SECTION 4
TROUBLESHOOTING

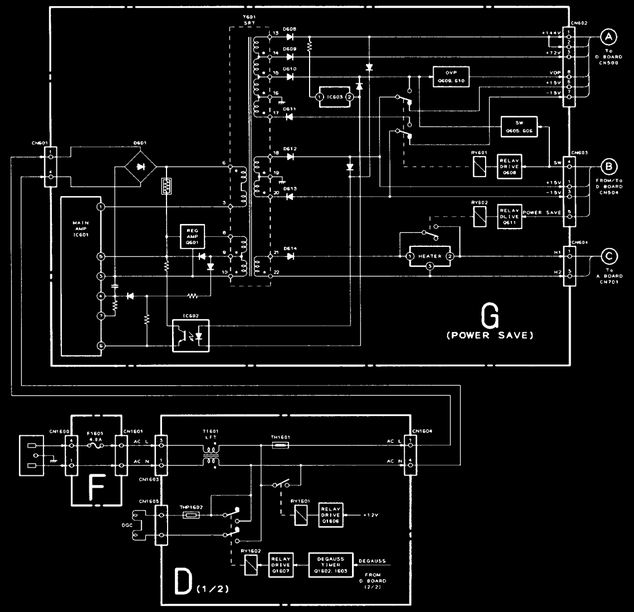
This diagnostic troubleshooting guide uses the monitor symptom as a clue for selecting a repair procedure. Select the listed symptom closest to that of your monitor and follow the procedure given for that symptom in this troubleshooting guide. If the same trouble recurs even after you have changed a block or part, re-install the original block or part, then proceed to the next step.

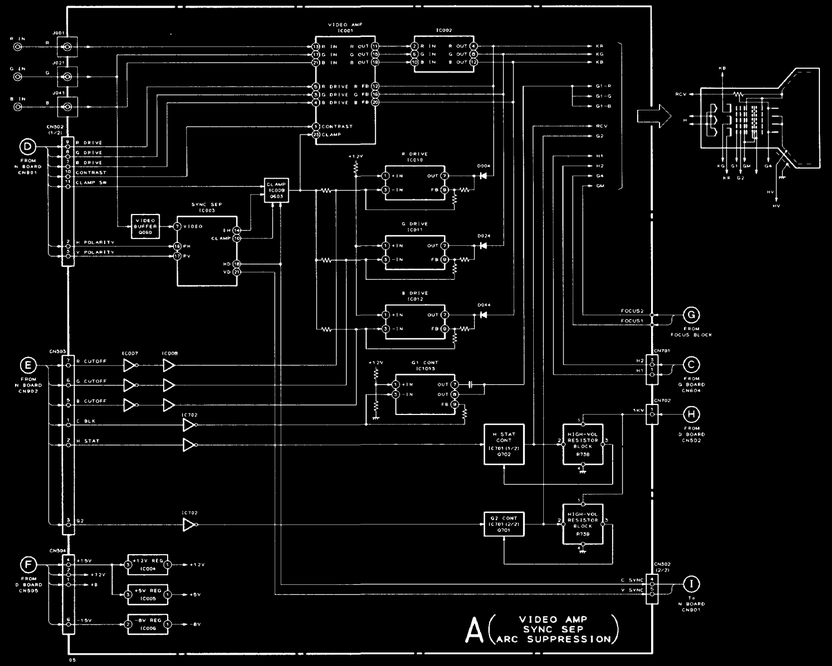
Symptoms	Repair Procedure
• No Power	1. Check whether the internal power supply connector is connected. 2. Inspect the power supply fuse. → If it has blown, change it. If it blows again, proceed to the next step. 3. Charge the Power block. 4. Change the D board block.
• Sametime shutdown after work while	1. Check the hold down voltage. 2. Change the hight voltage capacitor. C805 3. Change the D board block.
• Abnormal coil demagnetization	1. Change the Power block.
• No Picture	1. Adjust the CONTRAST control. 2. Confirm the input signal. 3. Confirm connector between power block and D board. 4. Inspect the power supply fuse. → If it has blown, change it. If it blows again, proceed to the next step. 5. Change the Power block. 6. Change the D board block. 7. Change the A board. 8. Change the U board. 9. Change the CRT.
• Display area too small/large/short/tall/narrow/wide	1. Adjust the horizontal or vertical size. 2. Change the D board block.
• Horizontal distortion	1. Re-adjust using the service software. 2. Change the D board block.
• Vertical distortion	1. Re-adjust using the service software. 2. Change the D board block.
• Picture tilted	1. Make the tilt adjustment.
• Picture flickers	1. Check the fastening of the ground line. 2. Check the grounding of the connected computer. 3. Change the D board Block.
• Brightness can not be adjusted	1. Change the A board. 2. Change the H board.
• Contrast can not be adjusted	1. Change the A board. 2. Change the H board.
• Picture too bright/dark	1. Adjust the BRIGHTNESS control. 2. Adjust the white balance. 3. Adjust the CONTRAST and BRIGHT controls. 4. Change the A board. 5. Change the Power block. 6. Change the CRT.

