

its ICE

ONWA

Service Manual

TV 2612 ICE

SERV.-MAN.100047

Farbfernseher 26/23cm 230/12V

Hyperband-IR310

CTV-310B
 MODEL NO: CTV-210B
 SUPPLY VOLTAGE : AC 230V/50HZ
 GENERAL INFORMATION : TV 75 OHM INPUT ANT. SIFE VOLTAGE 0 dB =1uV

OUTPUT: 50mV
 LOAD : 16 ohm

DATE:
 TEST:

PAGE:1

DESCRIPTION	UNIT	LIMIT	NOMINAL	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
VL BAND									
TUNING RANGE	HIGH	MHZ	62.25	65.25					
	LOW	MHZ	48.25	45.25					
MAX/USABLE SENS	CH - 2	dB	32/46	26 /40	/	/	/	/	/
	CH - 3	dB	32/46	26 /40	/	/	/	/	/
	CH - 4	dB	32/46	26 /40	/	/	/	/	/
IF REJ.	CH - 3	dB	40	50					
IMAGE REJ.	CH - 3	dB	40	50					
VHF BAND									
TUNING RANGE	HIGH	MHZ	224.25	228.00					
	LOW	MHZ	175.25	140.00					
MAX/USABLE SENS	CH - 5	dB	32/46	26 /40	/	/	/	/	/
	CH - 9	dB	32/46	26 /40	/	/	/	/	/
	CH - 12	dB	32/46	26 /40	/	/	/	/	/
IF REJ.	CH - 9	dB	50	60					
IMAGE REJ.	CH - 9	dB	40	50					
UHF BAND									
TUNING RANGE	HIGH	MHZ	855.25	860.00					
	LOW	MHZ	471.25	435.00					
MAX/USABLE SENS	CH - 21	dB	36/52	32 /46	/	/	/	/	/
	CH - 30	dB	36/52	32 /46	/	/	/	/	/
	CH - 40	dB	36/52	32 /46	/	/	/	/	/
	CH - 50	dB	36/52	32 /46	/	/	/	/	/
	CH - 60	dB	36/52	32 /46	/	/	/	/	/
IF REJ.	CH - 40	dB	40	50					
IMAGE REJ.	CH - 40	dB	30	40					
CATV TUNER TELEFUNKEN	CH		2900KHC	S1->S20	/	/	/	/	/
	CH		3300KHC	S1->S41	/	/	/	/	/
ADJ. PIX. ATT.	dB	20	30						
ADJ. SND. ATT.	dB	20	30						
SELF. SND. ATT.	dB	20±6							
CONTRAST RANGE	dB	4	6						

DESCRIPTION	UNIT	LIMIT	NOMINAL	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
SOUND									
MAX. OUTPUT	mW	700	1000						
THD. OUTPUT 10 %	mW	500	700						
REF. THD	%	5	3						
S / N	dB	30	35						
AM SUPP.	dB	25	30						
MIN. HUM	mV	30	15						
RESPONSE FH 6 KHZ FL 125 HZ	dB	-3±6	-3±3						
	dB	-3±6	-3±3						
SIF. FREQ. ERROR	KHZ	±100	0						
LIMIT SENS.	dB	80	70						
PICTURE									
LINEARITY	VERT.	%	15	10					
	HOR.	%	25	15					
PINCUSHION	DIST.	%	2	1					
BARREL	DIST.	%	2	1					
KEYSTANE	DIST.	%	2	1					
V / H	RATIO	%	100±5	100%					
LUMINANCE	MAX	lux	200	250					
	MIN	lux	50	30					
VA TEST									
H. V.	MAX	KV	16±1	16					
H. V.	MIN	KV	15±1	15					
REG. VOLTAGE	V	10.8±0.5	10.8						
DELAY AGC. VOLTAGE	V	5±0.5	5						
REG. RIPPLE VOLTAGE	mV	30	15						
DC CONSUMPTION	W	46	44						
AC CONSUMPTION	W	65	59						

ALIGNMENT PROCEDURE

REGULATOR ADJUSTMENT

NOTE: MALADJUSTMENT OF THE LOW VOLTAGE REGULATOR OR THE HORIZONTAL OSCILLATOR MAY RESULT IN DAMAGE TO THE HORIZONTAL OUTPUT TRANSISTOR OR PULSE LIMITER DIODE.

THE FOLLOWING PROCEDURES ARE RECOMMENDED TO INSURE SAFE OPERATION.

1. CONNECT THE TV TO AC 110~240V THEN ADJUST THE AC SWITCHING MODE POWER REGULATOR SVR1 TO DC 12V.
2. CONNECT A DC DIGITAL VOLTMETER OR OTHER PRECISION ACCURACY VOLTMETER TO THE COLLECTOR OF THE REGULATOR OUTPUT TRANSISTOR QPD1. (T.P1)

HORIZONTAL OSCILLATOR ADJUSTMENT

1. POWER ADJUSTMENT
ADJUST THE REGULATOR VRD1 TO DC 10.8V.
2. VERTICAL HIGHTNESS ALIGNMENT
ADJUST THE VERTICAL HIGHTNESS VRV1 & VRV2, ENABLE THE CIRCLE OF PICTURE APPROACH TO CIRCLE.
3. HORIZONTAL POSITION ALIGNMENT
ADJUST HORIZONTAL POSITION VRH1, LET THE SQUARE SIGNAL IN THE CENTER OF THE SCREEN.
4. RF AGC ALIGNMENT
ADJUST VIF PROCESS AGC CONTROL VRI1 AT INPUT SIGNAL INTENSITY 50dB, THE SCREEN COULD LOOKING CLEAR AND 80dB, THE SCREEN DON'T INFLECT.
5. WHITE BALANCE ALIGNMENT
ADJUST THE VRY4, VRY5, AT CENTER POSITION. ADJUST SCREEN VR, LET THE SCREEN WILL BE LITTLE BRIGHTNESS. ADJUST VRY4 LET THE SCREEN TO BE YELLOW, AND THEN ADJUST VRY5 LET THE SCREEN APPROACH TO WHITE.
6. FOCUS ADJUSTMENT
ADJUST FOCUS VR, LET THE STRIP IN THE SCREEN TO BE CLEAR.
7. SCREEN ADJUSTMENT
ADJUST SCREEN VR LET THE BRIGHTNESS SUIT AS DESIRED.

