

Adjustment Preparation

Apply markings to the positions of the variable resistors before adjustment. If the adjustment are out of the specifications, the following symptoms may occur.

[Focus gain]

If the focus adjustment is too low the pickup lens will not be able to focus properly and the disk will not rotate. If the adjustment is too high portions of a track may be skipped and noise will increase.

[Tracking gain]

If the tracking adjustment is too low the drive is more susceptible to shocks or bumps, portions of a track may be skipped or the disk time counter may stop.

If the adjustment is too high the pickup lens may oscillate leading to unstable or distorted sound.

The focus and tracking adjustments are done so as to mutually satisfy conflicting characteristics.

6-3. Test equipment and tools necessary for adjustment

1. Oscilloscope
2. DC voltmeter
3. Non-metallic adjustment screwdriver
4. Test CD (A-BEC TCD-792A)

6-4. CD Drive Unit Adjustment Procedure

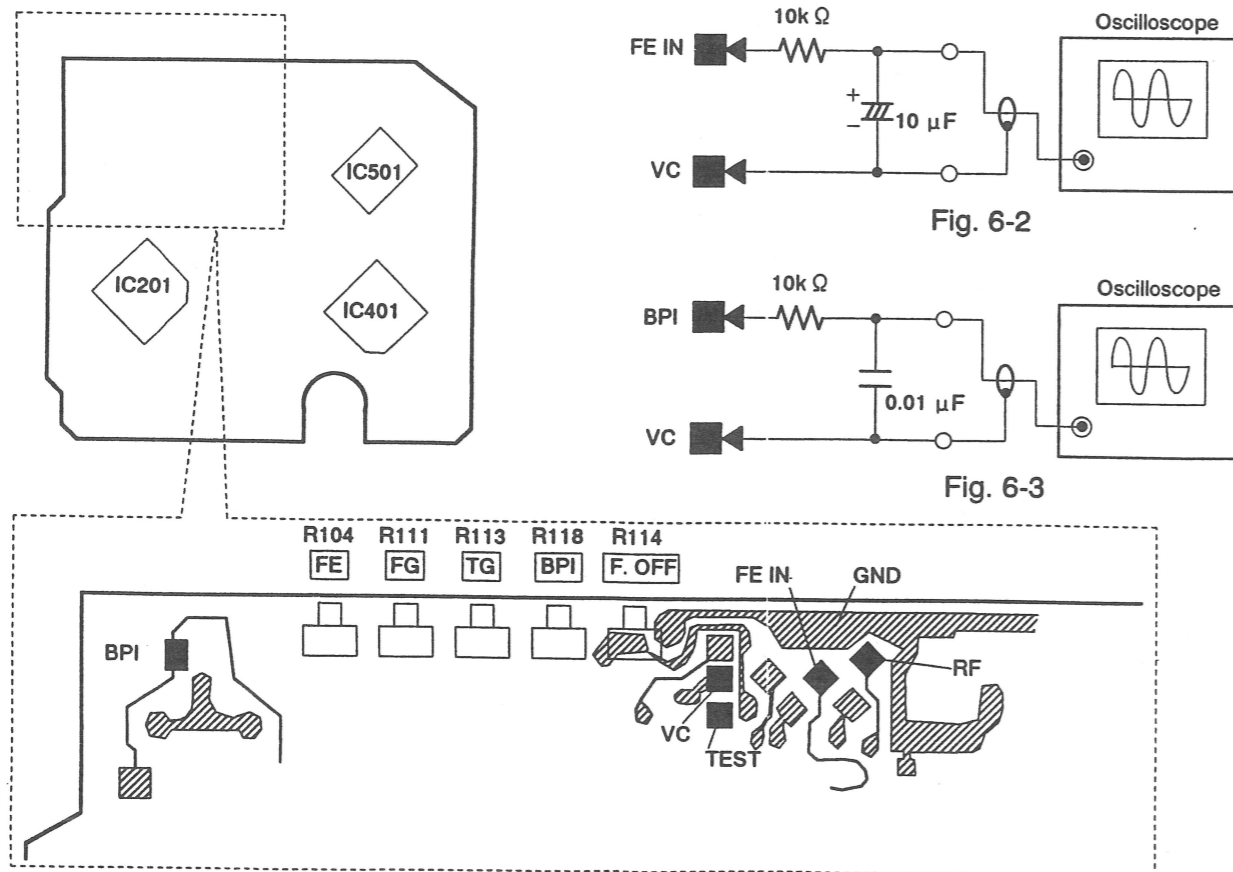


Fig. 6-1

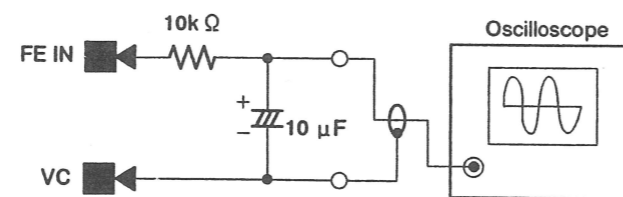


Fig. 6-2

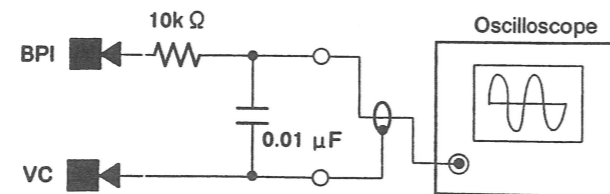


Fig. 6-3

6-4-1. FE (Focus Error) bias adjustment and focus gain adjustment

1. Connect the oscilloscope to test point FE IN as shown in Fig. 6-2.
2. Turn the power switch on and set the CD drive to the stop mode.
3. Adjust R114 (FE bios) so the DC voltage at the test point (FE IN) is 0V.
4. Play the first track of the test CD and adjust R111 (Focus gain) so the DC voltage is -7mV .

6-4-2. FE balance and tracking gain adjustments

1. Connect the oscilloscope to test point BP IN as shown in Fig. 6-3.
2. Turn the power switch on and play the first track of the test CD.
3. After play has begun, connect the TEST pin to GND.
4. Adjust R104 (FE balance) so the center voltage of the waveform is 0V.
5. Adjust R113 (tracking gain) so the amplitude of the waveform is 0.4V as in Fig. 6-4.

