

SERVICE MANUAL

BE-3D CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-28WF1A	RM-839	Italian	SCC-K05Q-A	KV-28WF1K	RM-839	OIRT	SCC-K20H-A
KV-28WF1B	RM-839	French	SCC-K01S-A	KV-28WF1R	RM-839	OIRT	SCC-K20G-A
KV-28WF1D	RM-839	AEP	SCC-K07T-A	KV-28WF1U	RM-839	UK	SCC-K04N-A
KV-28WF1E	RM-839	Spanish	SCC-K06S-A				



TRINITRON® COLOR TV
SONY®

USEFUL INFO.

Error reader.

The BE-3D chassis supports the use of the Error Reader. This jig, is available under part number S-188-900-10 (price code S).

The displayed code shows the actual error of the TV set. Refer to the service manual or the table below for an explanation of those codes.

ERROR CODES

- 02 - Protection circuit trip <ANY TIME>
- 03 - IIC SCL LOW <POWER UP ONLY>
- 04 - IIC SDA LOW <POWER UP ONLY>
- 05 - IIC SDA and SCL LOW <POWER UP ONLY>
- 06 - Jungle/chroma controller no acknowledge <POWER UP ONLY>
- 07 - Video switch no acknowledge <POWER UP ONLY>
- 08 - Tuner no acknowledge
- 09 - MSP no acknowledge
- 10 - NVM no acknowledge
- 11 - M3L TXD LOW <POWER UP ONLY>
- 12 - M3L RXD LOW <POWER UP ONLY>
- 13 - M3L ENABLE LOW <POWER UP ONLY>
- 14 - M3L TXD AND RXD LOW <POWER UP ONLY>
- 15 - Compact Text test fail <POWER UP ONLY>
- 16 - AV switch cannot power on reset
- 17 - Cannot initialise jungle
- 18 - NVM acknowledge fail after initialisation
- 19 - Multiple devices with no acknowledge <POWER UP ONLY>
- 20 - Compact Text run-time failure
- 21 - AVSWITCH response failure after power up
- 22 - JUNGLE/CHROMA controller response failure after power up
- 23 - Compact Text does not respond
- 24 - Sound processor run time failure
- 25 - M3L bus clock low time-out after data sent (run time failure)
- 26 - M3L bus clock low time-out afetr data sent (power up)
- 27 - M3L bus clock low time-out afetr data sent (initialization)
- 28 - DSP run-time failure.

Replacement of HV transformer.

Two types of high voltage transformer are used (removable or fixed focus cable). When replacing a line transformer, replace using the original type.

Type Focus cable Part no.

A Removable 1-453-169-12

B Fixed 1-453-220-11

DEFLECT

Lines tearing when hot.

[32in models only]. Replace line driver transformer T804.

No sync in TXT mode.

Replace IC1001.

PICTURE

Horizontal interference in picture during first half hour.

IC606 is defective. Therefore unstable +9V (pin 3 of IC606). Replace 9V regulator IC606.

Ref.	Description	Location	Part no.
IC606	LM2940T-90	D-board PSU	8-759-267-25

Visible arcing interference on screen when appliance does function. Intermittently switches off when switched on.

Replace line output transformer T803.

Partially blanked horizontally.

Check zener diode D817 (RD5.6ESB2) in blanking circuit, for leaks.

Overbright, nearly negative picture.

Access service mode and enter TT07 to clear.

AUDIO

Hum and/or buzz of the headphones and/or speaker when vol. is low.

Deflection unit generates interference. On board A, solder side, add a thick wire AWG18 200mm long between pins 6,7 and 8 of IC203 and pins 29 and 30 of CN1. Given its critical position, the wire must be kept away from board A.

Part no.	Ref.
190090227	Wire AWG18

No sound. Headphones OK.

Fault 1: [PS6001 O/C]. Replace audio output chip IC1200 (TDA7264).

Distorted or loud crackling from audio.

Check audio demodulator/processor chip IC202 (MSP3410).

POWER

EHT comes up briefly then nothing. No error code.

[Excess current protection system operating]. Check line output transformer T803.

Intermittently switches off when switched on. Visible arcing interference on screen when appliance does function.

Replace line output transformer T803.

Locks when hot.

Replace IC202 (MSP3410).

Shuts down when hot.

Replace IC202 (MSP3410).

FUNCTION

No TXT. No OSD.

Check zener diode D817 (5.1V) on main PCB.

Comes on then switches to standby. Standby LED flashes twice.

(1) Check field output chip IC500 (STV9379).

(2) [OK if D505 disconnected]. Check zener diode D505 (MTZJT7736A) for leaks.

(3) [No change if D505 disconnected]. Replace memory chip NVM IC2.

Does not get into standby mode completely; picture disappears but line continues to run.
(1) Check Q602, Q603 and Q604 in standby switching circuit. Check reservoir capacitor C615.
(2) [Above components replaced; HT not at 135V]. Replace error detector chip IC602 (SE135N).

Pulses in and out of standby. RY600 clicks each time.
Check Q601 (2SC3852A), D603 (6.8V) zener and R634 (22R) on primary side of PSU.

Degaussing incomplete.
Replace relay RY600 with part number 1-755-018-11.

TUNING/MEMORY

Intermittently channels change.
Replace tactile switches S9001 and S9002 on D board.