GENERAL ALIGNMENT INSTRUCTIONS

1. VIDEO IF ALIGNMENT

TEST EQUIPMENT CONNECTION (SEE FIGURE).

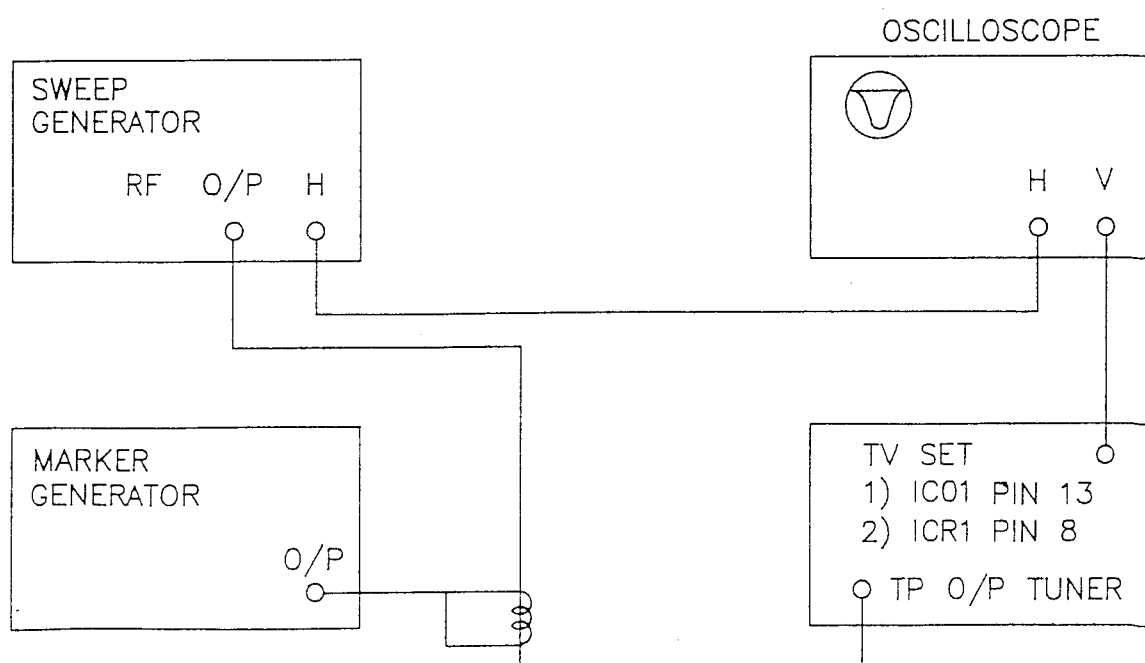
OSCILLOSCOPE: CONNECT TO THE (1). IC01 PIN 13.

(2). ICR1 PIN 8.

SWEEP GENERATOR: CONNECT THROUGH A MATCHING PAD TO THE TEST POINT (T.P) OF THE TUNER.

MARKER GENERATOR: COUPLE LOOSELY TO THE OUTPUT CABLE OF SWEEP GENERATOR.

ADJUST SWEEP GENERATOR TO LOWEST SIGNAL LEVEL CONSISTENT WITH USABLE			
STEP	SWEEP FREQUENCY	MARKER FREQUENCY	REMARK
1) ADJUST VIF DETECTOR LI01 FOR MARKER POINT MAX.	25~45 MHz (45~65 MHz FOR JAPAN). 30~50 MHz FOR CCIR.	SYSTEM B,G,H, 38.9 MHz SYSTEM I 36.9 MHz SYSTEM M,N 45.75 MHz (58.75 MHz FOR JAPAN) (34.7 MHz FOR AUSTRARIA SYSTEM)	IN THE PARENTHESIS FOR AFC CORRECTION.
2) ADJUST VIF DETECTOR LI01 FOR MARKER POINT MAX.	25~45 MHz (45~65 MHz FOR JAPAN). 30~50 MHz FOR CCIR.	SYSTEM B,G,H, 38.9 MHz SYSTEM I 36.9 MHz SYSTEM M,N 45.75 MHz (58.75 MHz FOR JAPAN) (34.7 MHz FOR AUSTRARIA SYSTEM)	IN THE PARENTHESIS FOR AFC CORRECTION.



VIDEO IF ALIGNMENT CONNECTING FIGURE

2. SOUND IF ALIGNMENT

TEST EQUIPMENT CONNECTION

SIGNAL GENERATOR: CONNECT TO TEST POINT (T.P) OF THE TUNER THROUGH A MATCHING PAD.

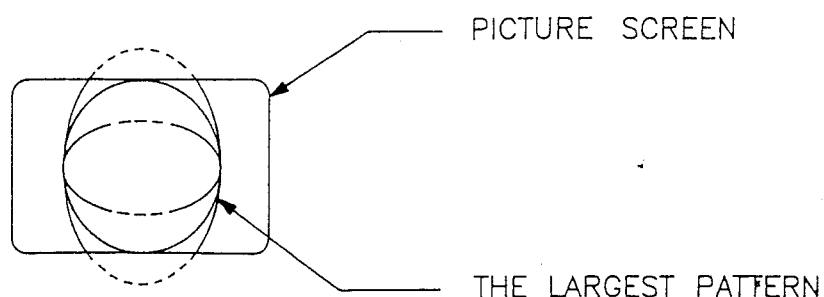
OSCILLOSCOPE: CONNECT TO THE ICA1 PIN 2.