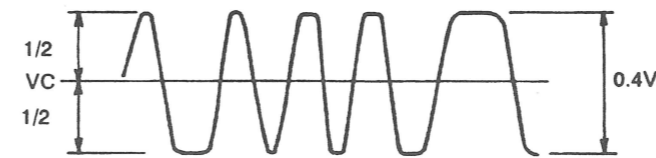
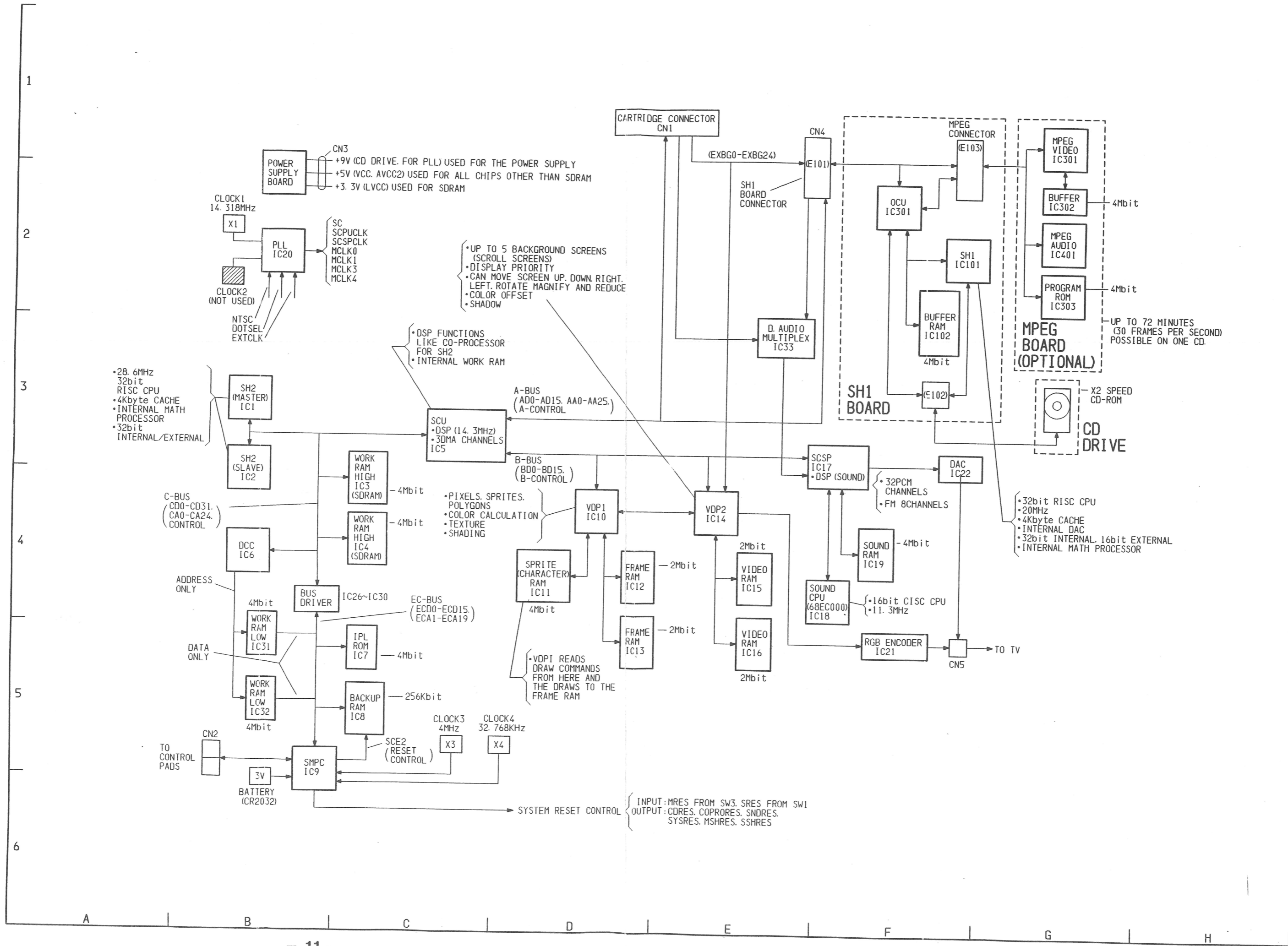