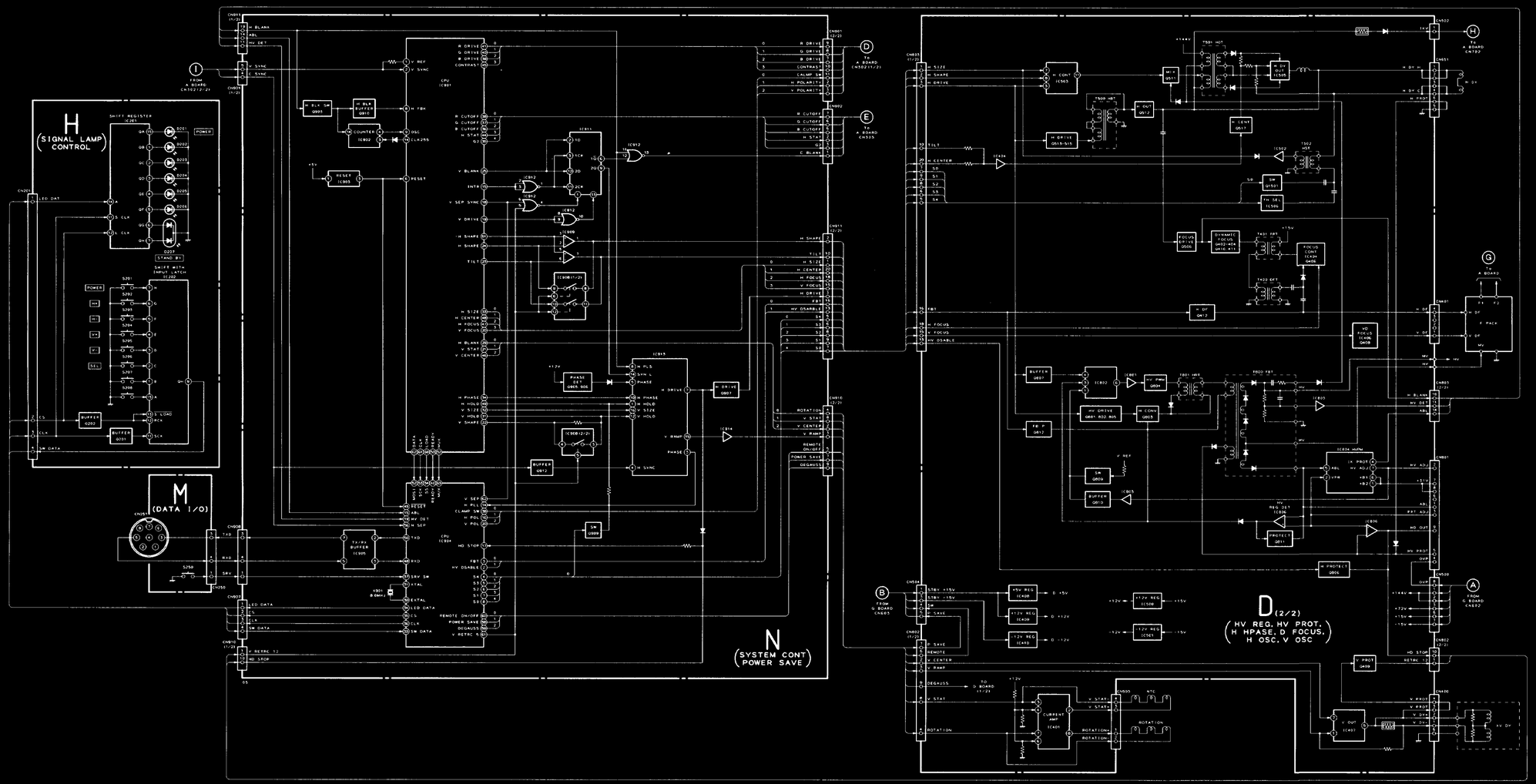
For picture size, pictuer distortion, and other specifications, place the ball chart on the set and check and adjust.

SECTION 5
DIAGRAMS

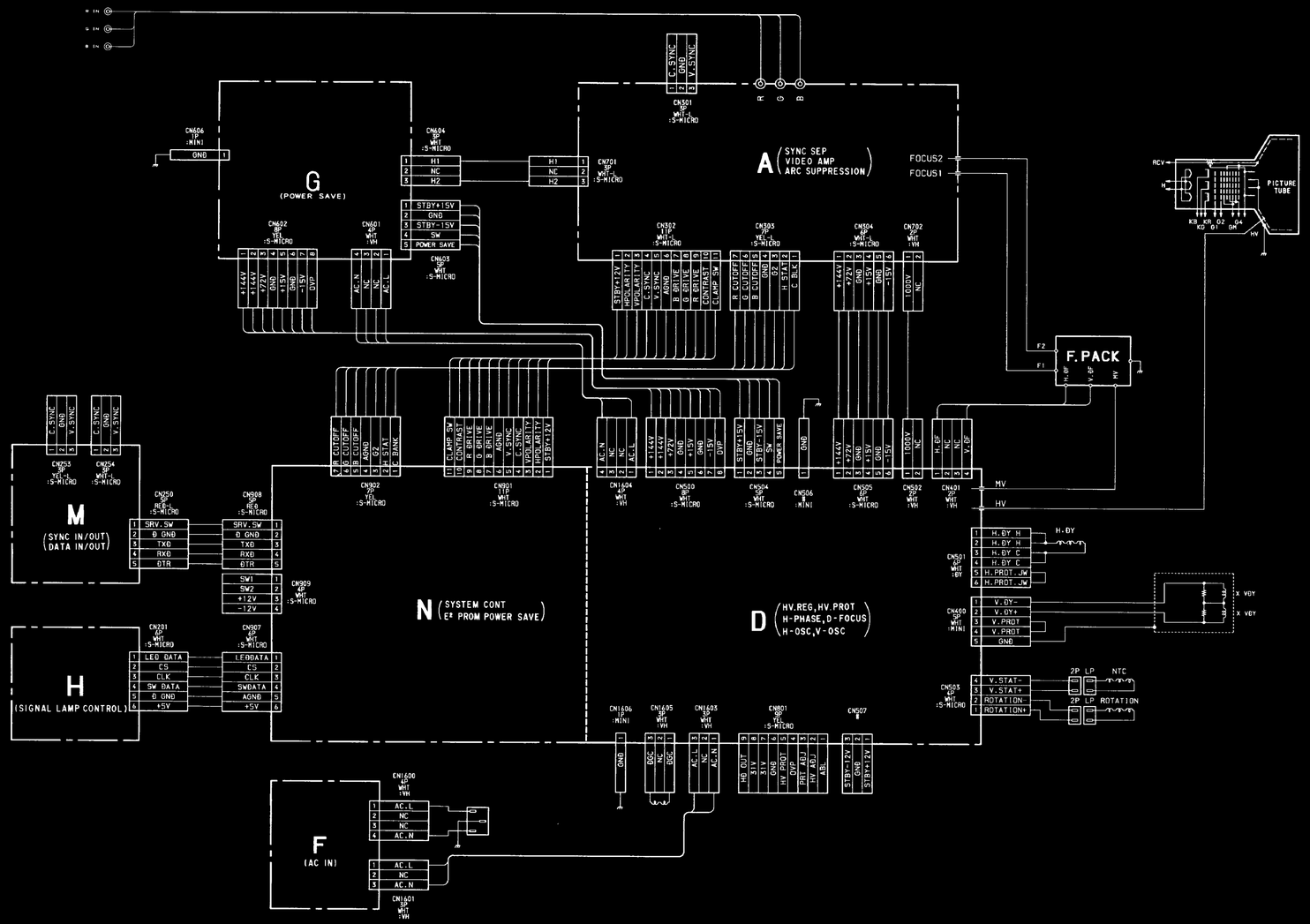
5-1. BLOCK DIAGRAMS



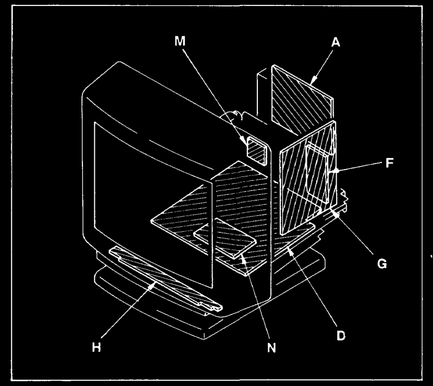



H
(SIGNAL LAMP CONTROL)
M
(DATA I/O)
N
(SYSTEM CONT POWER SAVE)
D(2/2)
(HV REG, HV PROT, H HPASE, D FOCUS, H OSC, V OSC)

5-2. FRAME SCHEMATIC DIAGRAM



5-3. CIRCUIT BOARDS LOCATION



5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytic.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/10 W (D and G board only 1/4 W)

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- All voltages are in V.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ✳ : Can not be measured.
- Circled numbers are waveform references.
- ━━━ : B + bus.
- ━ ━ ━ : B − bus.

