



## 1-2 HORIZONTAL AUTO-TRACKING CONTROL

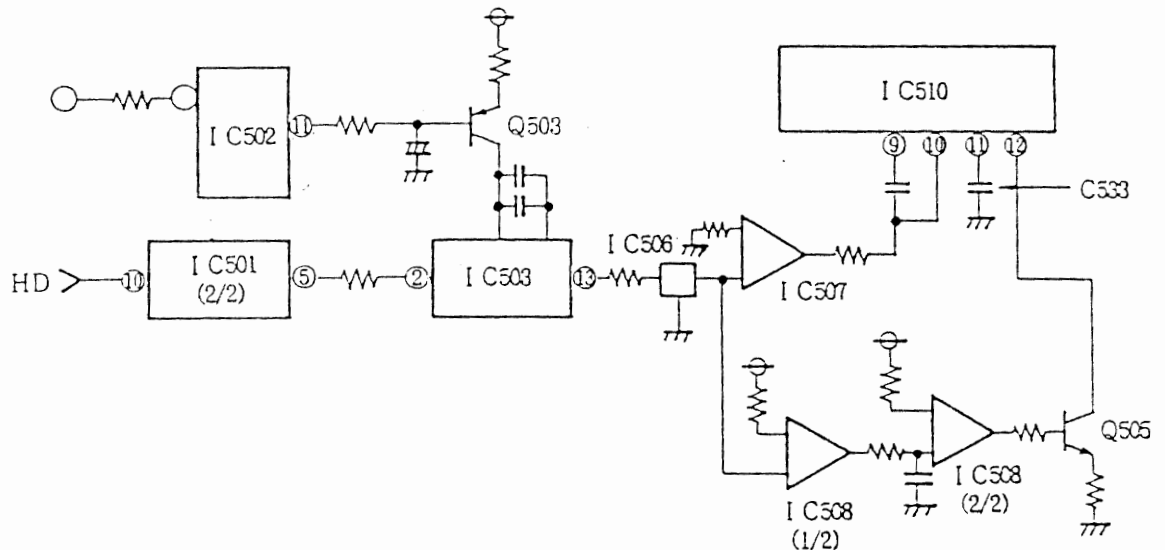
### (1) OPERATION

THE HORIZONTAL AUTO-TRACKING CIRCUIT IS CONSISTED BY IC503(1/2), IC506, IC507, IC510, Q505, IC508(1/2, 2/2) AND PERIPHERAL CIRCUITS, WHICH TO CONTROL THE CHARGE OR DISCHARGE CURRENT OF C533 THROUGH IC510.

THE HORIZONTAL SYNC. SIGNAL FROM HORIZONTAL PHASE CIRCUIT IS APPLIED TO THE ONE SHOT MULTI VIBRATOR OF IC 503(1/2), THEN OUTPUT PULSE DUTY OF IC503(1/2) IS CONTROLLED BY CHARGE CURRENT OF C518 AND C519 VIA Q503. (BASE OF Q503 IS CONTROLLED BY IC502)

THIS OUTPUT PULSE IS RECTIFIED BY INTEGRATION CIRCUIT OF R535 AND C523 THROUGH IC508(1/2), WHICH IS APPLIED TO THE BASE OF Q505 SO THAT BASE VOLTAGE OF Q505 IS IN PRUPTION TO THE HORIZONTAL FREQUENCY, THEN IT CONTROL THE CHARGE OR DISCHARGE CURRENT OF C533 VIA IC510. THESE OPERATION CAN PERFORM THE AUTO-TRACKING FUNCTION.

### (2) CIRCUIT



### 1-3 FREE RUNNING FREQUENCY CONTROL

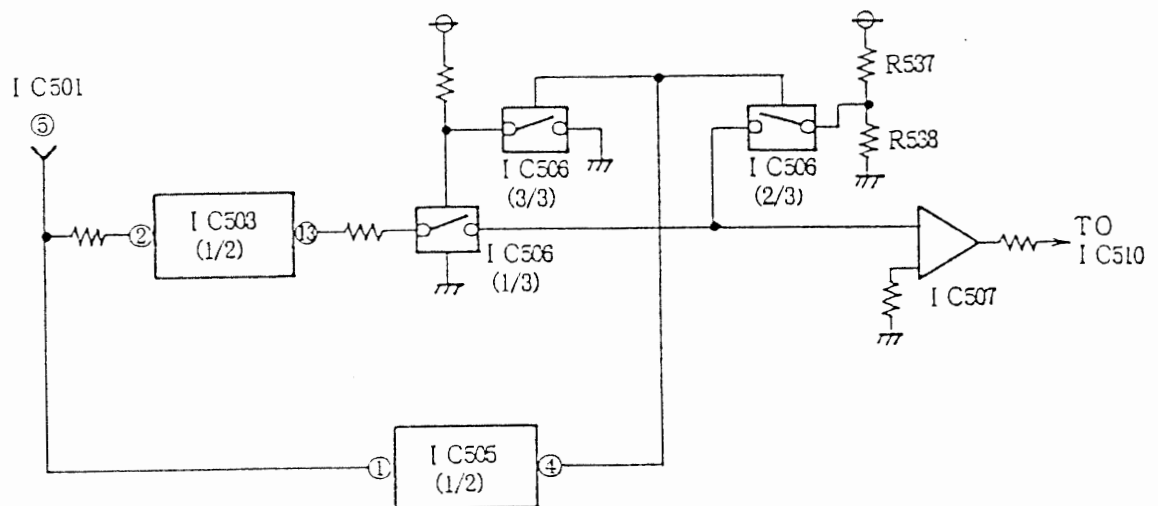
#### (1) OPERATION

FREE RUNNING FREQUENCY MEANS INTERNAL OSCILLATION FREQUENCY, WHEN DISCONNECT THE SYNC. SIGNAL, WHICH IS FIXED BY IC505 AND IC506. IN NORMALLY, H-LIM SIGNAL OF ① PIN IN CONNECTOR "CD-1" IS FIXED TO HIGH LEVEL, WHEN INPUT THE SYNC. SIGNAL. HOWEVER, WHEN DISCONNECT THE SYNC. SIGNAL(NO SIGNAL CONDITION), ⑤ PIN OF IC501 IS FIXED TO HIGH LEVEL, SO THAT OUTPUT TERMINAL OF ④ PIN OF IC505 IS FIXED TO HIGH LEVEL, THEN 2/3 AND 3/3 OF IC506 BECOMES ON, 1/3 BECOMES OFF CONDITION.

AS THE RESULT OF THIS OPERATION, SYNC. PULSE FROM IC503 IS COMPLETELY STOPPED BY ANALOG SWITCH OF IC506(1/3) THEN VOLTAGE OF ② PIN OF IC506(1/3) IS FIXED BY R537 AND R538 WHICH TO OBTAIN THE CONSTANT FREE RUNNING FREQUENCY.

(APPROX. 26 TO 27 KHz)

#### (2) CIRCUIT



#### 1-4 +B VOLTAGE AND HORIZONTAL WIDTH CONTROL

##### (1) OPERATION

THE HORIZONTAL RASTER SIZE IS DETERMINED BY POWER SUPPLY VOLTAGE OF HORIZONTAL DEFLECTION CIRCUIT(+B VOLTAGE), WHICH IS CONTROLLED BY IC222 OF MPU ACCORDING TO THE INPUT SYNC. SIGNAL, TO OBTAIN THE CONSTANT HORIZONTAL RASTER.

THE OUTPUT PULSE FROM IC510 OF HORIZONTAL DEFLECTION CONTROL IS APPLIED TO THE GATE OF Q523 OF THE CHOPPER FET THROUGH IC503(2/2), Q539 AND Q521.