GEOMETRY

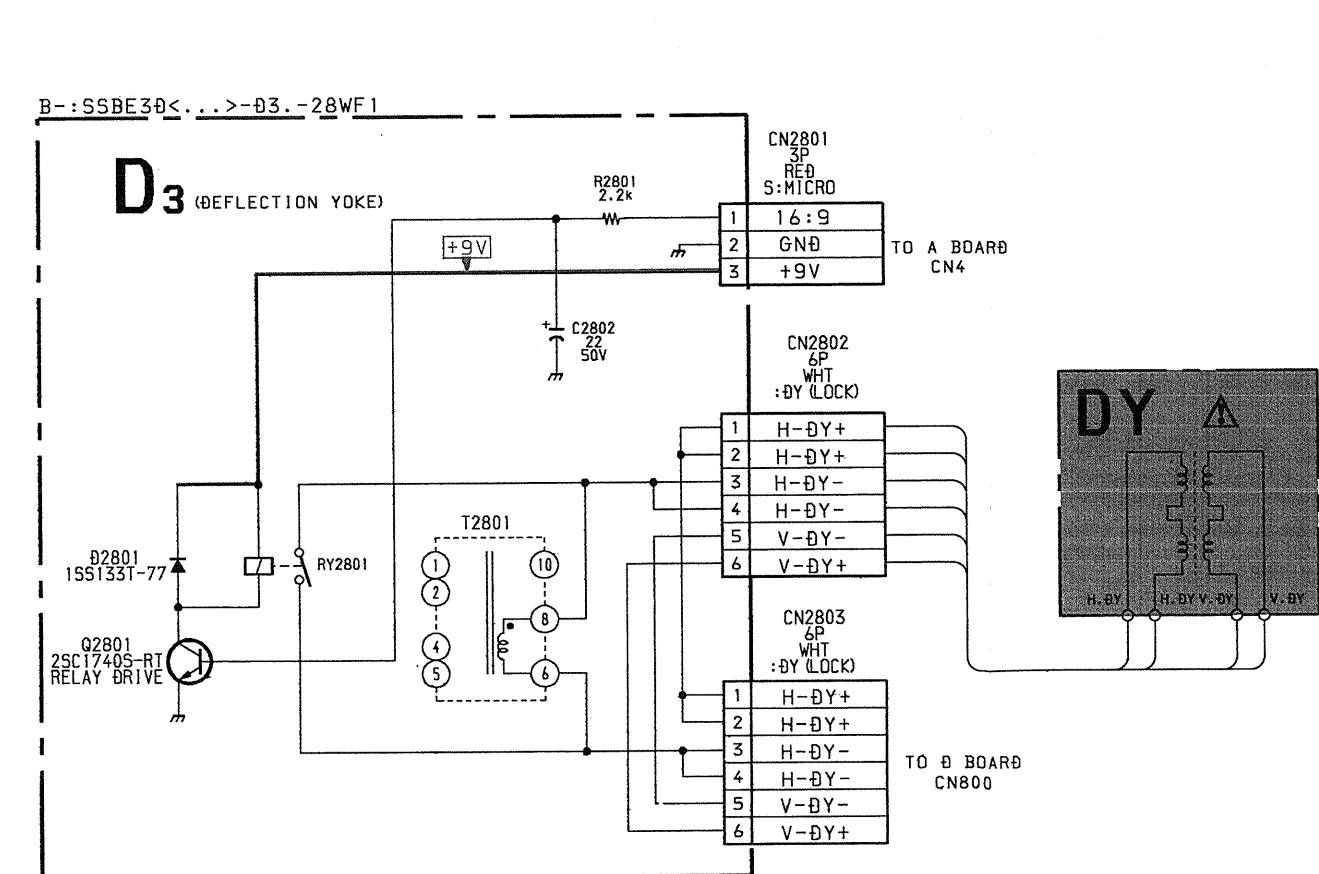
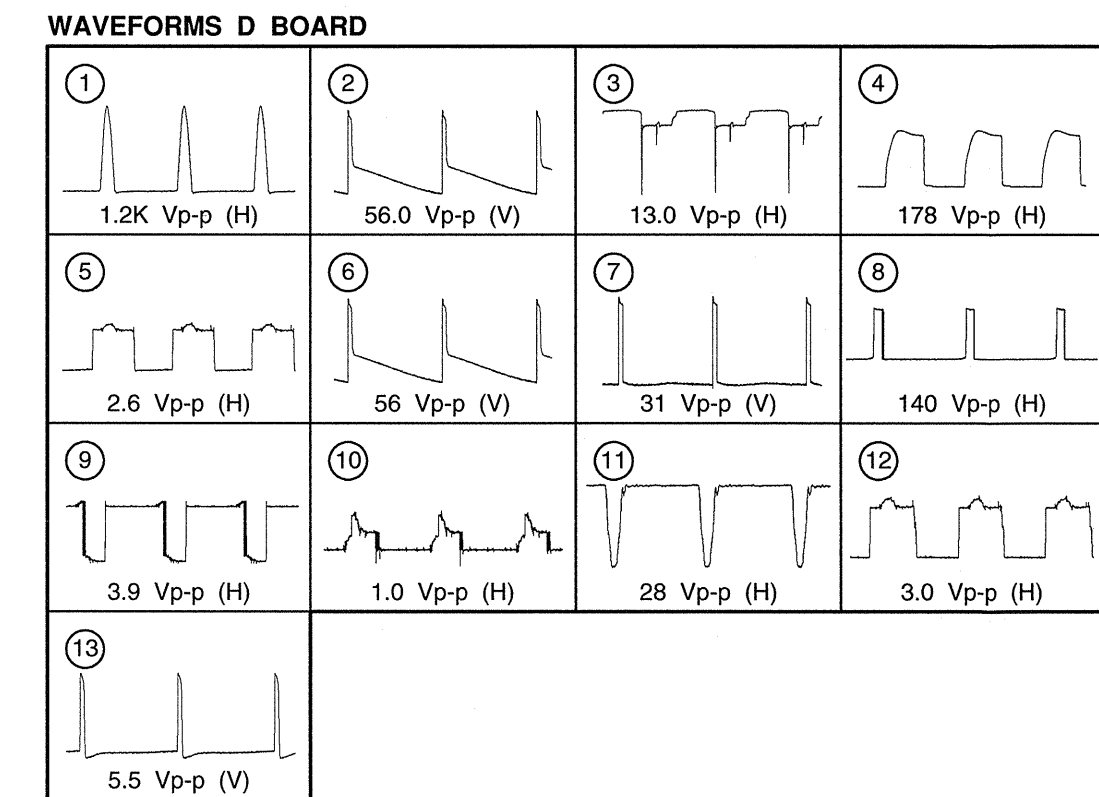
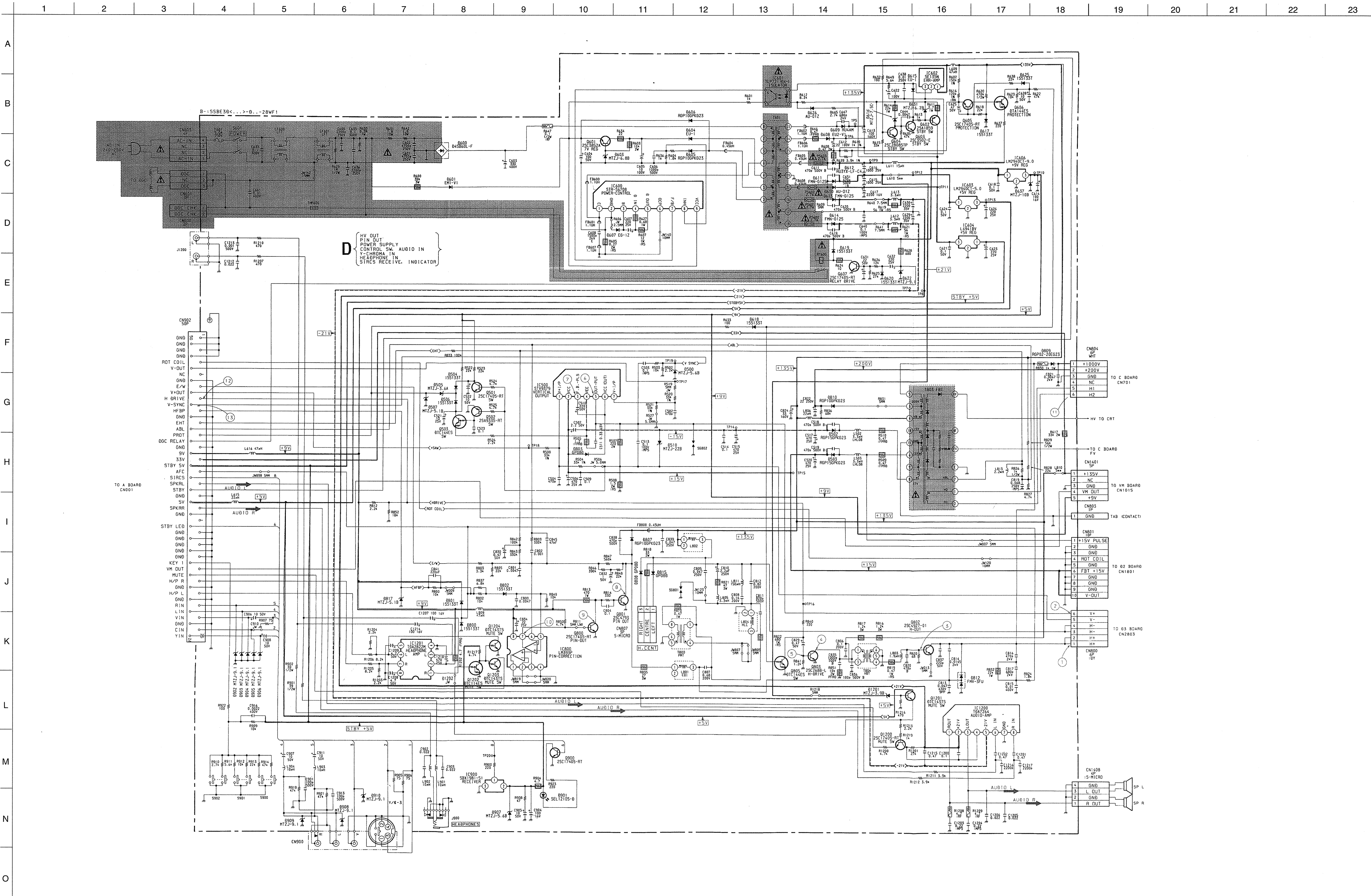
E-W bowing. Excessive width.
Check R870 (1R/1W).

