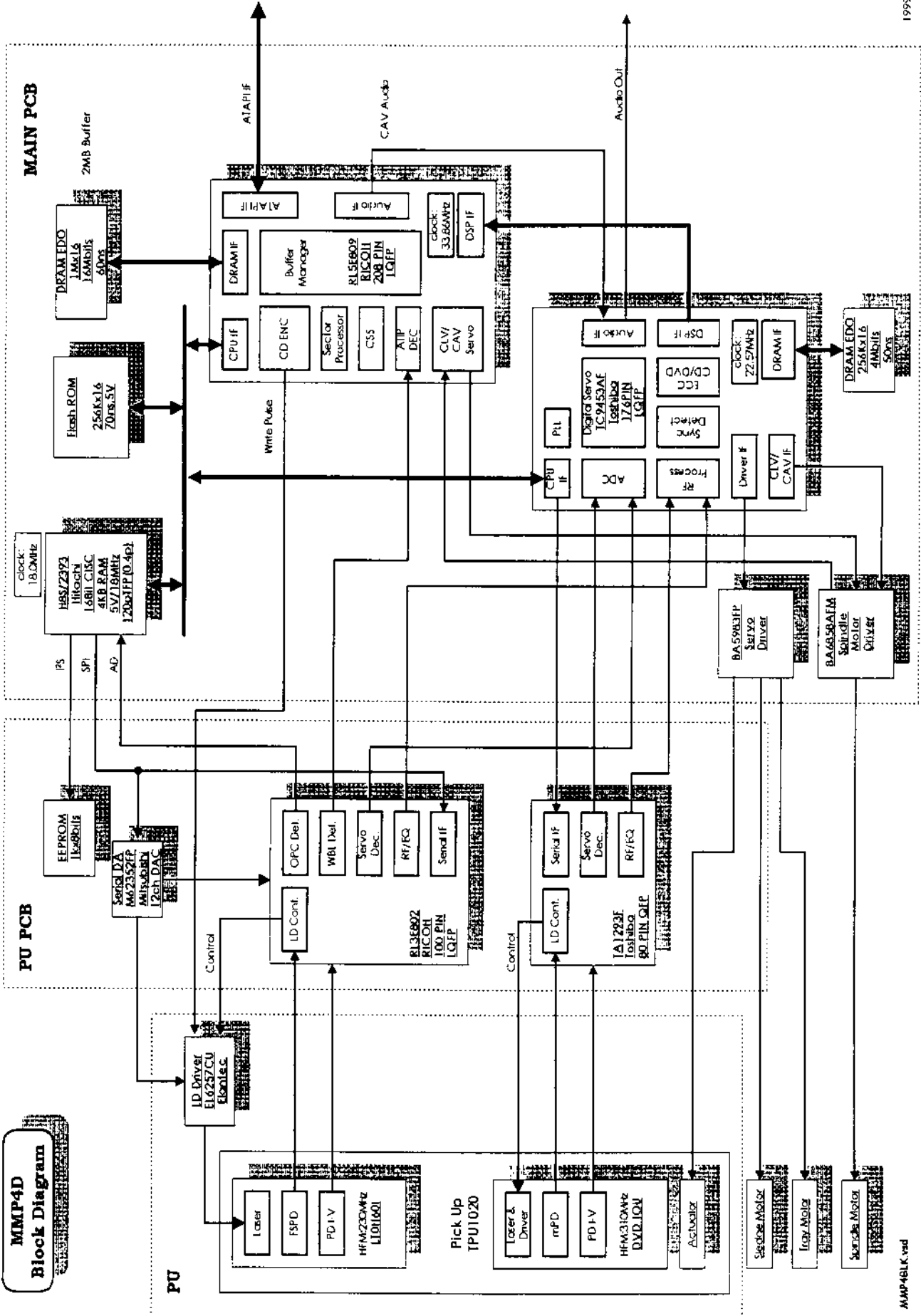
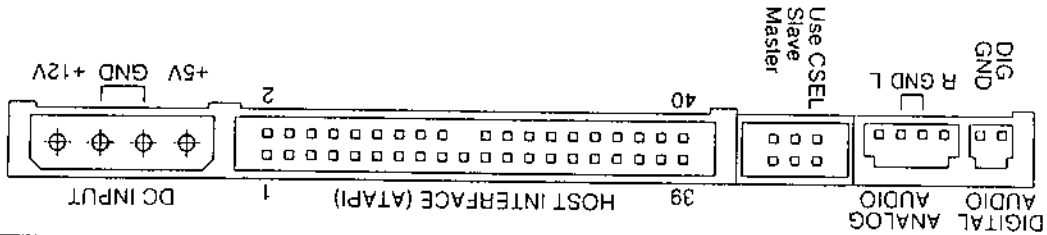


