMENT

- Supply a 1.4 V p-p Video Signal from camera or monoscope.
  - Connect Oscilloscope to Video Output Terminal or Pin "F" of Monitor Connector (8P).
  - Adjust core of Demodulator Transformer  $T_1$  so that the video output signal amplitude is 1.4 V p-p.
- CAUTION: In case the video input signal is less than 1.4 V p-p, adjust so that video output is the same amplitude as the input signal.

### 5. PLAYBACK CIRCUIT EQUALIZATION ADJUSTMENT

- Connect Oscilloscope to TP-1.
- Play back a Standard Video Reference Tape. Adjust VC-2 so that R.F. Envelope Amplitude is maximum and also the error between  $A_1$  (part at which brightness is intense) and  $A_2$  (part at which brightness is faint) is as small as possible (Refer to Fig. 5).



RF ENVELOPE

Fig. 5

### 6. RECORDING LEVEL ADJUSTMENT

- Record and play back a Test Pattern Signal (or photographed Resolution Chart Signal) and adjust recording level so that the R.F. Envelope amplitude is maximum.
  - At recording mode, connect Oscilloscope to the Heat Sink of Transistor TR-4008 (2SC 968) and measure the recording level.
  - With recording waveform amplitude within a 2 V to 3 V range, adjust VR-4 to optimum value.
- CAUTION: Adjust recording level so that error between  $A_1$  and  $A_2$  of R.F. envelope shown in Fig. 5 is non-existent.

### 7. CARRIER LEAK ADJUSTMENT AT RECORDING AND PLAYBACK MODE

- Connect VC-110 Vidicon Camera and record and playback a scene in which light and dark difference is considerable and observe whether or not a carrier leak appears on the monitor screen.
- If a carrier leak appears, at playback mode, attempt to eliminate carrier leak stripe by adjusting both VR-6 and VR-7 slightly.
- If VR-6 or VR-7 is adjusted, make carrier leak adjustment outlined in Item (3) above again.
- Finally, record and play back a signal supplied from TV or camera and check picture quality.

- It is ideal for R.F. Envelope to be more than 0.4 V p-p, but this varies depending upon the quality of video head tip and CTL Head adjustment.

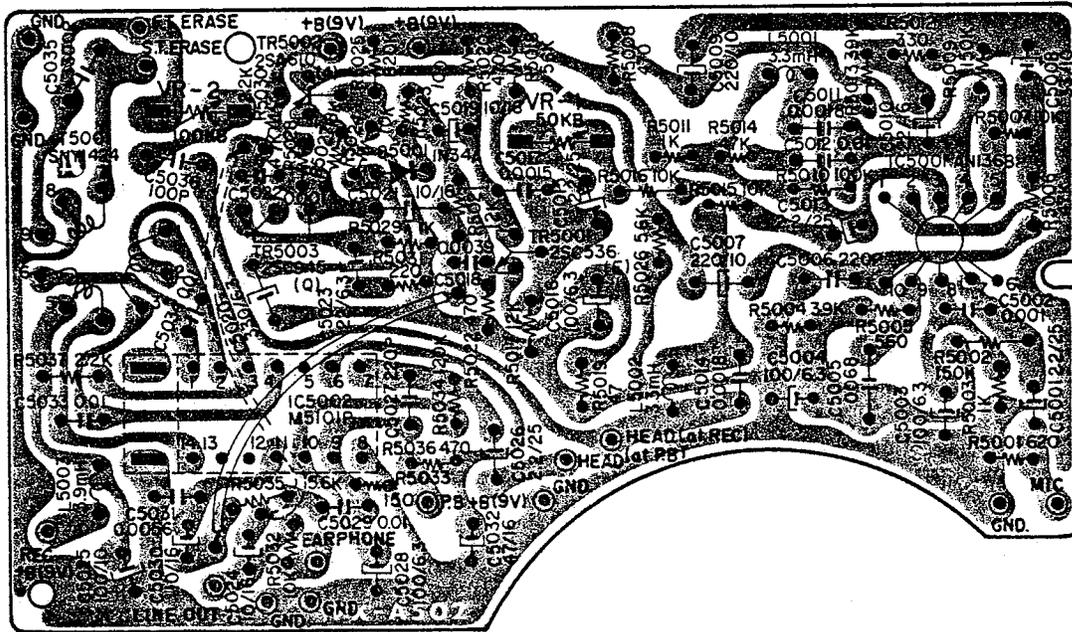


Fig. 1 Audio Amp. P.C. Board (PX-A502)

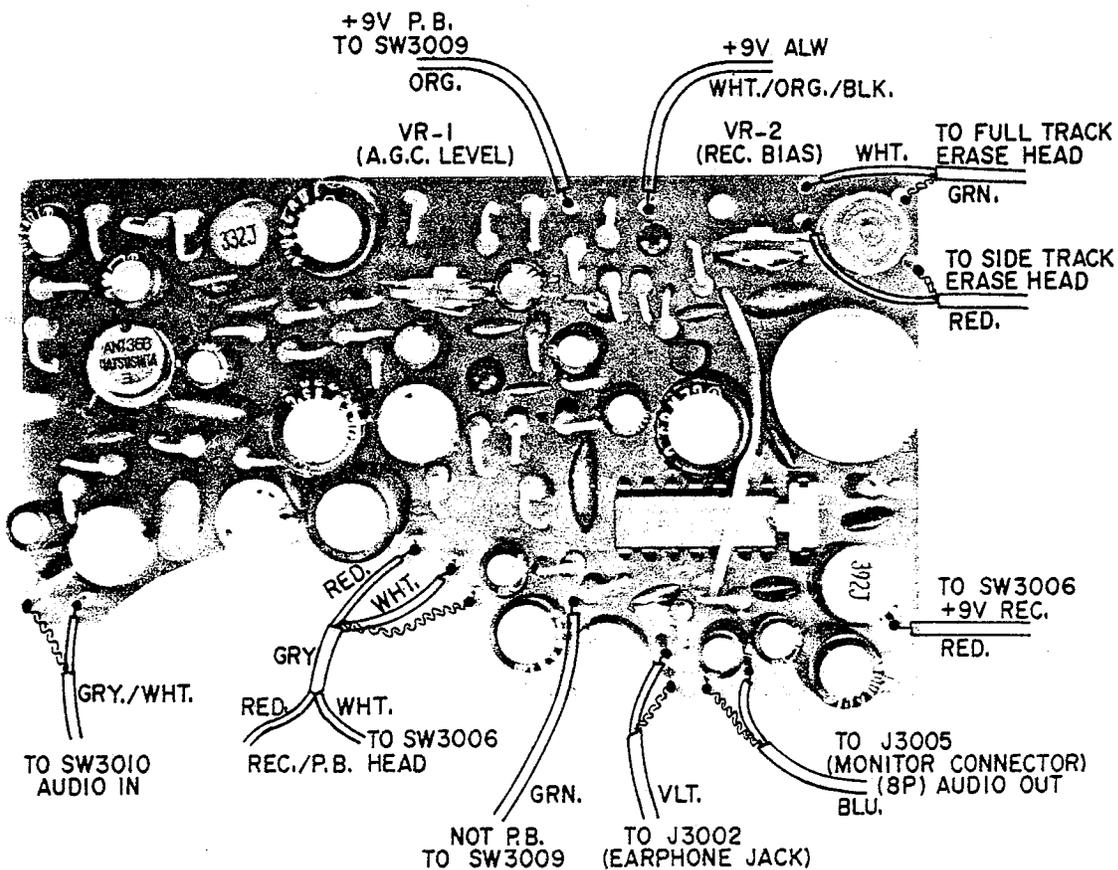


Fig. 2 Audio Amp. P.C. Board (PX-A502)

### 1. RECORDING BIAS VOLTAGE ADJUSTMENT

- (a) Connect a V.T.V.M. (107 A Type) to the Audio Head Terminal.
- (b) Adjust VR-2 (100 KB) so that at recording mode, the Bias Voltage is 20 V rms.

### 2. PLAYBACK OUTPUT LEVEL AND NOISE LEVEL CHECK

- (a) Connect a High Sensitivity V.T.V.M. between Pin "J" of Monitor Connector (8 P) and Chassis.
- (b) Play back an Audio Level Test Tape (700 Hz, "0" VU recorded tape) and confirm that the V.T.V.M. indication is within a range of 1 V rms  $\pm$  0.3 V.

CAUTION : If audio playback level is not within specifications, check playback head height.

- (c) With tape removed, confirm that at playback mode the noise level is less than -36 dB.

### 3. RECORDING LEVEL (AGC Level) ADJUSTMENT

- (a) Connect an Audio Oscillator to the External Microphone Jack and supply a 1,000 Hz. -60 dB sine-wave signal.
- (b) Connect a High Sensitivity V.T.V.M. between Pin "J" of Monitor Connector (8 P) and Chassis.
- (c) Adjust VR-1 (50 KB) so that the V.T.V.M. indication is 1 V rms.
- (d) Under this condition, record, and then play back to check whether or not the V.T.V.M. indication is within a 1 V  $\pm$  0.3 V range.

If not within specified range, readjust VR-1 and set so that the recording/playback level is within 1 V  $\pm$  0.3 V.

CAUTION : If recording/playback level is still not within specified value in spite of having adjusted VR-1, with VR-2, alter the bias voltage somewhat and recheck.

- (e) Playback the tape recorded in item (d) above and, with a distortion meter, check whether or not the distortion level is less than 6%.

### 4. FREQUENCY RESPONSE CHECK

- (a) Connect an Audio Oscillator to the External Microphone Jack. Record a 1 kHz, a 10 kHz, and 100 Hz sine wave signal (about 10 seconds each) at -60 dB recording level.
- (b) Rewind and play back tape. Compare the 100 Hz and 10 kHz output level with the 1 kHz output level and check whether or not the error is within a  $\pm$ 5 dB range.

CAUTION : If frequency response is not within specifications, change the Bias Voltage slightly and recheck.

# XI. PINCH ROLLER SOLENOID CONTROL CIRCUIT (PX-508)

(40)

The purpose of this circuit is to reduce the battery discharge current as per following function :

At the moment the play key or the record key is depressed, the maximum current (about 0.7 amperes) passes through part of the pinch roller solenoid. After the solenoid is energized (within about 3 seconds), the holding current, (about 0.15 amperes) passes through the pinch roller solenoid, thus reducing the battery discharge current.

There is no adjustment part in this circuit. However, if the current flowing through the pinch roller solenoid does not change after 3 seconds, condenser C-9001 (22/6.3) is shorted.

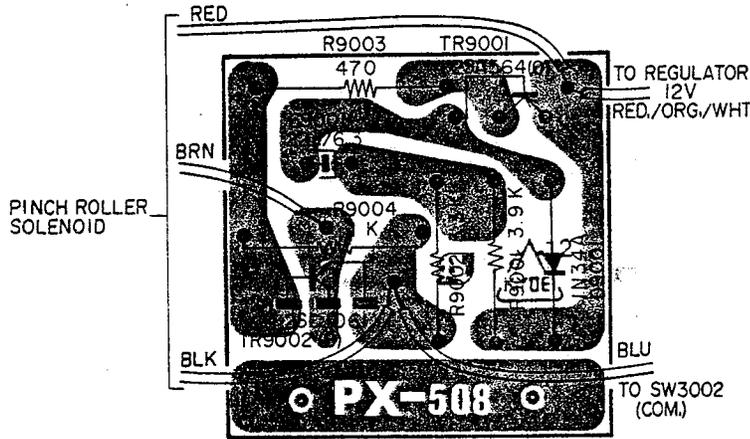


Fig. 1 Pinch Roller Solenoid Control P.C. Board (PX-508)

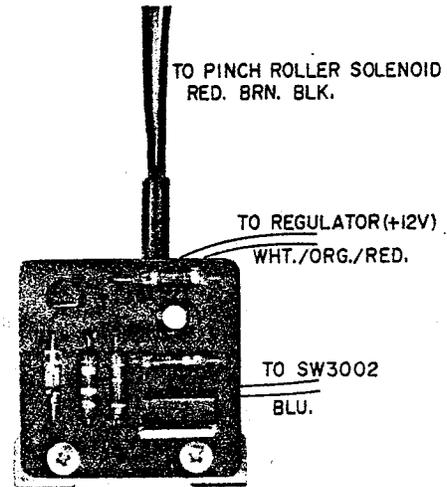


Fig. 2 Pinch Roller Solenoid Control P.C. Board (PX-508)

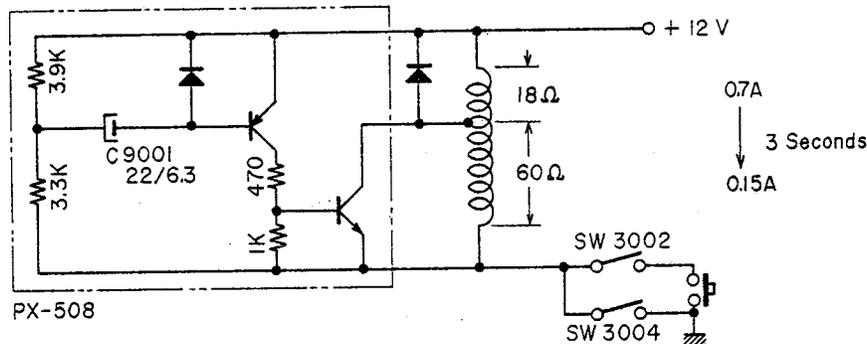


Fig. 3 Pinch Roller Solenoid Control P.C. Board (PX-508)

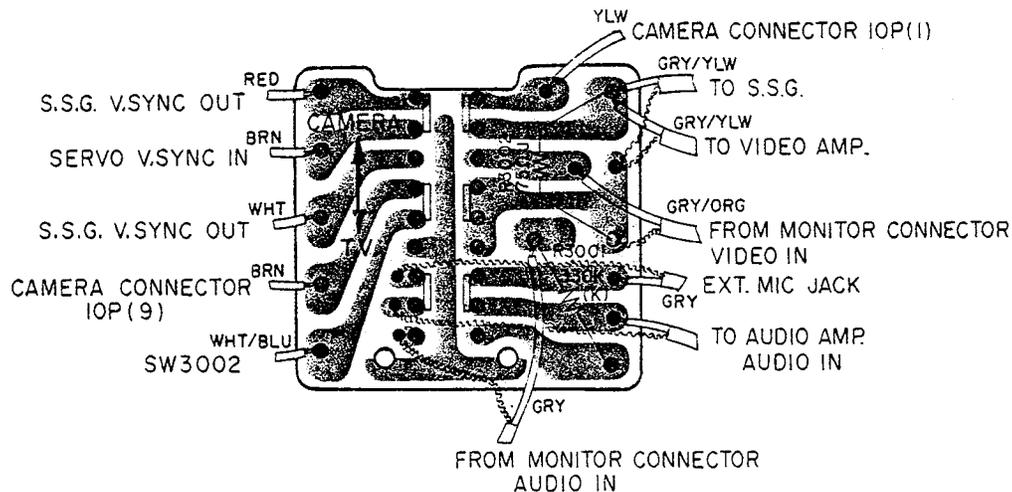
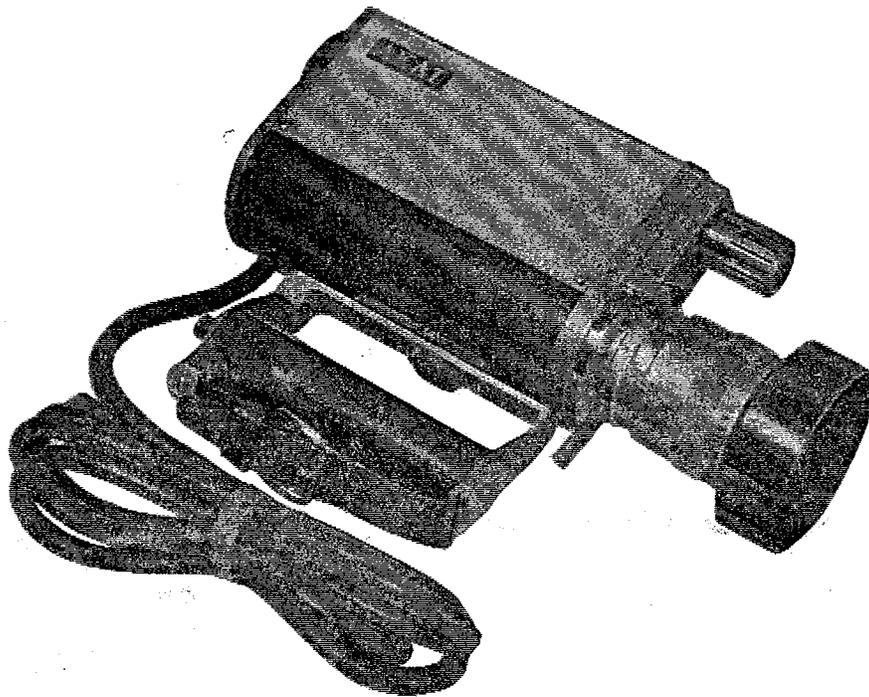


Fig. 4 Camera & TV Selector P.C. Board (PX-A148)

(41)

## **VT-110 RECORDER SCHEMATIC DIAGRAM**

1. BLOCK DIAGRAM
2. VIDEO SCHEMATIC DIAGRAM
3. S.S.G. SCHEMATIC DIAGRAM
4. SERVO SCHEMATIC DIAGRAM
5. AUDIO SCHEMATIC DIAGRAM
6. MOTOR DRIVE SCHEMATIC DIAGRAM
  
7. BLOCK DIAGRAM (VT-100S)
8. S.S.G. SCHEMATIC DIAGRAM (VT-100S)



**SECTION 2**

**CAMERA (VC-110) REPAIR  
AND ALIGNMENT**

I.	SPECIFICATIONS (VIDICON CAMERA) .....	44
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V.	OPTIONAL ADJUSTMENTS (VIEW FINDER) .....	50
	SCHEMATIC DIAGRAMS .....	55

# I. SPECIFICATIONS

(44)

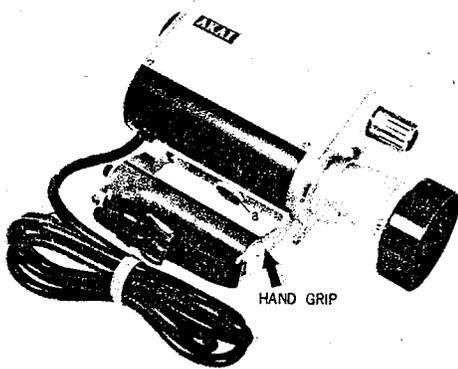
**VIDICON** : 2/3" Separate Mesh Vidicon Tube  
**SCANNING SYSTEM** : External Sync. Signal (Supplied from Recorder)  
**VIDEO OUTPUT** : 1.4 Vp-p Composite Video Negative Sync.  
**VIDEO S/N RATIO** : Better than 40 dB  
**HORIZONTAL RESOLUTION** : More than 400 lines  
**HORIZONTAL FREQUENCY** : U.S. type : 15,75 kHz,  
 CCIR. type : 15.625 kHz

**VERTICAL FREQUENCY** : U.S. type : 60 Hz,  
 CCIR. type : 50 Hz  
**APERTURE SELECTOR** : F1.8 and 5.6 with Automatic Light Compensator System  
**LENS** : Zoom Lens (10 to 40 mm F1.8) or (9 to 54 mm F1.8)  
**VIEW FINDER** : One-Eye reflex system  
**POWER SOURCE** : DC 9 V (460 mA) (Supplied from Recorder)  
**MICROPHONE** : 600  $\Omega$ , -60 dB (built-in microphone)

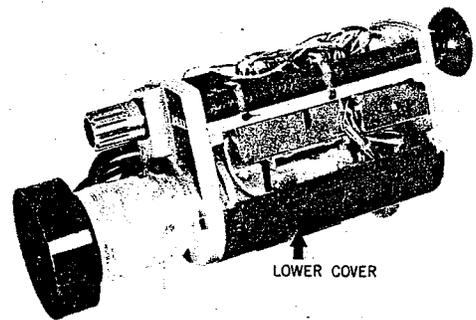
# II. CASE REMOVAL

In case of trouble, etc. necessitating disassembly, please disassemble in the order shown in photographs. Re-assemble in reverse order.

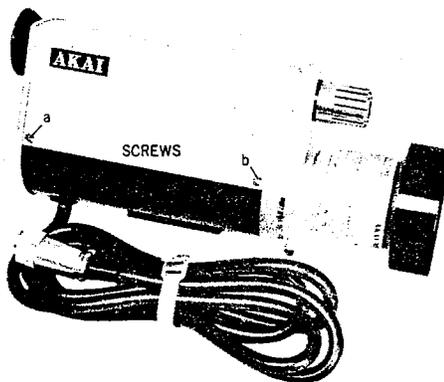
1



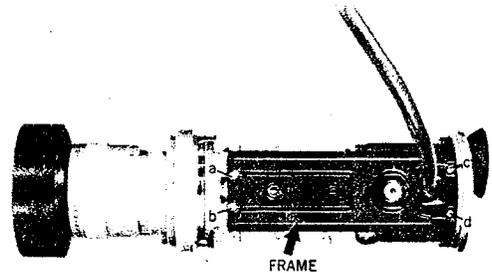
4



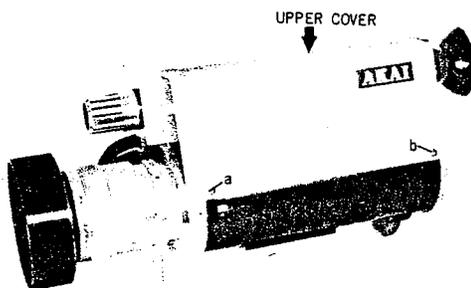
2



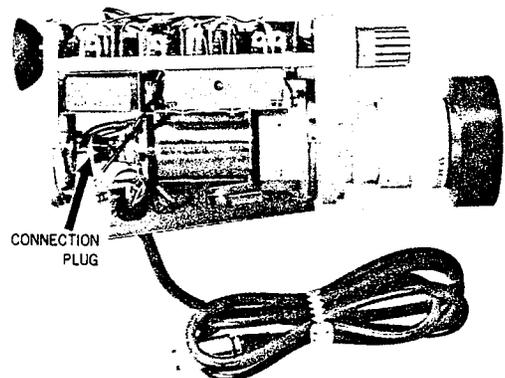
5



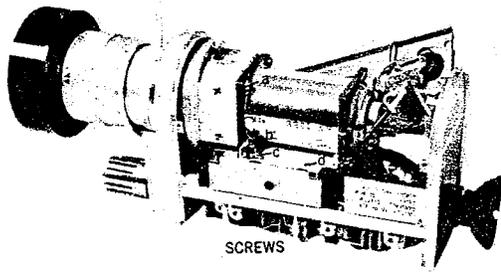
3



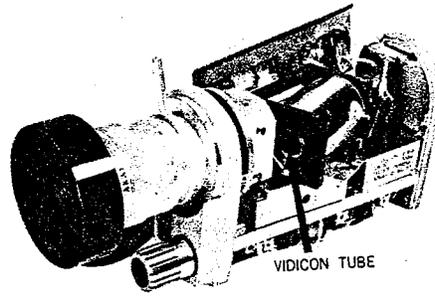
6



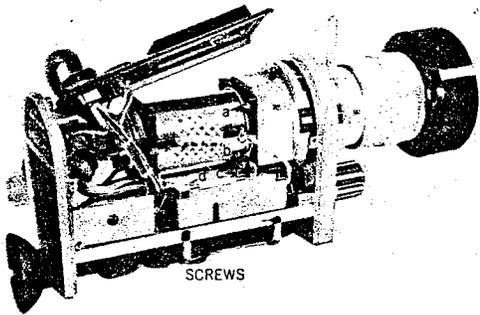
7



9



8



### III. ADJUSTMENT PROCEDURE

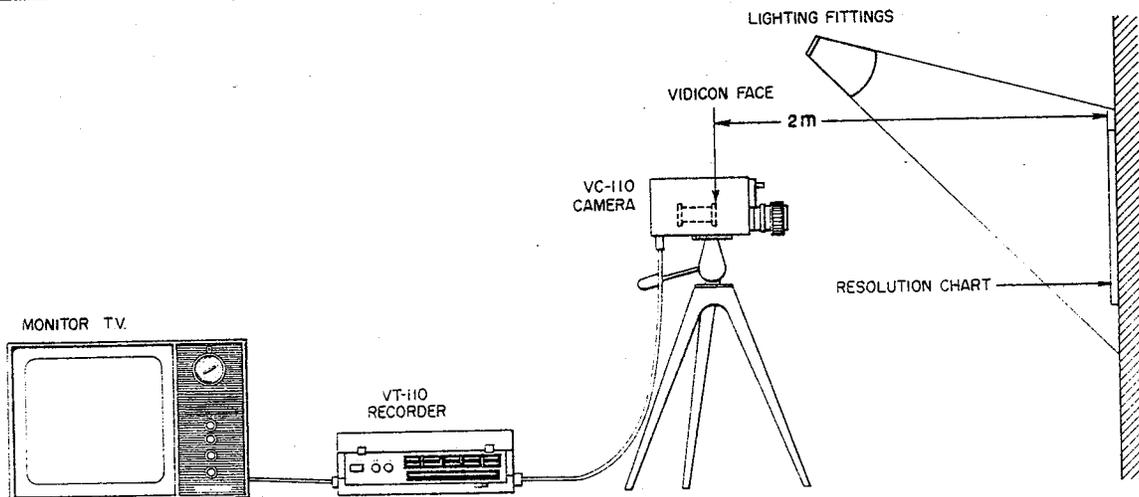


Fig. 1 Preparation For Camera Adjustment

1. As in Fig. 1, hang a resolution chart on a wall and try to obtain a lighting intensity of 1000 Lux.
2. Position of Camera  
Set camera at position where vidicon face is 2 meters (1.8 yards) away from the resolution chart.
3. Set camera Aperture Selector to "5.6" or "1.8".
4. Position Zoom Lever  
Set Zoom Lever to TELE (40 mm or 54 mm).

# IV. ADJUSTMENTS

## 1. CONFIRMATION OF DEFLECTION (To prevent Vidicon Tube from sticking)

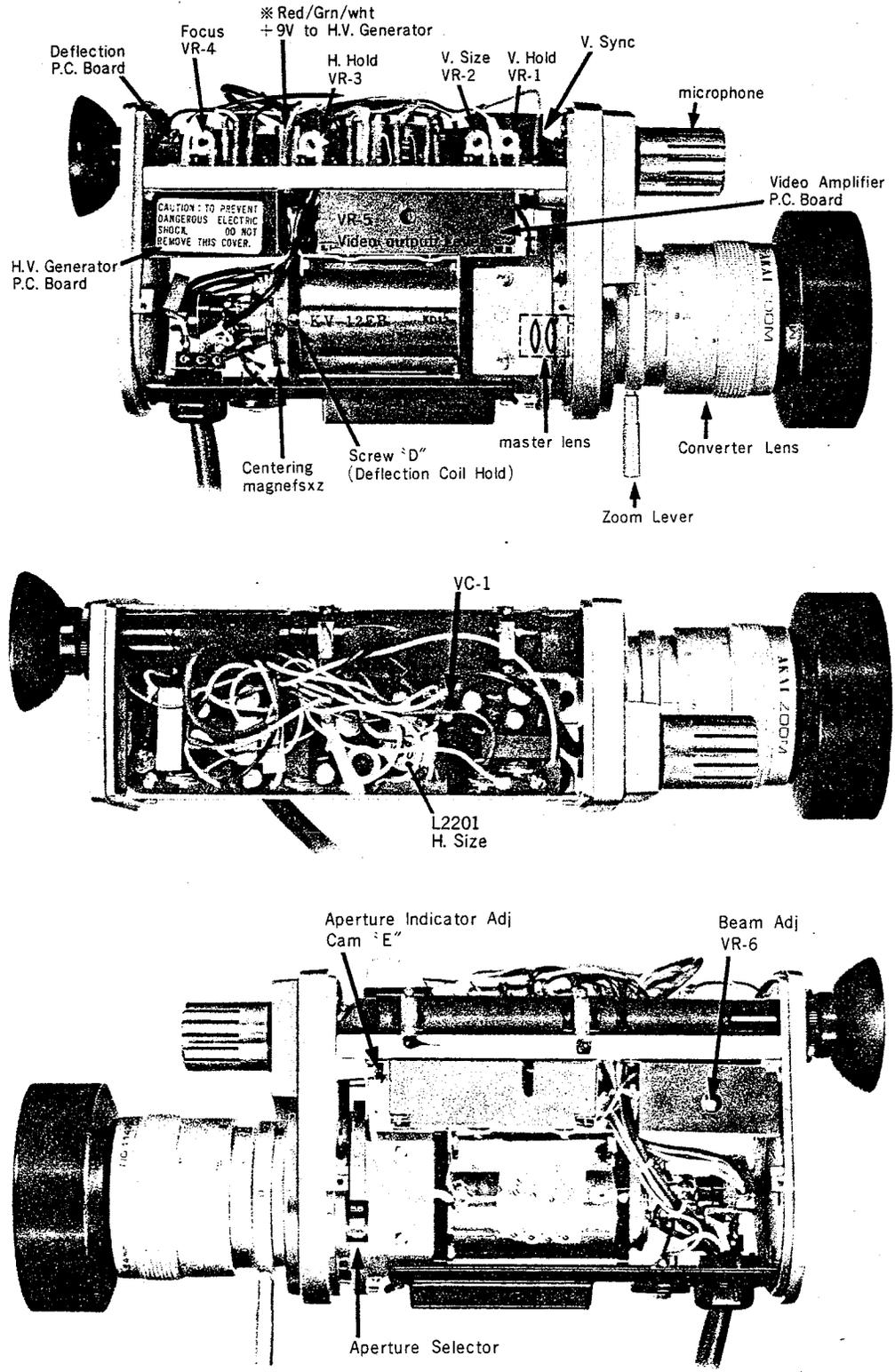


Fig. 2

- (a) Disconnect Red/Grn/Wht +9 V voltage supply lead wire from Deflection P.C. Board to High Voltage Generator P.C. Board (marked "※" at upper part of Fig. 2).
- (b) Connect Oscilloscope between P.C. Board V. Yoke Terminal (Green) and chassis and confirm that the waveform appearing is as shown in Fig. 3.

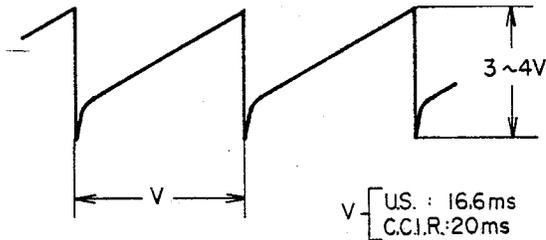


Fig. 3 Vertical Deflection Waveforms

- (c) Connect Oscilloscope between P.C. Board H. Yoke Terminal and chassis and confirm that the waveform appearing is as shown in Fig. 4.

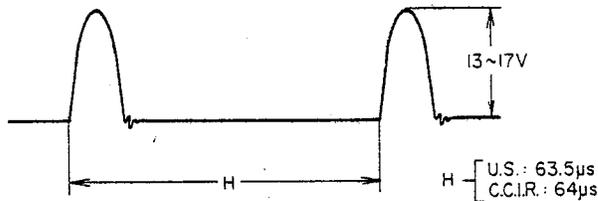


Fig. 4 Horizontal Deflection waveforms

- (d) If waveforms are as described in items (b) and (c) above, re-connect Red/Grn/Wht wire (disconnected in item (a)) and proceed with the next adjustment. CAUTION: In case the waveforms as outlined in items (b) and (c) above do not appear, the Deflection P.C. Board must be repaired.

## 2. CENTERING ADJUSTMENT

- (a) Set camera so that the center part of the resolution chart appears in the center of the monitor screen.
- (b) Disconnect Deflection P.C. Board focus coil lead wire (Wht or Brn). Adjust centering magnet so that the center of the faded picture is in the center of the monitor screen.

CAUTION: At this time, set Zoom Lever to "TELE" (40 mm or 54 mm) position.

- (c) Connect focus coil lead wire (disconnected in item (b) above). Fine adjust centering magnet so that the picture on monitor screen does not deviate from center position when VR-4 is turned from minimum to maximum.

- (d) With zoom lever at "Tele" position, set camera so that the center part of the resolution chart is at the center of monitor screen.

While turning lever from Tele to Wide, center of picture should not move from the center of monitor screen. In case of a shift from center of monitor screen, move Deflection Coil Assembly up and down and to the left and right while moving zoom lever from Tele to Wide and tighten coil holding screw at position at which the center of picture is perfectly centered.

## 3. FOCUS ADJUSTMENT

- (a) Focus Current Adjustment  
Rotate converter lens and focus. Turn VR-4 to obtain clearest picture on monitor screen.
- (b) Master Lens Adjustment  
Under conditions shown in Fig. 1, set converter lens distance scale to 2 meter position. Rotate master lens until picture image is focused. Deviation of indicator line must be within 1.5 mm from the center of the numeral "2" as shown in Fig. 5.

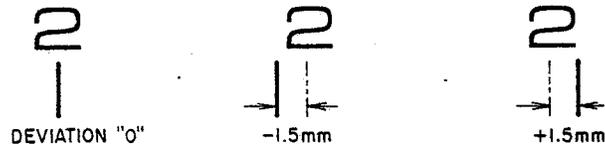


Fig. 5

## 4. DEFLECTION COIL POSITION ADJUSTMENT

If picture on monitor screen is tilted as shown in Fig. 6, loosen deflection coil holding screw (Screw "D", Fig. 2), and turn deflection coil until picture is straight.

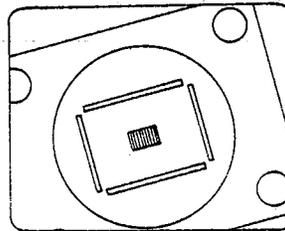


Fig. 6 Tilted picture

## 5. BEAM ADJUSTMENT

- (a) Aim camera at something like a flat part of a white wall surface. Turn VR-6 fully counterclockwise (to increase beam current to maximum).
- (b) When VR-6 is turned clockwise little by little, a thin black horizontal line will appear on the upper part of the monitor screen and gradually come downward and disappear when it reaches about the middle of the screen. Set VR-6 at point at which this black line disappears.

- (c) As the black horizontal line described above is very thin, it may be extremely difficult to see on the monitor screen. In this case, photograph a florescent light. Move zoom lever from Tele to Wide and set VR-6 at point at which the white part of the picture is clearest (within the range in which white part is not out of focus).

### 6. VERTICAL HOLD ADJUSTMENT

(Proper Vertical Hold adjustment using the following method will assure protection against trouble resulting from change in climatic conditions).

- (a) Connect Frequency Counter to V. Yoke (Grn and Yel). Turn VR-1 clockwise to the point at which picture on monitor screen begins to flow downward.
  - (b) At this point, disconnect vertical sync lead wire and read Frequency Counter indication.
- The value at this time is the lower limit of the vertical oscillator free running frequency.

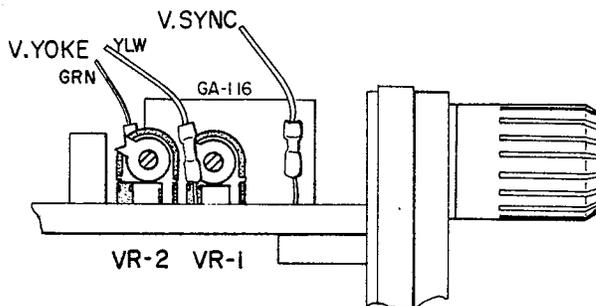


Fig. 7

- (c) Connect the vertical sync lead wire and turn VR-1 counterclockwise to the point at which the picture on monitor screen starts to flow upward.
- (d) Disconnect vertical sync lead wire and read value of frequency counter. The value at this time is the upper limit of the vertical oscillator free running frequency.
- (e) For the most stable triggering, it is ideal to set the free running frequency at 52 to 54 Hz (U.S. Type) or 42 to 44 Hz (CCIR Type). Therefore, set VR-1 to obtain a frequency near the center dividing point of the frequency readings in items (b) and (d) within the range of 52 to 54 Hz (US.) or 42 to 44 Hz (CCIR).

EXAMPLE :

(b) lower limit : 46 Hz

(d) upper limit : 58 Hz

$$58 - 46 = 12$$

$$\frac{12}{2} = 6$$

$$46 + 6 = 52$$

In this case, set VR-1 to obtain a frequency of 52 Hz.

- (f) After VR-1 adjustment has been completed, reconnect V. Sync lead wire.

### 7. HORIZONTAL HOLD ADJUSTMENT

- (a) Set monitor to under-scanning condition (so that a portion of the raster can be seen on monitor screen). (See Fig. 8)  
As VR-3 is turned clockwise, the line at left side of raster will gradually move inward. Adjust VR-3 so that on a 19" screen a thin line appears at the left hand side of the raster about 1 cm away from the left hand edge of the screen.
- (b) In case under-scanning cannot be attained, while observing monitor screen, adjust VR-3 as follows. Set VR-3 fully counter-clockwise (picture will be very unstable). Then, turn VR-3 clockwise to the point at which picture is perfectly stable. From this point, again turn VR-3 further clockwise 90° beyond the stable position and set at this point.

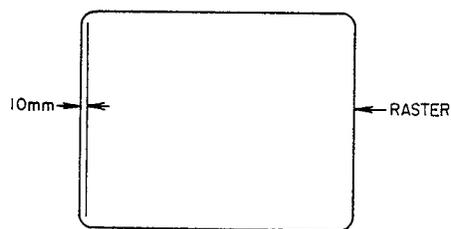


Fig. 8

### 8. VERTICAL SIZE AND HORIZONTAL SIZE

- (a) Vertical Size is adjusted with VR-2, and Horizontal Size is adjusted by rotating the round metal plate at the upper part of L-2201 (See Fig. 9).

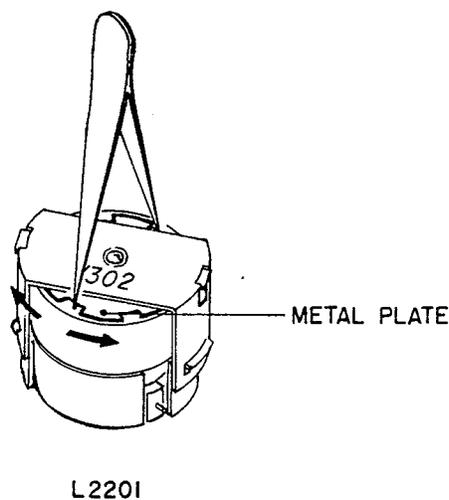


Fig. 9

(49)

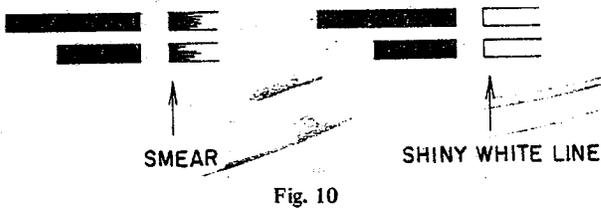
- (b) Photograph resolution chart and adjust VR-2 and L-2201 so that the picture on monitor screen and through view finder are the same size.  
At this time the height/width ratio of monitor picture should be adjusted to 3 : 4.

### 9. VIDEO OUTPUT LEVEL ADJUSTMENT

- (a) Connect Oscilloscope to VTR (VT-110) 10P camera connector Pin 1.
- (b) Under conditions in Fig. 1, with a lighting intensity of 1000 Lux at resolution chart, turn VR-5 fully clockwise (at this time, the composite video signal amplitude becomes maximum).  
From this condition, turn VR-5 counter-clockwise until the composite video signal amplitude becomes 1.4 V p-p.

### 10. VIDEO AMP CHARACTERISTIC ADJUSTMENT

While observing monitor screen, adjust VC-1 so that a smeared or shiny white line does not appear following the thick black line on resolution chart. (See Fig. 10)  
(VC-1 is located on the Video Amp P.B. Board, but can be adjusted through the opening on Deflection P.C. Board as shown in Fig. 2).



# V. OPTICAL ADJUSTMENTS (View Finder)

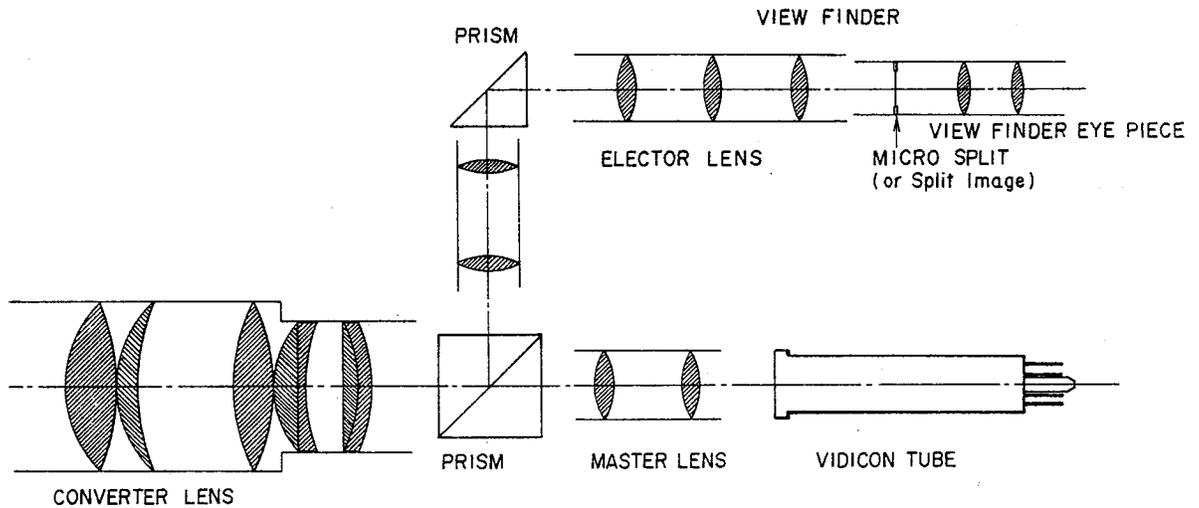


Fig. 11 Optical Diagram

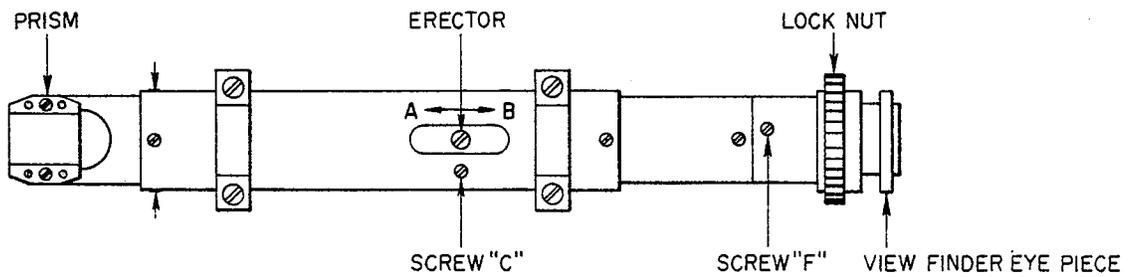


Fig. 12 View Finder

Ref. Fig. 11 and 12

- Under conditions shown in Fig. 1, set camera so that picture of resolution chart is positioned in the center part of monitor screen. Look at scene through view finder. If picture reflected in view finder is the same as that on monitor screen, optical adjustment is not necessary.

- View Finder eye piece is adjustable to individual eye sight. Adjust View Finder eye piece so that Micro-split or Split Image in center of view finder is clearly visible.

**Caution**

Before adjustment of view finder eye piece, loosen lock nut. After adjustment, tighten lock nut to hold at adjusted position.

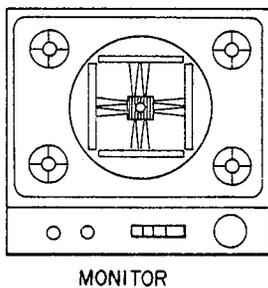


Fig. 13

- Loosen Screw "C" (shown in Fig. 12) and adjust erector so that the vertical stripe on resolution chart is clearly visible. At this time the monitor picture must be focused. Move erector position between points A and B (Fig. 12) until perfectly focused points are found and tighten Screw "C". (Ref. Fig. 15.)

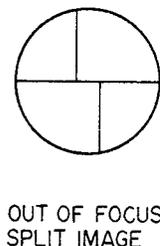
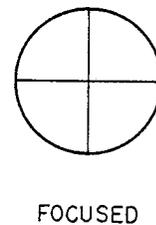
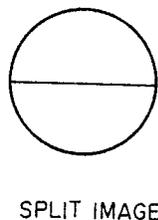
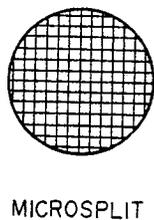


Fig. 14

Fig. 15

4. When camera is set so that the center of monitor picture is in center of screen, if picture in view finder is not aligned, proceed with the following adjustments:

- (a) If picture in view finder is tilted as shown in Fig. 16, loosen three screws (j, k, l) and adjust angle of prism block until picture is properly positioned.

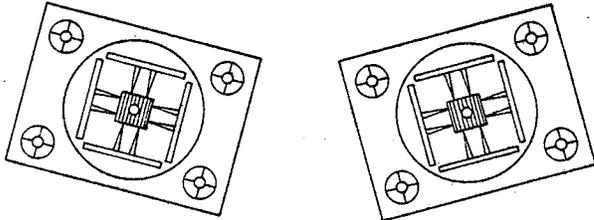


Fig. 16 Tilted View Finder Picture

- (b) If picture is not in center of view finder, loosen Screw "m" (shown in Fig. 17) and adjust angle of prism by turning screws O.P.Q.R. until picture is in center of view finder.

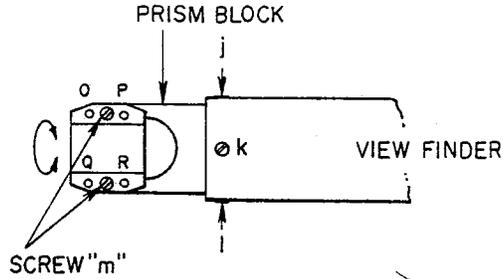


Fig. 17

5. Aperture Indicator

When Aperture Selector is switched from F 1.8 to F 5.6, a red aperture indicator will appear in top part of view finder.

If aperture indicator appears as shown in Fig. 18 (B) or (C), properly position by turning Cam "E" (Fig. 2).

APERTURE INDICATOR

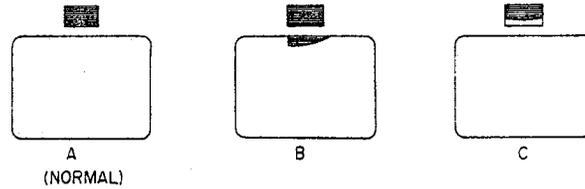


Fig. 18

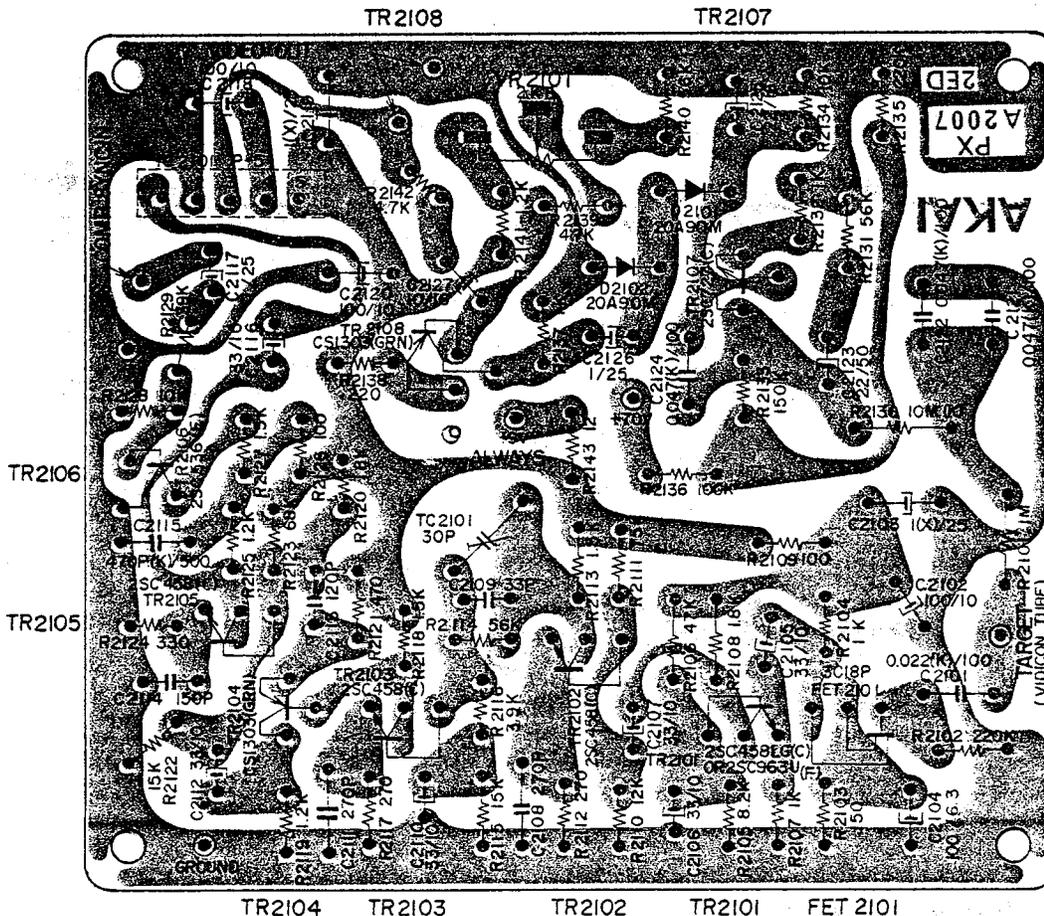


Fig. 19 Video Amp. P.C. Board (PX-A2007)

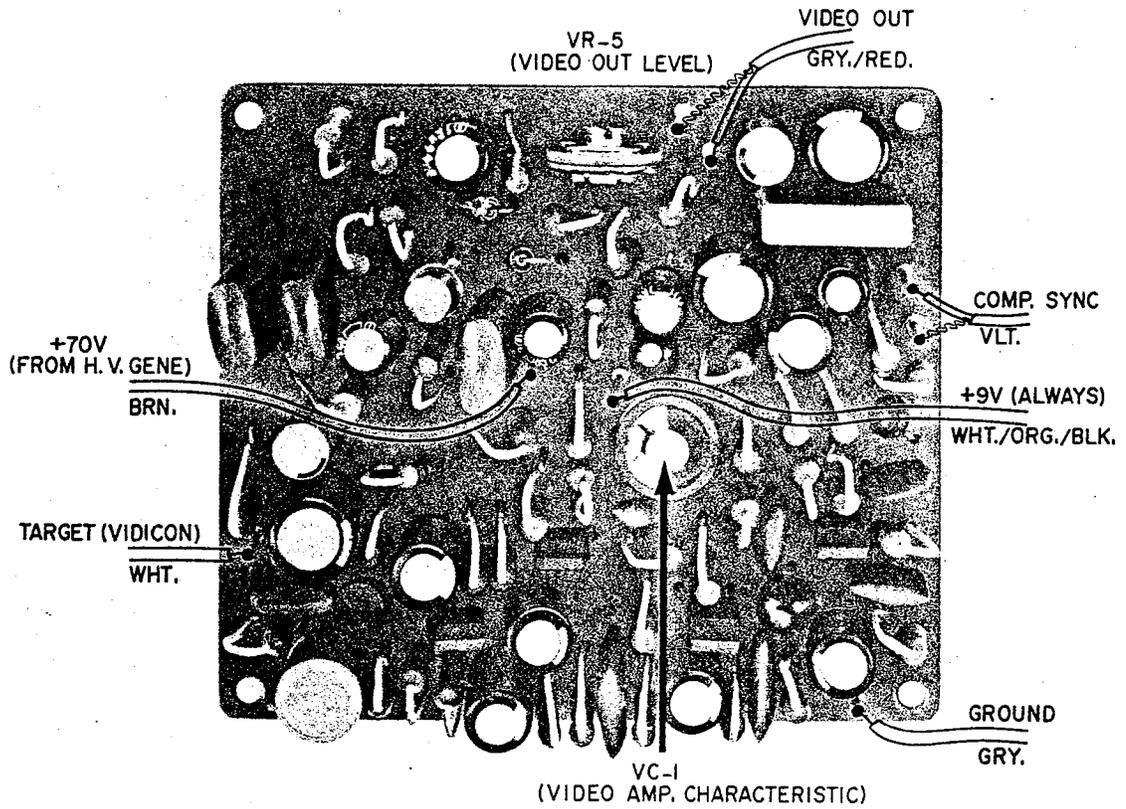


Fig. 20 Video Amp. P.C. Board (PX-A2007)

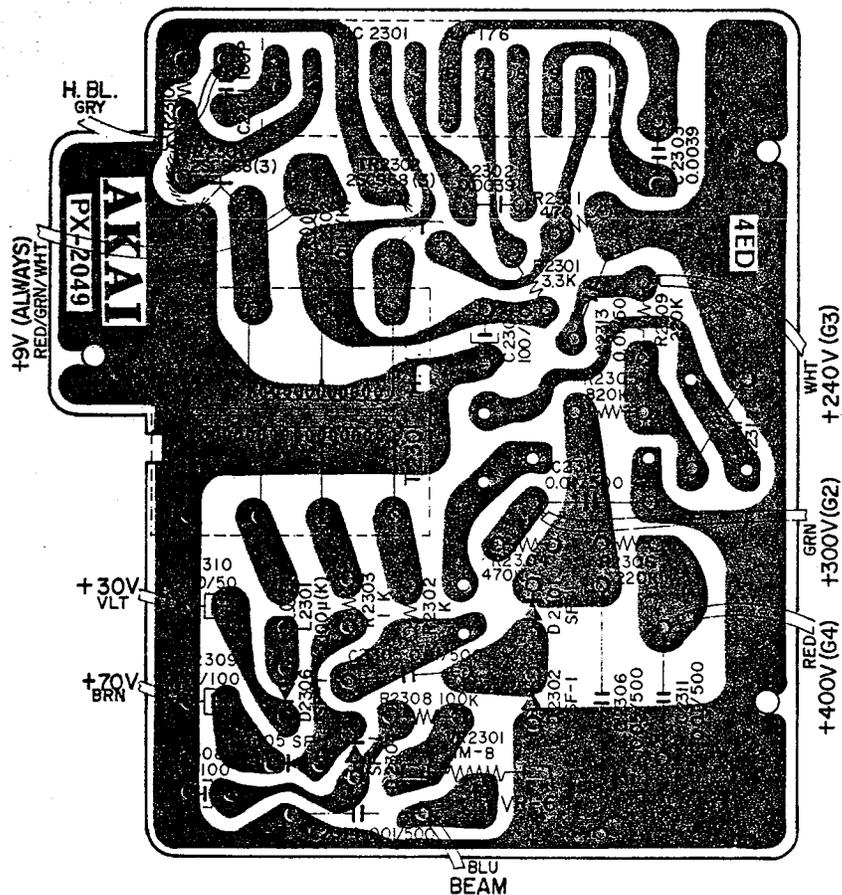


Fig. 21 H.V. Generator P.C. Board (PX-2049 4ED)



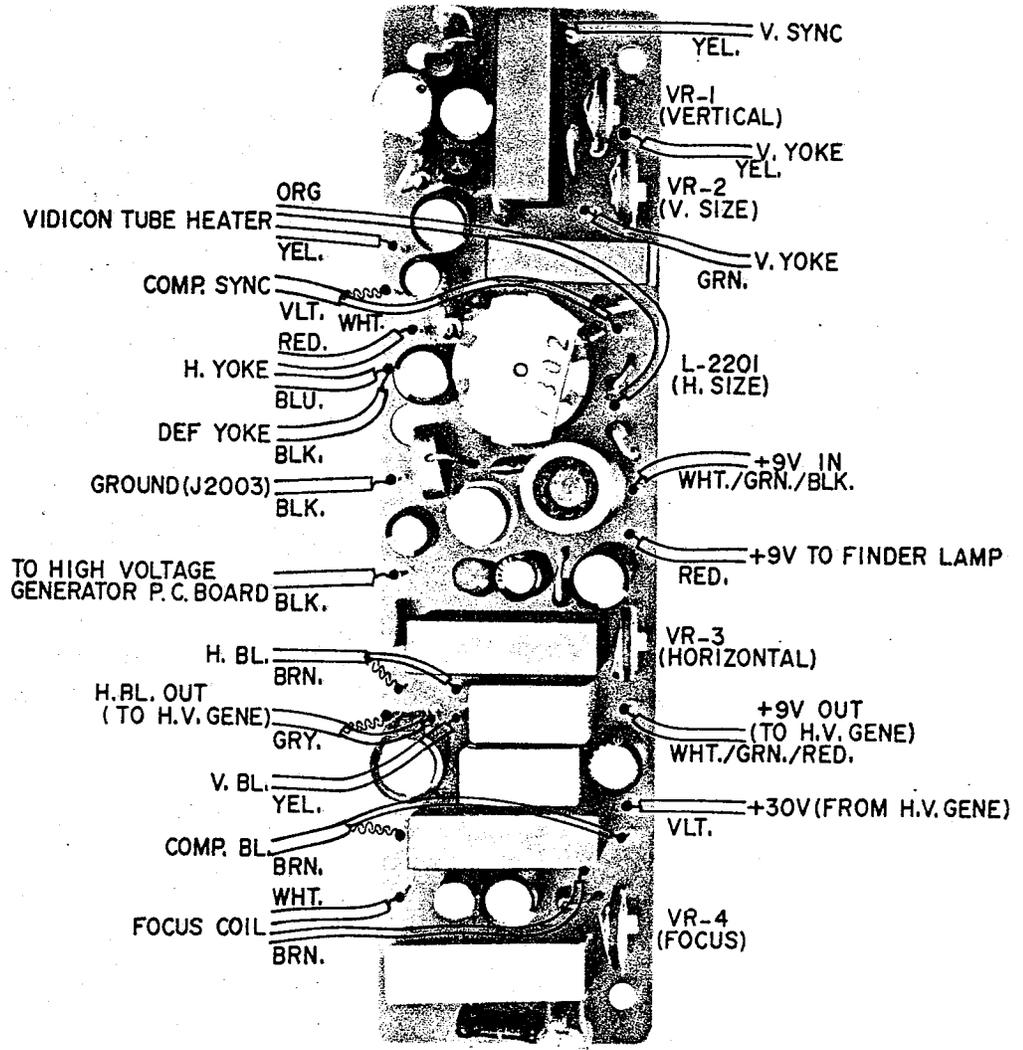
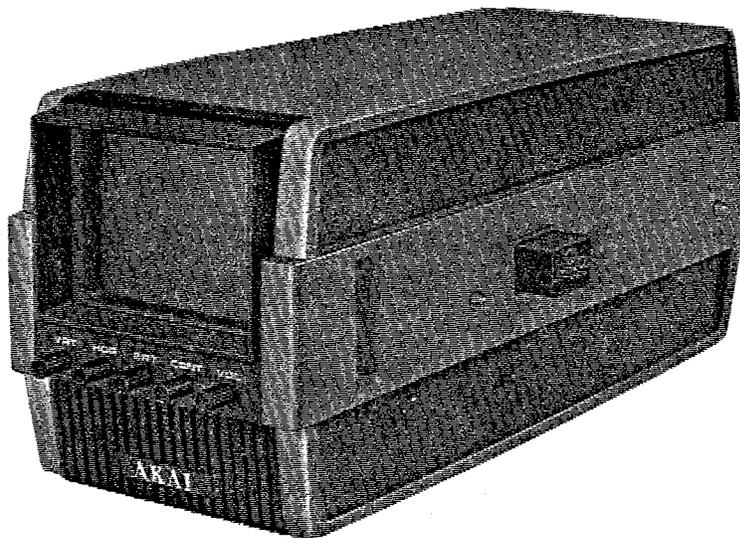


Fig. 24 Deflexion P.C. Board (PX-2048) (3ED)

(55)

## **VC-110 CAMERA SCHEMATIC DIAGRAM**

1. BLOCK DIAGRAM
2. VIDEO PRE-AMP. SCHEMATIC DIAGRAM
3. HIGH VOLTAGE SCHEMATIC DIAGRAM
4. DEFLEXION SCHEMATIC DIAGRAM



**SECTION 3**  
**MONITOR (VM-110) REPAIR**  
**AND ALIGNMENT**

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III.	ADJUSTMENTS.....	60
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# I. SPECIFICATIONS (Video Monitor)

(58)

## (1) Main Structure

EFFECTIVE PICTURE SIZE

: 3"

CATHODE RAY TUBE DEFLECTION ANGLE

: 55 degrees

SYSTEM OF GUN : Uni-potential

SYSTEM OF HEATER : Direct (1.8 V peak to peak)

POWER SOURCE : DC 12 V (supplied from recorder)

SPEAKER : 3" x 1.7" oval type

## (2) Electrical Specifications

LUSTER DISTORTION : 3% max.

NON LINEARITY

(HORIZONTAL) : 20% max.

(VERTICAL) : 10% max.

RESOLUTION

(HORIZONTAL) : 250 lines

(VERTICAL) : 350 lines

SYNC. HOLDING RANGE

(HORIZONTAL) : 300 Hz. min.

(VERTICAL) : 7 Hz. min.

VIDEO INPUT LEVEL : 1.0 to 1.6 V p-p (Negative Sync.)

VIDEO INPUT IMPEDANCE

: 75 ohms

CONTRAST CONTROLLED RATIO

: 12 dB min.

SOUND FIDELITY (-6 dB point)

: 300 Hz to 2,000 Hz

SOUND INPUT LEVEL AND IMPEDANCE

: 1 V r.m.s. 10 K ohms

SOUND MAX. OUTPUT : 100 mW min.

SOUND NORMAL OUTPUT

: 80 mW (10% dis.)

OVER SCANNING : 15%

OPERATION STARTING VOLTAGE

: 8.5 V p-p (max.)

HEAT-UP TIME : 2.5 seconds (max.)

VOLTAGE FOR FULL SCANNING

: 10.5 V (max.)

USABLE POWER SOURCE VOLTAGE

: 16.5 V (max.)

RIPPLE CONTENTS (USABLE)

: 0.1 V p-p (max.)

MAXIMUM POWER CONSUMPTION

: 3.5 W max.

TEMPERATURE CHARACTERISTICS

: -5° to +45° centigrade  
(23° to 113°F)

## (3) Dimensions and Weight

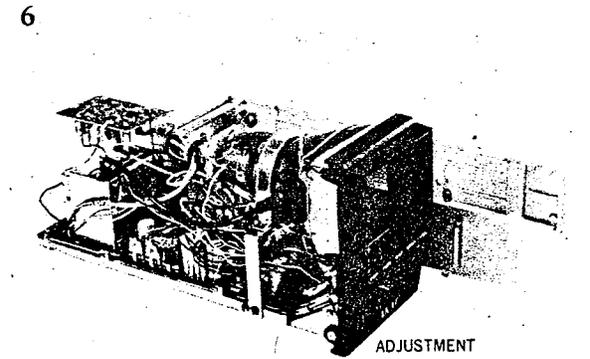
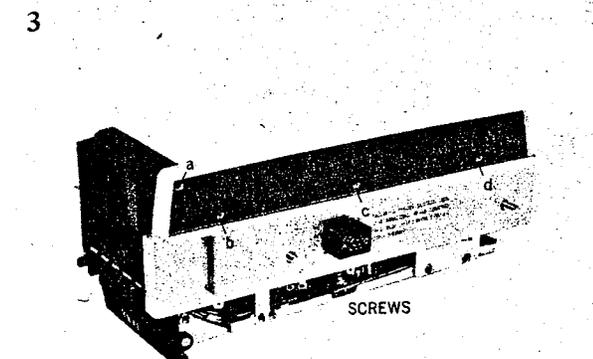
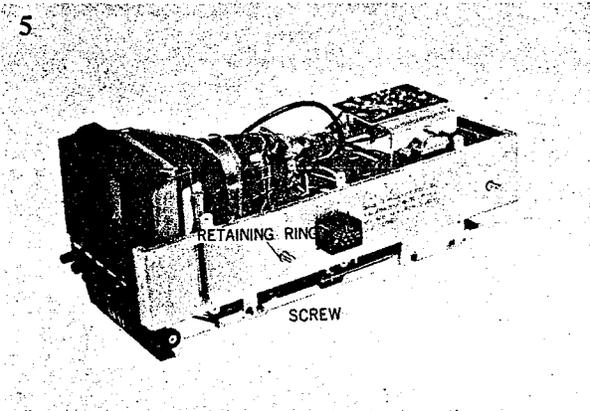
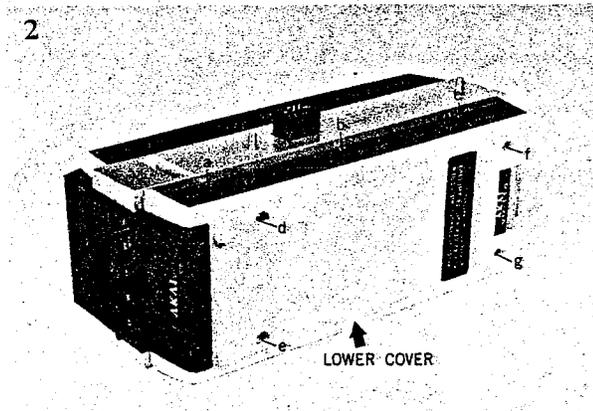
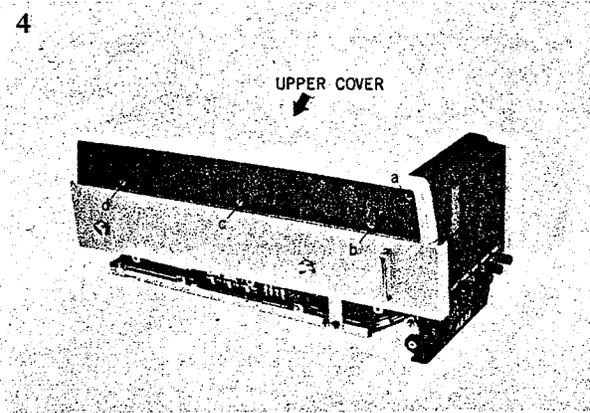
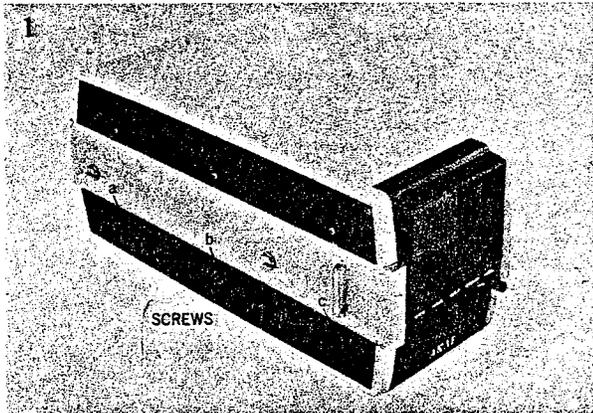
DIMENSIONS : 3.8"H x 10.3" D x 4.4"W

WEIGHT : 3.4 lbs. (1.6 kg)

## II. CASE REMOVAL

(59)

In case of trouble, etc. necessitating disassembly, please disassemble in the order shown in photographs. Reassemble in reverse order.