OTHER

No OSD. No TXT.
Check zener diode D817 (5.1V) on main PCB.

Intermittently volume bar appears.
Replace tactile switches S9001 and S9002 on D board.

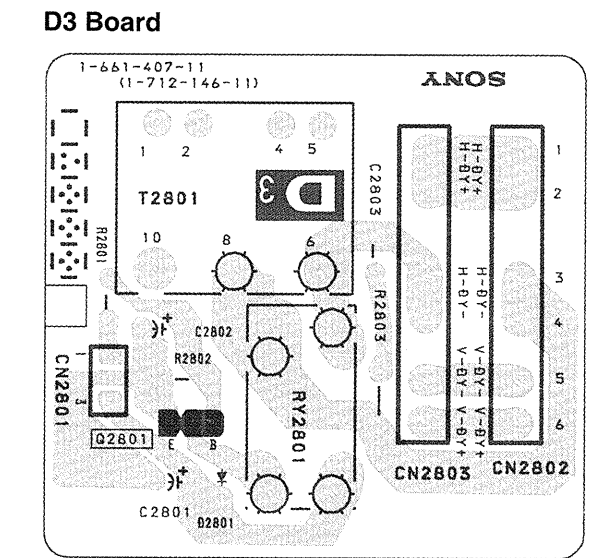
Incomplete or messy OSD and menus. TXT OK.
Replace IC1001.