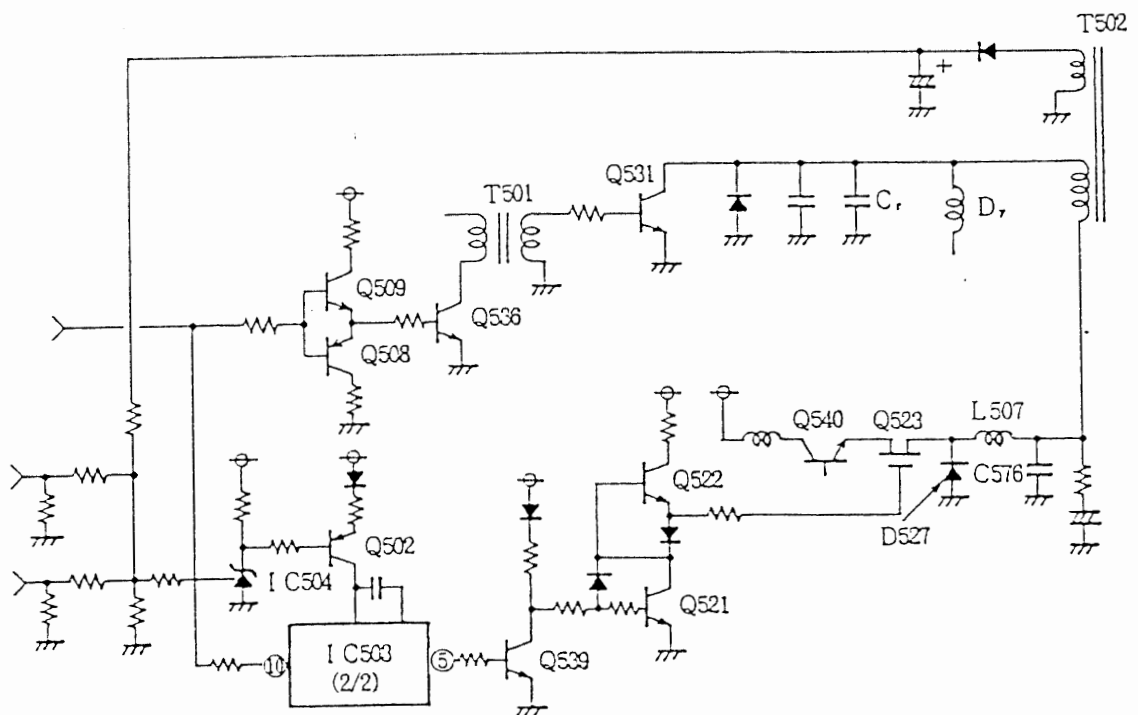
THIS PULSE MAY CHOP 150V LINE FROM POWER SUPPLY CIRCUIT BY Q523, WHICH VOLTAGE IS RECTIFIED BY D527, L507 AND C576, THEN IT IS SUPPLIED TO THE POWER SUPPLY LINE OF HORIZONTAL DEFLECTION CIRCUIT THROUGH T502.

THE OUTPUT PULSE RATIO OF IC503 IS CONTROLLED BY IC222 VIA IC502, IC504 AND Q502.

THE OUTPUT SIGNAL OF IC502(12, 13 PIN) IS COMPARED WITH REFERENCE VOLTAGE OF IC504, WHICH IS APPLIED TO CONTROL THE BASE VOLTAGE OF Q502, SO THAT THEY CAN CONTROL THE OUTPUT PULSE DUTY RATIO OF IC503, THEN IT CONTROL THE CHOPPING PERIOD OF Q523 ACCORDING TO THE INPUT SIGNAL.

THESE OPERATION CAN CONTROL THE POWER SUPPLY VOLTAGE OF HORIZONTAL DEFLECTION CIRCUIT, TO OBTAIN THE CONSTANT RASTER SIZE.

##### (2) CIRCUIT

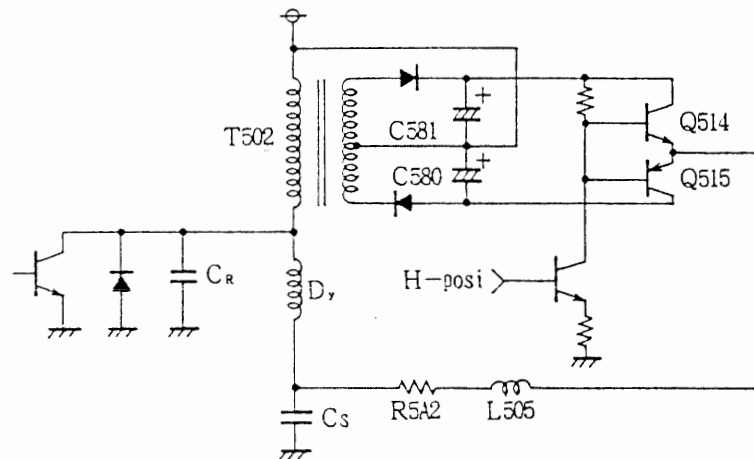


## 1-5 HORIZONTAL POSITION CONTROL

(1) OPERATION

HORIZONTAL RASTER POSITION IS CONTROLLED THAT THE BIAS DC CURRENT TO HORIZONTAL DEFLECTION COIL, WHICH IS SUPPLIED FROM Q514, Q515  $\longleftrightarrow$  R5A2  $\longleftrightarrow$  L505  $\longleftrightarrow$  DY  $\longleftrightarrow$  C580, C581.

(2) CIRCUIT



### 1-6 C<sub>s</sub>, LINEARITY COIL AND C<sub>R</sub> SELECTION

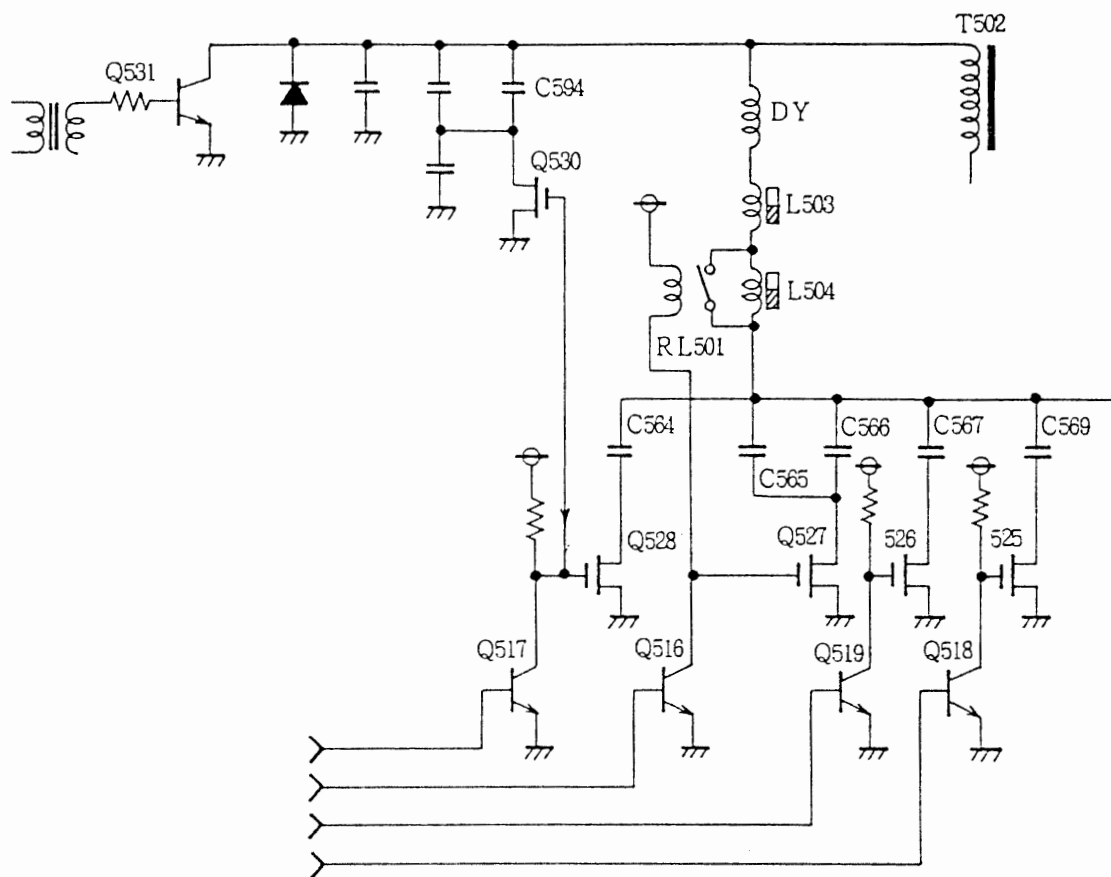
## (1) OPERATION

IN THE AUTO-TRACKING FUNCTION, IT HAS THE LINEARITY CONTROL CIRCUIT WHICH COMPENSATE TO OBTAIN THE OPTIMUM LINEARITY IN WIDE FREQUENCY RANGE.