**MMP4D  
Block Diagram**



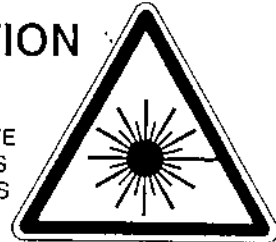


**RICOH MP 9060A**



**CAUTION**

DO NOT OPEN THE DRIVE  
NO USER ADJUSTMENTS  
OR SERVICEABLE PARTS  
INSIDE



MADE IN JAPAN



This laser product complies with  
21CFR Chapter 1, Subchapter J.

RICOH COMPANY, LTD.  
Hadano Plant  
423 Hirasawa, Hadano-shi  
KANAGAWA-Ken JAPAN

**DANGER**

INVISIBLE LASER RADIATION  
WHEN OPEN  
AVOID DIRECT EXPOSURE  
TO BEAM



E139782



VORSICHT  
UNSICHTBARE LASERSTRAHLUNG,  
WENN ABDECKUNG GEÖFFNET  
NICHT DEM STRAHL AUSSETZEN

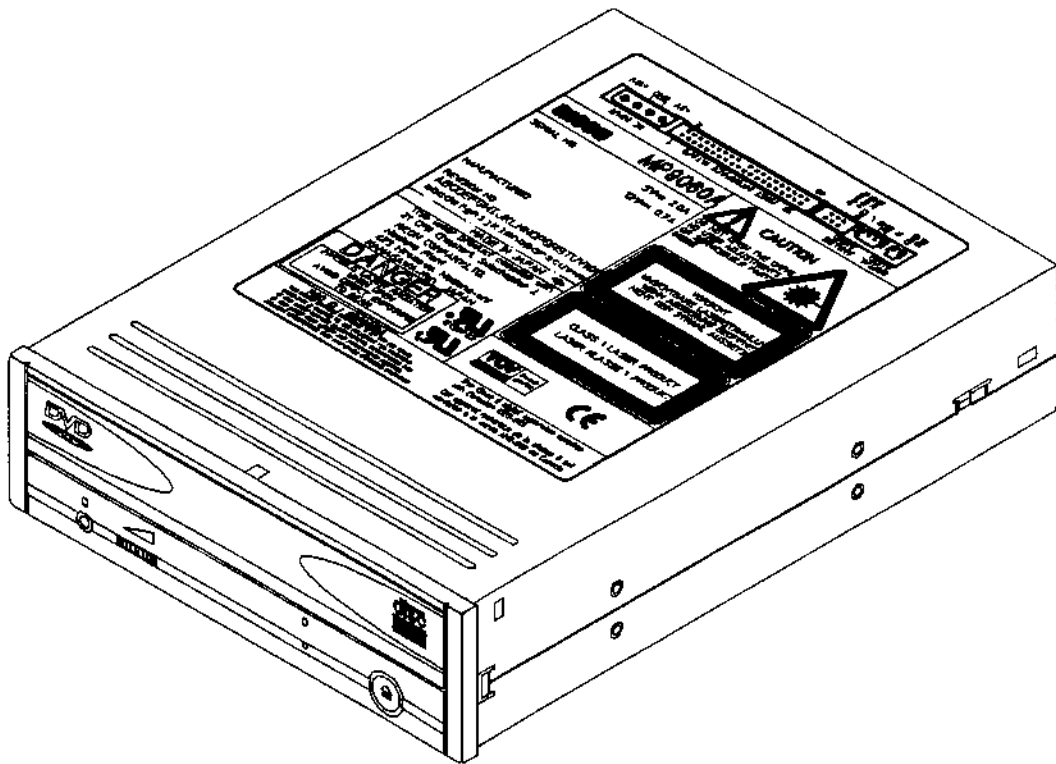
CLASS 1 LASER PRODUCT  
LASER KLASSE 1 PRODUKT



FCC ID : BBP9060A

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.  
OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:  
(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND  
(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED,  
INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

This Class B digital apparatus complies  
with Canadian ICES-003.  
Cet appareil numérique de la classe B est  
conforme à la norme NMB-003 du Canada.