Reference information

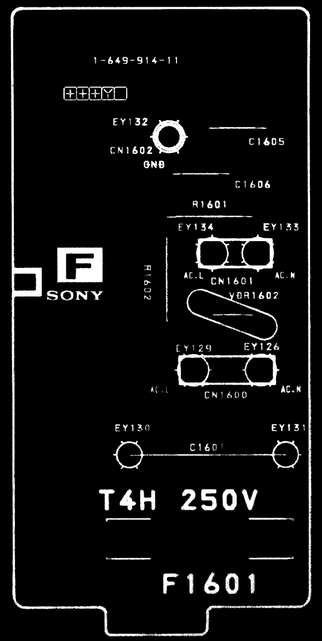
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

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

Note: Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

F [AC IN]

– F Board –

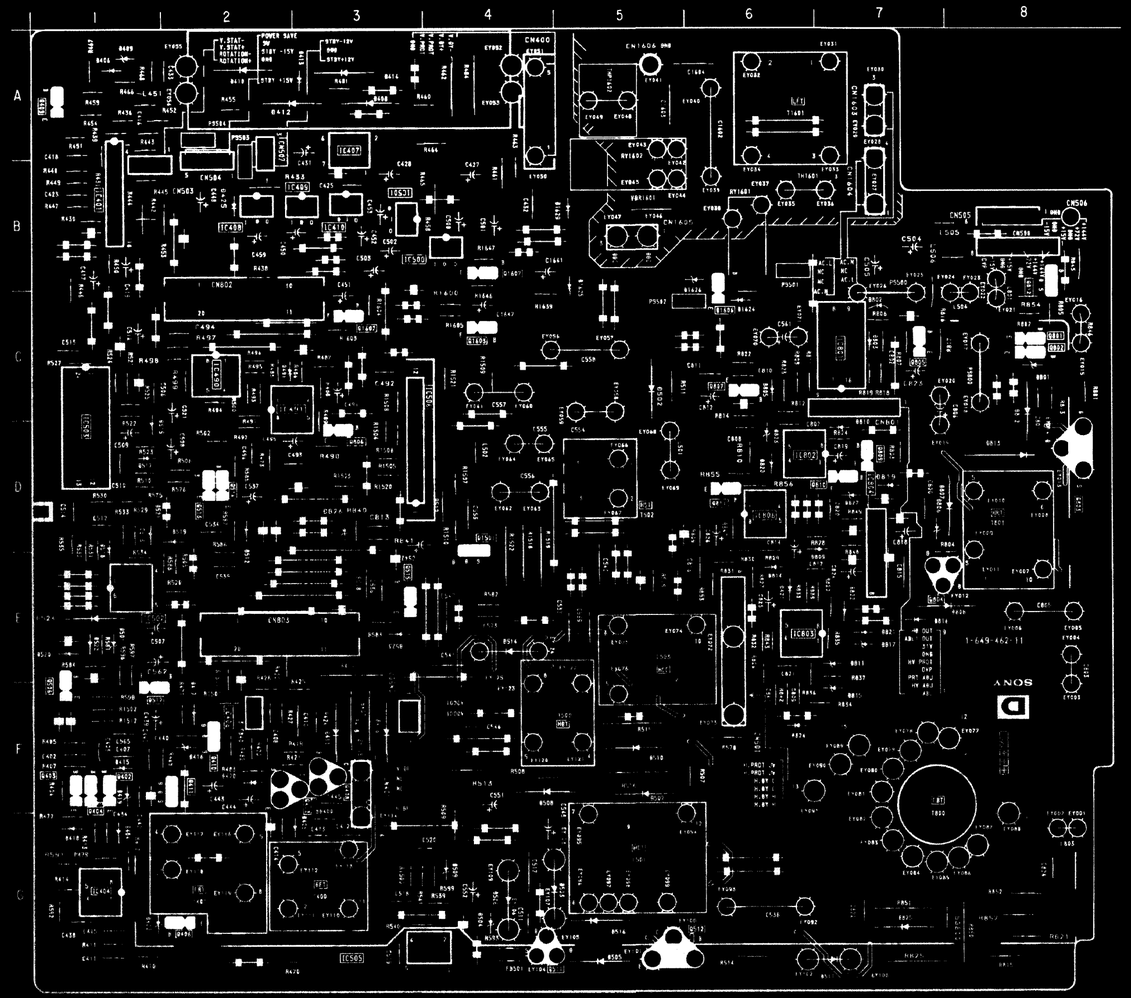


• D BOARD

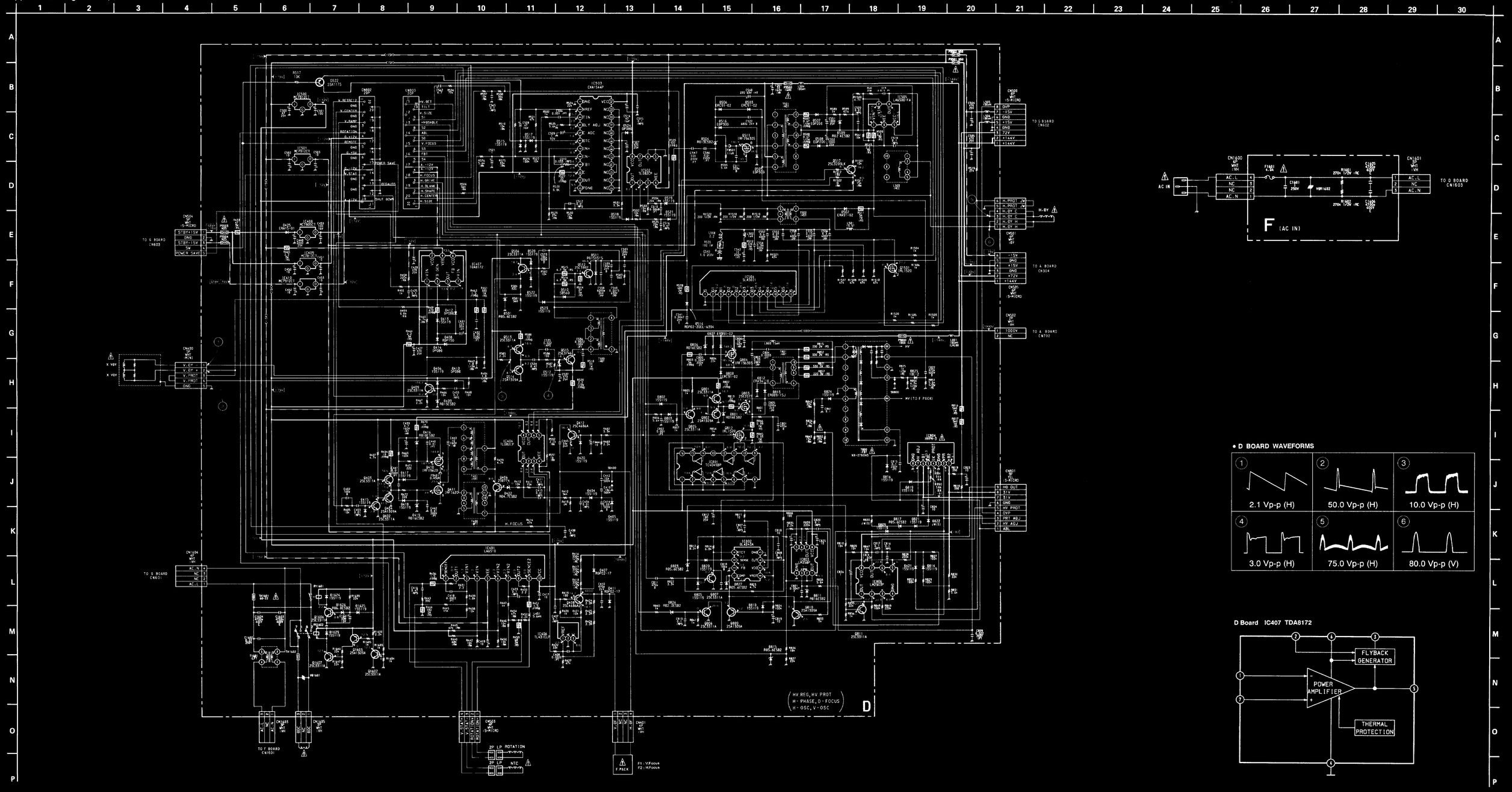
IC		DIODE			
IC401	B – 1	D404	G – 1	D813	D – 8
IC404	G – 1	D405	G – 2	D814	E – 6
IC406	F – 2	D406	A – 1	D815	F – 6
IC407	A – 3	D407	F – 3	D816	E – 7
IC408	B – 2	D408	A – 3	D817	E – 7
IC409	B – 3	D409	A – 1	D819	D – 7
IC410	B – 3	D410	A – 2	D820	D – 6
IC490	C – 2	D411	F – 3	D821	E – 7
IC491	C – 2	D412	A – 2	D823	D – 6
IC500	B – 4	D413	A – 3	D824	F – 6
IC501	B – 3	D414	A – 3	D825	G – 7
IC502	E – 1	D415	F – 1	D826	D – 3
IC503	C – 1	D416	F – 2	D827	D – 7
IC505	G – 3	D417	F – 2	D1624	C – 6
IC506	C – 3	D418	G – 1	D1625	B – 5
IC801	C – 7	D419	F – 1	D1626	B – 6
IC802	D – 6	D420	F – 2	D1629	B – 5