THE LINEARITY CONTROL CIRCUIT CAN SELECT 5 DIFFERENT CAPACITORS(C564~567, C569) ACCORDING TO THE INPUT SYNC. SIGNAL BY SELECTION TRANSISTOR Q516~519. AND IT ALSO SELECT 2 DIFFERENT COILS(L503, L504) ACCORDING TO THE INPUT SYNC. SIGNAL BY Q516 AND RL501.

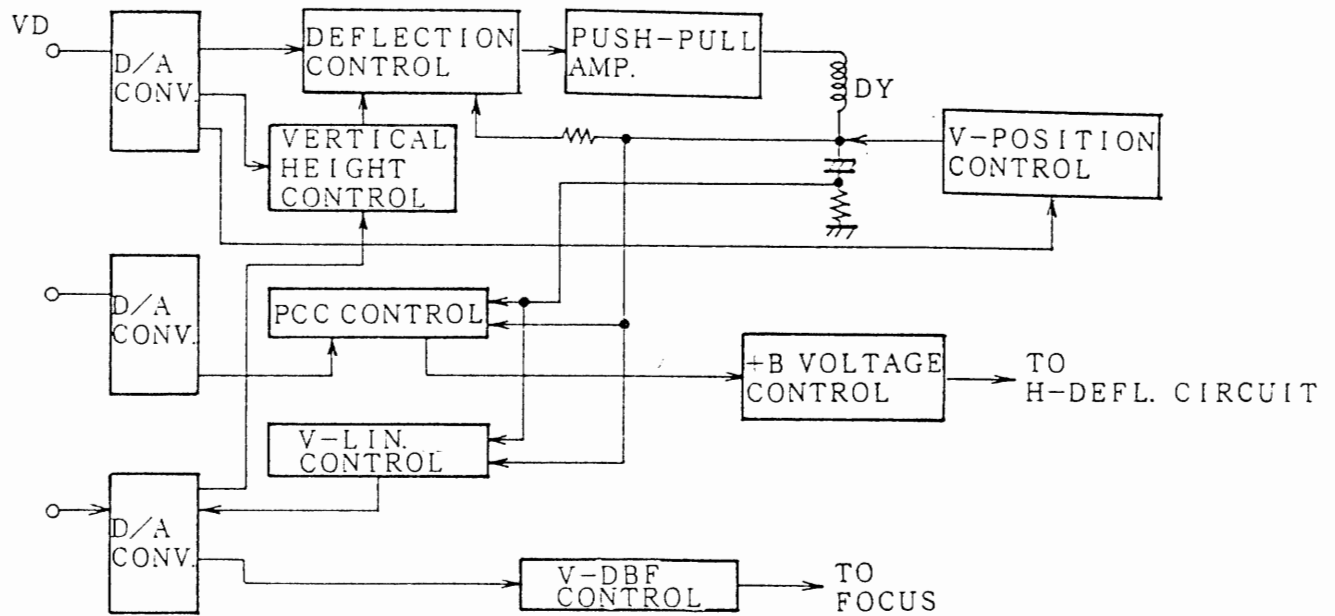
THE RESONANCE CAPACITOR(C<sub>r</sub>) OF C594 IS SELECTED BY Q517 TOO, WHICH TO REDUCE THE COLLECTOR PULSE OF HORIZONTAL OUTPUT TRANSISTOR Q536 AT OVER SCANNING CONDITION OF LOWER FREQUENCY.

(2) CIRCUIT



## 2. VERTICAL DEFLECTION CIRCUIT

THE VERTICAL DEFLECTION CIRCUIT IS CONSISTED BY FOLLOWING BLOCK.



BLOCK DIAGRAM OF VERTICAL DEFLECTION CIRCUIT

## 2-1 VERTICAL AUTO-TRACKING CONTROL

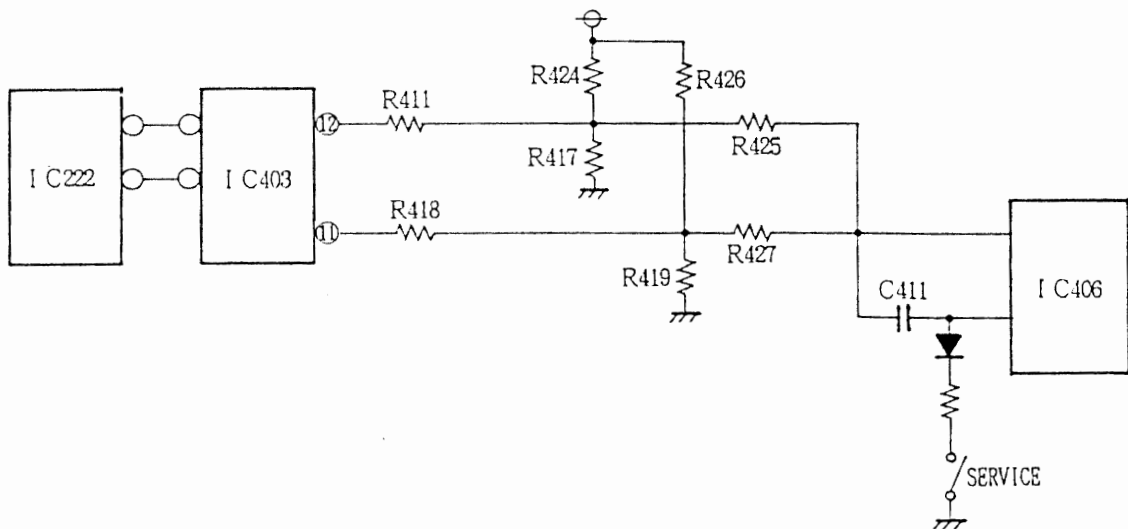
### (1) OPERATION

THE VERTICAL AUTO-TRACKING CIRCUIT IS BASICALLY SAME AS HORIZONTAL CIRCUIT, IT IS CONTROLLED BY CHARGE OR DISCHARGE CURRENT OF C411 VIA IC401, WHICH TO CONTROLL THE VERTICAL FREE RUNNING FREQUENCY ACCORDING TO THE INPUT SYNC. SIGNAL.

THE VERTICAL SYNC. INPUT SIGNAL IS CONVERTED TO VOLTAGE FROM FREQUENCY BY IC222 IN VIDEO CIRCUIT, WHICH VOLTAGE IS APPLIED TO IC403 OF D/A CONVERTOR. THE OUTPUT OF IC403 IS APPLIED TO C411 THROUGH R418 AND R417 WHICH CAN CONTROLL THE VERTICAL FREE RUNNING FREQUENCY.

ALSO, THE VERTICAL HOLD IS CONTROLLED BY OUTPUT SIGNAL OF IC403, WHICH IS APPLIED TO C411 THROUGH R411 AND R425.