ALIGNMENT PROCEDURE

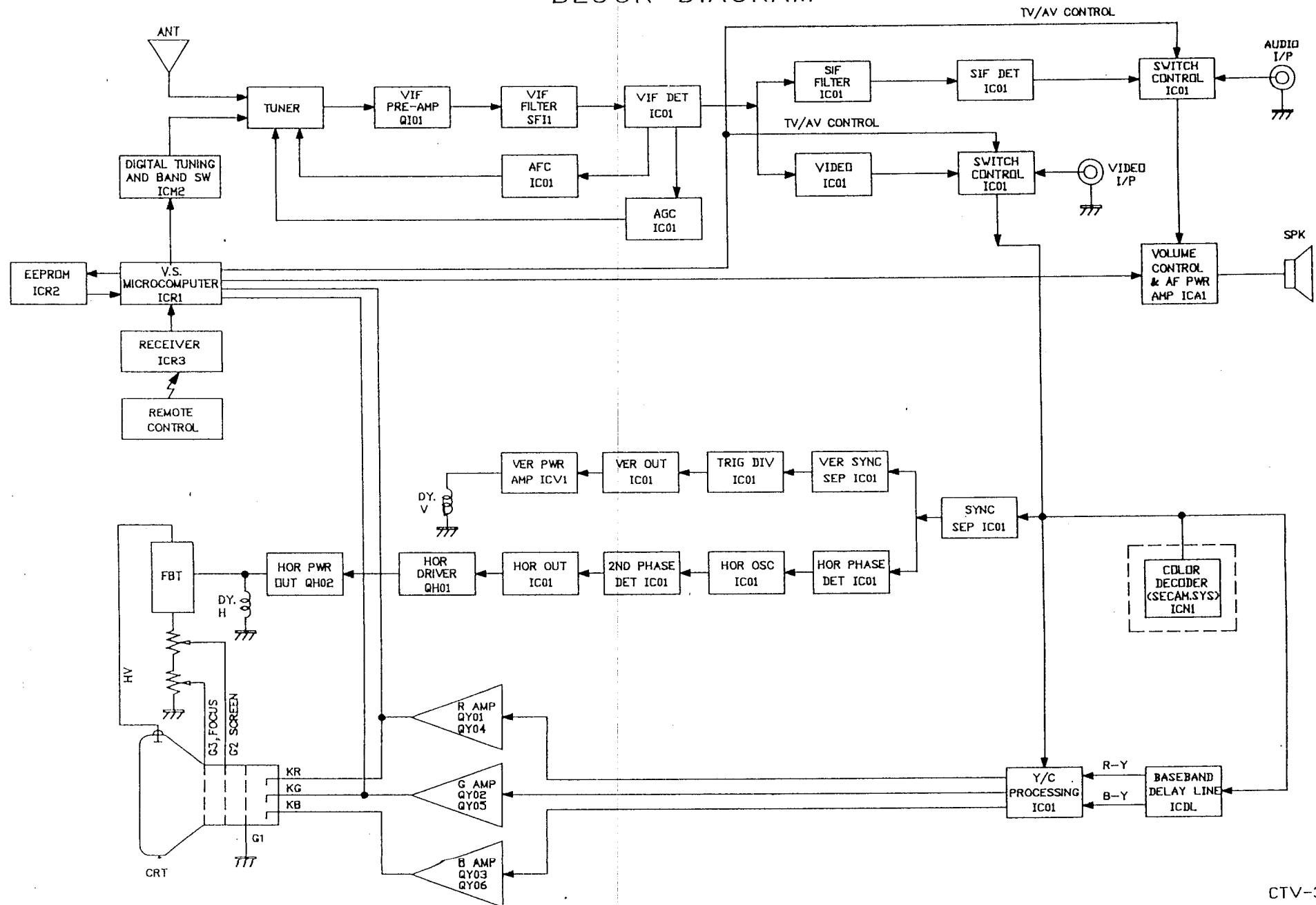
STEP	GENERATOR	SCOPE
DON'T ADJUST (PLEASE CHECK)	SYSTEM B,G,H, 33.4 MHz SYSTEM M,N 41.25 MHz (54.25 MHz FOR JAPAN) SYSTEM I 33.5 MHz. SYSTEM D,K, 32.4 MHz, 1 KHz FM MOD DEVIATION 25 KHz 80 dB OUTPUT.	CONNECT TO THE ICA1 PIN 2

3. VERTICAL DEFLECTION ALIGNMENT

- (1) TUNE THE RECEIVER IN A TEST PATTERN.
- (2) ADJUST V-SIZE CONTROL VRV1 (300 ohm).
WHEN THE INSIDE OF THE LARGEST CIRCLE OF TEST PATTERN REACHES NEAR ROUND PATTERN. (SEE THE FIGURE)
- (3) IF THE PATTERN NOT AT CENTER POSITION, ADJUST V-POSITION CONTROL VRV2 (5K OHM).