### III. ADJUSTMENTS

(60)

#### 1. ADJUSTMENT OF VOLTAGE REGULATOR

##### (a) Instrument Connections

Remove the under cover and connect the V.T.V.M. as shown in Fig. 1.

##### (b) Adjustment

Adjust VR-601 so that the V.T.V.M. Indicator is at 10 V. This adjustment must be made while picture or raster is on screen.

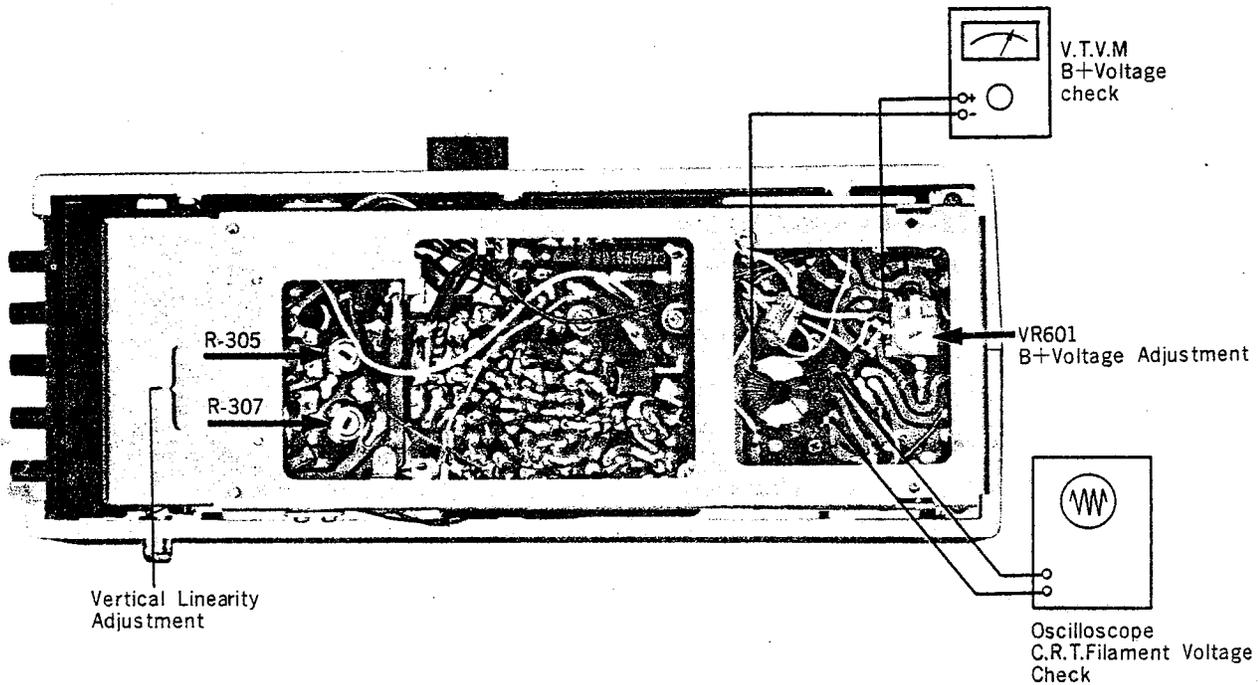


Fig. 1

#### 2. ADJUSTMENT OF VERTICAL HOLD AND HORIZONTAL HOLD RANGE

##### (A) Vertical Hold Range Adjustment

- Set "VRT" (Vertical Hold) Knob on front panel to half way of its movable range.
- Adjust R-518 (5K-VR). Fix at position at which picture is stationary (Ref. Fig. 2).
- After adjustment is completed, rotate VRT Knob. Confirm that the picture rolls (downward) when knob is at maximum clockwise position.

##### (B) Horizontal Hold Range Adjustment

- Set "HOR" (Horizontal Hold) Knob on front panel to half-way range (half-way of its movable range).
- Adjust R-532 (5K-VR). Fix at point at which the picture synchronizes into one picture. After adjustment has been made, rotate HOR Knob. Confirm that the horizontal synchronization is stable at all points within the rotatable range of the HOR Knob. (See Fig. 2).

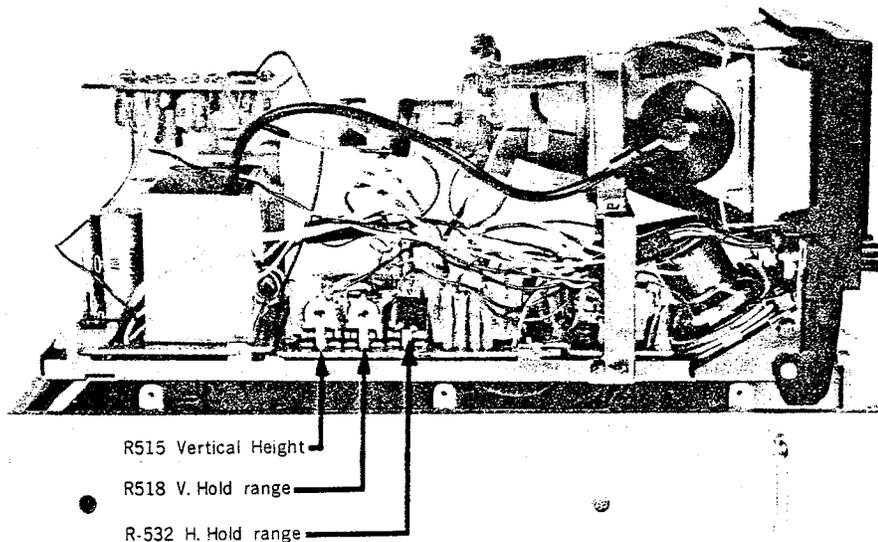


Fig. 2

(61)

### 3. ADJUSTMENT OF VERTICAL LINEARITY AND HEIGHT

Using a perfectly adjusted camera (VC-110), Aim camera at a Test pattern chart and while viewing monitor screen, adjust R-305 (500K-VR), R-307 (10K-VR), and R-515 (5K-VR) (See Fig. 1 and 2). Try to obtain pattern as shown in Fig. 3.

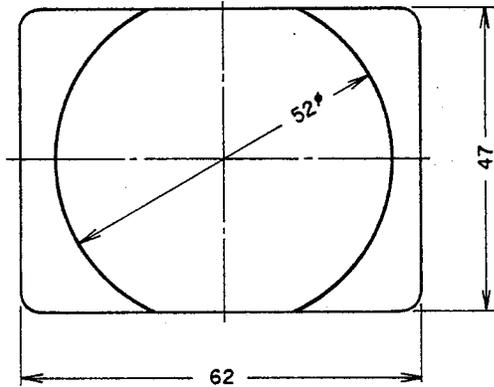


Fig. 3

After these adjustments have been made, if focus is not good or if picture is not centered in middle of screen, with the centering magnet of deflection yoke, focus, and adjust so that the pattern appears at the center part of the picture.

### 4. FOCUS ADJUSTMENT

Under same conditions in Item 3, Aim camera at a Test pattern chart. While viewing picture appearing on monitor screen, adjust R-530 (1M-VR) to a focused point (See Fig. 4).

### 5. CATHODE RAY TUBE FILAMENT VOLTAGE CHECK

In case Fly-back Transformer has been replaced, check the voltage supply to cathode ray tube (See Fig. 1). With an oscilloscope, measure voltage of secondary transformer T-602. Voltage is normal at 1.8 V p-p  $\pm$  0.1 V.

If voltage is too high or too low, it can be adjusted by changing the winding ratio of primary and secondary transformer (T-602).

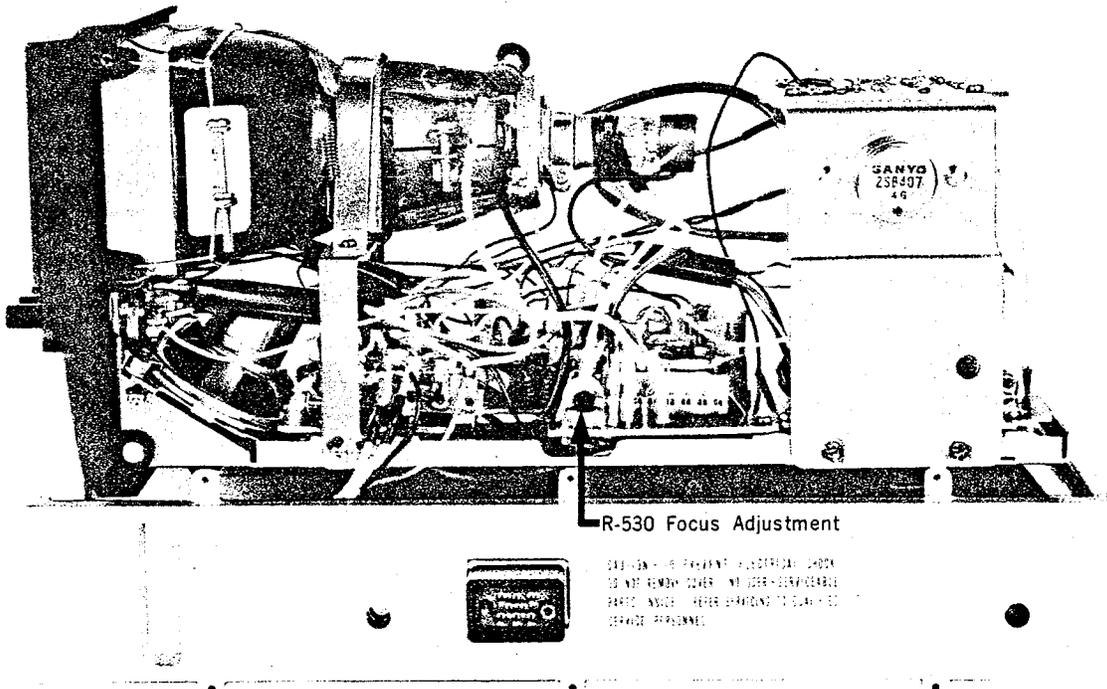
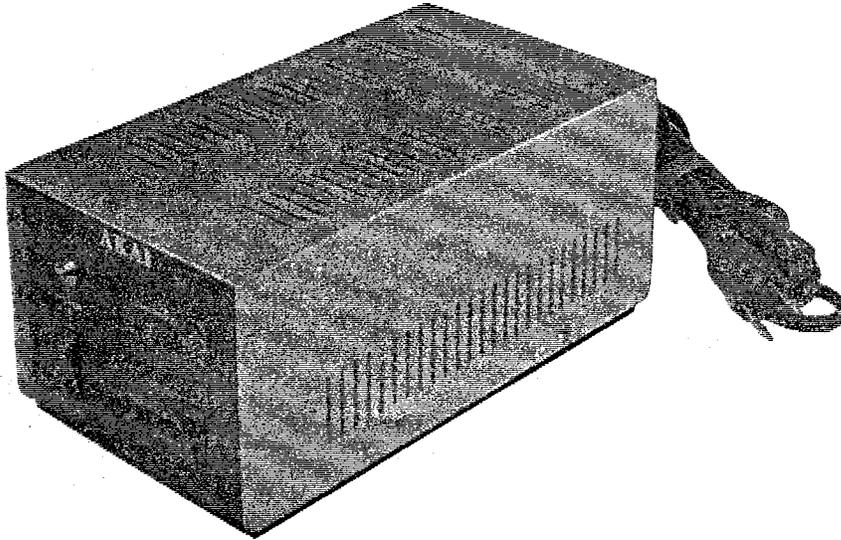


Fig. 4



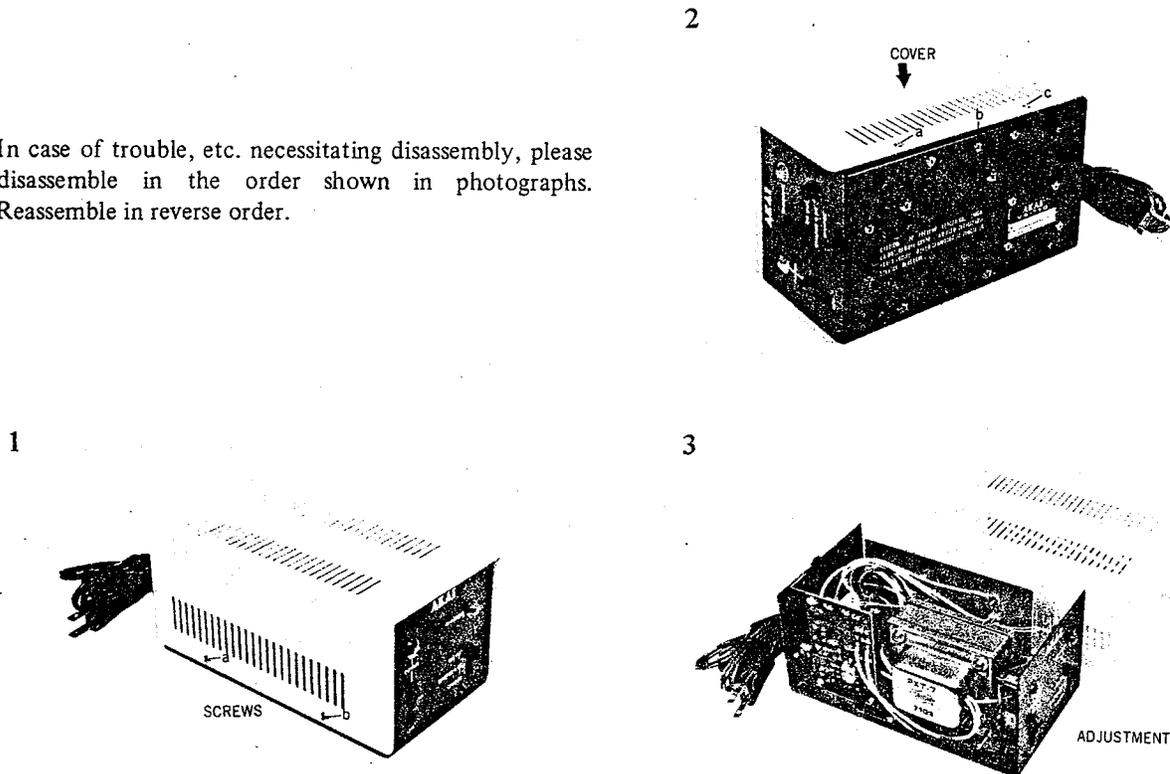
**SECTION 4**  
**AC ADAPTER/  
BATTERY CHARGER (VA-110)**

I.	CASE REMOVAL .....	64
II.	ADJUSTMENTS OF OUTPUT VOLTAGE .....	64
III.	BATTERY CHARGING CIRCUIT .....	65
	SCHEMATIC DIAGRAM	

# I. CASE REMOVAL

(64)

In case of trouble, etc. necessitating disassembly, please disassemble in the order shown in photographs. Reassemble in reverse order.



# II. ADJUSTMENT OF OUTPUT VOLTAGE

## 1. INSTRUMENT CONNECTIONS

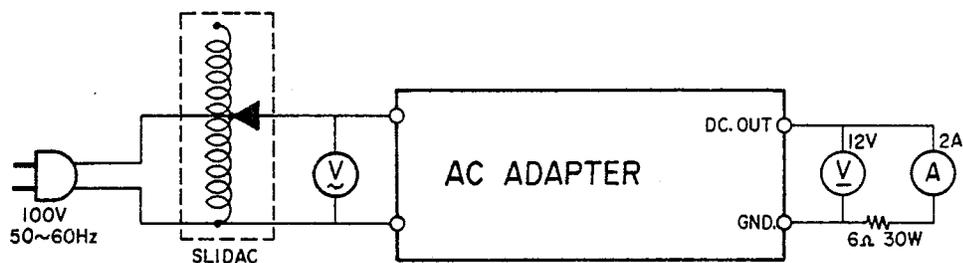


Fig. 1

## 2. ADJUSTMENTS

- (1) Connect AC Adapter Power Cord to Slidac and connect Slidac to power source. Adjust Slidac and set to 100 V.
- (2) With Power Switch turned "On", and DC Voltmeter connected to DC Output Terminal, adjust potentiometer (VR-1001, 300 ΩB) of printed board so that the Voltmeter reading is 12 V (Ammeter reading is about 2 A).
- (3) When DC Output has been set to 12 V, adjust Slidac so that AC input voltage is  $\pm 10\%$  (from 100 V) and confirm that Voltmeter and Ammeter reading is unchanged. (Even when input voltage is changed  $\pm 10\%$ , the voltage should be  $12\text{ V} \pm 0.2\text{ V}$ ).

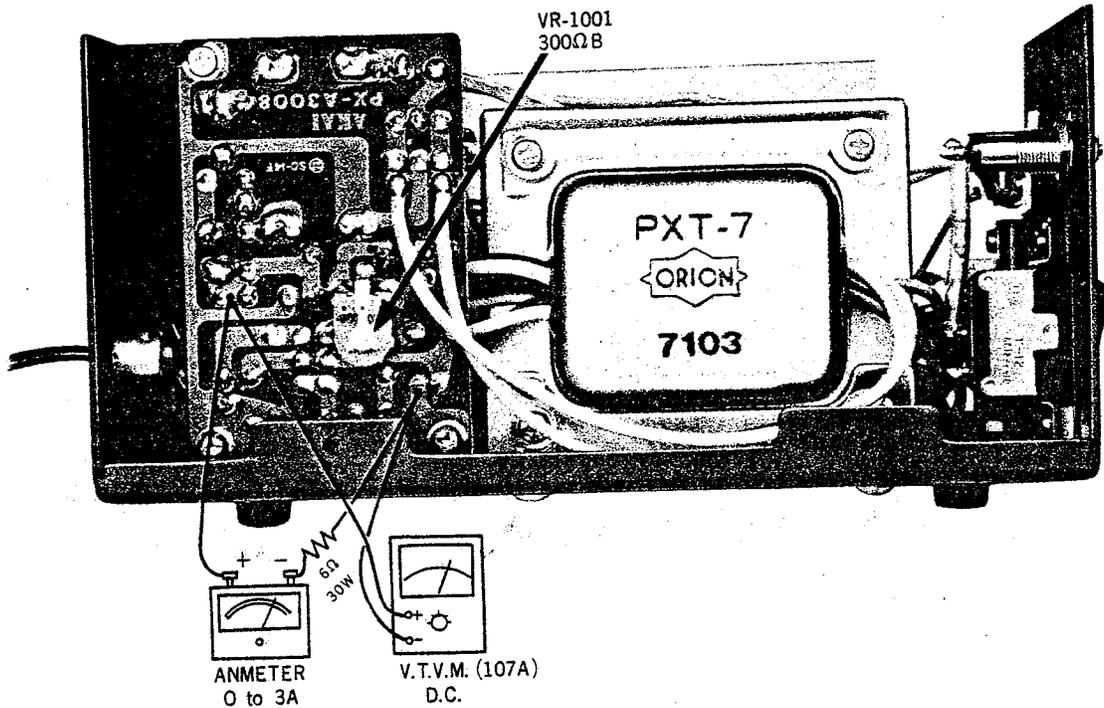


Fig. 2

### III. BATTERY CHARGING CIRCUIT

#### 1. BATTERY CHARGING CIRCUIT

- (1) The Battery Charging Circuit is composed of Integrated Circuit "BQ-A" and a Charging Indicator Lamp.
- (2) Because "BQ-A" has already been adjusted at the factory, it is not necessary to re-adjust.

#### 2. BATTERY CHARGING CIRCUIT TROUBLE

When the batteries are in the battery case, if the lamp does not light and the battery charging circuit does not operate properly, replace batteries with new ones and re-check.

If circuit does not operate properly, clean battery case terminal and check connection cord.

If after checking above, the circuit still does not operate properly, replace Integrated circuit "BQ-A".

#### 3. BATTERY COMPARISON

Comparison of Sonnenschein batteries and AKAI, LC-303 batteries charging and discharging characteristics are shown in Figs. 3 and 4.

### BATTERY CHARGE AND DISCHARGE CHARACTERISTIC

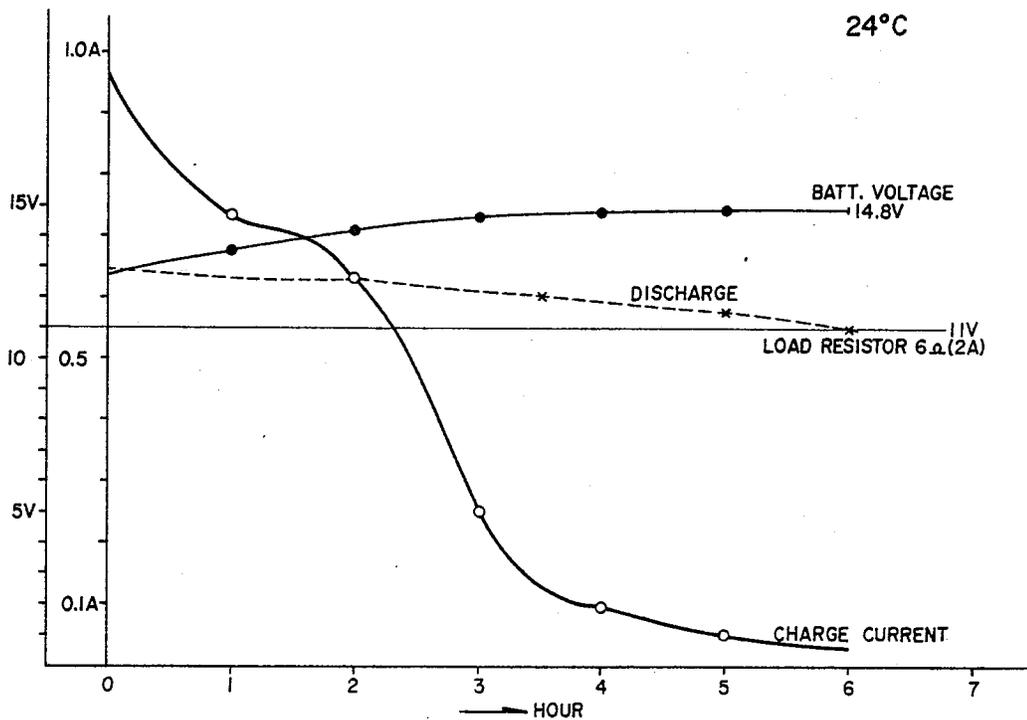


Fig. 3 AKAI, LC 303

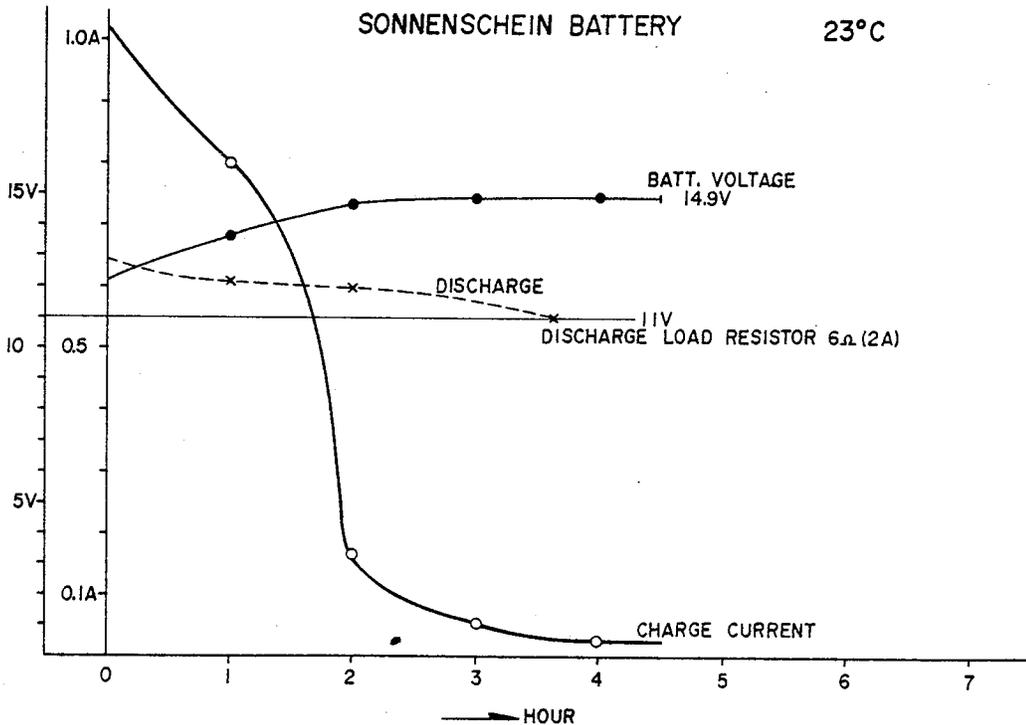
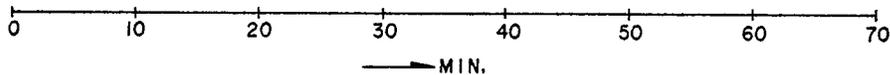


Fig. 4 Sonnenschein

(67)

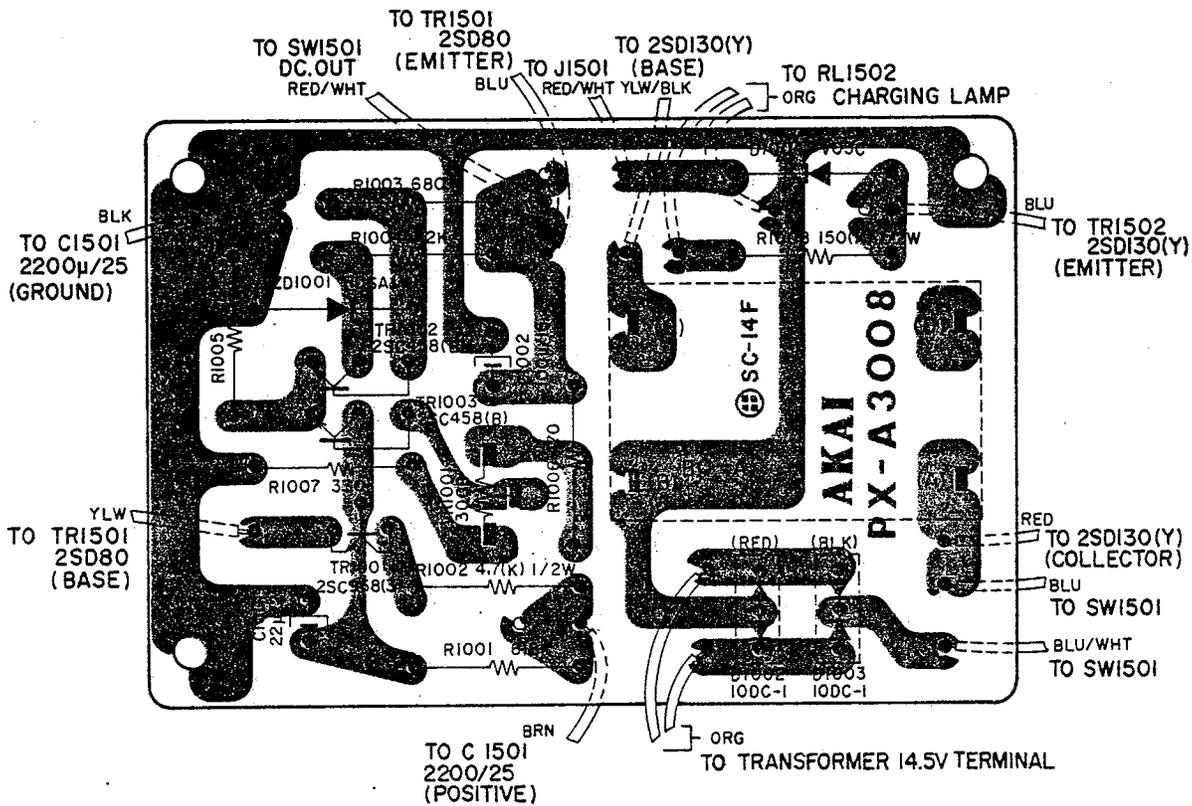
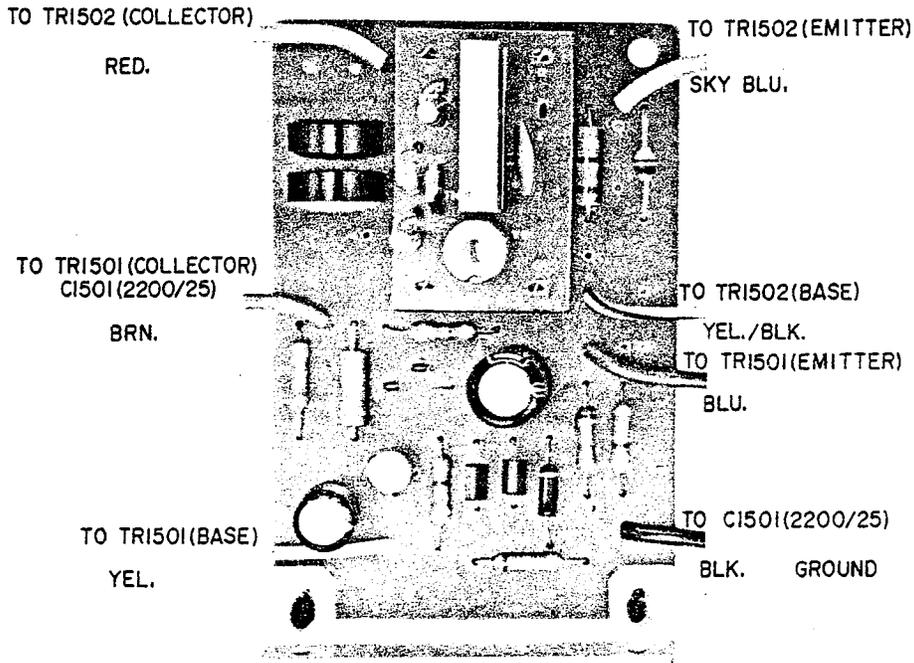
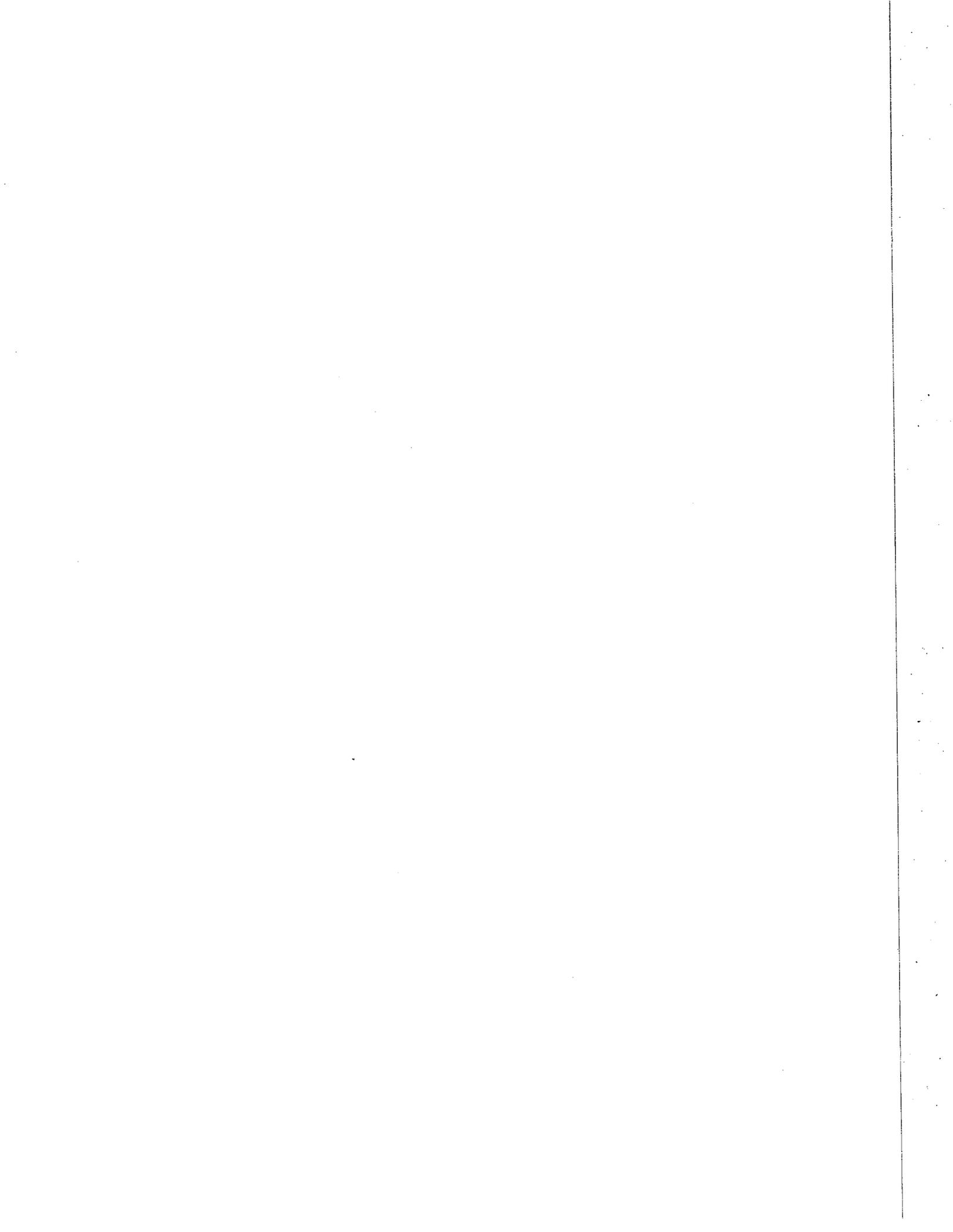


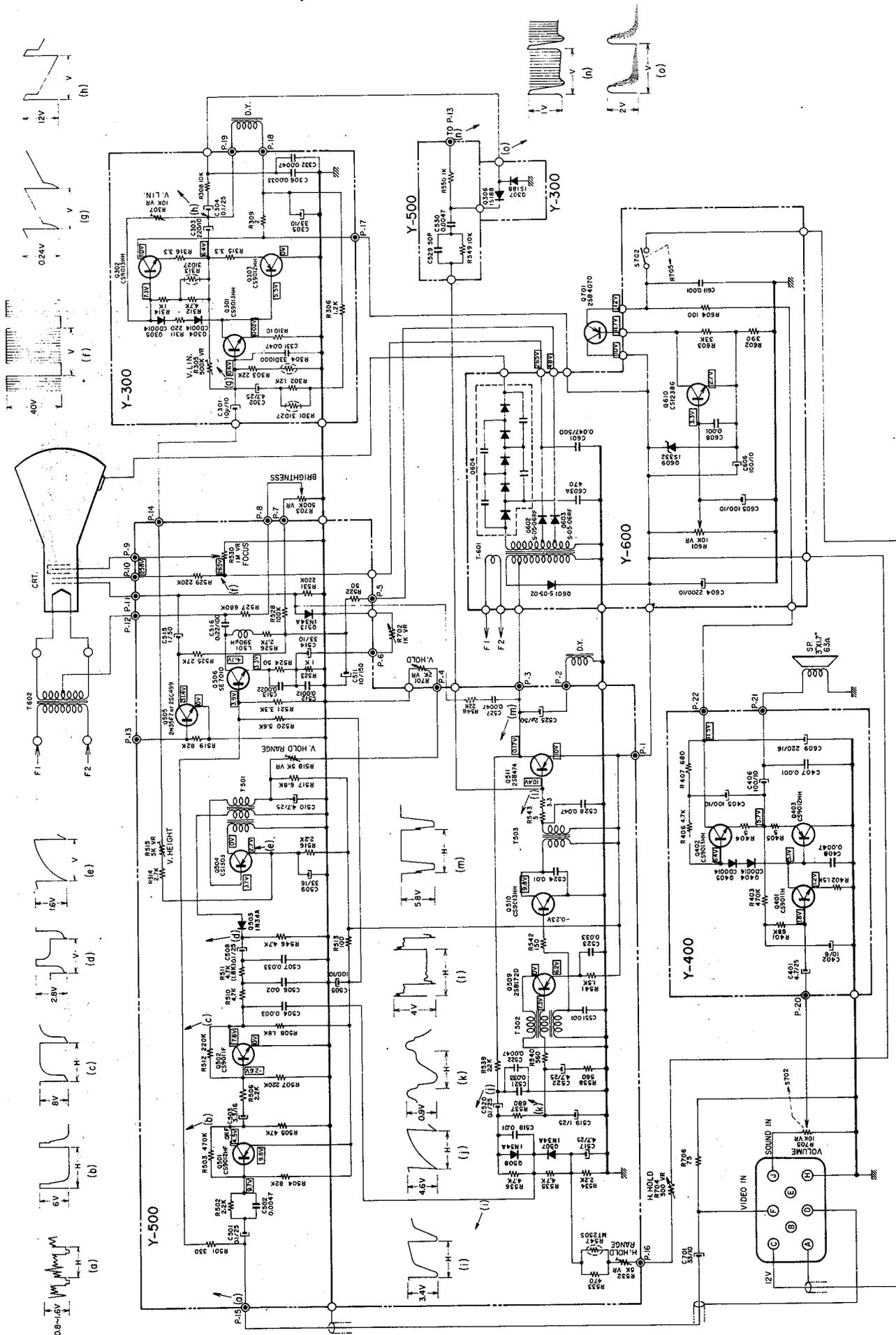
Fig. 5 Charger P.C. Board (PX-A3008)



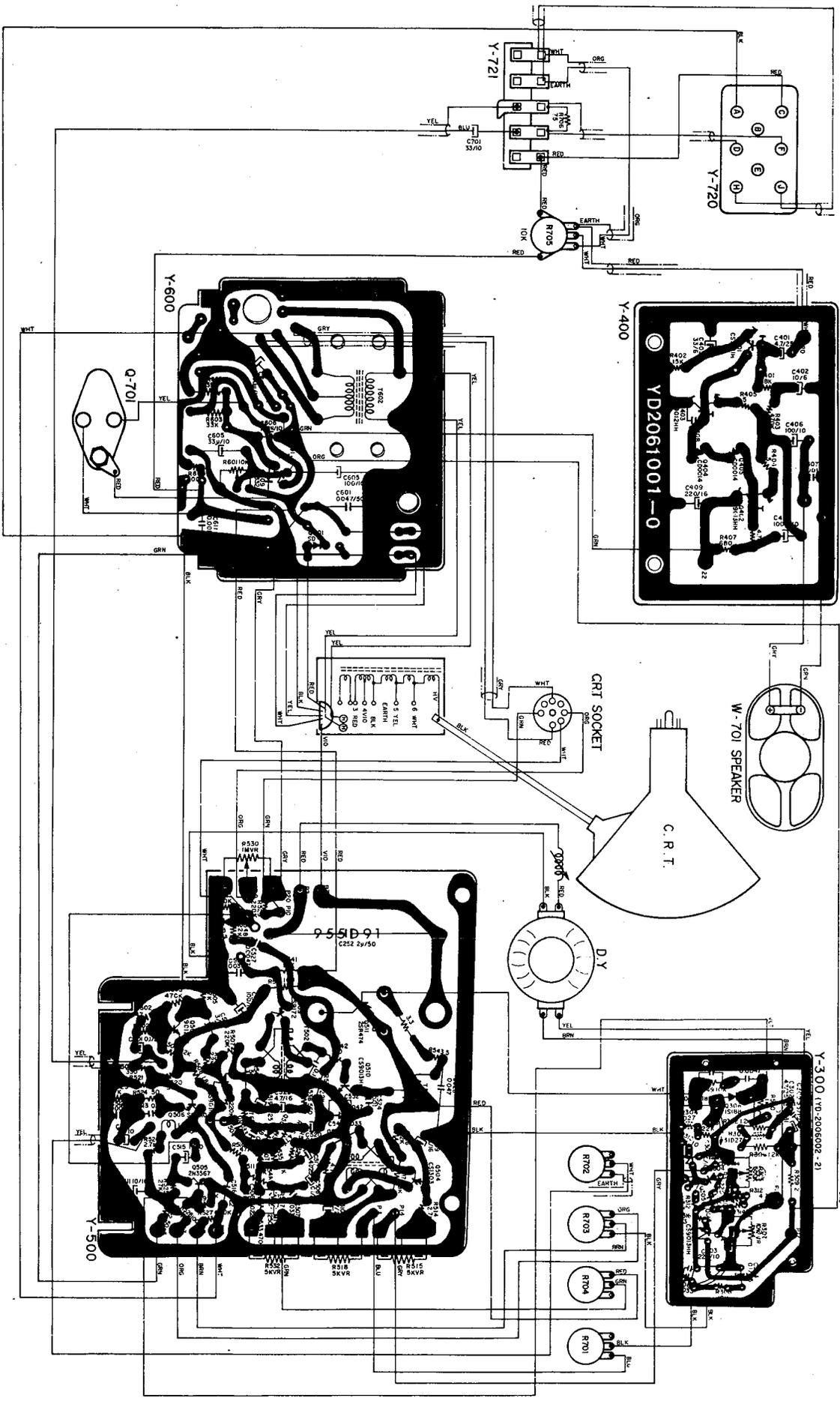
TRI501: 2SD80  
TRI502: 2SD130(Y)

Fig. 6 Charger P.C. Board (PX-A3008)

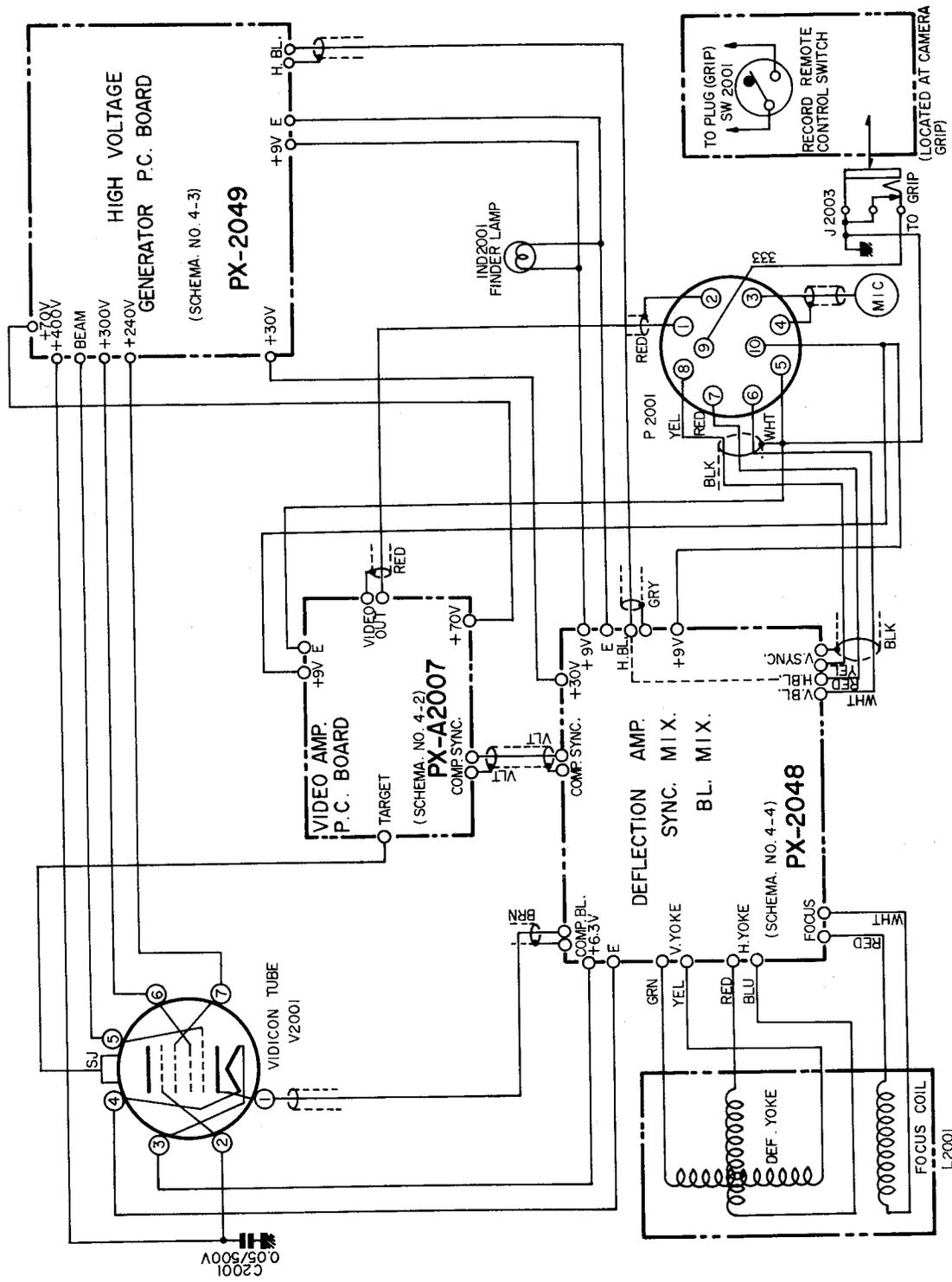




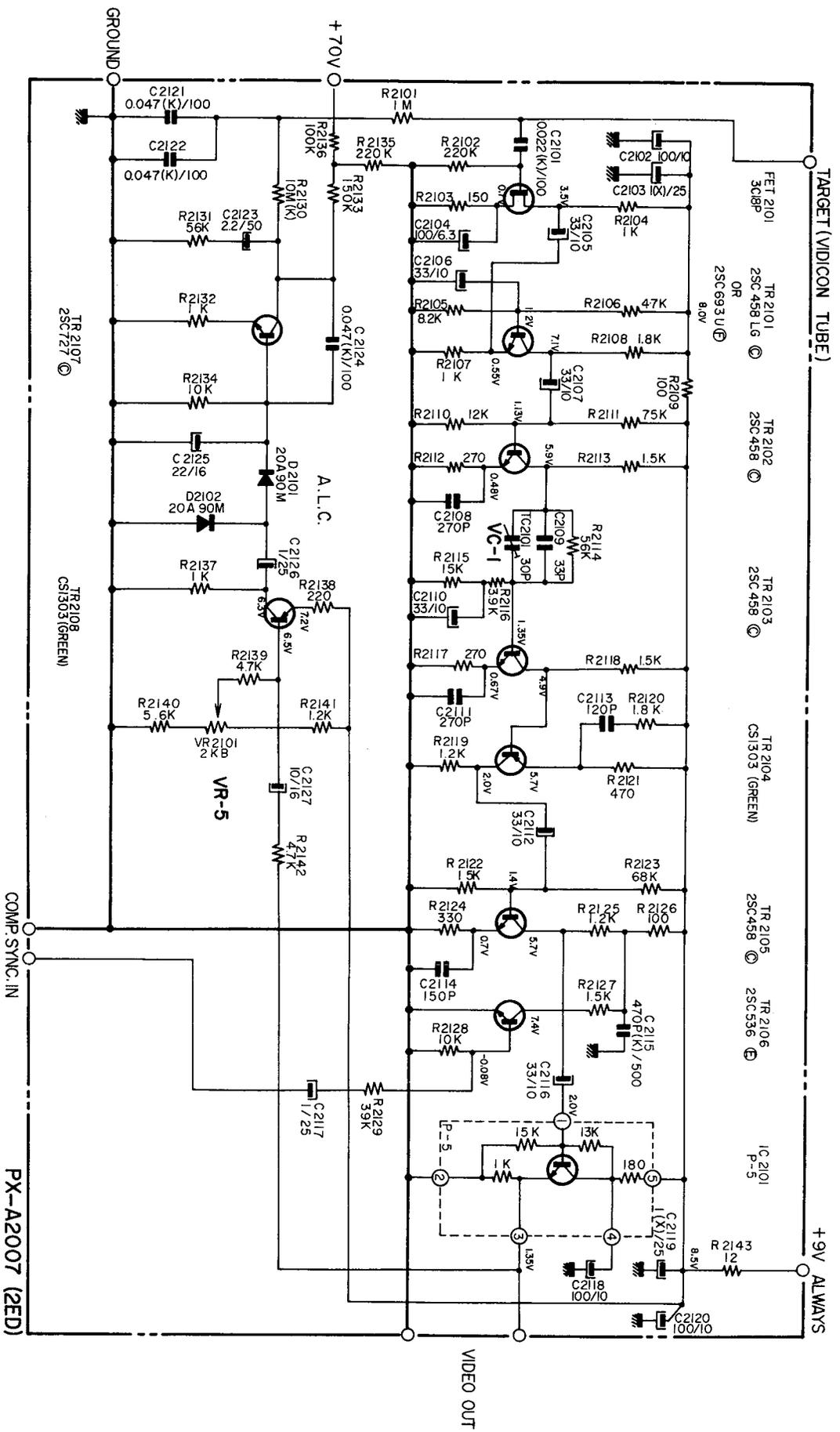
VM-110 (MONITOR) SCHEMATIC DIAGRAM NO.2-1 1421021A



VM-110 (MONITOR) SCHEMATIC DIAGRAM NO-2-2 1421022A



VC-110 (CAMERA BLOCK) SCHEMATIC DIAGRAM NO.4-1 1421016A



NOTE

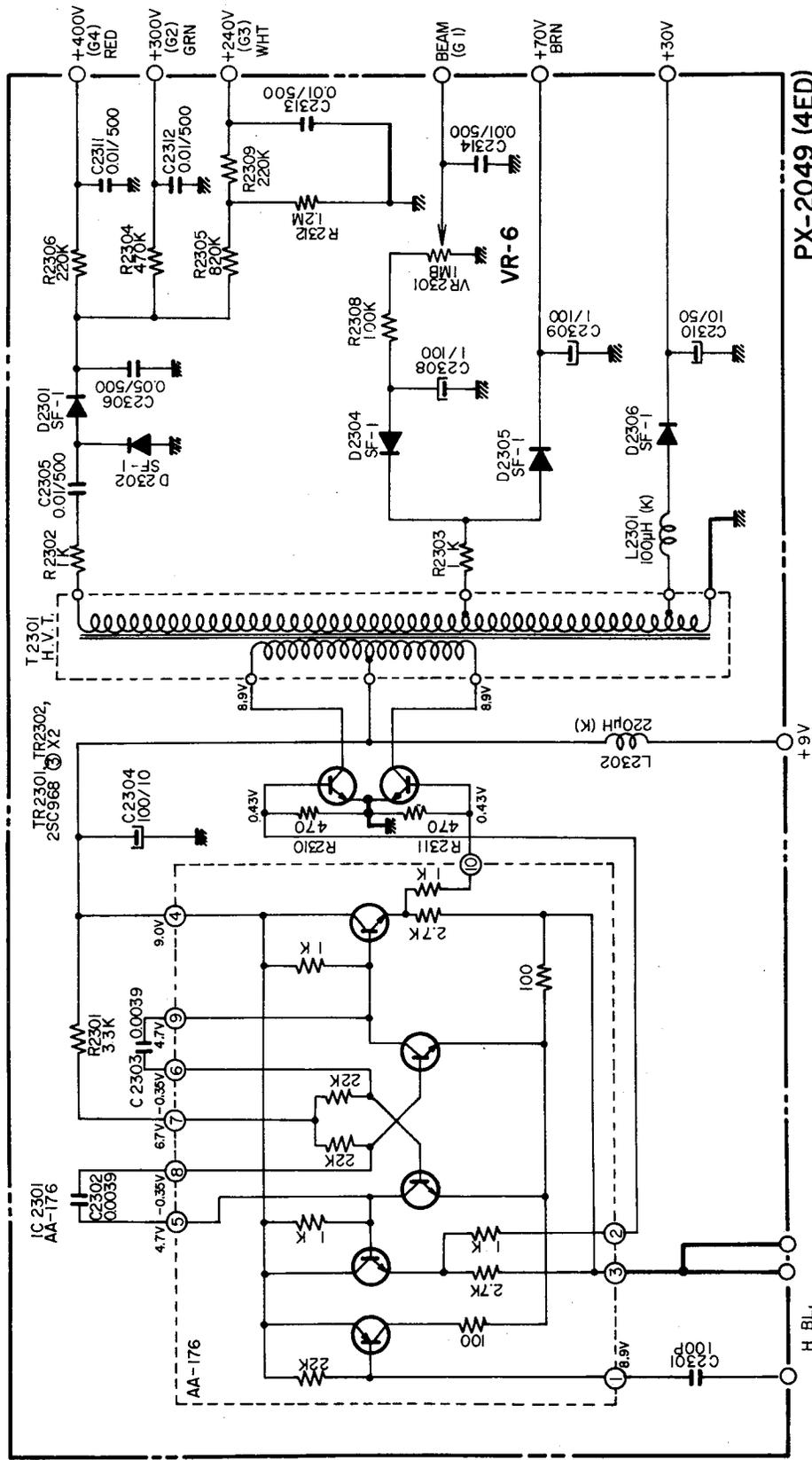
UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN OHMS 1/4W J

ALL CAPACITORS IN MFD 50WV J

(P = M · MFD)

VC-110 (VIDEO PRE AMP) SCHEMATIC DIAGRAM NO.4-2 1421017A



PX-2049 (4ED)

NOTE

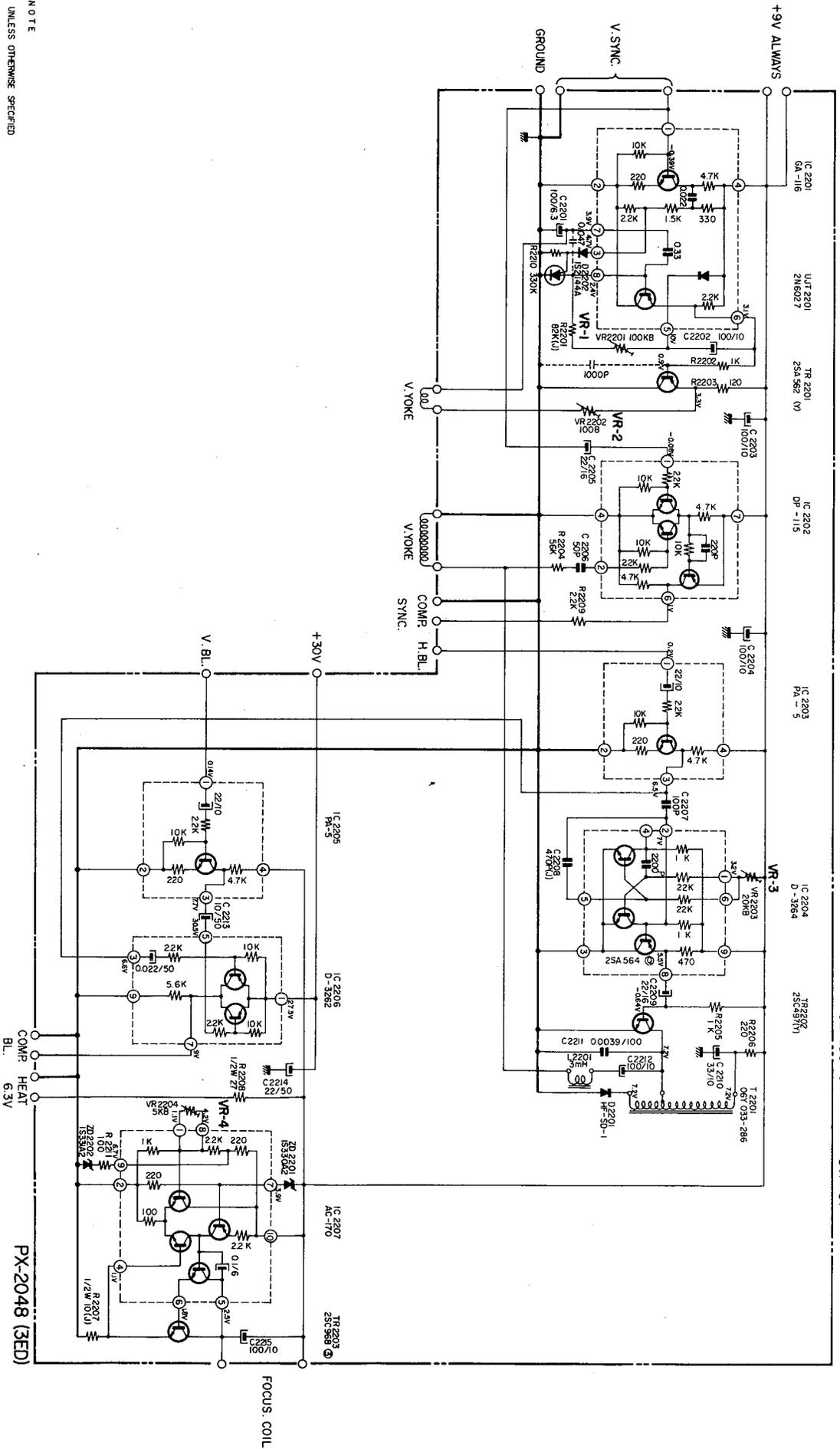
UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN OHMS 1/4W J.

ALL CAPACITORS IN MFD K 50WV

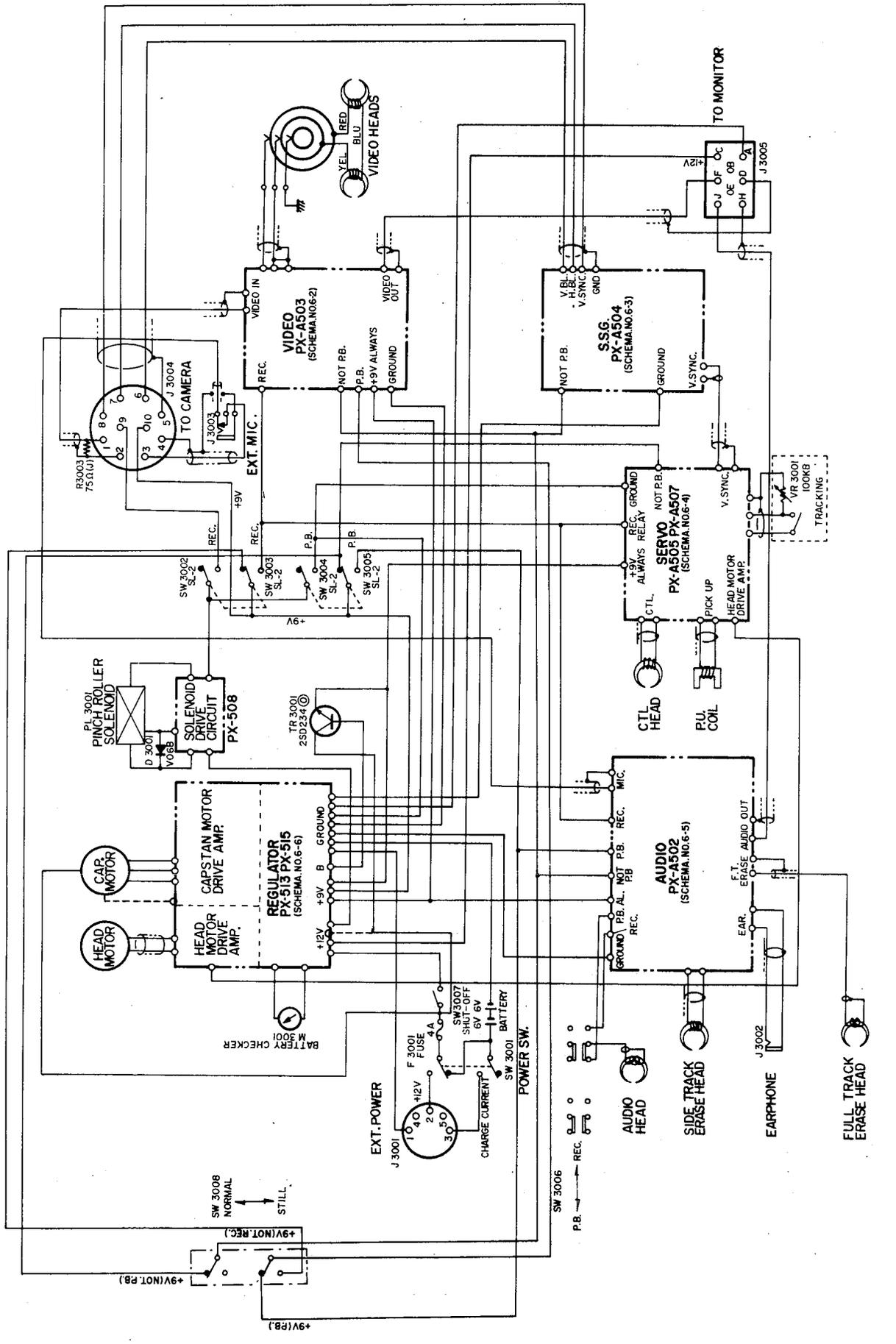
MFD / WV, (P = M · MFD)

VC-110  
(HIGH VOLTAGE) SCHEMATIC DIAGRAM NO4-3 1421018A

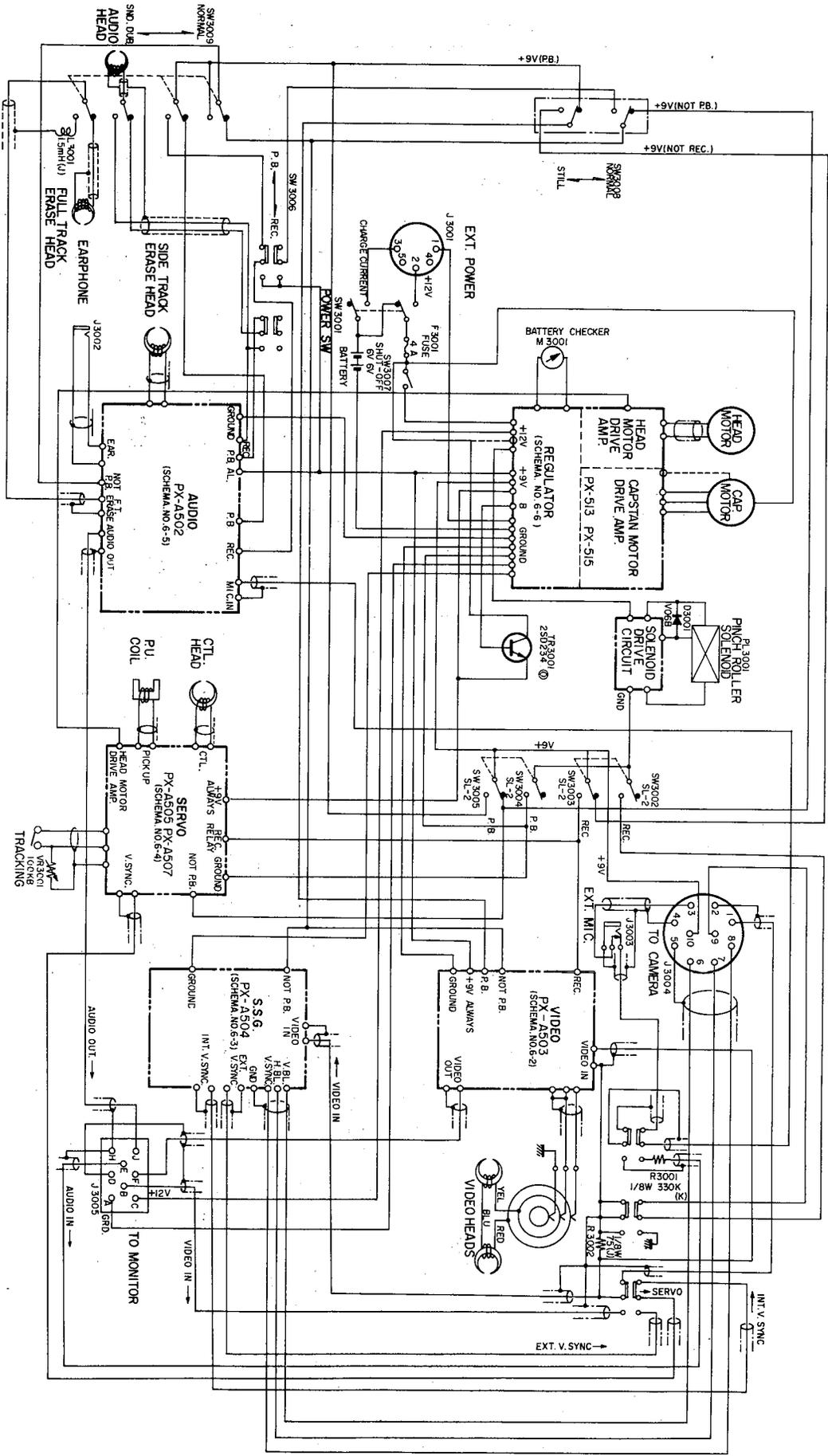


NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/4 W. K.  
ALL CAPACITORS IN MFD MFD/WV

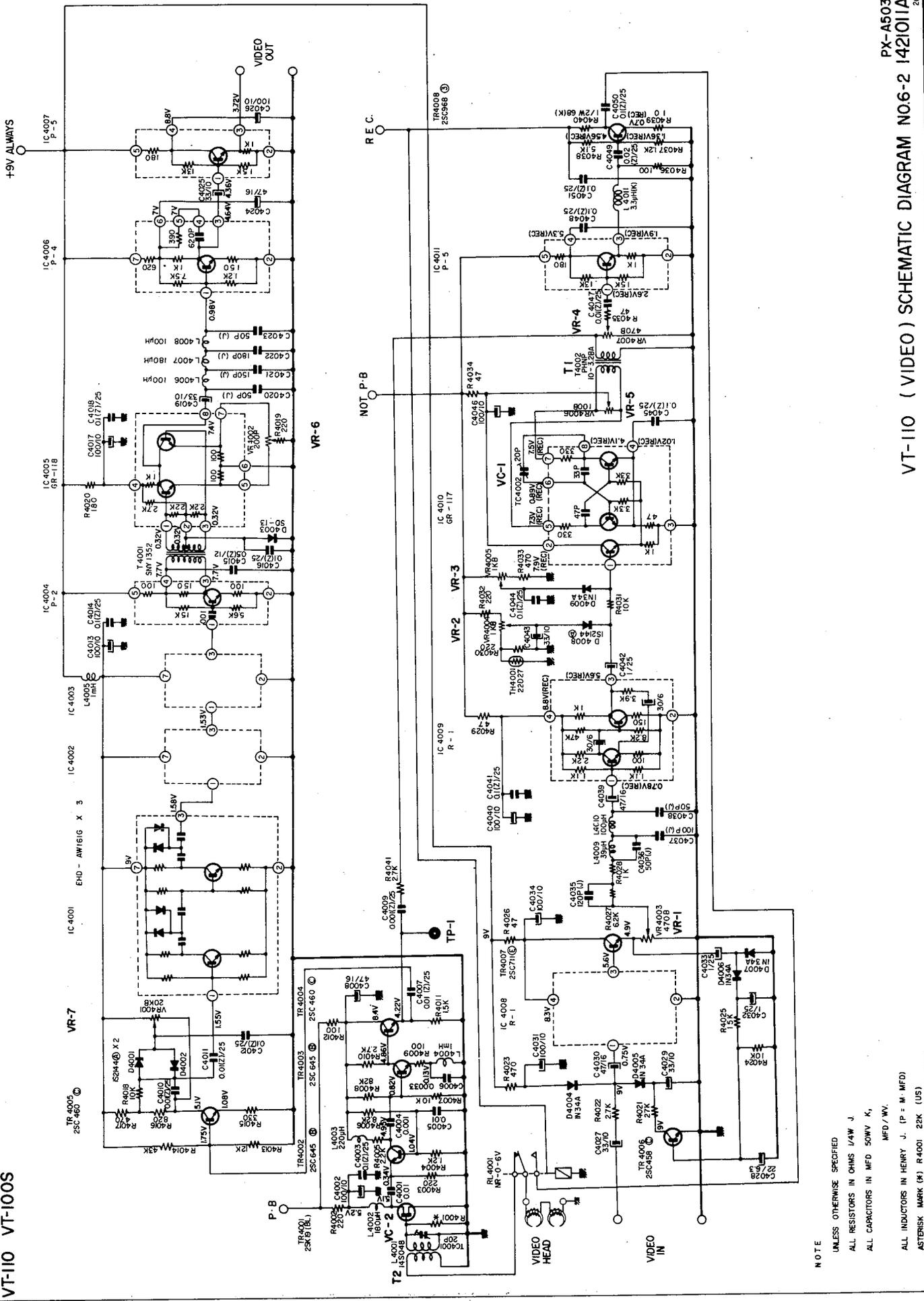
VC-110 (DEFLECTION) SCHEMATIC DIAGRAM NO. 4-4 1421019A



VT-100S  
(BLOCK DIAGRAM) SCHEMATIC DIAGRAM NO6-1 1421028A

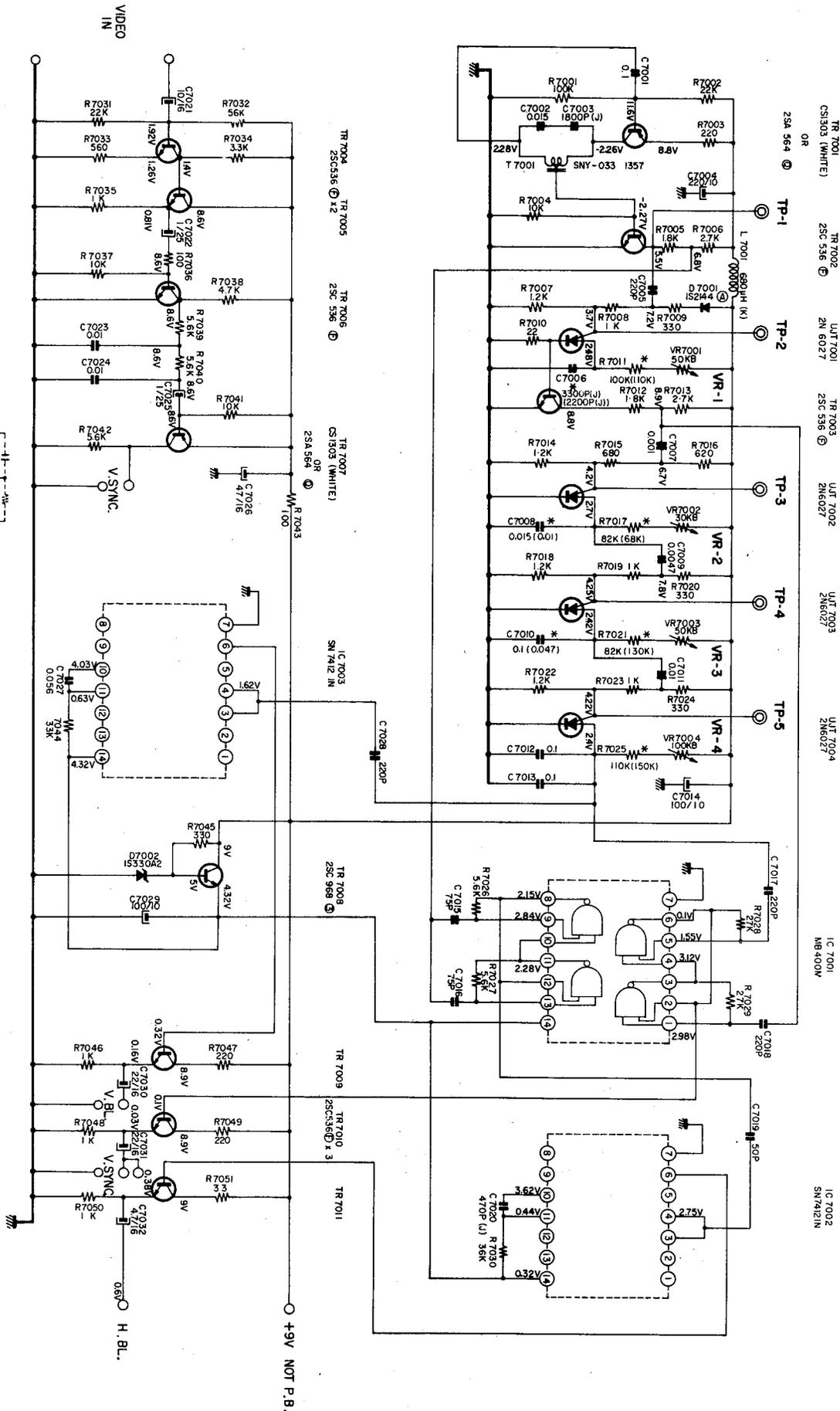


VT-110 ( BLOCK DIAGRAM ) SCHEMATIC DIAGRAM NO6-1 1421010A

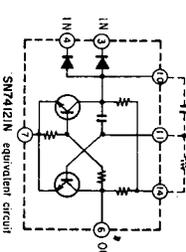


VT-110 ( VIDEO ) SCHEMATIC DIAGRAM NO.6-2 1421011A 2C  
PX-A503

NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/4W J  
ALL CAPACITORS IN MFD 50WV K,  
MFD/WV.  
ALL INDUCTORS IN HENRY J. (P = M. MFD)  
ASTERISK MARK (\*) R4001 22K (US)  
UNNECESSARY (CSR)



NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS (Ω) (K) (M) (U)  
ALL CAPACITORS IN MFD (500V) (K)  
(P - M. MFD)  
SEE LIST (1), (2) IF ASTERISK MARK(\*) IS SHOWN.