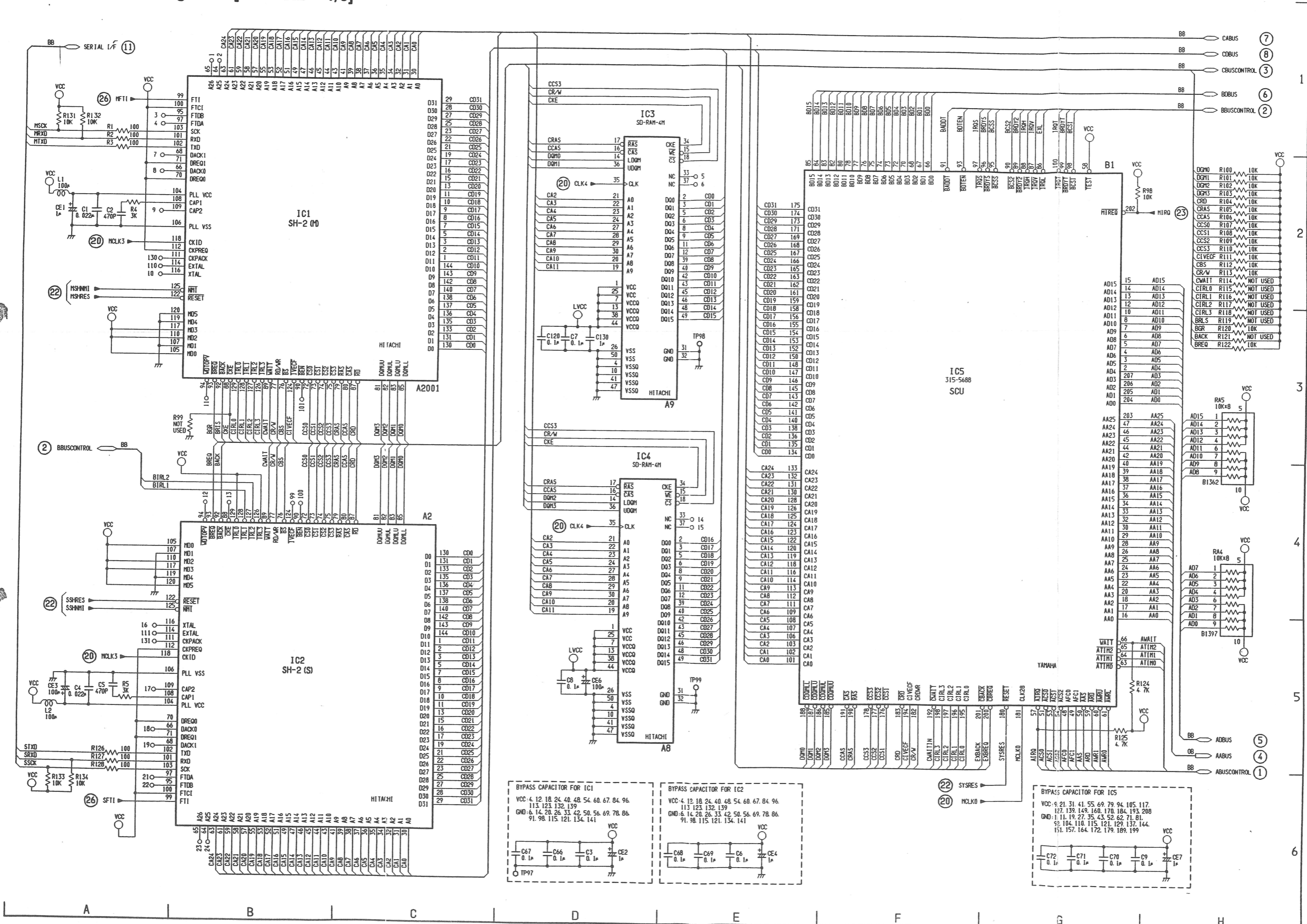
Fig. 6-4

7. BLOCK DIAGRAM

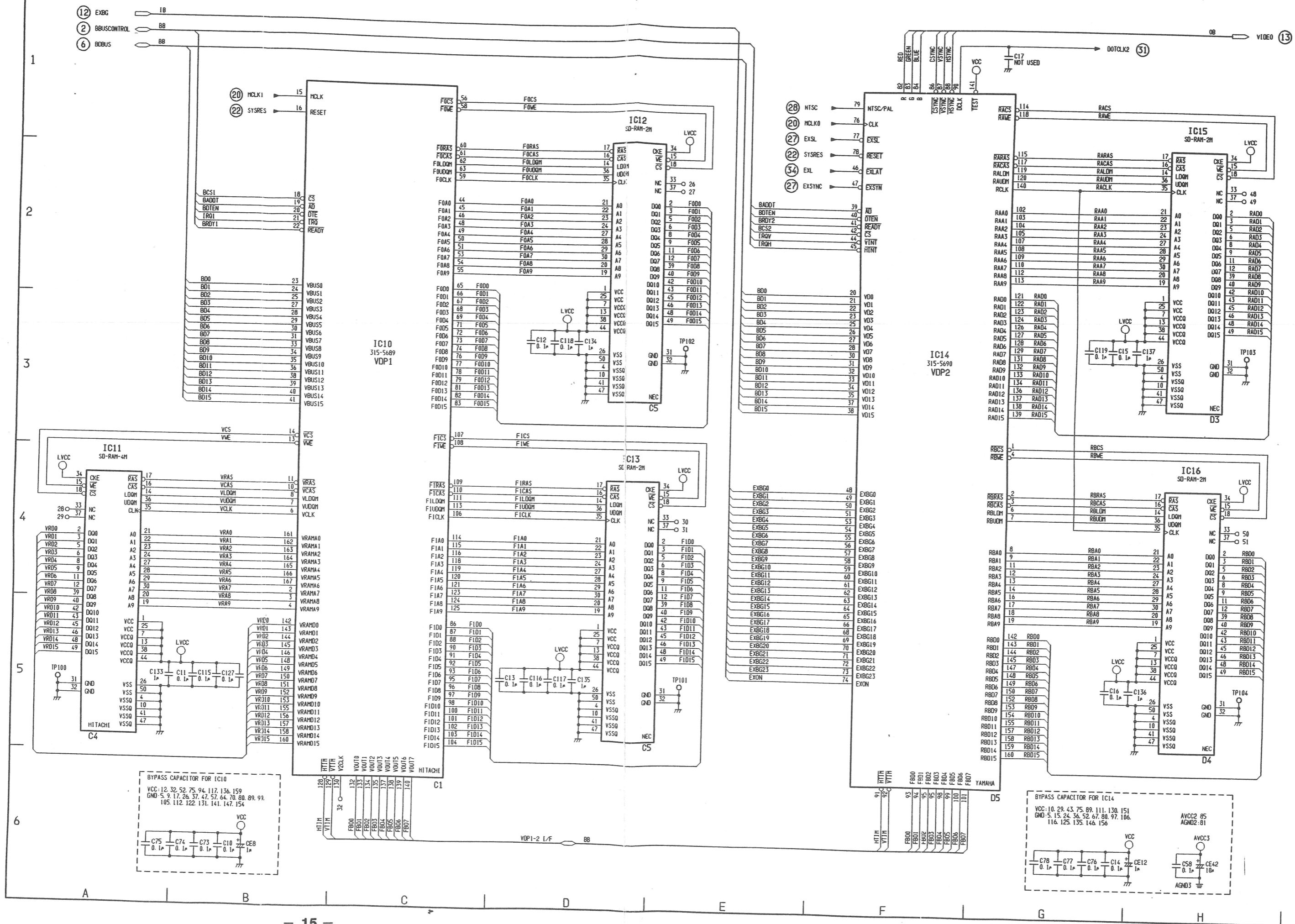


8. SCHEMATIC DIAGRAMS

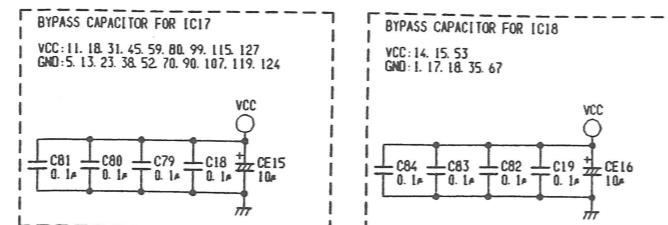