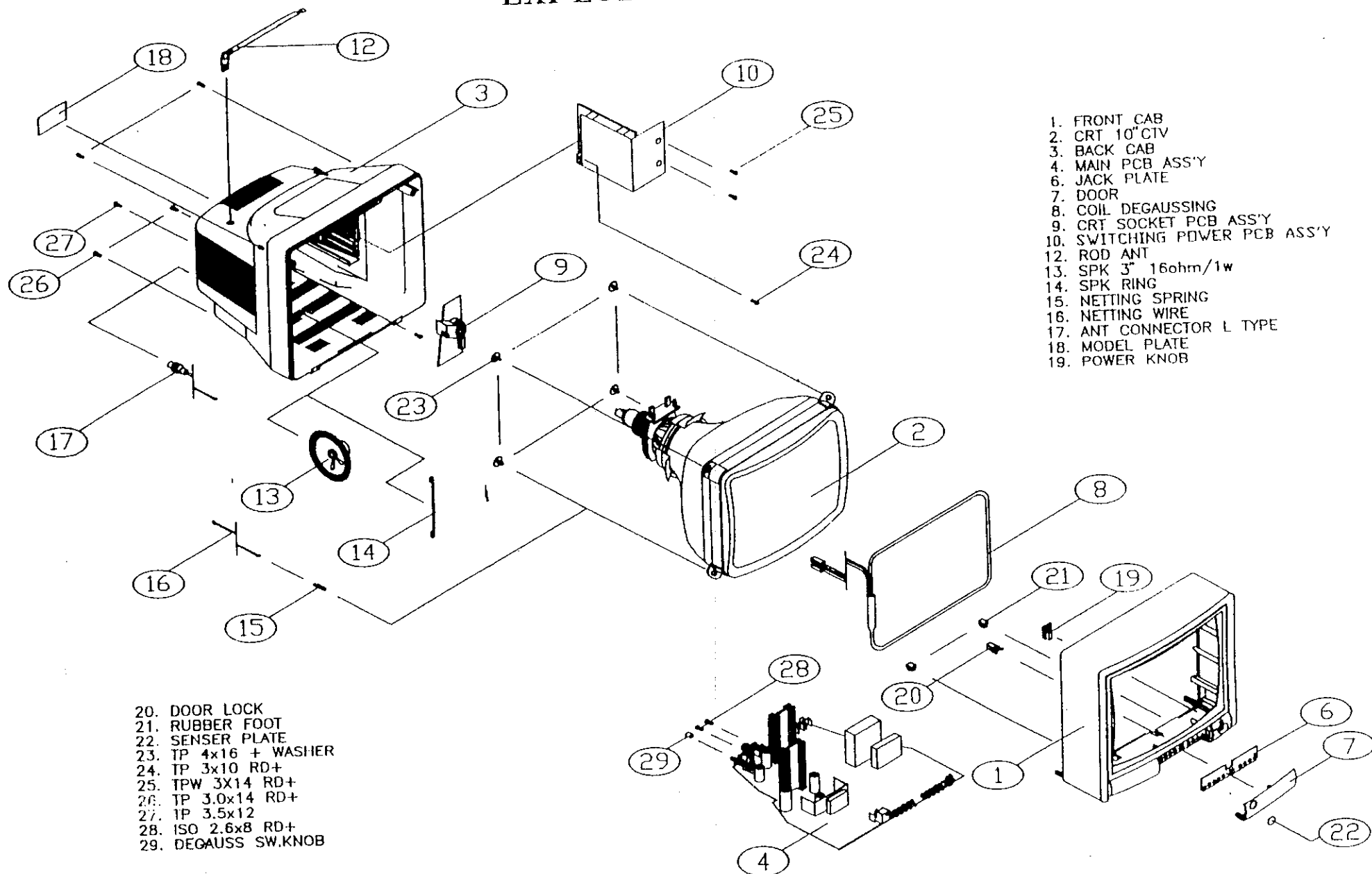


BLOCK DIAGRAM

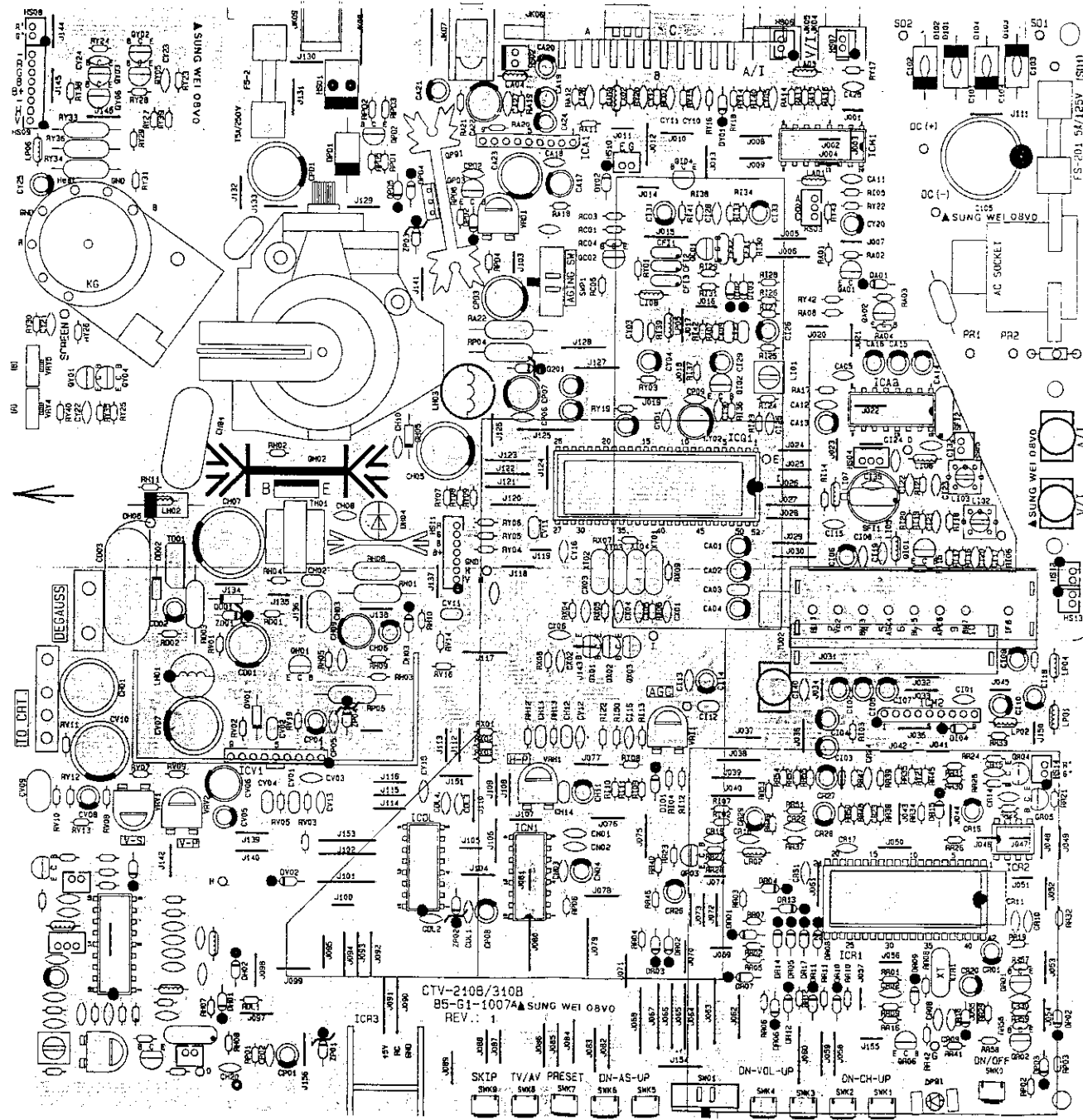


CTV-310 I /:

EXPLODE VIEW

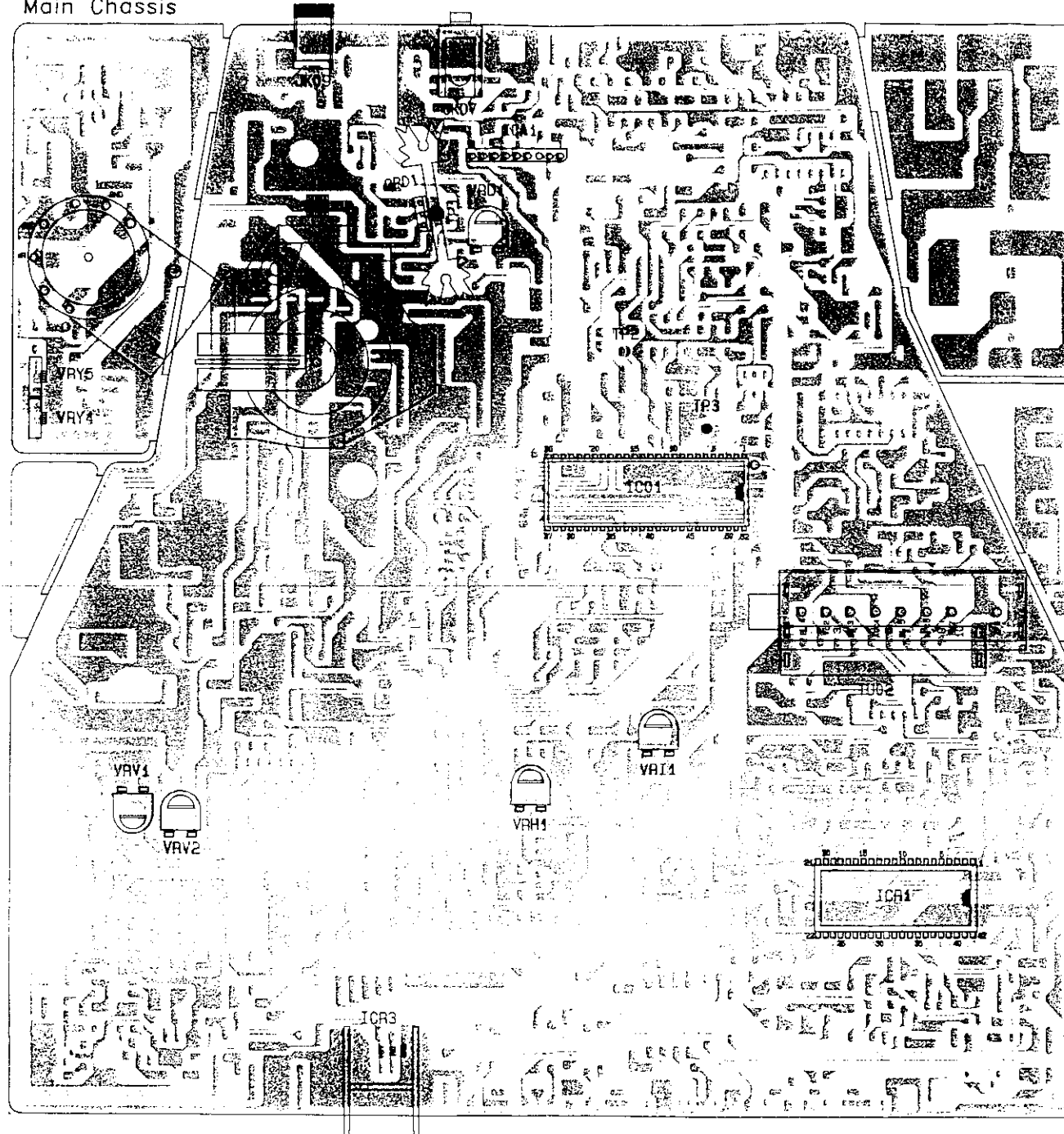


MAIN P.C.B. TOP VIEW

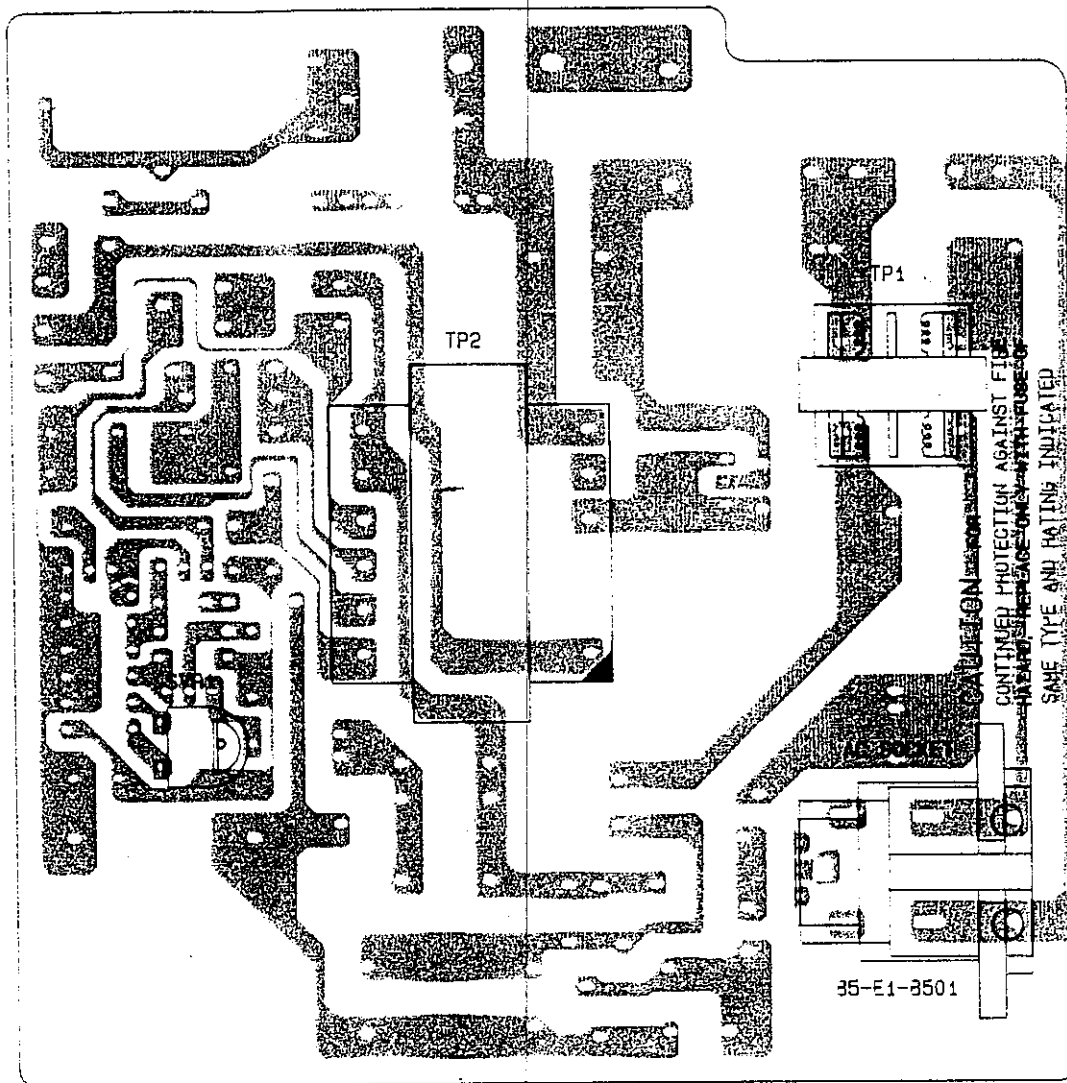


Main Chassis

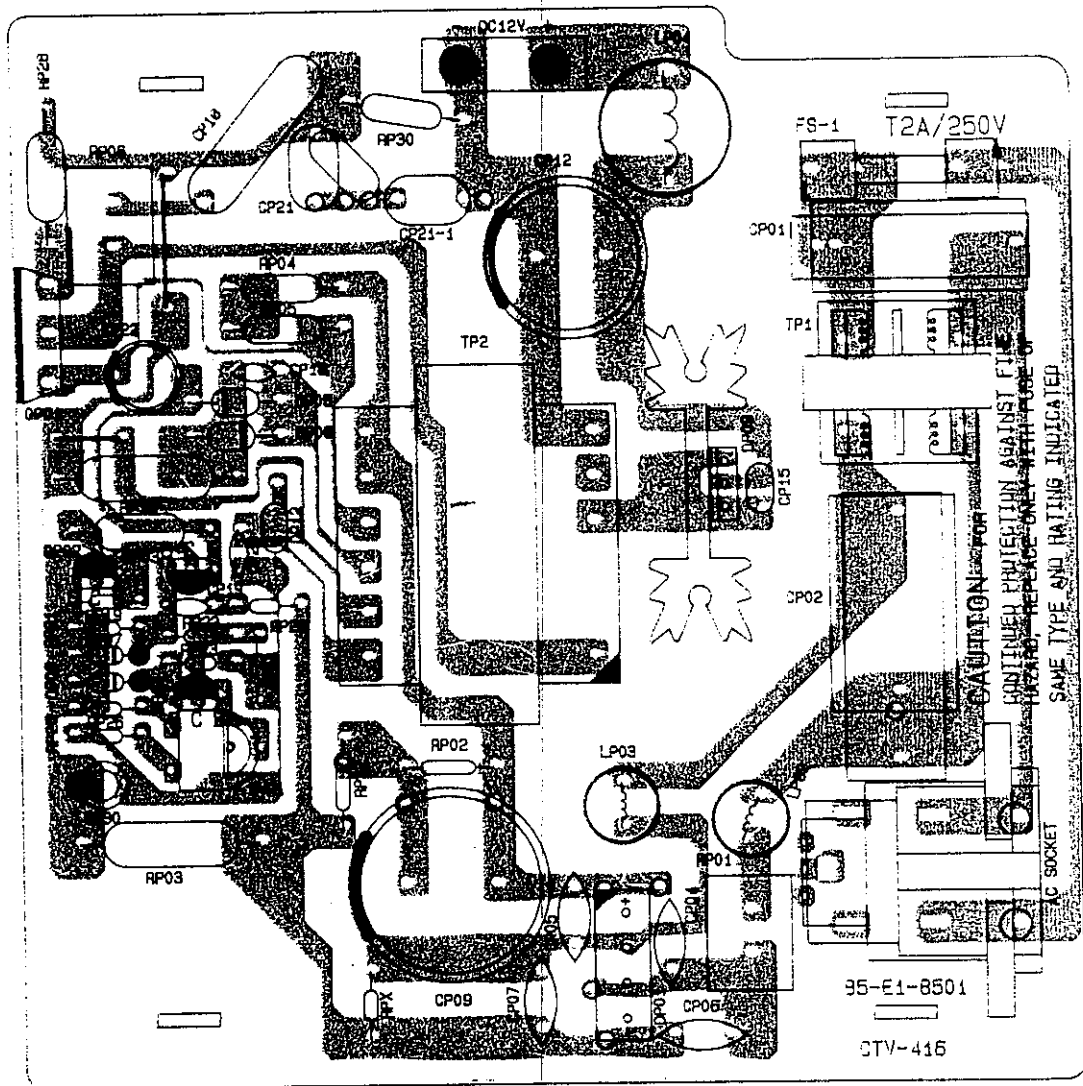