LIST (1)

PARTS NO.	U	S	C	R
R 7011			100 K	(110 K)
R 7017			82 K	(1.68 K)
R 7021			82 K	(1130 K)
R 7025			110 K	(1.50 K)

LIST (2)

PARTS NO.	U	S	C	R
C 7006			3300 P (U)	(2200 P (U))
C 7008			0.015	(0.01)
C 7010			0.1	(0.047)

IC 7002  
SN 7412IN

IC 7001  
MB400M

UJT 7004  
2N6027

UJT 7003  
2N6027

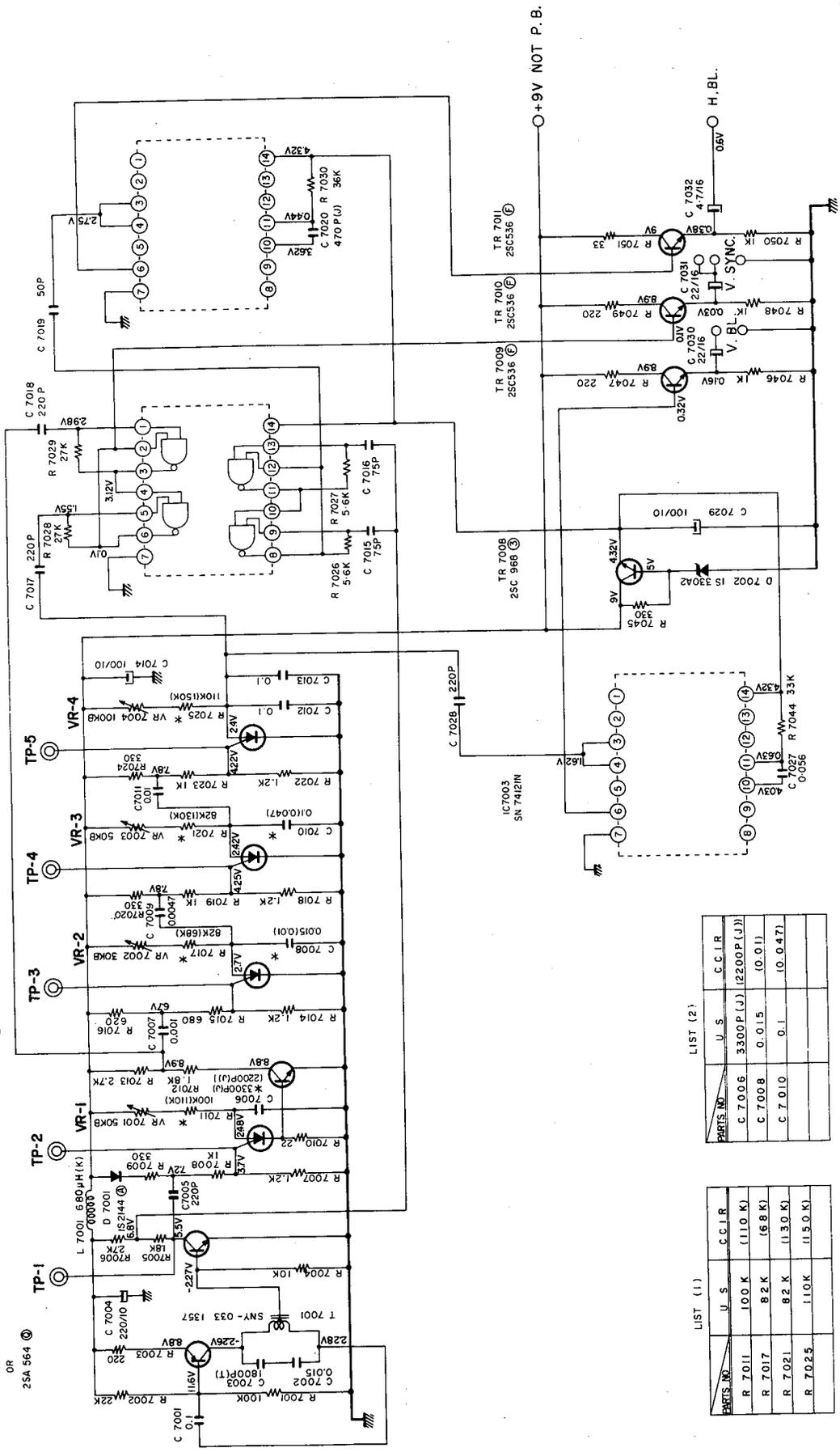
UJT 7002  
2N6027

TR 7003  
2SC 536 (C)

UJT 7001  
2N6027

TR 7002  
2SC 536 (C)

TR 7001  
GS1303 (WHITE)  
OR  
25A 564 (C)

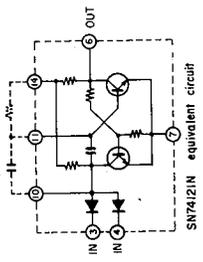


LIST (2)

PARTS NO	U. S.	C. C. I. R.
C 7006	3300 P. (J)	2200 P. (J)
C 7008	0.015	(0.01)
C 7010	0.1	(0.047)

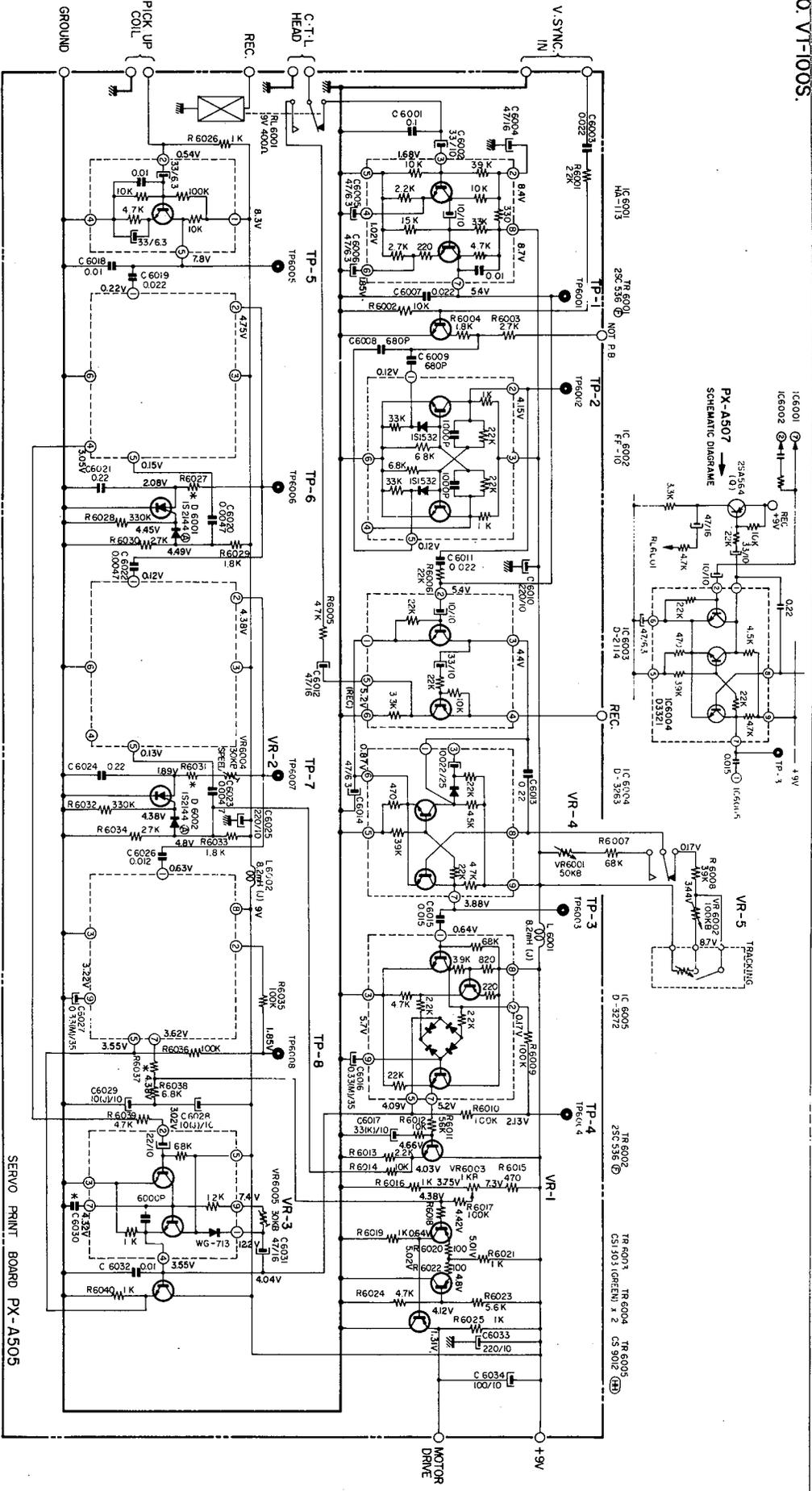
LIST (1)

PARTS NO	U. S.	C. C. I. R.
R 7011	100 K	(110 K)
R 7017	82 K	(68 K)
R 7021	82 K	(130 K)
R 7025	110 K	(115.0 K)



NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/4W(J)  
ALL CAPACITORS IN MFD. 50WV(K)  
SEE LIST(1),(2)  
IF ASTERISK MARK(\*) IS SHOWN.

PX-A504  
VT-100S (S.S.G) SCHEMATIC DIAGRAM NO6-3 1421030A



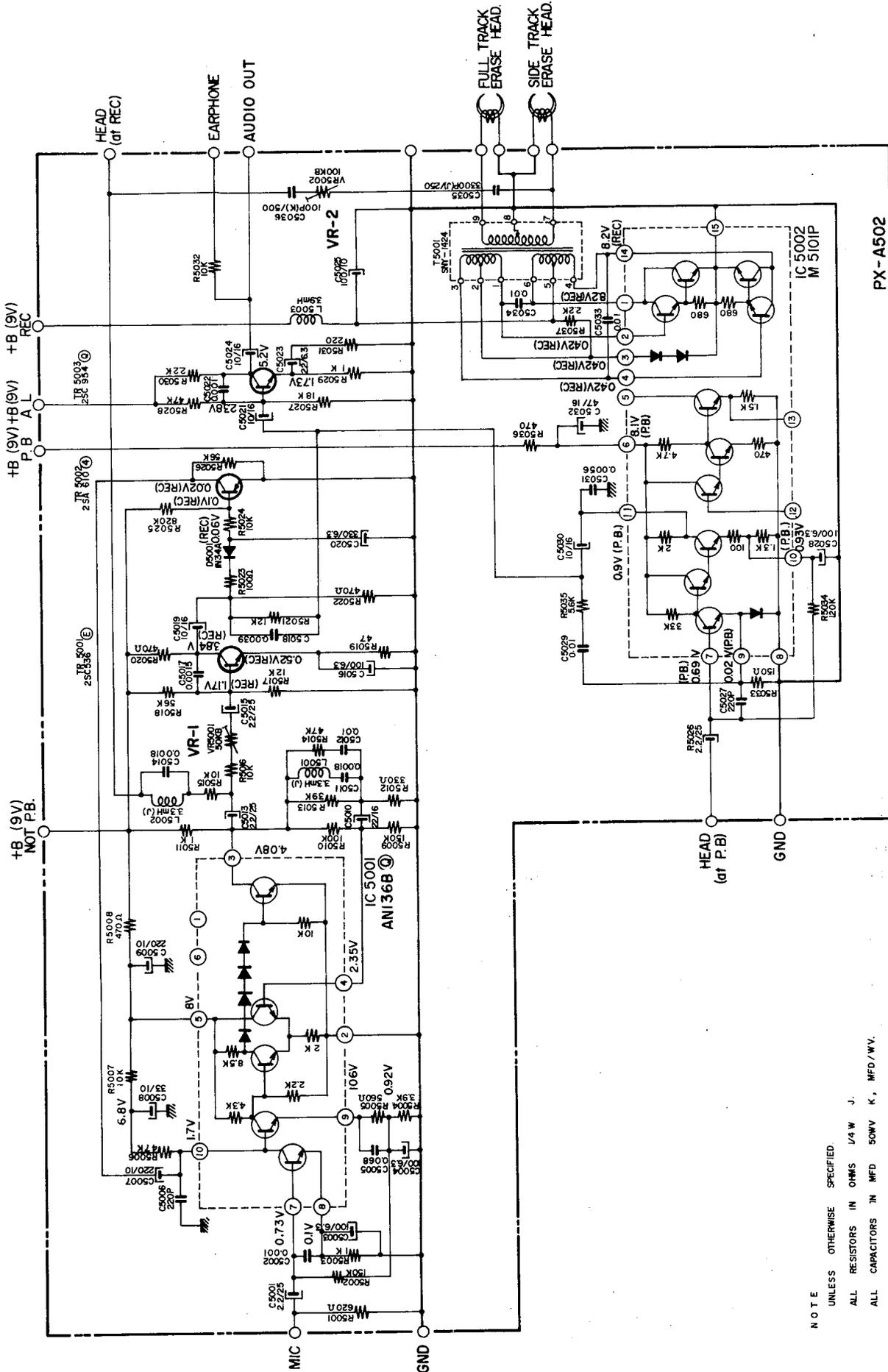
- IC 6006 D-2116
- IC 6007 FF-10
- UIC 6001 2N 6027
- IC 6008 FF-10
- UIC 6002 2N 6027
- IC 6009 D-3272
- IC 6010 D-3271
- TR 6005 2S5356

LIST (1)

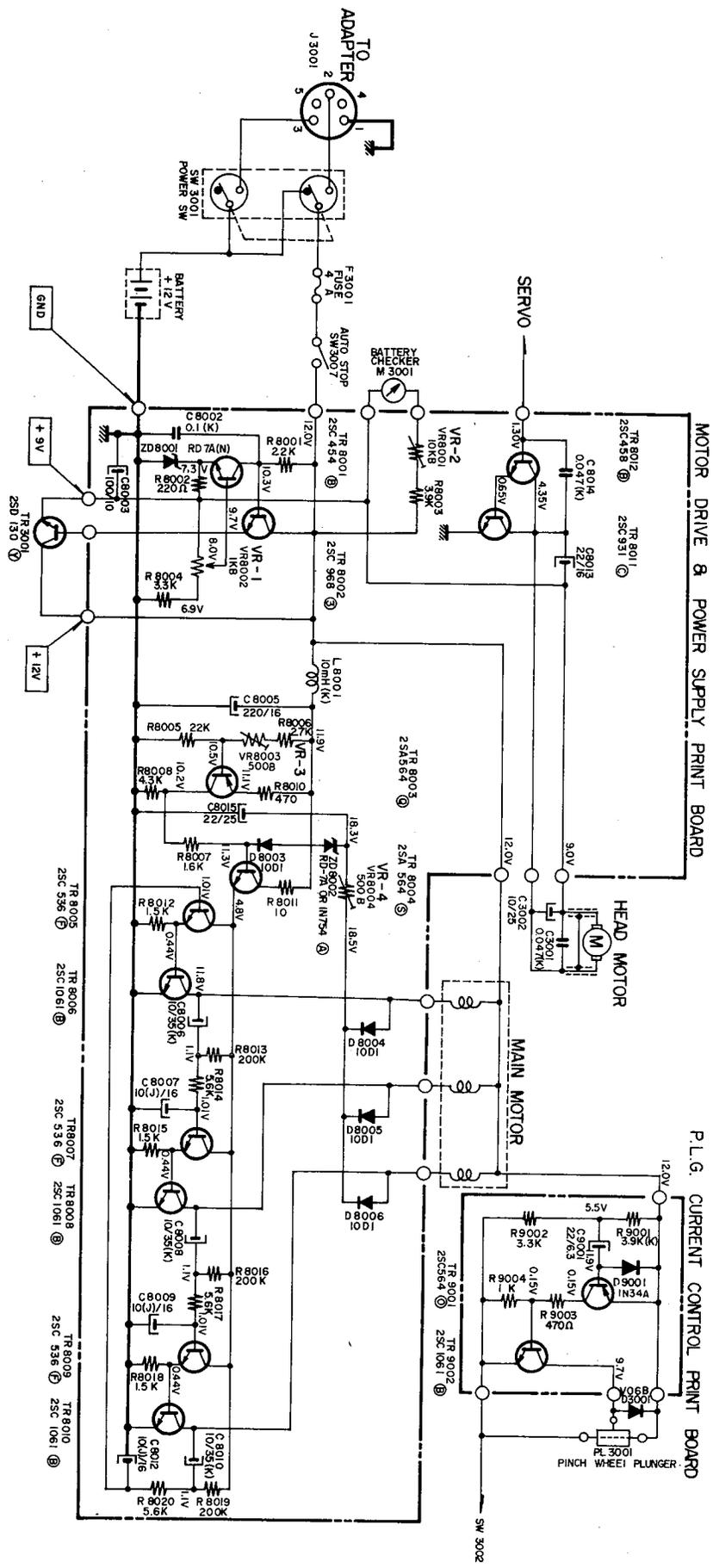
PARTS NO.	U S	C.L.R
R 6027	100 K	(1.0 K)
R 6031	75 K	(9.1 K)
R 6037	68 K	(9.1 K)
C 6030	0.22	(0.33)

NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS 1/4W (J)  
 ALL CAPACITORS IN MFD 50WV (K)  
 (P = M MFD)  
 SEE LIST (1) IF ASTERISK MARK(\*) IS SHOWN.

VT-110 (SERVO) SCHEMATIC DIAGRAM NO6-4 1421013A



NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS 1/4 W J.  
 ALL CAPACITORS IN MFD 50V K, MFD/WV.



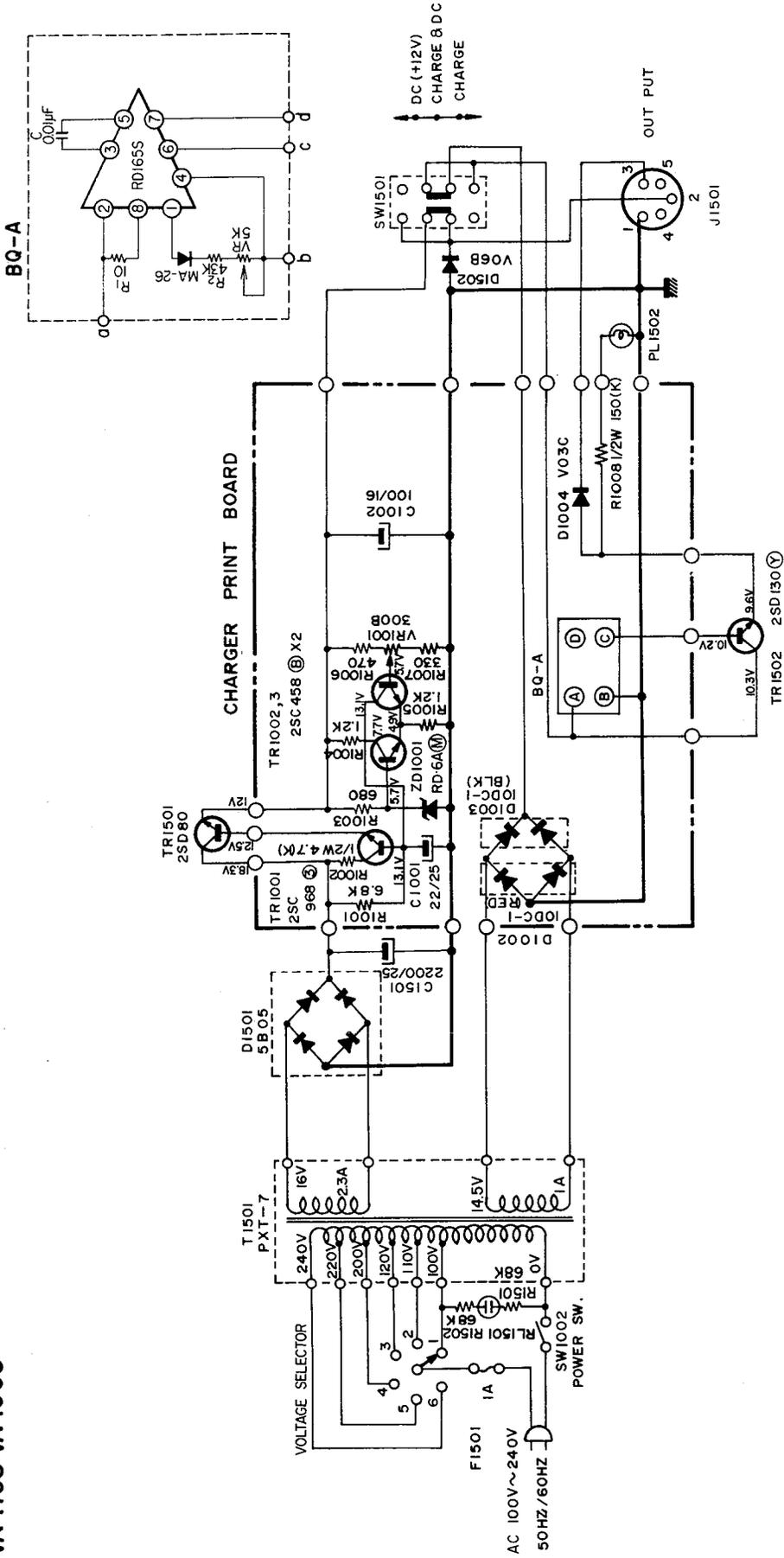
NOTE  
 UNLESS OTHERWISE SPECIFIED,  
 ALL RESISTORS IN OHMS 1/4W J  
 ALL CAPACITORS IN MFD 50WV, MFD/WV.  
 (P = M. MFD.)

VT-110 CAPSTAN MOTOR DRIVE SCHEMATIC DIAGRAM

PX-513 PX-515

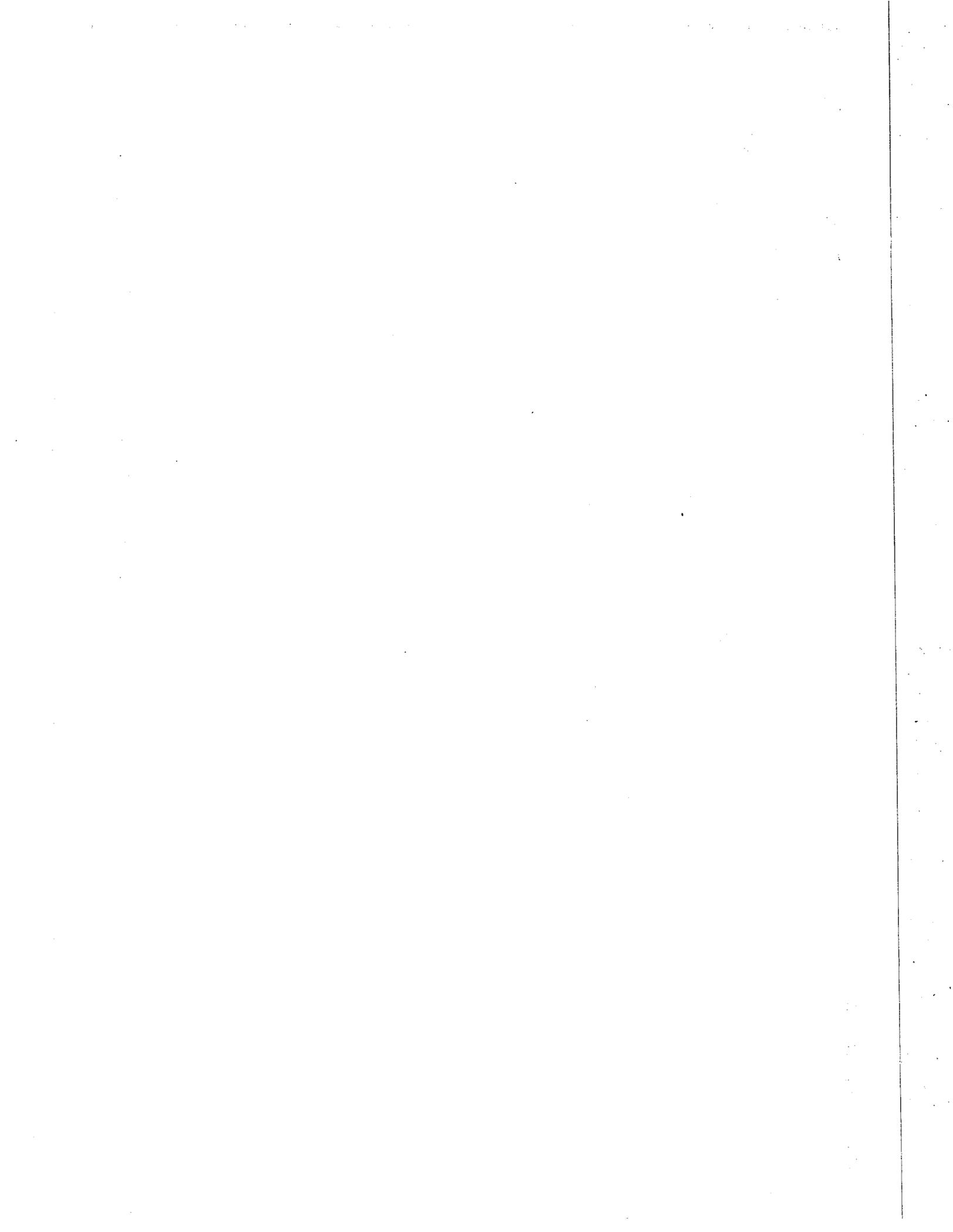
NO.6-6 1421015A

VA-110 VA-110S VA-100S



NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS 1/4WJ  
 ALL CAPACITORS IN MFD. 50WV K

VA-110 (ADAPTER) SCHEMATIC DIAGRAM 1421020A

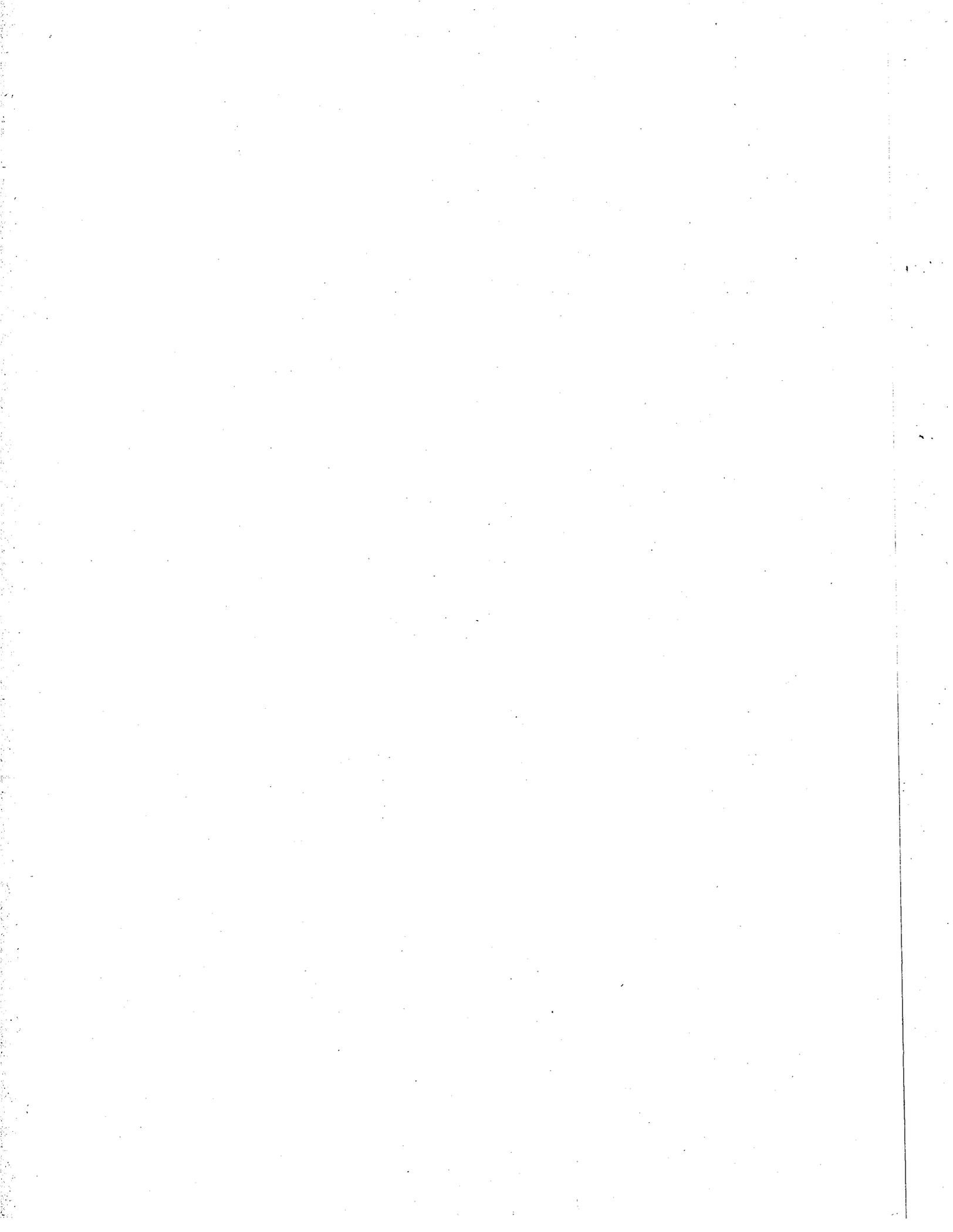


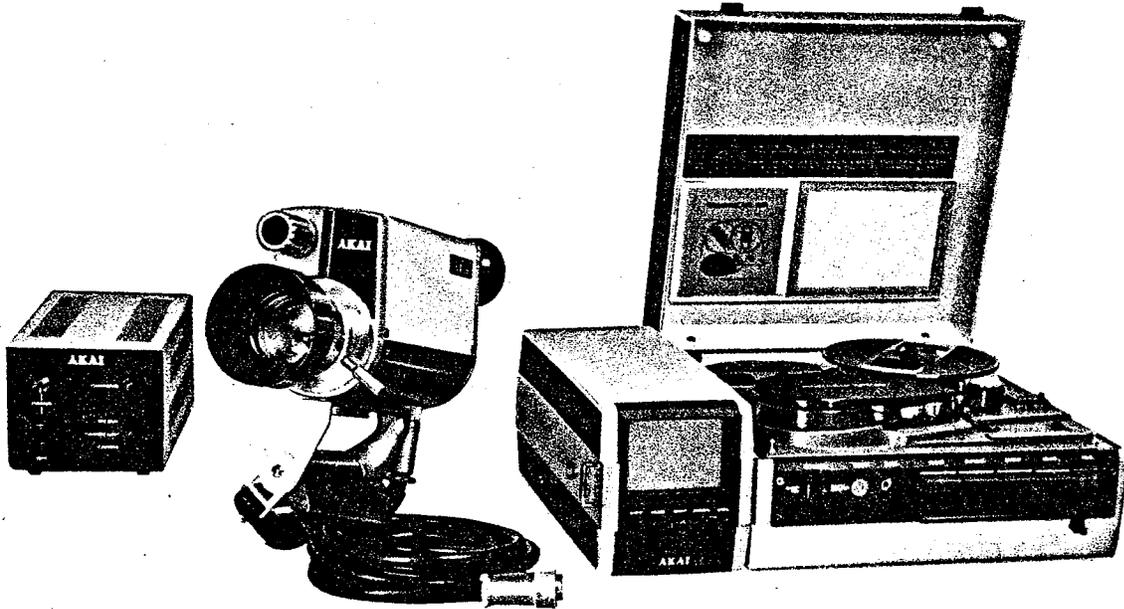
# **PRICE LIST FOR PARTS**

**AKAI PORTABLE VIDEO  
TAPE RECORDER SET**

**MODEL VTS-110**

**ALSO APPLICABLE TO MODEL VTS-110DX & VTS-100S**





WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
AND SERIAL NO. IN DETAIL

REPLACEMENT PARTS TABLE

SECTION 1 RECORDER COMPONENT PARTS .....	1
SECTION 2 CAMERA COMPONENT PARTS .....	25
SECTION 3 MONITOR COMPONENT PARTS .....	33
SECTION 4 AC ADAPTER/BATTERY CHARGER .....	42



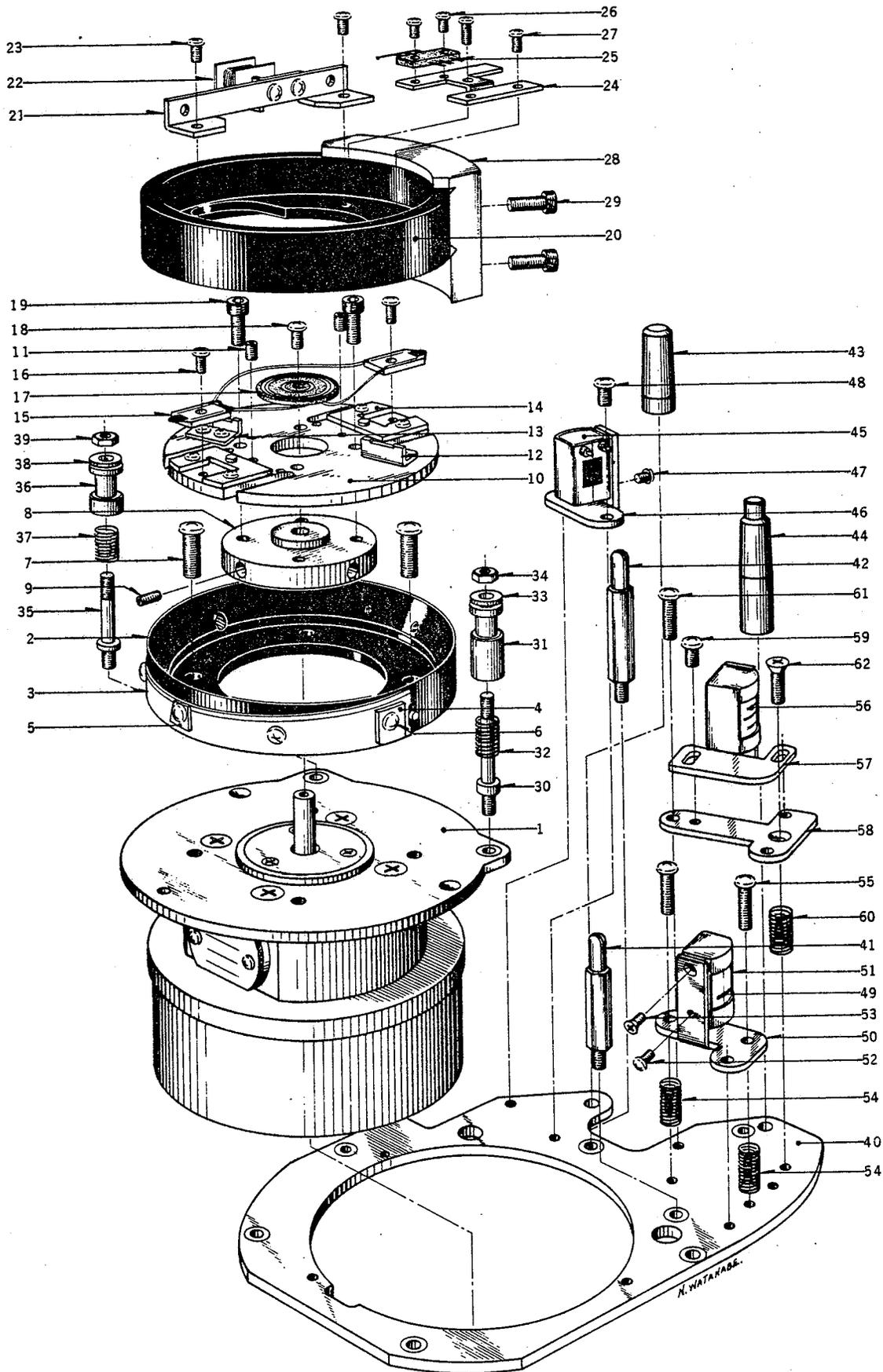
**SECTION 1**  
**RECORDER COMPONENT PARTS**

WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
AND SERIAL NO. IN DETAIL

ROTARY HEAD BLOCK .....	3
HEAD BASE BLOCK .....	3
SUB CAPSTAN BLOCK .....	5
MAIN CAPSTAN BLOCK .....	5
CAPSTAN MOTOR BLOCK .....	5
SUPPLY REEL TABLE BLOCK .....	7
TAKE-UP REEL TABLE BLOCK .....	7
KEYBOARD BLOCK .....	7
ASSEMBLY BLOCK .....	9
VIDEO P.C. BOARD (PX-A503) BLOCK .....	13
AUDIO P.C. BOARD (PX-A502) BLOCK .....	15
SERVO P.C. BOARD (PX-A505) BLOCK .....	17
MOTOR DRIVE P.C. BOARD (PX-513) BLOCK .....	18
PLG. CURRENT LIMITATION P.C. BOARD (PX-508) BLOCK .....	19
SSG. P.C. BOARD (PX-A504) BLOCK .....	21
CASE BLOCK .....	23
FINAL ASSEMBLY BLOCK .....	24

(2)

ILLUSTRATION OF VIDEO HEAD BLOCK



## ROTARY HEAD BLOCK

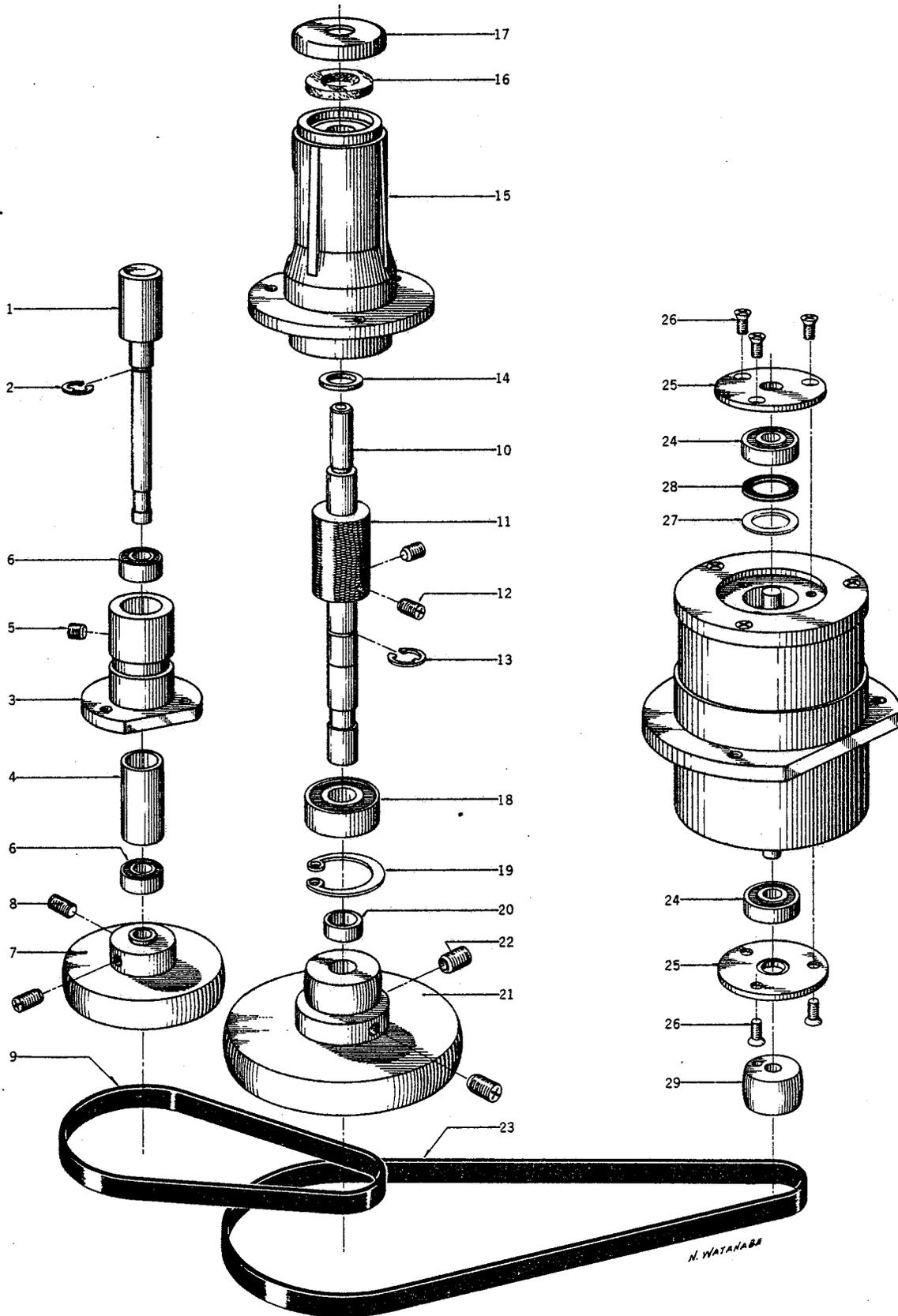
Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	A-418724	Rotary Head Block		
		Assy. Comp.	VC.PXA	
1	A-418746	Drum Motor Block Assy. y		
		Comp.	VC.PXA	
-	A-357153	Ball Bearing #604		
		ZZC2P6B325		
-	A-364678	Ball Bearing #605		
		ZZC2P6B325		
-	A-358154	Brush MH-50	13-1-1	
2	A-361394	Lower Drum, w/pin	PX-802	
-	A-362867	Head Plate Retaining Pin	PX-824	
3	A-362878	Drum Tape Guide	PX-809	
4	A-404943	PX Guard Band Retaining Plate (A)	PX-833	
5	A-404954	PX Guard Band Retaining Plate (B)	PX-834	
-	A-404965	PX Guard Band Retaining Plate (C)	PX-835	
-	A-259560	Washer (BSP)		
		3.3 x 5.8 x 0.25t		
6	A-419927	Screw, round head 3 x 5		
-	A-361405	Drum Shield Plate	PX-803	
7	A-413234	Screw, pan head 4 x 12		
8	A-407531	Head Plate Holder C, w/metal	PX-838	
9	A-356804	Set Screw, hexagon socket 3 x 4		
10	A-395425	Head Plate, w/pin	PX-830	
-	A-362902	Pin, Head Plate	RX-280	
11	A-356804	Set Screw, hexagon socket 3 x 4		
12	A-395436	PU Plate C (Brass)	PX-831	
13	A-395447	PU Plate D (Permalloy)	PX-832	
-	A-201903	Screw, binding head 2.3 x 4		
14	A-362891	Head Guide Base	PX-819	
-	A-201431	Screw, pan head 2.3 x 5		
15	A-358716	VIDEO HEAD PX	VC.PX	
16	A-202307	Screw, round head 2.3 x 6		
17	A-357041	Slip Ring, Type 1400	52-1-3	
18	A-419940	Screw, pan head 2.3 x 6		
-	A-273778	M3 Earth Lug		
19	A-419938	Screw, hexagon socket head 3 x 8		
20	A-362698	Upper Drum	PX-806	
21	A-362913	PC Bracket	RX-833	
22	A-403806	Pick-Up Coil, w/core	23-1-106	
23	A-201418	Screw, pan head 2.3 x 4		
-	A-273778	M3 Earth Lug		
24	A-362946	Bracket, Brush	RX-811	
25	A-357063	Brush, Type 1330	52-1-4	
26	A-419951	Screw, pan head 2 x 5		
27	A-419940	Screw, pan head 2.3 x 6		
28	A-362700	Drum Support	PX-807	
29	A-419938	Screw, hexagon socket head 3 x 8		
30	A-375175	Guide Prop T	PX-822	
-	A-273756	M3 Nut		
31	A-375186	Tape Guide T	PX-823	
32	A-375197	Guide Spring T	PX-824	
33	A-375208	Tape Guide Cap	PX-828	
34	A-273835	M3 Nut		
35	A-375210	Guide Prop S	PX-825	
36	A-375221	Tape Guide S	PX-826	
37	A-375232	Guide Spring S	PX-827	
38	A-375208	Tape Guide Cap	PX-828	
39	A-273835	M3 Nut		

## HEAD BASE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	A-458921	Head Base Block Assy.		
		Comp.	VC.PXA	
40	A-362711	Head Assembly Base	PX-808	
41	A-419297	Head Cover Post A	PX-A801	
-	A-272261	M3 Spring Washer		
-	A-273756	M3 Nut		
42	A-419308	Head Cover Post B	PX-A801	
43	A-419310	Taper Pole S	PX-A 802	
-	A-423527	Screw, binding head 3 x 8		
44	A-419321	Taper Pole T	PX-A803	
45	A-358740	FULL TRACK ERASE* HEAD	PX.VC	
46	A-419332	Master Erase Retaining Plate	PX-A804	
47	A-201508	Screw, pan head 2 x 4		
48	A-356793	Screw, pan head 3 x 5		
49	A-358727	SIDE TRACK ERASE HEAD	VC.PX	
50	A-362790	Side Erase Head Angle	PX-815	
51	A-347883	Shield Case	1-09-15	
-	A-347894	Shield Cover (Back)	1-09-14	
52	A-201508	Screw, pan head 2 x 4		
53	A-344351	Screw, countersunk head 2 x 4		
54	A-375197	Guide Spring T	PX-824	
55	A-434610	Screw, pan head 3 x 13		
56	A-418735	CONTROL/AUDIO HEAD	VC.PXA	
57	A-417982	AC Head Angle	VC-0008	
-	A-201508	Screw, pan head 2 x 4		
58	A-362812	Audio CTL Head Base	PX-817	
59	A-410231	Screw, pan head 2.6 x 5		
-	A-355442	Washer (SPC)		
		3.3 x 5.8 x 0.25t		
60	A-375197	Guide Spring T	PX-824	
61	A-434610	Screw, pan head 3 x 13		
62	A-434621	Screw, countersunk head 3 x 13		

(4)

ILLUSTRATION OF SUB CAPSTAN/MAIN CAPSTAN/CAPSTAN MOTOR BLOCK



## SUB CAPSTAN BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	B-358582	Sub Capstan Block Assy. Comp.	PX.VC	
1	B-360112	Sub Capstan Shaft	PX-219	
2	B-270101	"E" Ring 3.0M	6-1-9	
3	B-360123	Sub Capstan Case	PX-220	
4	B-360134	Bearing Collar	PX-221	
5	B-200711	Set Screw 3 x 3		
6	B-356646	Ball Bearing NSK684ZZSP6 C2 B325		
7	B-360145	Sub Flywheel	PX-222	
8	B-355588	Set Screw 3 x 6		
9	B-359886	Sub Capstan Belt	PX-171	

## MAIN CAPSTAN BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	B-358593	Main Capstan Block Assy. Comp.	PX	
10	B-360033	Main Capstan Shaft	PX-211	
11	B-360055	Capstan Pulley	PX-213	
12	B-200733	Set Screw 3 x 4		
13	B-270123	"E" Ring 4.0M	6-1-9	
14	B-419826	Washer (Fiver)6.2x10x1t		
15	B-360077	Bearing Case, w/Metal	PX-215.6	
16	B-360090	Capstan Felt	PX-217	
17	B-435824	Metal Cap	PX-218	
18	B-356624	Ball Bearing NSK606ZZP6 C2 B325		
19	B-206021	"C" Ring D22	6-1-2	
20	B-360066	Flywheel Collar	PX-214	
21	B-360044	Main Flywheel	PX-212	
22	B-355533	Set Screw 4 x 8		
23	B-359875	Flywheel Belt	PX-170	
-	B-407542	Flywheel Belt (CCIR)	PX-181	

## CAPSTAN MOTOR BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	B-358661	Capstan Motor (US) Assy. Comp.	PX	
-	B-402570	Capstan Motor (CCIR) Assy. Comp.	PX	
24	B-357153	Ball Bearing #604 ZZC2P6B325		
25	B-361247	BRG Plate A	PX-703	
26	B-355577	Screw, countersunk head 2 x 6		
27	B-361326	Motor Washer (Mylar) 0.2t	PX-712	
-	B-361337	Motor Washer (Mylar) 0.1t	PX-712	
28	B-361348	Motor Washer (Rubber) 0.5t	PX-712	
29	B-361372	Capstan Motor Pulley (US)	PX-715	
-	B-395370	Capstan Motor Pulley (CCIR)	PX-716	

(6)

ILLUSTRATION OF SUPPLY & TAKE-UP REEL TABLE BLOCK

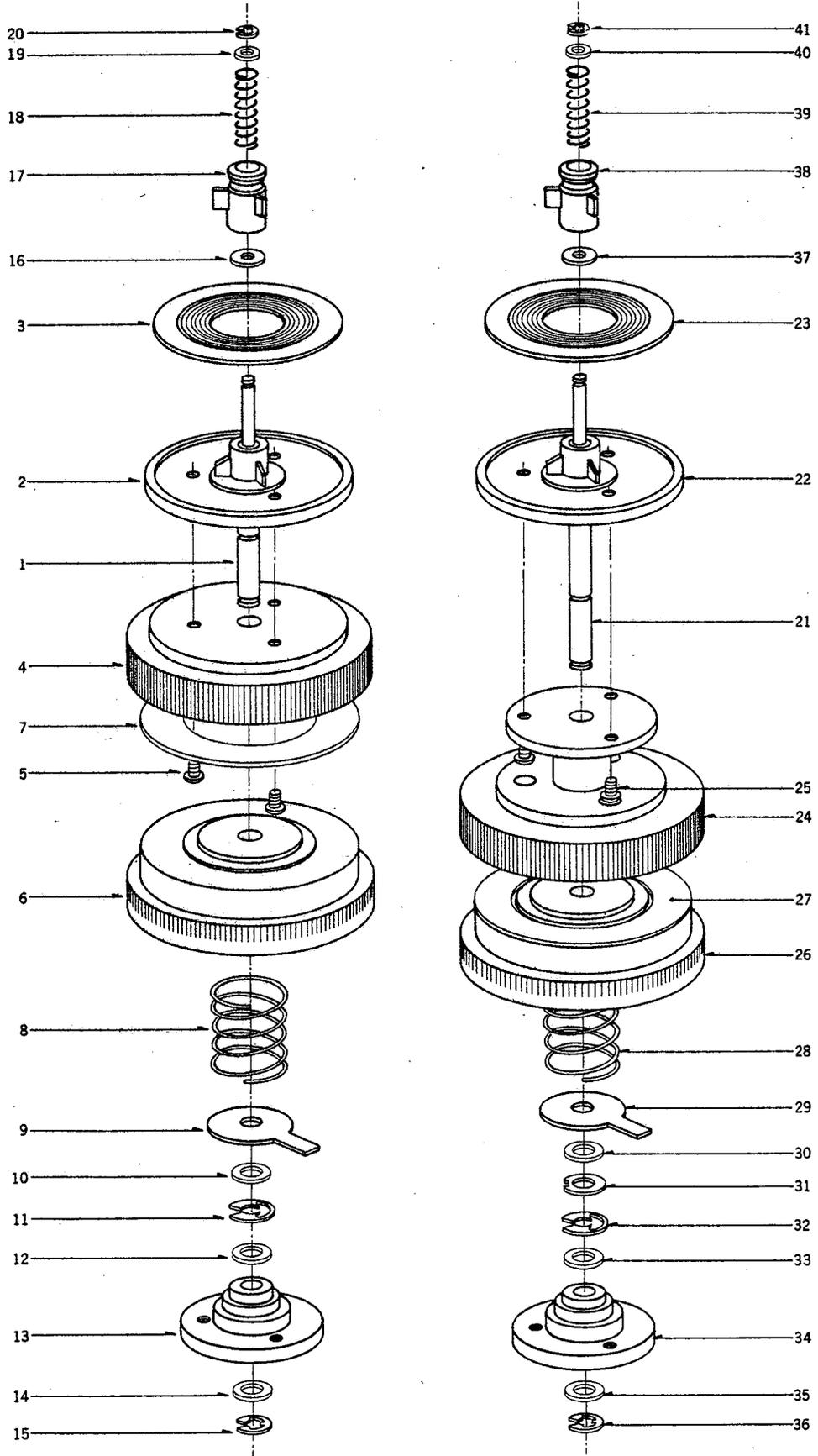
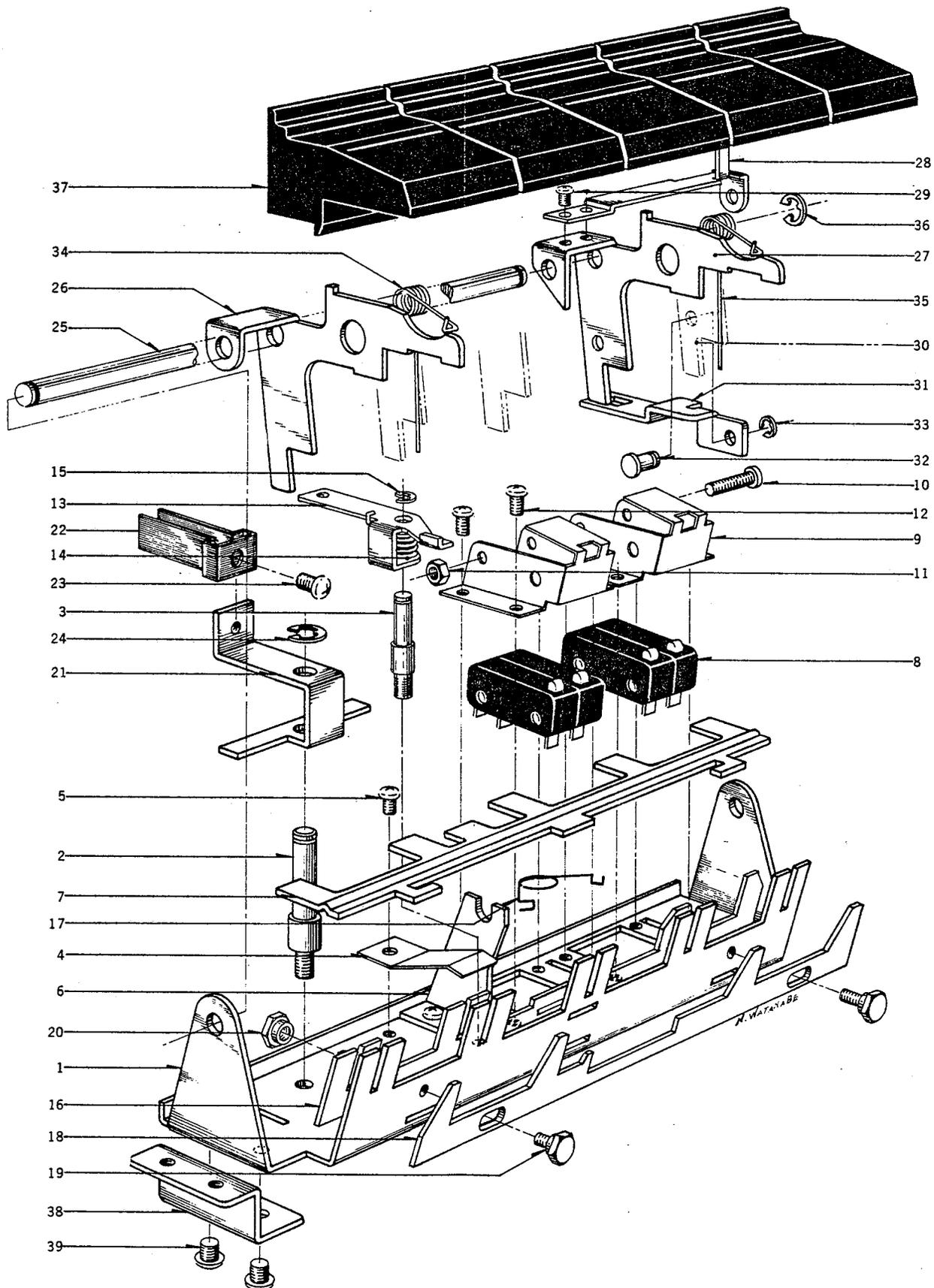


ILLUSTRATION OF KEYBOARD BLOCK



## SUPPLY REEL TABLE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	C-423404	Supply Reel Table Block Comp.	PXA	
1	C-423483	Supply Reel Shaft	PX-296	
2	C-359921	PX Reel Table, w/bush	PX-202	
3	C-359932	Reel Table Rubber Plate	PX-203	
4	C-422684	Reel Table S	PX-292	
5	C-356782	Screw, pan head 2.3 x 4		
6	C-422695	Take-up Drum	PX-291	
7	C-422706	Take-up Felt	PX-293	
8	C-422717	Take-up Spring	PX-294	
9	C-422752	Take-up Spring Holder	PX-295	
10	C-422796	Washer (Nylon) 4.6 x 8 x 0.5t		
11	C-290283	"U" Ring 2.85M	6-1-1	
12	C-422796	Washer (Nylon) 4.6 x 8 x 0.5t		
13	C-422774	Reel Metal Case, w/Metal T	PX-297B	
14	C-422796	Washer (Nylon) 4.6 x 8 x 0.5t		
15	C-270101	"E" Ring 3.0M	6-1-9	
16	C-222390	Rubber Washer 0.5t	BT-113	
17	C-256138	Reel Retainer B	BT-110	
18	C-255622	Reel Spring	BT-111	
19	C-259413	Washer (APL) 2.7x4.9x1t	BT-112	
20	C-270088	"E" Ring 1.9M	6-1-9	

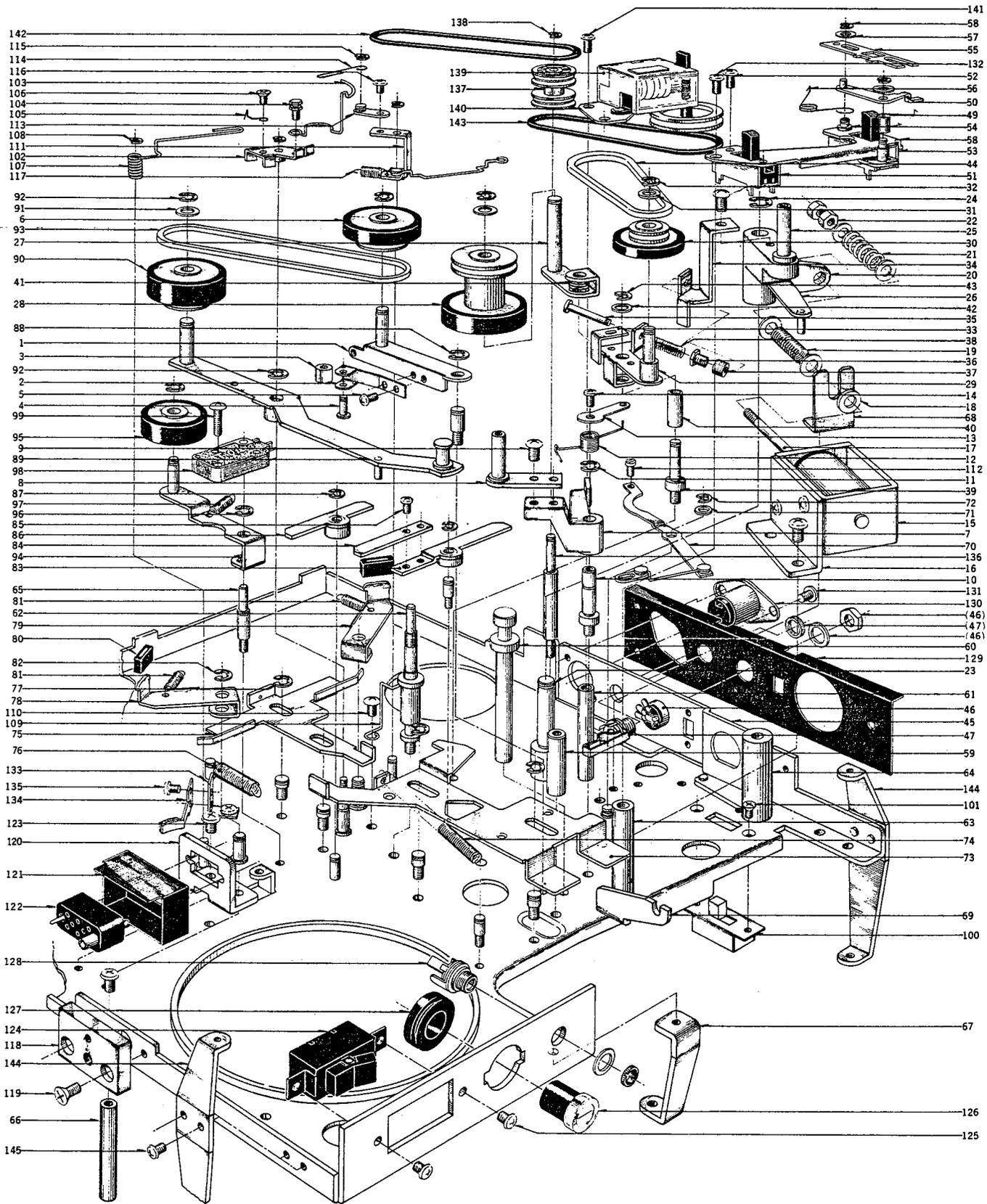
## TAKE-UP REEL TABLE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	C-423415	Take-up Reel Table Block Comp.	PXA	
21	C-423494	Take-up Reel Shaft	PX-296B	
22	C-359921	PX Reel Table, w/bush	PX-202	
23	C-359932	Reel Table Rubber Plate	PX-203	
24	C-422730	Reel Table T	PX-292B	
25	C-356782	Screw, pan head 2.3 x 4		
26	C-422695	Take-up Drum	PX-291	
27	C-422706	Take-up Felt	PX-293	
28	C-422717	Take-up Spring	PX-294	
29	C-422752	Take-up Spring Holder	PX-295	
30	C-422796	Washer (Nylon) 4.6 x 8 x 0.5t		
31	C-422741	Claw Washer (SUP) 0.25t	PX-293B	
32	C-290283	"U" Ring 2.85M	6-1-1	
33	C-422796	Washer (Nylon) 4.6 x 8 x 0.5t		
34	C-422774	Reel Metal Case, w/Metal T	PX-297B	
35	C-422796	Washer (Nylon) 4.6 x 8 x 0.5t		
36	C-270101	"E" Ring 3.0M	6-1-9	
37	C-222390	Rubber Washer 0.5t	BT-113	
38	C-256138	Reel Retainer B	BT-110	
39	C-255622	Reel Spring	BT-111	
40	C-259413	Washer (ALP) 2.7x4.9x1t	BT-112	
41	C-270088	"E" Ring 1.9M	6-1-9	