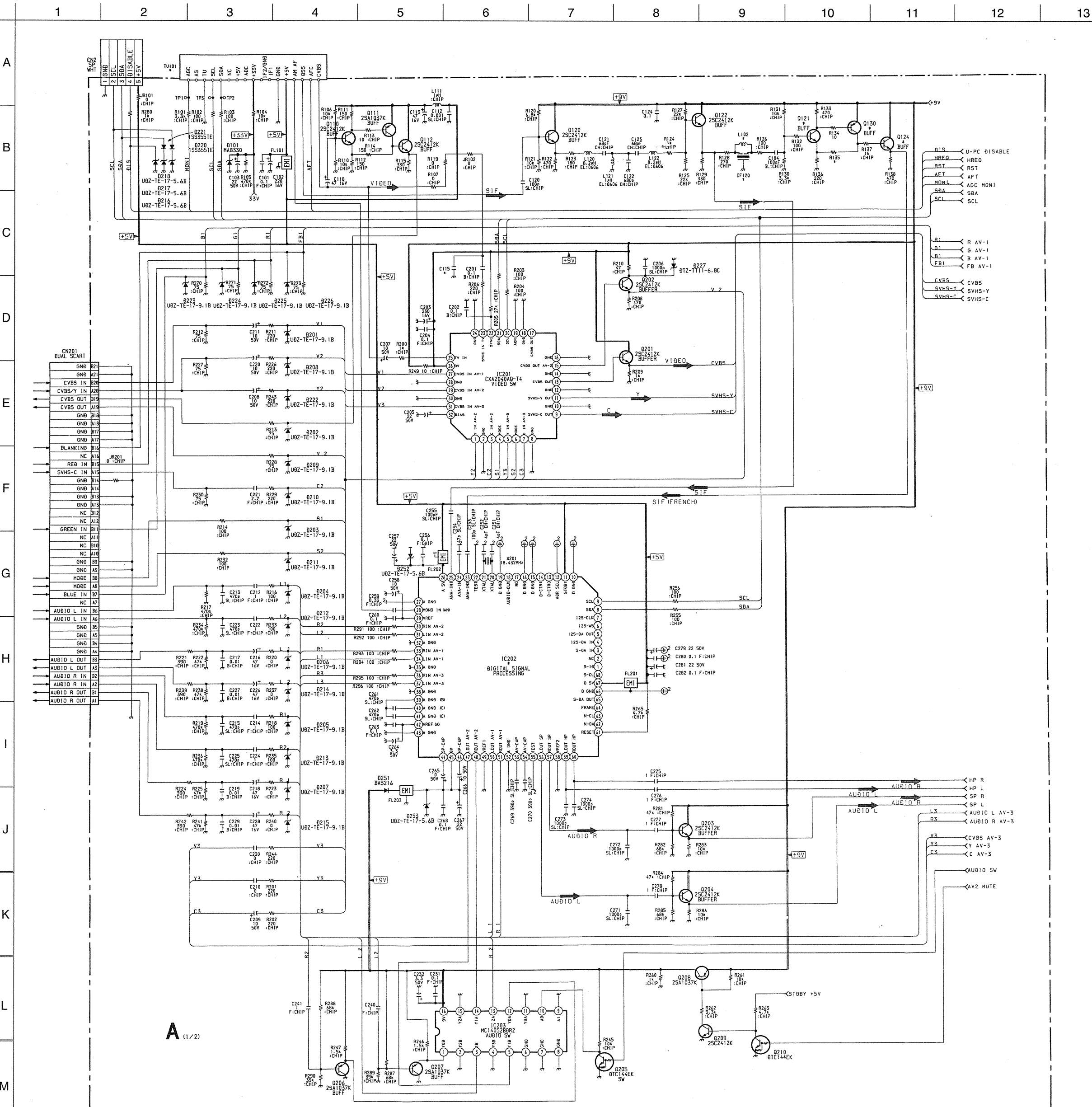


D BOARD TRANSISTOR VOLTAGE TABLE

Ref No	Base	Collector	Emitter
Q501	-0.1	0.2	-
Q502	0.1	-5.8	-
Q503	-5.8	-12.0	-12.0
Q602	0	72.0	72.0
Q603	0	72.0	-
Q604	0.7	-	-
Q605	0.5	-	0.3
Q606	-	-	12.0
Q607	-	12.0	-
Q608	0.2	3.1	-
Q609	-0.2	143.3	-
Q610	-0.6	99.8	-
Q611	-	3.6	-
Q612	-	5.4	-
Q1200	2.9	21.5	4.6
Q1201	3.4	5.0	3.0
Q1202	2.8	-	-

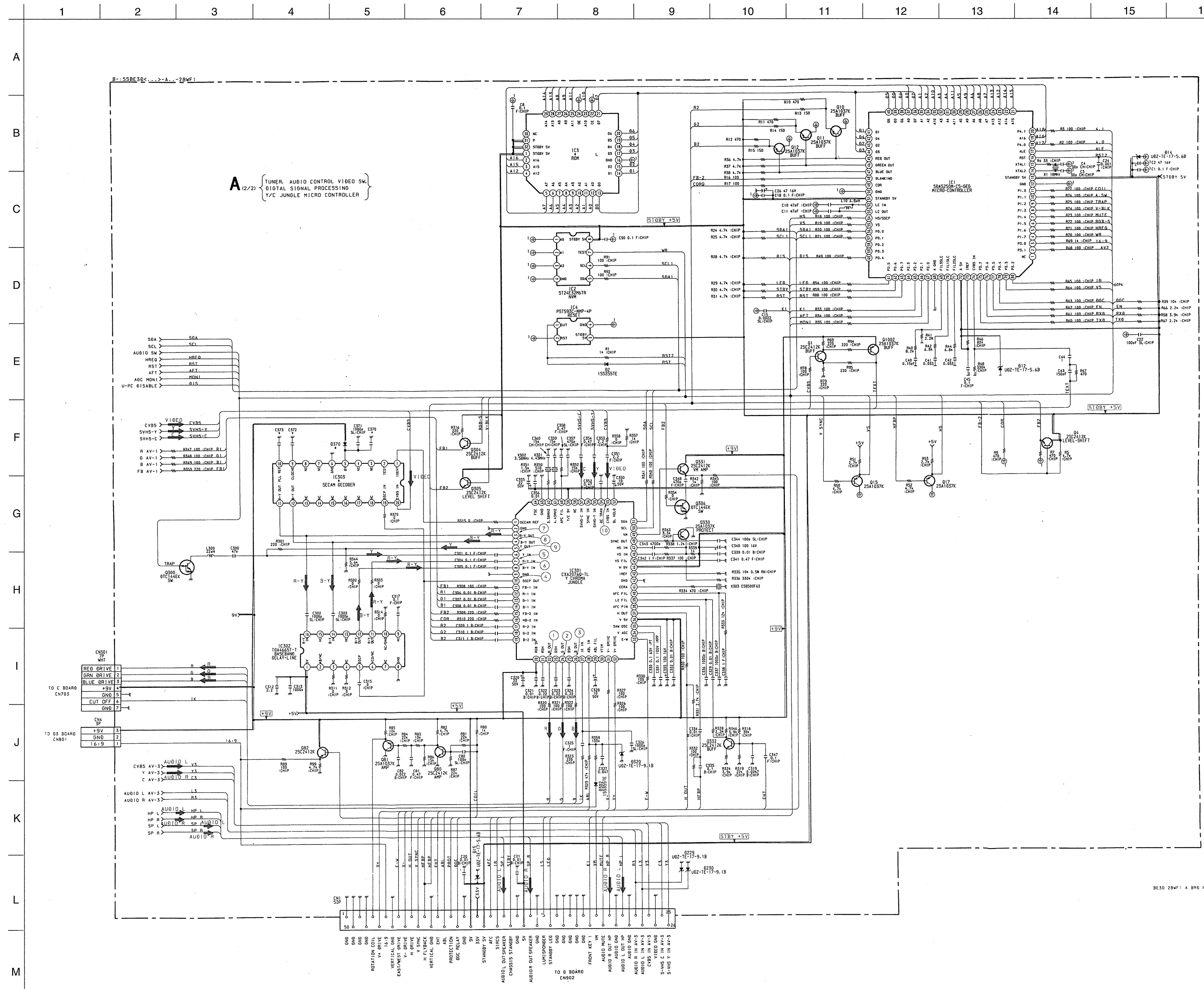
D3 [DEFLECTION YOKE]