IC803	E – 6	D421	E – 6		
IC804	D – 7	D422	G – 1		
IC806	D – 6	D425	B – 2		
		D491	C – 2		
TRANSISTOR		D501	E – 1		
		D502	C – 5		
Q402	F – 1	D503	G – 4		
Q403	F – 1	D504	G – 4		
Q404	F – 1	D505	G – 5		
Q406	G – 2	D506	G – 4		
Q408	F – 3	D507	F – 5		
Q409	A – 1	D508	F – 4		
Q410	F – 2	D509	G – 4		
Q411	F – 2	D510	F – 5		
Q412	F – 2	D511	G – 6		
Q506	F – 1	D512	D – 2		
Q511	G – 4	D514	E – 4		
Q512	G – 5	D515	D – 1		
Q513	D – 2	D516	G – 5		
Q514	D – 2	D517	D – 1		
Q515	E – 3	D518	D – 1		
Q517	F – 1	D519	D – 2		
Q801	C – 8	D520	E – 1		
Q802	C – 8	D521	D – 1		
Q803	D – 8	D522	E – 1		
Q804	F – 7	D523	E – 3		
Q805	C – 7	D524	E – 1		
Q806	D – 3	D801	C – 8		
Q807	C – 6	D802	C – 7		
Q809	D – 7	D803	C – 7		
Q810	D – 7	D805	C – 6		
Q811	D – 6	D806	D – 7		
Q812	B – 8	D807	D – 8		
Q1501	D – 4	D808	E – 7		
Q1602	C – 3	D809	E – 6		
Q1603	C – 4	D810	D – 7		
Q1606	C – 6	D811	E – 6		
Q1607	B – 4	D812	D – 8		

D [HV. REG, HV. PROT
H-PHASE, D-FOCUS
H-OSC, V-OSC]