CHASSIS ALIGNMENT POINTS

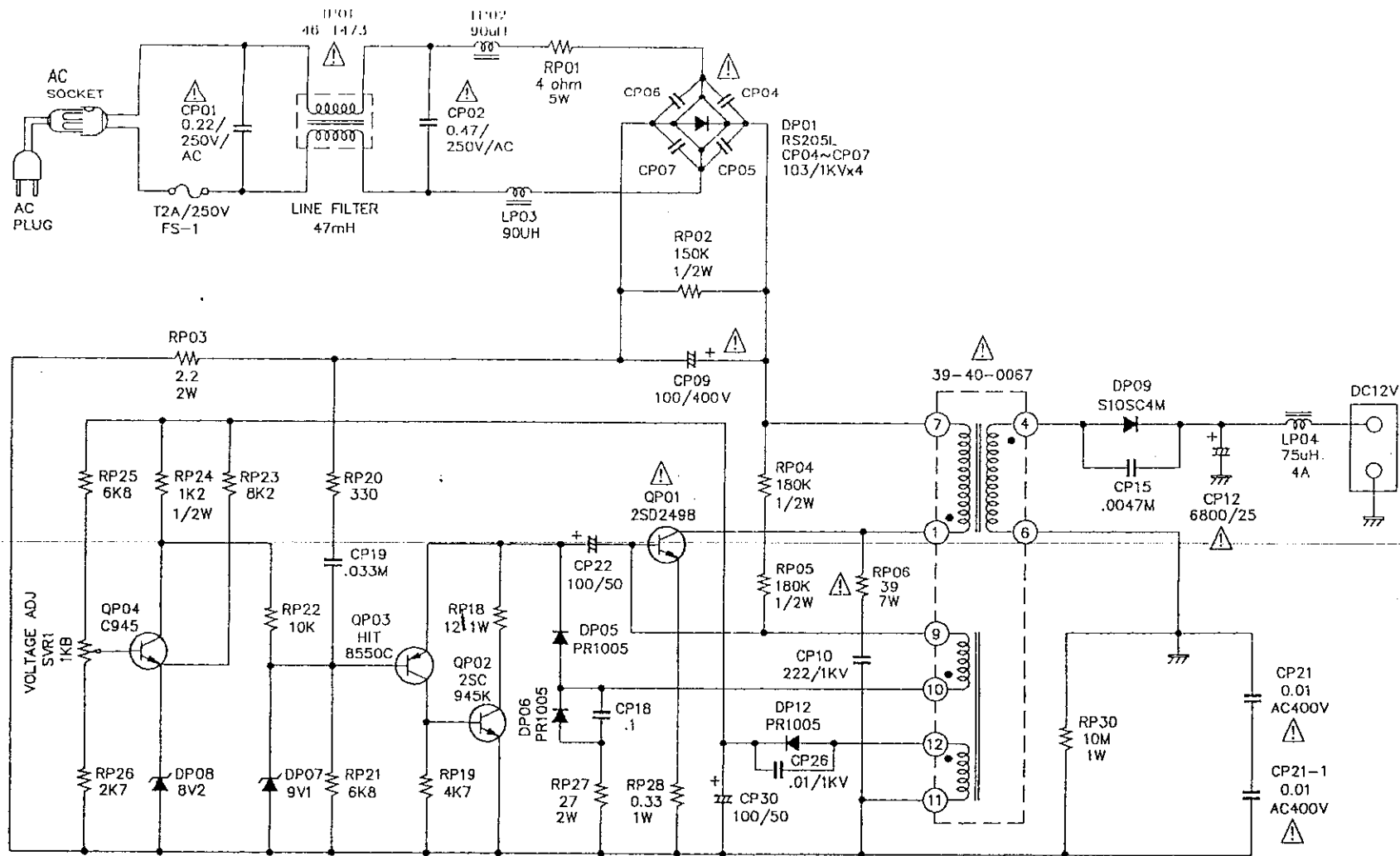


Switch Power Chassis



SWITCH POWER P.C.B





CTV-210 B/U/F/DK
CTV-310 B/U/I/L
CTV-416 L
CTV-417 B