COPY

FCC PART 15 MEASUREMENT REPORT

RICOH COMPANY, LTD.

CD-Recordable/ReWritable and DVD-ROM Drive

MODEL: MP9060A

Z02C-99133

June, 1999

ZACTA TECHNOLOGY CORPORATION  
YONEZAWA TESTING CENTER

4149-7 Hachimanpara 5-chome  
Yonezawa-shi Yamagata  
992-1128 Japan

## TABLE OF CONTENTS

---

<b>LABORATORY MEASUREMENTS</b> .....	3
RESULTS OF THE MEASUREMENTS.....	4
CONFIGURATION INFORMATION.....	5
SYSTEM CONFIGURATION.....	6
TEST SITE CONDITION.....	7
INSTRUMENTATION USED.....	7
<b>TECHNICAL INFORMATION</b> .....	8
DESCRIPTION FOR TEST SITE.....	8
TEST EQUIPMENT.....	10
<b>TEST DATA</b> .....	11

## LABORATORY MEASUREMENTS

---

### TEST OUTLINE

COMPANY NAME : RICOH COMPANY, LTD.  
EUT : CD-Recordable/ReWritable and DVD-ROM Drive  
MODEL NO. : MP9060A  
SERIAL NO. : ES12  
DATE OF TESTS : MAY 27, 1999  
LIMIT : FCC PART 15 SUBPART B CLASS B  
CLASS : B  
DISTANCE : 3m  
POWER SUPPLIED : AC 115 V  
REPORT NO. : Z02C-99133

ENGINEER SIGNATURE : Koji Taguchi

PRINTED : Koji Taguchi / EMC engineer

**RESULTS OF THE MEASUREMENTS**

The minimum margin to the limits are as follows:

	Margin	FREQ.	POL.[H/V]	COMMENT
Conduction	-4.2dB	6.491MHz	N/A	CD READ MODE
Radiation	-4.9dB	766.83MHz	V	DVD READ MODE

**CONFIGURATION INFORMATION**

COMMENT :

**DEVICE INFORMATION**

NO.	EQUIPMENT	COMPANY	MODEL NO.	SERIAL NO.	FCC ID	COMMENT
A	CD-Recordable/ ReWritable and DVD-ROM Drive	RICOH	MP9060A	ES12	BBP9060A	EUT
B	Computer	COMPAG	DESKPRO 5133	7617HXF30138	CNT75NDCZ5	
C	Printer	HP	2225C+	2950S64811	DSI6XU2225	
D	AC adapter	HP	82241AJ	N/A	N/A	For Printer
E	Display	IBM	8512-001	72-1480571	C5F7NF13CM14	
F	Modem	Hayes	5240AM	A0125240K346	BFJ5201AM	
G	AC adapter	Hayes	T41-090800-A01	N/A	N/A	For Modem
H	Keyboard	COMPAG	RT6674TJP	22361433	AQ6-MTN4C15	
I	Mouse	COMPAG	M-S34-6MD	1D75BDCF2AE9	DZL210472	
J	Headphone	SONY	MDR-Z900	N/A	N/A	