## KEYBOARD BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	D-430615	Keyboard Block (VT-110) Assy. Comp.	PXA	
-	D-438434	Keyboard Block (VT-100S) Assy. Comp.	PXS	
1	D-435060	Button Guide B	PX-A311	
2	D-360797	FF Changing Shaft	PX-302	
-	D-273756	M3 Nut		
3	D-422098	Release Lever Shaft	PX-A305	
4	D-360808	Plate Spring	PX-303	
5	D-356668	Screw, binding head 2.3 x 4		
6	D-360810	Supporting Plate	PX-304	
7	D-360832	Button Lock Plate A	PX-306	
8	D-356916	Micro Switch SL-2 AC5A 125V	25-1-17	
9	D-360821	Switch Mounting Plate	PX-305	
10	D-356670	Screw, binding head 2.3 x 15		
11	D-273668	M2.3 Nut		
12	D-201475	Screw, pan head 2 x 3		
13	D-422875	Release Lever	PX-A306	
14	D-428635	Release Lever Spring	PX-A307	
15	D-270088	"E" Ring 1.9M	6-1-9	
16	D-434351	Slide Plate A	PX-A310	
17	D-360854	Slide Plate Spring	PX-308	
18	D-422853	Slide Plate B	PX-A301	
19	D-432584	Draduated Screw, Slide Plate	PX-A309	
20	D-432911	Nut, Slide Plate	PX-A308	
21	D-360944	FF Changing Plate	PX-317	
22	D-360955	Changing Plate Spring	PX-318	
23	D-356668	Screw, binding head 2.3 x 4		
24	D-270101	"E" Ring 3.0M	6-1-9	
25	D-360876	Button Guide Shaft	PX-310	
26	D-360898	Button Lock Plate C	PX-312	
27	D-360887	Button Lock Plate B-1 (VT-110)	PX-311	
28	D-422886	Sub Lock Plate (VT-110)	PX-A303	
29	D-391386	Screw, pan head 2.3 x 3 (VT-110)		
30	D-435115	Button Lock Plate B-2 (VT-110)	PX-311	
-	D-435115	Button Lock Plate B-2 (VT-100S)	PX-311	
31	D-360900	Switch Changing Plate	PX-313	
32	D-360911	Switch Changing Shaft	PX-314	
33	D-356657	"E" Ring 1.5M	6-1-9	
34	D-360922	Button Spring	PX-315	
35	D-360933	REC Return Spring	PX-316	
36	D-357164	"E" Ring 2.3M	6-1-9	
37	D-360966	Operation Button	PX-319	
38	D-422021	Button Guide Mounting Plate (Left)	PX-A134	
-	D-422032	Button Guide Mounting Plate (Right)	PX-A136	
39	D-201925	Screw, binding head 2.3 x 5		
-	D-323728	Screw, binding head 3 x 5		

ILLUSTRATION OF ASSEMBLY BLOCK



## ASSEMBLY BLOCK

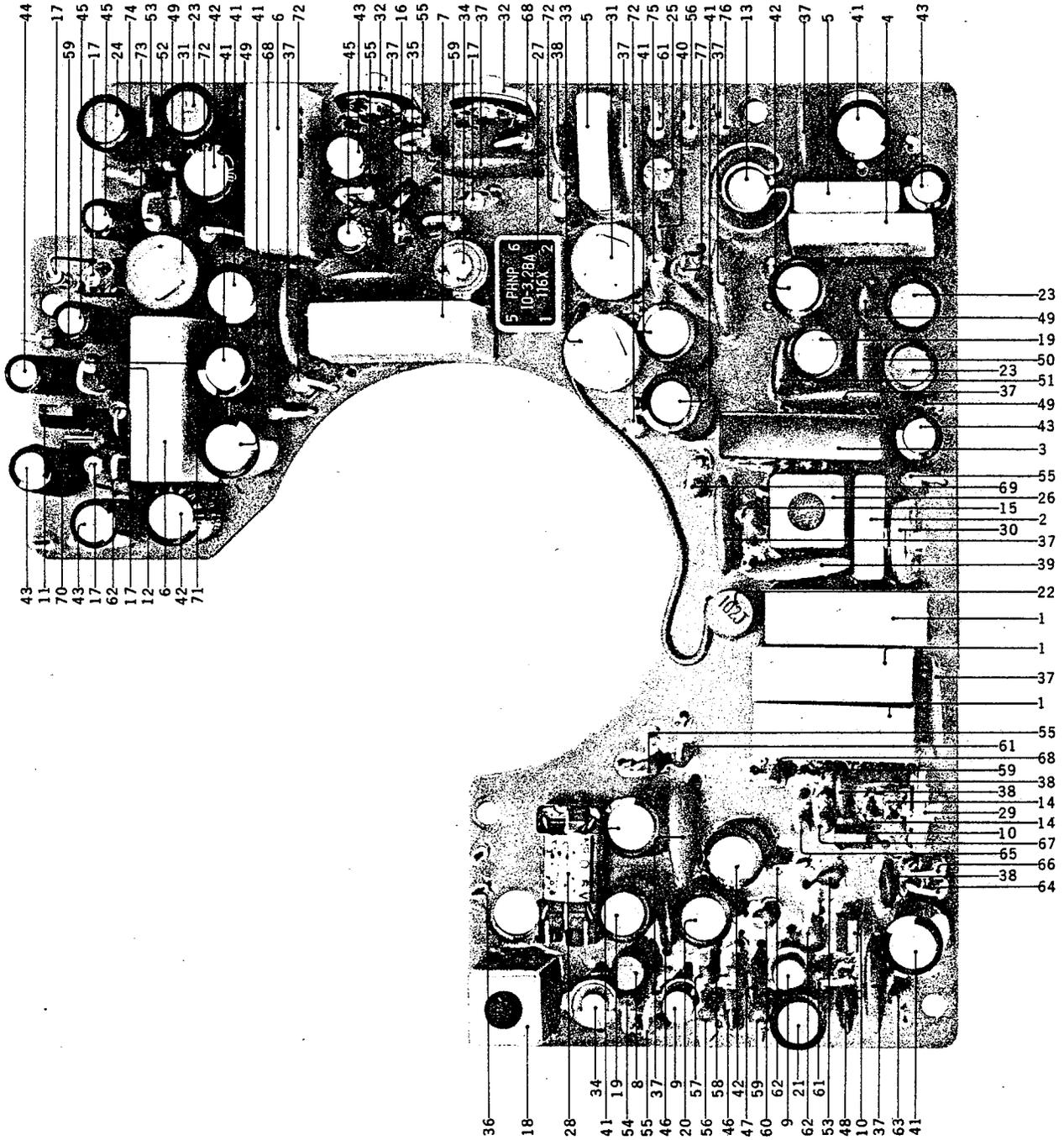
Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
<b>FF IDLER LEVER (A) BLOCK</b>					<b>TAKE-UP ROLLER BLOCK</b>				
-	E-358615	FF Idler Lever (A) Block Comp.	PX		-	H-423371	Take-up Roller Block Comp.	PXA	
1	E-360663	FF Idler A Lever, w/Shaft	PX-270.1		27	H-422548	Take-up Pulley Arm, w/Shaft	PX-243	
2	E-360685	Pressure Plate	PX-272		28	H-422605	Take-up Puller	PX-282	
3	E-360696	Pressure Roller	PX-273		-	H-259773	Washer (Nylon) 4.1 x 7 x 0.5t		
4	E-360707	Pressure Roller Shaft	PX-274		-	H-270101	"E" Ring 3.0M	6-1-9	
-	E-356657	"E" Ring 1.5M	6-1-9		29	H-422561	Take-up Roller Arm B, w/Shaft B	PX-245	
5	E-355544	Screw, binding head 2 x 4			30	H-360584	Drive Idler	PX-262	
-	E-259773	Washer (Nylon) 4.1 x 7 x 0.5t			31	H-259773	Washer (Nylon) 4.1 x 7 x 0.5t		
6	E-360718	FF Idler A	PX-275		32	H-270101	"E" Ring 3.0M	6-1-9	
-	E-259740	Washer (SUP) 4.1 x 7 x 0.25t			33	H-422572	Take-up Roller Arm Adjusting Plate	PX-245B	
-	E-270101	"E" Ring 3.0M	6-1-9		-	H-356668	Screw, binding head 2.3 x 4		
-	E-359638	FF Idler A Spring	PX-146		34	H-360617	Pressure Arm	PX-265	
<b>SUB PINCH ROLLER BLOCK</b>					35	H-360628	Joint Shaft	PX-266	
-	F-358637	Sub Pinch Roller Block Comp.	PX		36	H-360630	Take-up Torque Adjusting Screw A	PX-267	
7	F-360314	Sub Pinch Roller Arm	PX-236		37	H-360641	Take-up Torque Adjusting Screw B	PX-268	
8	F-360325	Sub Pinch Roller Plate	PX-237		38	H-360652	Take-up Idler Spring	PX-269	
9	F-422076	Screw, pan head 3 x 5			-	H-321513	Washer (Nylon) 2.6 x 8 1t		
-	F-360336	Sub Pinch Roller Shaft	PX-238		-	H-356657	"E" Ring 1.5M	6-1-9	
-	F-355590	Screw, countersunk head 2.6 x 6			39	H-427127	Take-up Roller Arm Shaft	PX-A160	
10	F-359313	Sub Pinch Roller Arm Prop	PX-116		40	H-427116	Take-up Roller Arm Shaft Collar	PX-A161	
11	F-270101	"E" Ring 3.0M	6-1-9		41	H-422550	Take-up Arm Spring A	PX-244	
12	F-359730	Sub Pinch Roller Spring	PX-156		42	H-402557	Washer (Nylon) 4.1 x 7 x 0.2t		
13	F-359741	Spring Arm	PX-157		43	H-357164	"E" Ring 2.3M	6-1-9	
14	F-417227	Screw, binding head 2.3 x 5			44	H-422627	Take-up Belt	PX-182	
<b>MAIN PINCH ROLLER BLOCK</b>					<b>VIDEO CHANGING SWITCH BLOCK</b>				
-	G-358626	Main Pinch Roller Block Assy. Comp.	PX		45	I-422458	Connector Panel	PX-A108	
15	G-374602	Plunger Solenoid 1040FHT	44-1-44		-	I-358064	10P Connector RM15TRG-10S	31-166	
-	G-375592	Silicon Diode V06B	45-2-35		-	I-422471	Slide Switch SL-B262B	25-3-38	
16	G-360235	Plunger Bracket	PX-231		-	I-422493	Video Changing Switch P.C. Board	PX-A148	
-	G-424124	Screw, countersunk head 3 x 5			-	I-422515	Carbon Resistor RD1/8 330K K	35-9-13	
17	G-360246	Pinch Roller Lever	PX-232		-	I-422504	Carbon Resistor RD1/8 75Ω J	35-9-13	
-	G-360257	Pinch Roller Joint Pin	PX-233		-	I-430413	Screw, countersunk head 2.6 x 4		
-	G-270088	"E" Ring 1.9M	6-1-9		46	I-422482	Volume V12M4-1S (SJ) 7S-B 100K	36-25-2	
18	G-259514	Washer (Nylon) 3.1 x 8 x 1t	BT-104		47	I-207358	Earphone Jack D3.5	31-2-15	
-	G-259503	Washer (Nylon) 3.1 x 8 x 0.5t	BT-104		-	I-422537	Nylon Collar, Jack D3.5	PX-A147	
19	G-360292	Pinch Roller Return Spring	PX-234		-	I-430402	Washer (Nylon) 6.2 x 10 x 0.5t		
20	G-360156	Pinch Roller Arm	PX-223		<b>SLIDE SWITCH BLOCK</b>				
21	G-360303	Pinch Roller Spring	PX-235		-	J-430626	Slide Switch Block Comp. (VT-110)	PXA	
22	G-273756	M3 Nut			-	J-438423	Slide Switch Block Comp. (VT-100S)	PXS	
23	G-359302	Pinch Roller Arm Prop	PX-115		48	J-422324	Switch Mounting Plate A, w/Shaft	PX-A201	
24	G-270123	"E" Ring 4.0M	6-1-9						
25	G-360167	Pinch Roller Shaft	PX-224						
-	G-360178	Pinch Roller Washer	PX-225						
26	G-360213	Pinch Roller Plate, w/Pin	PX-229						
-	G-201925	Screw, binding head 2.3 x 5							

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
49	J-422368	Lock Arm Spring	PX-A203		—	K-270101	"E" Ring 3.0M	6-1-9	
50	J-422346	Lock Arm, w/Pin	PX-A204		75	K-399238	Brake Lever	PX-289	
—	J-430446	Washer (Nylon) 3.1 x 8 x 0.25t			76	K-360437	Brake Spring	PX-248	
—	J-270088	"E" Ring 1.9M	6-1-9		—	K-259773	Washer (Nylon) 4.1 x 7 x 0.5t		
51	J-422436	Slide Switch SL-222B4C	25-3-40		—	K-260201	Washer (Nylon) 6.2 x 13 x 1t		
52	J-365940	Screw, binding head 2.3 x 3			77	K-270101	"E" Ring 3.0M	6-1-9	
53	J-422414	Slide Switch SL-242B4BD	25-3-39		78	K-422651	Brake Lever A	PX-242	
—	J-331435	Lug Plate VB2L	33-4-6		79	K-422662	Brake Lever B	PX-242	
54	J-422381	Slide Plate Shaft	PX-A206		80	K-422673	Brake Rubber Bush	PX-299	
55	J-422370	Slide Plate	PX-A208		81	K-360437	Brake Spring	PX-248	
56	J-422392	Slide Switch Return Spring	PX-A207		82	K-270101	"E" Ring 3.0M	6-1-9	
57	J-430446	Washer (Nylon) 3.1 x 8 x 0.25t			—	K-434395	Brake Off Lever Comp.	PX-A174	
58	J-357164	"E" Ring 2.3M	6-1-9		83	K-359526	Brake Off Lever A, w/Metal	PX-135.6	
—	J-439650	Switch Mounting Plate B (VT-100S)	PX-A201		84	K-359548	Brake Off Lever A-2	PX-137	
—	J-422436	Slide Switch SL-222B4C	25-3-40		85	K-394525	Screw, binding head 2 x 3		
—	J-365940	Screw, binding head 2.3 x 3			86	K-359550	Brake Off Lever B, w/Metal	PX-138.9	
<b>ASSEMBLY BLOCK</b>									
59	K-421986	Assembly Base Prop	PX-A153		87	K-270088	"E" Ring 1.9M	6-1-9	
—	K-413741	Screw, binding head 3 x 8			—	K-259738	Washer (Polyslider) 4.1 x 7 x 0.25t		
—	K-359280	Mech. Panel Prop	PX-113		88	K-270101	"E" Ring 3.0M	6-1-9	
—	K-323728	Screw, binding head 3 x 5			—	K-434428	FF Idler B Lever Comp.	PX-A172	
60	K-359291	Tape Guide	PX-114		89	K-359583	FF Lever, w/Metal	PX-141.3	
61	K-422245	Counter Bracket Column	PX-A106		90	K-359640	FF Idler B	PX-147	
—	K-413155	Screw, binding head 3 x 6			91	K-402557	Washer (Nylon) 4.1 x 7 x 0.2t		
62	K-422010	Guide Roller Shaft	PX-A138		92	K-270101	"E" Ring 3.0M	6-1-9	
—	K-273756	M3 Nut			93	K-394852	FF Belt	PX-150	
63	K-422313	Switch Retaining Collar A	PX-A105		—	K-434430	RWD Idler Comp.	PX-A171	
64	K-422302	Switch Retaining Collar B	PX-A105		94	K-422054	RWD Lever, w/Shaft	PX-A112	
65	K-422100	RWD Lever Shaft	PX-A104		—	K-259773	Washer (Nylon) 4.1 x 7 x 0.5t		
—	K-359414	P.C. Board Prop A (L=26)	PX-126		95	K-359706	RWD Idler	PX-153	
—	K-359425	P.C. Board Prop B (L=30)	PX-126		96	K-270101	"E" Ring 3.0M	6-1-9	
66	K-359436	P.C. Board Prop C (L=34)	PX-126		97	K-360437	Brake Spring	PX-248	
—	K-359447	PX P.C. Board Prop E	PX-127		98	K-422111	Micro Switch MT-10AT	25-1-21	
—	K-200384	Screw, countersunk head 3 x 6			99	K-393726	Screw, truss head 3 x 10		
—	K-323728	Screw, binding head 3 x 5			100	K-422447	Slide Switch S-4900	25-3-42	
67	K-359190	Mech. Retaining Angle A	PX-104		101	K-344351	Screw, countersunk head 2 x 4		
—	K-359458	P.C. Board Retaining Angle	PX-128		—	K-434406	Tension Plate Comp.	PX-A173	
68	K-359460	Pinch Roller Lever Stopper	PX-129		102	K-422144	Tension Plate, w/Collar	PX-A125.6	
—	K-201925	Screw, binding head 2.3 x 5			103	K-422188	Tension Bar A	PX-A127	
69	K-422043	Keyboard Supporting Angle B	PX-A135		104	K-422177	Tension Bar Holder	PX-A128	
—	K-323728	Screw, binding head 3 x 5			105	K-422190	Tension Adjuster	PX-A129	
70	K-434294	Shut-off Lever Comp.	PX-A176 to 179		106	K-356668	Screw, binding head 2.3 x 4		
—	K-402557	Washer (Nylon) 4.1 x 7 x 0.2t			107	K-422122	Tension Bar B	PX-A131	
71	K-259773	Washer (Nylon) 4.1 x 7 x 0.5t			108	K-270088	"E" Ring 1.9M	6-1-9	
72	K-270101	"E" Ring 3.0M	6-1-9		109	K-427105	Tension Bar A Stopper	PX-A159	
—	K-394560	Head Assy. Base Table B	PX-177		110	K-417216	Screw, pan head 3 x 4		
—	K-413155	Screw, binding head 3 x 6			111	K-422897	Release Arm Plate, w/Arm A	PX-A139	
73	K-359504	FF Slide Lever	PX-133		112	K-360865	Slide Plate Shaft	PX-309	
74	K-359515	FF Slide Lever Spring	PX-134		113	K-422201	Release Arm, w/Shaft	PX-A123	
—	K-259773	Washer (Nylon) 4.1 x 7 x 0.5t			114	K-422166	Tension Plate Wire	PX-A130	
—	K-260201	Washer (Nylon) 6.2 x 13 x 1t			115	K-357164	"E" Ring 2.3M	6-1-9	
					116	K-356668	Screw, binding head 2.3 x 4		
					117	K-422223	Return Spring	PX-A132	

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
118	K-359493	Connection Metal Fitting	PX-132	
119	K-414033	Screw, countersunk head 3 x 8		
-	K-434441	Monitor Connector Comp.	PX-A170	
120	K-359820	Connector Mounting Plate L	PX-165	
121	K-359818	Connector Cover	PX-164	
122	K-358086	8P Connector MB-8S-7.5A-1	31-1-63	
123	K-323728	Screw, binding head 3 x 5		
124	K-358097	Seesaw Switch SJ-1253 (SA2050N)	25-2-10	
125	K-371856	ISO Screw, binding head 3 x 5		
126	K-361440	Battery Checker MO-48	46-1-13	
127	K-359831	Checker Fastener	PX-166	
128	K-358075	Earphone Jack	31-2-15	
129	K-422460	Decorative Plate (VT-110)	PX-A109	
-	K-438197	Decorative Plate (VT-100S)	PX-A109	
130	K-379001	5P DIN Jack S-I 8123	31-1-24	
131	K-323728	Screw, binding head 3 x 5		
-	K-419848	Screw, binding head 2.3 x 3		
-	K-359864	Switch Retaining Plate	PX-169	
132	K-413255	Screw, binding head 3 x 6		
133	K-423505	Back Tension Supporting Plate	PX-A152	
134	K-422818	Plate Spring, Back Tension	PX-A150	
-	K-422820	Felt, Back Tension	PX-A151	
135	K-394525	Screw, binding head 2 x 3		
-	K-422831	Reel Shaft Cover	PX-A149	
-	K-255082	Lug Plate VBL2	33-4-10	
-	K-349558	Ferri-Inductor FL9H 1.5MH (J)	23-1-4	
-	K-434452	Intermediate Pulley Comp.	PX-A168	
136	K-422256	Intermediate Pulley Shaft	PX-A107	
137	K-422291	Intermediate Pulley	PX-A113	
-	K-374534	Washer (Nylon) 3x5x0.5t		
138	K-270088	"E" Ring 1.9M	6-1-9	
-	K-357658	M2.6 Nut		
139	K-422280	Tape Counter KMP-393 TCS-2219113	9-1-15	
140	K-422234	Counter Bracket	PX-A114	
-	K-430773	Screw, round head 2 x 4		
141	K-417352	Screw, pan head 3 x 6		
142	K-422267	Counter Belt A	PX-A115	
143	K-422278	Counter Belt B	PX-A116	
-	K-430784	Fuse Retaining Plate Comp.	PX-A166	
-	K-429456	Fuse Retaining Plate	PX-A163	
-	K-358031	Fuse 125V 4A	39-1-31	
-	K-359785	Fuse Retaining P.C. Board	PX-161	
-	K-356668	Screw, binding head 2.3 x 4		
-	K-403053	Transistor 2SD234 (O) (Power Supply)	45-1-81	
-	K-314403	Nylon Clip HP-2N		
-	K-359201	Mech. Retaining Angle B (Rear Centre)	PX-105	
-	K-359223	Mech. Retaining Angle D (Rear Left)	PX-107	
-	K-359234	Mech. Retaining Angle E (Rear Right)	PX-108	
144	K-422008	Mech. Retaining Angle	PX-A133	
145	K-355500	Screw, binding head 2.6 x 5		

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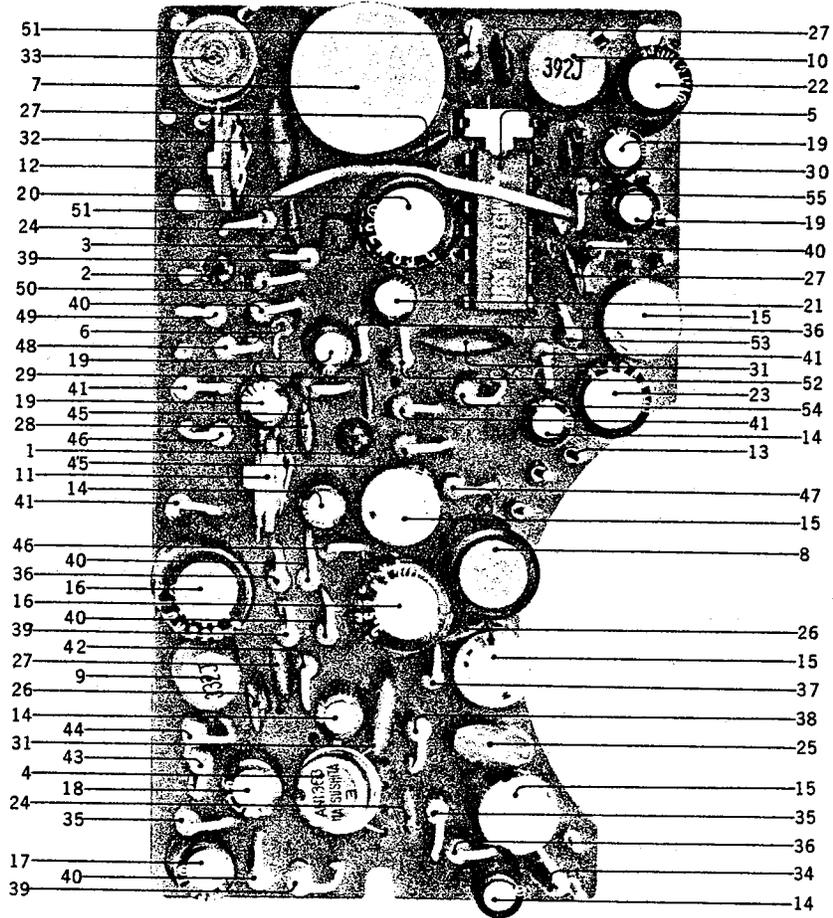
PHOTO OF VIDEO P.C. BOARD (PX-A503)



VIDEO P.C. BOARD (PX-A503) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	L-423360	Video P.C. Board (US) Assy. Comp.	PX-A503		40	L-423797	Ceramic TLD08F. 0.02μZ 25WV	4049	
-	L-430716	Video P.C. Board (CCIR) Assy. Comp.	PX-A503		41	L-220105	Electrolytic 100μF 10WV	4002.13.17. 26.31.34.40. 46	
1	L-423123	I.C. EHD-AW161G	IC4001.2.3		42	L-320040	Electrolytic 47μF 16WV	4008.24.30. 39	
2	L-361462	I.C. P-2	IC4004		43	L-220590	Electrolytic 33μF 10WV	4019.25.27. 29.43	
3	L-361473	I.C. GR-118	IC4005		44	L-220465	Electrolytic 22μF 6.3WV	4028	
4	L-361484	I.C. P-4	IC4006		45	L-450055	Electrolytic 1μF 25WV	4032.33.42	
5	L-357917	I.C. P-5 (AE-163)	IC4007.11		46	L-250885	Mylar 0.01μF (K) 50WV	4001.5	
6	L-361506	I.C. R-1	IC4008.9		47	L-250604	Mylar 0.001μF (K) 50WV	4004	
7	L-361517	I.C. GR-117	IC4010		48	L-250582	Mylar 0.0033μF (K) 50WV	4006	
8	L-423224	Transistor 2SK19BL	TR4001		49	L-350616	VFM 50PF (J) 50WV	4020.23.36. 38	
9	L-350392	Transistor 2SC645(B)	TR4002.3		50	L-350638	VFM 180PF (J) 50WV	4021	
10	L-380430	Transistor 2SC460(C)	TR4004.5		51	L-451462	VFM 150PF (J) 50WV	4022	
11	L-329218	Transistor 2SC458(C)	TR4006		52	L-310792	VFM 120PF (J) 50WV	4035	
12	L-380834	Transistor 2SC711(E)	TR4007		53	L-290520	VFM 100PF (J) 50WV	4037	
13	L-338894	Transistor 2SC968(3)	TR4008				Carbon Resistor, Stopper Type	R	
-	L-361697	Heat-Sink Plate R-1A	45-7-2		54	L-212264	RD1/4 22K J	4001	
14	L-420120	Silicon Doide 1S2144(A) (Special)	D4001.2 D4003		55	L-357412	RD1/4 220Ω J	5002.3.19. 30.32	
15	L-374692	Silicon Diode SD-13	D4003		56	L-306843	RD1/4 1.2K J	4004.37	
16	L-373432	Silicon Diode 1S2144(A)	D4008		57	L-357456	RD1/4 2.2K J	4005	
17	L-219464	Germanium Diode 1N34A	D4004 to 7.9.		58	L-349942	RD1/4 8.2KJ	4006	
18	L-423235	RF Ciol 14S048	L4001		59	L-336442	RD1/4 10K J	4007.18.24. 31	
19	L-361888	Inductor FS0810S 180μH J	L4002.7		60	L-357491	RD1/4 82K J	4008	
20	L-423246	Inductor FS0810S 220μH J	L4003		61	L-211667	RD1/4 100Ω J	4009.12.36	
21	L-428703	Inductor FS0810S 1mH	L4004		62	L-343078	RD1/4 2.7K J	4010.22.41	
22	L-243977	Ferri-Inductor FL7H 1mH J	L4005		63	L-211320	RD1/4 1.5K J	4011	
23	L-357772	Inductor FS0810S 100μH J	L4006.8.10		64	L-211858	RD1/4 12K J	4013	
24	L-361890	Inductor FS0810S 39μH J	L4009		65	L-419556	RD1/4 43K J	4014	
25	L-375581	Ferri-Inductor FL4H 3.3μH K	L4011		66	L-212681	RD1/4 330Ω J	4015	
26	L-361822	Transformer SNY-1352	T4001		67	L-213467	RD1/4 820Ω J	4016	
27	L-355746	Transformer PHNP10-32BA	T4002		68	L-304402	RD1/4 470Ω J	4017.23.33	
28	L-375625	Relay NR-0-6V	RL4001		69	L-361563	RD1/4 180Ω J	4020	
29	L-423257	Semi-variable Volume V101KR 20KB	VR4001		70	L-342933	RD1/4 27K J	4021	
30	L-399993	Semi-variable Volume V101KR 200ΩB	VR4002		71	L-306887	RD1/4 15K J	4025	
31	L-361800	Semi-variable Volume SV10KR 470ΩB	VR4003.7		72	L-361642	RD1/4 47Ω J	4026.29.34. 35	
32	L-402513	Semi-variable Volume V101KR 1KB	VR4004.5		73	L-380755	RD1/4 6.2K J	4027	
33	L-361798	Semi-variable Volume SV10KR 100ΩB	VR4006		74	L-211465	RD1/4 1K J	4028	
34	L-423268	Trimmer Condenser CV09 D200 20PF	TC4001.2		75	L-324202	RD1/4 5.1K J	4038	
35	L-361844	Thermistor 22D27	TH4001		76	L-304290	RD1/4 10Ω J	4039	
36	L-376648	P.C Board Terminal	PX-501		77	L-361686	Solid RC1/2W 68Ω K	4040	
-	L-350447	Test Terminal	PX-544						
		Capacitor, Vertical Type	C						
37	L-350594	Ceramic TLD14F 0.1μZ 25WV	4003.12.14. 16.18.41.44. 45.48.50.51						
38	L-374218	Ceramic TLD07F 0.01μZ 25WV	4007.10.11. 47						
39	L-361732	Ceramic DD620BC-12 0.5μF 12WV	4015						

PHOTO OF AUDIO P.C. BOARD (PX-A502)

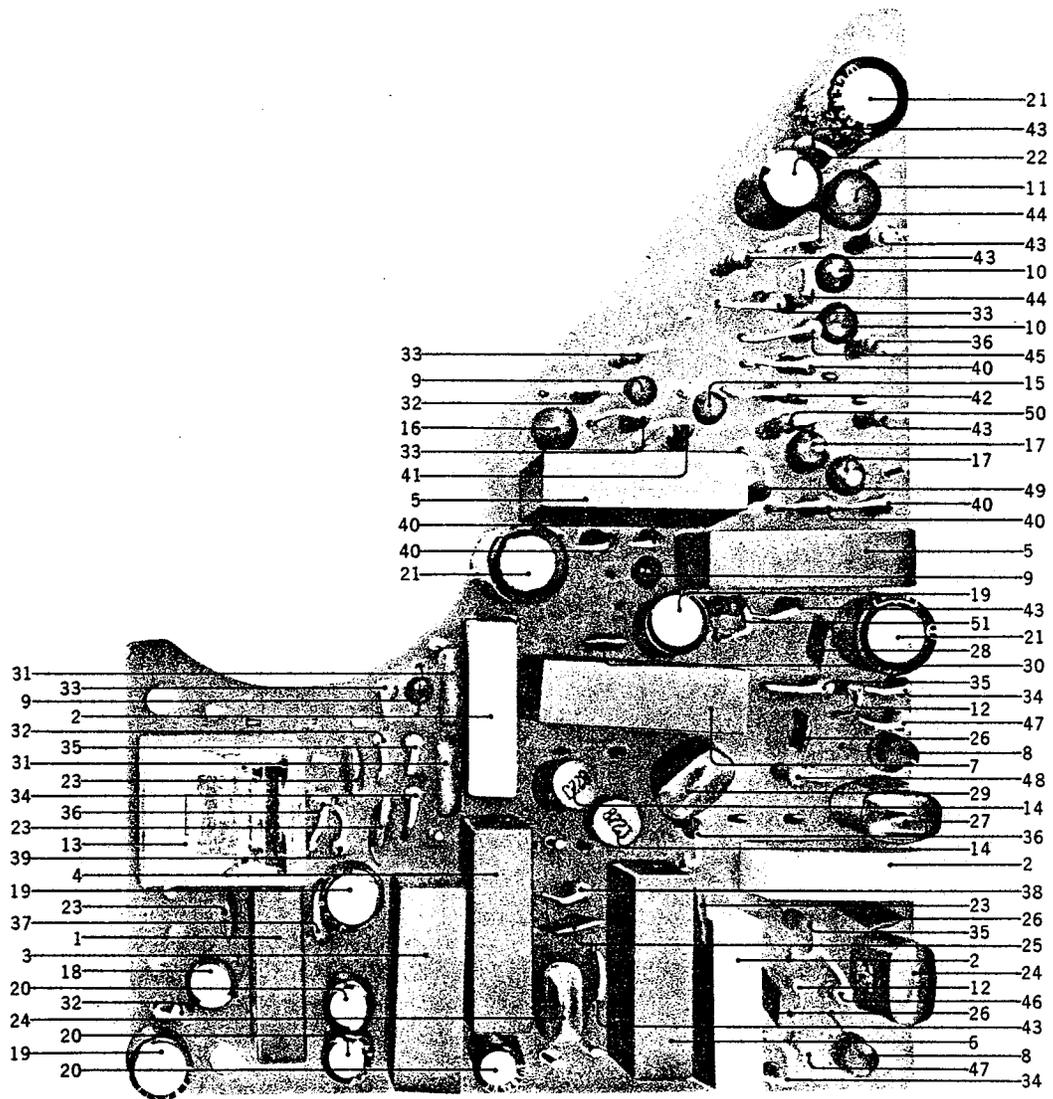


## AUDIO P.C. BOARD (PX-A502) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	M-423358	Audio P.C. Board			47	M-361642	RD1/4 47Ω J	5019	
		Assy. Comp.	PX-A502		48	M-211667	RD1/4 100Ω J	5023	
1	M-361923	Transistor 2SC536(E)	TR5001		49	M-362024	RD1/4 820K J	5025	
2	M-423180	Transistor 2SA610(4)	TR5002		50	M-346994	RD1/4 18K J	5027	
3	M-399846	Transistor 2SC945(Q)	TR5003		51	M-357456	RD1/4 2.2K J	5030.37	
4	M-329207	I.C. Line Amp. AN136B(Q)	IC5001		52	M-357412	RD1/4 220Ω J	5031	
5	M-361934	I.C. M5101P	IC5002		53	M-212016	RD1/4 150Ω J	5033	
6	M-219464	Germanium Diode 1N34A	D5001		54	M-450011	RD1/4 120K J	5034	
7	M-362114	Transformer SNY-1424	T5001		55	M-213030	RD1/4 5.6K J	5035	
8	M-362092	Inductor FS1012S							
		3.3MH (J) 332J	L5002						
9	M-243988	Ferri-Inductor FL7H							
		3.3MH (J)	L5001						
10	M-362103	Ferri-Inductor FL9H							
		3.9MH (J)	L5003						
11	M-357873	Semi-variable Volume							
		EVL-TOA 50KB	VR5001						
12	M-362081	Semi-variable Volume							
		EVL-TOA 100KB	VR5002						
13	M-376648	P.C. Board Terminal	PX-501						
		Capacitor, Vertical Type	C						
14	M-220432	Electrolytic 2.2μF							
		25WV	5001.13,15,26						
15	M-220364	Electrolytic 100μF							
		6.3WV	5003.4,16,28						
16	M-329782	Electrolytic 220μF							
		10WV	5007.9						
17	M-220590	Electrolytic 33μF 10WV							
18	M-331705	Electrolytic 22μF 16WV							
19	M-320051	Electrolytic 10μF 16WV							
20	M-343236	Electrolytic 330μF 6.3WV							
21	M-220465	Electrolytic 22μF 6.3WV							
22	M-220105	Electrolytic 100μF 10WV							
23	M-335485	Electrolytic 47μF 16WV							
24	M-250604	Mylar 0.001μF (K) 50WV							
25	M-313323	Mylar 0.068μF (K) 50WV							
26	M-362068	Mylar 0.0018μF (K)							
		50WV	5011.14						
27	M-250885	Mylar 0.01μF (K) 50WV							
28	M-250661	Mylar 0.0015μF (K)							
		50WV	5017						
29	M-357232	Mylar 0.0039μF (K)							
		50WV	5018						
30	M-362125	Mylar 0.0056μF (K)							
		50WV	5031						
31	M-290564	VFM 220PF (K) 50WV							
32	M-363688	FM 100P (K) 500WV							
33	M-423191	Styrol 3300PF (J) 250WV							
		Carbon Resistor, Stopper Type	R						
34	M-361980	RD1/4 620Ω J							
35	M-357570	RD1/4 150K J							
36	M-211465	RD1/4 1K J							
37	M-352045	RD1/4 3.9K J							
38	M-363644	RD1/4 560Ω J							
39	M-346601	RD1/4 47K J							
40	M-336442	RD1/4 10K J							
			5006.14,28						
			5007.15,16,24,32						
41	M-304402	RD1/4 470Ω J							
42	M-211757	RD1/4 100K J							
43	M-212681	RD1/4 330Ω J							
44	M-357535	RD1/4 39K J							
45	M-450865	RD1/4 12K J							
46	M-361528	RD1/4 56K J							

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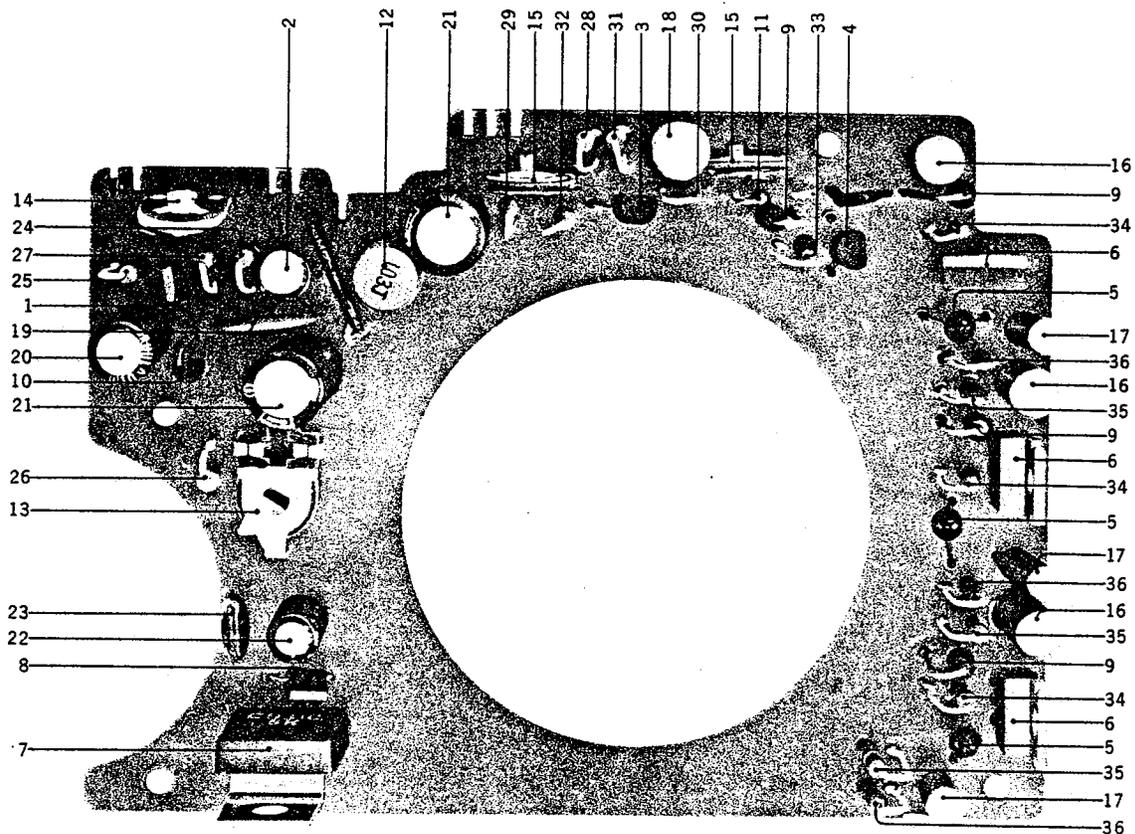
PHOTO OF SERVO P.C. BOARD (PX-A505)



## SERVO P.C. BOARD (PX-A505) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	N-423336	Servo P.C. Board (US)			41	N-361528	RD1/4 56K J	6011	
		Assy. Comp.	PX-A505		42	N-304402	RD1/4 470Ω J	6015	
-	N-430683	Servo P.C. Board (CCIR)			43	N-211465	RD1/4 1K J	6016.19.21.25.26.40	
		Assy. Comp.	PX-A505		44	N-211667	RD1/4 100Ω J	6020.22	
1	N-362351	I.C. HA-113	IC6001		45	N-213030	RD1/4 5.6K J	6023	
2	N-362362	I.C. FF-10	IC6002.7.8		46	N-211757	RD1/4 100K J (US)	6027	
3	N-362373	I.C. D-2114	IC6003		-	N-379552	RD1/4 110K J (CCIR)	6027	
4	N-362193	I.C. D-3263	IC6004		47	N-362485	RD1/4 330K J	6028.32	
5	N-362384	I.C. D-3272	IC6005.9		48	N-362520	RD1/4 75K J (US)	6031	
6	N-362395	I.C. D-2116	IC6006		-	N-391961	RD1/4 91K J (CCIR)	6031	
7	N-362406	I.C. D-3271	IC6010		49	N-350100	RD1/4 68K J (US)	6037	
8	N-362136	Uni-junktion Transistor			-	N-391961	RD1/4 91K J (CCIR)	6037	
		2N6027	UJT6001.2		50	N-306360	RD1/4 6.8K J	6038	
9	N-370607	Transistor 2SC536 (F)	TR6001.2.6		51	N-407417	RD1/4 1M J	6043	
10	N-421154	Transistor CS1303 (Green)	TR6003.4						
11	N-423022	Transistor CS9012HH	TR6005						
12	N-373432	Silicon Diode 1S2144 (A)	D6001.2						
13	N-423077	Relay TECK-TT9-OH 9V							
		250Ω	RL6001						
14	N-379923	Ferri-Inductor FL7H							
		8.2MH (J)	L6001.2						
-	N-423055	Semi-variable Volume							
		V10K4H3-1 50KB	VR6001						
-	N-423066	Semi-variable Volume							
		V10K4H3-1 100KB	VR6002						
-	N-399971	Semi-variable Volume							
		V101KR-1 1KB	VR6003						
-	N-423044	Semi-variable Volume							
		V10K4H3-1 30KB	VR6004.5						
-	N-363126	P.C. Board Terminal	PX-501						
-	N-363150	Test Terminal	PX-502						
		Capacitor, Vertical Type	C						
15	N-362417	Tantalum 0.33μF(M) 35WV	6016.27						
16	N-251785	Tantalum 33μF (K) 10WV	6017						
17	N-251640	Tantalum 10μF (J) 10WV	6028.29						
18	N-220590	Electrolytic 33μF 10WV	6002						
19	N-320040	Electrolytic 47μF 16WV	6004.12.31						
20	N-329771	Electrolytic 47μF 6.3WV	6005.6.14						
21	N-329782	Electrolytic 220μF 10WV	6010.25.33						
22	N-220105	Electrolytic 100μF 10WV	6034						
23	N-251087	Mylar 0.022μF (K) 50WV	6003.7.11.19						
24	N-334620	Mylar 0.22μF (K) 50WV	6013.21						
25	N-250997	Mylar 0.015μF (K) 50WV	6015						
26	N-362158	Mylar 0.0047μF (K) 50WV	6020.22.23						
27	N-334631	Mylar 0.22μF (K) 50WV	6024.30						
28	N-250964	Mylar 0.012μF (K) 50WV	6026						
29	N-334631	Mylar 0.22μF (K) 50WV							
		(US)	6030						
-	N-395504	Mylar 0.33μF (K) 50WV							
		(CCIR)	6030						
30	N-250885	Mylar 0.01μF (K) 50WV	6001.18.32						
31	N-423033	VFM 680PF (K) 50WV	6008.9						
		Carbon Resistor, Stopper Type	R						
32	N-357456	RD1/4 2.2K J	6001.13						
33	N-336442	RD1/4 10K J	6002.12.14.18						
34	N-343078	RD1/4 2.7K J	6003.39.34						
35	N-362441	RD1/4 1.8K J	6004.29.33						
36	N-212883	RD1/4 4.7K J	6005.24.39						
37	N-212264	RD1/4 22K J	6006						
38	N-350100	RD1/4 68K J	6007						
39	N-357535	RD1/4 39K J	6008						
40	N-211757	RD1/4 100K J	6009.10.17.						
			35.36						

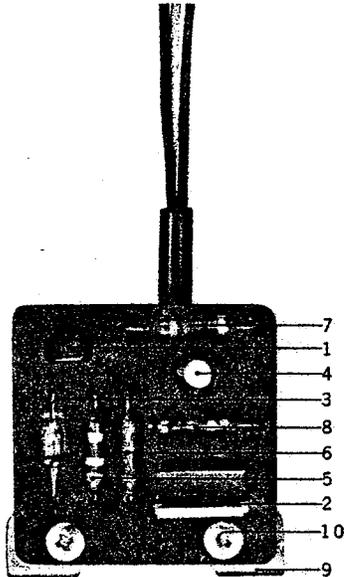
## PHOTO OF MOTOR DRIVE P.C. BOARD (PX-513)



## MOTOR DRIVE P.C. BOARD (PX-513) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	O-358806	Motor Drive P.C. Board Assy. Comp.	PX-513						
1	O-345802	Transistor 2SC454 (B)	TR8001		16	O-362327	Tantalum 10 $\mu$ F (K) 25WV	8006,8.10	
2	O-338894	Transistor 2SC968 (3)	TR8002		17	O-251640	Tantalum 10 $\mu$ F (J) 10WV	8007,9.12	
3	O-394413	Transistor 2SA564 (S)	TR8003		18	O-394514	Tantalum 22 $\mu$ F (K) 35WV	8015	
4	O-350335	Transistor 2SA564 (Q)	TR8004		19	O-350594	Ceramic TLD14F 0.1 $\mu$ Z		
5	O-370607	Transistor 2SC536 (F)	TR8005,7,9				25WV	8002	
6	O-362261	Transistor 2SC1061 (B)	TR8006,8,10		20	O-220105	Electrolytic 100 $\mu$ F 10WV	8003	
7	O-362586	Transistor 2SC931 (C)	TR8011		21	O-321208	Electrolytic 220 $\mu$ F 16WV	8004,5	
8	O-234753	Transistor 2SC458 (B)	TR8012		22	O-331705	Electrolytic 22 $\mu$ F 16WV	8013	
9	O-224526	Silicon Diode 10D1	D8003 to 6		23	O-308711	Mylar 0.047 $\mu$ F (K) 50WV	8014	
10	O-350471	Zener Diode RD7A N	ZD8001				Carbon Resistor, Stopper Type	R	
11	O-362597	Zener Diode RD7A (Special)	ZD8002		24	O-357456	RD1/4 2.2K J	8001	
12	O-244001	Ferri-Inductor FL9H 10mH (J)	L8001		25	O-357412	RD1/4 220 $\Omega$ J	8002	
13	O-362338	Semi-variable Volume EVL-S3A 10KB	VR8001		26	O-352045	RD1/4 3.9K J	8003	
14	O-402513	Semi-variable Volume V101KR 1KB	VR8002		27	O-212477	RD1/4 3.3K J	8004	
15	O-384974	Semi-variable Volume V10K4A-5-2 500 $\Omega$ B	VR8003,4		28	O-212264	RD1/4 22K J	8005	
					29	O-343078	RD1/4 2.7K J	8006	
					30	O-343135	RD1/4 1.6K J	8007	
					31	O-212872	RD1/4 4.3K J	8008	
					32	O-304402	RD1/4 470 $\Omega$ J	8010	
					33	O-304290	RD1/4 10 $\Omega$ J	8011	
					34	O-211320	RD1/4 1.5K J	8012,15,18	
					35	O-362272	RD1/4 200K J	8013,16,19	
					36	O-213030	RD1/4 5.6K J	8014,17,20	

PHOTO OF PLG. CURRENT LIMITATION  
P.C. BOARD (PX-508)

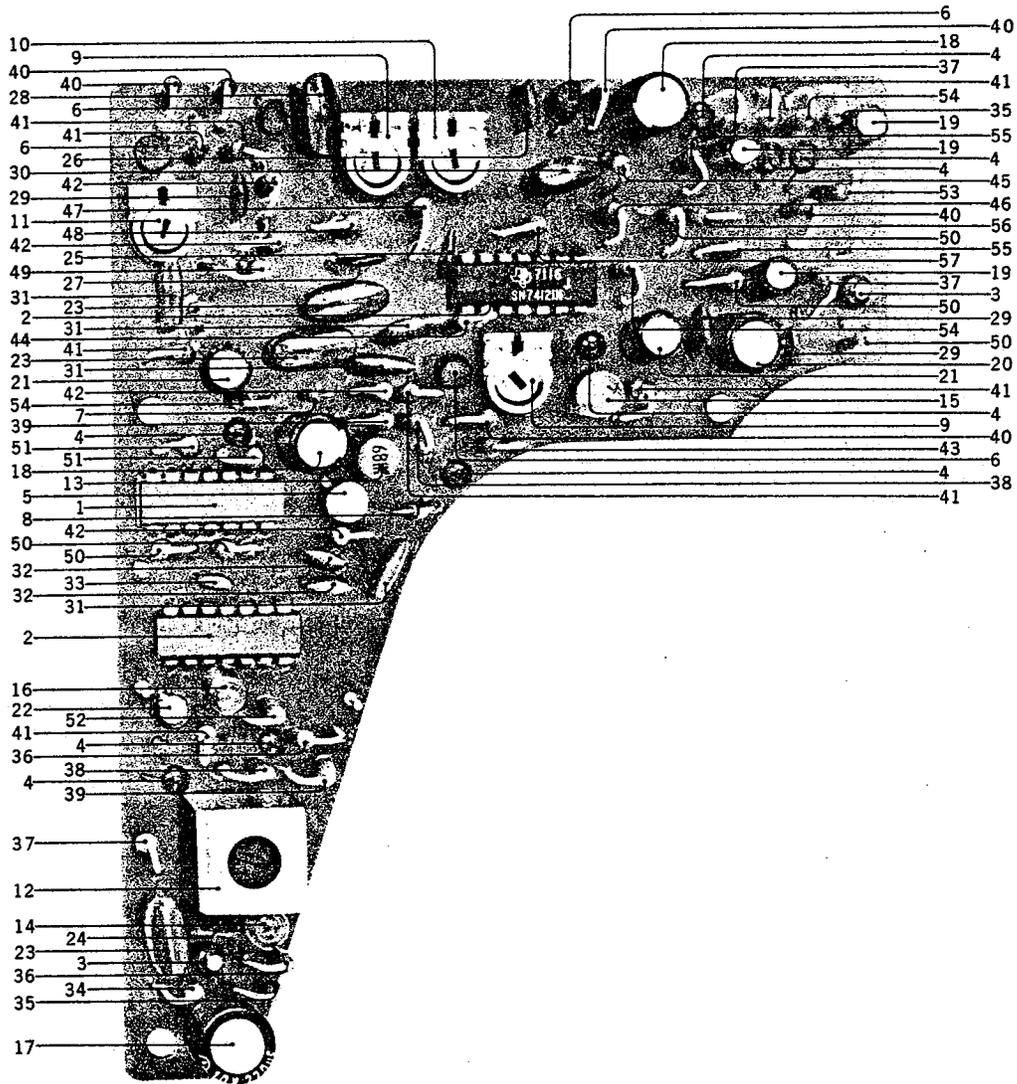


PLG. CURRENT LIMITATION P.C. BOARD  
(PX-508) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	P-358773	PLG. Current Limitation P.C. Board Comp.	PX-508	
1	P-362250	Transistor 2SA564 (O)	TR9001	
2	P-362261	Transistor 2SC1061 (B)	TR9002	
3	P-219464	Germanium Diode 1N34A	D9001	
4	P-220465	Electrolytic Capacitor 22 $\mu$ F 6.3WV	C9001	
5	P-430211	Carbon Resistor RD1/4 3.9K J	R9001	
6	P-364948	Carbon Resistor RD1/4 3.3K J	R9002	
7	P-214402	Carbon Resistor RD1/4 470 $\Omega$ J	R9003	
8	P-324641	Carbon Resistor RD1/4 1K J	R9004	
9	P-363104	PLG. P.C. Board Holder	PX-503	
10	P-201925	Screw, binding head 2.3 x 5		

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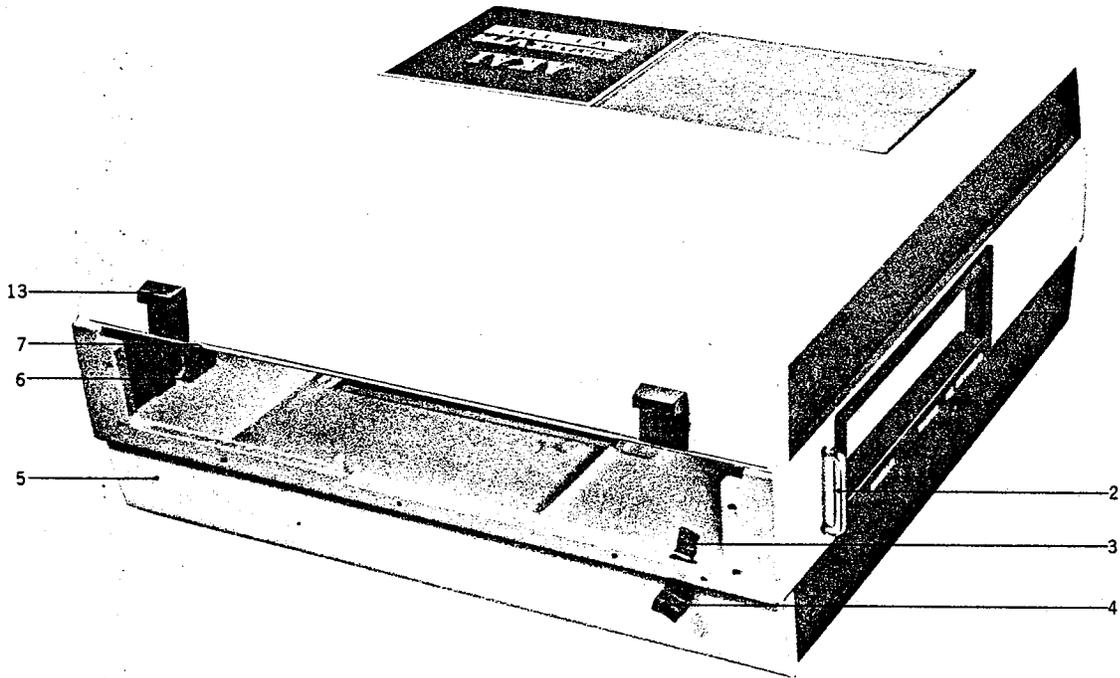
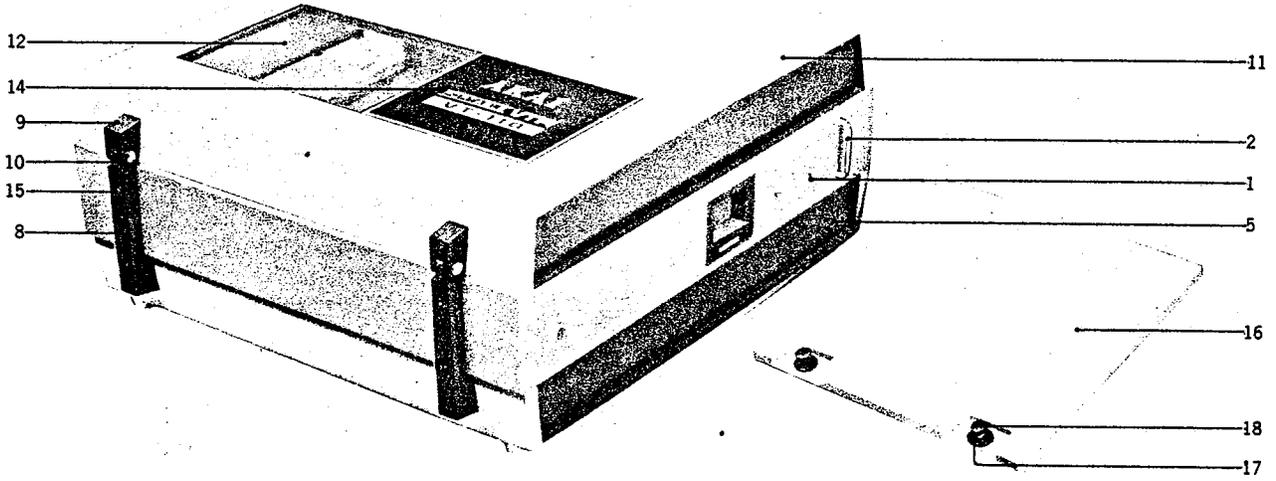
PHOTO OF SSG. P.C. BOARD (PX-A504)



## SSG. P.C. BOARD (PX-A504) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	Q-423347	SSG. P.C. Board (VTS-110 US) Assy. Comp.	PX-A504				Carbon Resistor, Stopper Type	R	
-	Q-430874	SSG. P.C. Board (VTS-110 CCIR) Assy. Comp.	PX-A504		34	Q-211757	RD1/4 100K J	7001	
-	Q-438456	SSG. P.C. Board (VTS-100S US) Assy. Comp.	PX-A504		35	Q-212264	RD1/4 22K J	7002.31	
-	Q-438467	SSG. P.C. Board (VTS-100S CCIR) Assy. Comp.	PX-A504		36	Q-380913	RD1/4 33Ω J	7003.51	
1	Q-423101	I.C. MB400M	IC7001		37	Q-336442	RD1/4 10K J	7004.37.41	
2	Q-423090	I.C. SN74121N	IC7002.3		38	Q-362441	RD1/4 1.8K J	7005.12	
3	Q-350335	Transistor 2SA564 (Q)	TR7001.7		39	Q-343078	RD1/4 2.7K J	7006.13	
4	Q-370607	Transistor 2SC536 (F)	TR7002 to 6.9.10.11		40	Q-306843	RD1/4 1.2K J	7007.14.18.22.34	
5	Q-338894	Transistor 2SC968 (3)	TR7008		41	Q-211465	RD1/4 1K J	7008.19.23.35.46.48.50	
6	Q-362136	Uni-Junktion Transistor 2N6027	UJT7001 to 4		42	Q-212681	RD1/4 330Ω J	7009.20.24.45	
7	Q-373432	Silicon Diode 1S2144 (A)	D7001		43	Q-407463	RD1/4 22Ω J	7010	
8	Q-392128	Zener Diode 1S330A2	D7002		44	Q-211757	RD1/4 100K J (US)	7011	
9	Q-403165	Semi-variable Volume RVLC1-0301 50KB	VR7001.3		-	Q-379552	RD1/4 110K J (CCIR)	7011	
10	Q-428332	Semi-variable Volume RVLC1-0301 30KB	VR7002		45	Q-213300	RD1/4 680Ω J	7015	
11	Q-403176	Semi-variable Volume RVLC1-0301 100KB	VR7004		46	Q-361980	RD1/4 620Ω J	7016	
12	Q-362147	Transformer SNY-033 1357	T7001		47	Q-357491	RD1/4 82K J (US)	7017	
13	Q-423156	Ferri-Inductor FL7H 680μH (K)	L7001		-	Q-350100	RD1/4 68K J (CCIR)	7017	
-	Q-363126	P.C. Board Terminal	PX-501		48	Q-357491	RD1/4 82K J (US)	7021	
		Capacitor, Vertical Type	C		-	Q-211950	RD1/4 130K J (CCIR)	7021	
14	Q-412604	Styrol 1800P (J) 50WV	7003		49	Q-379552	RD1/4 110K J (US)	7025	
15	Q-423808	Styrol 3300P (J) 50WV (US)	7006		-	Q-357570	RD1/4 150K J (CCIR)	7025	
-	Q-423810	Styrol 2200P (J) 50WV (CCIR)	7006		50	Q-213030	RD1/4 5.6K J	7026.39.40.42	
16	Q-353643	Styrol 470PF (J) 50WV	7020		51	Q-342933	RD1/4 27K J	7028.29	
17	Q-329782	Electrolytic 220μF 10WV	7004		52	Q-420322	RD1/4 36K J	7030	
18	Q-220105	Electrolytic 100μF 10WV	7014.29		53	Q-357491	RD1/4 82K J	7023	
19	Q-450055	Electrolytic 1μF 25WV	7021.22.25		54	Q-357412	RD1/4 220Ω J	7033.47.49	
20	Q-320040	Electrolytic 47μF 16WV	7026		55	Q-211667	RD1/4 100Ω J	7036.43	
21	Q-331705	Electrolytic 22μF 16WV	7030.31		56	Q-212883	RD1/4 4.7K J	7038	
22	Q-350706	Electrolytic 4.7μF 16WV	7032		57	Q-349907	RD1/4 33K J	7044	
23	Q-251291	Mylar 0.1μF (K) 50WV	7001.12.13						
24	Q-250997	Mylar 0.015μF (K) 50WV	7002						
25	Q-250604	Mylar 0.001μF (K) 50WV	7007						
26	Q-250997	Mylar 0.015μF (K) 50WV (US)	7008						
-	Q-250885	Mylar 0.01μF (K) 50WV (CCIR)	7008						
27	Q-362158	Mylar 0.0047μF (K) 50WV	7009						
28	Q-335340	Mylar 0.1μF (K) 50WV (US)	7010						
-	Q-379214	Mylar 0.047μF (J) 50WV (CCIR)	7010						
29	Q-250885	Mylar 0.01μF (K) 50WV	7011.23.24						
30	Q-251190	Mylar 0.056μF (K) 50WV	7027						
31	Q-290564	VFM 220PF (K) 50WV	7005.17.18.28						
32	Q-423145	VFM 75PF (K) 50WV	7015.16						
33	Q-357827	VFM 50PF (K) 50WV	7019						

PHOTO OF CASE BLOCK

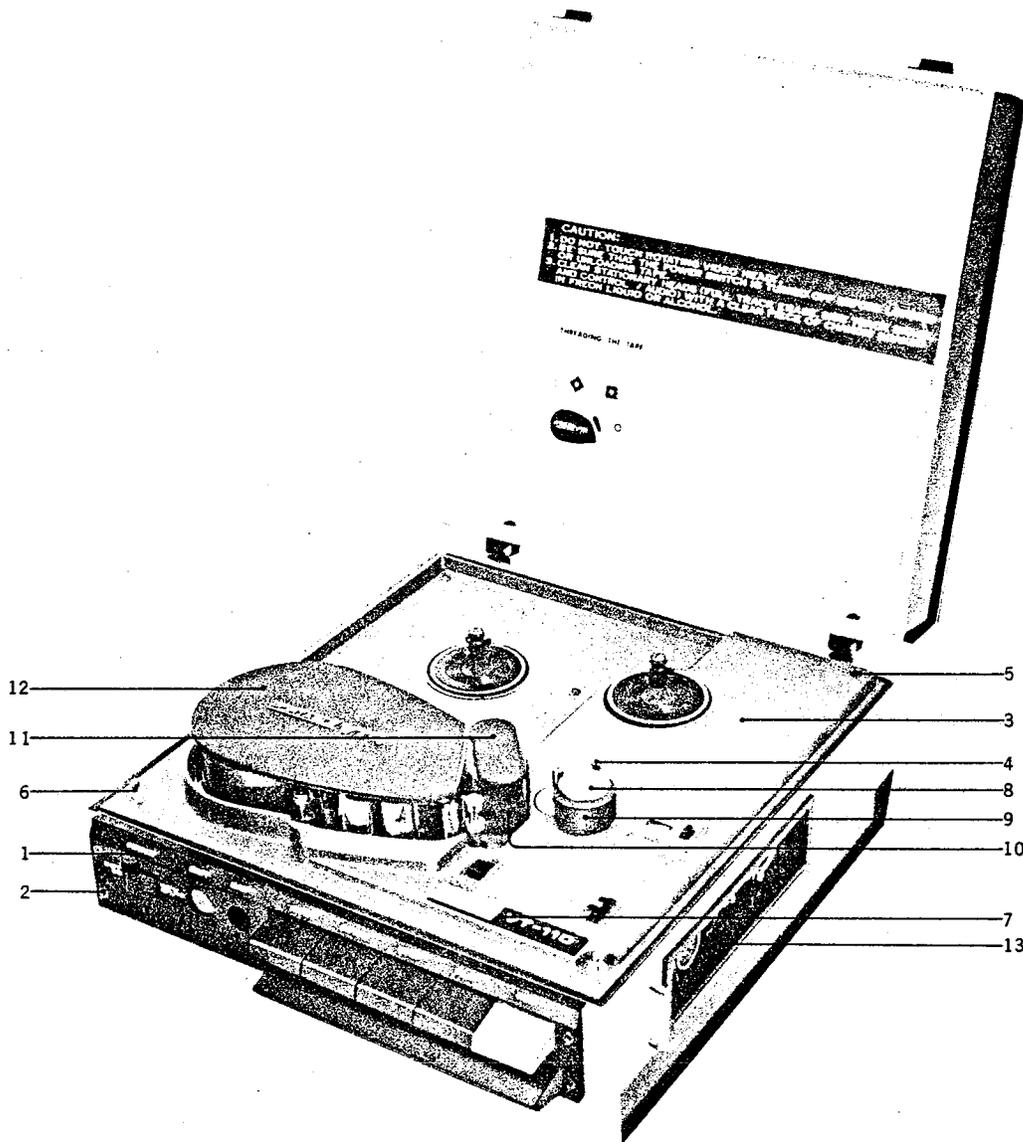


## CASE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	R-430582	VT-110 US Case Block		
		Assy. Comp.	PXV-US	
-	R-430650	VT-110 CCIR Case Block		
		Assy. Comp.	PXV-CCIR	
-	Q-438401	VT-100S US Case Block		
		Assy. Comp.	PXV-US	
-	R-438412	VT-100S CCIR Case Block		
		Assy. Comp.	PXV-CCIR	
1	R-421920	Case Frame B	PX-A401	
2	R-360988	Band Hang	PX-402	
-	R-273756	M3 Nut		
3	R-360990	Safety Lock Plate	PX-403	
4	R-361001	Safety Button	PX-404	
-	R-361012	Safety Spring	PX-405	
-	R-361023	Lock Shaft	PX-406	
5	R-421931	Lower Case	PX-A402	
6	R-361067	Case Retainer	PX-410	
7	R-417137	Screw, binding head 3 x 4		
-	R-413155	Screw, binding head 3 x 6		
-	R-200384	Screw, countersunk head 3 x 6		
-	R-434474	Hinge Comp.	PX-A408	
8	R-361078	Hinge A	PX-411	
9	R-361080	Hinge B	PX-412	
-	R361091	Hinge Shaft	PX-413	
10	R-430380	Screw, binding head 2.6 x 4		
11	R-361102	Case Cover	PX-414	
12	R-403964	Reel Cover	PX-415	
13	R-361168	Case Knob	PX-420	
-	R-361170	Case Fastener	PX-421	
-	R-361181	Fastener Retaining	PX-422	
-	R-200711	Set Screw 3 x 3		
14	R-421918	Name Plate (VT-110)	PX-A404	
-	R-438074	Name Plate (VT-100S)	PX-B401	
15	R-421806	Screw, pan head 3 x 8		
-	R-355487	Screw, binding head 3 x 10		
-	R-421953	Rear Name Plate (NT-110)	PX-A602	
-	R-421964	Rear Name Plate (VT-110 CCIR)	PX-A602	
-	R-438085	Rear Name Plate (VT-100S)	PX-B601	
-	R-438096	Rear Name Plate (VT-100S CCIR)	PX-B601	
16	R-421942	Battery Case Cover	PX-A403	
17	R-356580	Nylach Grommet H322-2-1		
18	R-356591	Nylach Plunger H323-2-3-1		

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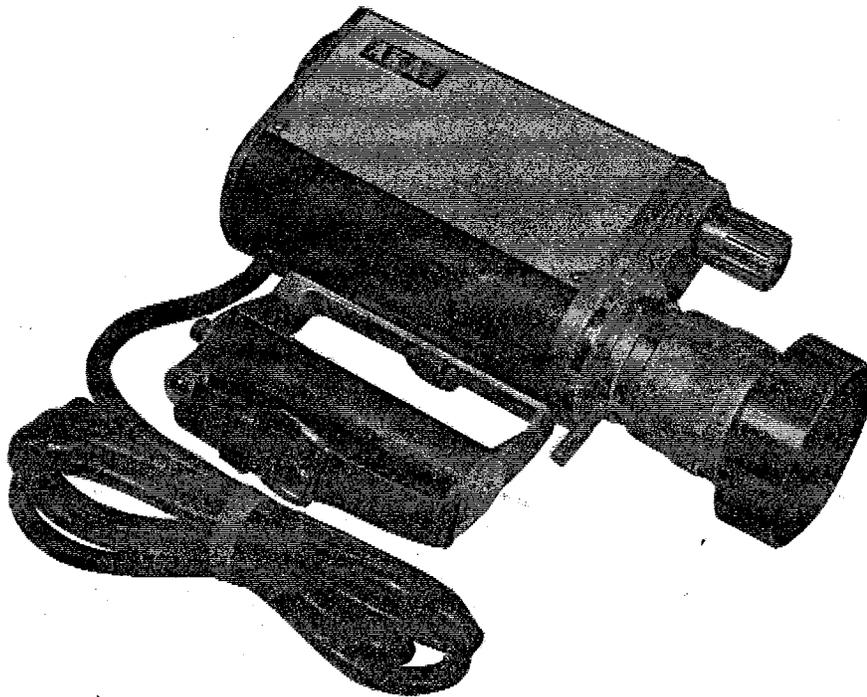
PHOTO OF FINAL ASSEMBLY BLOCK



FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	S-430637	Battery Case Comp.	PXA		8	S-355691	Pinch Wheel Cap	PX-605	
1	S-355667	Button Escutcheon	PX-A609		9	S-360180	Pinch Wheel PX	PX-226	
2	S-433934	Screw, countersunk head 3 x 6 D = 5			10	S-360347	Sub Pinch Wheel	PX-239	
3	S-421828	Mechanism Panel (VT-110)	PX-A601		-	S-422087	Guide Roller B	PX-A137	
-	S-438028	Mechanism Panel (VT-100S)	PX-A601		11	S-421863	Guide Roller Cover	PX-A605	
4	S-355680	Panel Post	PX-604		-	S-421817	Set Screw 3 x 8		
-	S-273688	M2.3 Nut			12	S-355724	Head Cover	PX-608	
5	S-317327	Screw, binding head 2.3 x 6			13	S-421830	Escutcheon R	PX-A604	
-	S-259367	Washer (BSP) 2.4x4.2x0.3t			-	S-421841	Escutcheon L	PX-A607	
6	S-355702	Fastener Holder	PX-606		-	S-356736	Tapping Screw #2 2 x 5		
-	S-355454	Washer (BSP) 2.9x7.4x0.5t			-	S-356286	Carrying Belt	VSF-1	
7	S-421852	Mech. Panel Name Plate (VT-110)	PX-A606		-	S-421874	Battery LC-303	56-1-2	
-	S-438030	Mech. Panel Name Plate (VT-100S)	PX-B602						

When you order these parts, please describe their Parts No. and Serial No. in detail.