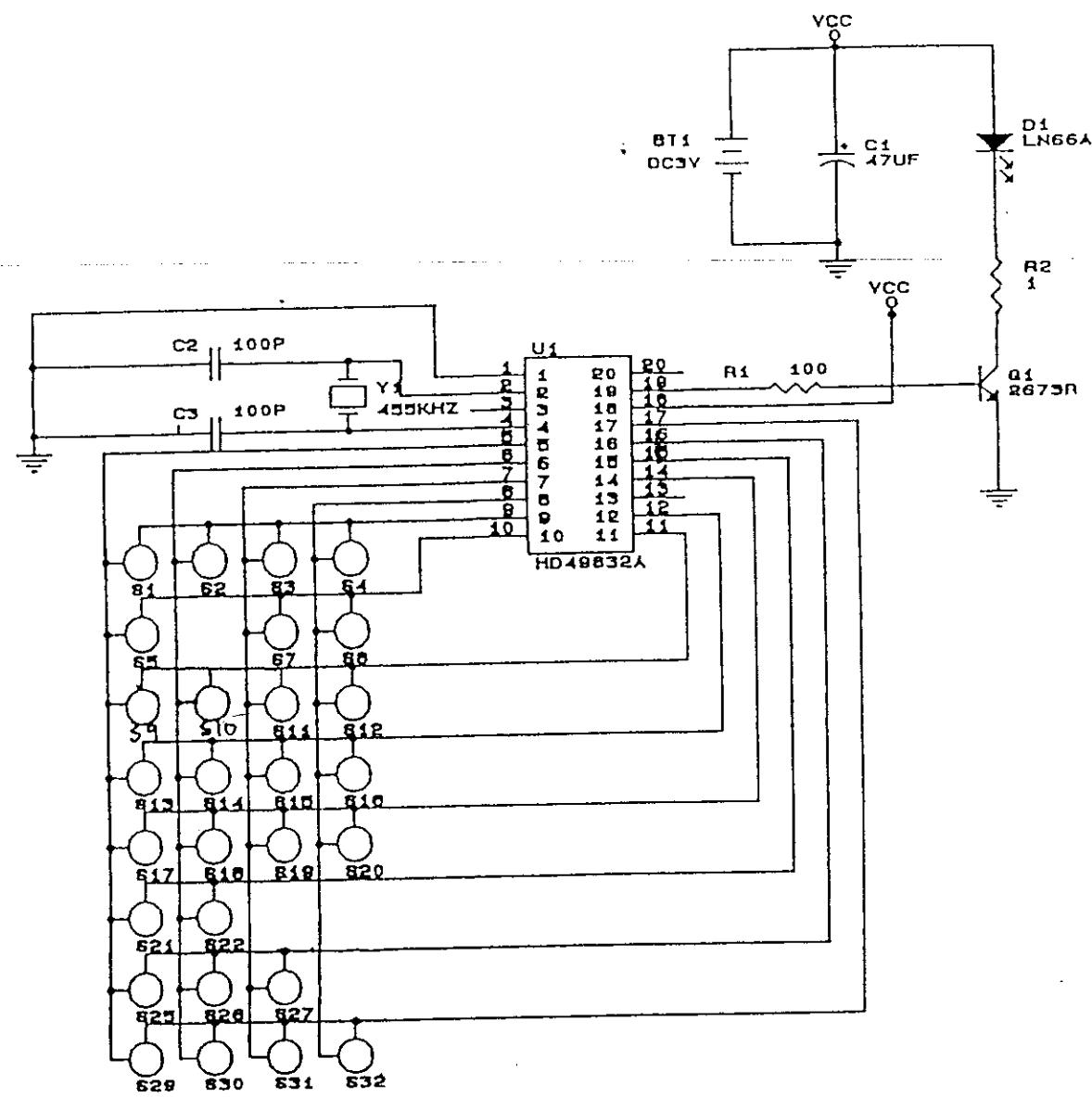
SUBFIX	MOD RECORD	SUBFIX	MOD RECORD
AE	1996/9/19	AA	1994/04/07
AG	1997/3/4	AB	1995/4/27
AH		AC	1995/8/19
AI		AD	1996/1/11
AJ		AE	1996/6/12