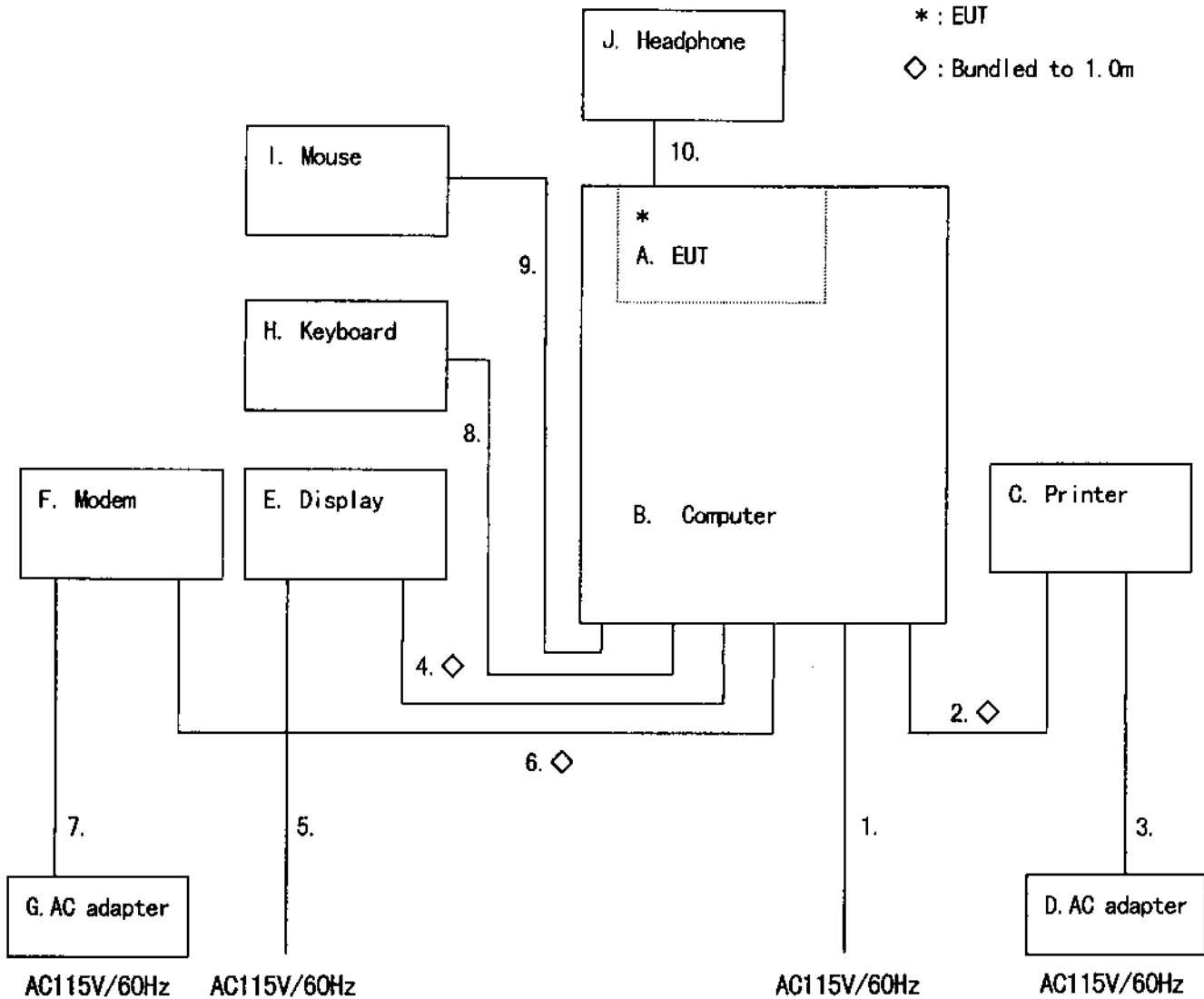
**CABLES INFORMATION**

NO.	CABLE	COMPANY	LENGTH [m]	SHIELDED	COMMENT
1	AC power cord	LONGWELL	2.3	Shielded	For PC
2	Printer cable	KANEKO	1.2	Shielded	Bundled to 1.0m
3	DC cable	N/A	1.2	Unshielded	For Printer
4	Video cable	N/A	1.5	Shielded	Bundled to 1.0m
5	AC power cord	N/A	1.5	Unshielded	For Display
6	RS-232C cable	FUJIKURA	1.2	Shielded	Bundled to 1.0m
7	DC cable	N/A	1.6	Unshielded	For Modem
8	Keyboard cable	N/A	1.9	Unshielded	
9	Mouse cable	N/A	1.6	Unshielded	
10	Headphone cable	N/A	1.2	Shielded	Coiled



**SYSTEM CONFIGURATION**

COMMENT: \_\_\_\_\_



Symbols or numbers assigned to equipment or cables on this diagram are corresponded to the symbols or numbers assigned to equipment or cables on tables in Configuration/Cable Information.

**TEST SITE CONDITION**

DATE	SITE #	WEATHER	TEMPERATURE	HUMIDITY
May 27, 1999	2	Cloudy	26°C	53%

**INSTRUMENTATION USED**

## [\*] RECEIVER

RADIATED  R/S ESV (DET  QP  PEAK)  
 KYORITSU KNM-5002, KCV-6002 (DET  QP  PEAK)  
 IF BANDWIDTH  120kHz  OTHER kHz

CONDUCTED  R/S ESHS10 (DET  QP  PEAK  AVERAGE)  
 KYORITSU KNM-2402 (DET  QP  PEAK  AVERAGE)  
 IF BANDWIDTH  200Hz  500Hz  24kHz  10kHz