– D Board –

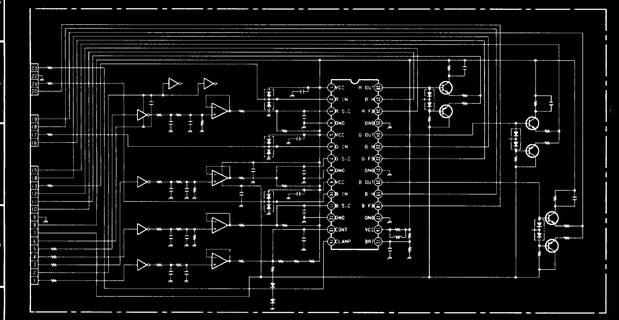


(1) Schematic Diagrams of D, F Boards

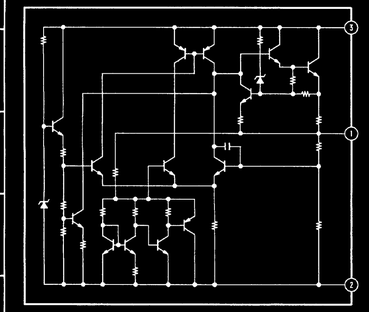


(2) Schematic Diagram of A Board

A Board IC001 PRE-1

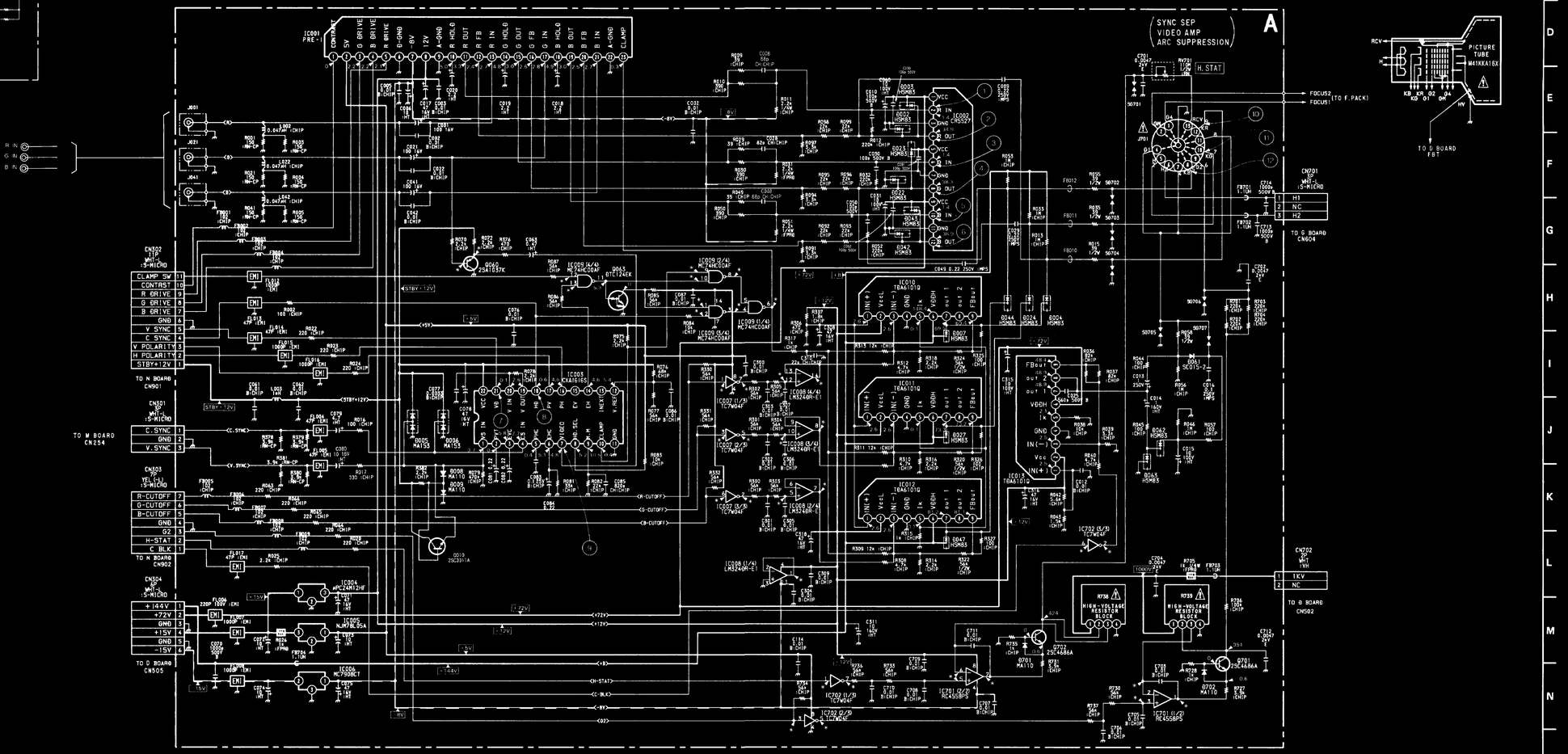


A Board IC005 NJM78L05A



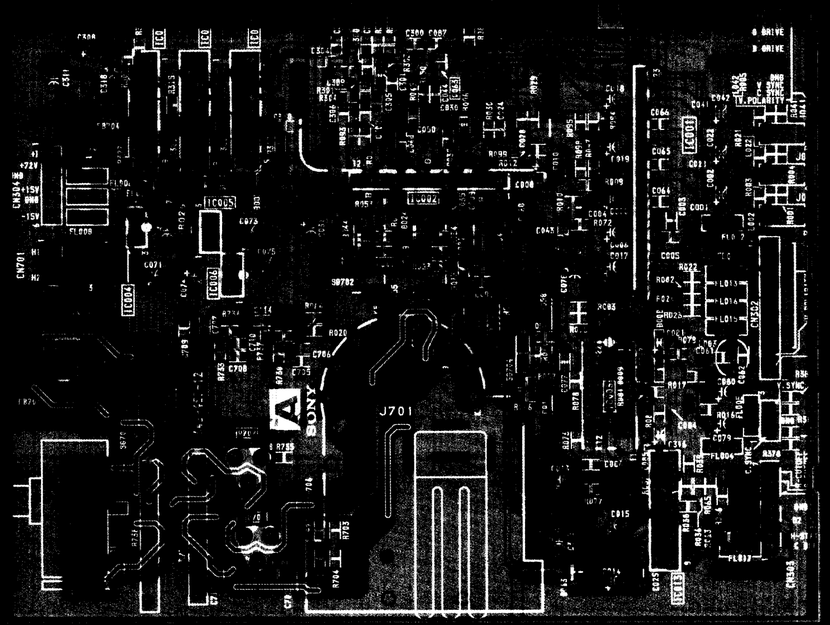
• A BOARD WAVEFORMS

① 1.0 Vp-p (H)	② 45.0 Vp-p (H)	③ 1.0 Vp-p (H)
④ 41.0 Vp-p (H)	⑤ 1.1 Vp-p (H)	⑥ 33.0 Vp-p (H)
⑦ 0.6 Vp-p (H)	⑧ 4.7 Vp-p (H)	⑨ 1.0 Vp-p (H)
⑩ 45.0 Vp-p (H)	⑪ 41.0 Vp-p (H)	⑫ 33.0 Vp-p (H)



A SYNC SEP
VIDEO AMP
ARC SUPPRESSION

A Board (Conductor Side)



• : Pattern of the rear side.