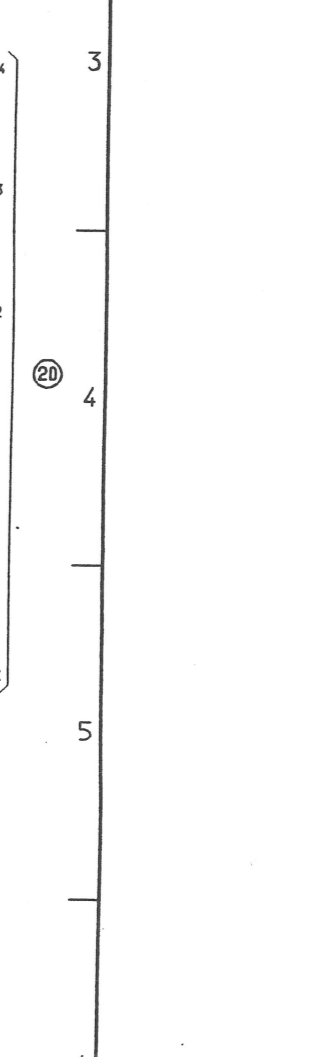
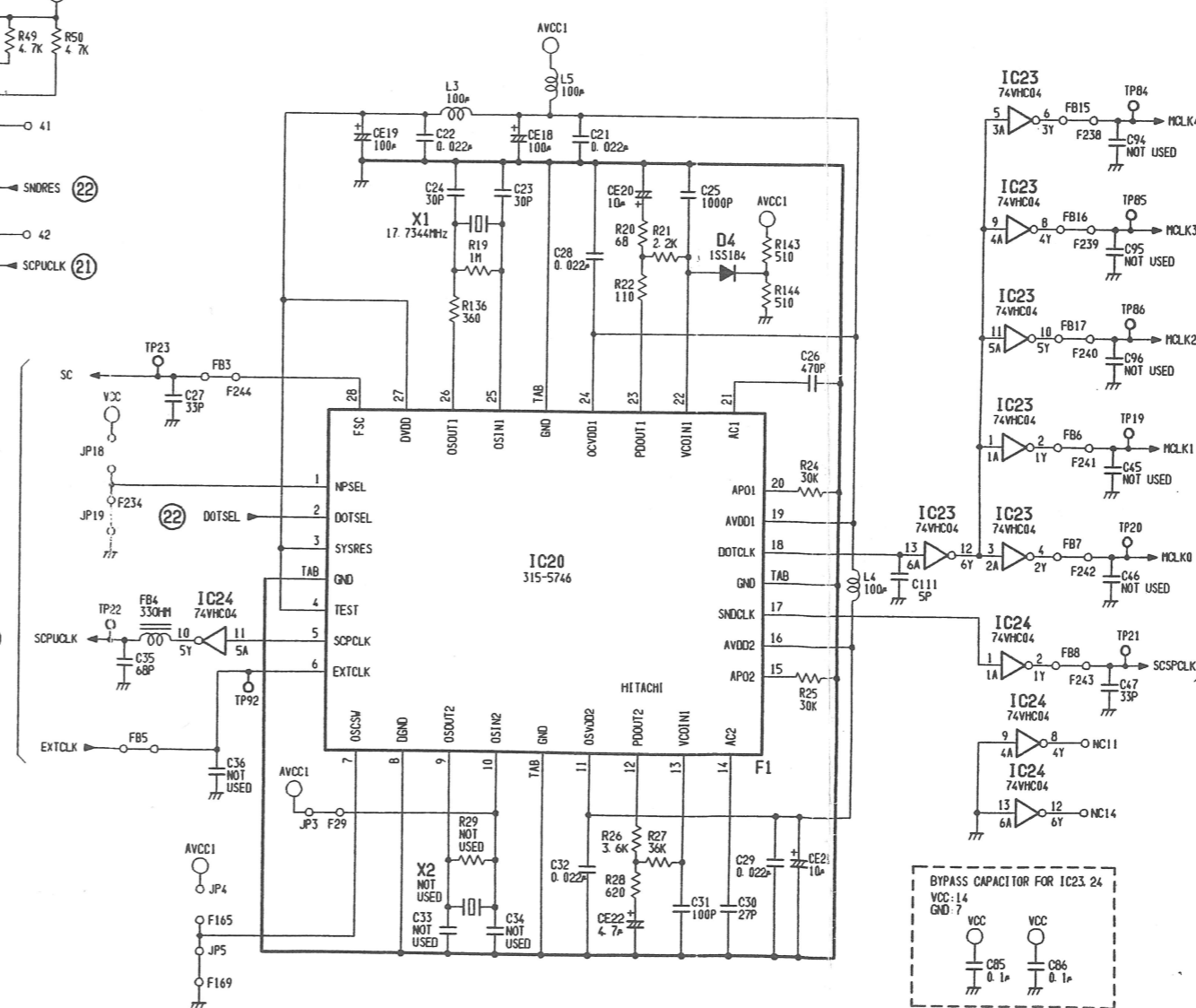
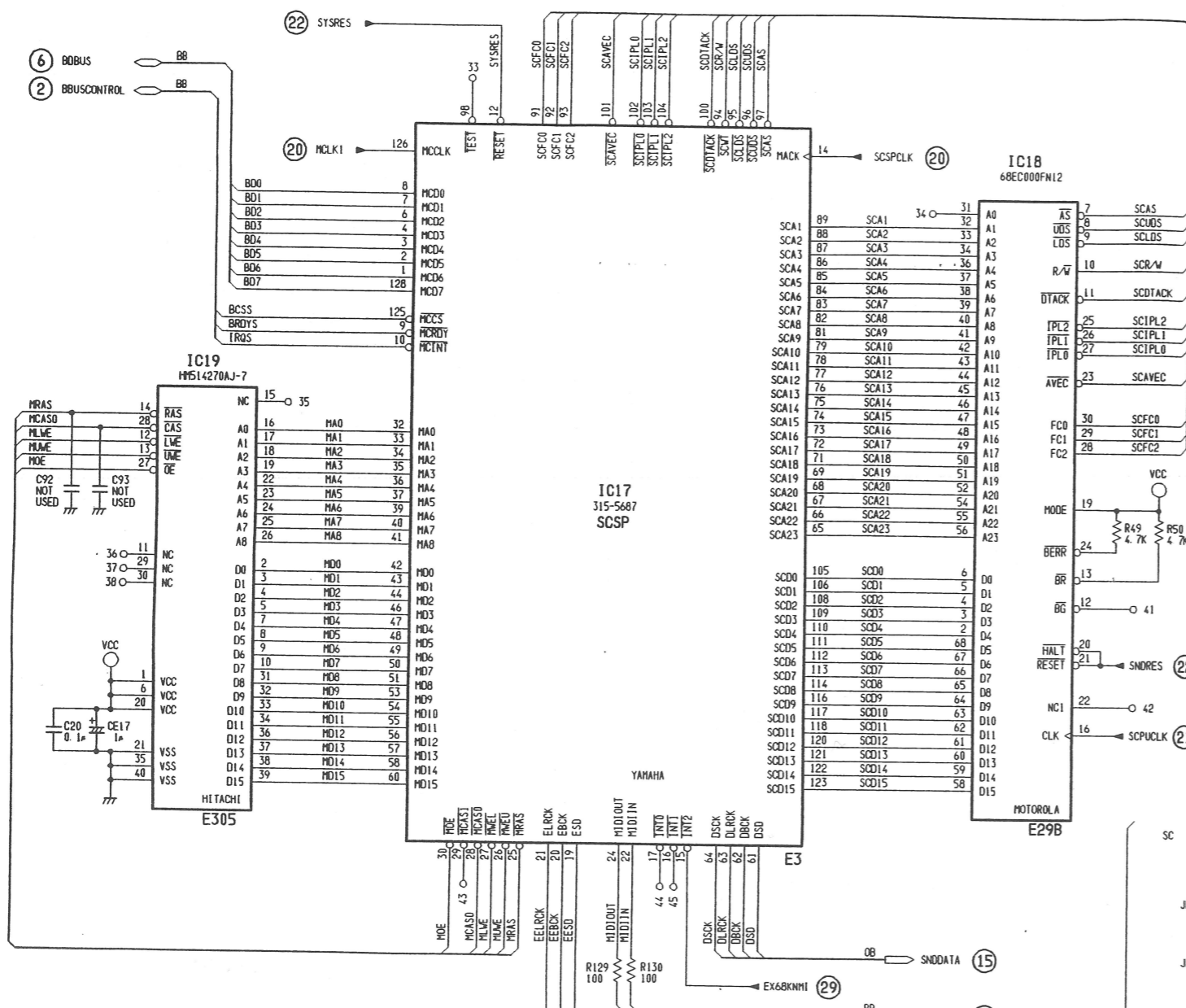
8-1. Schematic Diagram-1 [Main C.B - 1/6]