A BOARD MARK

Ref No	28WF1A	28WF1B	28WF1D	28WF1E	28WF1K	28WF1R	28WF1U
C115	—	330PF	—	—	—	—	—
C370	—	2.2UF	2.2UF	2.2UF	2.2UF	2.2UF	—
C372	—	0.1UF	0.1UF	0.1UF	0.1UF	0.1UF	—
C373	—	0.22UF	0.22UF	0.22UF	0.22UF	0.22UF	—
CP120	TRAP 6.5MHz	TRAP 6.5MHz	TRAP 6.5MHz	TRAP 6.5MHz	TRAP 6.5MHz	—	—
D370	—	BA5216	BA5216	BA5216	BA5216	—	—
IC3	TMS27PC010A-10PMA000	TMS27PC010A-10PMA000	TMS27PC010A-10PMA000	TMS27PC010A-10PMA000	TMS27PC010A-10PMA000	TMS27PC010A-10PMA000	TMS27PC010A-10PMA000
IC202	MSP3400C-PS-C6-T	MSP3400C-PS-C6-T	MSP3400C-PS-C6-T	MSP3400C-PS-C6-T	MSP3400C-PS-C6-T	MSP3400C-PS-C6-T	MSP3400C-PS-C6-T
IC203	—	TD4395TND	TD4395TND	TD4395TND	TD4395TND	—	—
L102	5.6UH	5.6UH	5.6UH	5.6UH	5.6UH	—	—
Q121	2SC2142K-T-146-R	2SC2142K-T-146-R	2SC2142K-T-146-R	2SC2142K-T-146-R	2SC2142K-T-146-R	—	—
Q124	2SC2142K-T-146-R	2SC2142K-T-146-R	2SC2142K-T-146-R	2SC2142K-T-146-R	2SC2142K-T-146-R	—	—
Q130	2SA1027K-T-146-R	2SA1027K-T-146-R	2SA1027K-T-146-R	2SA1027K-T-146-R	2SA1027K-T-146-R	—	—
R135	330	330	330	330	330	680	680
TU101	TUVF (AEP)	TUVF (R)	TUVF (AEP)	TUVF (AEP)	TUVF (AEP)	TUVF (AEP)	TUVF (UK)



A(1/2) BOARD IC VOLTAGE TABLE

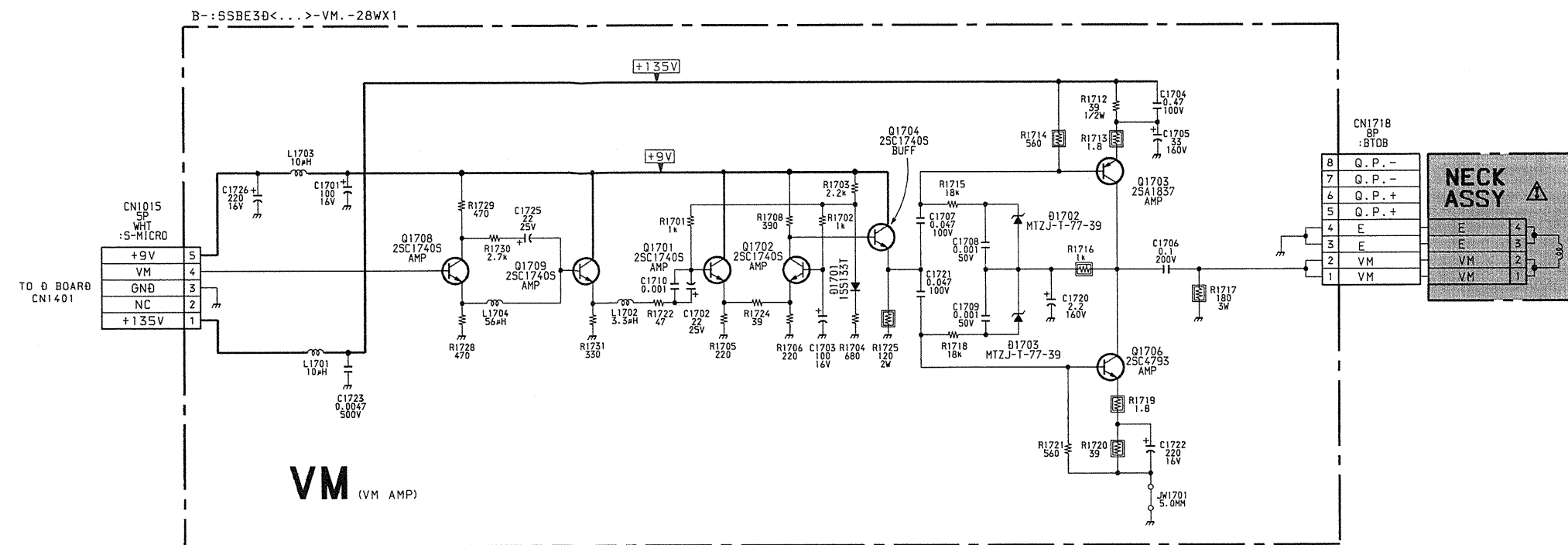
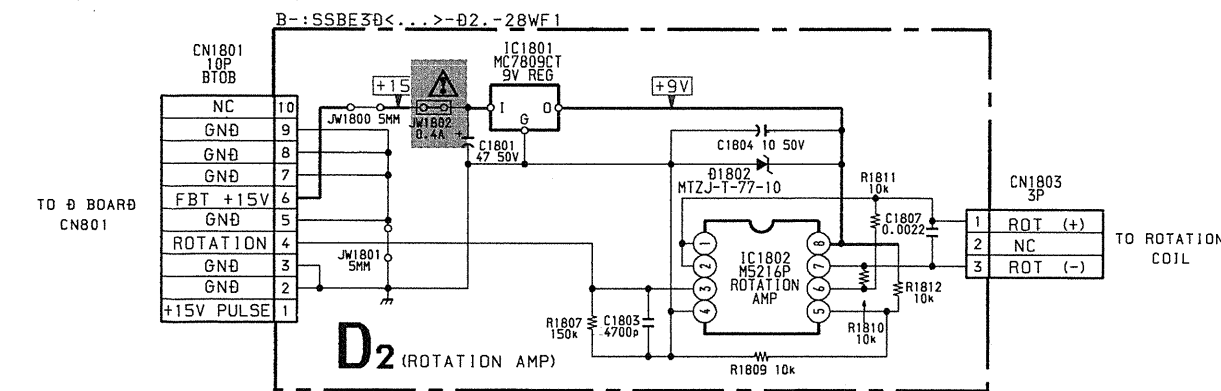
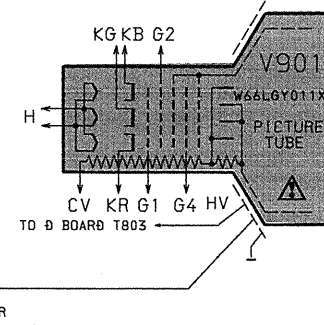
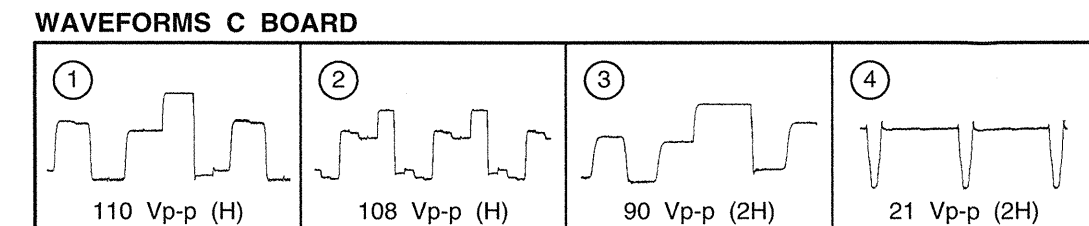
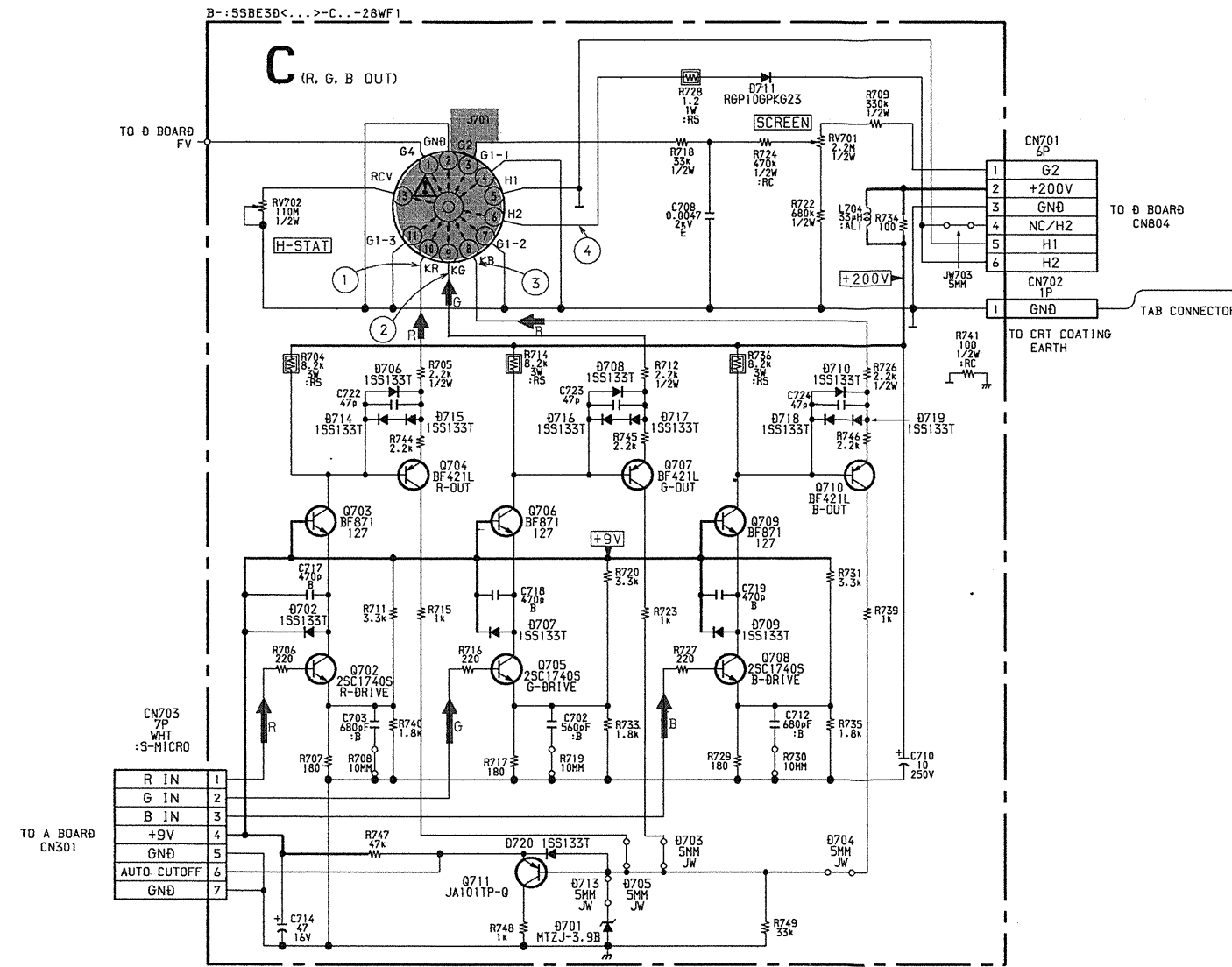
IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC201	13	4.4
	15	4.4
	20	3.5
	21	2.7
	22	4.9
	23	4.4
	24	0
	25	4.4
	26	8.8
	32	4.4
IC202	4	2.8
	6-7	0.1
	8	3.0
	9	3.6
	11	4.7
	13	4.7
	20-21	2.4
	23	0.2
	25	1.5
	26	4.8
	28	3.8
	29	2.6
	39-42	3.8
	44	7.1
45	8.0	
46	7.1	
47-48	3.8	
53-54	3.8	
IC203	1	4.7
	3	3.8
	5	3.8
	10	9.0
	12	4.7
	13	3.8
14	3.8	