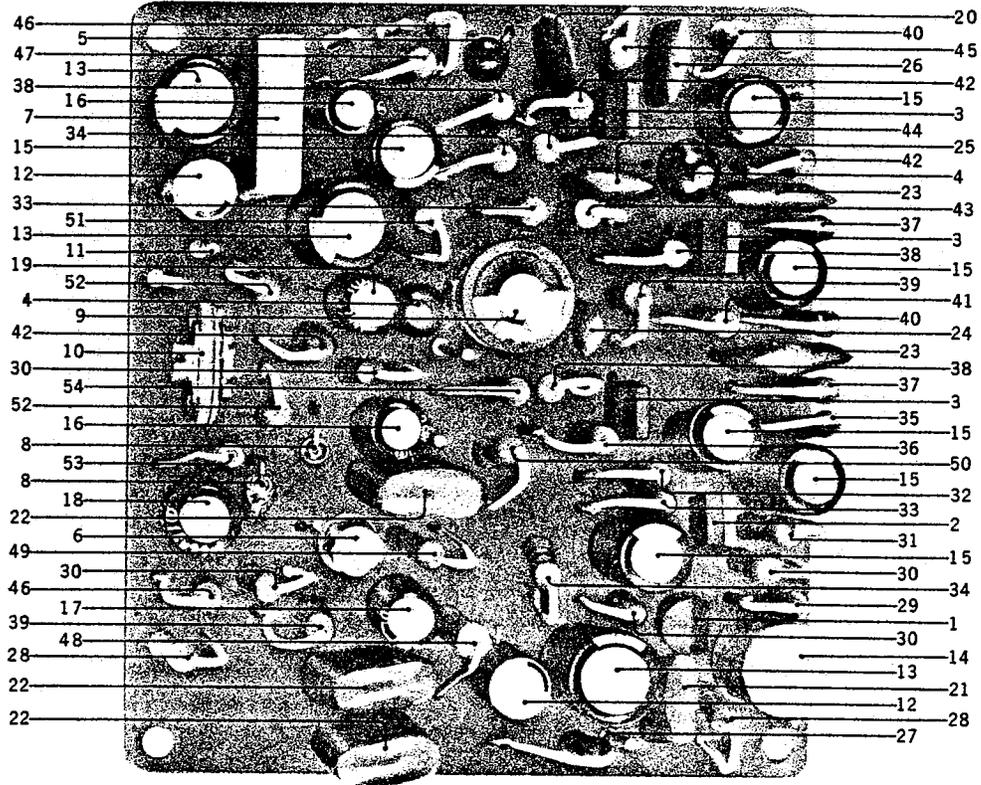
**SECTION 2**  
**CAMERA COMPONENT PARTS**

**WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
AND SERIAL NO. IN DETAIL**

PRE-AMP. P.C. BOARD (PX-A2007) BLOCK .....	27
DEFLEXION P.C. BOARD (PX-2048) BLOCK .....	28
H.V. GENERATOR P.C. BOARD (PX-2049) BLOCK .....	29
ASSEMBLY BLOCK .....	32

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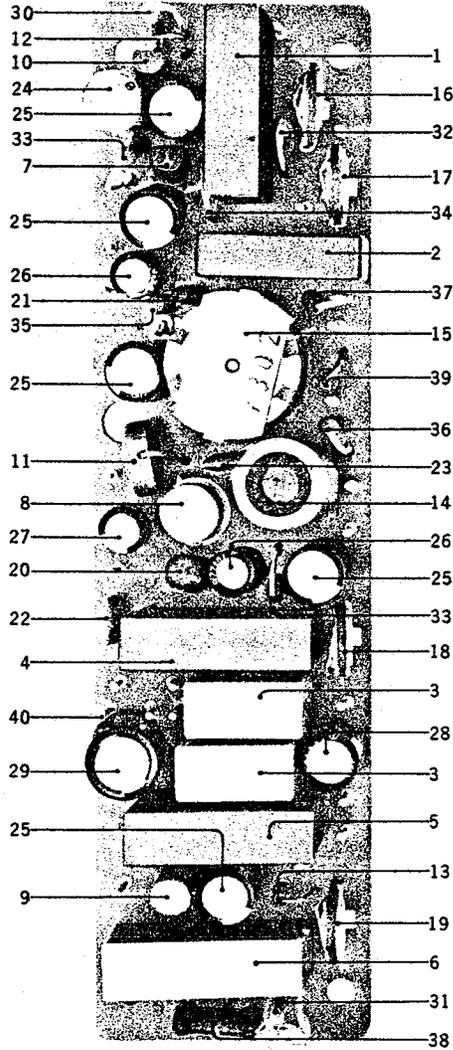
PHOTO OF PRE-AMP. P.C. BOARD (PX-A2007)



## PRE-AMP. P.C. BOARD (PX-A2007) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	T-423303	Pre-Amp. P.C. Board Assy. Comp.	PX-A2007				Carbon Resistor, Stopper Type	R	
1	T-423426	Transistor 3C18P	FET2101		27	T-419040	RD1/4 1M J	2101	
2	T-234854	Transistor 2SC458LG (C)	TR2101		28	T-380711	RD1/4 220K J	2102.35	
3	T-329218	Transistor 2SC458 (C)	TR2102.3,5		29	T-212016	RD1/4 150Ω J	2103.	
4	T-421154	Transistor CS1303 (Green)	TR2104.8		30	T-211465	RD1/4 1K J	2104.7.32.37	
5	T-361923	Transistor 2SC536 (E)	TR2106		31	T-349942	RD1/4 8.2K J	2105	
6	T-356973	Transistor 2SC727 (C)	TR2107		32	T-346601	RD1/4 47K J	2106	
7	T-357917	I.C. P-5 (AE-163)	IC2101		33	T-362441	RD1/4 1.8K J	2108.20	
8	T-402502	Germanium Diode 20A90M	D2101.2		34	T-211667	RD1/4 100Ω J	2109.26	
9	T-357750	Trimmer Condenser CVO3D 30P	TC2101		35	T-211858	RD1/4 12K J	2110	
10	T-403143	Semi-variable Volume V101KR 2KB	VR2101		36	T-362520	RD1/4 75K J	2111	
11	T-363126	P.C. Board Terminal	PX-501		37	T-347038	RD1/4 270Ω J	2112.17	
-	T-363363	Pre-Amp. Shield Case	PX-2024		38	T-211320	RD1/4 1.5K J	2113.18.27	
-	T-400408	Pre-Amp. Insulation Plate	PX-2059		39	T-361528	RD1/4 56K J	2114.31	
-	T-356736	Tapping Screw #2 2 x 5			40	T-306887	RD1/4 15K J	2115.22	
		Capacitor, Vertical Type	C		41	T-352045	RD1/4 3.9K J	2116	
12	T-421165	Aluminum Solid 1μF (X) 25WV	2103.19		42	T-306843	RD1/4 1.2K J	2119.25.41	
13	T-220105	Electrolytic 100μF 10WV	2102.18.20		43	T-304402	RD1/4 470Ω J	2121	
14	T-220364	Electrolytic 100μF 6.3WV	2104		44	T-350100	RD1/4 68K J	2123	
15	T-220590	Electrolytic 33μF 10WV	2105.6.7.10.12.16		45	T-212681	RD1/4 330Ω J	2124	
16	T-450055	Electrolytic 1μF 25WV	2117.26		46	T-336442	RD1/4 10K J	2128.34	
17	T-354947	Electrolytic 2.2μF 50WV	2123		47	T-357535	RD1/4 39K J	2129	
18	T-331705	Electrolytic 22μF 16WV	2125		48	T-405551	RD1/4 10M K	2130	
19	T-320051	Electrolytic 10μF 16WV	2127		49	T-357570	RD1/4 150K J	2133	
20	T-357704	Ceramic CFD08JYP 470PK 500WV	2115		50	T-211757	RD1/4 100K J	2136	
21	T-357737	Mylar 0.022μF (K) 100WV	2101		51	T-357412	RD1/4 220Ω J	2138	
22	T-357715	Mylar 0.047μF (K) 100WV	2121.22.24		52	T-212883	RD1/4 4.7K J	2139.42	
23	T-336194	VFM 270PF (J) 50WV	2108.11		53	R-213030	RD1/4 5.6K J	2140	
24	T-399690	VFM 33PF (J) 50WV	2109		54	R-407103	RD1/4 12Ω J	2143	
25	T-310792	VFM 120PF (J) 50WV	2113						
26	T-451462	VFM 150PF (J) 50WV	2114						

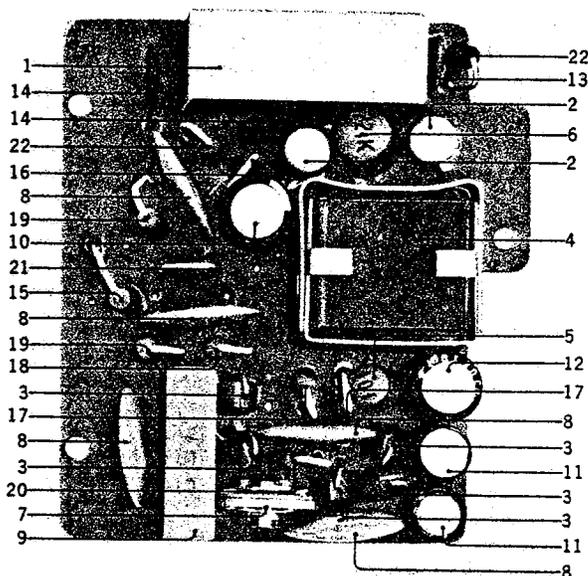
PHOTO OF  
DEFLEXION P.C. BOARD (PX-2048)



DEFLEXION P.C. BOARD (PX-2048) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	U-373544	Deflexion P.C. Board Assy. Comp.	PX-2048	
1	U-357928	I.C. GA-116	IC2201	
2	U-357930	I.C. DP-115	IC2202	
3	U-357963	I.C. PA-5 (AP-174)	IC2203.5	
4	U-357952	I.C. D-3264	IC2204	
5	U-357941	I.C. D-3262	IC2206	
6	U-357974	I.C. AC-170	IC2207	
7	U-357017	Transistor 2SA562 (Y)	TR2201	
8	U-357006	Transistor 2SC497 (Y)	TR2202	
9	U-338894	Transistor 2SC968 (3)	TR2203	
10	U-362136	Uni-junktion Transistor 2N6027	UJT2201	
11	U-357783	Silicon Diode HF-SD-1Z	D2201	
12	U-373432	Silicon Diode 1S2144 (A)	D2202	
13	U-392128	Zener Diode 1S330A2	ZD2201	
-	U-392130	Zener Diode 1S331A2	ZD2202	
14	U-357805	Transformer 06Y 033-286	T2201	
15	U-357816	Inductor 3mH V-302	L2201	
16	U-362081	Semi-variable Volume EVL-TOA 100KB	VR2201	
17	U-357895	Semi-variable Volume EVL-T7A 100ΩB	VR2202	
18	U-357862	Semi-variable Volume EVL-TOA 20KB	VR2203	
19	U-357884	Semi-variable Volume EVL-TOA 5KB	VR2204	
		Capacitor, Vertical Type	C	
20	U-353643	Styrol 470PF (J) 50WV	2208	
21	U-357827	VFM 50PF (K) 50WV	2206	
22	U-290531	VFM 100PF (K) 50WV	2207	
23	U-357838	Mylar 0.0039μF (K) 100WV	2211	
24	U-220364	Electrolytic 100μF 6.3WV	2201	
25	U-220105	Electrolytic 100μF 10WV	2202,3,4,12, 15	
26	U-338512	Electrolytic 22μF 16WV	2205,9	
27	U-220590	Electrolytic 33μF 10WV	2210	
28	U-450213	Electrolytic 10μF 50WV	2213	
29	U-357840	Electrolytic 22μF 50WV	2214	
		Carbon Resistor, Stopper Type	R	
30	U-362485	RD1/4 330K J	2210	
31	U-324808	RD1/4 100Ω J (Insulation)	2211	
32	U-357491	RD1/4 82K J	2201	
33	U-211465	RD1/4 1K J	2202.5	
34	U-429974	RD1/4 120Ω K	2203	
35	U-361528	RD1/4 56K J	2204	
36	U-357412	RD1/4 220Ω J	2206	
37	U-357456	RD1/4 2.2K J	2209	
38	U-357906	Wire-Wound Resistor 1/2WL 10Ω J	2207	
39	U-357030	Solid Resistor RC1/2W 27Ω K	2208	
40	U-363126	P.C. Board Terminal	PX-501	

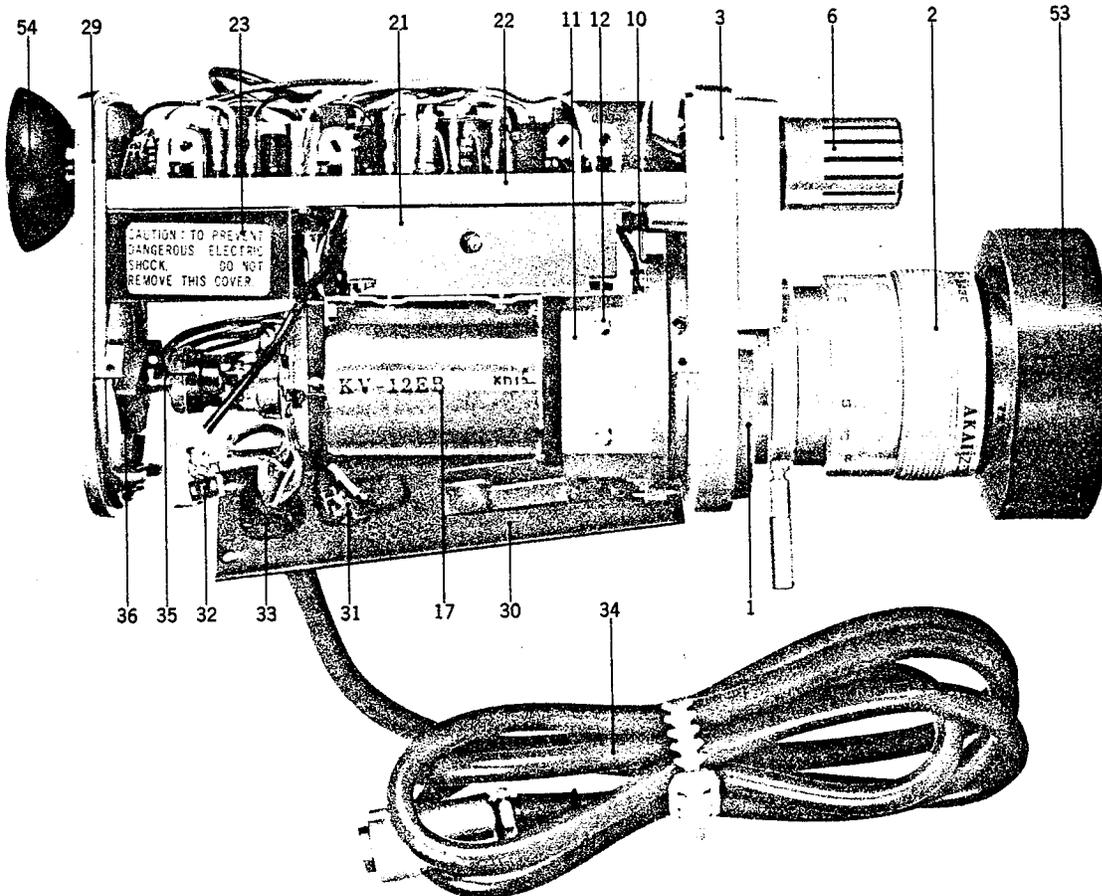
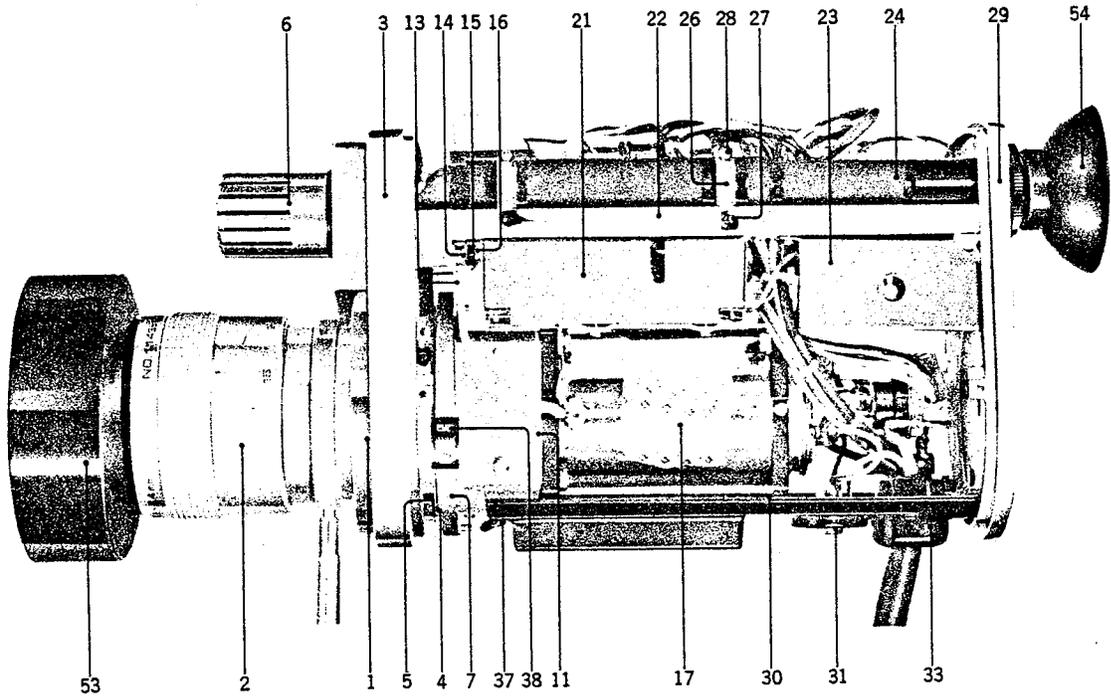
## PHOTO OF H.V. GENERATOR P.C. BOARD (PX-2049)

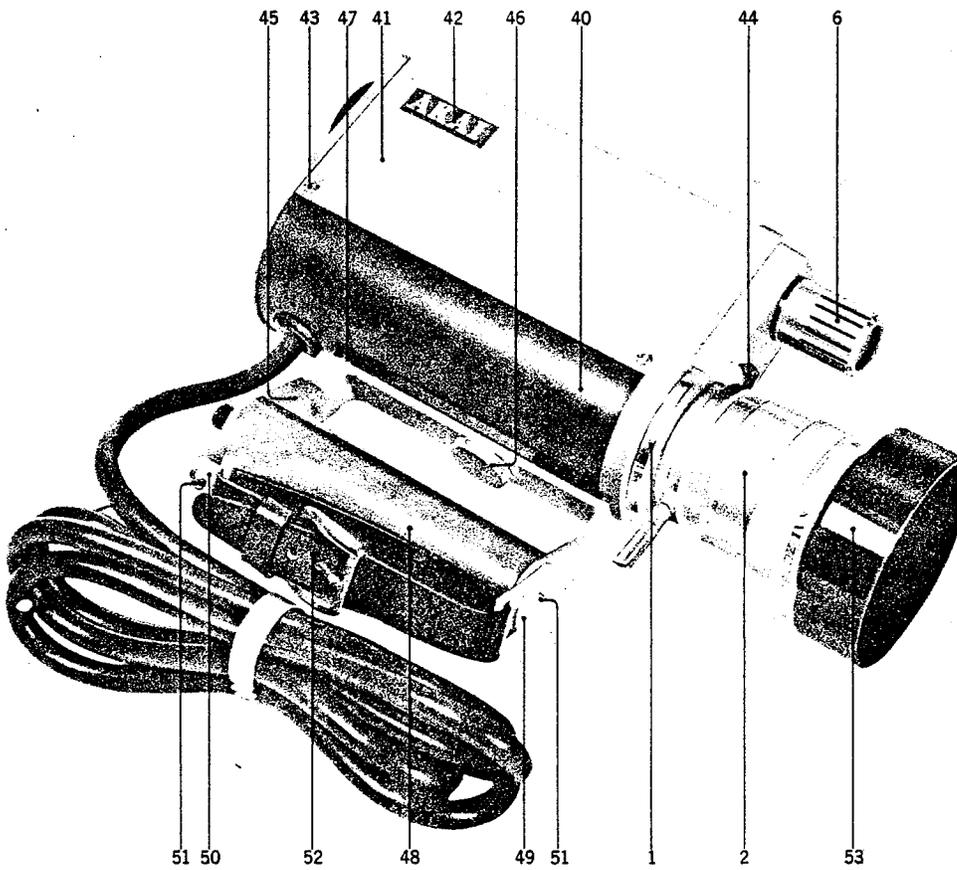
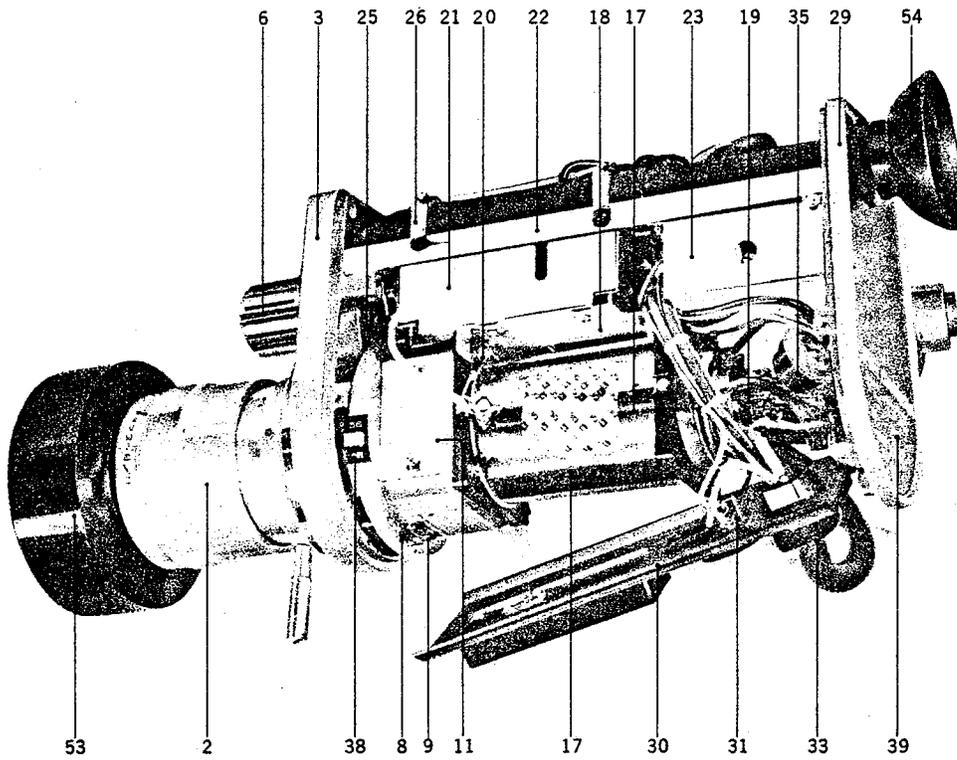


## H.V. GENERATOR P.C. BOARD (PX-2049) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	V-373555	H.V. Generator P.C. Board Assy. Comp.	PX-2049				Carbon Resistor, Stopper Type	R	
1	V-357985	I.C. AA-176	IC2301		15	V-423753	RD1/4 1.2M J	2312	
2	V-338894	Transistor 2SC968(3)	TR2301.2		16	V-212477	RD1/4 3.3K J	2301	
3	V-357210	Silicon Diode SF-1	D2301 to 6		17	V-211465	RD1/4 1K J	2302.3	
4	V-357221	Transformer HVT (EP-17)	T2301		18	V-429996	RD1/4 470K J	2304	
5	V-357287	Ferri-Inductor FL5H 100μH (K)	L2301		19	V-380711	RD1/4 220K J	2306.9	
6	V-374681	Ferri-Inductor FL7H 220μH (K)	L2302		20	V-211757	RD1/4 100K J	2308	
7	V-357276	Semi-variable Volume V10K-5 1MB	VR2301		21	V-362024	RD1/4 820K J	2305	
-	V-363418	H.V. Shield Case	PX-2029		22	V-304402	RD1/4 470Ω J	2310.11	
-	V-392321	Tapping Screw #2 2 x 5							
		Capacitor, Vertical Type	C						
8	V-357254	Ceramic Z5U0.01μP 500WV	2305.11 to 14						
9	V-357298	Metalized Paper 0.047μF (M) 500WV	2306						
10	V-220105	Electrolytic 100μF 10WV	2304						
11	V-357265	Electrolytic 1μF 100WV	2308.9						
12	V-450213	Electrolytic 10μF 50WV	2310						
13	V-290531	VFM 100PF (K) 50WV	2301						
14	V-357232	Mylar 0.0039μF (K) 50WV	2302.3						

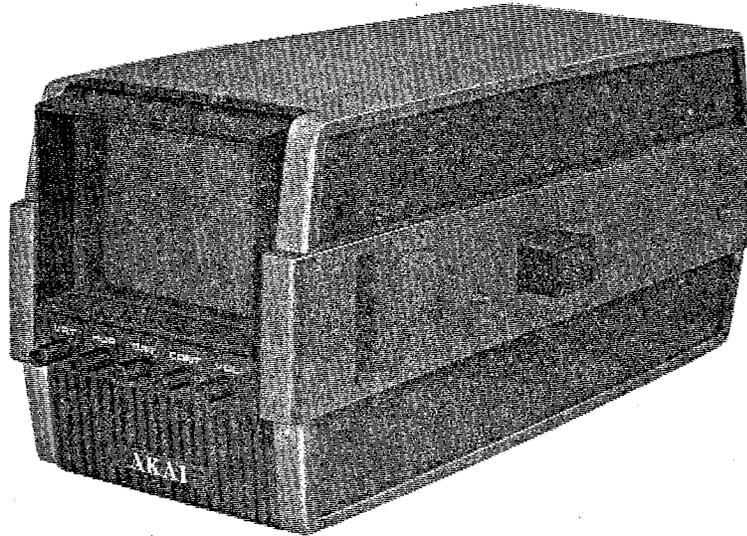
PHOTO OF ASSEMBLY BLOCK





## ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
1	W-433855	Lens Ring 6 (DX)	PX-A2101		25	W-373904	Finder Master 2415	53-1-30	
-	W-356128	Lens Ring 4 (S)	PX-2001		-	W-420963	Power Indicator Head		
2	W-438142	Zoom Lens 6 (2081) (DX)					Cover	PX-A2005	
-	W-429895	Zoom Lens 4 (2411) (S)	53-1-2		26	W-370596	Finder Cramper B	PX-2056	
-	W-429906	Master Lens (2412)	53-1-2		27	W-344351	Screw, countersunk		
-	W-374130	Set Screw 3 x 5					head 2 x 4		
3	W-356130	Front Frame	PX-2003		28	W-201508	Screw, pan head 2 x 4		
-	W-356141	Finder A Retaining Plate	PX-2004		29	W-363431	Rear Frame	PX-2031	
-	W-323728	Screw, binding head							
		3 x 5							
-	W-356152	Compression Spring	PX-2005		-	W-429930	Lower Plate Comp.	PX-A2018	
-	W-363205	Compression Spring, Aperture Selector	PX-2007		30	W-420974	Lower Plate	PX-A2003	
4	W-363216	Aperture Plate	PX-2008		31	W-358075	Earphone Jack	31-2-15	
5	W-363194	Rotation Shaft, Aperture Plate	PX-2006		32	W-331435	Lug Plate VB2L	33-4-6	
-	W-373443	Set Screw 3 x 5			33	W-420996	Cable Clamp 7P-2	2-7-15	
6	W-420851	Microphone UD-908	48-1-6		34	W-420985	Camera Cable	51-1-38	
-	W-363251	Mic. Lock Nut	PX-2012		35	W-363690	M Type B Tube Socket		
7	W-420862	Aperture Selector					S7-502B	31-3-15	
		Ring Comp.			36	W-438491	PSS Capacitor		
8	W-363273	Stopper Plate B	PX-A2012				0.05μF 500VV	24-9-43	
9	W-201508	Screw, pan head 2 x 4	PX-2014		37	W-417352	Screw, pan head 3 x 6		
-	W-357208	Steel Ball D = 2			-	W-424620	Screw, pan head 3 x 10		
10	W-363295	Stopper Plate A	PX-2016		-	W-273745	M3 Spring Washer		
-	W-323728	Screw, binding head			-	W-273756	M3 Nut		
		3 x 5			38	W-363464	Aperture Name Plate	PX-2034	
11	W-363306	Side Cover	PX-2017		39	W-433991	Name Plate B (VC-110S)	PX-A2103	
12	W-323728	Screw, binding head			-	W-434002	CCIR Name Plate B		
		3 x 5					(VC-110S)	PX-A2103	
13	W-429917	Aperture Indicator			-	W-421121	Name Plate B' (VC-110)	PX-A2006	
		Plate Comp.			-	W-421132	CCIR Name Plate B'		
14	W-363330	Indicator Plate	PX-A2013				(VC-110)	PX-A2006	
		Retaining Spring			40	W-363475	Lower Cover	PX-2035	
15	W-363341	Indicator Plate	PX-2021		41	W-363486	Upper Cover	PX-2036	
		Adjusting Ring			42	W-363600	Camera Name Plate	PX-2051	
-	W-439018	Washer (SPC)	PX-2022		43	W-335147	Screw, truss head 3 x 5		
		3 x 6 x 0.3t			-	W-429873	Washer (SUS)		
16	W-429862	Hexagon Bolt 3 x 8					3 x 7 x 0.2t		
					44	W-363508	Name Plate A'	PX-2038	
-	W-420895	Vidicon Coil Comp.	PX-A2011		-	W-429963	Grip Assy. Comp.	PX-A2017	
17	W-356940	Vidicon Coil KV-12EA	23-1-31		45	W-363510	Handle, Metal Parts	PX-2039	
18	W-363352	Bridge	PX-2023		46	W-363521	Cramp Screw	PX-2040	
-	W-273778	M3 Earth Lug			-	W-421143	Washer (BSP)		
-	W-421806	Screw, pan head 3 x 8					7.1 x 13.6 x 0.5t		
-	W-273756	M3 Nut			-	W-270123	"E" Ring 4.0M	6-1-9	
19	W-356938	VIDICON TUBE 8823	28-4-2		47	W-357355	Plug, Single Head	42-1-33	
20	W-434632	Screw, binding head			-	W-363532	Nut, Plug Retaining	PX-2041	
		3 x 12 w/washer			-	W-357377	Micro Switch PL-1-1	25-5-27	
21	W-363363	Pre-Amp. Shield Case	PX-2024		48	W-357388	Grip	2-17-3	
-	W-356736	Tapping Screw #2 2 x 5			-	W-203084	Screw, oval countersunk		
22	W-363396	Base Plate, w/prop	PX-2027.8				head 3 x 8		
-	W-323728	Screw, binding head					head 3 x 10		
		3 x 5			49	W-363543	Belt Holder A	PX-2042	
-	W-420941	Lamp P.C. Board	PX-A2004		50	W-363554	Belt Holder B	PX-2043	
-	W-420928	Miniature Lamp 9V 10MA	28-2-16		51	W-201216	Screw, truss head 4 x 12		
-	W-356668	Screw, binding head			52	W-373847	Hand Grip Belt		
		2.3 x 4							
23	W-363418	H.V. Shield Case	PX-2029		53	W-438131	Camera Lens Hood 6 (DX)		
-	W-201475	Screw, pan head 2 x 3			-	W-356207	Camera Lens Hood 4 (S)	2-23-4	
24	W-420952	Finder 2413	53-1-30		54	W-356218	Eye Cup	3-4-20	

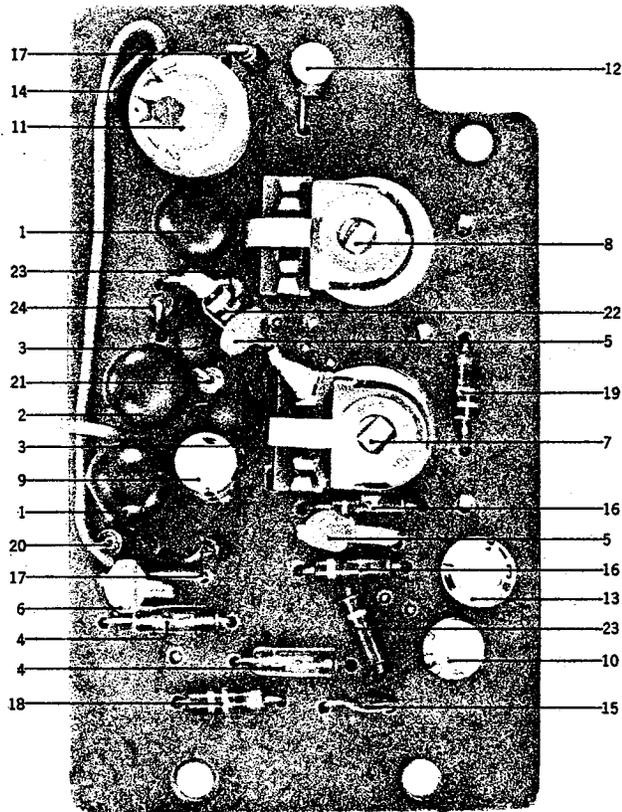


**SECTION 3**  
**MONITOR COMPONENT PARTS**

WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
AND SERIAL NO. IN DETAIL

V. OUT. P.C. BOARD (Y-300) BLOCK .....	34
AUDIO P.C. BOARD (Y-400) BLOCK .....	35
SYNC. & VIDEO AMP. P.C. BOARD (Y-500) BLOCK .....	36
H.V. P.C. BOARD (Y-600) BLOCK .....	38
ASSEMBLY BLOCK .....	40
FINAL ASSEMBLY BLOCK .....	41

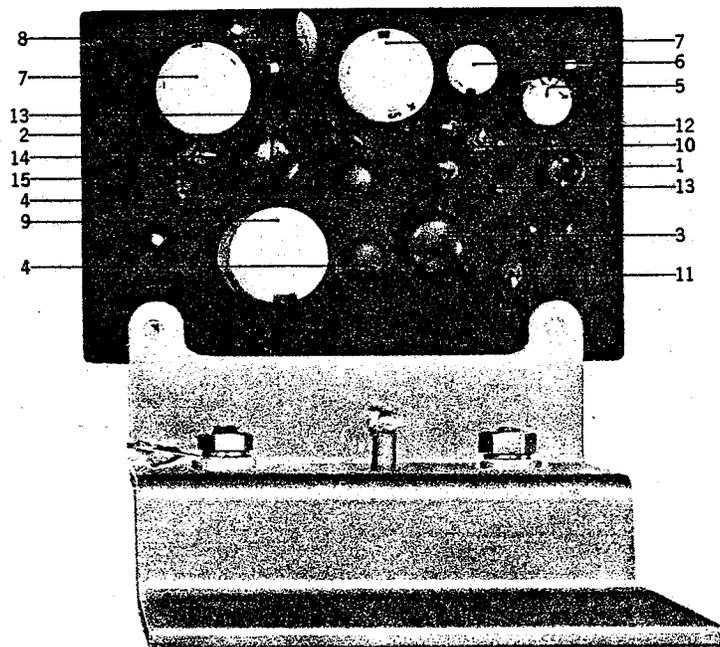
## PHOTO OF V. OUT. P.C. BOARD (Y-300)



## V. OUT. P.C. BOARD (Y-300) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Maker No.	Unit Price (US)
-	VM-P101	V. Out. P.C. Board Assy. Comp.	Y-300	YD20060024	
1	VM-P102	Transistor CS1295H	Q301.2	HT800191H0	
2	VM-P103	Transistor CS1294H	Q303	HT600011H0	
3	VM-P104	Varistor CD0014	Q304.5	HT80007100	
4	VM-P105	Diode 1S188	Q306.7	HD10003030	
5	VM-P106	Thermistor 31D27	R301.12	HH00002120	
6	VM-P107	Thermistor 33D1000	R304	HH00001120	
7	VM-P108	Semi-Fixed Resistor 500K	R305	RA05040050	
8	VM-P109	Semi-Fixed Resistor 10K	R307	RA01030090	
<b>Capacitor, Vertical Type</b>					
9	VM-P110	Electrolytic 10 $\mu$ F 10WV	C301	EAI0601010	
10	VM-P111	Electrolytic 5 $\mu$ F 15WV	C302	EA47501610	
11	VM-P112	Electrolytic 200 $\mu$ F 10WV	C303	EA22701020	
12	VM-P113	Electrolytic 0.1 $\mu$ F 25WV	C304	EMI0402510	
13	VM-P114	Electrolytic 30 $\mu$ F 10WV	C305	EA33601010	
14	VM-P115	Mylar 0.003 $\mu$ F	C306	DF17332010	
-	VM-P116	Mylar 0.047 $\mu$ F	C331	DF17473010	
15	VM-P117	Mylar 0.0047 $\mu$ F	C332	DF17472010	
<b>Solid Resistor</b>					
16	VM-P118	1/4W 1.2K	R302.6	RC10122140	
17	VM-P119	1/4W 22K	R303	RC10223140	
18	VM-P120	1/4W 10K	R308	RC10103140	
19	VM-P121	1/4W 2 $\Omega$	R309	RC10020140	
20	VM-P122	1/4W 10 $\Omega$	R310	RC10100140	
21	VM-P123	1/4W 220 $\Omega$	R311	RC10221140	
22	VM-P124	1/4W 4.7K	R313	RC10472140	
23	VM-P125	1/4W 1K	R314	RC10102140	
24	VM-P126	1/4W 3.3 $\Omega$	R315.16	RC10033140	

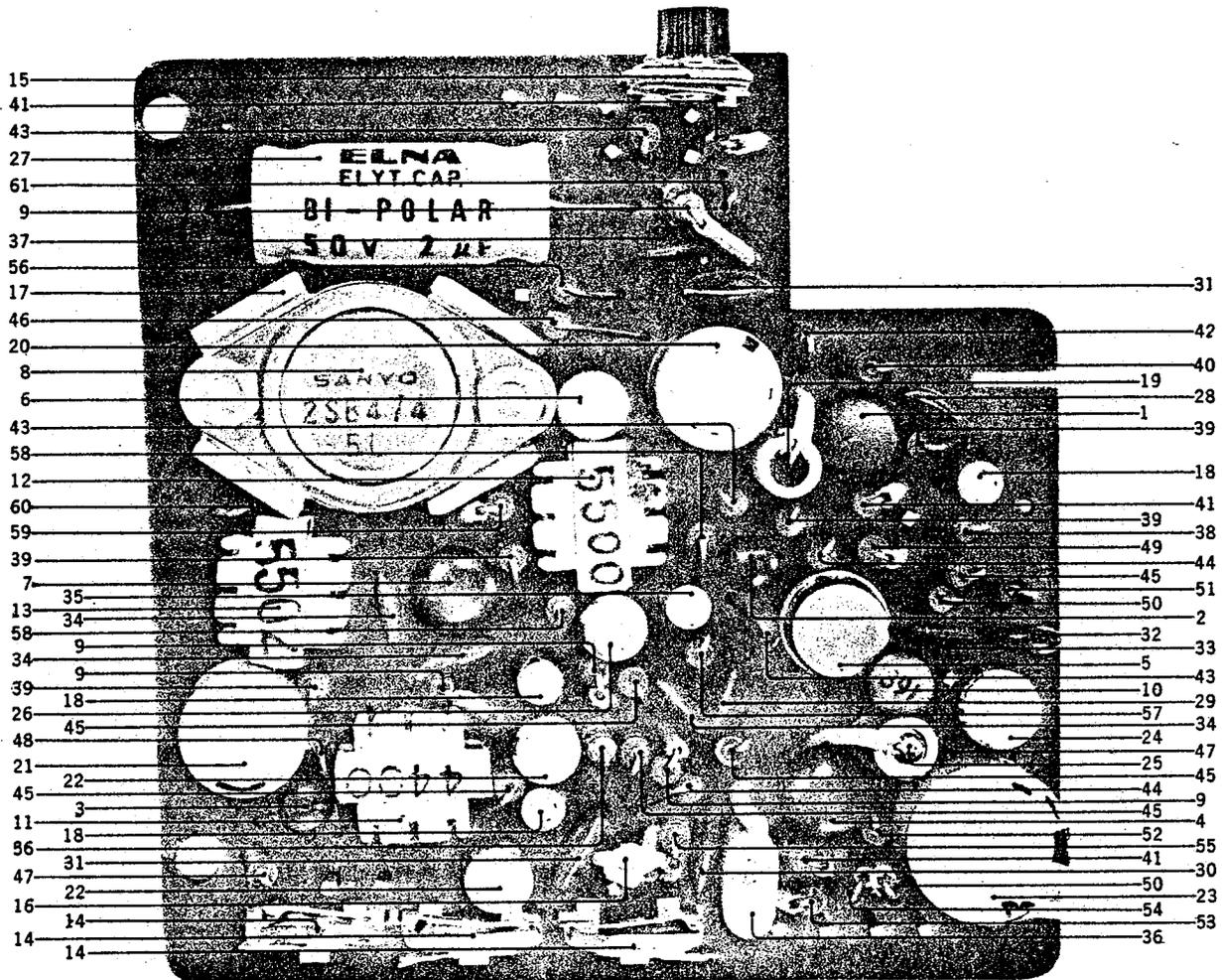
## PHOTO OF AUDIO P.C. BOARD (Y-400)



## AUDIO P.C. BOARD (Y-400) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Maker No.	Unit Price (US)
-	VM-P201	Audio P.C. Board Assy. Comp.	Y-400	YD20610010	
1	VM-P202	Transistor CS1238H	Q401	HT800011H0	
2	VM-P203	Transistor CS1295H	Q402	HT800191H0	
3	VM-P204	Transistor CS1294H	Q403	HT600011H0	
4	VM-P205	Varistor CD0014	Q404.5	HT80007100	
<b>Capacitor, Vertical Type</b>					
5	VM-P206	Electrolytic 5 $\mu$ F 15WV	C401	EA47501610	
6	VM-P207	Electrolytic 10 $\mu$ F 6WV	C402	EA10600610	
7	VM-P208	Electrolytic 100 $\mu$ F 10WV	C405.6	EA10701010	
8	VM-P209	Ceramic 0.001 $\mu$ F	C407	DK18102010	
9	VM-P210	Film 0.0047 $\mu$ F	C408	DF17472010	
<b>Solid Resistor</b>					
10	VM-P211	1/4W 68K	R401	RC10683140	
11	VM-P212	1/4W 1.5K	R402	RC10152140	
12	VM-P213	1/4W 470K	R403	RC10474140	
13	VM-P214	1/4W 5 $\Omega$	R404.5	RC10050140	
14	VM-P215	1/4W 4.7K	R406	RC10472140	
15	VM-P216	1/4W 680 $\Omega$	R407	RC10681140	

PHOTO OF SYNC. & VIDEO AMP. P.C. BOARD (Y-500)



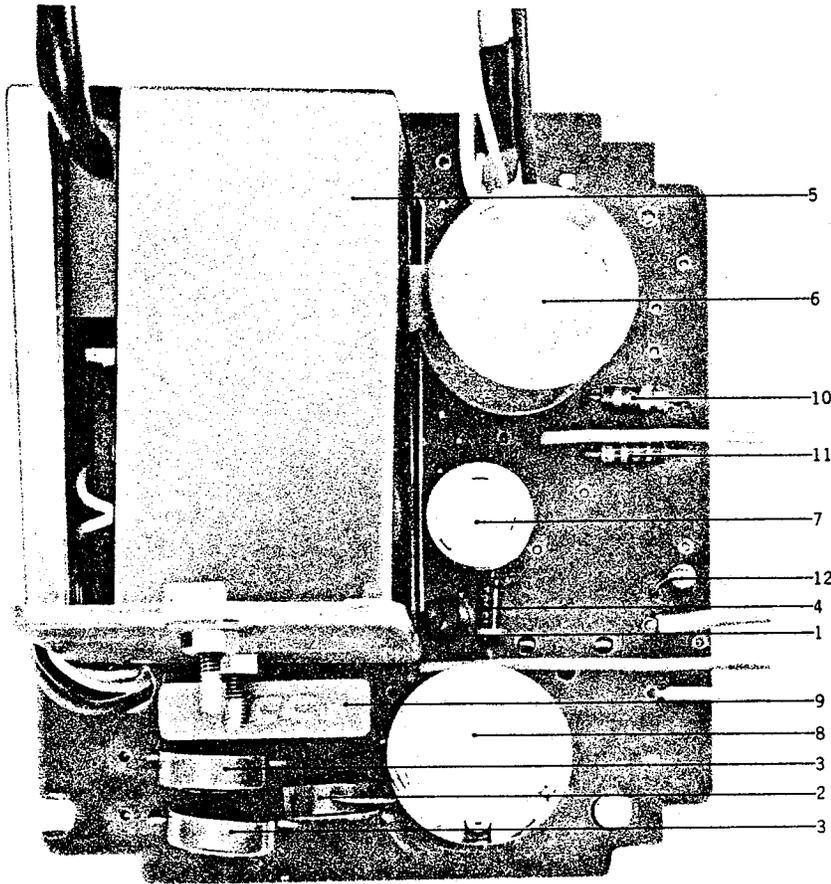
SYNC. & VIDEO AMP. P.C. BOARD (Y-500) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Maker No.	Unit Price (US)
-	VM-P301	Sync. & Video Amp. P.C. Board Assy. Comp.	Y-500	YD19550022	
1	VM-P302	Transistor CS1294 (E,F)	Q501	HT600011F0	
2	VM-P303	Transistor CS1238F	Q502	HT800100F0	
3	VM-P304	Transistor CJ5209	Q504	HT60002100	
4	VM-P305	Transistor CJ5210	Q505	HT80012100	
5	VM-P306	Transistor SE7010	Q506	HT81010000	
6	VM-P307	Transistor 2SB172D	Q509	HT201721D0	
7	VM-P308	Transistor CJ5211	Q510	HT80013100	
8	VM-P309	Transistor 2SB467	Q511	HT20467100	
9	VM-P310	Diode 1N34A	Q503, 7, 8, 13	HD10001010	
10	VM-P311	Peaking Coil 390μH	L501	LC13940010	
11	VM-P312	V-OSC. Transformer LA4400	T501	TR11404010	
12	VM-P313	H-OSC. Transformer LA5500	T502	TQ11404010	
13	VM-P314	H-Drive Transformer LA5502	T503	TQ11404030	
14	VM-P315	Semi-Fixed Resistor 5K	R515, 18, 32	RA05020040	
15	VM-P316	Semi-Fixed Resistor 1M	R530	RA01050050	
16	VM-P317	Thermistor MT250S	R547	HH00007020	
17	VM-P318	Heat-Sink for Transistor		1955267020	

When you order these parts, Please describe their Parts No. and Serial No. in detail

Ref. No.	Parts No.	Description	Schematic No.	Maker No.	Unit Price (US)
<b>Electrolytic Capacitor, Vertical Type</b>					
18	VM-P319	0.1 $\mu$ F 25WV	C501.8.20	EM10402510	
19	VM-P320	3 $\mu$ F 15WV	C503	ED33501610	
20	VM-P321	100 $\mu$ F 10WV	C505	EA10701010	
21	VM-P322	30 $\mu$ F 16WV	C509	EA33601610	
22	VM-P323	5 $\mu$ F 15WV	C510.17	EA47501610	
23	VM-P324	10 $\mu$ F 150WV	C511	EA10616010	
24	VM-P325	30 $\mu$ F 10WV	C154	EA33601010	
25	VM-P326	1 $\mu$ F 50WV	C515	ED10505010	
26	VM-P327	4.7 $\mu$ F 6WV	C522	EM47500620	
27	VM-P328	2 $\mu$ F 50WV	C525	ER20505010	
<b>Mylar Capacitor, Vertical Type</b>					
28	VM-P329	0.005 $\mu$ F	C502.27.52.	DF17472010	
29	VM-P330	0.003 $\mu$ F	C504	DF17332010	
30	VM-P331	0.02 $\mu$ F	C506	DF17223010	
31	VM-P332	0.03 $\mu$ F	C507.23	DF17333010	
32	VM-P333	0.001 $\mu$ F	C512	DF17102010	
33	VM-P334	0.002 $\mu$ F	C513	DF17222010	
34	VM-P335	0.01 $\mu$ F	C518.21.24.51	DF17103010	
35	VM-P336	0.1 $\mu$ F	C519	EM10402510	
36	VM-P337	Metalized Capacitor 0.22 $\mu$ F 100WV	C516	DG07224500	
-	VM-P338	Film Capacitor 0.047 $\mu$ F	C528	DF17473010	
37	VM-P339	Film Capacitor 0.0047 $\mu$ F	C530	DF17472010	
-	VM-P340	VFM Capacitor 50PF	C529	DD16500013	
<b>Solid Resistor</b>					
38	VM-P341	1/4W 330 $\Omega$	R501	RC10331140	
39	VM-P342	1/4W 2.2K	R502.6.16.39	RC10222140	
40	VM-P343	1/4W 470K	R503	RC10474140	
41	VM-P344	1/4W 82K	R504.19	RC10823140	
42	VM-P345	1/4W 47K	R505	RC10473140	
43	VM-P346	1/4W 220K	R507.12.29.31	RC10224140	
44	VM-P347	1/4W 1.8K	R508.11	RC10182140	
45	VM-P348	1/4W 4.7K	R510.35.36.46	RC10472140	
46	VM-P349	1/4W 100 $\Omega$	R513	RC10101140	
47	VM-P350	1/4W 2.7K	R514.26	RC10272140	
48	VM-P351	1/4W 6.8K	R517	RC10682140	
49	VM-P352	1/4W 5.6K	R520	RC10562140	
-	VM-P353	1/4W 3.3K	R521	RC10332140	
50	VM-P354	1/4W 50 $\Omega$	R522.24	RC10500140	
51	VM-P355	1/4W 1K	R523.50	RC10102140	
52	VM-P356	1/4W 27K	R525	RC10273140	
53	VM-P357	1/4W 680K	R527	RC10684140	
54	VM-P358	1/4W 100K	R528	RC10104140	
55	VM-P359	1/4W 470 $\Omega$	R533	RC10471140	
56	VM-P360	1/4W 1.5K	R534.41	RC10152140	
57	VM-P361	1/4W 680 $\Omega$	R537	RC10681140	
58	VM-P362	1/4W 560 $\Omega$	R538.40	RC10561140	
59	VM-P363	1/4W 150 $\Omega$	R542	RC10151140	
60	VM-P364	1/4W 3.3 $\Omega$	R543	RT10331140	
61	VM-P365	1/4W 22K	R548	RC10223140	
-	VM-P366	1/4W 10K	R549	RC10103140	

## PHOTO OF H.V. P.C. BOARD (Y-600)

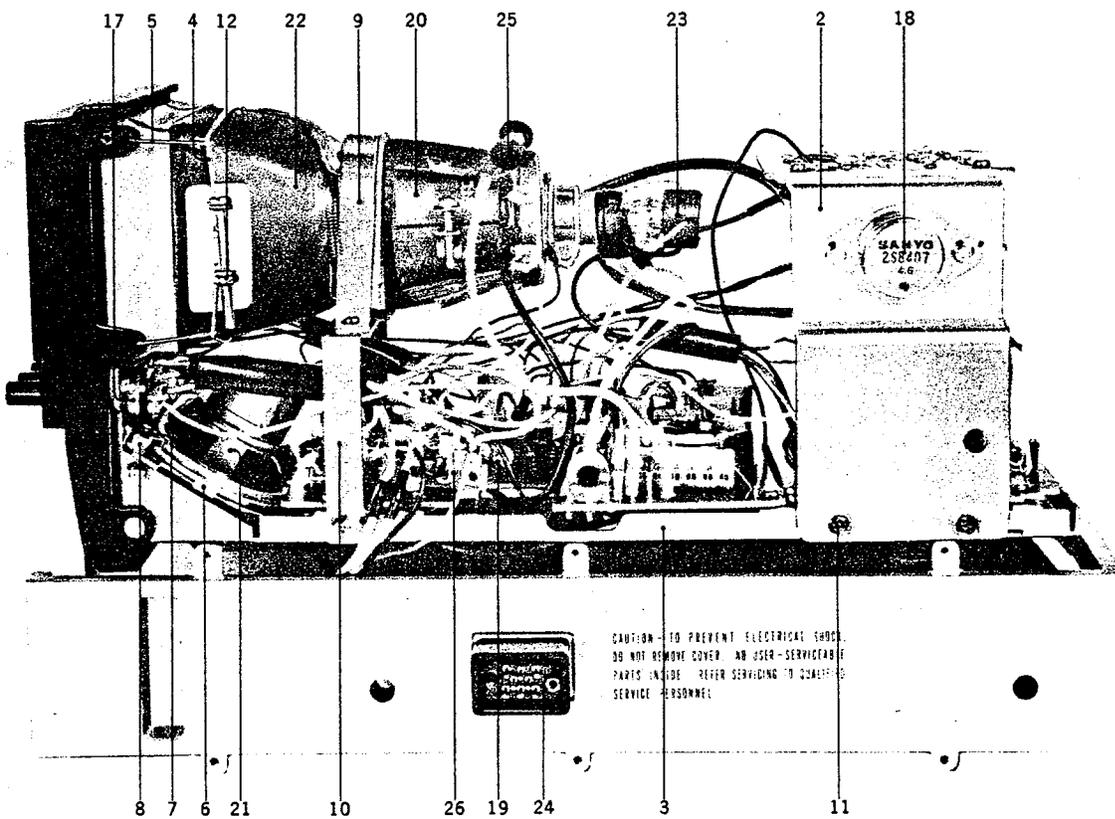


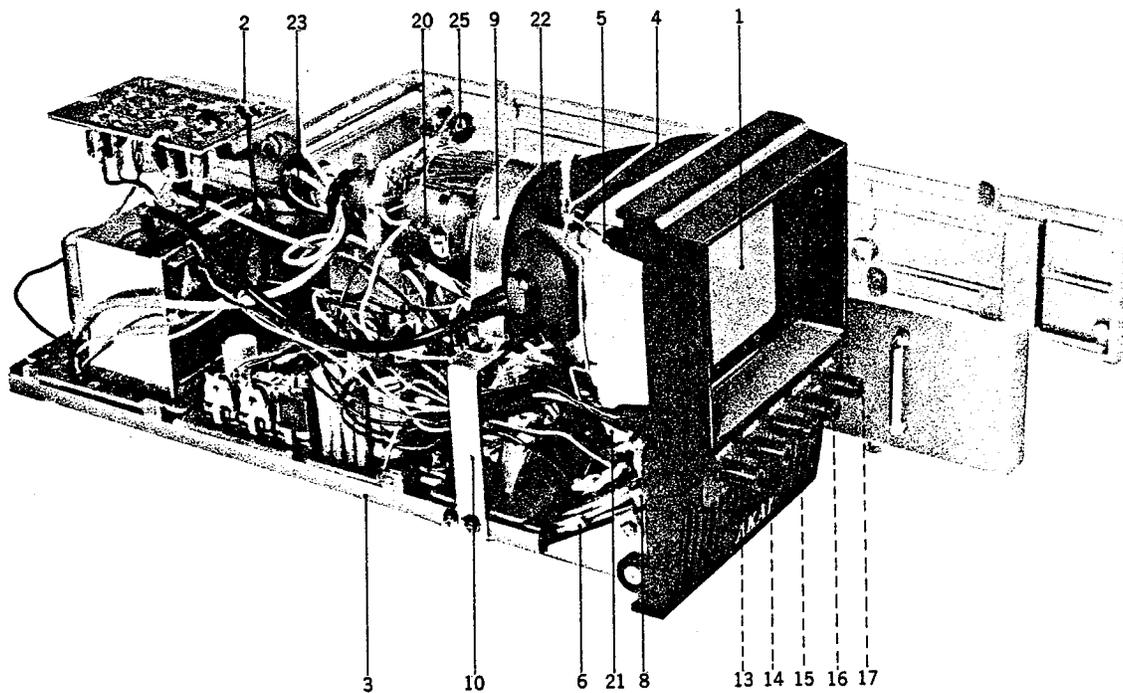
## H.V. P.C. BOARD (Y-600) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Maker No.	Unit Price (US)
-	VM-P401	H.V. P.C. Board Assy. Comp.	Y-600	YD19550013	
1	VM-P402	Transistor CS1238G	Q610	HT80001000	
2	VM-P403	Diode SD-1	Q601	HD20001080	
3	VM-P404	Diode SD-1HF	Q602,3	HD20003080	
4	VM-P405	Diode 1S332	Q609	HD30003080	
5	VM-P406	Fly Back Transformer Comp.		ZZ20610010	
-	VM-P407	F.B. Transformer LA6600	T601	TF03060010	
-	VM-P408	Heater Transformer FC1045	T602	FC50140010	
-	VM-P409	Semi-Fixed Resistor 10K	R601	RC01030100	
-	VM-P410	Cap Complete	Q604	BH10200010	
-	VM-P411	Cover		2006109010	
-	VM-P412	Insulator		2062120010	
<b>Capacitor, Vertical Type</b>					
6	VM-P413	Electrolytic 2000 $\mu$ F 10WV	C604	EA20801010	
-	VM-P414	Electrolytic 30 $\mu$ F 10WV	C605	EA33601010	
7	VM-P415	Electrolytic 100 $\mu$ F 10WV	C606	EA10701010	
8	VM-P416	Electrolytic 1000 $\mu$ F 20WV	C607	EA10802010	
-	VM-P417	Electrolytic 200 $\mu$ F 15WV	C609	EA22701610	
9	VM-P418	Metalized Capacitor 0.047 $\mu$ F 500WV	C601	DG17473510	
-	VM-P419	Mylar Capacitor 0.001 $\mu$ F	C608,11	DF17102010	
-	VM-P420	Electrolytic 100 $\mu$ F 6.3WV	C613	EA10700610	
<b>Solid Resistor</b>					
10	VM-P421	1/4W 390 $\Omega$	R602	RC10391140	
11	VM-P422	1/4W 33K	R603	RC10333140	
12	VM-P423	1/4W 100 $\Omega$	R604	RC10101140	

When you order these parts Please describe their Parts No. and Serial No. in detail

PHOTO OF ASSEMBLY BLOCK

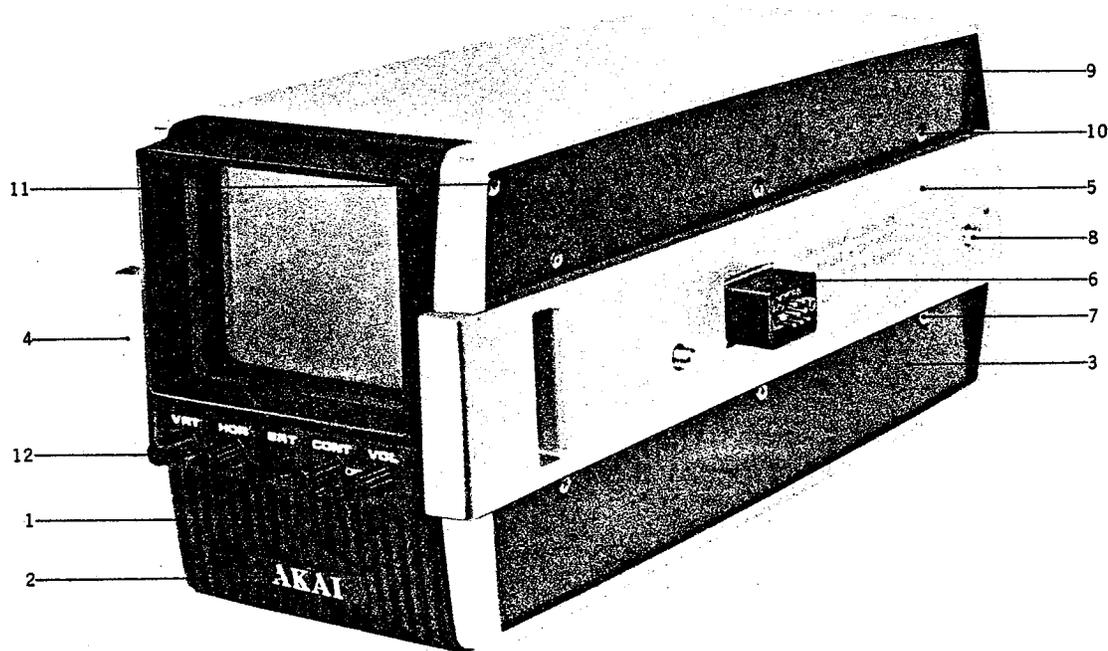




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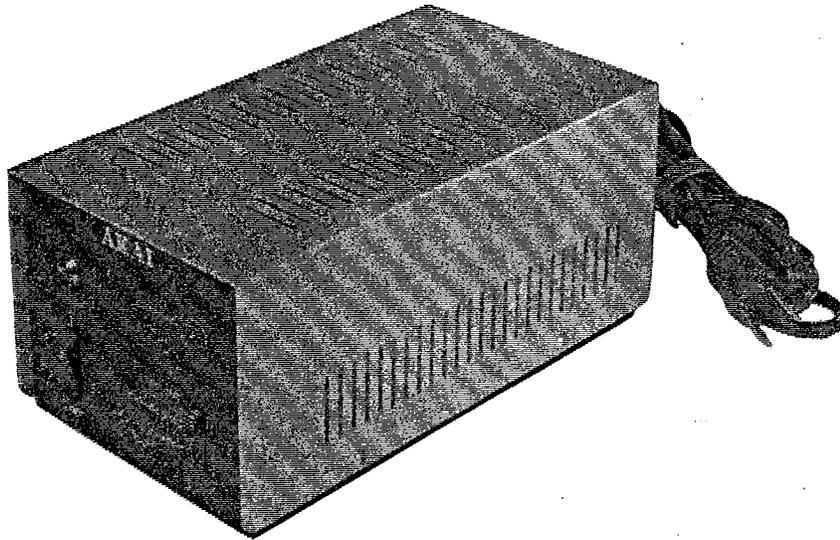
Ref. No.	Parts No.	Description	Maker No.	Unit Price (US)
-	VM-M101	Sheet for Speaker	2061107010	
1	VM-M102	Window for Picture Tube	1474158022	
-	VM-M103	Indicator for Specification	2061265010	
2	VM-M104	Heat-Sink for Transistor	2061267012	
3	VM-M105	Chassis	2061105012	
4	VM-M106	Retainer for Picture Tube	2061104010	
5	VM-M107	Clamper for Picture Tube	2061005010	
6	VM-M108	Bracket for Speaker	206116012	
7	VM-M109	Clamper for Speaker	1118005010	
8	VM-M110	Collar for Speaker	2061055010	
-	VM-M111	R.H.M. Screw for Picture Tube 2.6 x 6	51022606E0	
9	VM-M112	Retainer for Picture Tube	2006104020	
10	VM-M113	Holder for Picture Tube	1955271012	
-	VM-M114	Collar for Complete Unit	2061055020	
-	VM-M115	Screw for Complete Unit	51077039F0	
-	VM-M116	Cover for P.C. Board	1914053012	
-	VM-M117	R.H.M. Screw for Speaker 2 x 6	510220206E0	
-	VM-M118	R.H.M. Screw for P.C. Board 2.6 x 4	51022604E0	
11	VM-M119	F.H.M. Screw for Heat-Sink 2.6 x 4	51042604E0	
12	VM-M120	Hexagon Nut for Picture Tube	53110303E0	
-	VM-M121	Earth Lug	62261204E0	
-	VM-M122	Cover for Picture Tube	1914053070	
-	VM-M123	Resistor 1/4W 75Ω (R706)	RC10750140	
13	VM-M124	Variable Resistor 2K (R701)	RK02020052	
14	VM-M125	Variable Resistor 1K (R702)	RK01020062	
15	VM-M126	Variable Resistor 500K (R703)	RK05040052	
16	VM-M127	Variable Resistor 300Ω (R704)	RK03010022	
17	VM-M128	Variable Resistor 10K w/Switch (R705)	RK11030152	
18	VM-M129	Transistor 2SB407D (Q701)	HT204071D0	
-	VM-M130	Transistor Kit	KT20610010	
19	VM-M131	Elect. Capacitor 33μF 10WV (C701)	EA33601010	
20	VM-M132	Deflection Yoke (L701)	LD05013010	
21	VM-M133	Speaker (W701)	GJ80503010	
22	VM-M134	Picture Tube (V701)	VB00313010	
23	VM-M135	Socket (Y714)	Y05000012	
24	VM-M136	Plug (Y720)	YP10000740	
25	VM-M137	Ferrite Core	FC50140010	
26	VM-M138	Lug Plate 2L2	YL01050030	