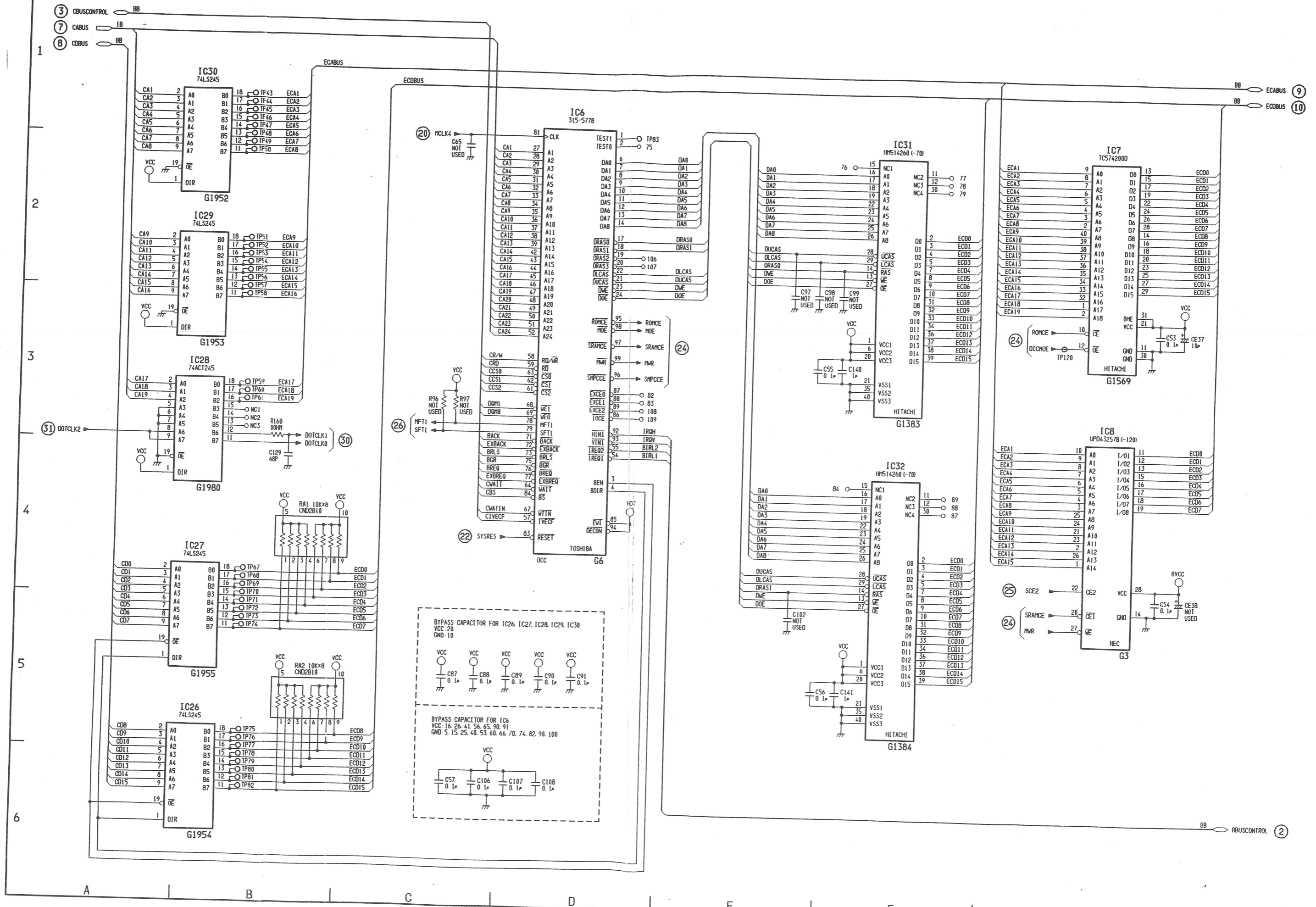
8-2. Schematic Diagram-2 [Main C.B - 2/6]



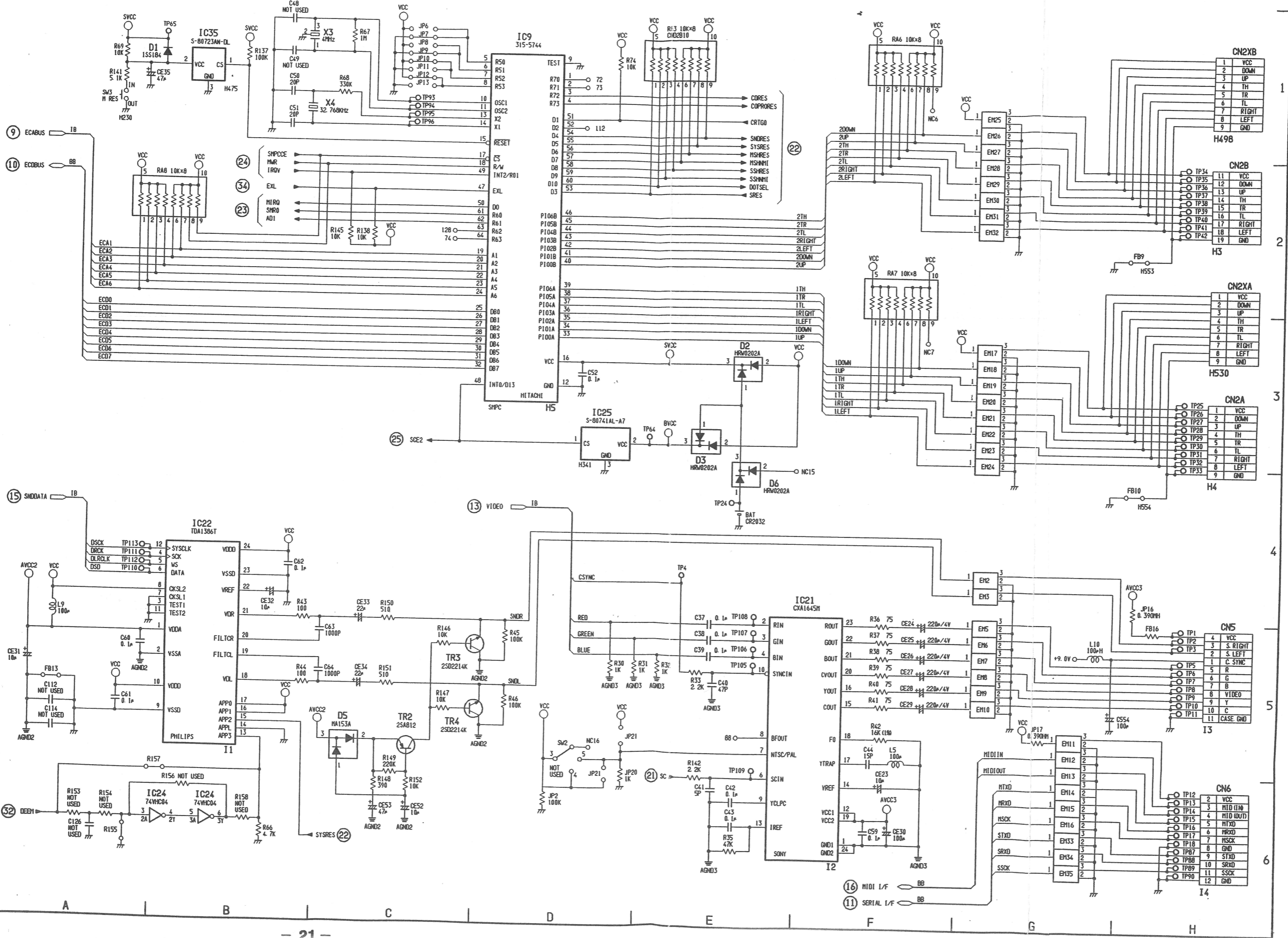
8-3. Schematic Diagram-3 [Main C.B - 3/6]