A (2/2) BOARD TRANSISTOR VOLTAGE TABLE

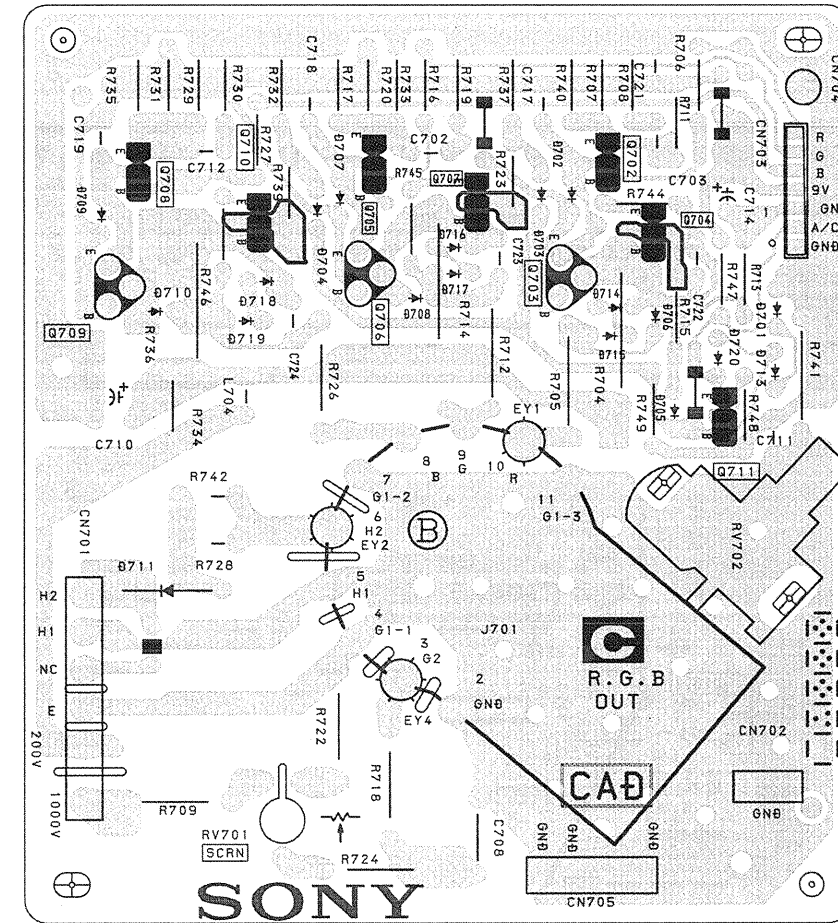
Ref No	B	C	E
Q1	3.7	4.8	3.1
Q4	0.1	4.8	-
Q15	-	4.3	-
Q80	2.4	2.2	-
Q81	-	3.0	-
Q300	-	0.2	-
Q304	-	4.8	-
Q305	-	4.8	-
Q306	-	0.1	-
Q330	4.5	-	5.1
Q331	6.3	8.8	5.7
Q332	3.1	8.8	2.5
Q1001	4.4	-	-