### (2) CIRCUIT





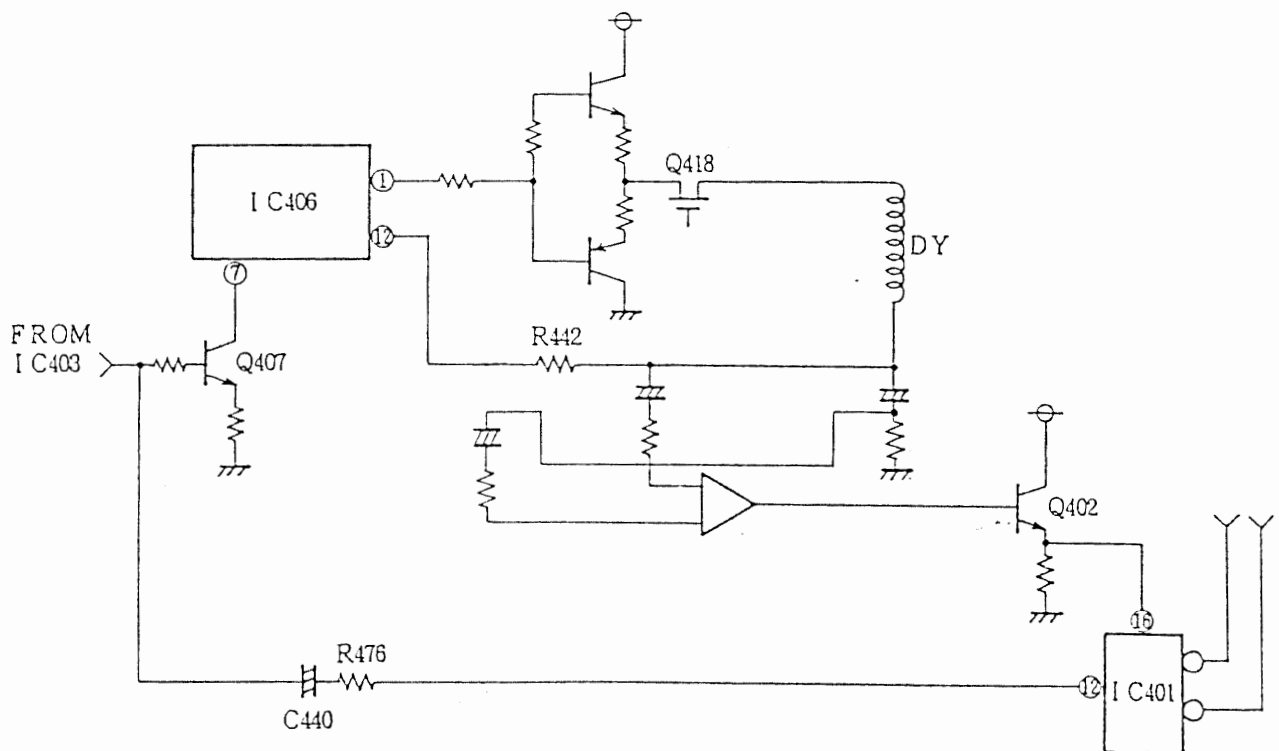
## 2-2 VERTICAL HEIGHT CONTROL

(1) OPERATION

THE VERTICAL RASTER SIZE IS DETERMINED BY CURRENT OF ⑦ PIN ON IC406, WHICH IS CONTROLLED BY OUTPUT OF IC403 VIA Q407, AND THEY OBTAIN CONSTANT VERTICAL RASTER SIZE IN WIDE FREQUENCY RANGE.

THE VERTICAL RASTER SIZE IS CONTROLLED BY OUTPUT VOLTAGE OF IC403, WHICH TO CONTROLL THE BASE VOLTAGE OF Q407, SO THAT IT WILL BE CHANGED TO CONTROLL THE CURRENT OF ⑦ PIN ON IC406.

(2) CIRCUIT



## 2-3 VERTICAL LINEARITY CONTROL

THE BASE OF Q407 IS MODULATED BY PARABOLIC WAVE FROM VERTICAL DEFLECTION CIRCUIT, WHICH TO IMPROVE THE VERTICAL LINEARITY ON SCREEN IN WIDE FREQUENCY RANGE.

THIS PARABOLIC WAVE IS CONTROLLED TO SMALL AMPLITUDE WHEN INPUT THE LOWER FREQUENCY SIGNAL, AND IT IS CONTROLLED TO BIG AMPLITUDE WHEN INPUT THE HIGHER FREQUENCY SIGNAL BY MPU OF IC222.

THEY ARE APPLIED TO THE BASE OF Q407 THROUGH THE POWER SUPPLY LINE OF IC401  
(10 PIN).

## 2-4 PCC CONTROL

### (1) OPERATION

PCC(Side Pin Cushion Control) CIRCUIT MAY COMPENSATE FOR THE SIDE DISTORTION ON SCREEN, WHICH CAN CORRECT THE HORIZONTAL WIDTH BY MODULATION OF PARABOLIC WAVE OF VERTICAL PERIOD.

THE AMPLITUDE OF PARABOLIC WAVE CAN COMPENSATE THE PIN CUSHION OR BARREL DISTORTION, AND PHASE OF PARABOLIC WAVE CAN COMPENSATE THE TRAPEZOIDAL DISTORTION.

THE PARABOLIC WAVE FROM C414 IS AMPLIFIED BY IC407, IC405 AND IC402(1/2), THEN IT MODULATE THE POWER SUPPLY OF IC401 THROUGH Q402.

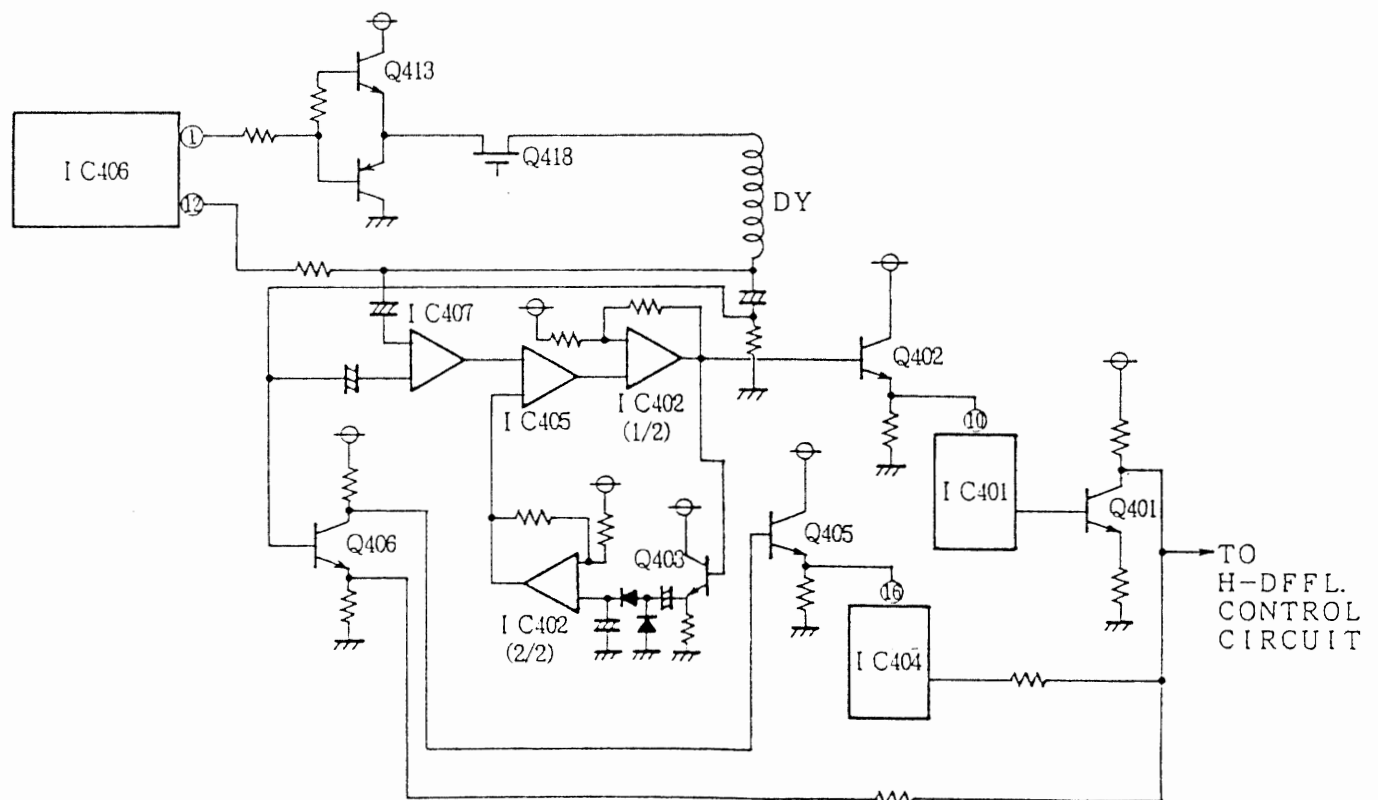
THIS PARABOLIC WAVE IS CONTROLLED TO OBTAIN THE CONSTANT WAVE FORM IN WIDE FREQUENCY RANGE, BY Q403 AND IC402(2/2) IN FEEDBACK CIRCUIT.