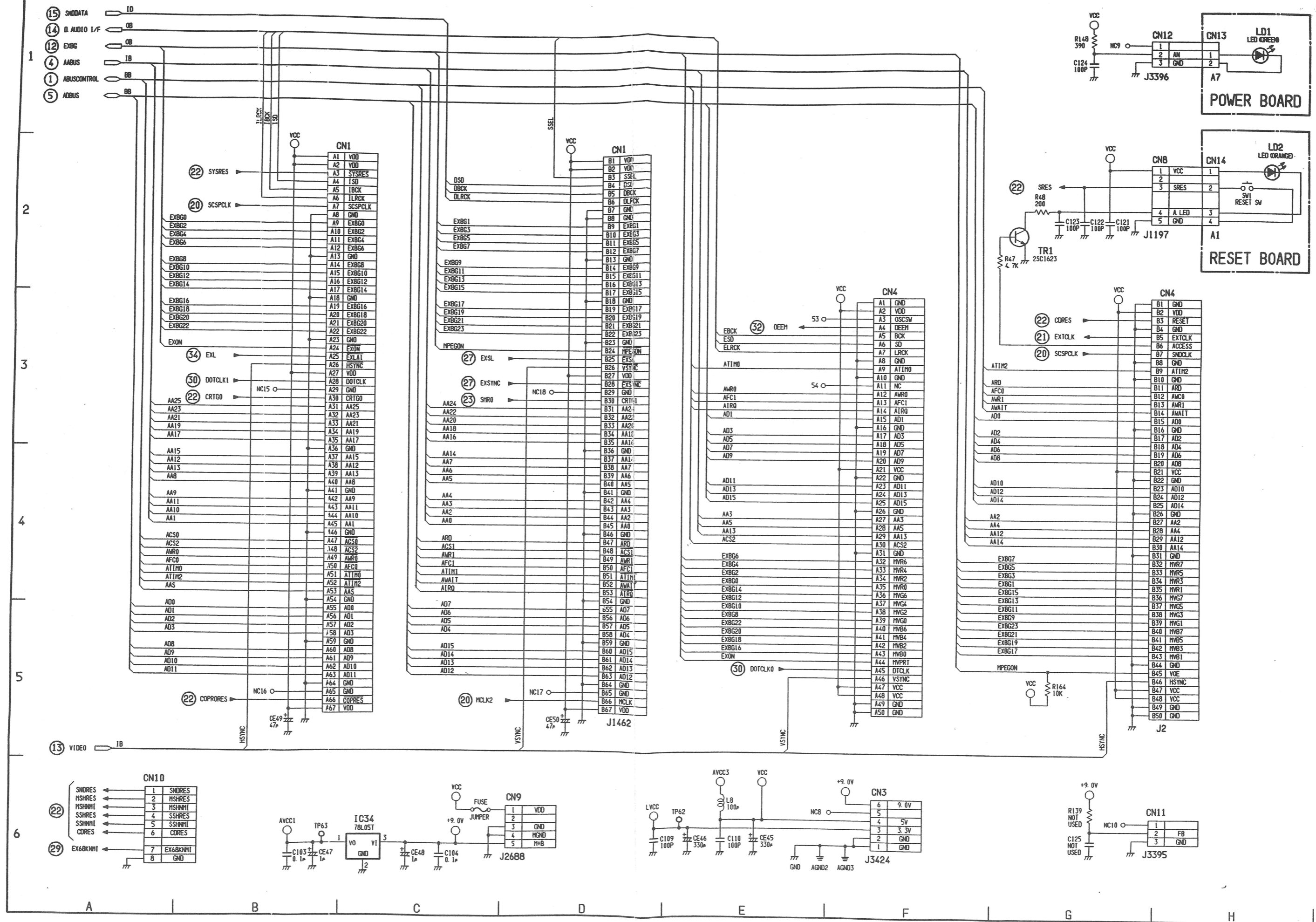
8-4. Schematic Diagram-4 [Main C.B - 4/6]



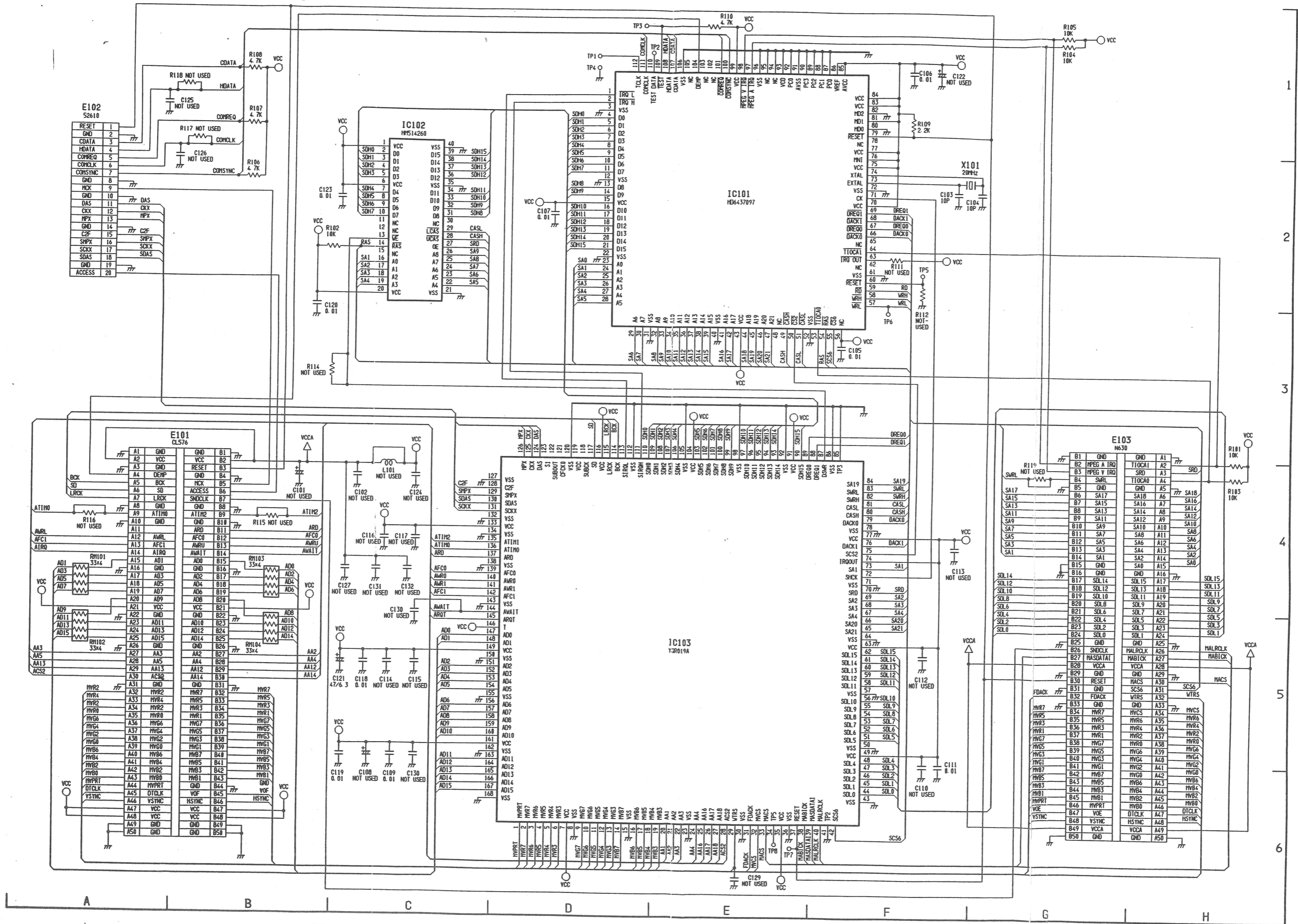
8-5. Schematic Diagram-5 [Main C.B - 5/6]