A (1/2) BOARD TRANSISTOR VOLTAGE TABLE

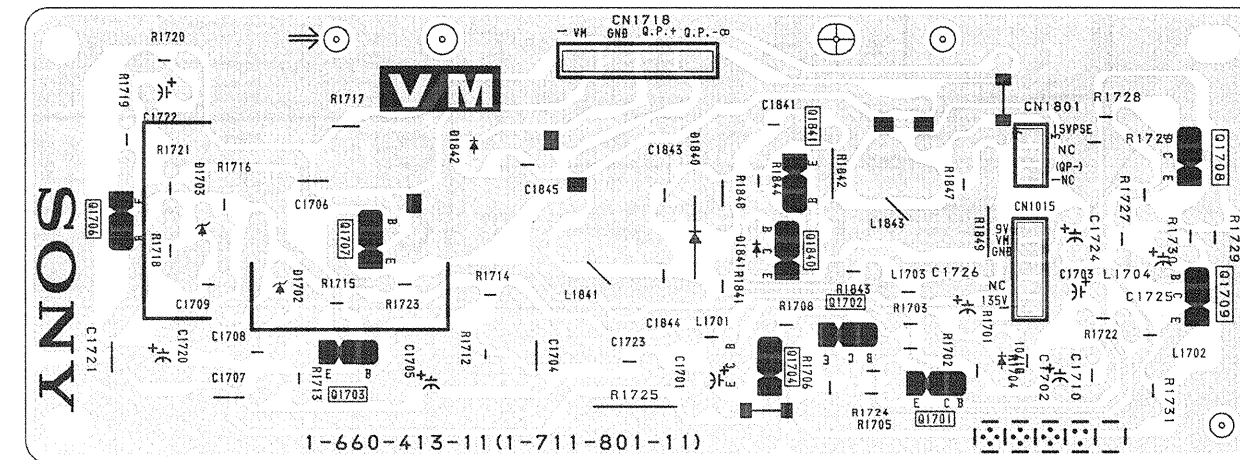
Ref No	B	C	E
Q110	1.8	8.2	1.2
Q112	1.5	8.8	0.8
Q113	1.8	-	-
Q114	5.4	6.0	-
Q120	9.0	8.8	3.7
Q121	1.5	5.4	0.9
Q122	5.4	8.8	4.7
Q124	-	8.8	-
Q130	8.2	5.3	-
Q201	4.4	8.8	3.7
Q202	4.4	8.8	3.7
Q205	-	8.9	-
Q206	4.1	-	4.7
Q207	4.1	-	4.7



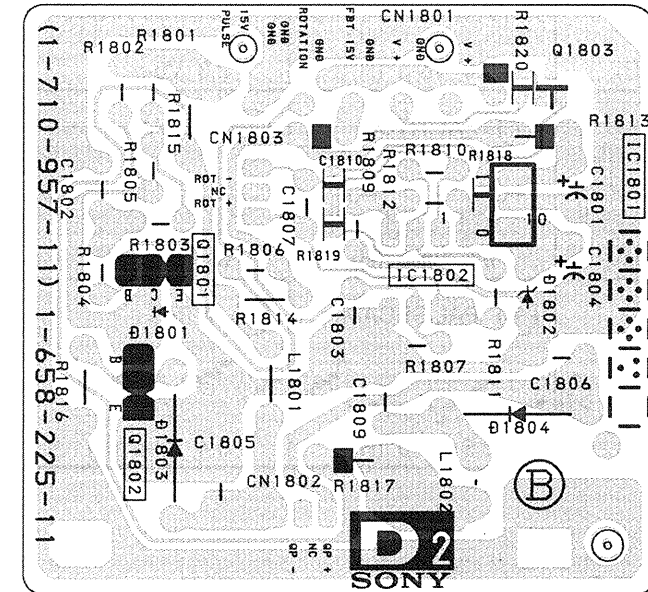
C Board



VM Board



D2 Board



C BOARD TRANSISTOR VOLTAGE TABLE

Ref No	B Base	C Collector	E Emitter
Q702	2.0	11.4	1.4
Q703	12.0	168.3	11.4
Q704	168.3	6.0	163.5
Q705	1.7	11.4	1.2
Q706	12.0	178.8	11.4
Q707	178.2	6.2	173.8
Q708	2.0	11.4	1.4
Q709	12.0	168.3	11.4
Q710	168.0	6.4	160.0