ON THE OTHER HAND, THE SAWTOOTH WAVE FROM R434 IS APPLIED TO Q406, THEN IT PROVIDES IN-PHASE WAVE FROM EMITTER AND IT ALSO PROVIDES THE INVERTED WAVE FROM COLLECTOR.

THE INVERTED WAVE MODULATE THE POWER SUPPLY OF IC401 THROUGH Q402.

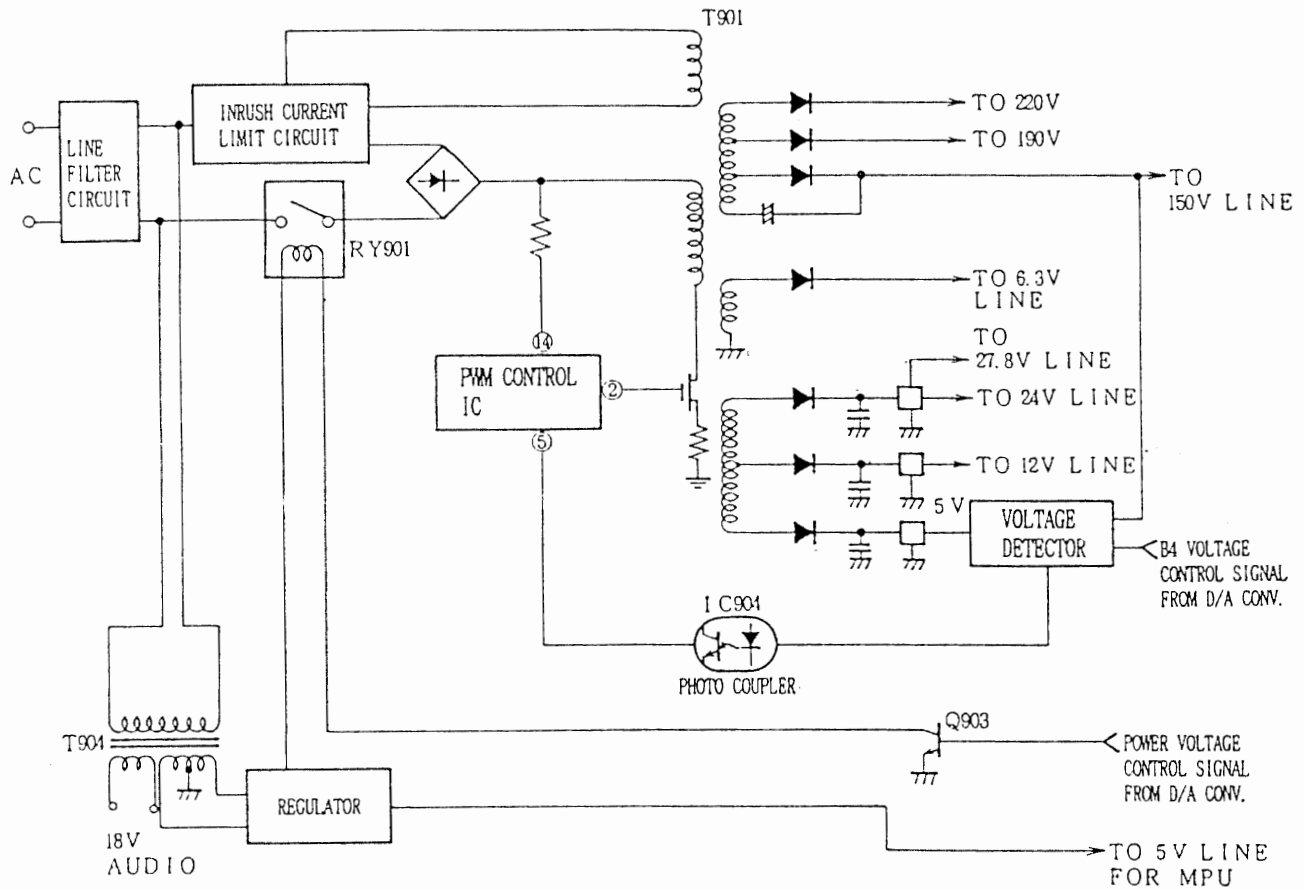
THESE WAVES ARE COMBINED AND APPLIED TO IC503 FOR COMPENSATION OF SIDE DISTORTION.

### (2) CIRCUIT



### 3. POWER SUPPLY CIRCUIT

THE POWER SUPPLY CIRCUIT IS CONSISTED BY FOLLOWING BLOCK.



BLOCK DIAGRAM OF POWER SUPPLY CIRCUIT

### 3-1 FEATURES

- (1) POWER SUPPLY CIRCUIT CAN SELECT AC100V~120V OR AC200V~240V INPUT VOLTAGE BY SELECTION SWITCH ON THE REAR PANEL.
- (2) THERE ARE TWO KINDS OF SWITCH IN POWER SUPPLY CIRCUIT, ONE IS USED FOR MECHANICAL SWITCH(MAIN SWITCH) AND ANOTHER IS REMOTE CONTROL SWITCH (SUB SWITCH).
- (3) POWER SUPPLY CIRCUIT HAS THE SWITCHING REGULATOR OF FLYBACK TYPE WHICH IS OPERATED AS PWM(Pulse Width Modulation) METHOD TO CONTROL THE OUTPUT VOLTAGE. THE OSCILLATION FREQUENCY IS APPROXIMATELY 80KHz.
- (4) THE POWER SUPPLY VOLTAGE IS SUPPLIED TO FOLLOWING LOAD.

OUTPUT VOLTAGE	MAIN LOAD
220	VIDEO CUT-OFF
190	VIDEO POWER SUPPLY
150	HIGH VOLTAGE, HORIZONTAL DEFLECTION
27	VERTICAL DEFLECTION
24	HIGH VOLTAGE, VERTICAL DEFLECTION
12	DEFLECTION, VIDEO
5	DEFLECTION, VIDEO
6.3	CRT HEATER

- (5) THE SUB POWER SUPPLY CIRCUIT IS CONSISTED BY LOW FREQUENCY TRANSFORMER OF T904 WHICH IS SUPPLIED TO FOLLOWING LOAD.