## PHOTO OF FINAL ASSEMBLY BLOCK



## FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
1	X-358918	Monitor Front Panel	PX-1001	
2	X-358931	Monitor Name Plate	PX-1003	
3	X-358942	Monitor Case Lower Cover	PX-1004	
4	X-358986	Monitor Frame 1 (Left)	PX-1007	
-	X-360988	Band Hanger	PX-402	
-	X-273756	M3 Nut		
5	X-358975	Monitor Frame 2 (Right)	PX-1006	
6	X-358997	Monitor Connector Cover	PX-1009	
7	X-375423	Screw, binding head 2.3 x 5		
-	X-359032	Connection Plate, Frame	PX-1012	
8	X-359010	Connecting Bolt	PX-1011	
-	X-364803	Washer (Nylon) 5.1 x 10.3 x 0.1t		
-	X-359021	Bolt Collar	PX-1013	
-	X-359008	Stopper Ring	PX-1010	
9	X-359043	Monitor Case Upper Cover	PX-1014	
10	X-375423	Screw, binding head 2.3 x 5		
11	X-375412	Screw, binding head 2.3 x 8		
-	X-259738	Washer (Polyslider) 4.1 x 7 x 0.25t		
12	X-359054	Monitor Knob	PX-1015	



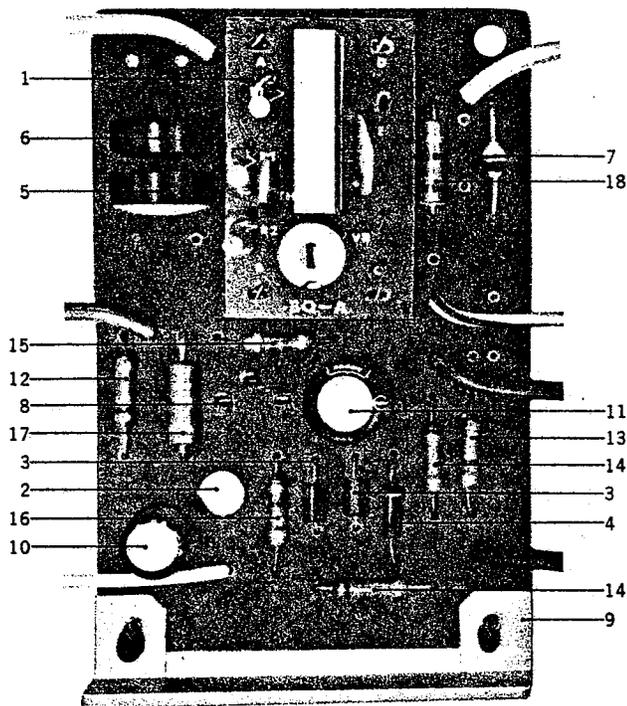
**SECTION 4**

**AC ADAPTER/BATTERY  
CHARGER COMPONENT PARTS**

WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
AND SERIAL NO. IN DETAIL

POWER SUPPLY P.C. BOARD (PX-A3008) BLOCK .....	43
ASSEMBLY BLOCK .....	45

## PHOTO OF POWER SUPPLY P.C. BOARD (PX-A3008)

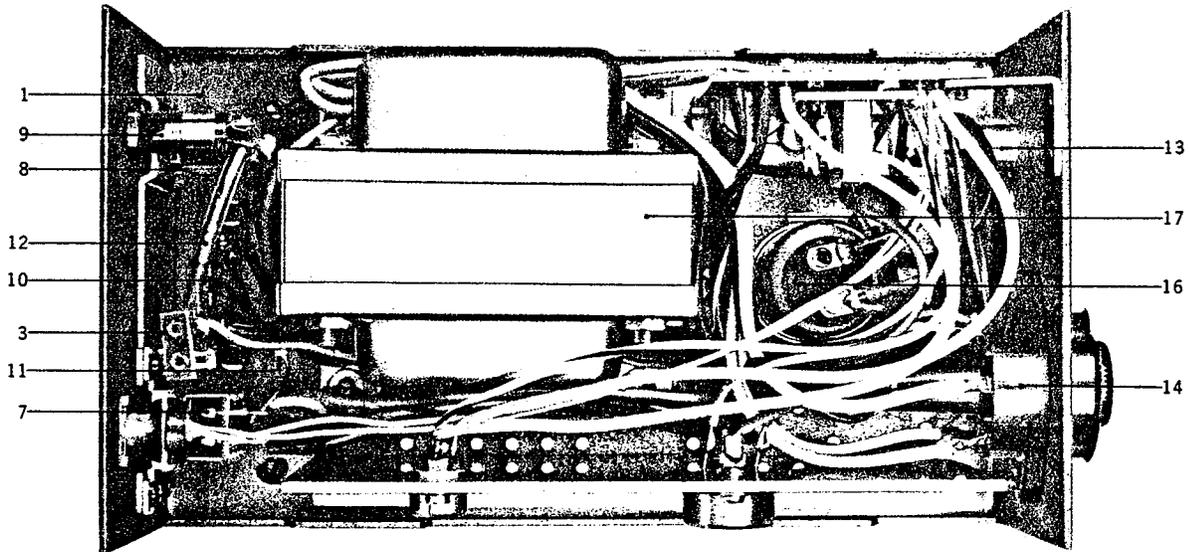
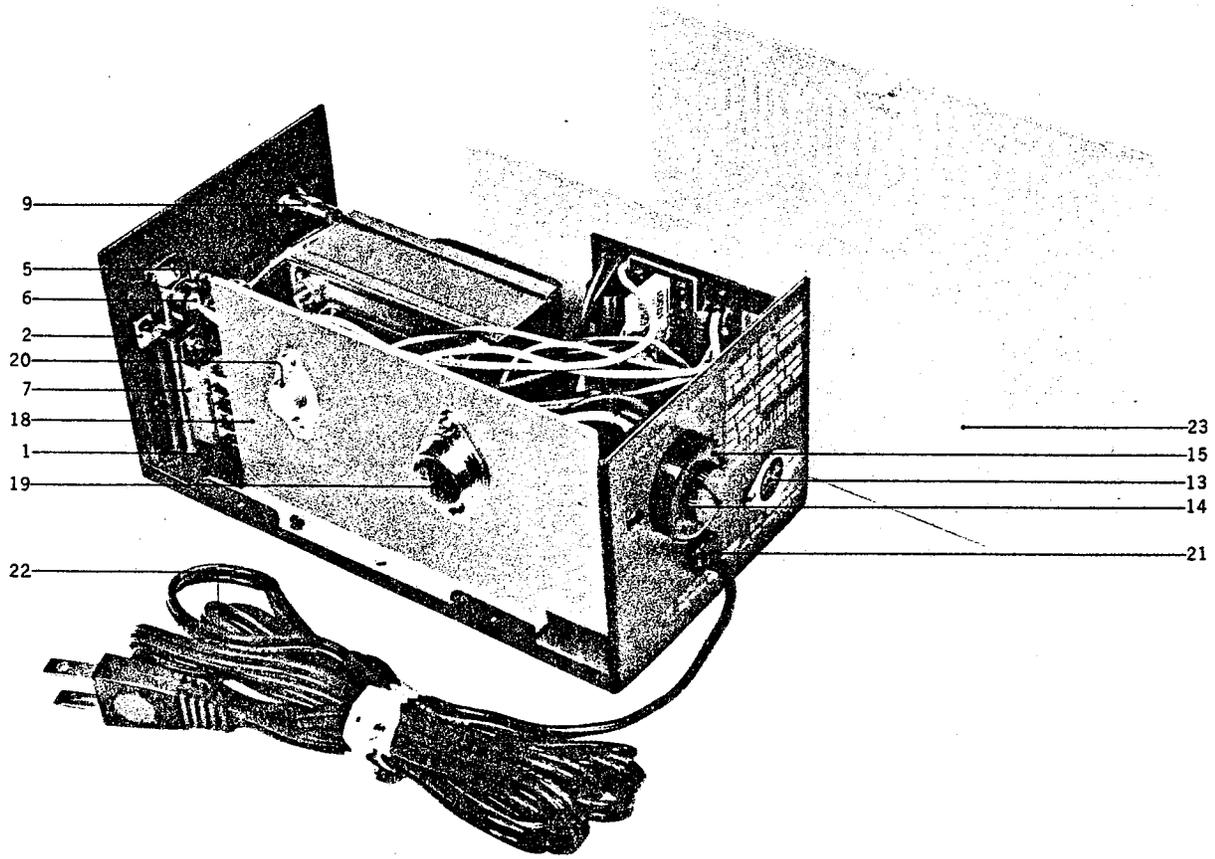


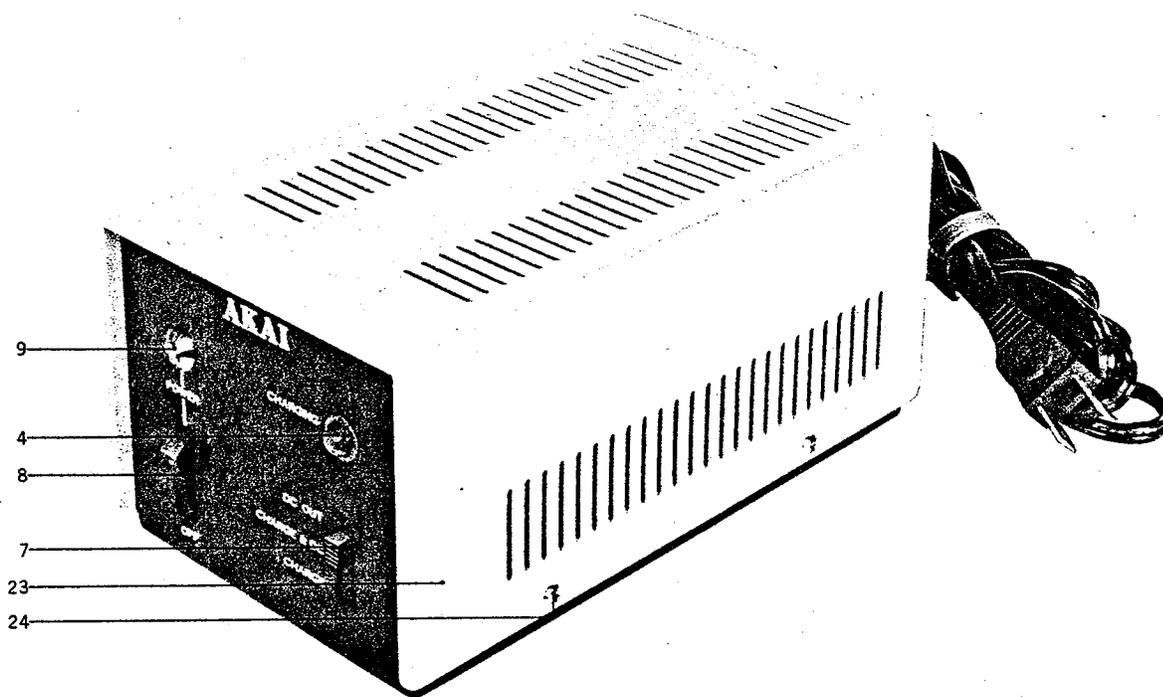
## POWER SUPPLY P.C. BOARD (PX-A3008) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
-	Y-423314	Power Supply P.C. Board Assy. Comp.	PX-A3008	
1	Y-421762	Charger P.C. Board Unit BQ-A	56-1-2	
2	Y-338894	Transistor 2SC968(3)	TR1001	
3	Y-234753	Transistor 2SC458(B)	TR1002,3	
4	Y-356534	Zener Diode RD-6A M	D1001	
5	Y-329128	Silicon Diode 10DC-1 (Red)	D1002	
6	Y-329130	Silicon Diode 10DC-1 (Black)	D1003	
7	Y-421795	Silicon Diode V03C	D1004	
8	Y-403132	Semi-variable Volume V101KR-1 300ΩB	VR1001	
9	Y-356051	REG P.C. Board Mounting Plate B	PX-3010	
-	Y-200687	Tapping Screw #2 3 x 6		
		Capacitor, Vertical Type	C	
10	Y-350684	Electrolytic 22μF 25WV	1001	
11	Y-220127	Electrolytic 100μF 16WV	1002	
		Carbon Resistor, Insulator Type	R	
12	Y-214536	RD1/4 6.8K J	1001	
13	Y-430288	RD1/4 680Ω J	1003	
14	Y-364961	RD1/4 1.2K J	1004.5	
15	Y-214402	RD1/4 470Ω J	1006	
16	Y-364950	RD1/4 330Ω J	1007	
17	Y-320106	RD1/2P 4.7Ω K (P Type)	1002	
18	Y-215627	RD1/2P 150Ω K (P Type)	1008	

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PHOTO OF ASSEMBLY BLOCK

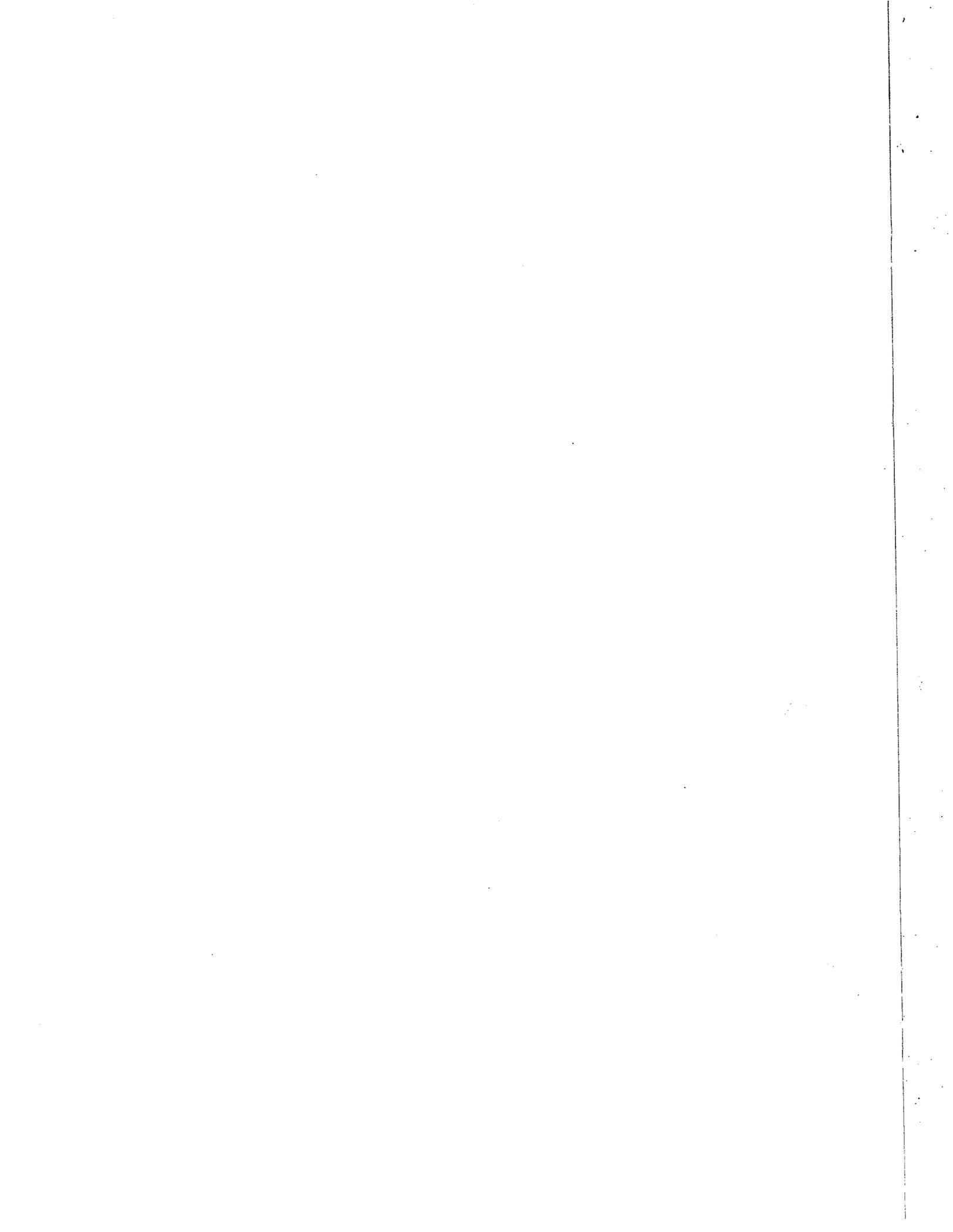




### ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)	Ref. No.	Parts No.	Description	Schematic No.	Unit Price (US)
1	Z-421187	Power Chassis	PX-A3001		16	Z-362632	Electrolytic Capacitor 2200 $\mu$ F 25WV	24-10-57	
2	Z-421198	Lamp Mounting Angle	PX-A3003			Z-355511	Screw, binding head 3 x 6		
3	Z-369077	Lug Plate VBL1	33-4-7			Z-273756	M3 Nut		
	Z-417216	Screw, pan head 3 x 4			17	Z-421244	Power Transformer PXT-7	38-4-118	
4	Z-421222	Charger Lamp Indicator	PX-A3004			Z-201341	Screw, truss head 4 x 8		
	Z-421233	Speed Nut	PX-A3006			Z-413188	M4 Nut		
5	Z-421200	Lamp Holder	PX-A3005		18	Z-356062	Transistor Heat-Sink Plate	PX-3009	
6	Z-421211	Lamp 12V 70MA 190MM x 2	28-2-17		19	Z-377098	Transistor 2SD80	45-1-82	
7	Z-356343	Slide Switch ESD-282DU	25-3-34		20	Z-350313	Transistor 2SD130(Y)	45-1-46	
	Z-356038	Slide Switch Mask	PX-3011		21	Z-382263	Strin Relief SR-4K-4	2-7-12	
	Z-422076	Screw, pan head 3 x 5			22	Z-374894	UL AC Cord 3M	26-3-19	
8	Z-356365	Seesaw Switch T-127 U/L	25-2-9			Z-356400	AC Cord Cramp		
	Z-422076	Screw, pan head 3 x 5				Z-421738	Rubber Foot	3-18-14	
9	Z-356376	Neon Lamp BNA-2	28-3-7			Z-421740	Screw, pan head 3 x 8		
10	Z-356354	Silicon Diode 5B05	45-2-31			Z-277402	Fuse ST-2 1A	39-1-26	
	Z-355487	Screw, binding head 3 x 10				Z-371698	Fuse ST-4 0.5A	39-1-28	
	Z-273756	M3 Nut			23	Z-356073	Power Source Cover	PX-3012	
11	Z-375592	Silicon Diode V06B	45-2-35			Z-355511	Screw, binding head 3 x 6		
12	Z-345756	Carbon Resistor RD1/4 68K J	35-9-5		24	Z-335147	Screw, truss head 3 x 5		
13	Z-299305	5P DIN Jack	31-1-1			Z-356242	Power Source Cable VCA-100	51-1-20	
14	Z-233370	Power Consent (Voltage Selector) S-18010	40-2-3						
15	Z-374128	ISO Screw, truss head 3 x 8							

When you order these parts, Please describe their Parts No. and Serial No. in detail



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# PARTS LIST

**AKAI PORTABLE VIDEO  
TAPE RECORDER SET**

**MODEL VTS-110**

ALSO APPLICABLE TO MODEL **VTS-110DX & VTS-100S**

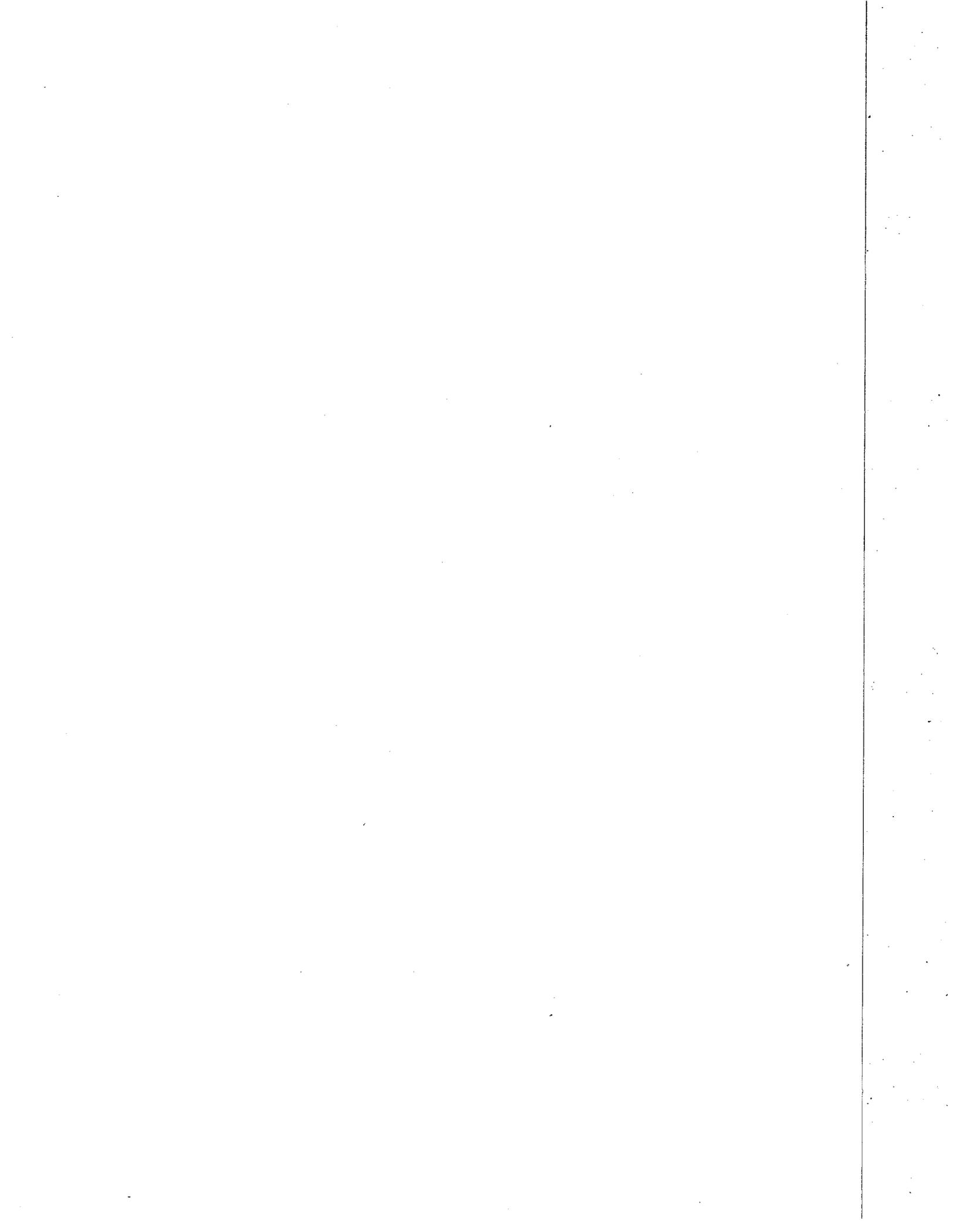




WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
AND SERIAL NO. IN DETAIL

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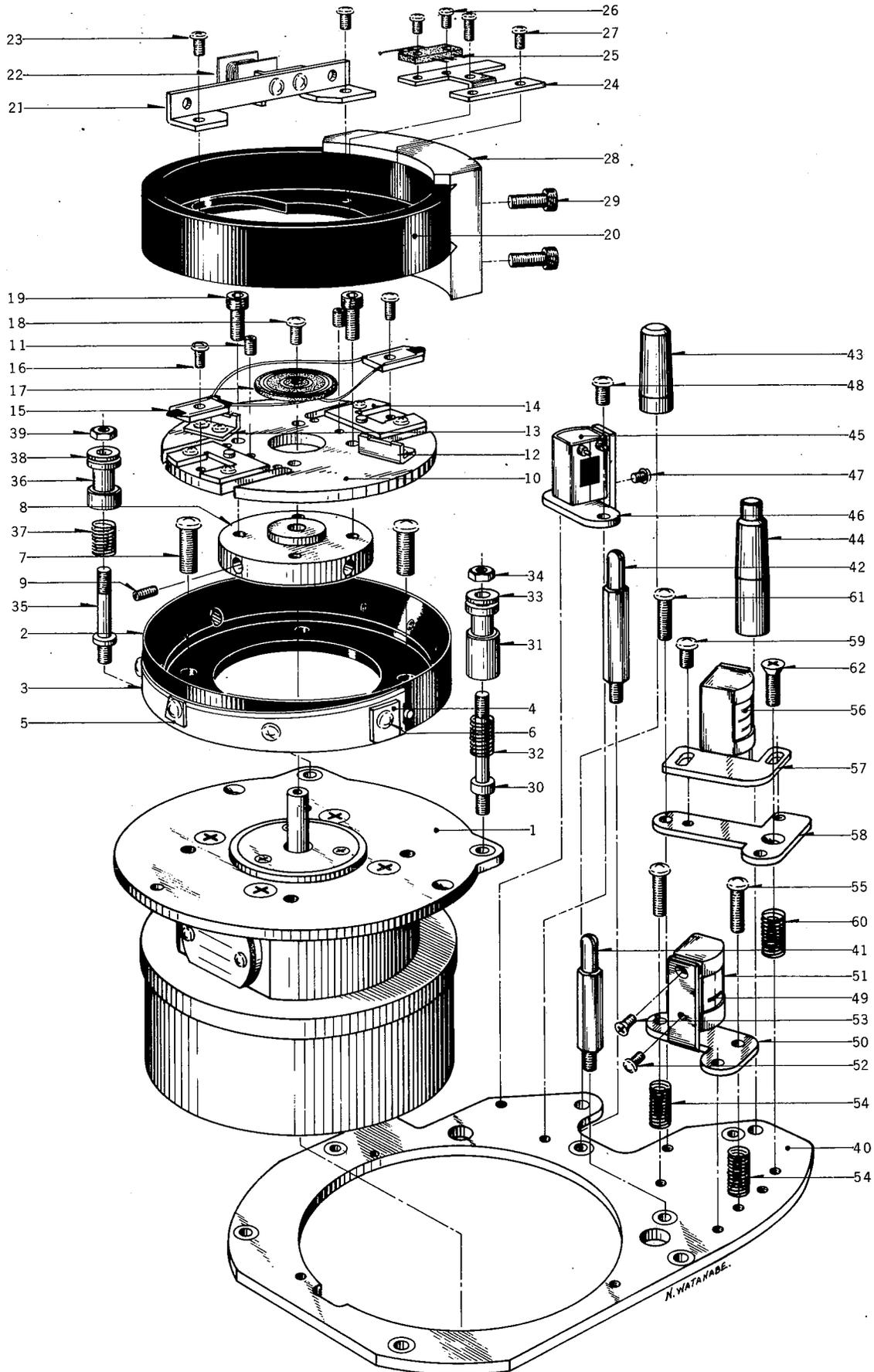
**SECTION 1**

**RECORDER COMPONENT PARTS**

WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
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# ILLUSTRATION OF VIDEO HEAD BLOCK



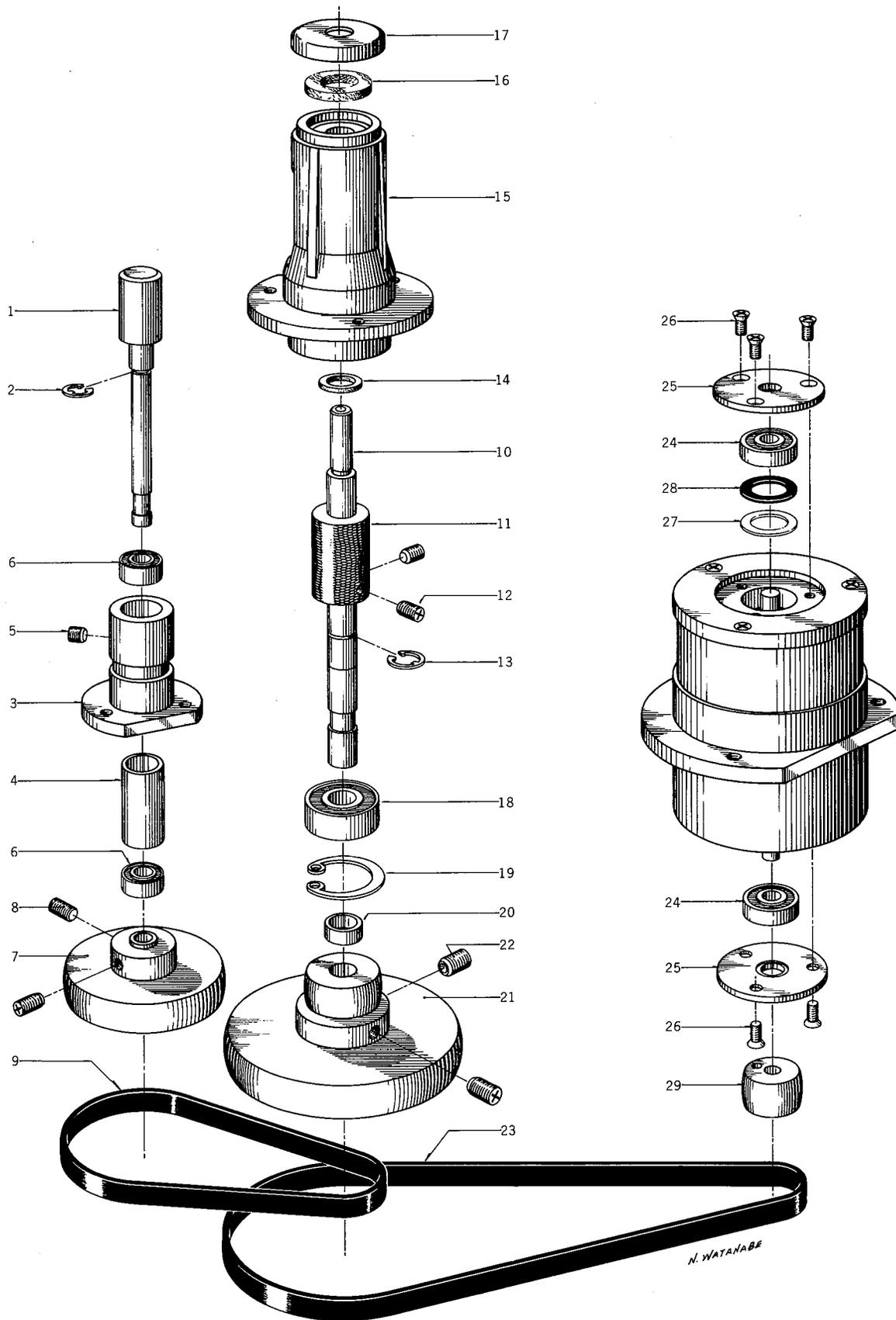
## ROTARY HEAD BLOCK

## HEAD BASE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	A-418724	Rotary Head Block			-	A-458921	Head Base Block Assy.		
		Assy. Comp.	VC,PXA	1			Comp.	VC,PXA	1
1	A-418746	Drum Motor Block Assy.			40	A-362711	Head Assembly Base	PX-808	1
		Comp.	VC,PXA	1	41	A-419297	Head Cover Post A	PX-A801	1
-	A-357153	Ball Bearing #604			-	A-272261	M3 Spring Washer		2
		ZZC2P6B325		1	-	A-273756	M3 Nut		2
-	A-364678	Ball Bearing #605			42	A-419308	Head Cover Post B	PX-A801	1
		ZZC2P6B325		1	43	A-419310	Taper Pole S	PX-A 802	1
-	A-358154	Brush MH-50	13-1-1	2	-	A-423527	Screw, binding head 3 x 8		2
2	A-361394	Lower Drum,w/pin	PX-802	1	44	A-419321	Taper Pole T	PX-A803	1
-	A-362867	Head Plate Retaining Pin	PX-824	1	45	A-358740	FULL TRACK ERASE		
3	A-362878	Drum Tape Guide	PX-809	1			HEAD	PX,VC	1
4	A-404943	PX Guard Band Retaining			46	A-419332	Master Erase Retaining		
		Plate (A)	PX-833	1			Plate	PX-A804	1
5	A-404954	PX Guard Band Retaining			47	A-201508	Screw, pan head 2 x 4		2
		Plate (B)	PX-834	1	48	A-356793	Screw, pan head 3 x 5		2
-	A-404965	PX Guard Band Retaining			49	A-358727	SIDE TRACK ERASE		
		Plate (C)	PX-835	1			HEAD	VC,PX	1
-	A-259560	Washer (BSP)			50	A-362790	Side Erase Head Angle	PX-815	1
		3.3 x 5.8 x 0.25t		2	51	A-347883	Shield Case	1-09-15	1
6	A-419927	Screw, round head 3 x 5		5	-	A-347894	Shield Cover (Back)	1-09-14	1
-	A-361405	Drum Shield Plate	PX-803	1	52	A-201508	Screw, pan head 2 x 4		1
7	A-413234	Screw, pan head 4 x 12		4	53	A-344351	Screw, countersunk		
8	A-407531	Head Plate Holder C,					head 2 x 4		1
		w/metal	PX-838	1	54	A-375197	Guide Spring T	PX-824	3
9	A-356804	Set Screw, hexagon			55	A-434610	Screw, pan head 3 x 13		3
		socket 3 x 4		2	56	A-418735	CONTROL/AUDIO HEAD	VC,PXA	1
10	A-395425	Head Plate, w/pin	PX-830	1	57	A-417982	AC Head Angle	VC-0008	1
-	A-362902	Pin, Head Plate	RX-280	2	-	A-201508	Screw, pan head 2 x 4		2
11	A-356804	Set Screw, hexagon			58	A-362812	Audio CTL Head Base	PX-817	1
		socket 3 x 4		2	59	A-410231	Screw, pan head 2.6 x 5		2
12	A-395436	PU Plate C (Brass)	PX-831	1	-	A-355442	Washer (SPC)		
13	A-395447	PU Plate D (Permalloy)	PX-832	1			3.3 x 5.8 x 0.25t		2
-	A-201903	Screw, binding head 2.3 x 4		4	60	A-375197	Guide Spring T	PX-824	3
14	A-362891	Head Guide Base	PX-819	2	61	A-434610	Screw, pan head 3 x 13		2
-	A-201431	Screw, pan head 2.3 x 5		4	62	A-434621	Screw, countersunk		
15	A-358716	VIDEO HEAD PX	VC,PX	2			head 3 x 13		1
16	A-202307	Screw, round head 2.3 x 6		2					
17	A-357041	Slip Ring, Type 1400	52-1-3	1					
18	A-419940	Screw, pan head 2.3 x 6		1					
-	A-273778	M3 Earth Lug		1					
19	A-419938	Screw, hexagon socket							
		head 3 x 8		4					
20	A-362698	Upper Drum	PX-806	1					
21	A-362913	PC Bracket	RX-833	1					
22	A-403806	Pick-Up Coil, w/core	23-1-106	1					
23	A-201418	Screw, pan head 2.3 x 4		2					
-	A-273778	M3 Earth Lug		1					
24	A-362946	Bracket, Brush	RX-811	1					
25	A-357063	Brush, Type 1330	52-1-4	1					
26	A-419951	Screw, pan head 2 x 5		2					
27	A-419940	Screw, pan head 2.3 x 6		3					
28	A-362700	Drum Support	PX-807	1					
29	A-419938	Screw, hexagon socket							
		head 3 x 8		6					
30	A-375175	Guide Prop T	PX-822	1					
-	A-273756	M3 Nut		1					
31	A-375186	Tape Guide T	PX-823	1					
32	A-375197	Guide Spring T	PX-824	1					
33	A-375208	Tape Guide Cap	PX-828	1					
34	A-273835	M3 Nut		1					
35	A-375210	Guide Prop S	PX-825	1					
36	A-375221	Tape Guide S	PX-826	1					
37	A-375232	Guide Spring S	PX-827	1					
38	A-375208	Tape Guide Cap	PX-828	1					
39	A-273835	M3 Nut		1					

When you order these parts, Please describe their Parts No. and Serial No. in detail

ILLUSTRATION OF SUB CAPSTAN/MAIN CAPSTAN/CAPSTAN MOTOR BLOCK



## SUB CAPSTAN BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	B-358582	Sub Capstan Block		
		Assy. Comp.	PX,VC	1
1	B-360112	Sub Capstan Shaft	PX-219	1
2	B-270101	"E" Ring 3.0M	6-1-9	1
3	B-360123	Sub Capstan Case	PX-220	1
4	B-360134	Bearing Collar	PX-221	1
5	B-200711	Set Screw 3 x 3		1
6	B-356646	Ball Bearing		
		NSK684ZZSP6 C2 B325		2
7	B-360145	Sub Flywheel	PX-222	1
8	B-355588	Set Screw 3 x 6		2
9	B-359886	Sub Capstan Belt	PX-171	1

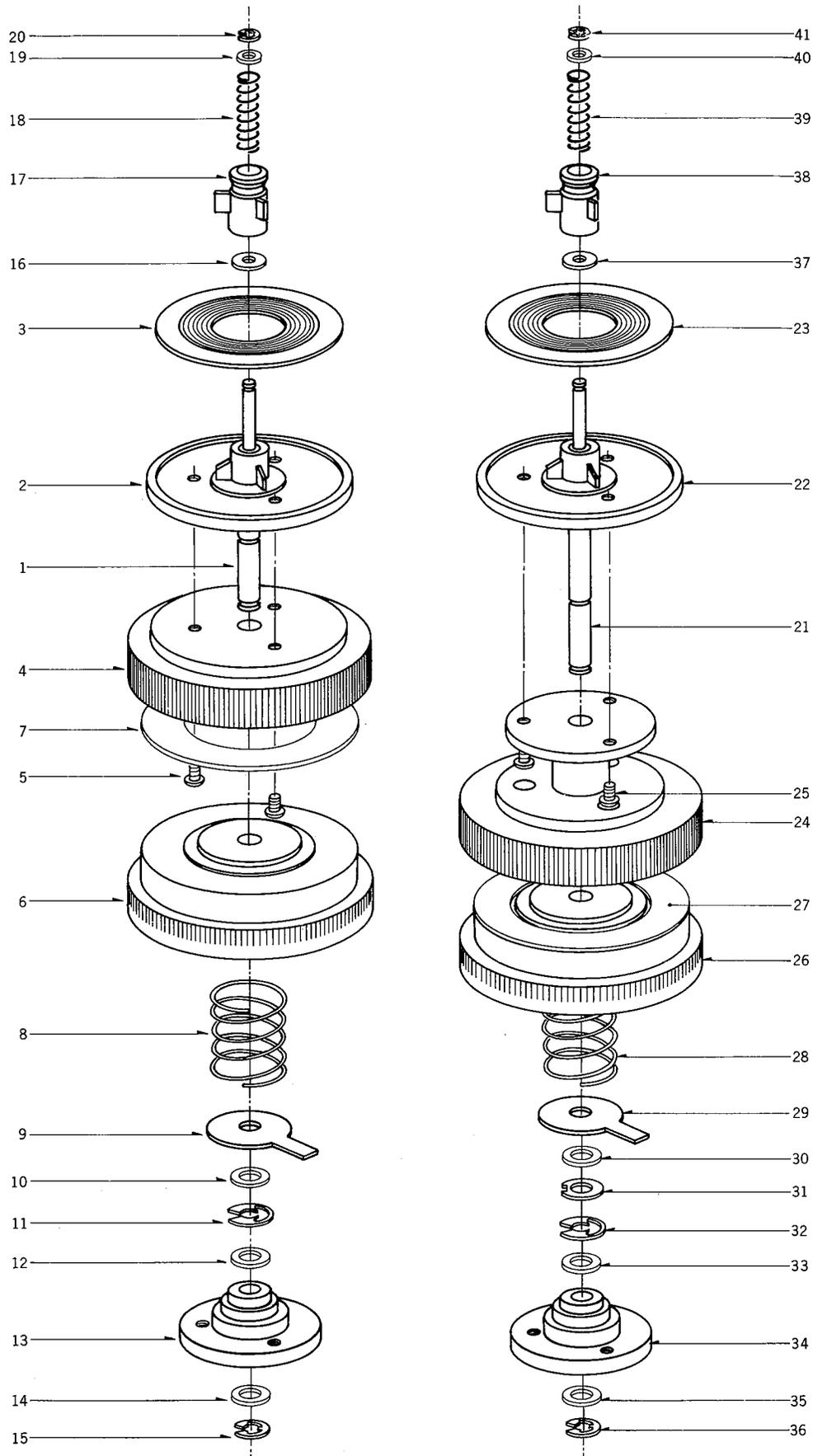
## MAIN CAPSTAN BLOCK

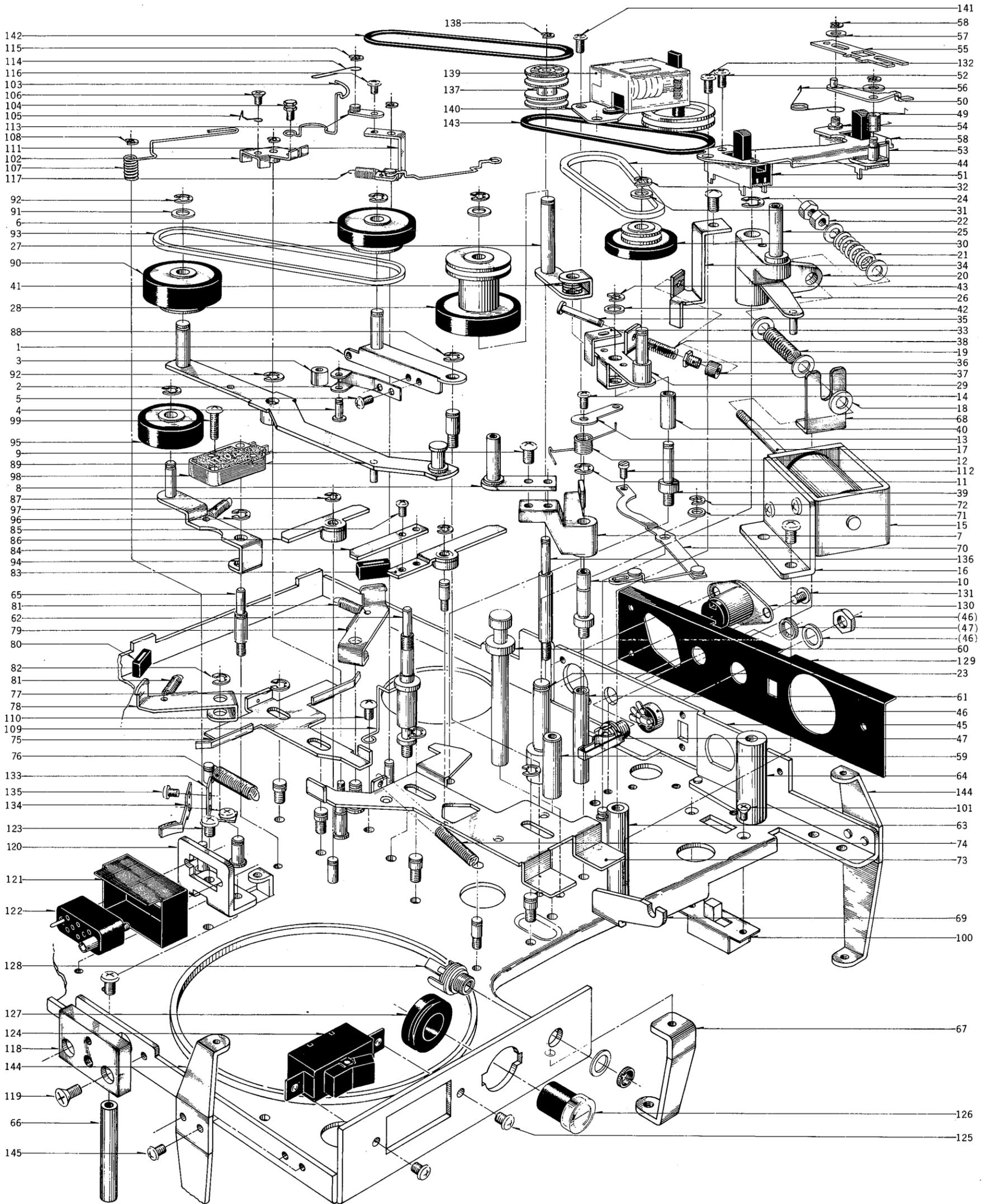
Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	B-358593	Main Capstan Block		
		Assy. Comp.	PX	1
10	B-360033	Main Capstan Shaft	PX-211	1
11	B-360055	Capstan Pulley	PX-213	1
12	B-200733	Set Screw 3 x 4		2
13	B-270123	"E" Ring 4.0M	6-1-9	1
14	B-419826	Washer (Fiver)6.2x10x1t		1
15	B-360077	Bearing Case, w/Metal	PX-215,6	1
16	B-360090	Capstan Felt	PX-217	1
17	B-435824	Metal Cap	PX-218	1
18	B-356624	Ball Bearing		
		NSK606ZZP6 C2 B325		1
19	B-206021	"C" Ring D22	6-1-2	1
20	B-360066	Flywheel Collar	PX-214	1
21	B-360044	Main Flywheel	PX-212	1
22	B-355533	Set Screw 4 x 8		2
23	B-359875	Flywheel Belt	PX-170	1
-	B-407542	Flywheel Belt (CCIR)	PX-181	1

## CAPSTAN MOTOR BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	B-358661	Capstan Motor (US)		
		Assy. Comp.	PX	1
-	B-402570	Capstan Motor (CCIR)		
		Assy. Comp.	PX	1
24	B-357153	Ball Bearing #604		
		ZZC2P6B325		2
25	B-361247	BRG Plate A	PX-703	2
26	B-355577	Screw, countersunk		
		head 2 x 6		6
27	B-361326	Motor Washer (Mylar)		
		0.2t	PX-712	3
-	B-361337	Motor Washer (Mylar)		
		0.1t	PX-712	3
28	B-361348	Motor Washer (Rubber)		
		0.5t	PX-712	1
29	B-361372	Capstan Motor Pulley (US)	PX-715	1
-	B-395370	Capstan Motor Pulley		
		(CCIR)	PX-716	1

# ILLUSTRATION OF SUPPLY & TAKE-UP REEL TABLE BLOCK





**SUPPLY REEL TABLE BLOCK**

Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	C-4234404	Supply Reel Table Block Comp.	PXA	1
1	C-4234483	Supply Reel Shaft	PX-296	1
2	C-359921	PX Reel Table, w/bush	PX-202	1
3	C-359932	Reel Table Rubber Plate	PX-203	1
4	C-422684	Reel Table S	PX-282	1
5	C-356782	Screw, pan head 2.3 x 4		3
6	C-422695	Take-up Drum	PX-291	1
7	C-422706	Take-up Felt	PX-283	1
8	C-422717	Take-up Spring	PX-284	1
9	C-422752	Take-up Spring Holder	PX-285	1
10	C-422796	Washer (Nylon)		1
		4.6 x 8 x 0.5t		
11	C-290283	"U" Ring 2.85M	6-1-1	1
12	C-422796	Washer (Nylon)		1
		4.6 x 8 x 0.5t		
13	C-422774	Reel Metal Case, w/Metal T	PX-297B	1
14	C-422796	Washer (Nylon)		1
		4.6 x 8 x 0.5t		
15	C-270101	"E" Ring 3.0M	6-1-9	1
16	C-222390	Rubber Washer 0.5t	BT-113	1
17	C-256138	Reel Retainer B	BT-110	1
18	C-255622	Reel Spring	BT-111	1
19	C-259413	Washer (APL) 2.7x4.9x1t	BT-112	1
20	C-270088	"E" Ring 1.9M	6-1-9	1

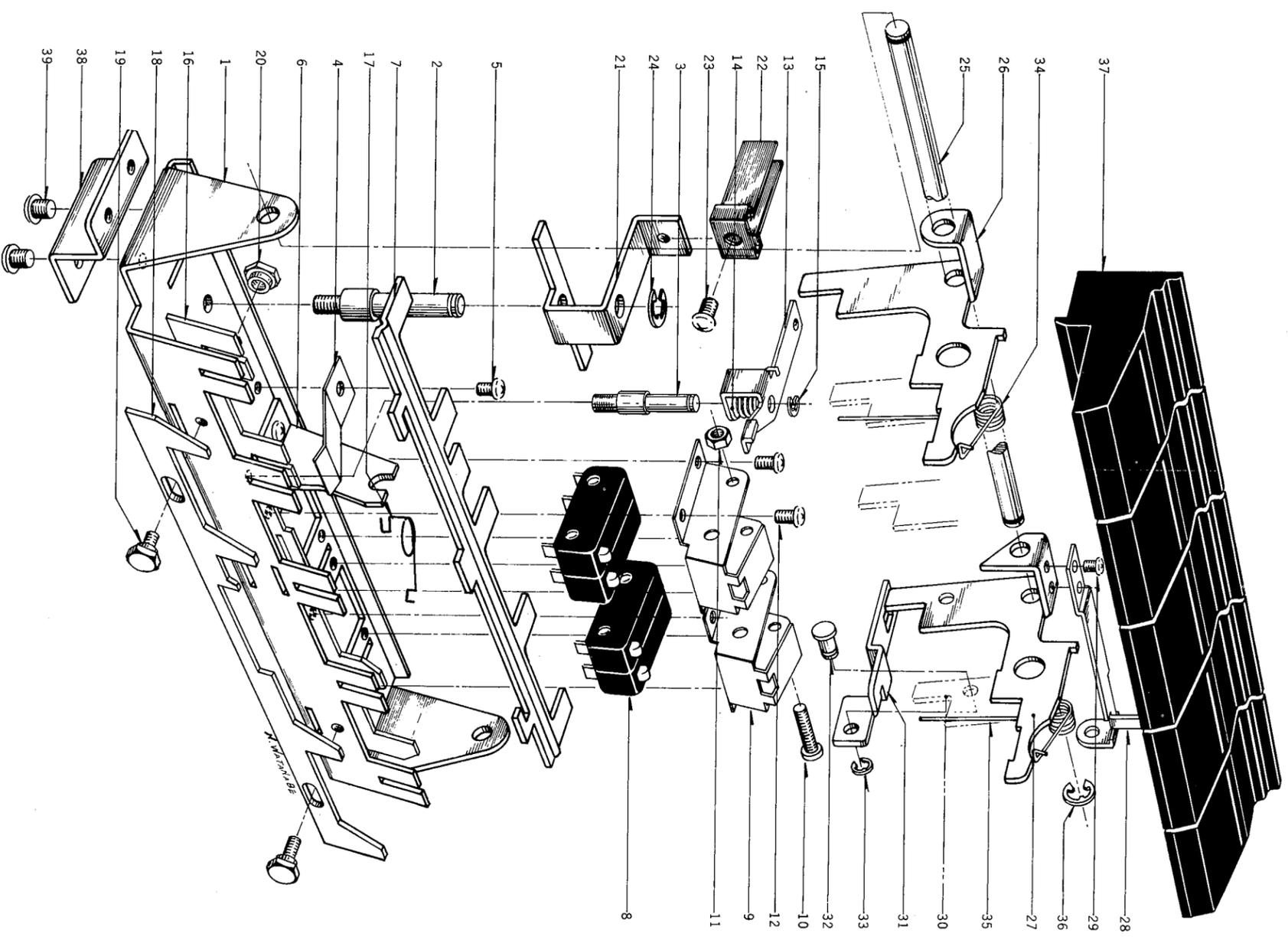
**TAKE-UP REEL TABLE BLOCK**

Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	C-423415	Take-up Reel Table Block Comp.	PXA	1
21	C-423494	Take-up Reel Shaft	PX-286B	1
22	C-359921	PX Reel Table, w/bush	PX-202	1
23	C-359932	Reel Table Rubber Plate	PX-203	1
24	C-422730	Reel Table T	PX-282B	1
25	C-356782	Screw, pan head 2.3 x 4		3
26	C-422695	Take-up Drum	PX-291	1
27	C-422706	Take-up Felt	PX-283	1
28	C-422717	Take-up Spring	PX-284	1
29	C-422752	Take-up Spring Holder	PX-285	1
30	C-422796	Washer (Nylon)		1
		4.6 x 8 x 0.5t		
31	C-422741	Claw Washer (SUP)	PX-283B	1
		0.25t		
32	C-290283	"U" Ring 2.85M	6-1-1	1
33	C-422796	Washer (Nylon)		1
		4.6 x 8 x 0.5t		
34	C-422774	Reel Metal Case, w/Metal T	PX-297B	1
35	C-422796	Washer (Nylon)		1
		4.6 x 8 x 0.5t		
36	C-270101	"E" Ring 3.0M	6-1-9	1
37	C-222390	Rubber Washer 0.5t	BT-113	1
38	C-256138	Reel Retainer B	BT-110	1
39	C-255622	Reel Spring	BT-111	1
40	C-259413	Washer (ALP) 2.7x4.9x1t	BT-112	1
41	C-270088	"E" Ring 1.9M	6-1-9	1

**KEYBOARD BLOCK**

Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	D-430615	Keyboard Block (VT-110) Assy. Comp.	PXA	1
-	D-438434	Keyboard Block (VT-100S) Assy. Comp.	PXS	1
1	D-435060	Button Guide B	PX-A311	1
2	D-360797	FF Changing Shaft	PX-302	1
-	D-273756	M3 Nut		2
3	D-422098	Release Lever Shaft	PX-A305	1
4	D-360808	Plate Spring	PX-303	1
5	D-356668	Screw, binding head 2.3 x 4		2
6	D-360810	Supporting Plate	PX-304	1
7	D-360832	Button Lock Plate A	PX-306	1
8	D-356916	Micro Switch		4
		SL-2 AC5A 125V		
9	D-360821	Switch Mounting Plate	25-1-17	4
10	D-356670	Screw, binding head 2.3 x 1.5	PX-305	2
11	D-273668	M2.3 Nut		4
12	D-201475	Screw, pan head 2 x 3		8
13	D-422875	Release Lever	PX-A306	1
14	D-428635	Release Lever Spring	PX-A307	1
15	D-270088	"E" Ring 1.9M	6-1-9	1
16	D-434351	Slide Plate A	PX-A310	1
17	D-360854	Slide Plate Springs	PX-308	1
18	D-422853	Slide Plate B	PX-A301	1
19	D-432584	Draduated Screw, Slide Plate	PX-A309	2
20	D-432911	Nut, Slide Plate	PX-A308	2
21	D-360944	FF Changing Plate	PX-317	1
22	D-360955	Changing Plate Spring	PX-318	1
23	D-356668	Screw, binding head 2.3 x 4		1
24	D-270101	"E" Ring 3.0M	6-1-9	1
25	D-360876	Button Guide Shaft	PX-310	1
26	D-360898	Button Lock Plate C	PX-312	3
27	D-360887	Button Lock Plate B-1 (VT-110)	PX-311	1
28	D-422886	Sub Lock Plate (VT-110)	PX-A308	1
29	D-391386	Screw, pan head 2.3 x 3		2
		(VT-110)		
30	D-435115	Button Lock Plate B-2 (VT-110)	PX-311	1
		(VT-100S)		
31	D-360900	Switch Changing Plate	PX-311	2
32	D-360911	Switch Changing Shaft	PX-313	1
33	D-356657	"E" Ring 1.5M	6-1-9	1
34	D-360922	Button Spring	PX-315	4
35	D-360933	REC Return Spring	PX-316	1
36	D-357164	"E" Ring 2.3M	6-1-9	2
37	D-360966	Operation Button	PX-319	5
38	D-422021	Button Guide Mounting Plate (Left)	PX-A134	1
		Plate (Right)	PX-A136	1
39	D-201925	Screw, binding head 2.3 x 5		4
		Screw, binding head 3 x 5		4

**ILLUSTRATION OF KEYBOARD BLOCK**



When you order these parts, Please describe their Parts No. and Serial No. in detail.

# ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
<b>FF IDLER LEVER (A) BLOCK</b>					<b>TAKE-UP ROLLER BLOCK</b>				
-	E-358615	FF Idler Lever (A)			-	H-423371	Take-up Roller		
		Block Comp.	PX	1			Block Comp.	PXA	1
1	E-360663	FF Idler A Lever, w/Shaft	PX-270.1	1	27	H-422548	Take-up Pulley Arm,		
2	E-360685	Pressure Plate	PX-272	1			w/Shaft	PX-243	1
3	E-360696	Pressure Roller	PX-273	1	28	H-422605	Take-up Puller	PX-282	1
4	E-360707	Pressure Roller Shaft	PX-274	1	-	H-259773	Washer (Nylon)		
-	E-356657	"E" Ring 1.5M	6-1-9	1			4.1 x 7 x 0.5t		2
5	E-355544	Screw, binding head 2 x 4		2	-	H-270101	"E" Ring 3.0M	6-1-9	1
-	E-259773	Washer (Nylon)			29	H-422561	Take-up Roller Arm B,		
		4.1 x 7 x 0.5t		1			w/Shaft B	PX-245	1
6	E-360718	FF Idler A	PX-275	1	30	H-360584	Drive Idler	PX-262	1
-	E-259740	Washer (SUP)			31	H-259773	Washer (Nylon)		
		4.1 x 7 x 0.25t		1			4.1 x 7 x 0.5t		2
-	E-270101	"E" Ring 3.0M	6-1-9	1	32	H-270101	"E" Ring 3.0M	6-1-9	1
-	E-359638	FF Idler A Spring	PX-146	1	33	H-422572	Take-up Roller Arm		
							Adjusting Plate	PX-245B	1
					-	H-356668	Screw, binding head		
							2.3 x 4		1
<b>SUB PINCH ROLLER BLOCK</b>					34	H-360617	Pressure Arm	PX-265	1
<del>7</del>	<del>F-358637</del>	Sub Pinch Roller			35	H-360628	Joint Shaft	PX-266	1
		Block Comp.	PX	1	36	H-360630	Take-up Torque Adjusting		
7	F-360314	Sub Pinch Roller Arm	PX-236	1			Screw A	PX-267	1
8	F-360325	Sub Pinch Roller Plate	PX-237	1	37	H-360641	Take-up Torque Adjusting		
9	F-422076	Screw, pan head 3 x 5		2			Screw B	PX-268	1
-	F-360336	Sub Pinch Roller Shaft	PX-238	1	38	H-360652	Take-up Idler Spring	PX-269	1
-	F-355590	Screw, countersunk			-	H-321513	Washer (Nylon)		
		head 2.6 x 6		1			2.6 x 8 1t		1
10	F-359313	Sub Pinch Roller Arm Prop	PX-116	1	-	H-356657	"E" Ring 1.5M	6-1-9	1
11	F-270101	"E" Ring 3.0M	6-1-9	1	39	H-427127	Take-up Roller Arm Shaft	PX-A160	1
12	F-359730	Sub Pinch Roller Spring	PX-156	1	40	H-427116	Take-up Roller Arm		
13	F-359741	Spring Arm	PX-157	1			Shaft Collar	PX-A161	1
14	F-417227	Screw, binding head			41	H-422550	Take-up Arm Spring A	PX-244	1
		2.3 x 5		1	42	H-402557	Washer (Nylon)		
							4.1 x 7 x 0.2t		1
					43	H-357164	"E" Ring 2.3M	6-1-9	1
					44	H-422627	Take-up Belt	PX-182	1
<b>MAIN PINCH ROLLER BLOCK</b>					<b>VIDEO CHANGING SWITCH BLOCK</b>				
-	G-358626	Main Pinch Roller Block			45	I-422458	Connector Panel	PX-A108	1
		Assy. Comp.	PX	1	-	I-358064	10P Connector		
15	G-374602	Plunger Solenoid					RM15TRG-10S	31-166	1
		1040FHT	44-1-44	1	-	I-422471	Slide Switch SL-B262B	25-3-38	1
-	G-375592	Silicon Diode V06B	45-2-35	1	-	I-422493	Video Changing Switch		
16	G-360235	Plunger Bracket	PX-231	1			P.C. Board	PX-A148	1
-	G-424124	Screw, countersunk			-	I-422515	Carbon Resistor RD1/8		
		head 3 x 5		2			330K K	35-9-13	1
17	G-360246	Pinch Roller Lever	PX-232	1	-	I-422504	Carbon Resistor RD1/8		
-	G-360257	Pinch Roller Joint Pin	PX-233	1			75Ω J	35-9-13	1
-	G-270088	"E" Ring 1.9M	6-1-9	1	-	I-430413	Screw, countersunk head		
18	G-259514	Washer (Nylon)					2.6 x 4		2
		3.1 x 8 x 1t	BT-104	1	46	I-422482	Volume V12M4-1S (SJ)		
-	G-259503	Washer (Nylon)					7S-B 100K	36-25-2	1
		3.1 x 8 x 0.5t	BT-104	4	47	I-207358	Earphone Jack D3.5	31-2-15	1
19	G-360292	Pinch Roller Return Spring	PX-234	1	-	I-422537	Nylon Collar, Jack D3.5	PX-A147	1
20	G-360156	Pinch Roller Arm	PX-223	1	-	I-430402	Washer (Nylon)		
21	G-360303	Pinch Roller Spring	PX-235	1			6.2 x 10 x 0.5t		1
22	G-273756	M3 Nut		3	<b>SLIDE SWITCH BLOCK</b>				
23	G-359302	Pinch Roller Arm Prop	PX-115	1	-	J-430626	Slide Switch Block Comp.		
24	G-270123	"E" Ring 4.0M	6-1-9	1			(VT-110)	PXA	1
25	G-360167	Pinch Roller Shaft	PX-224	1	-	J-438423	Slide Switch Block Comp.		
-	G-360178	Pinch Roller Washer	PX-225	1			(VT-100S)	PXS	1
26	G-360213	Pinch Roller Plate,			48	J-422324	Switch Mounting Plate A,		
		w/Pin	PX-229	1			w/Shaft,	PX-A201	1
-	G-201925	Screw, binding head							
		2.3 x 5		2					

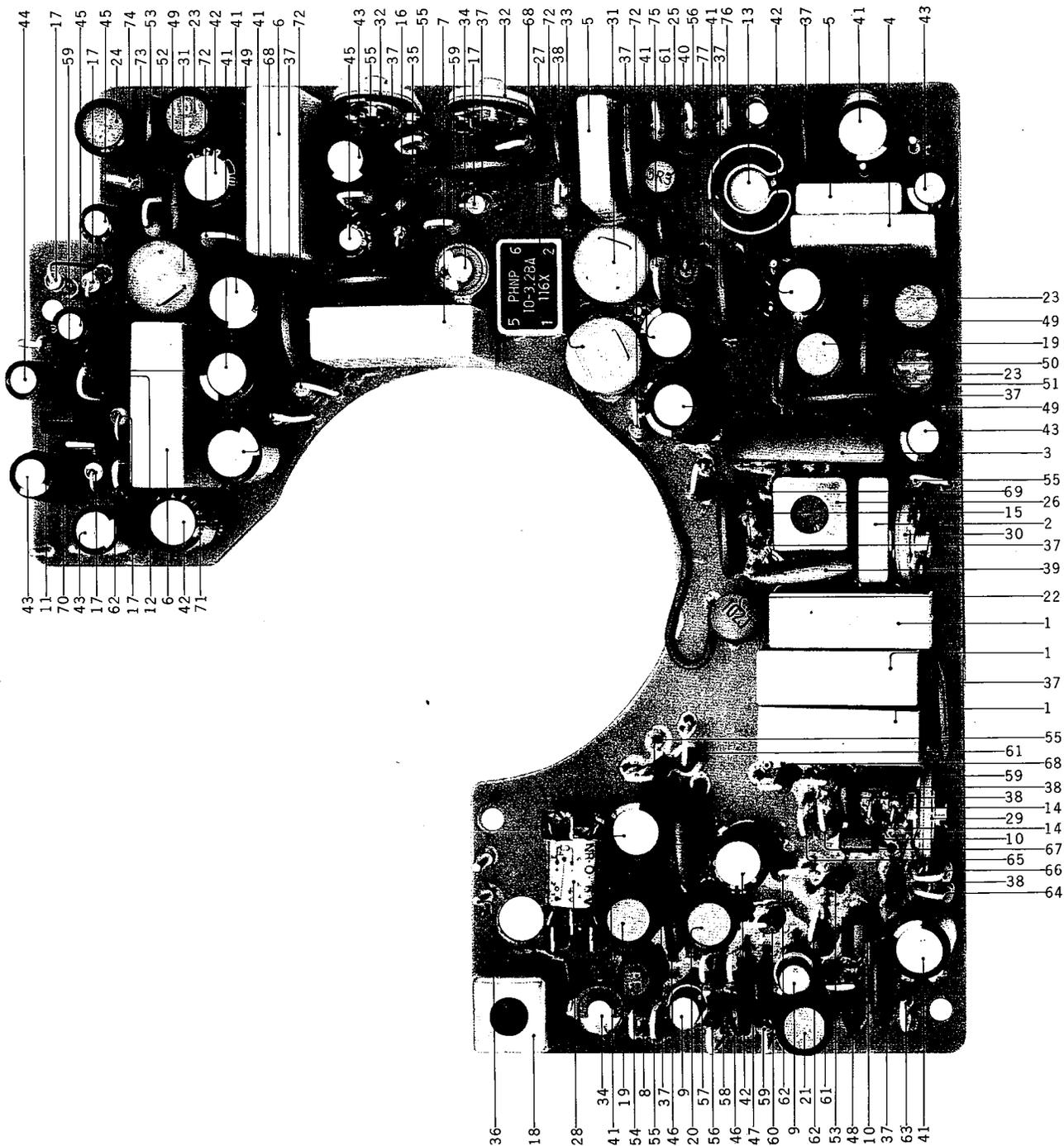
Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
49	J-422368	Lock Arm Spring	PX-A203	1	-	K-270101	"E" Ring 3.0M	6-1-9	2
50	J-422346	Lock Arm, w/Pin	PX-A204	1	75	K-399238	Brake Lever	PX-289	1
-	J-430446	Washer (Nylon) 3.1 x 8 x 0.25t		1	76	K-360437	Brake Spring	PX-248	1
-	J-270088	"E" Ring 1.9M	6-1-9	1	-	K-259773	Washer (Nylon) 4.1 x 7 x 0.5t		2
51	J-422436	Slide Switch SL-222B4C	25-3-40	1	-	K-260201	Washer (Nylon) 6.2 x 13 x 1t		2
52	J-365940	Screw, binding head 2.3 x 3		2	77	K-270101	"E" Ring 3.0M	6-1-9	2
53	J-422414	Slide Switch SL-242B4BD	25-3-39	1	78	K-422651	Brake Lever A	PX-242	1
-	J-331435	Lug Plate VB2L	33-4-6	1	79	K-422662	Brake Lever B	PX-242	1
54	J-422381	Slide Plate Shaft	PX-A206	2	80	K-422673	Brake Rubber Bush	PX-299	2
55	J-422370	Slide Plate	PX-A208	1	81	K-360437	Brake Spring	PX-248	2
56	J-422392	Slide Switch Return Spring	PX-A207	1	82	K-270101	"E" Ring 3.0M	6-1-9	2
57	J-430446	Washer (Nylon) 3.1 x 8 x 0.25t		2	-	K-434395	Brake Off Lever Comp.	PX-A174	1
58	J-357164	"E" Ring 2.3M	6-1-9	2	83	K-359526	Brake Off Lever A, w/Metal	PX-135.6	1
-	J-439650	Switch Mounting Plate B (VT-100S)	PX-A201	1	84	K-359548	Brake Off Lever A-2	PX-137	1
-	J-422436	Slide Switch SL-222B4C	25-3-40	1	85	K-394525	Screw, binding head 2 x 3		2
-	J-365940	Screw, binding head 2.3 x 3		2					
<b>ASSEMBLY BLOCK</b>									
59	K-421986	Assembly Base Prop	PX-A153	1	86	K-359550	Brake Off Lever B, w/Metal	PX-138.9	1
-	K-413741	Screw, binding head 3 x 8		1	87	K-270088	"E" Ring 1.9M	6-1-9	1
-	K-359280	Mech. Panel Prop	PX-113	1	-	K-259738	Washer (Polyslider) 4.1 x 7 x 0.25t		1
-	K-323728	Screw, binding head 3 x 5		2	88	K-270101	"E" Ring 3.0M	6-1-9	1
60	K-359291	Tape Guide	PX-114	1	-	K-434428	FF Idler B Lever Comp.	PX-A172	1
61	K-422245	Counter Bracket Column	PX-A106	2	89	K-359583	FF Lever, w/Metal	PX-141.3	1
-	K-413155	Screw, binding head 3 x 6		4	90	K-359640	FF Idler B	PX-147	1
62	K-422010	Guide Roller Shaft	PX-A138	1	91	K-402557	Washer (Nylon) 4.1 x 7 x 0.2t		2
-	K-273756	M3 Nut		1	92	K-270101	"E" Ring 3.0M	6-1-9	2
63	K-422313	Switch Retaining Collar A	PX-A105	1	93	K-394852	FF Belt	PX-150	1
64	K-422302	Switch Retaining Collar B	PX-A105	1	-	K-434430	RWD Idler Comp.	PX-A171	1
65	K-422100	RWD Lever Shaft	PX-A104	1	94	K-422054	RWD Lever, w/Shaft	PX-A112	1
-	K-359414	P.C. Board Prop A (L=26)	PX-126	4	-	K-259773	Washer (Nylon) 4.1 x 7 x 0.5t		2
-	K-359425	P.C. Board Prop B (L=30)	PX-126	2	95	K-359706	RWD Idler	PX-153	1
66	K-359436	P.C. Board Prop C (L=34)	PX-126	4	96	K-270101	"E" Ring 3.0M	6-1-9	2
-	K-359447	PX P.C. Board Prop E	PX-127	1	97	K-360437	Brake Spring	PX-248	1
-	K-200384	Screw, countersunk head 3 x 6		6	98	K-422111	Micro Switch MT-10AT	25-1-21	1
-	K-323728	Screw, binding head 3 x 5		5	99	K-393726	Screw, truss head 3 x 10		1
67	K-359190	Mech. Retaining Angle A	PX-104	1	100	K-422447	Slide Switch S-4900	25-3-42	1
-	K-359458	P.C. Board Retaining Angle	PX-128	1	101	K-344351	Screw, countersunk head 2 x 4		2
68	K-359460	Pinch Roller Lever Stopper	PX-129	1	-	K-434406	Tension Plate Comp.	PX-A173	1
-	K-201925	Screw, binding head 2.3 x 5		2	102	K-422144	Tension Plate, w/Collar	PX-A125.6	1
69	K-422043	Keyboard Supporting Angle B	PX-A135	1	103	K-422188	Tension Bar A	PX-A127	1
-	K-323728	Screw, binding head 3 x 5		1	104	K-422177	Tension Bar Holder	PX-A128	1
70	K-434294	Shut-off Lever Comp.	PX-A176 to 179	1	105	K-422190	Tension Adjuster	PX-A129	1
-	K-402557	Washer (Nylon) 4.1 x 7 x 0.2t		1	106	K-356668	Screw, binding head 2.3 x 4		1
71	K-259773	Washer (Nylon) 4.1 x 7 x 0.5t		1	107	K-422122	Tension Bar B	PX-A131	1
72	K-270101	"E" Ring 3.0M	6-1-9	1	108	K-270088	"E" Ring 1.9M	6-1-9	2
-	K-394560	Head Assy. Base Table B	PX-177	1	109	K-427105	Tension Bar A Stopper	PX-A159	1
-	K-413155	Screw, binding head 3 x 6		4	110	K-417216	Screw, pan head 3 x 4		1
73	K-359504	FF Slide Lever	PX-133	1	111	K-422897	Release Arm Plate, w/Arm A	PX-A139	1
74	K-359515	FF Slide Lever Spring	PX-134	1	112	K-360865	Slide Plate Shaft	PX-309	1
-	K-259773	Washer (Nylon) 4.1 x 7 x 0.5t		2	113	K-422201	Release Arm, w/Shaft	PX-A123	1
-	K-260201	Washer (Nylon) 6.2 x 13 x 1t		2	114	K-422166	Tension Plate Wire	PX-A130	1
					115	K-357164	"E" Ring 2.3M	6-1-9	1
					116	K-356668	Screw, binding head 2.3 x 4		1
					117	K-422223	Return Spring	PX-A132	1

When you order these parts, Please describe their Parts No. and Serial No. in detail

Ref. No.	Parts No.	Description	Schematic No.	Quantity
118	K-359493	Connection Metal Fitting	PX-132	3
119	K-414033	Screw, contersunk head 3 x 8		6
—	K-434441	Monitor Connector Comp.	PX-A170	1
120	K-359820	Connector Mounting Plate L	PX-165	1
121	K-359818	Connector Cover	PX-164	1
122	K-358086	8P Connector MB-8S-7.5A-1	31-1-63	1
123	K-323728	Screw, binding head 3 x 5		2
124	K-358097	Seesaw Switch SJ-1253 (SA2050N)	25-2-10	1
125	K-371856	ISO Screw, binding head 3 x 5		2
126	K-361440	Battery Checker MO-48	46-1-13	1
127	K-359831	Checker Fastener	PX-166	1
128	K-358075	Earphone Jack	31-2-15	1
129	K-422460	Decorative Plate (VT-110)	PX-A109	1
—	K-438197	Decorative Plate (VT-100S)	PX-A109	1
130	K-379001	5P DIN Jack S-I 8123	31-1-24	1
131	K-323728	Screw, binding head 3 x 5		2
—	K-419848	Screw, binding head 2.3 x 3		3
—	K-359864	Switch Retaining Plate	PX-169	1
132	K-413255	Screw, binding head 3 x 6		2
133	K-423505	Back Tension Supporting Plate	PX-A152	1
134	K-422818	Plate Spring, Back Tension	PX-A150	1
—	K-422820	Felt, Back Tension	PX-A151	1
135	K-394525	Screw, binding head 2 x 3		2
—	K-422831	Reel Shaft Cover	PX-A149	1
—	K-255082	Lug Plate VBL2	33-4-10	1
—	K-349558	Ferri-Inductor FL9H 1.5MH (J)	23-1-4	1
—	K-434452	Intermediate Pulley Comp.	PX-A168	1
136	K-422256	Intermediate Pulley Shaft	PX-A107	1
137	K-422291	Intermediate Pulley	PX-A113	1
—	K-374534	Washer (Nylon) 3x5x0.5t		1
138	K-270088	"E" Ring 1.9M	6-1-9	1
—	K-357658	M2.6 Nut		1
139	K-422280	Tape Counter KMP-393 TCS-2219113	9-1-15	1
140	K-422234	Counter Bracket	PX-A114	1
—	K-430773	Screw, round head 2 x 4		2
141	K-417352	Screw, pan head 3 x 6		2
142	K-422267	Counter Belt A	PX-A115	1
143	K-422278	Counter Belt B	PX-A116	1
—	K-430784	Fuse Retaining Plate Comp.	PX-A166	1
—	K-429456	Fuse Retaining Plate	PX-A163	1
—	K-358031	Fuse 125V 4A	39-1-31	1
—	K-359785	Fuse Retaining P.C. Board	PX-161	1
—	K-356668	Screw, binding head 2.3 x 4		2
—	K-403053	Transistor 2SD234 (O) (Power Supply)	45-1-81	1
—	K-314403	Nylon Clip HP-2N		3
—	K-359201	Mech. Retaining Angle B (Rear Centre)	PX-105	1
—	K-359223	Mech. Retaining Angle D (Rear Left)	PX-107	1
—	K-359234	Mech. Retaining Angle E (Rear Right)	PX-108	1
144	K-422008	Mech. Retaining Angle	PX-A133	2
145	K-355500	Screw, binding head 2.6 x 5		10

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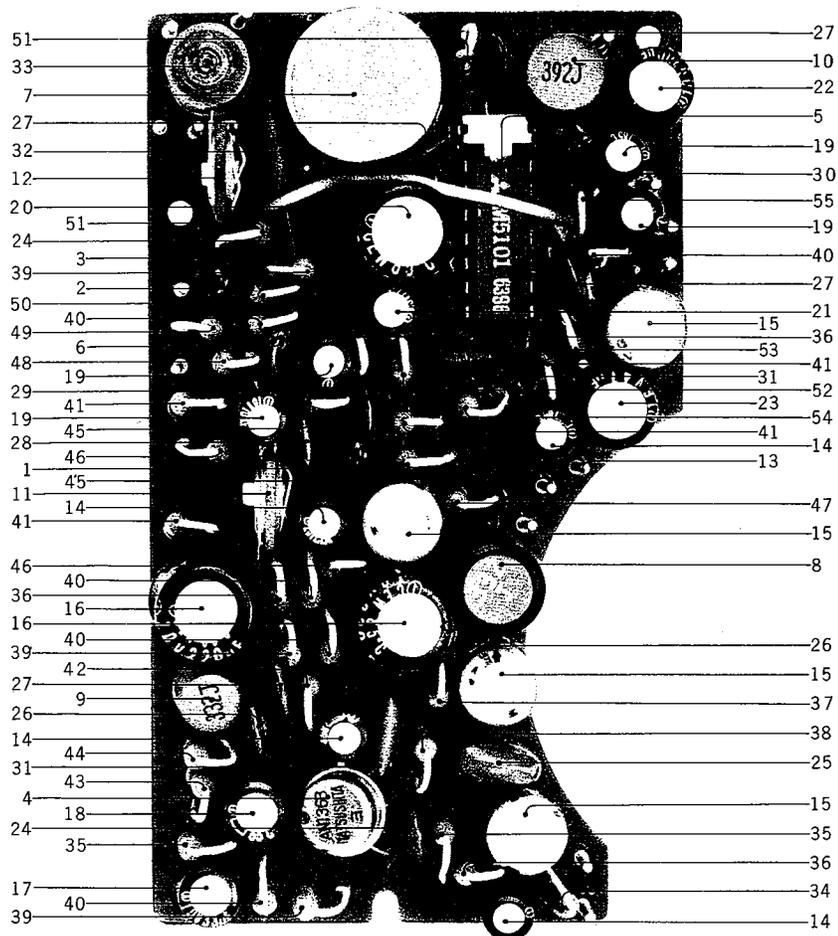
PHOTO OF VIDEO P.C. BOARD (PX-A503)



## VIDEO P.C. BOARD (PX-A503) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	L-423360	Video P.C. Board (US) Assy. Comp.	PX-A503	1	40	L-423797	Ceramic TLD08F. 0.02 $\mu$ Z 25WV	4049	1
-	L-430716	Video P.C. Board (CCIR) Assy. Comp.	PX-A503	1	41	L-220105	Electrolytic 100 $\mu$ F 10WV	4002,13,17, 26,31,34,40, 46	8
1	L-423123	I.C. EHD-AW161G	IC4001.2,3	3	42	L-320040	Electrolytic 47 $\mu$ F 16WV	4008,24,30, 39	4
2	L-361462	I.C. P-2	IC4004	1	43	L-220590	Electrolytic 33 $\mu$ F 10WV	4019,25,27, 29,43	5
3	L-361473	I.C. GR-118	IC4005	1	44	L-220465	Electrolytic 22 $\mu$ F 6.3WV	4028	1
4	L-361484	I.C. P-4	IC4006	1	45	L-450055	Electrolytic 1 $\mu$ F 25WV	4032,33,42	3
5	L-357917	I.C. P-5 (AE-163)	IC4007.11	2	46	L-250885	Mylar 0.01 $\mu$ F (K) 50WV	4001.5	2
6	L-361506	I.C. R-1	IC4008.9	2	47	L-250604	Mylar 0.001 $\mu$ F (K) 50WV	4004	1
7	L-361517	I.C. GR-117	IC4010	1	48	L-250582	Mylar 0.0033 $\mu$ F (K) 50WV	4006	1
8	L-423224	Transistor 2SK19BL	TR4001	1	49	L-350616	VFM 50PF (J) 50WV	4020,23,36, 38	4
9	L-350392	Transistor 2SC645(B)	TR4002.3	2	50	L-350638	VFM 180PF (J) 50WV	4021	1
10	L-380430	Transistor 2SC460(C)	TR4004.5	2	51	L-451462	VFM 150PF (J) 50WV	4022	1
11	L-329218	Transistor 2SC458(C)	TR4006	1	52	L-310792	VFM 120PF (J) 50WV	4035	1
12	L-380834	Transistor 2SC711(E)	TR4007	1	53	L-290520	VFM 100PF (J) 50WV	4037	1
13	L-338894	Transistor 2SC968(3)	TR4008	1					
-	L-361697	Heat-Sink Plate R-1A	45-7-2	1					
14	L-420120	Silicon Doide 1S2144(A) (Special)	D4001.2	2					
15	L-374692	Silicon Diode SD-13	D4003	1					
16	L-373432	Silicon Diode 1S2144(A)	D4008	1					
17	L-219464	Germanium Diode 1N34A	D4004 to 7,9	5					
18	L-423235	RF Ciol 14S048	L4001	1	54	L-212264	RD1/4 22K J	4001	1
19	L-361888	Inductor FS0810S 180 $\mu$ H J	L4002.7	2	55	L-357412	RD1/4 220 $\Omega$ J	5002,3,19, 30,32	5
20	L-423246	Inductor FS0810S 220 $\mu$ H J	L4003	1	56	L-306843	RD1/4 1.2K J	4004,37	2
21	L-428703	Inductor FS0810S 1mH J	L4004	1	57	L-357456	RD1/4 2.2K J	4005	1
22	L-243977	Ferri-Inductor FL7H 1mH J	L4005	1	58	L-349942	RD1/4 8.2KJ	4006	1
23	L-357772	Inductor FS0810S 100 $\mu$ H J	L4006,8,10	3	59	L-336442	RD1/4 10K J	4007,18,24, 31	4
24	L-361890	Inductor FS0810S 39 $\mu$ H J	L4009	1	60	L-357491	RD1/4 82K J	4008	1
25	L-375581	Ferri-Inductor FL4H 3.3 $\mu$ H K	L4011	1	61	L-211667	RD1/4 100 $\Omega$ J	4009,12,36	3
26	L-361822	Transformer SNY-1352	T4001	1	62	L-343078	RD1/4 2.7K J	4010,22,41	3
27	L-355746	Transformer PHNP10-32BA	T4002	1	63	L-211320	RD1/4 1.5K J	4011	1
28	L-375625	Relay NR-0-6V	RL4001	1	64	L-211858	RD1/4 12K J	4013	1
29	L-423257	Semi-variable Volume V101KR 20KB	VR4001	1	65	L-419556	RD1/4 43K J	4014	1
30	L-399993	Semi-variable Volume V101KR 200 $\Omega$ B	VR4002	1	66	L-212681	RD1/4 330 $\Omega$ J	4015	1
31	L-361800	Semi-variable Volume SV10KR 470 $\Omega$ B	VR4003.7	2	67	L-213467	RD1/4 820 $\Omega$ J	4016	1
32	L-402513	Semi-variable Volume V101KR 1KB	VR4004.5	2	68	L-304402	RD1/4 470 $\Omega$ J	4017,23,33	3
33	L-361798	Semi-variable Volume SV10KR 100 $\Omega$ B	VR4006	1	69	L-361563	RD1/4 180 $\Omega$ J	4020	1
34	L-423268	Trimmer Condenser CV09 D200 20PF	TC4001.2	2	70	L-342933	RD1/4 27K J	4021	1
35	L-361844	Thermistor 22D27	TH4001	1	71	L-306887	RD1/4 15K J	4025	1
36	L-376648	P.C Board Terminal	PX-501	11	72	L-361642	RD1/4 47 $\Omega$ J	4026,29,34, 35	4
-	L-350447	Test Terminal	PX-544	1	73	L-380755	RD1/4 6.2K J	4027	1
		Capacitor, Vertical Type	C		74	L-211465	RD1/4 1K J	4028	1
37	L-350594	Ceramic TLD14F 0.1 $\mu$ Z 25WV	4003,12,14, 16,18,41,44, 45,48,50,51	11	75	L-324202	RD1/4 5.1K J	4038	1
38	L-374218	Ceramic TLD07F 0.01 $\mu$ Z 25WV	4007,10,11, 47	4	76	L-304290	RD1/4 10 $\Omega$ J	4039	1
39	L-361732	Ceramic DD620BC-12 0.5 $\mu$ F 12WV	4015	1	77	L-361686	Solid RC1/2W 68 $\Omega$ K	4040	1

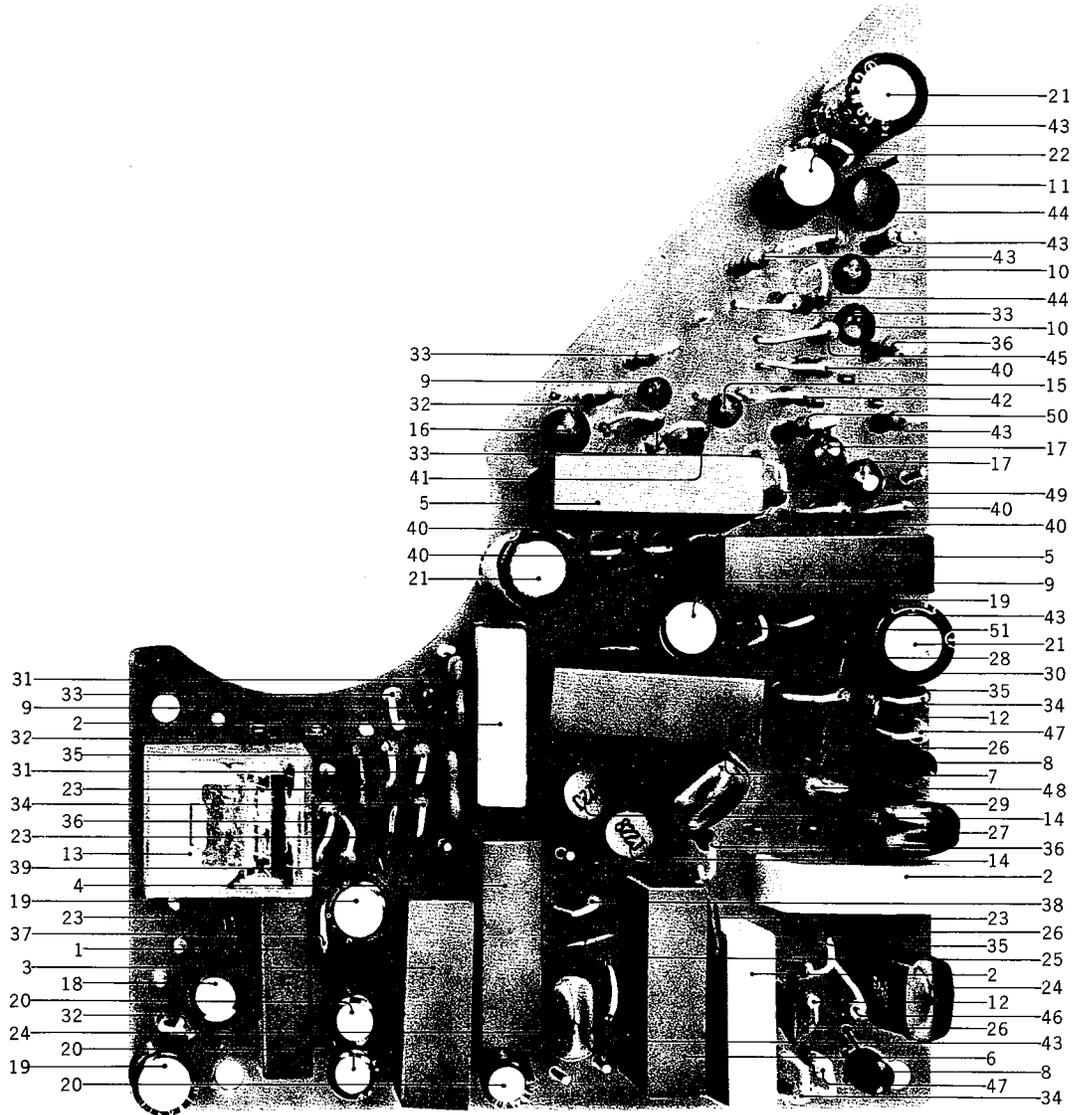
PHOTO OF AUDIO P.C. BOARD (PX-A502)



## AUDIO P.C. BOARD (PX-A502) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	M-423358	Audio P.C. Board			47	M-361642	RD1/4 47Ω J	5019	1
		Assy. Comp.	PX-A502	1	48	M-211667	RD1/4 100Ω J	5023	1
1	M-361923	Transistor 2SC536(E)	TR5001	1	49	M-362024	RD1/4 820K J	5025	1
2	M-423180	Transistor 2SA610(4)	TR5002	1	50	M-346994	RD1/4 18K J	5027	1
3	M-399846	Transistor 2SC945(Q)	TR5003	1	51	M-357456	RD1/4 2.2K J	5030,37	2
4	M-329207	I.C. Line Amp. AN136B(Q)	IC5001	1	52	M-357412	RD1/4 220Ω J	5031	1
5	M-361934	I.C. M5101P	IC5002	1	53	M-212016	RD1/4 150Ω J	5033	1
6	M-219464	Germanium Diode 1N34A	D5001	1	54	M-450011	RD1/4 120K J	5034	1
7	M-362114	Transformer SNY-1424	T5001	1	55	M-213030	RD1/4 5.6K J	5035	1
8	M-362092	Inductor FS1012S							
		3.3MH (J) 332J	L5002	1					
9	M-243988	Ferri-Inductor FL7H							
		3.3MH (J)	L5001	1					
10	M-362103	Ferri-Inductor FL9H							
		3.9MH (J)	L5003	1					
11	M-357873	Semi-variable Volume							
		EVL-TOA 50KB	VR5001	1					
12	M-362081	Semi-variable Volume							
		EVL-TOA 100KB	VR5002	1					
13	M-376648	P.C. Board Terminal	PX-501	17					
		Capacitor, Vertical Type	C						
14	M-220432	Electrolytic 2.2μF							
		25WV	5001,13,15,26	4					
15	M-220364	Electrolytic 100μF							
		6.3WV	5003,4,16,28	4					
16	M-329782	Electrolytic 220μF							
		10WV	5007,9	2					
17	M-220590	Electrolytic 33μF 10WV	5008	1					
18	M-331705	Electrolytic 22μF 16WV	5010	1					
19	M-320051	Electrolytic 10μF 16WV	5019,21,24,30	4					
20	M-343236	Electrolytic 330μF 6.3WV	5020	1					
21	M-220465	Electrolytic 22μF 6.3WV	5023	1					
22	M-220105	Electrolytic 100μF 10WV	5025	1					
23	M-335485	Electrolytic 47μF 16WV	5032	1					
24	M-250604	Mylar 0.001μF (K) 50WV	5002,22	2					
25	M-313323	Mylar 0.068μF (K) 50WV	5005	1					
26	M-362068	Mylar 0.0018μF (K)							
		50WV	5011,14	2					
27	M-250885	Mylar 0.01μF (K) 50WV	5012,29,33,34	4					
28	M-250661	Mylar 0.0015μF (K)							
		50WV	5017	1					
29	M-357232	Mylar 0.0039μF (K)							
		50WV	5018	1					
30	M-362125	Mylar 0.0056μF (K)							
		50WV	5031	1					
31	M-290564	VFM 220PF (K) 50WV	5006,27	2					
32	M-363688	FM 100P (K) 500WV	5036	1					
33	M-423191	Styrol 3300PF (J) 250WV	5035	1					
		Carbon Resistor, Stopper Type	R						
34	M-361980	RD1/4 620Ω J	5001	1					
35	M-357570	RD1/4 150K J	5002,9	2					
36	M-211465	RD1/4 1K J	5003,11,29	3					
37	M-352045	RD1/4 3.9K J	5004	1					
38	M-363644	RD1/4 560Ω J	5005	1					
39	M-346601	RD1/4 47K J	5006,14,28	3					
40	M-336442	RD1/4 10K J	5007,15,16,24, 32	5					
41	M-304402	RD1/4 470Ω J	5008,20,22,36	4					
42	M-211757	RD1/4 100K J	5010	1					
43	M-212681	RD1/4 330Ω J	5012	1					
44	M-357535	RD1/4 39K J	5013	1					
45	M-450865	RD1/4 12K J	5017,21	2					
46	M-361528	RD1/4 56K J	5018,26	2					

PHOTO OF SERVO P.C. BOARD (PX-A505)

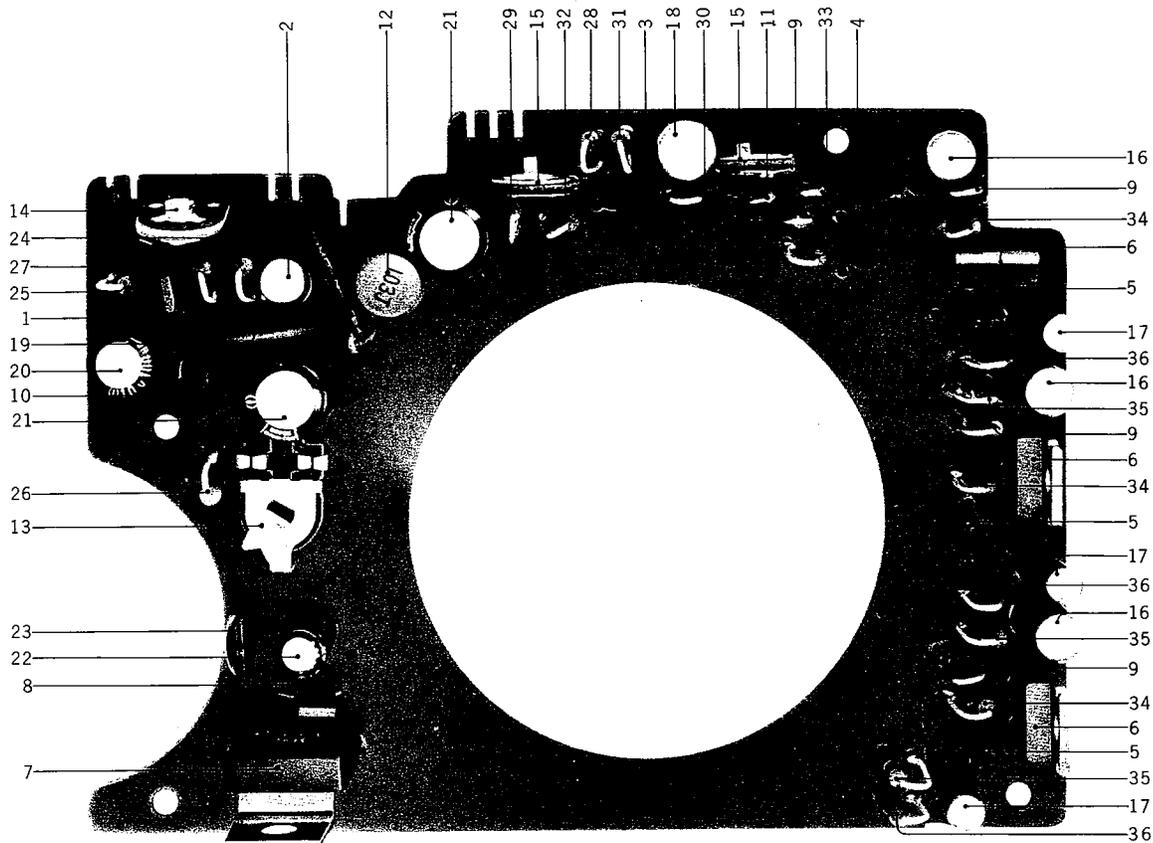


## SERVO P.C. BOARD (PX-A505) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	N-423336	Servo P.C. Board (US) Assy. Comp.	PX-A505	1	41	N-361528	RD1/4 56K J	6011	1
-	N-430683	Servo P.C. Board (CCIR) Assy. Comp.	PX-A505	1	42	N-304402	RD1/4 470Ω J	6015	1
1	N-362351	I.C. HA-113	IC6001	1	43	N-211465	RD1/4 1K J	6016,19,21,25,26,40	6
2	N-362362	I.C. FF-10	IC6002,7,8	3	44	N-211667	RD1/4 100Ω J	6020,22	2
3	N-362373	I.C. D-2114	IC6003	1	45	N-213030	RD1/4 5.6K J	6023	1
4	N-362193	I.C. D-3263	IC6004	1	46	N-211757	RD1/4 100K J (US)	6027	1
5	N-362384	I.C. D-3272	IC6005,9	2	-	N-379552	RD1/4 110K J (CCIR)	6027	1
6	N-362395	I.C. D-2116	IC6006	1	47	N-362485	RD1/4 330K J	6028,32	2
7	N-362406	I.C. D-3271	IC6010	1	48	N-362520	RD1/4 75K J (US)	6031	1
8	N-362136	Uni-junktion Transistor 2N6027	UjT6001,2	2	-	N-391961	RD1/4 91K J (CCIR)	6031	1
9	N-370607	Transistor 2SC536 (F)	TR6001,2,6	3	49	N-350100	RD1/4 68K J (US)	6037	1
10	N-421154	Transistor CS1303 (Green)	TR6003,4	2	-	N-391961	RD1/4 91K J (CCIR)	6037	1
11	N-423022	Transistor CS9012HH	TR6005	1	50	N-306360	RD1/4 6.8K J	6038	1
12	N-373432	Silicon Diode 1S2144 (A)	D6001,2	2	51	N-407417	RD1/4 1M J	6043	1
13	N-423077	Relay TECK-TT9-OH 9V 250Ω	RL6001	1					
14	N-379923	Ferri-Inductor FL7H 8.2MH (J)	L6001,2	2					
-	N-423055	Semi-variable Volume V10K4H3-1 50KB	VR6001	1					
-	N-423066	Semi-variable Volume V10K4H3-1 100KB	VR6002	1					
-	N-399971	Semi-variable Volume V101KR-1 1KB	VR6003	1					
-	N-423044	Semi-variable Volume V10K4H3-1 30KB	VR6004,5	2					
-	N-363126	P.C. Board Terminal	PX-501	14					
-	N-363150	Test Terminal	PX-502	8					
		Capacitor, Vertical Type	C						
15	N-362417	Tantalum 0.33μF(M) 35WV	6016,27	2					
16	N-251785	Tantalum 33μF (K) 10WV	6017	1					
17	N-251640	Tantalum 10μF (J) 10WV	6028,29	2					
18	N-220590	Electrolytic 33μF 10WV	6002	1					
19	N-320040	Electrolytic 47μF 16WV	6004,12,31	3					
20	N-329771	Electrolytic 47μF 6.3WV	6005,6,14	3					
21	N-329782	Electrolytic 220μF 10WV	6010,25,33	3					
22	N-220105	Electrolytic 100μF 10WV	6034	1					
23	N-251087	Mylar 0.022μF (K) 50WV	6003,7,11,19	4					
24	N-334620	Mylar 0.22μF (K) 50WV	6013,21	2					
25	N-250997	Mylar 0.015μF (K) 50WV	6015	1					
26	N-362158	Mylar 0.0047μF (K) 50WV	6020,22,23	3					
27	N-334631	Mylar 0.22μF (K) 50WV	6024,30	2					
28	N-250964	Mylar 0.012μF (K) 50WV	6026	1					
29	N-334631	Mylar 0.22μF (K) 50WV (US)	6030	1					
-	N-395504	Mylar 0.33μF (K) 50WV (CCIR)	6030	1					
30	N-250885	Mylar 0.01μF (K) 50WV	6001,18,32	3					
31	N-423033	VFM 680PF (K) 50WV	6008,9	2					
		Carbon Resistor, Stopper Type	R						
32	N-357456	RD1/4 2.2K J	6001,13	2					
33	N-336442	RD1/4 10K J	6002,12,14,18	4					
34	N-343078	RD1/4 2.7K J	6003,39,34	3					
35	N-362441	RD1/4 1.8K J	6004,29,33	3					
36	N-212883	RD1/4 4.7K J	6005,24,39	3					
37	N-212264	RD1/4 22K J	6006	1					
38	N-350100	RD1/4 68K J	6007	1					
39	N-357535	RD1/4 39K J	6008	1					
40	N-211757	RD1/4 100K J	6009,10,17, 35,36	5					

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF MOTOR DRIVE P.C. BOARD (PX-513)

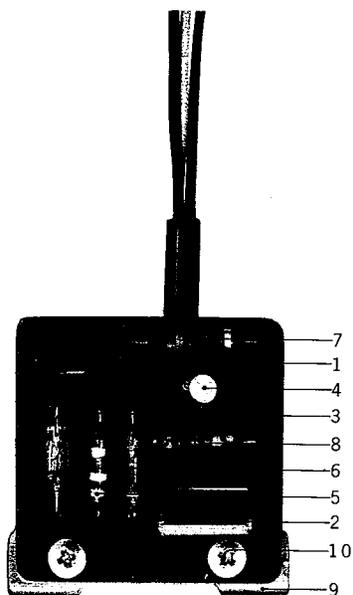


MOTOR DRIVE P.C. BOARD (PX-513) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
—	O-358806	Motor Drive P.C. Board Assy. Comp.	PX-513	1					
1	O-345802	Transistor 2SC454 (B)	TR8001	1					
2	O-338894	Transistor 2SC968 (3)	TR8002	1					
3	O-394413	Transistor 2SA564 (S)	TR8003	1					
4	O-350335	Transistor 2SA564 (Q)	TR8004	1					
5	O-370607	Transistor 2SC536 (F)	TR8005,7,9	3					
6	O-362261	Transistor 2SC1061 (B)	TR8006,8,10	3					
7	O-362586	Transistor 2SC931 (C)	TR8011	1					
8	O-234753	Transistor 2SC458 (B)	TR8012	1					
9	O-224526	Silicon Diode 10D1	D8003 to 6	4					
10	O-350471	Zener Diode RD7A N	ZD8001	1					
11	O-362597	Zener Diode RD7A (Special)	ZD8002	1					
12	O-244001	Ferri-Inductor FL9H 10mH (J)	L8001	1					
13	O-362338	Semi-variable Volume EVL-S3A 10KB	VR8001	1					
14	O-402513	Semi-variable Volume V101KR 1KB	VR8002	1					
15	O-384974	Semi-variable Volume V10K4A-5-2 500ΩB	VR8003,4	2					
							Capacitor, Vertical Type	C	
16	O-362327	Tantalum 10μF (K) 25WV	8006,8,10	3					
17	O-251640	Tantalum 10μF (J) 10WV	8007,9,12	3					
18	O-394514	Tantalum 22μF (K) 35WV	8015	1					
19	O-350594	Ceramic TLD14F 0.1μZ 25WV	8002	1					
20	O-220105	Electrolytic 100μF 10WV	8003	1					
21	O-321208	Electrolytic 220μF 16WV	8004,5	2					
22	O-331705	Electrolytic 22μF 16WV	8013	1					
23	O-308711	Mylar 0.047μF (K) 50WV	8014	1					
							Carbon Resistor, Stopper Type	R	
24	O-357456	RD1/4 2.2K J	8001	1					
25	O-357412	RD1/4 220Ω J	8002	1					
26	O-352045	RD1/4 3.9K J	8003	1					
27	O-212477	RD1/4 3.3K J	8004	1					
28	O-212264	RD1/4 22K J	8005	1					
29	O-343078	RD1/4 2.7K J	8006	1					
30	O-343135	RD1/4 1.6K J	8007	1					
31	O-212872	RD1/4 4.3K J	8008	1					
32	O-304402	RD1/4 470Ω J	8010	1					
33	O-304290	RD1/4 10Ω J	8011	1					
34	O-211320	RD1/4 1.5K J	8012,15,18	3					
35	O-362272	RD1/4 200K J	8013,16,19	3					
36	O-213030	RD1/4 5.6K J	8014,17,20	3					

When you order these parts, Please describe their Parts No. and Serial No. in detail

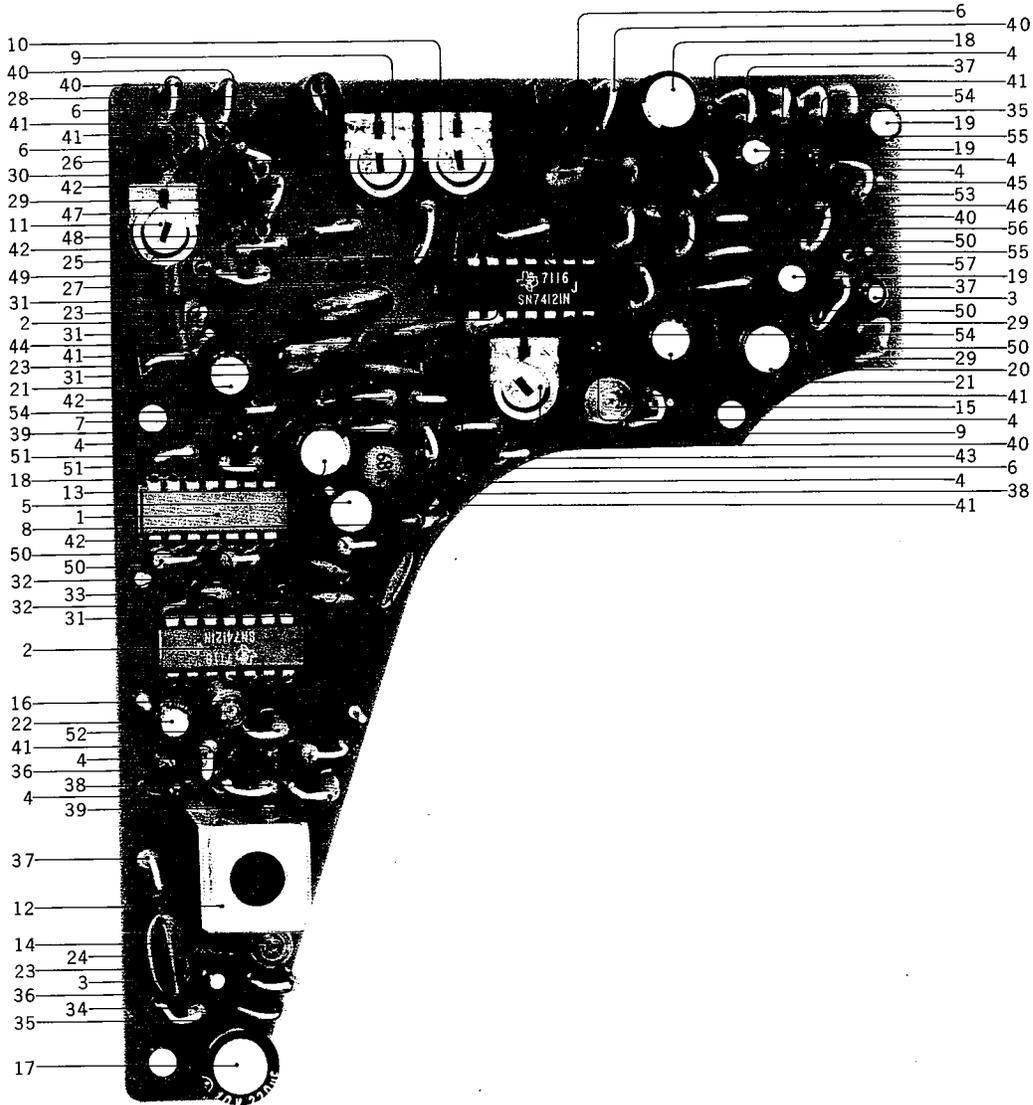
**PHOTO OF PLG. CURRENT LIMITATION  
P.C. BOARD (PX-508)**



**PLG. CURRENT LIMITATION P.C. BOARD  
(PX-508) BLOCK**

Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	P-358773	PLG. Current Limitation P.C. Board Comp.	PX-508	1
1	P-362250	Transistor 2SA564 (O)	TR9001	1
2	P-362261	Transistor 2SC1061 (B)	TR9002	1
3	P-219464	Germanium Diode 1N34A	D9001	1
4	P-220465	Electrolytic Capacitor 22 $\mu$ F 6.3WV	C9001	1
5	P-430211	Carbon Resistor RD1/4 3.9K J	R9001	1
6	P-364948	Carbon Resistor RD1/4 3.3K J	R9002	1
7	P-214402	Carbon Resistor RD1/4 470 $\Omega$ J	R9003	1
8	P-324641	Carbon Resistor RD1/4 1K J	R9004	1
9	P-363104	PLG. P.C. Board Holder	PX-503	1
10	P-201925	Screw, binding head 2.3 x 5		2

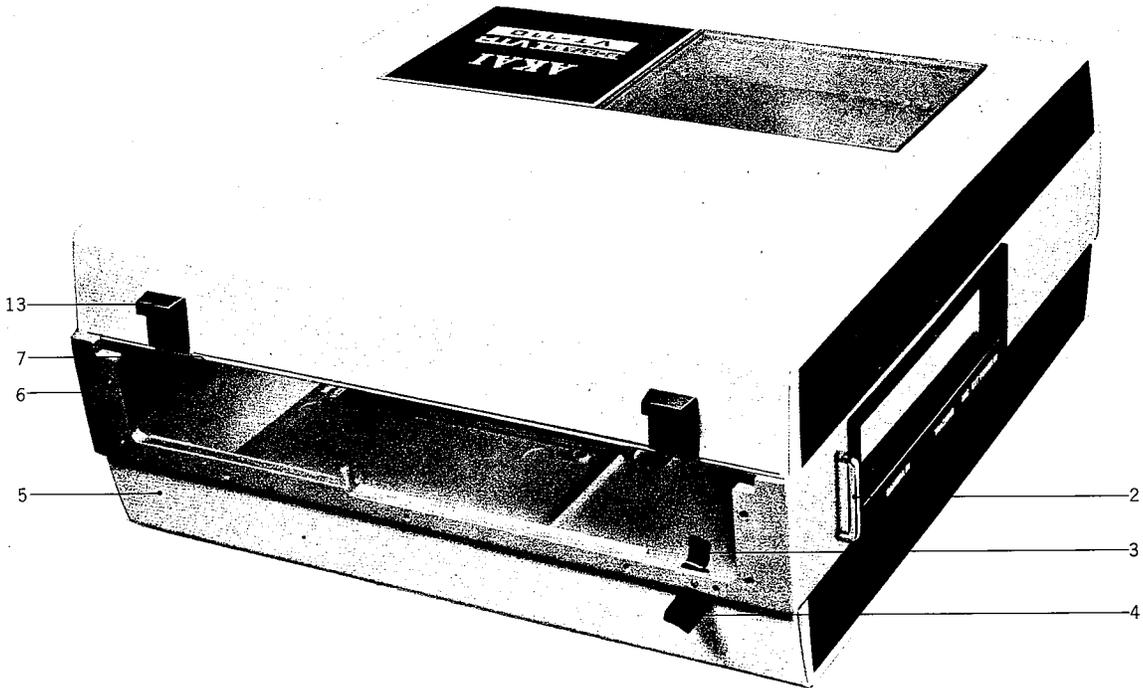
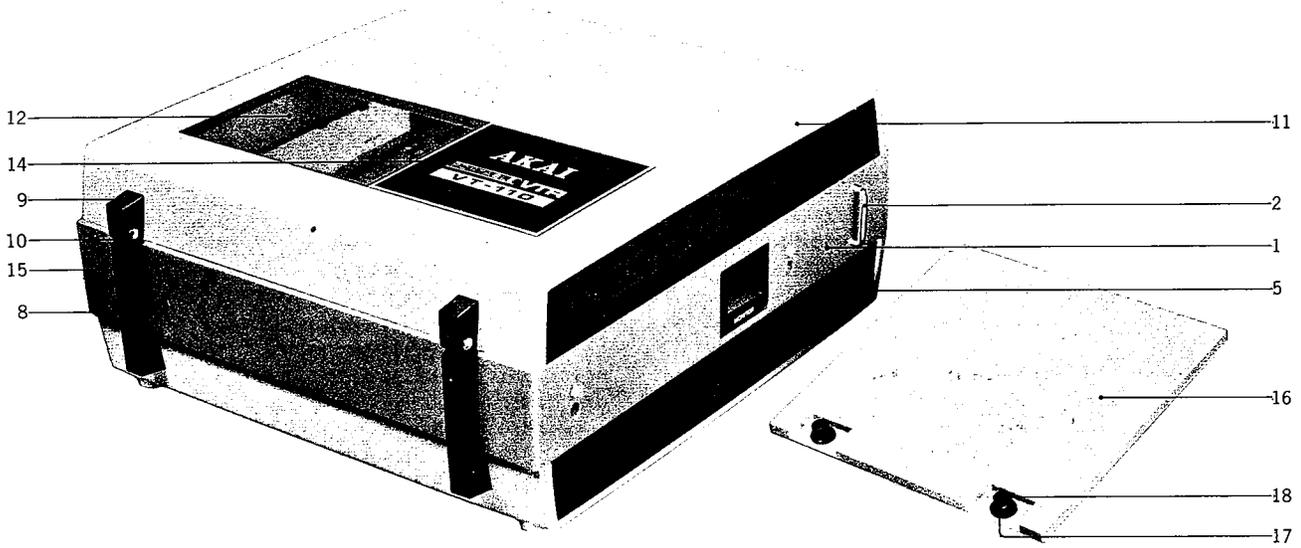
PHOTO OF SSG. P.C. BOARD (PX-A504)



## SSG. P.C. BOARD (PX-A504) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	Q-423347	SSG. P.C. Board (VTS-110 US) Assy. Comp.	PX-A504	1			Carbon Resistor, Stopper Type	R	
-	Q-430874	SSG. P.C. Board (VTS-110 CCIR) Assy. Comp.	PX-A504	1	34	Q-211757	RD1/4 100K J	7001	1
-	Q-438456	SSG. P.C. Board (VTS-100S US) Assy. Comp.	PX-A504	1	35	Q-212264	RD1/4 22K J	7002.31	2
-	Q-438467	SSG. P.C. Board (VTS-100S CCIR) Assy. Comp.	PX-A504	1	36	Q-380913	RD1/4 33Ω J	7003.51	2
1	Q-423101	I.C. MB400M	IC7001	1	37	Q-336442	RD1/4 10K J	7004.37,41	3
2	Q-423090	I.C. SN74121N	IC7002.3	2	38	Q-362441	RD1/4 1.8K J	7005.12	2
3	Q-350335	Transistor 2SA564 (Q)	TR7001.7	2	39	Q-343078	RD1/4 2.7K J	7006.13	2
4	Q-370607	Transistor 2SC536 (F)	TR7002 to 6,9,10,11	8	40	Q-306843	RD1/4 1.2K J	7007.14,18,22,34	5
5	Q-338894	Transistor 2SC968 (3)	TR7008	1	41	Q-211465	RD1/4 1K J	7008.19,23,35,46,48,50	7
6	Q-362136	Uni-Junktion Transistor 2N6027	UJT7001 to 4	4	42	Q-212681	RD1/4 330Ω J	7009.20,24,45	4
7	Q-373432	Silicon Diode 1S2144 (A)	D7001	1	43	Q-407463	RD1/4 22Ω J	7010	1
8	Q-392128	Zener Diode 1S330A2	D7002	1	44	Q-211757	RD1/4 100K J (US)	7011	1
9	Q-403165	Semi-variable Volume RVLC1-0301 50KB	VR7001.3	2	-	Q-379552	RD1/4 110K J (CCIR)	7011	1
10	Q-428332	Semi-variable Volume RVLC1-0301 30KB	VR7002	1	45	Q-213300	RD1/4 680Ω J	7015	1
11	Q-403176	Semi-variable Volume RVLC1-0301 100KB	VR7004	1	46	Q-361980	RD1/4 620Ω J	7016	1
12	Q-362147	Transformer SNY-033 1357	T7001	1	47	Q-357491	RD1/4 82K J (US)	7017	1
13	Q-423156	Ferri-Inductor FL7H 680μH (K)	L7001	1	-	Q-350100	RD1/4 68K J (CCIR)	7017	1
-	Q-363126	P.C. Board Terminal	PX-501	12	48	Q-357491	RD1/4 82K J (US)	7021	1
		Capacitor, Vertical Type	C		-	Q-211950	RD1/4 130K J (CCIR)	7021	1
14	Q-412604	Styrol 1800P (J) 50WV	7003	1	49	Q-379552	RD1/4 110K J (US)	7025	1
15	Q-423808	Styrol 3300P (J) 50WV (US)	7006	1	-	Q-357570	RD1/4 150K J (CCIR)	7025	1
-	Q-423810	Styrol 2200P (J) 50WV (CCIR)	7006	1	50	Q-213030	RD1/4 5.6K J	7026.39,40,42	4
16	Q-353643	Styrol 470PF (J) 50WV	7020	1	51	Q-342933	RD1/4 27K J	7028.29	2
17	Q-329782	Electrolytic 220μF 10WV	7004	1	52	Q-420322	RD1/4 36K J	7030	1
18	Q-220105	Electrolytic 100μF 10WV	7014.29	2	53	Q-357491	RD1/4 82K J	7023	1
19	Q-450055	Electrolytic 1μF 25WV	7021.22,25	3	54	Q-357412	RD1/4 220Ω J	7033.47,49	3
20	Q-320040	Electrolytic 47μF 16WV	7026	1	55	Q-211667	RD1/4 100Ω J	7036.43	2
21	Q-331705	Electrolytic 22μF 16WV	7030.31	2	56	Q-212883	RD1/4 4.7K J	7038	1
22	Q-350706	Electrolytic 4.7μF 16WV	7032	1	57	Q-349907	RD1/4 33K J	7044	1
23	Q-251291	Mylar 0.1μF (K) 50WV	7001.12,13	3					
24	Q-250997	Mylar 0.015μF (K) 50WV	7002	1					
25	Q-250604	Mylar 0.001μF (K) 50WV	7007	1					
26	Q-250997	Mylar 0.015μF (K) 50WV (US)	7008	1					
-	Q-250885	Mylar 0.01μF (K) 50WV (CCIR)	7008	1					
27	Q-362158	Mylar 0.0047μF (K) 50WV	7009	1					
28	Q-335340	Mylar 0.1μF (K) 50WV (US)	7010	1					
-	Q-379214	Mylar 0.047μF (J) 50WV (CCIR)	7010	1					
29	Q-250885	Mylar 0.01μF (K) 50WV	7011.23,24	3					
30	Q-251190	Mylar 0.056μF (K) 50WV	7027	1					
31	Q-290564	VFM 220PF (K) 50WV	7005.17,18,28	4					
32	Q-423145	VFM 75PF (K) 50WV	7015.16	2					
33	Q-357827	VFM 50PF (K) 50WV	7019	1					

PHOTO OF CASE BLOCK



## CASE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	R-430582	VT-110 US Case Block		
		Assy. Comp.	PXV-US	1
-	R-430650	VT-110 CCIR Case Block		
		Assy. Comp.	PXV-CCIR	1
-	Q-438401	VT-100S US Case Block		
		Assy. Comp.	PXV-US	1
-	R-438412	VT-100S CCIR Case Block		
		Assy. Comp.	PXV-CCIR	1
1	R-421920	Case Frame B	PX-A401	1
2	R-360988	Band Hang	PX-402	2
-	R-273756	M3 Nut		4
3	R-360990	Safety Lock Plate	PX-403	1
4	R-361001	Safety Button	PX-404	1
-	R-361012	Safety Spring	PX-405	1
-	R-361023	Lock Shaft	PX-406	1
5	R-421931	Lower Case	PX-A402	1
6	R-361067	Case Retainer	PX-410	9
7	R-417137	Screw, binding head 3 x 4		9
-	R-413155	Screw, binding head 3 x 6		1
-	R-200384	Screw, countersunk head 3 x 6		2
-	R-434474	Hinge Comp.	PX-A408	2
8	R-361078	Hinge A	PX-411	2
9	R-361080	Hinge B	PX-412	2
-	R361091	Hinge Shaft	PX-413	2
10	R-430380	Screw, binding head 2.6 x 4		4
11	R-361102	Case Cover	PX-414	1
12	R-403964	Reel Cover	PX-415	1
13	R-361168	Case Knob	PX-420	2
-	R-361170	Case Fastener	PX-421	2
-	R-361181	Fastener Retaining	PX-422	2
-	R-200711	Set Screw 3 x 3		2
14	R-421918	Name Plate (VT-110)	PX-A404	1
-	R-438074	Name Plate (VT-100S)	PX-B401	1
15	R-421806	Screw, pan head 3 x 8		4
-	R-355487	Screw, binding head 3 x 10		2
-	R-421953	Rear Name Plate (NT-110)	PX-A602	1
-	R-421964	Rear Name Plate (VT-110 CCIR)	PX-A602	1
-	R-438085	Rear Name Plate (VT-100S)	PX-B601	1
-	R-438096	Rear Name Plate (VT-100S CCIR)	PX-B601	1
16	R-421942	Battery Case Cover	PX-A403	1
17	R-356580	Nylach Grommet H322-2-1		2
18	R-356591	Nylach Plunger H323-2-3-1		2

# PHOTO OF FINAL ASSEMBLY BLOCK



## FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	S-430637	Battery Case Comp.	PXA	1	8	S-355691	Pinch Wheel Cap	PX-605	1
1	S-355667	Button Escutcheon	PX-609	1	9	S-360180	Pinch Wheel PX	PX-226	1
2	S-433934	Screw, countersunk head 3 x 6 D = 5		4	10	S-360347	Sub Pinch Wheel	PX-239	1
3	S-421828	Mechanism Panel (VT-110)	PX-A601	1	-	S-422087	Guide Roller B	PX-A137	1
-	S-438028	Mechanism Panel (VT-100S)	PX-A601	1	-	S-421863	Guide Roller Cover	PX-A605	1
4	S-355680	Panel Post	PX-604	1	-	S-421817	Set Screw 3 x 8		1
-	S-273688	M2.3 Nut		1	12	S-355724	Head Cover	PX-608	1
5	S-317327	Screw, binding head 2.3 x 6		3	13	S-421830	Escutcheon R	PX-A604	1
-	S-259367	Washer (BSP) 2.4x4.2x0.3t		3	-	S-421841	Escutcheon L	PX-A607	1
6	S-355702	Fastener Holder	PX-606	2	-	S-356736	Tapping Screw #2 2 x 5		1
-	S-355454	Washer (BSP) 2.9x7.4x0.5t		2	-	S-356286	Carrying Belt	VS-1	1
7	S-421852	Mech. Panel Name Plate (VT-110)	PX-A606	1	-	S-421874	Battery LC-303	56-1-2	2
-	S-438030	Mech. Panel Name Plate (VT-100S)	PX-B602	1					

When you order these parts, Please describe their Parts No. and Serial No. in detail

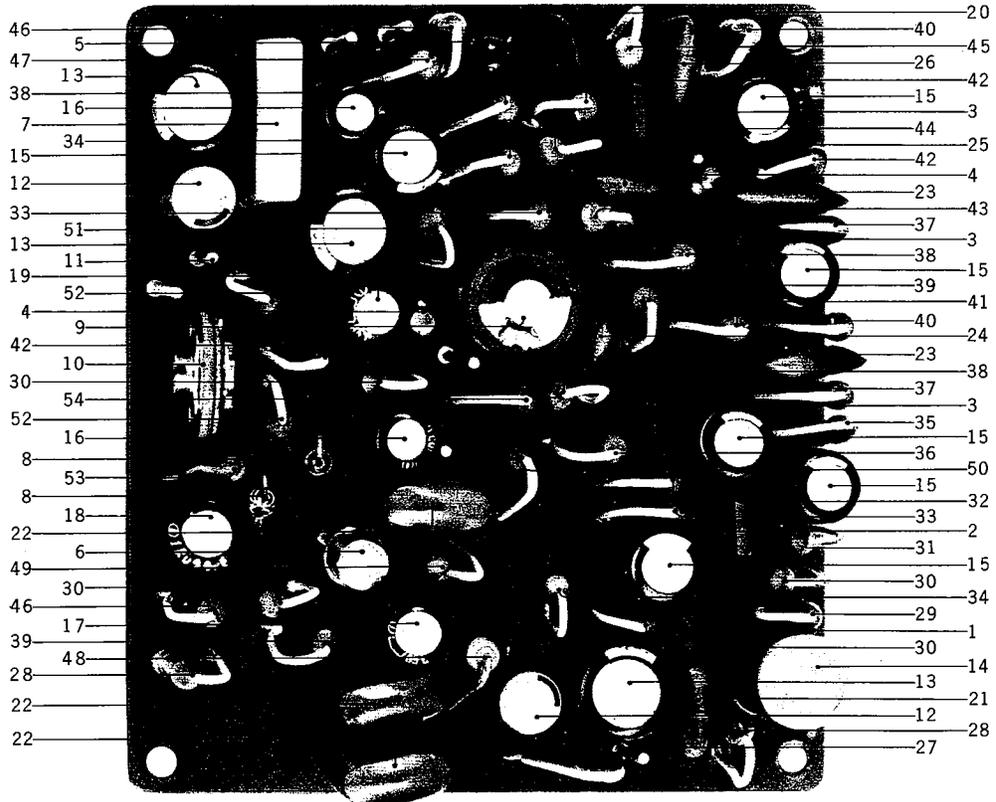


**SECTION 2**  
**CAMERA COMPONENT PARTS**

WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
AND SERIAL NO. IN DETAIL

PRE-AMP. P.C. BOARD (PX-A2007) BLOCK .....	27
DEFLEXION P.C. BOARD (PX-2048) BLOCK .....	28
H.V. GENERATOR P.C. BOARD (PX-2049) BLOCK .....	29
ASSEMBLY BLOCK .....	32

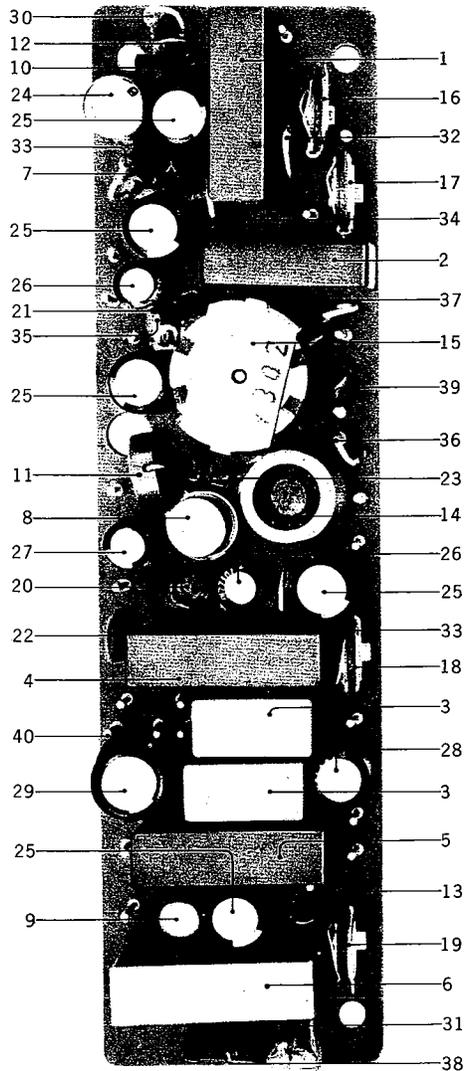
PHOTO OF PRE-AMP. P.C. BOARD (PX-A2007)



## PRE-AMP. P.C. BOARD (PX-A2007) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	T-423303	Pre-Amp. P.C. Board							
		Assy. Comp.	PX-A2007	1			<b>Carbon Resistor, Stopper Type</b>	R	
1	T-423426	Transistor 3C18P	FET2101	1	27	T-419040	RD1/4 1M J	2101	1
2	T-234854	Transistor 2SC458LG (C)	TR2101	1	28	T-380711	RD1/4 220K J	2102,35	2
3	T-329218	Transistor 2SC458 (C)	TR2102,3,5	3	29	T-212016	RD1/4 150Ω J	2103,	1
4	T-421154	Transistor CS1303 (Green)	TR2104,8	2	30	T-211465	RD1/4 1K J	2104,7,32,37	4
5	T-361923	Transistor 2SC536 (E)	TR2106	1	31	T-349942	RD1/4 8.2K J	2105	1
6	T-356973	Transistor 2SC727 (C)	TR2107	1	32	T-346601	RD1/4 47K J	2106	1
7	T-357917	I.C. P-5 (AE-163)	IC2101	1	33	T-362441	RD1/4 1.8K J	2108,20	2
8	T-402502	Germanium Diode 20A90M	D2101,2	2	34	T-211667	RD1/4 100Ω J	2109,26	2
9	T-357750	Trimmer Condenser CVO3D			35	T-211858	RD1/4 12K J	2110	1
		30P	TC2101	1	36	T-362520	RD1/4 75K J	2111	1
10	T-403143	Semi-variable Volume			37	T-347038	RD1/4 270Ω J	2112,17	2
		V101KR 2KB	VR2101	1	38	T-211320	RD1/4 1.5K J	2113,18,27	3
11	T-363126	P.C. Board Terminal	PX-501	8	39	T-361528	RD1/4 56K J	2114,31	2
-	T-363363	Pre-Amp. Shield Case	PX-2024	1	40	T-306887	RD1/4 15K J	2115,22	2
-	T-400408	Pre-Amp. Insulation Plate	PX-2059	1	41	T-352045	RD1/4 3.9K J	2116	1
-	T-356736	Tapping Screw #2 x 5		4	42	T-306843	RD1/4 1.2K J	2119,25,41	3
		<b>Capacitor, Vertical Type</b>	C		43	T-304402	RD1/4 470Ω J	2121	1
12	T-421165	Aluminum Solid 1μF (X)			44	T-350100	RD1/4 68K J	2123	1
		25WV	2103,19	2	45	T-212681	RD1/4 330Ω J	2124	1
13	T-220105	Electrolytic 100μF 10WV	2102,18,20	3	46	T-336442	RD1/4 10K J	2128,34	2
14	T-220364	Electrolytic 100μF 6.3WV	2104	1	47	T-357535	RD1/4 39K J	2129	1
15	T-220590	Electrolytic 33μF 10WV	2105,6,7,10,	6	48	T-405551	RD1/4 10M K	2130	1
			12,16	2	49	T-357570	RD1/4 150K J	2133	1
16	T-450055	Electrolytic 1μF 25WV	2117,26	2	50	T-211757	RD1/4 100K J	2136	1
17	T-354947	Electrolytic 2.2μF 50WV	2123	1	51	T-357412	RD1/4 220Ω J	2138	1
18	T-331705	Electrolytic 22μF 16WV	2125	1	52	T-212883	RD1/4 4.7K J	2139,42	2
19	T-320051	Electrolytic 10μF 16WV	2127	1	53	R-213030	RD1/4 5.6K J	2140	1
20	T-357704	Ceramic CFD08JYP 470PK			54	R-407103	RD1/4 12Ω J	2143	1
		500WV	2115	1					
21	T-357737	Mylar 0.022μF (K) 100WV	2101	1					
22	T-357715	Mylar 0.047μF (K) 100WV	2121,22,24	3					
23	T-336194	VFM 270PF (J) 50WV	2108,11	2					
24	T-399690	VFM 33PF (J) 50WV	2109	1					
25	T-310792	VFM 120PF (J) 50WV	2113	1					
26	T-451462	VFM 150PF (J) 50WV	2114	1					

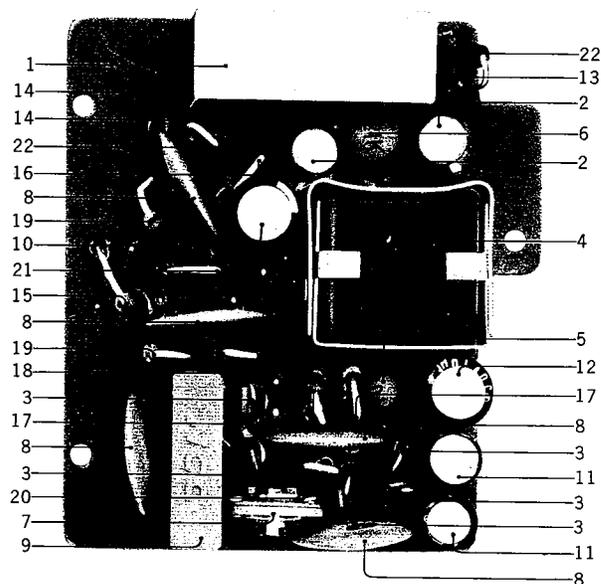
PHOTO OF  
DEFLEXION P.C. BOARD (PX-2048)