• A BOARD

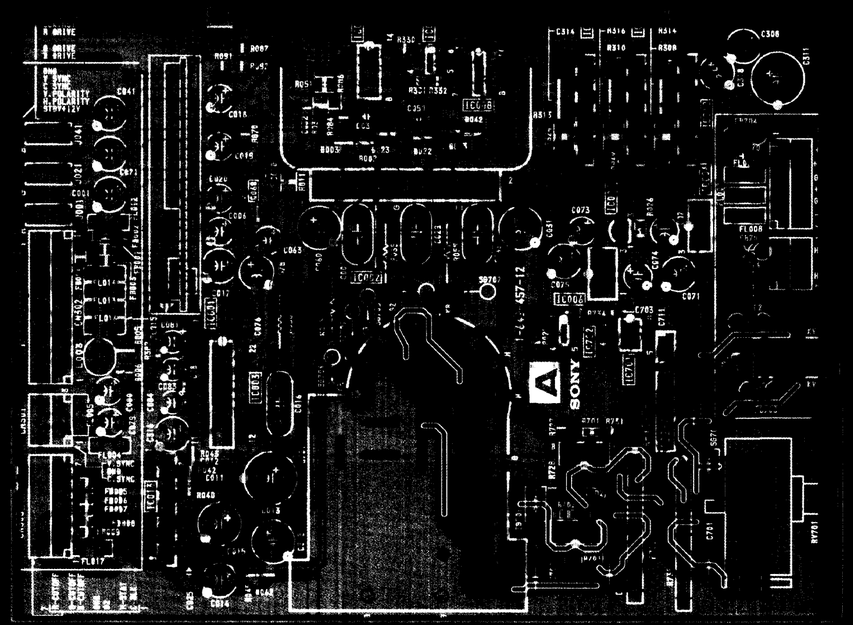
IC	(Conductor Side)		(Component Side)	
IC001	B	4	B	1
IC002	B	3	B	3
IC003	C	4		
IC004	B	1	B	4
IC005	B	2	B	4
IC006	B	2	B	4
IC007			A	3
IC008			A	3
IC009			A	3
IC010	A	2	A	4
IC011	A	2	A	4
IC012	A	1	A	4
IC013	C	4	C	1
IC701			B	4
IC702			B	4

TRANSISTOR	(Conductor Side)		(Component Side)	
Q060			B	2
Q063	A	3		
Q701	C	2	C	4
Q702	C	2	C	4

DIODE	(Conductor Side)		(Component Side)	
D002			A	3
D003			A	2
D004	B	3		
D005			C	1
D006			C	1
D007	B	2		
D008	C	4		
D009	C	4		
D022			A	3
D023			A	3
D024	B	3		
D027	B	2		
D042			A	3
D043			A	3
D044	B	3		
D047	B	1		
D061	C	4		
D062			C	2
D063	C	4		
D701			C	4
D702			C	4

VARIABLE RESISTOR	(Conductor Side)		(Component Side)	
RV701	C	1	C	5

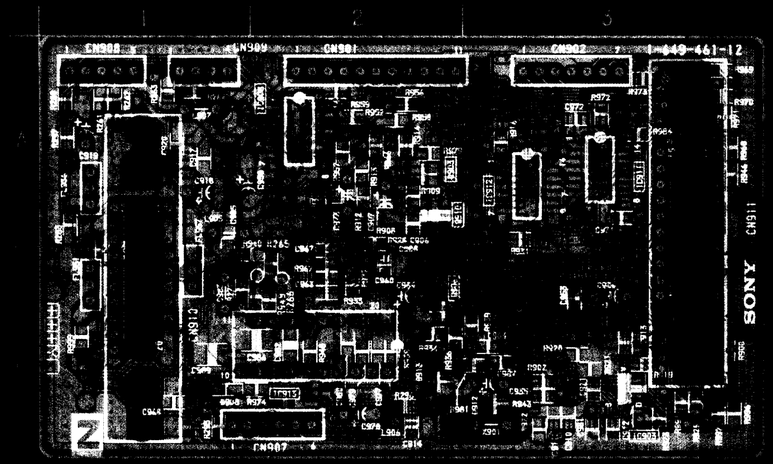
A Board (Component Side)



• : Pattern of the rear side.

N SYSTEM CONT
E² PROM POWER SAVE

– N Board (Conductor Side) –



• : Pattern of the rear side.

• N BOARD

IC

	(Conductor Side)	(Component Side)
IC901		A - 1
IC902		A - 2
IC903	B - 3	
IC904		B - 1
IC905		A - 3
IC908	A - 2	
IC909		A - 3
IC911	A - 3	
IC912	A - 3	
IC913	B - 2	B - 2
IC914		B - 3

TRANSISTOR

	(Conductor Side)	(Component Side)
Q903	A - 2	
Q905		B - 2
Q906	B - 2	
Q907		B - 3
Q909		B - 2
Q910	A - 2	
Q912		B - 2

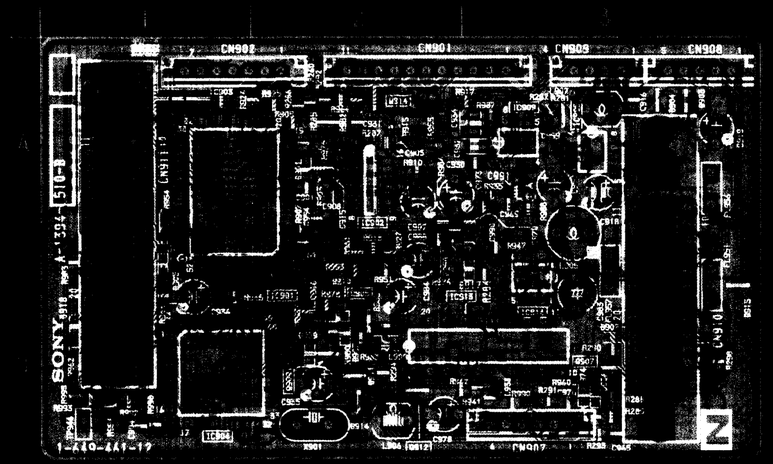
DIODE

	(Conductor Side)	(Component Side)
D901		A - 2
D902		B - 3
D903		A - 3
D904		A - 3
D905		B - 1
D906		B - 3
D907		B - 2
D908	B - 1	
D909		B - 2
D910		B - 2
D911		B - 2
D912	B - 3	
D913	B - 2	
D914		B - 2
D915		B - 3
D916		
D917		