PRI AMP  HP8449B (1GHz-26.5GHz)  ANRITSU MH648A (30MHz-1.2GHz)  
 NOT USED

## [\*] SPECTRUM ANALYZER

HP8568B (DET  QP  PEAK  AVERAGE)  
 HP8590A (DET  PEAK  AVERAGE)  
 ADVANTEST R3271A(100Hz-26.5GHz) (DET  PEAK  AVERAGE)

RADIATED: RESOLUTION BANDWIDTH  
 10kHz  30kHz  100kHz  120kHz  300kHz  1MHz

VIDEO BANDWIDTH  
 3kHz  10kHz  30kHz  100kHz  
 300kHz  1MHz  3MHz

CONDUCTED: RESOLUTION BANDWIDTH  
 100Hz  300Hz  1kHz  3kHz  10kHz

VIDEO BANDWIDTH  
 100Hz  300Hz  1kHz  3kHz  10kHz  
 30kHz  100kHz  300kHz  1MHz  3MHz

PRI AMP  HP85685A  HP8449B  NOT USED

## ANTENNAS

SCHWARZBEC BBA9106/VHA9103LE  
 EMCO LOGPERIODIC DIPOLE MODEL 3146  
 R/S LOOP ANTENNA HFH2-Z2 (10kHz-30MHz)  
 ADVANTEST LOG SPIRAL ANTENNA MODEL TR17205 (1-10GHz)  
 EMCO DOUBLE RIDGED GUIDE ANTENNA MODEL 3115 (1-18GHz)

## COAXIAL CABLE

8D-2W 15m  
 10D-SFA 26m, 8D-2W 15m  OTHER ( m )  
 23D-HA 22m, 8D-2W 8m  SUCOFLEX 104 15m

## ANTENNA LOCATION

1m CLOSE FROM EUT  3m METHOD STANDARD  
 10m METHOD STANDARD  OTHER ( )

## LISN

CDI 8012-50-R-24-BNC  KYORITSU KNM-242C

## MEMO

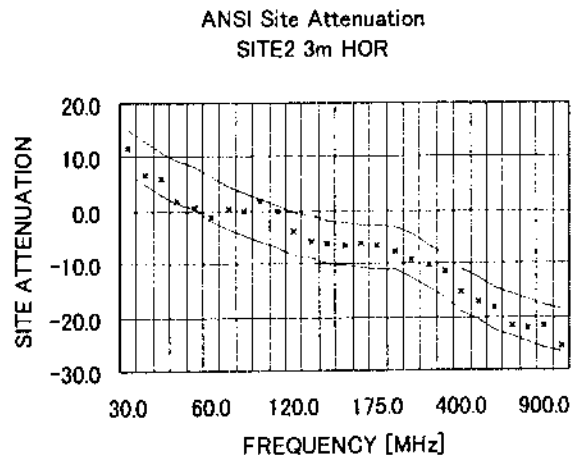
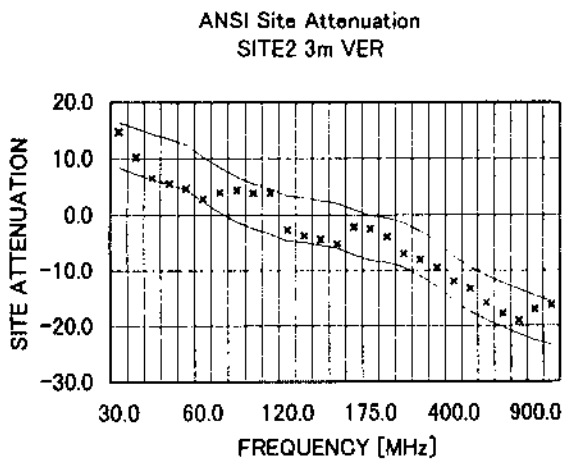
---

## TECHNICAL INFORMATION

### DESCRIPTION FOR TEST SITE

1. LOCATION: ZACTA TECHNOLOGY CORPORATION YONEZAWA TESTING CENTER  
4149-7 Hachimanpara 5-chome, Yonezawa-shi Yamagata 992-1128 Japan  
Phone: +81-238-28-2880 Fax: +81-238-28-2888
2. THE NUMBER OF SITE: Total: 4 sites #1 site  
#2 site  
#3 site  
#4 site
3. THE TYPE OF SITE : Whether protected site
4. TEST TYPE : All site could perform as follows tests:
  - 1) 3/10m Radiated emission test
  - 2) Conducted emission test