8-6. Schematic Diagram-6 [Main C.B - 6/6]

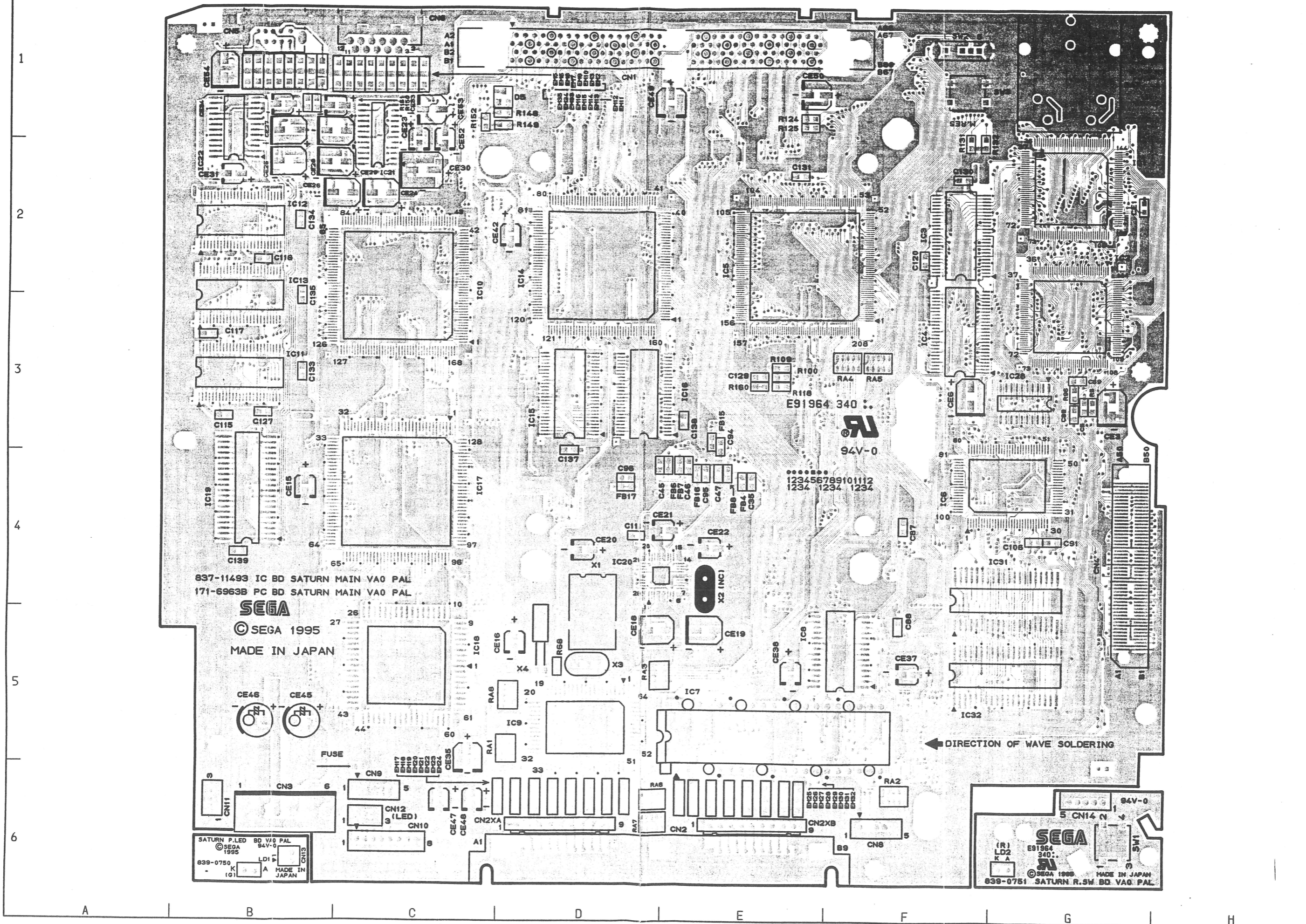


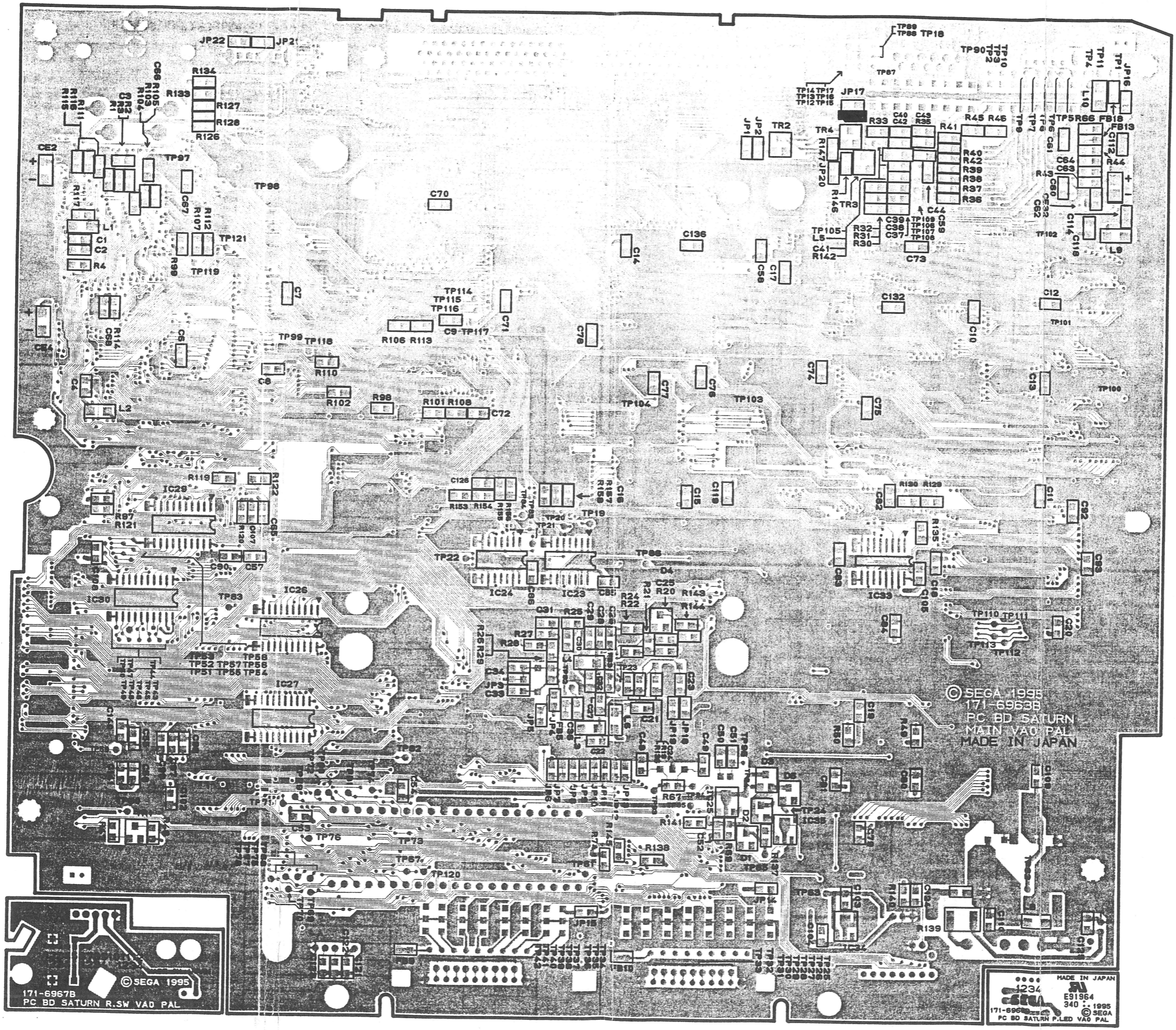
8-7. Schematic Diagram-7 [SH-1 C.B]