DEFLEXION P.C. BOARD (PX-2048) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	U-373544	Deflexion P.C. Board Assy. Comp.	PX-2048	1
1	U-357928	I.C. GA-116	IC2201	1
2	U-357930	I.C. DP-115	IC2202	1
3	U-357963	I.C. PA-5 (AP-174)	IC2203.5	2
4	U-357952	I.C. D-3264	IC2204	1
5	U-357941	I.C. D-3262	IC2206	1
6	U-357974	I.C. AC-170	IC2207	1
7	U-357017	Transistor 2SA562 (Y)	TR2201	1
8	U-357006	Transistor 2SC497 (Y)	TR2202	1
9	U-338894	Transistor 2SC968 (3)	TR2203	1
10	U-362136	Uni-junktion Transistor 2N6027	UJT2201	1
11	U-357783	Silicon Diode HF-SD-1Z	D2201	1
12	U-373432	Silicon Diode 1S2144 (A)	D2202	1
13	U-392128	Zener Diode 1S330A2	ZD2201	1
-	U-392130	Zener Diode 1S331A2	ZD2202	1
14	U-357805	Transformer 06Y 033-286	T2201	1
15	U-357816	Inductor 3mH V-302	L2201	1
16	U-362081	Semi-variable Volume EVL-TOA 100KB	VR2201	1
17	U-357895	Semi-variable Volume EVL-T7A 100ΩB	VR2202	1
18	U-357862	Semi-variable Volume EVL-TOA 20KB	VR2203	1
19	U-357884	Semi-variable Volume EVL-TOA 5KB	VR2204	1
		<b>Capacitor, Vertical Type</b>	C	
20	U-353643	Styrol 470PF (J) 50WV	2208	1
21	U-357827	VFM 50PF (K) 50WV	2206	1
22	U-290531	VFM 100PF (K) 50WV	2207	1
23	U-357838	Mylar 0.0039μF (K) 100WV	2211	1
24	U-220364	Electrolytic 100μF 6.3WV	2201	1
25	U-220105	Electrolytic 100μF 10WV	2202,3,4,12, 15	5
26	U-338512	Electrolytic 22μF 16WV	2205.9	2
27	U-220590	Electrolytic 33μF 10WV	2210	1
28	U-450213	Electrolytic 10μF 50WV	2213	1
29	U-357840	Electrolytic 22μF 50WV	2214	1
		<b>Carbon Resistor, Stopper Type</b>	R	
30	U-362485	RD1/4 330K J	2210	1
31	U-324808	RD1/4 100Ω J (Insulation)	2211	1
32	U-357491	RD1/4 82K J	2201	1
33	U-211465	RD1/4 1K J	2202.5	2
34	U-429974	RD1/4 120Ω K	2203	1
35	U-361528	RD1/4 56K J	2204	1
36	U-357412	RD1/4 220Ω J	2206	1
37	U-357456	RD1/4 2.2K J	2209	1
38	U-357906	Wire-Wound Resistor 1/2WL 10Ω J 2207	2207	1
39	U-357030	Solid Resistor RC1/2W 27Ω K 2208	2208	1
40	U-363126	P.C. Board Terminal	PX-501	24

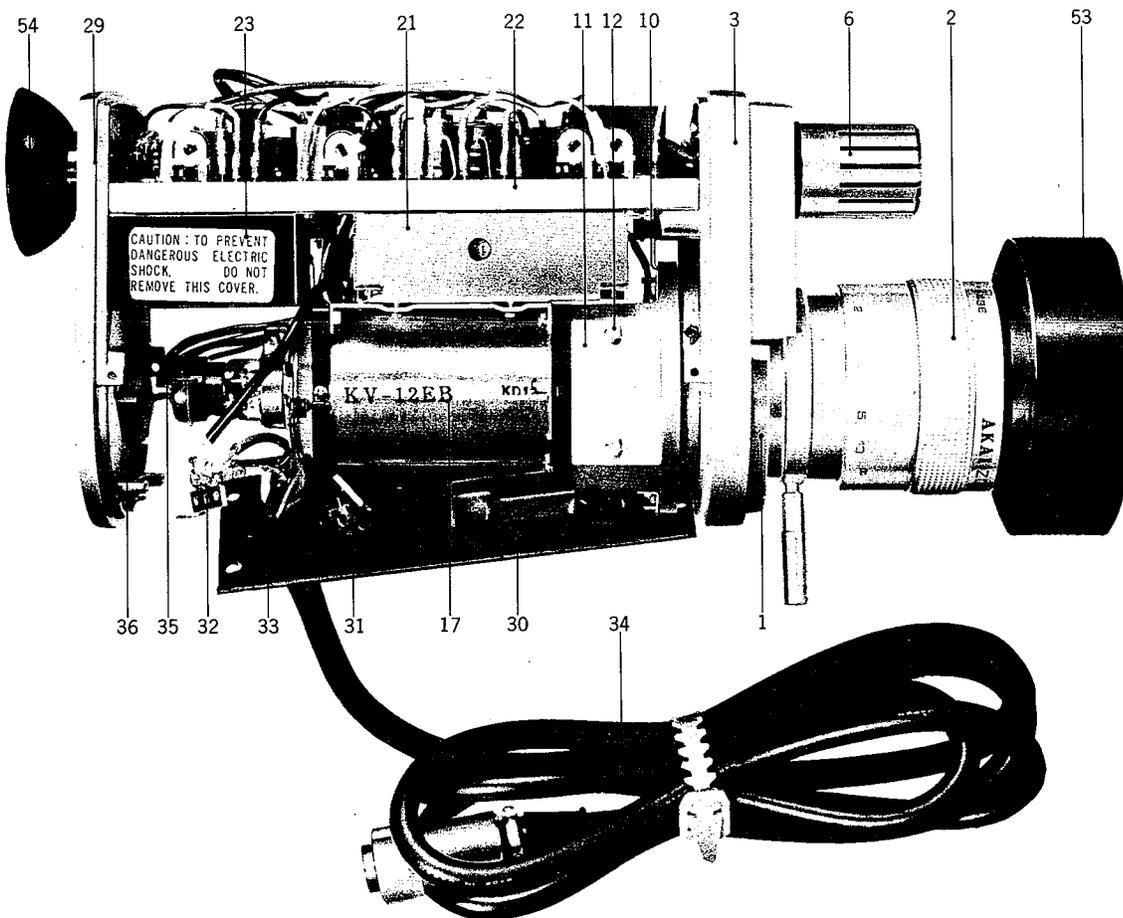
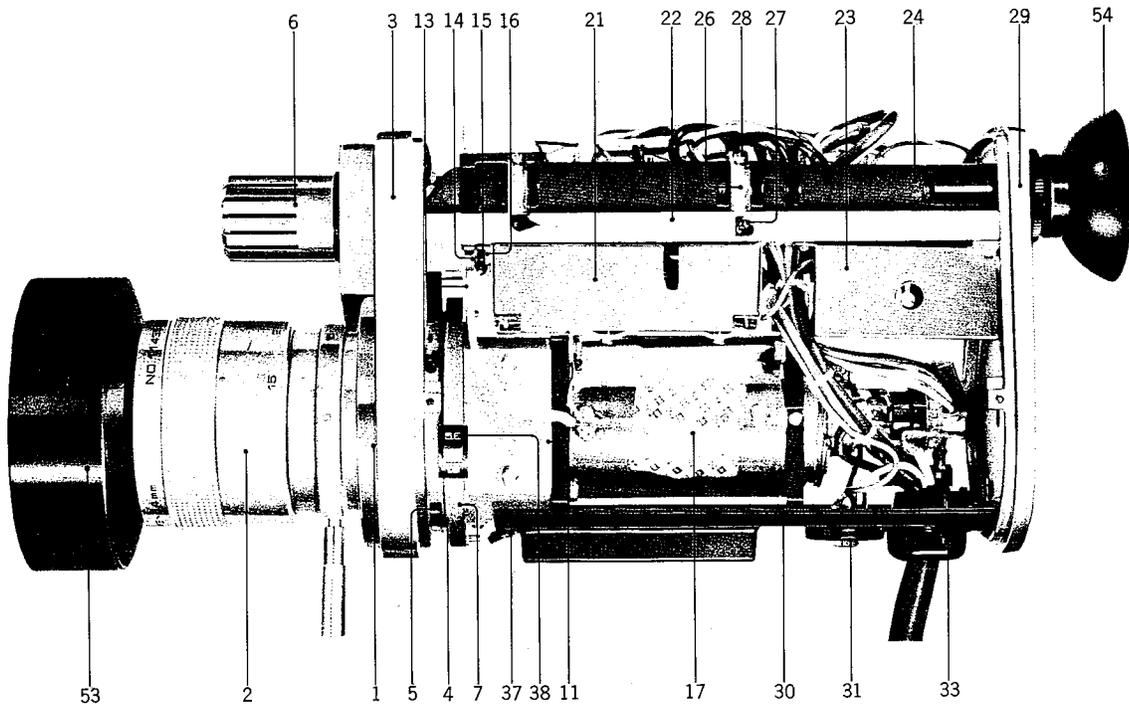
# PHOTO OF H.V. GENERATOR P.C. BOARD (PX-2049)

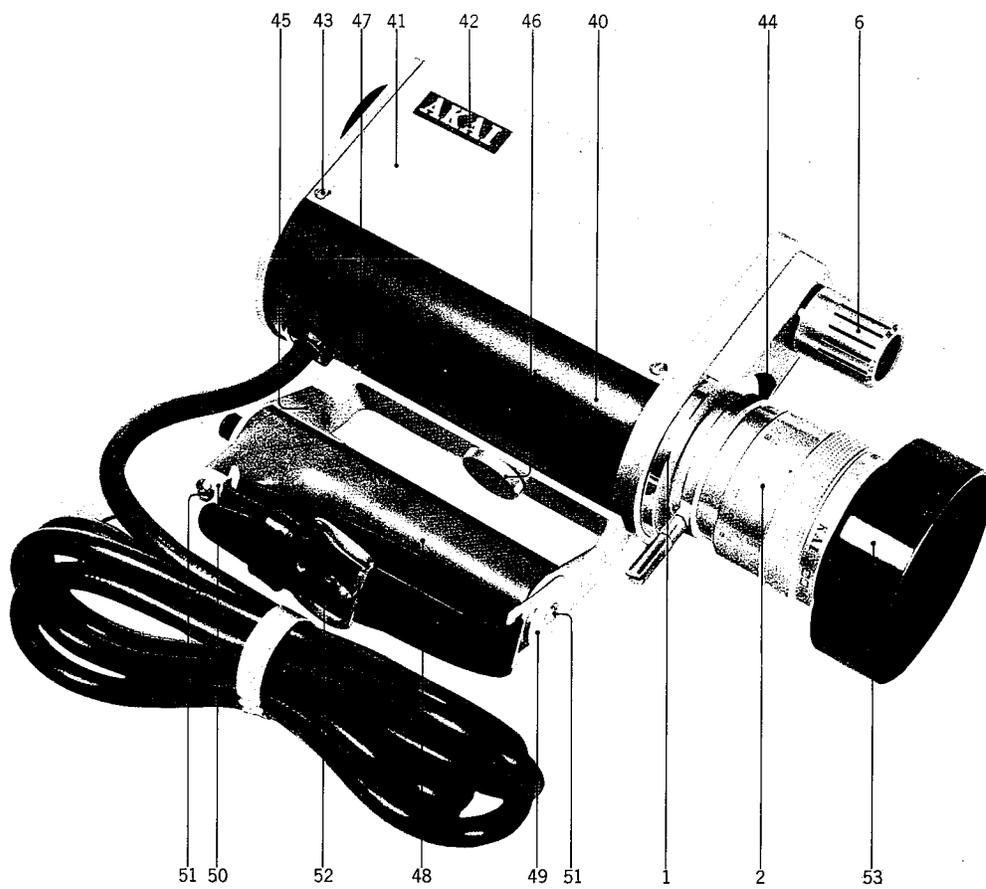
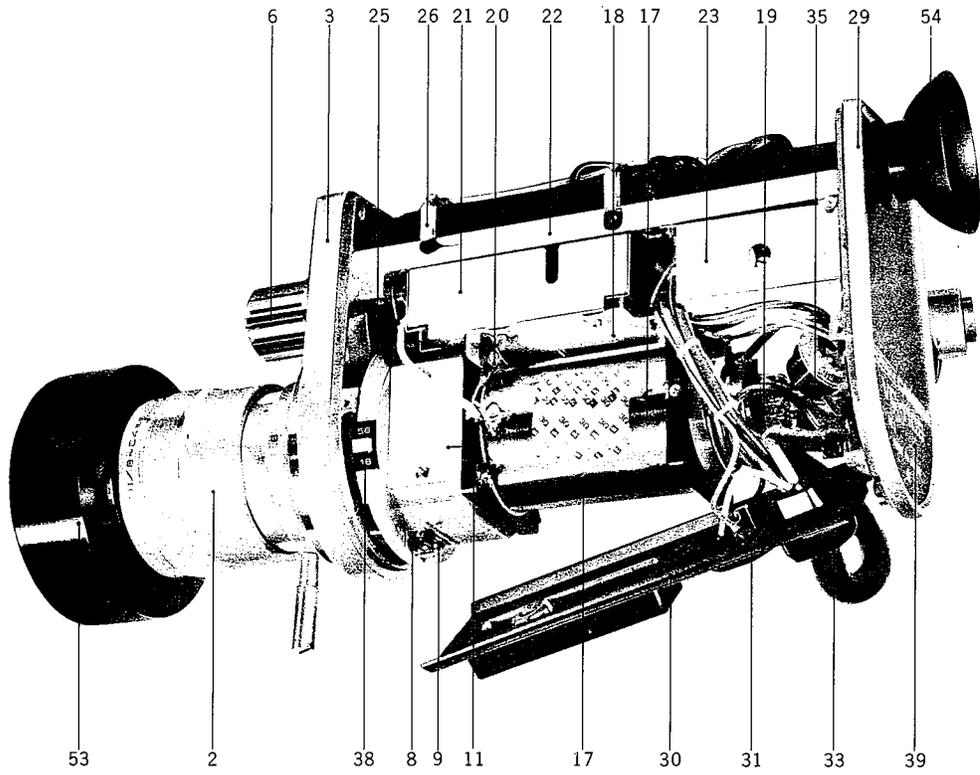


## H.V. GENERATOR P.C. BOARD (PX-2049) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	V-373555	H.V. Generator P.C. Board Assy. Comp.	PX-2049	1					
							<b>Carbon Resistor, Stopper Type</b>	R	
1	V-357985	I.C. AA-176	IC2301	1	15	V-423753	RD1/4 1.2M J	2312	1
2	V-338894	Transistor 2SC968(3)	TR2301.2	2	16	V-212477	RD1/4 3.3K J	2301	1
3	V-357210	Silicon Diode SF-1	D2301 to 6	5	17	V-211465	RD1/4 1K J	2302.3	2
4	V-357221	Transformer HVT (EP-17)	T2301	1	18	V-429996	RD1/4 470K J	2304	1
5	V-357287	Ferri-Inductor FL5H 100μH (K)	L2301	1	19	V-380711	RD1/4 220K J	2306.9	2
6	V-374681	Ferri-Inductor FL7H 220μH (K)	L2302	1	20	V-211757	RD1/4 100K J	2308	1
7	V-357276	Semi-variable Volume V10K-5 1MB	VR2301	1	21	V-362024	RD1/4 820K J	2305	1
-	V-363418	H.V. Shield Case	PX-2029	1	22	V-304402	RD1/4 470Ω J	2310.11	2
-	V-392321	Tapping Screw #2 2 x 5		3					
							<b>Capacitor, Vertical Type</b>	C	
8	V-357254	Ceramic Z5U 0.01μP 500WV	2305,11 to 14	5					
9	V-357298	Metalized Paper 0.047μF (M) 500WV	2306	1					
10	V-220105	Electrolytic 100μF 10WV	2304	1					
11	V-357265	Electrolytic 1μF 100WV	2308.9	2					
12	V-450213	Electrolytic 10μF 50WV	2310	1					
13	V-290531	VFM 100PF (K) 50WV	2301	1					
14	V-357232	Mylar 0.0039μF (K) 50WV	2302.3	2					

PHOTO OF ASSEMBLY BLOCK

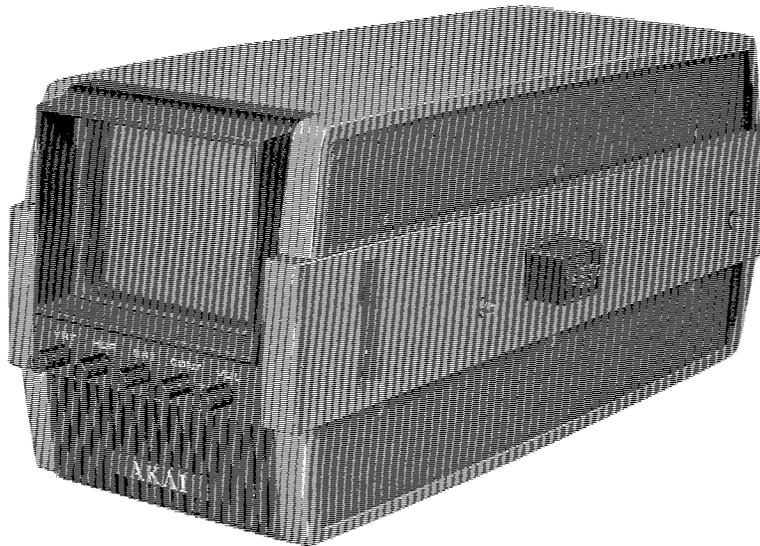




## ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
1	W-433855	Lens Ring 6 (DX)	PX-A2101	1	25	W-373904	Finder Master 2415	53-1-30	1
-	W-356128	Lens Ring 4 (S)	PX-2001	1	-	W-420963	Power Indicator Head		
2	W-438142	Zoom Lens 6 (2081) (DX)		1			Cover	PX-A2005	1
-	W-429895	Zoom Lens 4 (2411) (S)	53-1-2	1	26	W-370596	Finder Cramper B	PX-2056	2
-	W-429906	Master Lens (2412)	53-1-2	1	27	W-344351	Screw, countersunk		
-	W-374130	Set Screw 3 x 5		4			head 2 x 4		4
3	W-356130	Front Frame	PX-2003	1	28	W-201508	Screw, pan head 2 x 4		4
-	W-356141	Finder A Retaining Plate	PX-2004	1	29	W-363431	Rear Frame	PX-2031	1
-	W-323728	Screw, binding head							
		3 x 5		1	-	W-429930	Lower Plate Comp.	PX-A2018	1
-	W-356152	Compression Spring	PX-2005	1	30	W-420974	Lower Plate	PX-A2003	1
-	W-363205	Compression Spring,			31	W-358075	Earphone Jack	31-2-15	1
		Aperture Selector	PX-2007	1	32	W-331435	Lug Plate VB2L	33-4-6	1
4	W-363216	Aperture Plate	PX-2008	1	33	W-420996	Cable Clamp 7P-2	2-7-15	1
5	W-363194	Rotation Shaft,			34	W-420985	Camera Cable	51-1-38	1
		Aperture Plate	PX-2006	1	35	W-363690	M Type B Tube Socket		
-	W-373443	Set Screw 3 x 5		3			S7-502B	31-3-15	1
6	W-420851	Microphone UD-908	48-1-6	1	36	W-438491	PSS Capacitor		
-	W-363251	Mic. Lock Nut	PX-2012	1			0.05μF 500WV	24-9-43	1
7	W-420862	Aperture Selector			37	W-417352	Screw, pan head 3 x 6		3
		Ring Comp.	PX-A2012	1	-	W-424620	Screw, pan head 3 x 10		1
8	W-363273	Stopper Plate B	PX-2014	1	-	W-273745	M3 Spring Washer		1
9	W-201508	Screw, pan head 2 x 4		2	-	W-273756	M3 Nut		1
-	W-357208	Steel Ball D = 2		1	38	W-363464	Aperture Name Plate	PX-2034	1
10	W-363295	Stopper Plate A	PX-2016	1	39	W-433991	Name Plate B (VC-110S)	PX-A2103	1
-	W-323728	Screw, binding head			-	W-434002	CCIR Name Plate B		
		3 x 5		2			(VC-110S)	PX-A2103	1
11	W-363306	Side Cover	PX-2017	2	-	W-421121	Name Plate B' (VC-110)	PX-A2006	1
12	W-323728	Screw, binding head			-	W-421132	CCIR Name Plate B'		
		3 x 5		4			(VC-110)	PX-A2006	1
13	W-429917	Aperture Indicator			40	W-363475	Lower Cover	PX-2035	1
		Plate Comp.	PX-A2013	1	41	W-363486	Upper Cover	PX-2036	1
14	W-363330	Indicator Plate			42	W-363600	Camera Name Plate	PX-2051	2
		Retaining Spring	PX-2021	1	43	W-335147	Screw, truss head 3 x 5		4
15	W-363341	Indicator Plate			-	W-429873	Washer (SUS)		
		Adjusting Ring	PX-2022	1			3 x 7 x 0.2t		4
-	W-439018	Washer (SPC)			44	W-363508	Name Plate A'	PX-2038	1
		3 x 6 x 0.3t		1					
16	W-429862	Hexagon Bolt 3 x 8		1	-	W-429963	Grip Assy. Comp.	PX-A2017	1
-	W-420895	Vidicon Coil Comp.	PX-A2011	1	45	W-363510	Handle, Metal Parts	PX-2039	1
17	W-356940	Vidicon Coil KV-12EA	23-1-31	1	46	W-363521	Cramp Screw	PX-2040	1
18	W-363352	Bridge	PX-2023	1	-	W-421143	Washer (BSP)		
-	W-273778	M3 Earth Lug		1			7.1 x 13.6 x 0.5t		1
-	W-421806	Screw, pan head 3 x 8		2	-	W-270123	"E" Ring 4.0M	6-1-9	1
-	W-273756	M3 Nut		2	47	W-357355	Plug, Single Head	42-1-33	1
					-	W-363532	Nut, Plug Retaining	PX-2041	1
					-	W-357377	Micro Switch PL-1-1	25-5-27	1
19	W-356938	VIDICON TUBE 8823	28-4-2	1	48	W-357388	Grip	2-17-3	1
20	W-434632	Screw, binding head			-	W-203084	Screw, oval countersunk		
		3 x 12 w/washer		4			head 3 x 8		2
21	W-363363	Pre-Amp. Shield Case	PX-2024	1	-	W-356771	Screw, countersunk		
-	W-356736	Tapping Screw #2 2 x 5		4			head 3 x 10		2
22	W-363396	Base Plate, w/prop	PX-2027.8	1	49	W-363543	Belt Holder A	PX-2042	1
-	W-323728	Screw, binding head			50	W-363554	Belt Holder B	PX-2043	1
		3 x 5		6	51	W-201216	Screw, truss head 4 x 12		2
-	W-420941	Lamp P.C. Board	PX-A2004	1	52	W-373847	Hand Grip Belt		1
-	W-420928	Miniature Lamp 9V 10MA	28-2-16	1					
-	W-356668	Screw, binding head			53	W-438131	Camera Lens Hood 6 (DX)		1
		2.3 x 4		1	-	W-356207	Camera Lens Hood 4 (S)	2-23-4	1
23	W-363418	H.V. Shield Case	PX-2029	1	54	W-356218	Eye Cup	3-4-20	1
-	W-201475	Screw, pan head 2 x 3		2					
24	W-420952	Finder 2413	53-1-30	1					

When you order these parts, Please describe their Parts No. and Serial No. in detail

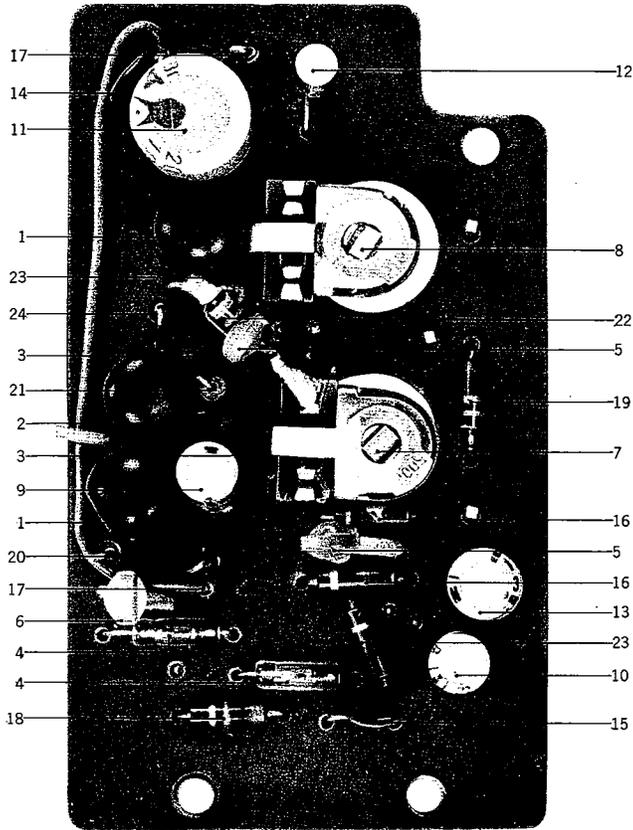


**SECTION 3**  
**MONITOR COMPONENT PARTS**

**WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
AND SERIAL NO. IN DETAIL**

V. OUT. P.C. BOARD (Y-300) BLOCK .....	34
AUDIO P.C. BOARD (Y-400) BLOCK .....	35
SYNC. & VIDEO AMP. P.C. BOARD (Y-500) BLOCK .....	36
H.V. P.C. BOARD (Y-600) BLOCK .....	38
ASSEMBLY BLOCK .....	40
FINAL ASSEMBLY BLOCK .....	41

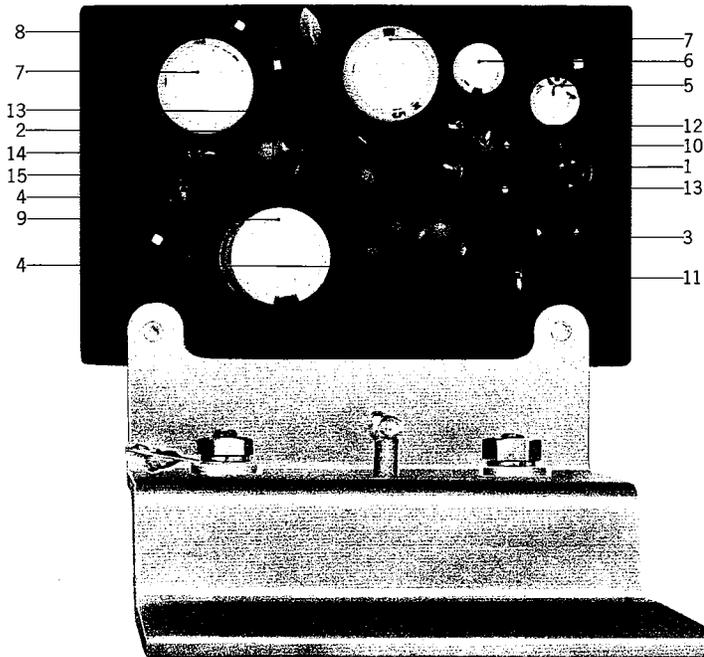
PHOTO OF V. OUT. P.C. BOARD (Y-300)



V. OUT. P.C. BOARD (Y-300) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Maker No.
—	VM-P101	V. Out. P.C. Board Assy. Comp.	Y-300	YD20060024
1	VM-P102	Transistor CS1295H	Q301.2	HT800191H0
2	VM-P103	Transistor CS1294H	Q303	HT600011H0
3	VM-P104	Varistor CD0014	Q304.5	HT80007100
4	VM-P105	Diode 1S188	Q306.7	HD10003030
5	VM-P106	Thermistor 31D27	R301.12	HH00002120
6	VM-P107	Thermistor 33D1000	R304	HH00001120
7	VM-P108	Semi-Fixed Resistor 500K	R305	RA05040050
8	VM-P109	Semi-Fixed Resistor 10K	R307	RA01030090
<b>Capacitor, Vertical Type</b>				
9	VM-P110	Electrolytic 10 $\mu$ F 10WV	C301	EAI0601010
10	VM-P111	Electrolytic 5 $\mu$ F 15WV	C302	EA47501610
11	VM-P112	Electrolytic 200 $\mu$ F 10WV	C303	EA22701020
12	VM-P113	Electrolytic 0.1 $\mu$ F 25WV	C304	EMI0402510
13	VM-P114	Electrolytic 30 $\mu$ F 10WV	C305	EA33601010
14	VM-P115	Mylar 0.003 $\mu$ F	C306	DF17332010
—	VM-P116	Mylar 0.047 $\mu$ F	C331	DF17473010
15	VM-P117	Mylar 0.0047 $\mu$ F	C332	DF17472010
<b>Solid Resistor</b>				
16	VM-P118	1/4W 1.2K	R302.6	RC10122140
17	VM-P119	1/4W 22K	R303	RC10223140
18	VM-P120	1/4W 10K	R308	RC10103140
19	VM-P121	1/4W 2 $\Omega$	R309	RC10020140
20	VM-P122	1/4W 10 $\Omega$	R310	RC10100140
21	VM-P123	1/4W 220 $\Omega$	R311	RC10221140
22	VM-P124	1/4W 4.7K	R313	RC10472140
23	VM-P125	1/4W 1K	R314	RC10102140
24	VM-P126	1/4W 3.3 $\Omega$	R315,16	RC10033140

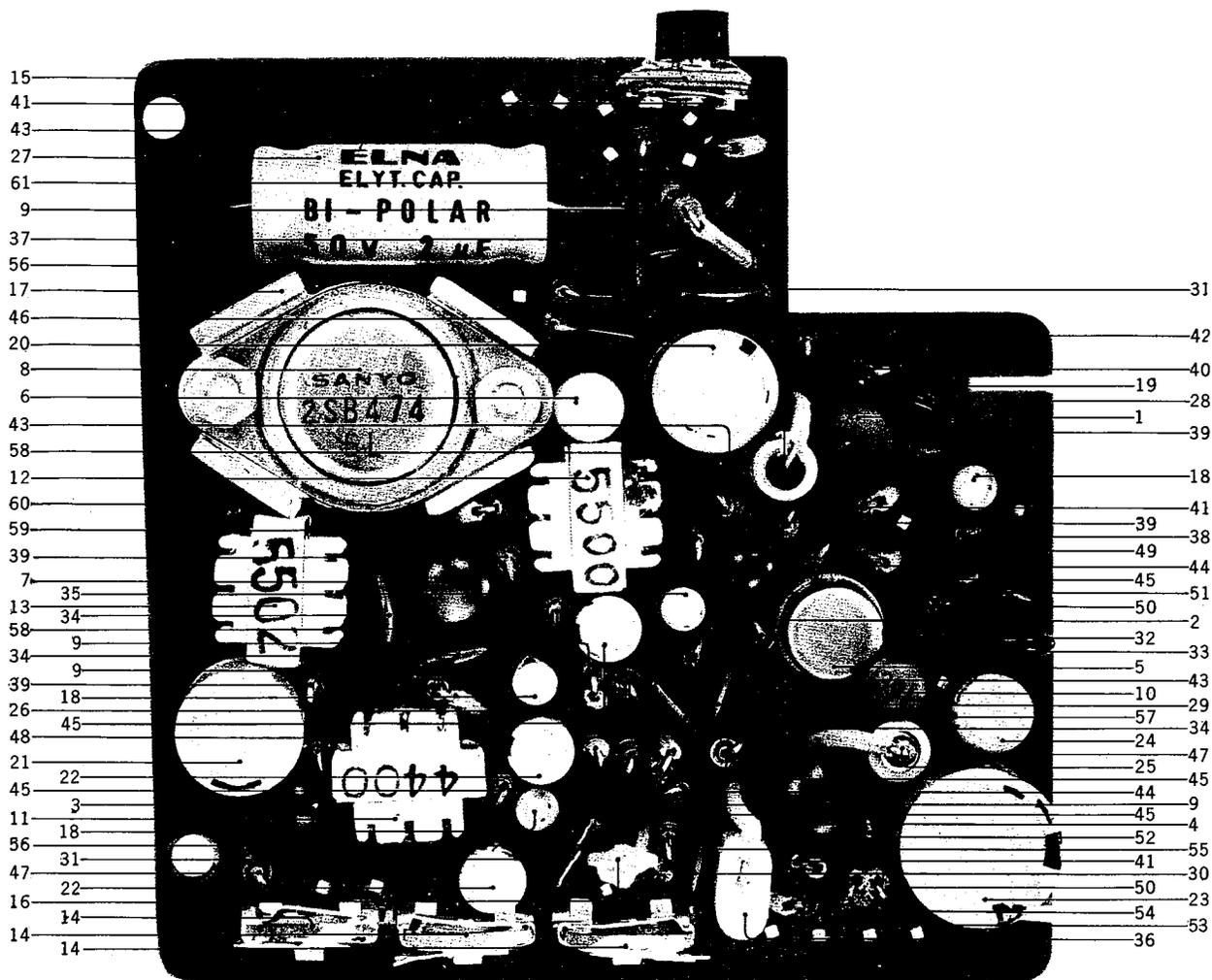
## PHOTO OF AUDIO P.C. BOARD (Y-400)



## AUDIO P.C. BOARD (Y-400) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Maker No.
—	VM-P201	Audio P.C. Board Assy. Comp.	Y-400	YD20610010
1	VM-P202	Transistor CS1238H	Q401	HT800011H0
2	VM-P203	Transistor CS1295H	Q402	HT800191H0
3	VM-P204	Transistor CS1294H	Q403	HT600011H0
4	VM-P205	Varistor CD0014	Q404,5	HT80007100
<b>Capacitor, Vertical Type</b>				
5	VM-P206	Electrolytic 5 $\mu$ F 15WV	C401	EA47501610
6	VM-P207	Electrolytic 10 $\mu$ F 6WV	C402	EA10600610
7	VM-P208	Electrolytic 100 $\mu$ F 10WV	C405,6	EA10701010
8	VM-P209	Ceramic 0.001 $\mu$ F	C407	DK18102010
9	VM-P210	Film 0.0047 $\mu$ F	C408	DF17472010
<b>Solid Resistor</b>				
10	VM-P211	1/4W 68K	R401	RC10683140
11	VM-P212	1/4W 1.5K	R402	RC10152140
12	VM-P213	1/4W 470K	R403	RC10474140
13	VM-P214	1/4W 5 $\Omega$	R404,5	RC10050140
14	VM-P215	1/4W 4.7K	R406	RC10472140
15	VM-P216	1/4W 680 $\Omega$	R407	RC10681140

PHOTO OF SYNC. & VIDEO AMP. P.C. BOARD (Y-500)



SYNC. & VIDEO AMP. P.C. BOARD (Y-500) BLOCK

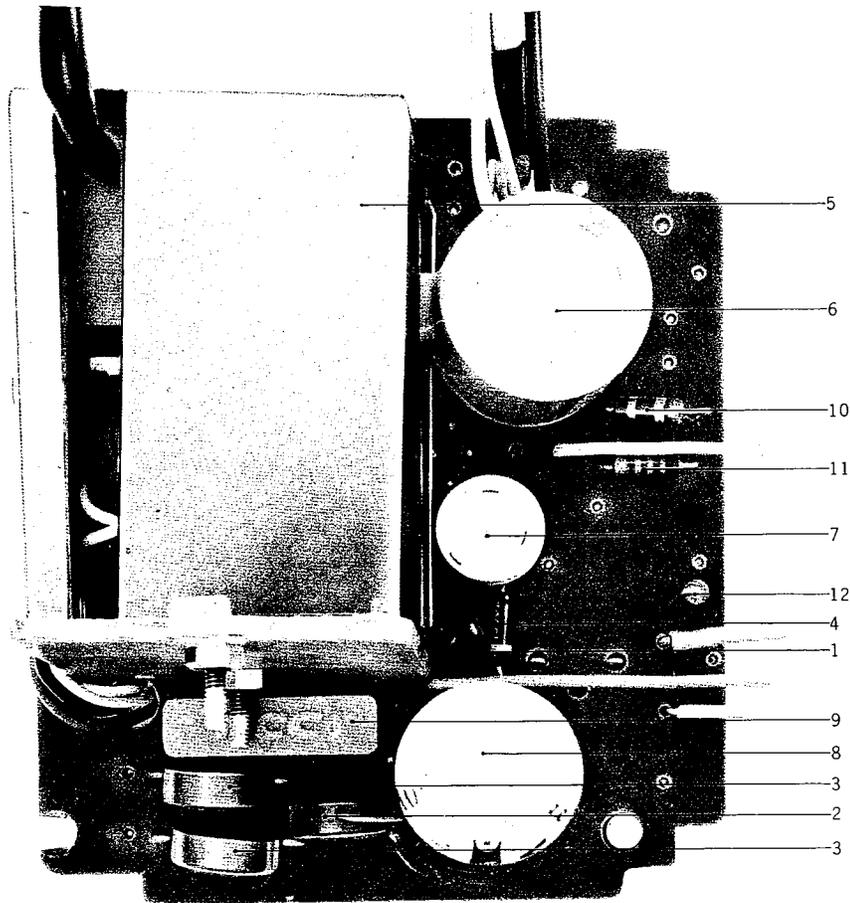
Ref. No.	Parts No.	Description	Schematic No.	Maker No.
-	VM-P301	Sync. & Video Amp. P.C. Board Assy. Comp.	Y-500	YD19550022
1	VM-P302	Transistor CS1294 (E,F)	Q501	HT600011F0
2	VM-P303	Transistor CS1238F	Q502	HT800100F0
3	VM-P304	Transistor CJ5209	Q504	HT60002100
4	VM-P305	Transistor CJ5210	Q505	HT80012100
5	VM-P306	Transistor SE7010	Q506	HT81010000
6	VM-P307	Transistor 2SB172D	Q509	HT201721D0
7	VM-P308	Transistor CJ5211	Q510	HT80013100
8	VM-P309	Transistor 2SB467	Q511	HT20467100
9	VM-P310	Diode 1N34A	Q503, 7, 8, 13	HD10001010
10	VM-P311	Peaking Coil 390µH	L501	LC13940010
11	VM-P312	V-OSC. Transformer LA4400	T501	TR11404010
12	VM-P313	H-OSC. Transformer LA5500	T502	TQ11404010
13	VM-P314	H-Drive Transformer LA5502	T503	TQ11404030
14	VM-P315	Semi-Fixed Resistor 5K	R515, 18, 32	RA05020040
15	VM-P316	Semi-Fixed Resistor 1M	R530	RA01050050
16	VM-P317	Thermistor MT250S	R547	HH00007020
17	VM-P318	Heat-Sink for Transistor		1955267020

Ref. No.	Parts No.	Description	Schematic No.	Maker No.
<b>Electrolytic Capacitor, Vertical Type</b>				
18	VM-P319	0.1 $\mu$ F 25WV	C501.8,20	EM10402510
19	VM-P320	3 $\mu$ F 15WV	C503	ED33501610
20	VM-P321	100 $\mu$ F 10WV	C505	EA10701010
21	VM-P322	30 $\mu$ F 16WV	C509	EA33601610
22	VM-P323	5 $\mu$ F 15WV	C510,17	EA47501610
23	VM-P324	10 $\mu$ F 150WV	C511	EA10616010
24	VM-P325	30 $\mu$ F 10WV	C154	EA33601010
25	VM-P326	1 $\mu$ F 50WV	C515	ED10505010
26	VM-P327	4.7 $\mu$ F 6WV	C522	EM47500620
27	VM-P328	2 $\mu$ F 50WV	C525	ER20505010

<b>Mylar Capacitor, Vertical Type</b>				
28	VM-P329	0.005 $\mu$ F	C502,27,52	DF17472010
29	VM-P330	0.003 $\mu$ F	C504	DF17332010
30	VM-P331	0.02 $\mu$ F	C506	DF17223010
31	VM-P332	0.03 $\mu$ F	C507,23	DF17333010
32	VM-P333	0.001 $\mu$ F	C512	DF17102010
33	VM-P334	0.002 $\mu$ F	C513	DF17222010
34	VM-P335	0.01 $\mu$ F	C518,21,24,51	DF17103010
35	VM-P336	0.1 $\mu$ F	C519	EM10402510
36	VM-P337	Metalized Capacitor 0.22 $\mu$ F 100WV	C516	DG07224500
-	VM-P338	Film Capacitor 0.047 $\mu$ F	C528	DF17473010
37	VM-P339	Film Capacitor 0.0047 $\mu$ F	C530	DF17472010
-	VM-P340	VFM Capacitor 50PF	C529	DD16500013

<b>Solid Resistor</b>				
38	VM-P341	1/4W 330 $\Omega$	R501	RC10331140
39	VM-P342	1/4W 2.2K	R502,6,16,39	RC10222140
40	VM-P343	1/4W 470K	R503	RC10474140
41	VM-P344	1/4W 82K	R504,19	RC10823140
42	VM-P345	1/4W 47K	R505	RC10473140
43	VM-P346	1/4W 220K	R507,12,29,31	RC10224140
44	VM-P347	1/4W 1.8K	R508,11	RC10182140
45	VM-P348	1/4W 4.7K	R510,35,36,46	RC10472140
46	VM-P349	1/4W 100 $\Omega$	R513	RC10101140
47	VM-P350	1/4W 2.7K	R514,26	RC10272140
48	VM-P351	1/4W 6.8K	R517	RC10682140
49	VM-P352	1/4W 5.6K	R520	RC10562140
-	VM-P353	1/4W 3.3K	R521	RC10332140
50	VM-P354	1/4W 50 $\Omega$	R522,24	RC10500140
51	VM-P355	1/4W 1K	R523,50	RC10102140
52	VM-P356	1/4W 27K	R525	RC10273140
53	VM-P357	1/4W 680K	R527	RC10684140
54	VM-P358	1/4W 100K	R528	RC10104140
55	VM-P359	1/4W 470 $\Omega$	R533	RC10471140
56	VM-P360	1/4W 1.5K	R534,41	RC10152140
57	VM-P361	1/4W 680 $\Omega$	R537	RC10681140
58	VM-P362	1/4W 560 $\Omega$	R538,40	RC10561140
59	VM-P363	1/4W 150 $\Omega$	R542	RC10151140
60	VM-P364	1/4W 3.3 $\Omega$	R543	RT10331140
61	VM-P365	1/4W 22K	R548	RC10223140
-	VM-P366	1/4W 10K	R549	RC10103140

PHOTO OF H.V. P.C. BOARD (Y-600)

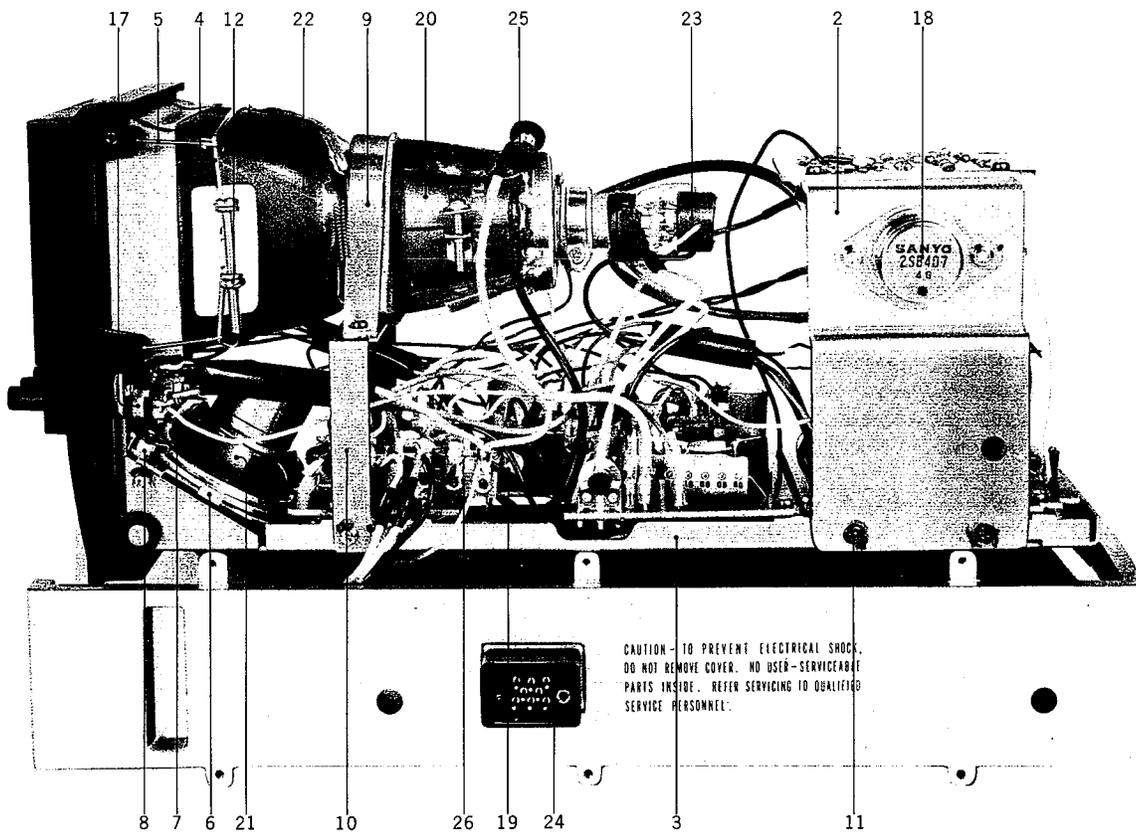


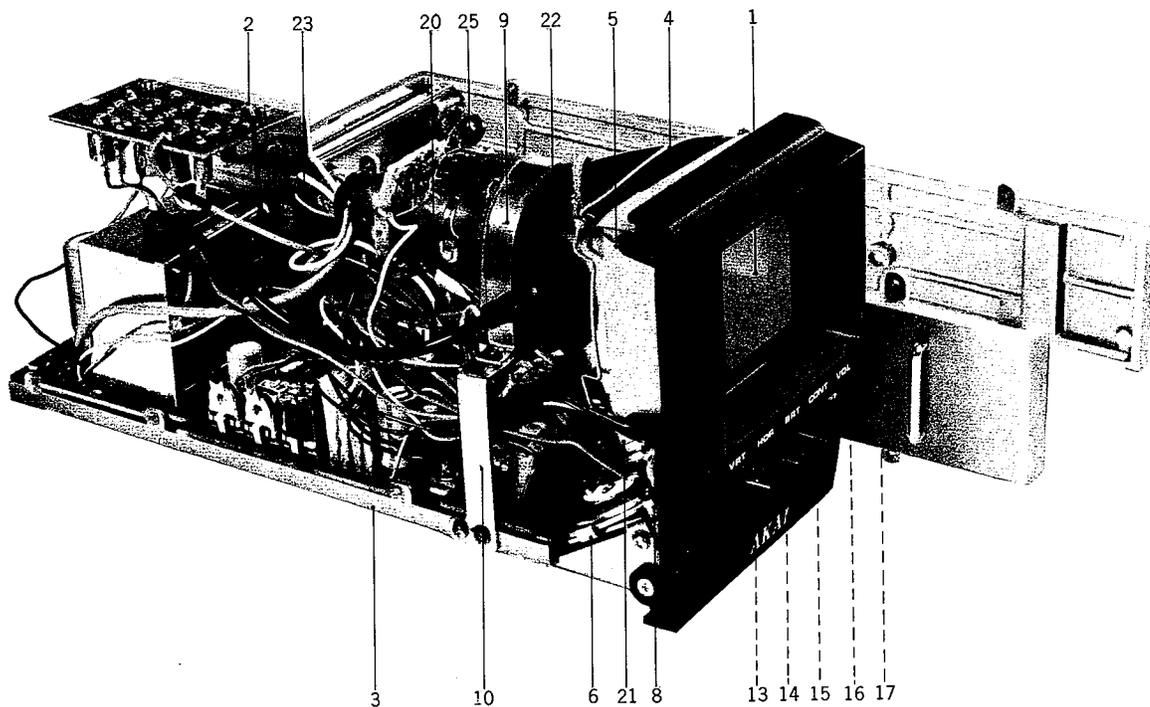
H.V. P.C. BOARD (Y-600) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Maker No.
-	VM-P401	H.V. P.C. Board Assy. Comp.	Y-600	YD19550013
1	VM-P402	Transistor CS1238G	Q610	HT80001000
2	VM-P403	Diode SD-1	Q601	HD20001080
3	VM-P404	Diode SD-1HF	Q602,3	HD20003080
4	VM-P405	Diode 1S332	Q609	HD30003080
5	VM-P406	Fly Back Transformer Comp.		ZZ20610010
-	VM-P407	F.B. Transformer LA6600	T601	TF03060010
-	VM-P408	Heater Transformer FC1045	T602	FC50140010
-	VM-P409	Semi-Fixed Resistor 10K	R601	RC01030100
-	VM-P410	Cap Complete	Q604	BH10200010
-	VM-P411	Cover		2006109010
-	VM-P412	Insulater		2062120010
<b>Capacitor, Vertical Type</b>				
6	VM-P413	Electrolytic 2000 $\mu$ F 10WV	C604	EA20801010
-	VM-P414	Electrolytic 30 $\mu$ F 10WV	C605	EA33601010
7	VM-P415	Electrolytic 100 $\mu$ F 10WV	C606	EA10701010
8	VM-P416	Electrolytic 1000 $\mu$ F 20WV	C607	EA10802010
-	VM-P417	Electrolytic 200 $\mu$ F 15WV	C609	EA22701610
9	VM-P418	Metalized Capacitor 0.047 $\mu$ F 500WV	C601	DG17473510
-	VM-P419	Mylar Capacitor 0.001 $\mu$ F	C608,11	DF17102010
-	VM-P420	Electrolytic 100 $\mu$ F 6.3WV	C613	EA10700610
<b>Solid Resistor</b>				
10	VM-P421	1/4W 390 $\Omega$	R602	RC10391140
11	VM-P422	1/4W 33K	R603	RC10333140
12	VM-P423	1/4W 100 $\Omega$	R604	RC10101140

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF ASSEMBLY BLOCK





## ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Maker No.
-	VM-M101	Sheet for Speaker	2061107010
1	VM-M102	Window for Picture Tube	1474158022
-	VM-M103	Indicator for Specification	2061265010
2	VM-M104	Heat-Sink for Transistor	2061267012
3	VM-M105	Chassis	2061105012
4	VM-M106	Retainer for Picture Tube	2061104010
5	VM-M107	Clamper for Picture Tube	2061005010
6	VM-M108	Bracket for Speaker	206116012
7	VM-M109	Clamper for Speaker	1118005010
8	VM-M110	Collar for Speaker	2061055010
-	VM-M111	R.H.M. Screw for Picture Tube 2.6 x 6	51022606E0
9	VM-M112	Retainer for Picture Tube	2006104020
10	VM-M113	Holder for Picture Tube	1955271012
-	VM-M114	Collar for Complete Unit	2061055020
-	VM-M115	Screw for Complete Unit	51077039F0
-	VM-M116	Cover for P.C. Board	1914053012
-	VM-M117	R.H.M. Screw for Speaker 2 x 6	51020206E0
-	VM-M118	R.H.M. Screw for P.C. Board 2.6 x 4	51022604E0
11	VM-M119	F.H.M. Screw for Heat-Sink 2.6 x 4	51042604E0
12	VM-M120	Hexagon Nut for Picture Tube	53110303E0
-	VM-M121	Earth Lug	62261204E0
-	VM-M122	Cover for Picture Tube	1914053070
-	VM-M123	Resistor 1/4W 75Ω (R706)	RC10750140
13	VM-M124	Variable Resistor 2K (R701)	RK02020052
14	VM-M125	Variable Resistor 1K (R702)	RK01020062
15	VM-M126	Variable Resistor 500K (R703)	RK05040052
16	VM-M127	Variable Resistor 300Ω (R704)	RK03010022
17	VM-M128	Variable Resistor 10K w/Switch (R705)	RK11030152
18	VM-M129	Transistor 2SB407D (Q701)	HT204071D0
-	VM-M130	Transistor Kit	KT20610010
19	VM-M131	Elect. Capacitor 33μF 10WV (C701)	EA33601010
20	VM-M132	Deflection Yoke (L701)	LD05013010
21	VM-M133	Speaker (W701)	GJ80503010
22	VM-M134	Picture Tube (V701)	VB00313010
23	VM-M135	Socket (Y714)	YJ05000012
24	VM-M136	Plug (Y720)	YP10000740
25	VM-M137	Ferrite Core	FC50140010
26	VM-M138	Lug Plate 2L2	YL01050030

When you order these parts, Please describe their Parts No. and Serial No. in detail

## PHOTO OF FINAL ASSEMBLY BLOCK



## FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
1	X-358918	Monitor Front Panel	PX-1001	1
2	X-358931	Monitor Name Plate	PX-1003	1
3	X-358942	Monitor Case Lower Cover	PX-1004	1
4	X-358986	Monitor Frame 1 (Left)	PX-1007	1
-	X-360988	Band Hanger	PX-402	1
-	X-273756	M3 Nut		2
5	X-358975	Monitor Frame 2 (Right)	PX-1006	1
6	X-358997	Monitor Connector Cover	PX-1009	1
7	X-375423	Screw, binding head 2.3 x 5		6
-	X-359032	Connection Plate, Frame	PX-1012	2
8	X-359010	Connecting Bolt	PX-1011	2
-	X-364803	Washer (Nylon) 5.1 x 10.3 x 0.1t		2
-	X-359021	Bolt Collar	PX-1013	2
-	X-359008	Stopper Ring	PX-1010	2
9	X-359043	Monitor Case Upper Cover	PX-1014	1
10	X-375423	Screw, binding head 2.3 x 5		6
11	X-375412	Screw, binding head 2.3 x 8		2
-	X-259738	Washer (Polyslider) 4.1 x 7 x 0.25t		5
12	X-359054	Monitor Knob	PX-1015	5

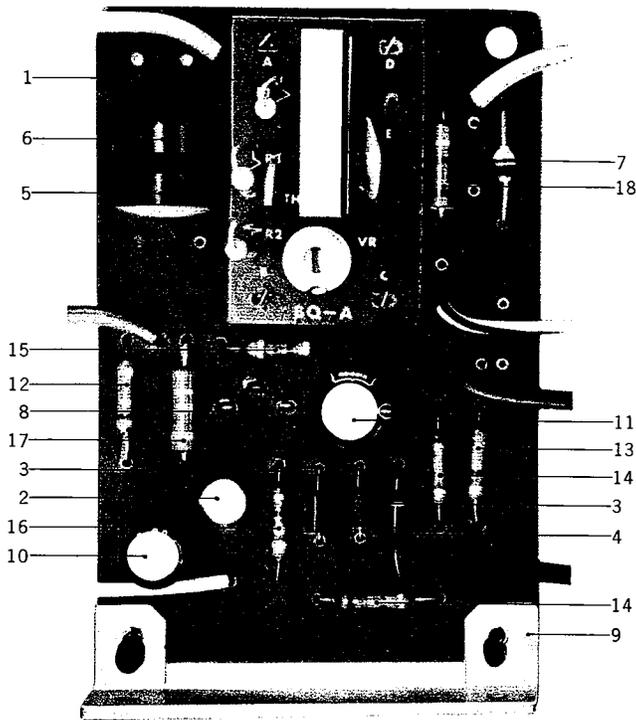


**SECTION 4**  
**AC ADAPTER/BATTERY**  
**CHARGER COMPONENT PARTS**

WHEN YOU ORDER THESE PARTS,  
PLEASE DESCRIBE THEIR PARTS NO.  
AND SERIAL NO. IN DETAIL

POWER SUPPLY P.C. BOARD (PX-A3008) BLOCK .....	43
ASSEMBLY BLOCK .....	45

PHOTO OF POWER SUPPLY P.C. BOARD (PX-A3008)

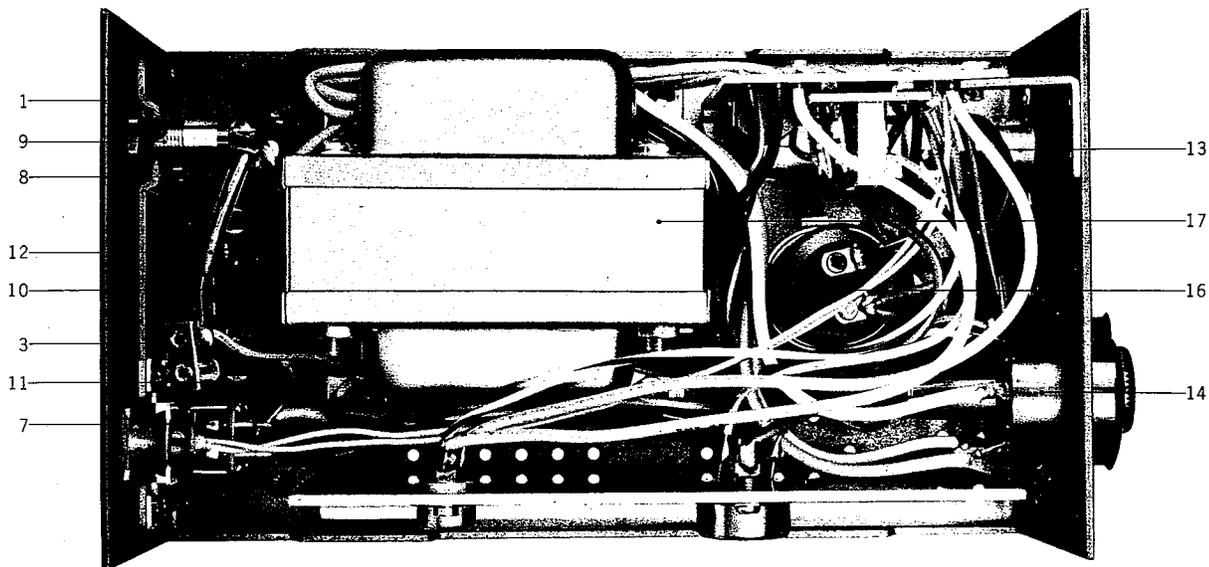
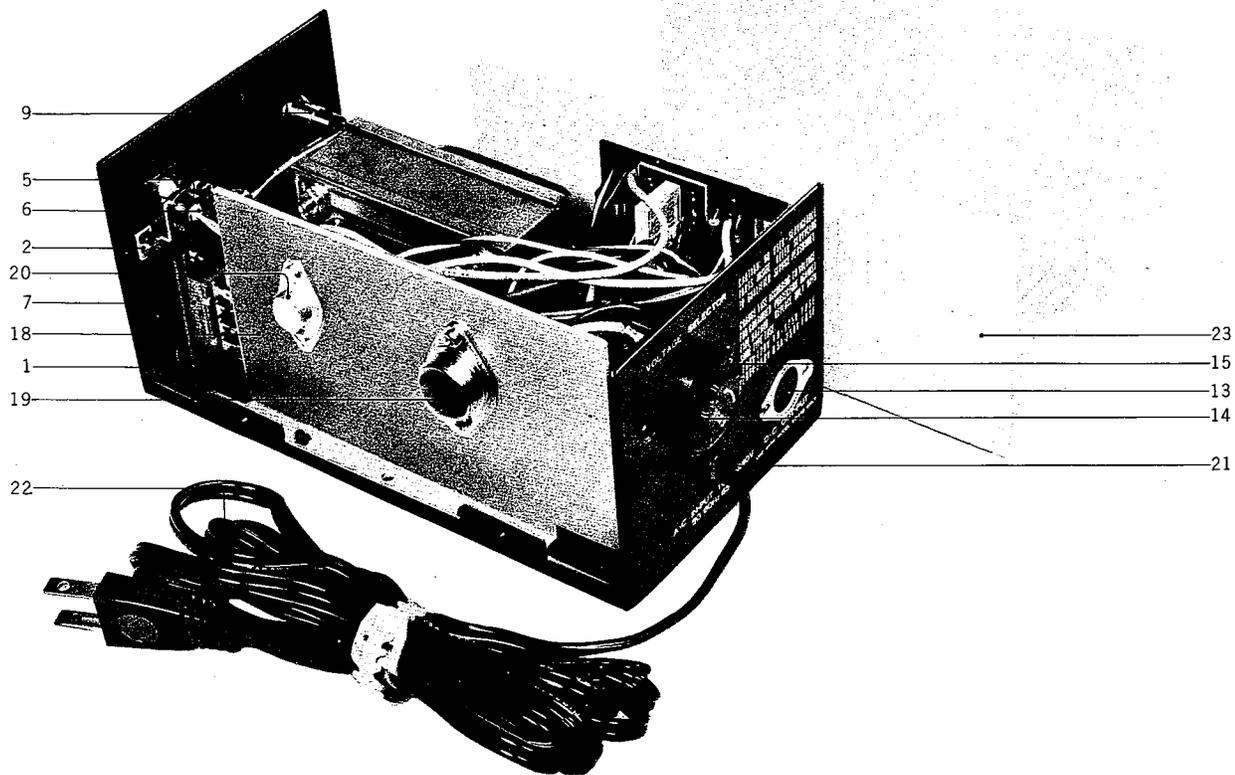


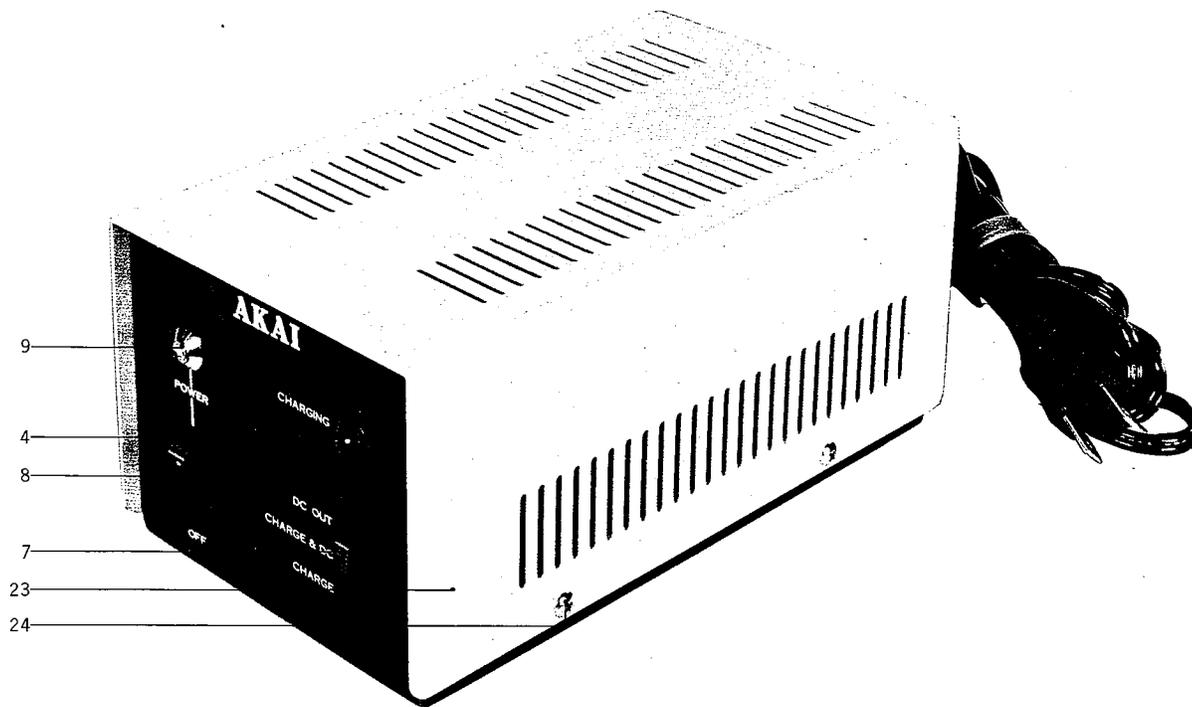
POWER SUPPLY P.C. BOARD (PX-A3008) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
-	Y-423314	Power Supply P.C. Board Assy. Comp.	PX-A3008	1
1	Y-421762	Charger P.C. Board Unit BQ-A	56-1-2	1
2	Y-338894	Transistor 2SC968(3)	TR1001	1
3	Y-234753	Transistor 2SC458(B)	TR1002.3	2
4	Y-356534	Zener Diode RD-6A M	D1001	1
5	Y-329128	Silicon Diode 10DC-1 (Red)	D1002	1
6	Y-329130	Silicon Diode 10DC-1 (Black)	D1003	1
7	Y-421795	Silicon Diode V03C	D1004	1
8	Y-403132	Semi-variable Volume V101KR-1 300ΩB	VR1001	1
9	Y-356051	REG P.C. Board Mounting Plate B	PX-3010	1
-	Y-200687	Tapping Screw #2 3 x 6		2
		<b>Capacitor, Vertical Type</b>	C	
10	Y-350684	Electrolytic 22μF 25WV	1001	1
11	Y-220127	Electrolytic 100μF 16WV	1002	1
		<b>Carbon Resistor, Insulator Type</b>	R	
12	Y-214536	RD1/4 6.8K J	1001	1
13	Y-430288	RD1/4 680Ω J	1003	1
14	Y-364961	RD1/4 1.2K J	1004.5	2
15	Y-214402	RD1/4 470Ω J	1006	1
16	Y-364950	RD1/4 330Ω J	1007	1
17	Y-320106	RD1/2P 4.7Ω K (P Type)	1002	1
18	Y-215627	RD1/2P 150Ω K (P Type)	1008	1

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF ASSEMBLY BLOCK





## ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity	Ref. No.	Parts No.	Description	Schematic No.	Quantity
1	Z-421187	Power Chassis	PX-A3001	1	16	Z-362632	Electrolytic Capacitor 2200 $\mu$ F 25WV	24-10-57	1
2	Z-421198	Lamp Mounting Angle	PX-A3003	1	-	Z-355511	Screw, binding head 3 x 6		2
3	Z-369077	Lug Plate VBL1	33-4-7	1	-	Z-273756	M3 Nut		2
-	Z-417216	Screw, pan head 3 x 4		2	17	Z-421244	Power Transformer PXT-7	38-4-118	1
4	Z-421222	Charger Lamp Indicator	PX-A3004	1	-	Z-201341	Screw, truss head 4 x 8		4
-	Z-421233	Speed Nut	PX-A3006	1	-	Z-413188	M4 Nut		4
5	Z-421200	Lamp Holder	PX-A3005	1	18	Z-356062	Transistor Heat-Sink Plate	PX-3009	1
6	Z-421211	Lamp 12V 70MA 190MM x 2	28-2-17	1	19	Z-377098	Transistor 2SD80	45-1-82	1
7	Z-356343	Slide Switch ESD-282DU	25-3-34	1	20	Z-350313	Transistor 2SD130(Y)	45-1-46	1
-	Z-356038	Slide Switch Mask	PX-3011	1	21	Z-382263	Strin Relief SR-4K-4	2-7-12	1
-	Z-422076	Screw, pan head 3 x 5		2	22	Z-374894	UL AC Cord 3M	26-3-19	1
8	Z-356365	Seesaw Switch T-127 U/L	25-2-9	1	-	Z-356400	AC Cord Cramp		1
-	Z-422076	Screw, pan head 3 x 5		2	-	Z-421738	Rubber Foot	3-18-14	4
9	Z-356376	Neon Lamp BNA-2	28-3-7	1	-	Z-421740	Screw, pan head 3 x 8		4
10	Z-356354	Silicon Diode 5B05	45-2-31	1	-	Z-277402	Fuse ST-2 1A	39-1-26	1
-	Z-355487	Screw, binding head 3 x 10		2	-	Z-371698	Fuse ST-4 0.5A	39-1-28	1
-	Z-273756	M3 Nut		2	23	Z-356073	Power Source Cover	PX-3012	1
11	Z-375592	Silicon Diode V06B	45-2-35	1	-	Z-355511	Screw, binding head 3 x 6		1
12	Z-345756	Carbon Resistor RD1/4 68K J	35-9-5	2	24	Z-335147	Screw, truss head 3 x 5		4
13	Z-299305	5P DIN Jack	31-1-1	1	-	Z-356242	Power Source Cable VCA-100	51-1-20	1
14	Z-233370	Power Consent (Voltage Selector) S-18010	40-2-3	1					
15	Z-374128	ISO Screw, truss head 3 x 8		2					

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**MEMO**