ACTION ELECTRONIS CO., LTD.
億 聲 電 子 股 份 有 限 公 司

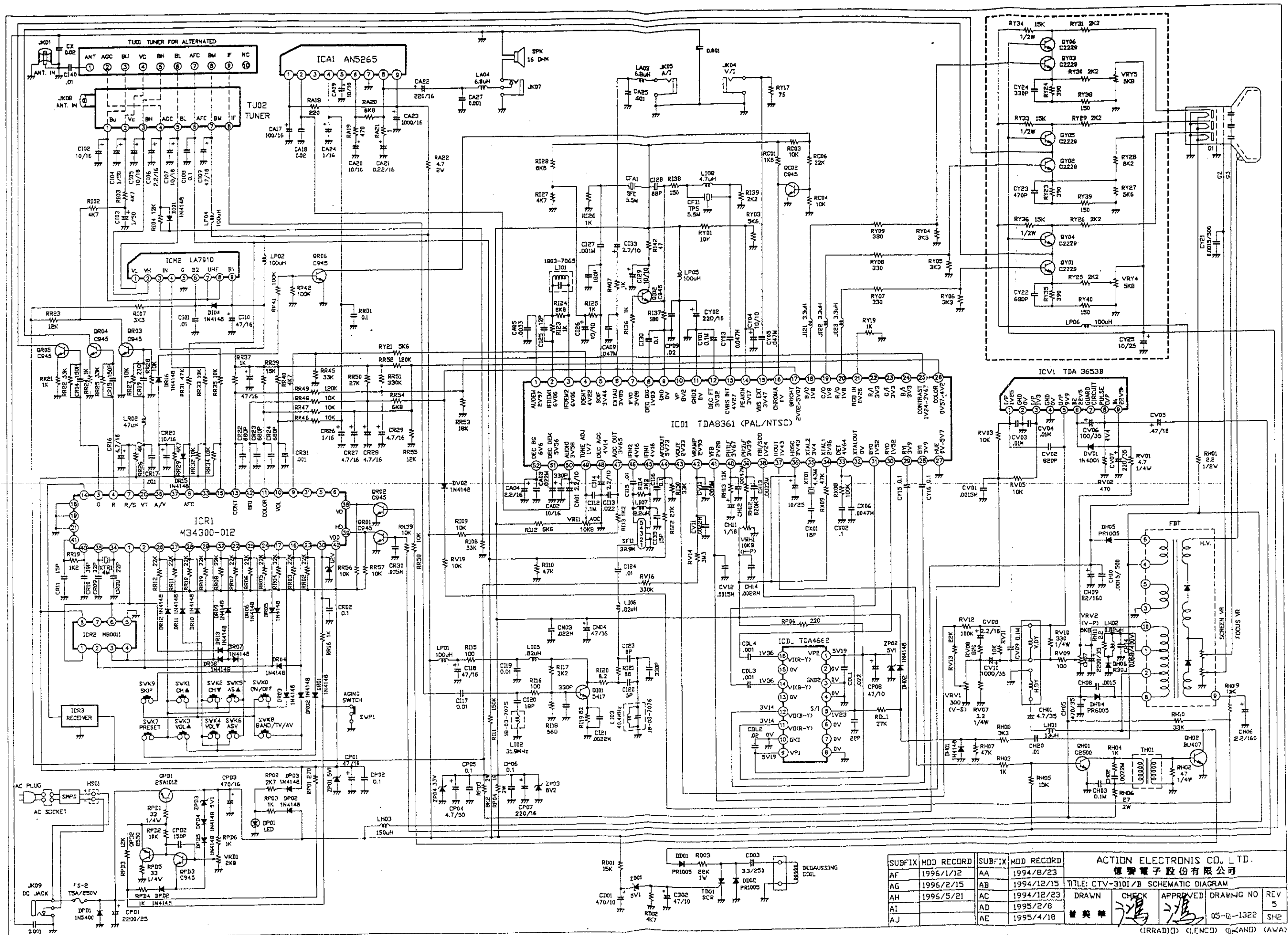
TITLE: CTV-310 SWITCH POWER SCHEMATIC DIAGRAM

DRAWN	DESIGN	APPROVED	DRAWING NO	REV
曾美華	馮	馮	05-G1-1321	7
				SH3

REMOTE CONTROL SCHEMATIC DIAGRAM



5	8	10	9
14	13	12	11
18	17	16	15
22	21	20	19
7	27	26	25
31	30	29	32
4	3	2	1



SUBFIX	MOD RECORD	SUBFIX	MOD RECORD	ACTION ELECTRONIS CO. LTD.				
AF	1996/1/12	AA	1994/8/23	恆 豐 電 子 股 份 有 限 公 司				
AG	1996/2/15	AB	1994/12/15	TITLE: CTV-3101/B SCHEMATIC DIAGRAM				
AH	1996/5/21	AC	1994/12/23	DRAWN	CHECK	APPROVED	DRAWING NO	REV
AI		AD	1995/2/8				05-G1-1322	5
AJ		AE	1995/4/18	曾美華	鴻	鴻		S42