### 5. NORMALIZED SITE ATTENUATION GRAPH



6. FACILITY FILING INFORMATION

FCC FINAL SITE FILING: January 29, 1997 (Final date)

§ 2.948 Pursuant to ANSI C63.4-1992

#1 site

#2 site

#3 site

#4 site (Final date: June 18, 1998)

\*3m/10m Radiated emission test & Conducted emission test could be performed on each site

VCCI FINAL SITE FILING: April 1, 1997 (Final date)

V-5/97.04 Pursuant to VCCI Regulations for Registration of  
measurement facilities

#1 site R - 136 C - 132

#2 site R - 137 C - 133

#3 site R - 138 C - 134

#4 site R - 752 C - 775 (Final date: June 23, 1998)

NVLAP ACCREDITATION :

NVLAP CODE: 200306-0

NVLAP INFORMATION

NVLAP accreditation does not constitute any product endorsement by NVLAP or any agent  
of the U.S. Government

**TEST EQUIPMENT**

Equipment	Manufacture	Model name / Serial No	Last	
			Cal. date	Period
Spectrum Analyzer	HEWLETT-PACKARD Co	HP8568B / 2732A03847	Apr. 1998	1 year
Spectrum Analyzer	ADVANTEST	R3271A / 65050042	May. 1999	1 year
RF Preampifier	Anritsu	MH648A / M96157	Jun. 1998	1 year
RF Preampifier	HEWLETT-PACKARD Co.	HP8449B / 3008A00589	May. 1999	1 year
Signal Generator	HEWLETT-PACKARD Co.	HP8657A / 2750U00157	May. 1998	1 year
Test Receiver	ROHDE & SCHWARZ	ESV / 89237	Apr. 1999	1 year
Test Receiver	ROHDE & SCHWARZ	ESH2 / 892237/012	Mar. 1999	1 year
Test Receiver	ROHDE & SCHWARZ	ESHS10 / 61360022	Oct. 1998	1 year
Test Receiver	Kyouritsu Electrical Works, Ltd.	KNM-5002/ 4N-187-2 KCV-6002/ 4-288-1	Aug. 1998	1 year
Test Receiver	Kyouritsu Electrical Works, Ltd.	KNM-5002/ 4N-187-10 KCV-6002/ 4-257-1	Oct. 1998	1 year
Test Receiver	Kyouritsu Electrical Works, Ltd.	KNM-5002/ 4N-195-2 KNM-6002/ 4-269-2	Jan. 1999	1 year
Test Receiver	Kyouritsu Electrical Works, Ltd.	KNM-2402/ 4N-192-1	Nov. 1998	1 year
Test Receiver	Kyouritsu Electrical Works, Ltd.	KNM-2402/ 4N-220-1	Aug. 1998	1 year
Line Impedance Stabilization Network	Kyouritsu Electrical Works, Ltd.	KNW-242C / 8-875-19	Feb. 1999	1 year
Line Impedance Stabilization Network	Kyouritsu Electrical Works, Ltd.	KNW-242C / 8-1096-3	Jan. 1999	1 year
Biconical Antenna	Schwarzbeck	VHA9103LE/BBA9106 /02130879	May. 1998	1 year
Log Periodic Antenna	Electro-Mechanics Co.	3146 / 8901-2336	May. 1998	1 year
Log Periodic Antenna	Electro-Mechanics Co.	3146 / 8901-2332	May. 1998	1 year
Double Ridged Guide Antenna	Electro-Mechanics Co.	3115 / 4328	Jun. 1998	1 year

Calibration traceable to NIST or an equivalent standards reference organization.

= FCC PART15B class B 3m RADIATED DATA SHEET =

DATE OF TESTS: 99/05/27 SITE: 2 CHART NO. -- SHEET NO. 1  
COMPANY NAME: RICOH MODEL: MP9060A MODE: CD READ  
COMMENT:

POL. H/V	FREQ. [MHz]	READ. [dBuV]	FACTOR [dB]	NET [dBuV/m]	LIMITS [dBuV/m]	MARGIN [dB]	C O M M E N T
V	58.99	52.4	-19.6	32.8	40.0	-7.2	
V	59.52	50.0	-20.0	30.0	40.0	-10.0	
H	100.22	50.3	-17.6	32.7	43.5	-10.8	
H	200.46	44.9	-10.9	34.0	43.5	-9.5	
H	350.89	51.0	-11.4	39.6	46.0	-6.4 *	
V	550.56	44.5	-7.1	37.4	46.0	-8.6	
V	759.91	37.5	-1.4	36.1	46.0	-9.9	
V	766.83	39.3	-1.3	38.0	46.0	-8.0	
H	1059.84	48.7	-8.3	40.4	54.0	-13.6	PEAK
H	1059.84	50.8	-8.3	42.5	54.0	-11.5	AVERAGE
V	1177.98	48.2	-7.8	40.4	54.0	-13.6	AVERAGE
V	1177.98	47.0	-7.8	39.2	54.0	-14.8	PEAK

= FCC PART15B class B 3m RADIATED DATA SHEET =

DATE OF TESTS: 99/05/27 SITE: 2 CHART NO. - SHEET NO. 2

COMPANY NAME: RICOH MODEL: MP9060A MODE: CD WRITE

COMMENT:

POL.	FREQ.	READ.	FACTOR	NET	LIMITS	MARGIN	C O M M E N T
H/V	[MHz]	[dBuV]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
V	58.99	51.6	-19.6	32.0	40.0	-8.0	
V	350.89	48.8	-11.4	37.4	46.0	-8.6	
V	451.15	46.9	-9.1	37.8	46.0	-8.2	
V	550.56	47.4	-7.1	40.3	46.0	-5.7 *	
V	759.91	39.7	-1.4	38.3	46.0	-7.7	
H	766.84	40.4	-1.3	39.1	46.0	-6.9	
H	806.16	35.8	-0.3	35.5	46.0	-10.5	
V	959.88	32.9	2.5	35.4	46.0	-10.6	

= FCC PART15B class B 3m RADIATED DATA SHEET =

DATE OF TESTS: 99/05/27 SITE: 2 CHART NO. - SHEET NO. 3  
 COMPANY NAME: RICOH MODEL: MP9060A MODE: DVD READ  
 COMMENT:

POL.	FREQ.	READ.	FACTOR	NET	LIMITS	MARGIN	C O M M E N T
H/V	[MHz]	[dBuV]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
V	58.99	49.6	-19.6	30.0	40.0	-10.0	
V	59.52	47.4	-20.0	27.4	40.0	-12.6	
H	350.89	52.1	-11.4	40.7	46.0	-5.3	
V	350.89	48.6	-11.4	37.2	46.0	-8.8	
V	550.56	47.8	-7.1	40.7	46.0	-5.3	
V	570.21	47.4	-6.8	40.6	46.0	-5.4	
V	759.91	41.7	-1.4	40.3	46.0	-5.7	
V	766.83	42.4	-1.3	41.1	46.0	-4.9	*
H	766.84	40.2	-1.3	38.9	46.0	-7.1	
H	1059.86	52.4	-8.3	44.1	54.0	-9.9	PEAK
H	1059.86	51.0	-8.3	42.7	54.0	-11.3	AVERAGE
V	1177.99	48.0	-7.8	40.2	54.0	-13.8	AVERAGE
V	1177.99	47.1	-7.8	39.3	54.0	-14.7	PEAK
H	1654.21	44.2	-5.5	38.7	54.0	-15.3	AVERAGE
H	1654.21	44.3	-5.5	38.8	54.0	-15.2	PEAK



= FCC PART15B class B LINE CONDUCTED DATA SHEET =

DATE OF TESTS : 99/05/27 SITE: 2 CHART NO. - SHEET NO. 4

COMPANY NAME : RICOH MODEL: MP9060A MODE: CD READ

COMMENT:

FREQ. [MHz]	READ.A [dBuV]	READ.B [dBuV]	FACTOR [dB]	NET A [dBuV]	NET B [dBuV]	LIMITS [dBuV]	MARGIN [dB]	COMMENT
2.228	28.0	27.2	0.2	28.2	27.4	48.0	-19.8	
4.906	34.7	39.2	0.3	35.0	39.5	48.0	-8.5	
5.942	42.1	42.4	0.3	42.4	42.7	48.0	-5.3	
6.491	43.5	39.9	0.3	43.8	40.2	48.0	-4.2	*
21.877	39.4	39.0	0.8	40.2	39.8	48.0	-7.8	
29.804	30.8	29.5	1.2	32.0	30.7	48.0	-16.0	