CRYSTAL

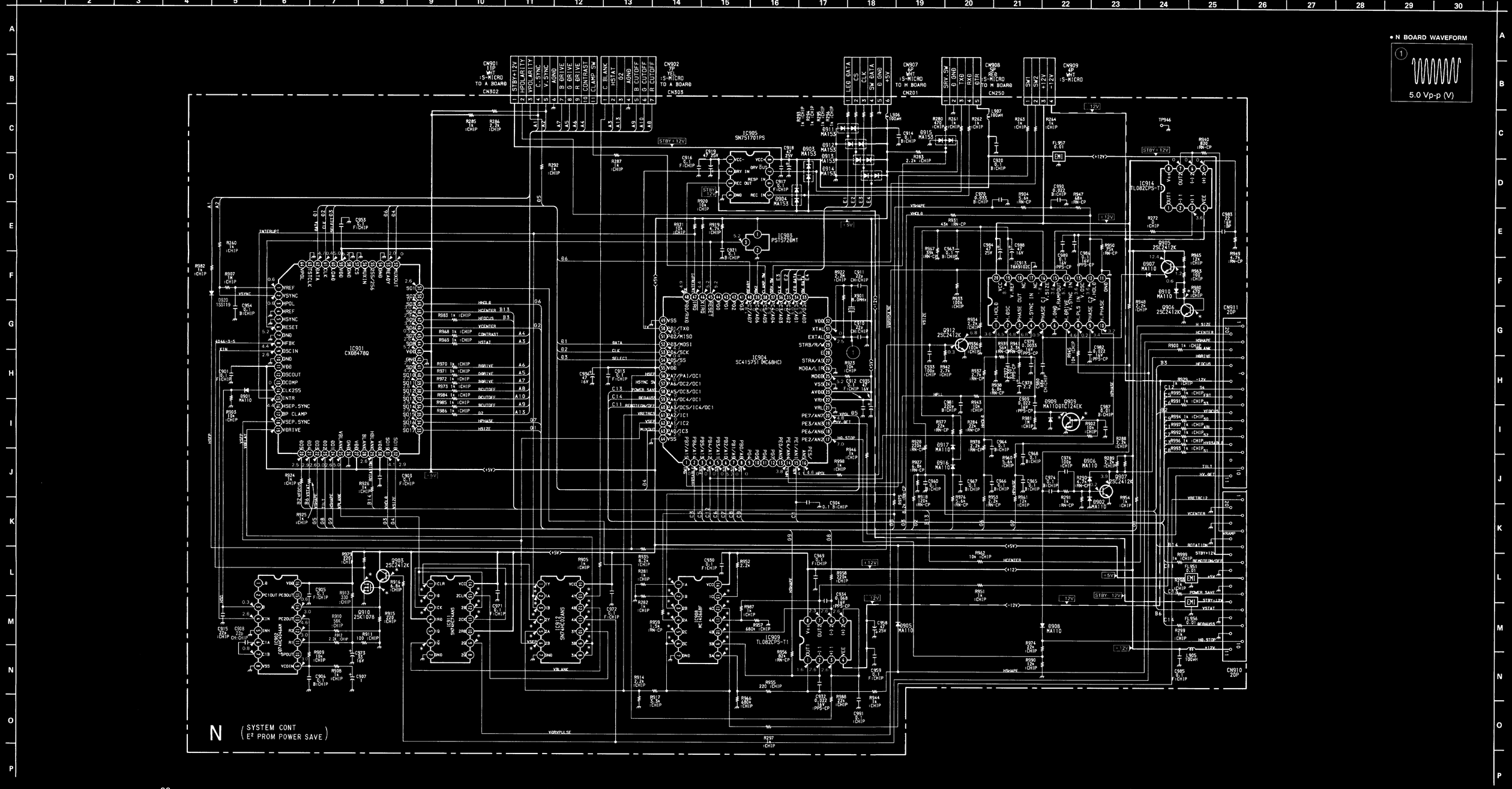
	(Conductor Side)	(Component Side)
X901	B - 3	B - 2

– N Board (Component Side) –

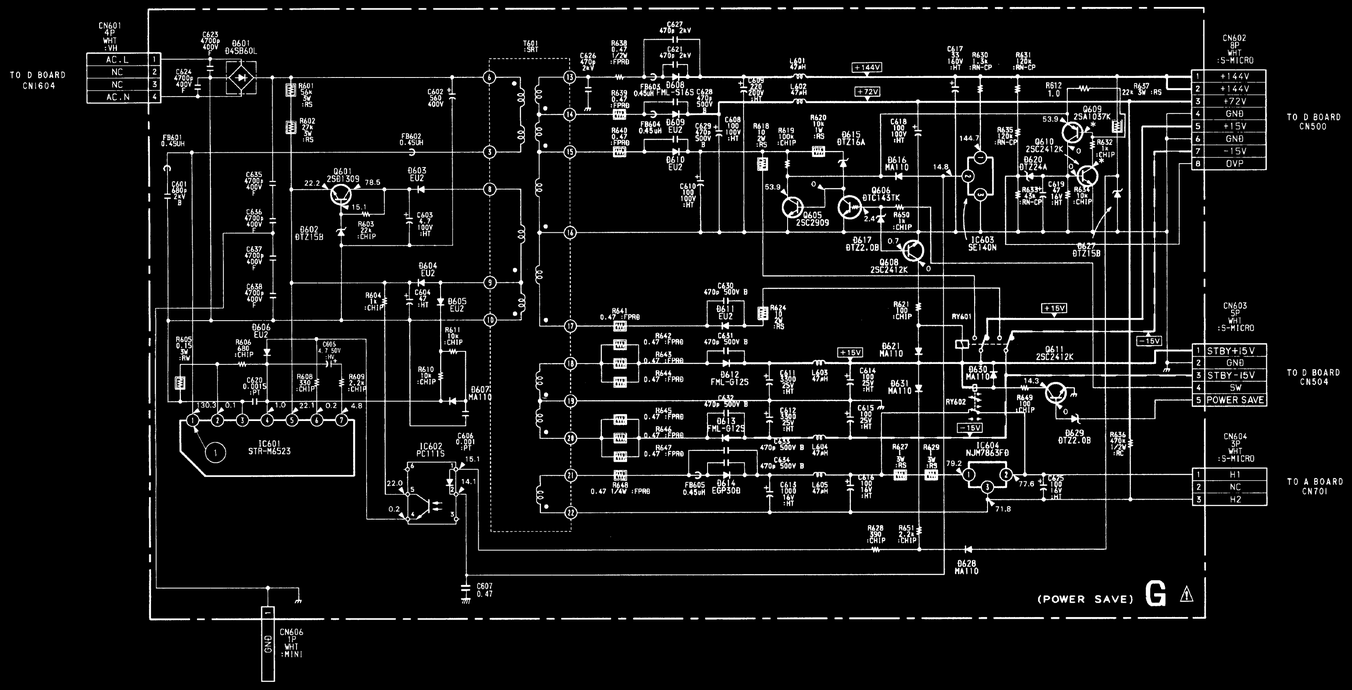


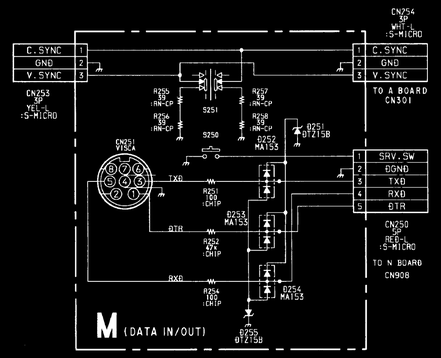
• : Pattern of the rear side.