VM BOARD TRANSISTOR VOLTAGE TABLE

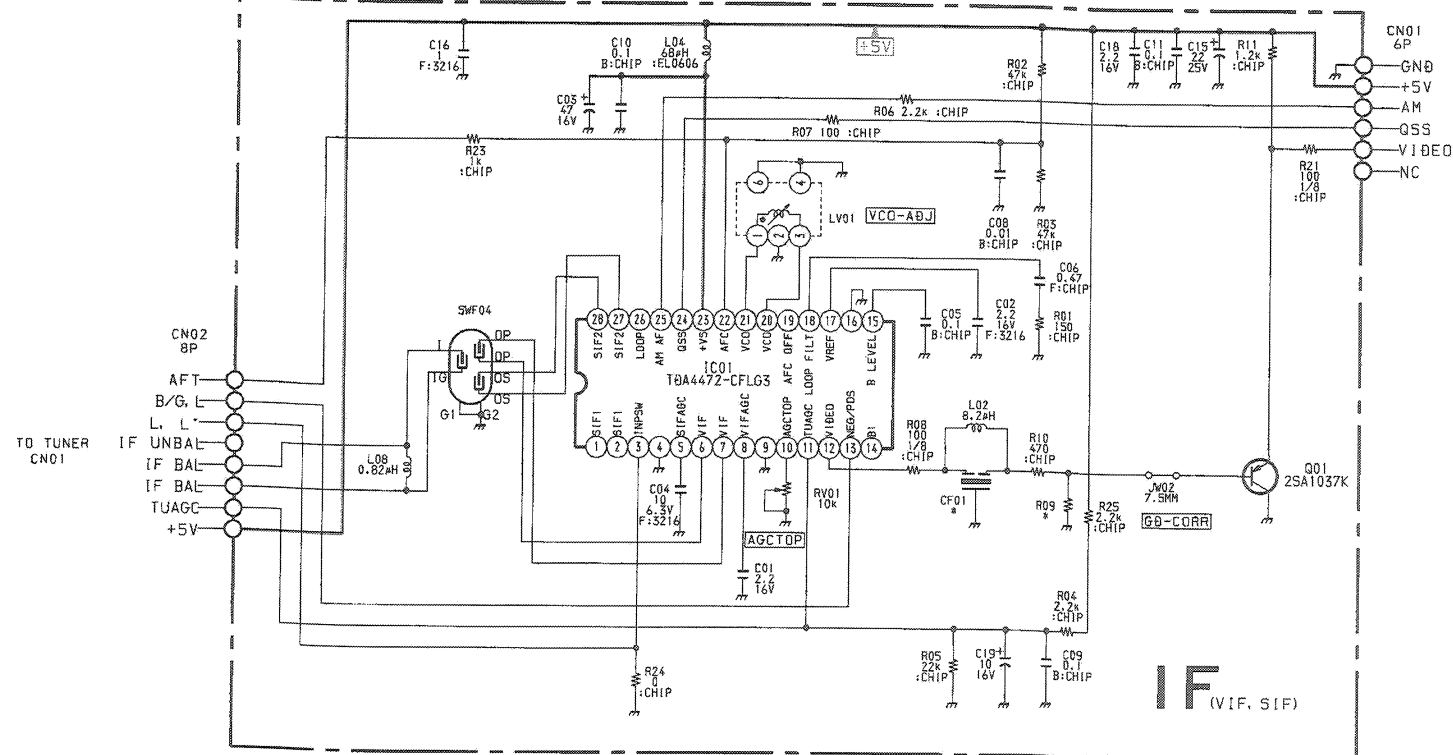
Transistor Voltage Table			
Ref No	B Base	C Collector	E Emitter
Q1701	2.5	8.8	1.8
Q1702	2.5	5.5	1.8
Q1703	134.3	71.8	134.8
Q1704	5.5	8.8	4.8
Q1706	1.0	71.8	0.4
Q1708	2.9	6.6	2.2
Q1709	2.2	8.8	1.5

D2 BOARD IC VOLTAGE TABLE

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC1802	1-2	2.8
	3	3.0
	5-6	4.4
	7	6.2
	8	9.0

TUVIF (AEP) (KV-28WF1A, 28WF1D, 28WF1E, and 28WF1K, 28WF1R ONLY)
TUVIF (UK) (KV-28WF1U ONLY)

B-#TVF-01<UK/AEP>-IF.

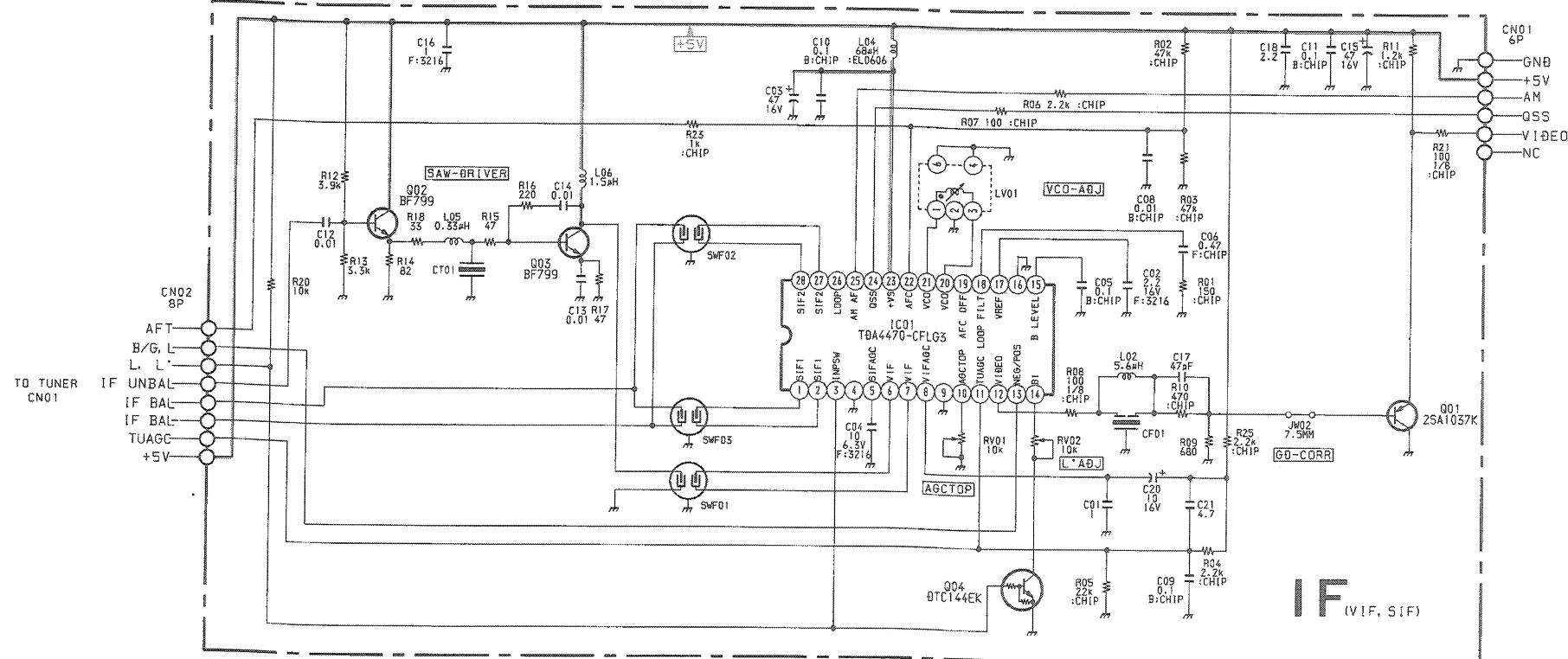


IF Board

Ref. No	Model	28WF1A	28WF1D	28WF1E	28WF1K	28WF1R	28WF1U
CF01		5.5MHz	5.5MHz	5.5MHz	5.5MHz	5.5MHz	6.0MHz
R09		680MF	680MF	680MF	680MF	680MF	1K

TUVIF (FR) (KV-28WF1B ONLY)

B-#TVF-01<FR.>-IF.



IF

[VIF, SIF]

IF Board