9. CIRCUIT BOARD DIAGRAMS

9-1. Main Circuit Board



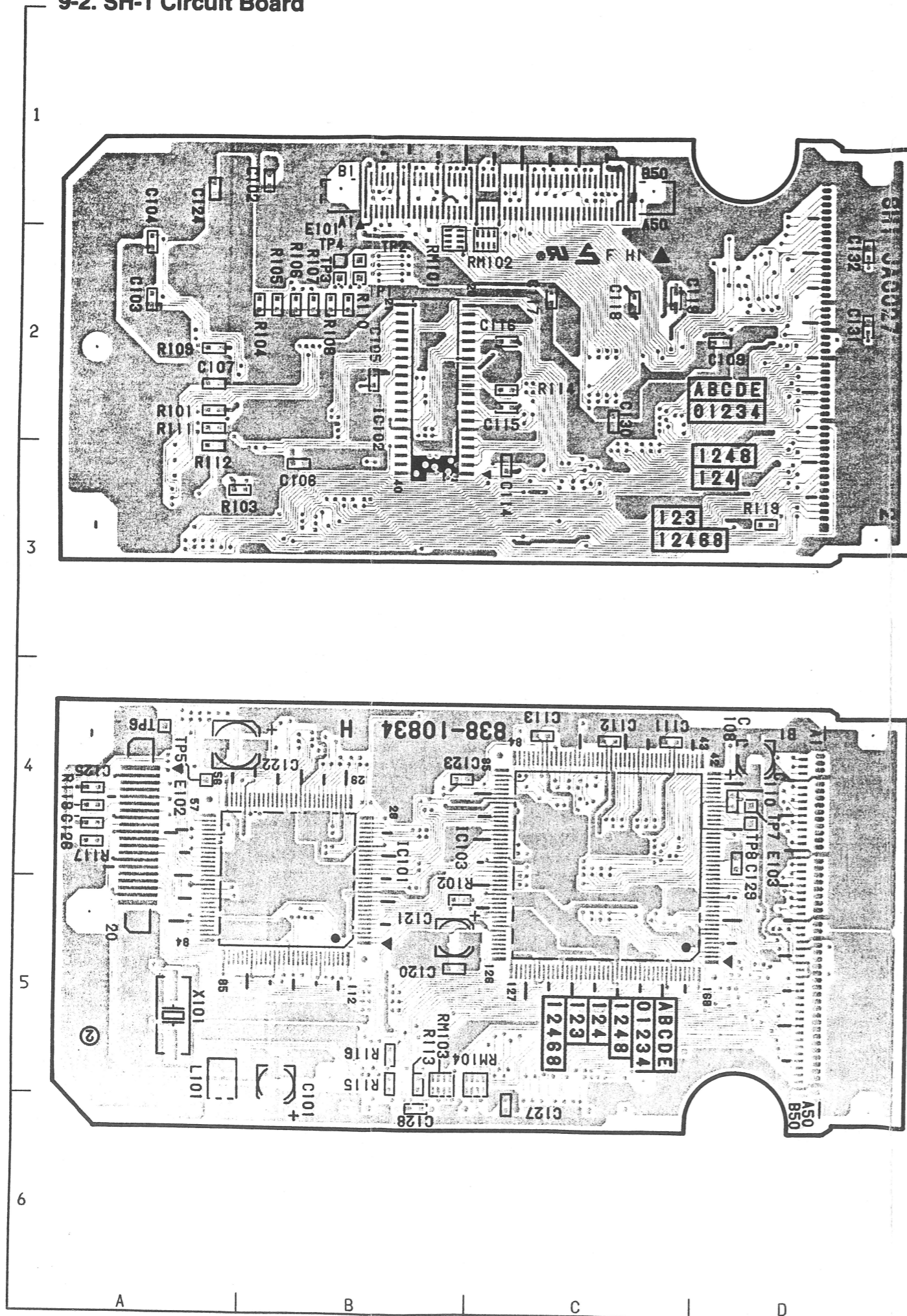


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9-2. SH-1 Circuit Board



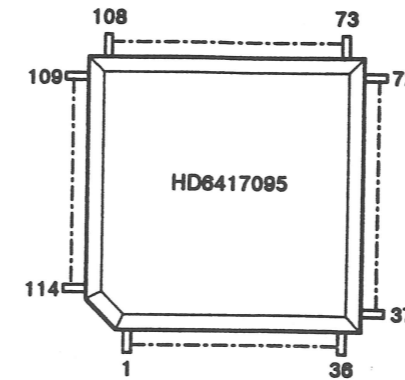
11. PARTS SPECIFICATIONS

IC1/2

IC HD6417095F28 QFP HITACHI
Parts No. : 315-0922A

IC HD6417095SF28 QFR HITACHI
Parts No. : 315-0998

■ Top View



■ Description

No.	I/O	Pin Name	Function
1		D11	Data bus
2	I/O	D12	
3		D13	
4	-	VCC1	Power supply (5V)
5	I/O	D14	Data bus
6	-	VSS1	Power supply (0V)
7	I/O	D15	Data bus
8		D16	
9		D17	
10		D18	
11		D19	
12	-	VCC2	Power supply (5V)
13	I/O	D20	Data bus
14	-	VSS2	Power supply (0V)
15	I/O	D21	Data bus
16		D22	
17		D23	
18	-	VCC3	Power supply (5V)
19	I/O	D24	Data bus
20	-	VSS3	Power supply (0V)
21	I/O	D25	Data bus
22		D26	
23		D27	
24	-	VCC4	Power supply (5V)
25	I/O	D28	Data bus
26	-	VSS4	Power supply (0V)
27	I/O	D29	Data bus
28		D30	
29		D31	
30	I/O	A0	Address bus
31		A1	
32		A2	
33	-	VSS5	Power supply (0V)
34	I/O	A3	Address bus
35		A4	
36		A5	
37		A6	
38		A7	
39		A8	
40	-	VCC5	Power supply (5V)