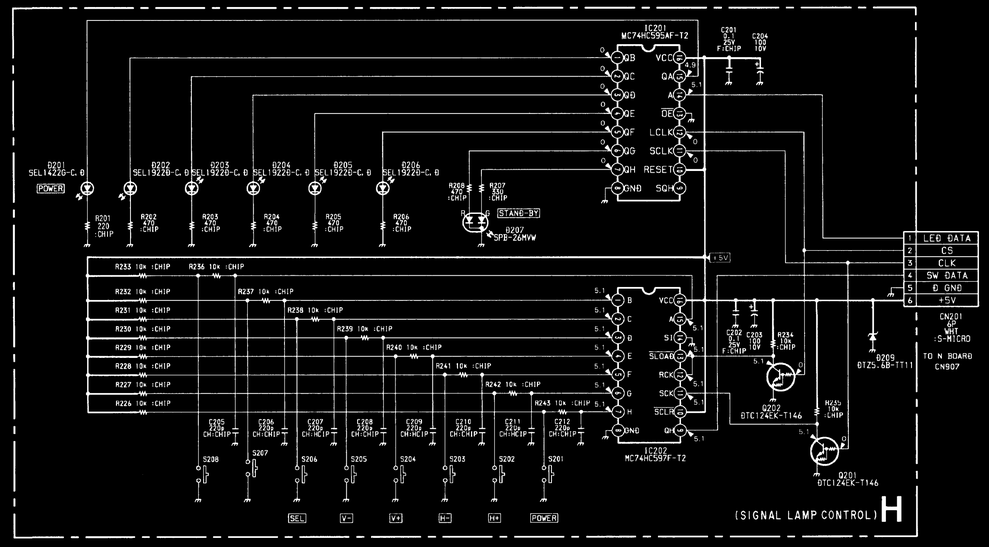
(3) Schematic Diagram of N Board



• G BOARD WAVEFORM

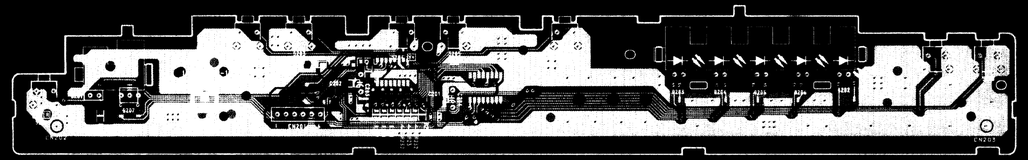




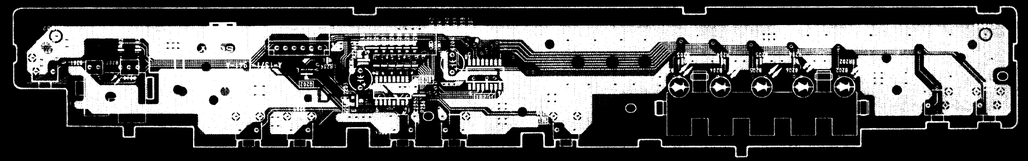


H [SIGNAL LAMP CONTROL] M [DATA IN/OUT]

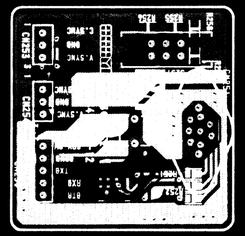
– H Board (Conductor Side) –



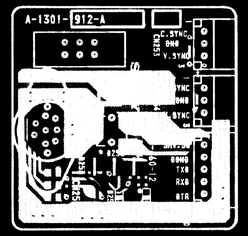
– H Board (Component Side) –



– M Board (Conductor Side) –

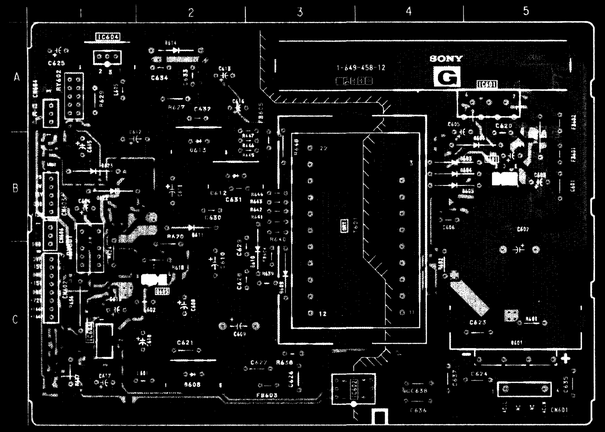


– M Board (Component Side) –



GDM-17SE1 GDM-17SE1

– G Board (Conductor Side) –



• : Pattern of the rear side.

G [POWER SAVE]

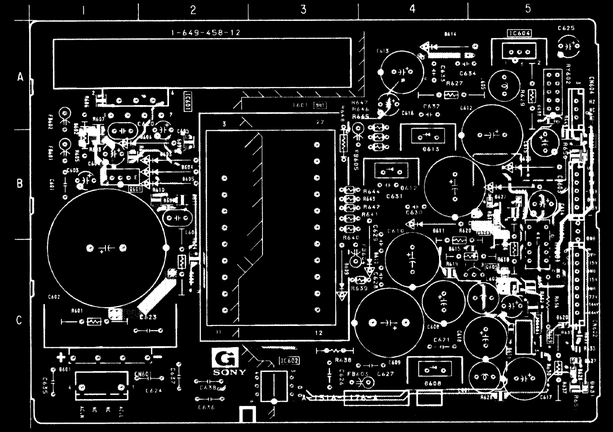
• G BOARD

IC	(Conductor Side)	(Component Side)
IC601	A – 5	A – 1
IC602	C – 3	C – 3
IC603	C – 1	C – 5
IC604	A – 1	A – 5

TRANSISTOR	(Conductor Side)	(Component Side)
Q601	B – 5	B – 1
Q605	C – 2	C – 5
Q606		C – 5
Q608		B – 5
Q609		C – 5
Q610		C – 5
Q611		B – 5

DIODE	(Conductor Side)	(Component Side)
D601	C – 5	C – 1
D602		A – 1
D603	B – 4	B – 2
D604	B – 4	B – 2
D605	B – 4	B – 2
D606	B – 5	B – 1
D607		B – 2
D608	C – 2	C – 4
D609	C – 3	C – 3
D610	C – 3	C – 4
D611	B – 2	B – 4
D612	B – 2	B – 4
D613	B – 2	B – 4
D614	A – 2	A – 4
D615		C – 5
D616		C – 5
D617		B – 5
D620		C – 5
D621		B – 5
D627		C – 5
D628		C – 5
D629		B – 5
D630		A – 5
D631		C – 5

– G Board (Component Side) –



• : Pattern of the rear side.