OUTPUT VOLTAGE	MAIN LOAD
5V	MPU POWER SUPPLY
18V	AUDIO POWER SUPPLY

- (6) THE FOLLOWING CIRCUITS ARE CONTROLLED BY OUTPUT SIGNAL FROM MPU(IC222).  
B4 VOLTAGE, HIGH VOLTAGE, AUTO DEGAUSS, MANUAL DEGAUSS

### 3-2 PRIMARY RECTIFYING AND SMOOTHING CIRCUIT

- (1) THIS MONITOR IS AVAILABLE FOR WORLD WIDE POWER INLET, WHICH WILL BE SELECTABLE BY SELECTION SWITCH ON REAR PANEL WHEN INPUT AC120V OR 240V.
- (2) AC INLET IS RECTIFIED BY D901 OF DIODE BRIDGE, THEN IT IS SMOOTHED BY C912, C913, AND TO CONVERT DC VOLTAGE.
- (3) THE RECTIFIER CIRCUIT MAY OPERATE FOR DOUBLE VOLTAGE RECTIFYING WHEN INPUT AC100V TO 120V, AND FULL WAVE RECTIFYING WHEN INPUT AC200V TO 240V, WHICH IS SELECTED BY SELECTION SWITCH ON REAR PANEL.
- (4) INRUSH CURRENT AT TURN ON THE MONITOR IS SUPPRESSED BY THERMISTOR OF TH901 AND TH902 IN RECTIFYING CIRCUIT.  
THESE THERMISTORS ARE SHORTED BY TRIAC OF IC902 AFTER STARTING THE OSCILLATION OF PRIMARY SWITCHING REGULATOR OF IC905.

### 3-3 DEGAUSSING CIRCUIT

THERE ARE TWO KINDS OF DEGAUSSING CIRCUIT IN MONITOR.

ONE IS THE AUTOMATIC DEGAUSS CIRCUIT, WHICH IS AUTOMATICALLY OPERATED THE DEGAUSSING FUNCTION AT TURN ON THE MAIN SWITCH; THEN DEGAUSSING CURRENT GO THROUGH RP902 WHEN INPUT AC100V TO 120V, AND GO THROUGH RP901 AND R901 WHEN INPUT AC200V TO 240V.

ANOTHER ONE IS MANUAL DEGAUSS CIRCUIT, WHICH IS OPERATED AT TURN ON THE DEGAUSSING SWITCH.

IT IS SAME OPERATION AS THE AUTOMATIC DEGAUSS CIRCUIT, AND IT NECESSARY FOR THE COOLING TIME OF POSISTOR ABOUT 10 MINUTES AT USING THE MANUAL DEGAUSS SWITCH.

### 3-4 SWITCHING REGULATOR CIRCUIT

#### 1) PRIMARY CIRCUIT

- (1) WHEN TURN ON THE POWER SWITCH, RECTIFIED DC VOLTAGE FROM C912 AND C913 IS FED TO ⑭ PIN OF IC905 THROUGH R912 AND R913.

WHEN THE POWER SUPPLY VOLTAGE OF IC905 REACHES TO OVER 16V, IC905 WILL BEGIN TO START THE OSCILLATION, THEN IT INDUCE THE VOLTAGE ON ⑥ PIN OF T901 WHICH IS RECTIFIED BY D906 AND C917, SO THAT THIS INDUCED VOLTAGE IS FED TO IC905.

- (2) THE OUTPUT VOLTAGE ON ⑫ PIN(150V) OF T901 IS FED BACK TO ⑤ PIN OF IC905 VIA PHOTO COUPLER OF IC904 AND PROGRAMABLE SHUNT REGULATOR OF IC915.

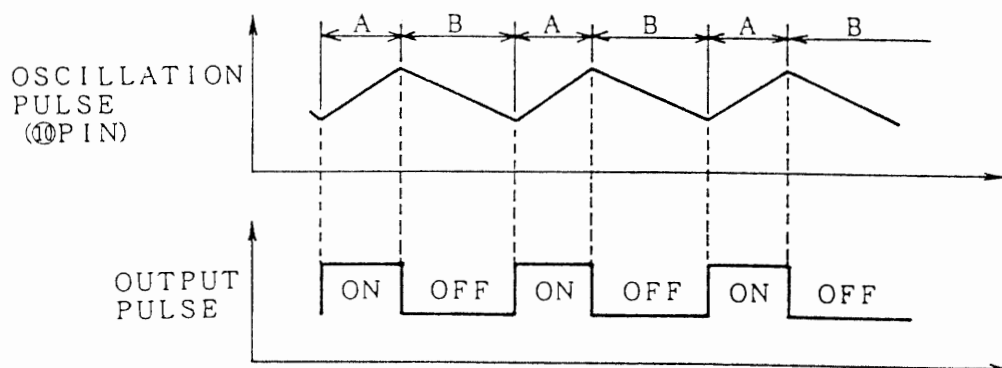
WHEN THE ⑫ PIN OF T901 REACHES TO OVER 150V, CATHODE CURRENT OF IC915 IS INCREASING, THEN INFLOW CURRENT OF PHOTO DIODE OF IC904 IS INCREASING TOO. AT THIS TIME, COLLECTOR CURRENT OF PHOTO TRANSISTOR OF IC904 IN PRIMARY SIDE IS INCREASING, SO THAT THE OUTPUT PULSE DUTY RATIO OF IC905 IS CONTROLLED TO OBTAIN THE CONSTANT VOLTAGE OF 150V POWER SUPPLY LINE.

- (3) IC905 OSCILLATES IN APPROX. 80KHz, WHICH PROVIDES THE DRIVE PULSE ON ② PIN, THEN IT IS APPLIED TO THE GATE OF Q901 AND Q902.

THE OSCILLATION PULSE IS SHOWN AS BELOW.

"A" PERIODE IN WAVE IS DETERMINED BY R920 AND C919, WHICH IS OPERATED TO TURN ON THE REGULATOR.

"B" PERIODE IN WAVE IS DETERMINED BY R919 AND C919, WHICH IS OPERATED TO TURN OFF THE REGULATOR.



OSCILLATION OF SWITCHING PULSE

(4) IF EXCESSIVE VOLTAGE IS APPLIED TO ZENER DIODE OF D911, THIS VOLTAGE IS APPLIED TO ④ PIN ON IC905 THROUGH D911.

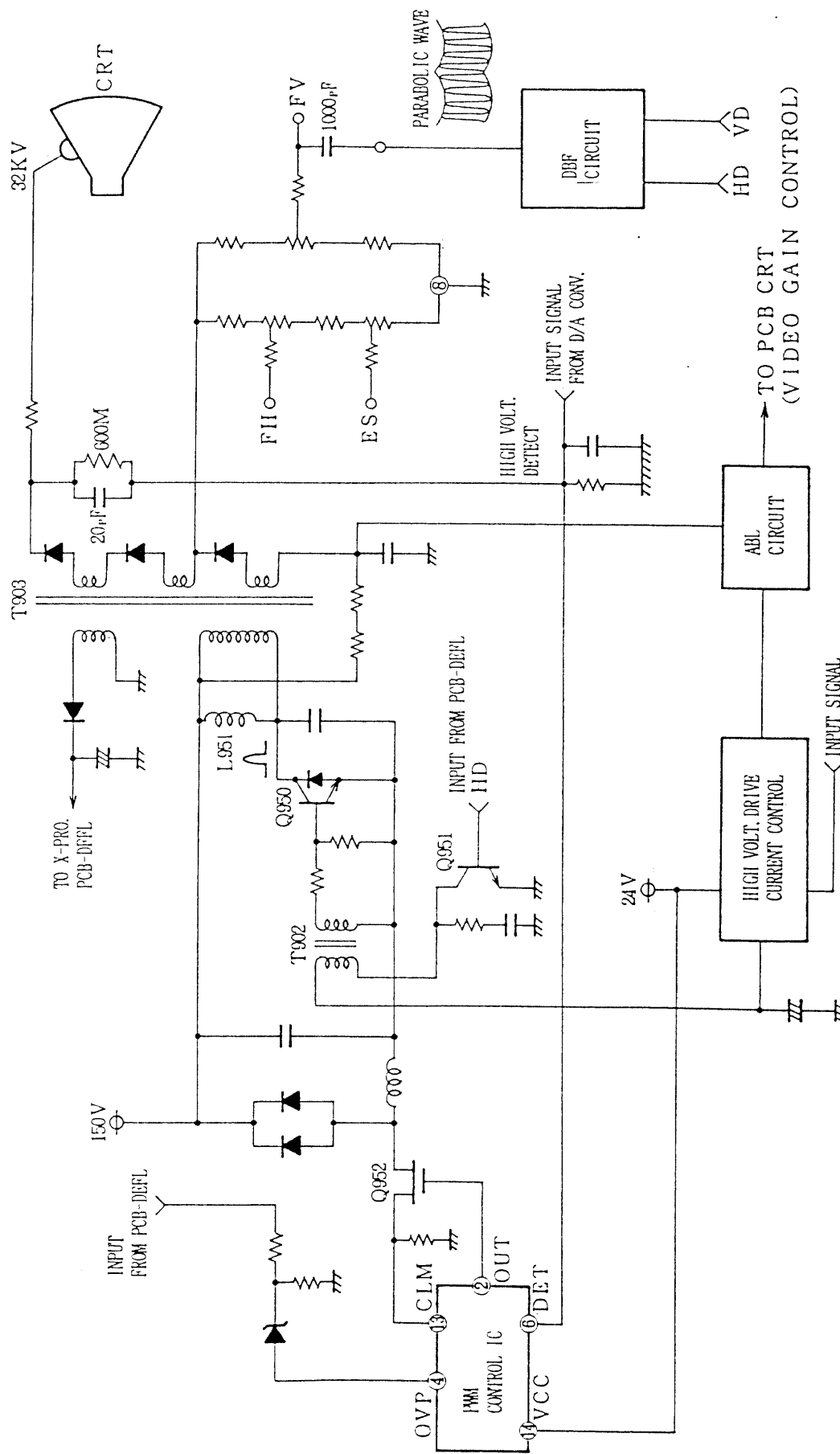
IN CASE OF THIS VOLTAGE REACHES TO OVER 2V, IC905 WILL STOP THE OUTPUT PULSE. THESE OPERATION CAN PROTECT THE OVER VOLTAGE TO Q901, Q902 AND OUTPUT LINE. IF NECESSARY TO RESTART THE MONITOR, IT SHOULD BE TURN OFF THE MAIN SWITCH AFTER RECOVERING.

(5) IF EXCESSIVE CURRENT GO THROUGH Q901 AND Q902 (IN CASE OF OVER LOAD) THEN VOLTAGE OF ⑬ PIN OF IC905 REACHES TO OVER 200mV; IT OPERATES OVER CURRENT PROTECTION CIRCUIT IN IC905, AND IT SUPPRESS THE SWITCHING CURRENT TO Q901 AND Q902.

## 2) SECONDARY RECTIFYING AND SMOOTHING CIRCUIT

(1) THE MAGNETIC ENERGY IS ACCUMULATED IN THE PRIMARY WINDING OF T901 WHEN TURN ON Q901 AND Q902, WHICH IS INDUCED TO OUTPUT THE SECONDARY CIRCUIT IN TURNING OFF PERIOD OF Q901 AND Q902.

(2) ABOVE INDUCED VOLTAGE IS SUPPLIED FROM ⑩~⑫, ⑮~⑰ PIN ON T901, THEN THESE VOLTAGES ARE RECTIFIED AND SMOOTHED BY D930~D937, D939, D941 AND SMOOTHING CIRCUIT WHICH ARE SUPPLIED TO EACH POWER LINE.



BLOCK DIAGRAM OF HIGH VOLTAGE CIRCUIT



### 3-5 HIGH VOLTAGE CIRCUIT

#### 1) HIGH VOLTAGE CIRCUIT

(1) THE OPERATION OF HIGH VOLTAGE CIRCUIT IS BASICALLY SAME AS HORIZONTAL DEFLECTION CIRCUIT.

(2) THE DRIVE PULSE OF HIGH VOLTAGE CIRCUIT IS APPLIED FROM HORIZONTAL DEFLECTION CIRCUIT WHICH DRIVE Q950.

THE COLLECTOR PULSE OF Q950 IS BOOSTED BY FLYBACK TRANS-FORMER OF T903 WHICH TO SUPPLY THE ANODE VOLTAGE.

THE BASE DRIVE CURRENT OF Q950 IS CONTROLLED TO OBTAIN THE CONSTANT COLLECTOR PULSE FOR APPLYING THE AUTO-TRACKING FUNCTION.

(3) IT IS NECESSARY TO STABILIZE THE HIGH VOLTAGE WHEN CHANGING THE BRIGHTNESS OF SCREEN, WHICH IS CONTROLLED BY POWER SUPPLY VOLTAGE OF HIGH VOLTAGE CIRCUIT.

(4) THE POWER SUPPLY VOLTAGE OF HIGH VOLTAGE CIRCUIT IS CONTROLLED BY IC906 AND Q952.

THE HIGH VOLTAGE OF ANODE IS DEVIDED BY INTERNAL RESISTOR OF FBT(APPROX.  $600M\Omega$ ) AND R968, WHICH IS APPLIED TO ⑥ PIN OF IC906, THEN IT IS COMPARED WITH REFERENCE VOLTAGE IN IC906(2.5V).

WHEN THE HIGH VOLTAGE IS DECREASING AND ABOVE DEVIDED VOLTAGE REACHES TO LESS THAN REFERENCE VOLTAGE, THE PULSE DUTY OF ② PIN OF IC906 WILL BE CHANGING, WHICH CONTROLL TO INCREASE THE HIGH VOLTAGE.

(5) ALSO, THE HIGH VOLTAGE IS CONTROLLED BY OUTPUT SIGNAL FROM IC222(MPU).

#### 2) HIGH VOLTAGE SAFETY CIRCUIT

—CAUTION—

SAFETY CIRCUITS DESCRIBED BELOW ARE EQUIPPED TO PREVENT ABNORMAL INCREASING OF THE HIGH VOLTAGE THAT MAY CAUSE X-RADIATION OF HARMFUL LEVEL.

NO MODIFICATION SHOULD BE APPLIED TO THE HIGH VOLTAGE SUPPLY AND SAFETY CIRCUIT.

- (1) THE HIGH VOLTAGE CIRCUIT IS EQUIPPED TO THE DOUBLE SAFETY CIRCUIT.
- (2) ONE IS THE OVER VOLTAGE PROTECTION CIRCUIT, AND ANOTHER IS X-RAY PROTECTION CIRCUIT.
- (3) THE PULSE VOLTAGE FROM THIRD WINDING OF THE FLYBACK TRANSFORMER IS IN PROPORTION TO THE HIGH VOLTAGE, WHICH IS RECTIFIED AND SMOOTHED BY D955 AND C987 FOR USING THE DETECTION VOLTAGE OF HIGH VOLTAGE.
- (4) THE DETECTED VOLTAGE FROM HIGH VOLTAGE CIRCUIT IS APPLIED TO ② PIN OF CNNECTOR "CP-2", THEN IT IS APPLIED TO ⑥ PIN OF IC510 VIA D518 AND D512 FOR X-RAY PROTECTION.  
IT IS ALSO APPLIED TO ④ PIN OF IC906 VIA D518 AND D954 FOR OVER VOLTAGE PROTECTION.  
THESE PROTECTION CIRCUITS ARE PROTECTED TO PREVENT THE INCREASING OF HIGH VOLTAGE AND POWER SUPPLY VOLTAGE OF HORIZONTAL DEFLECTION CIRCUIT.
- (5) IN CASE OF HIGH VOLTAGE IS INCREASING, ABOVE VOLTAGE IS COMPARED WITH ZENER VOLTAGE OF D954 AND D512.  
WHEN THE EXCESSIVE VOLTAGE(REACHES TO APPROX. 35KV) IS APPLIED TO D954 AND D512, IT MAY OPERATE THE X-RAY PROTECTION CIRCUIT IN IC510 AND THE OVER VOLTAGE PROTECTION CIRCUIT IN IC906.
- (6) IN CASE OF POWER SUPPLY VOLTAGE OF HORIZONTAL DEFLECTION IS INCREASING, THE DETECTED VOLTAGE IS COMPARED WITH ZENER VLTAGE OF D543.  
IT ALSO OPERATES THE OVER VOLTAGE PROTECTION CIRCUIT IN IC906.
- (7) THESE OPERATION WILL STOP THE OSCILLATION OF IC510 AND IC906.
- (8) SO, BOTH IC WILL KEEP THE NO-OPERATION CONDITION UNTIL THE MAIN POWER SWITCH WILL BE TURNED OFF BY THE OPERATER.

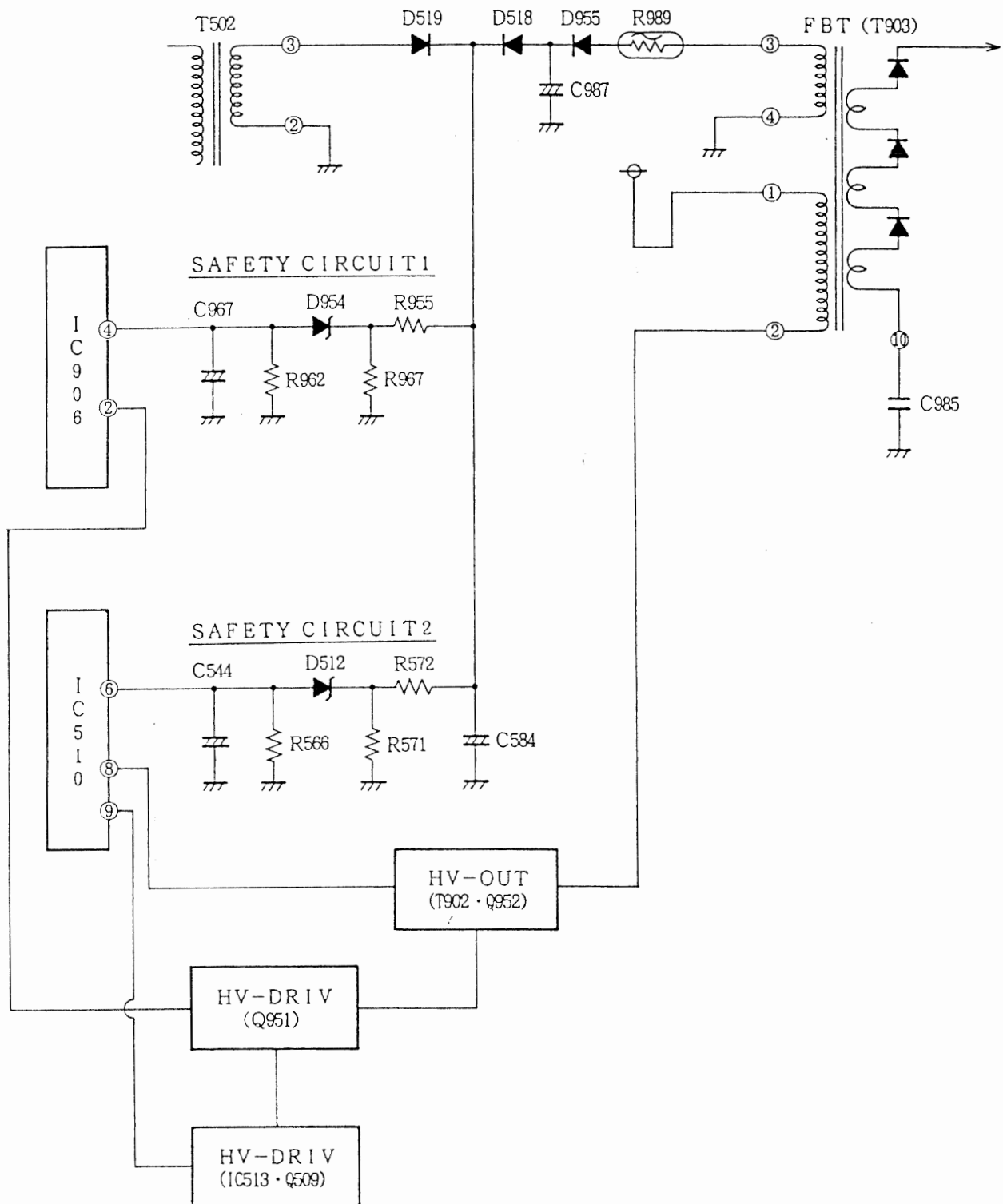
- (9) THE HIGH VOLTAGE CIRCUIT HAS THE OVER CURRENT PROTECTION CIRCUIT.
- (10) WHEN THE EXCESSIVE CURRENT INFLOW THE HIGH VOLTAGE CIRCUIT THEN IT WILL BE INCREASING THE VOLTAGE OF R959, SO THAT THE VOLTAGE OF ⑬ PIN ON IC906 REACHES TO OVER 200mV WHICH OPERATES THE OVER CURRENT PROTECTION CIRCUIT IN IC906, THEN IT REDUCE THE CURRENT OF Q952.

### 3-6 DBF CIRCUIT

- (1) THE PARABOLIC WAVE FROM DEFLECTION CIRCUIT IS APPLIED TO AMPLIFIER OF Q955, Q956 AND Q957, WHICH IS APPLIED TO FOCUS CIRCUIT IN FLYBACK TRANSFORMER FOR MODULATION.
- (2) THE PHASE OF PARABOLIC WAVE BETWEEN INPUT AND OUTPUT OF DBF CIRCUIT IS SYNCHRONIZED BY FEED BACK CIRCUIT OF R984, R985 AND C958, WHICH IS FED BACK TO BASE OF Q957.

### 3-7 ABL CIRCUIT

- (1) ABL(AUTOMATIC BEAM CURRENT LIMITTER) CIRCUIT MAY LIMIT TO THE CRT BEAM CURRENT, WHICH TO PREVENT THE CRT PHOSPHOR BURNING AT THE ABNORMAL CONDITION.
- (2) THE CRT BEAM CURRENT IS FED FROM 150V LINE OF ⑫ PIN ON T901, AND IT IS DETECTED BY VOLTAGE OF R976 AND R977.
- (3) WHEN THE CRT BEAM CURRENT EXCEEDS LIMIT VALUE, THE BASE VOLTAGE OF Q605 IS DECREASING ACROSS R976 AND R977, SO THAT THE EMITTER VOLTAGE OF Q605 IS DECREASING.
- THESE OPERATION SUPPRESS THE GAIN OF VIDEO AMPLIFIER OF IC601, WHICH TO OBTAIN THE CONSTANT BRIGHTNESS ON THE SCREEN.



BLOCK DIAGRAM OF HIGH VOLT. SAFETY CIRCUIT

### 3-8 CANCEL COIL CIRCUIT

- (1) THE LARGE SIZE CRT IS VERY SENSITIVE TO THE ENVIRONMENTAL MAGNETIC FIELD SUCH LIKE A EARTH MAGNETIC, WHICH MAKES BAD PURITY CONDITION.
- (2) THE CANCEL COIL IS MOUNTED ON AROUND THE CRT FACE WHICH MAKES CANCEL MAGNET AGAINST THE ENVIRONMENTAL MAGNETIC FIELD.
- (3) THE CANCEL CURRENT IS DETERMINED BY OUTPUT SIGNAL FROM IC222, WHICH CONTROLL THE DIRECTION AND VALUE OF CURRENT.
- (4) THIS FUNCTION IS USED FOR COMPENSATION OF PURITY CONDITION AT INSTALLATION.