= FCC PART15B class B LINE CONDUCTED DATA SHEET =

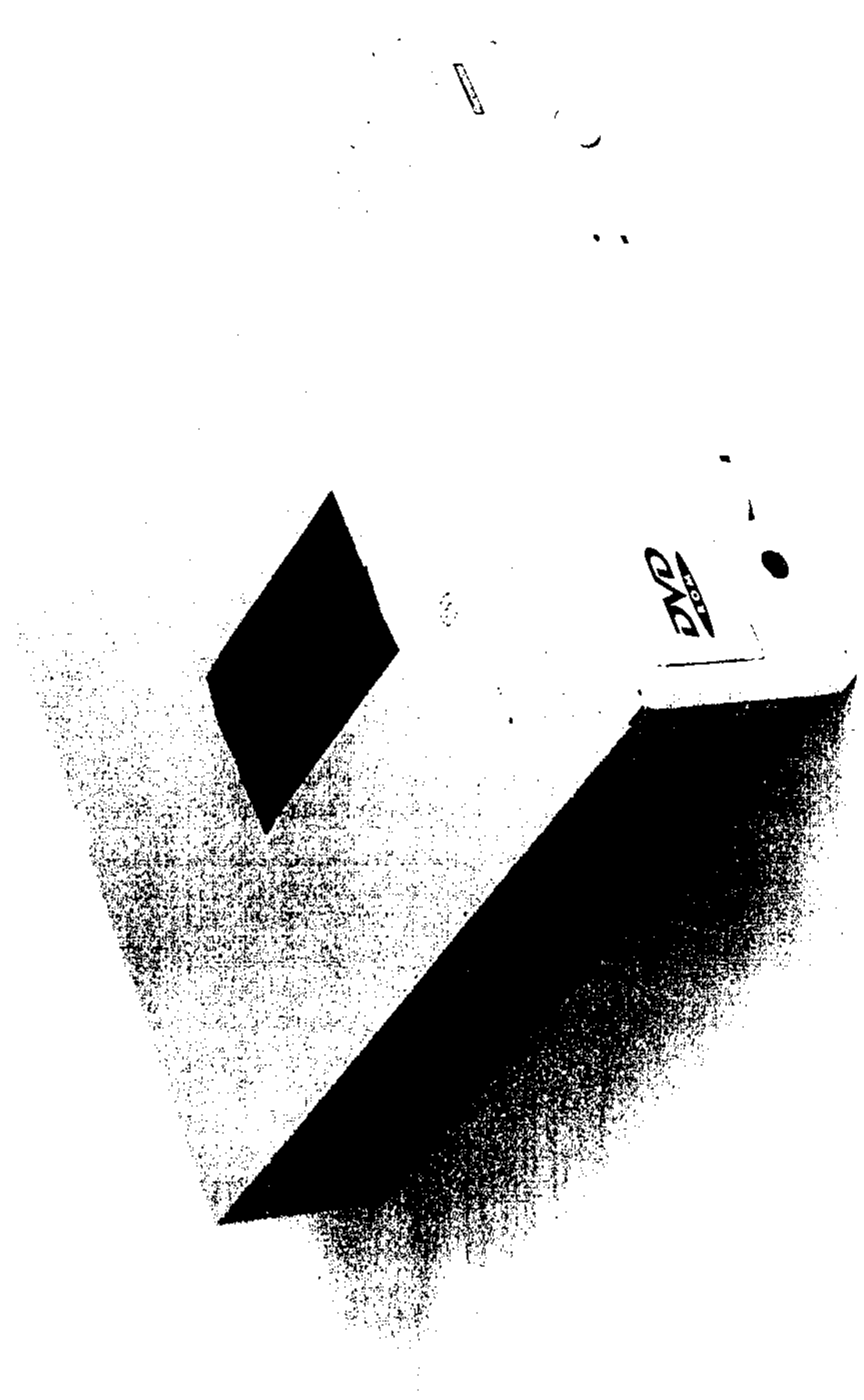
DATE OF TESTS : 99/05/27 SITE: 2 CHART NO. - SHEET NO. 5  
 COMPANY NAME : RICOH MODEL: MP9060A MODE: CD WRITE  
 COMMENT:

FREQ. [MHz]	READ.A [dBuV]	READ.B [dBuV]	FACTOR [dB]	NET A [dBuV]	NET B [dBuV]	LIMITS [dBuV]	MARGIN [dB]	COMMENT
5.890	40.6	40.5	0.3	40.9	40.8	48.0	-7.1	
6.131	43.4	42.6	0.3	43.7	42.9	48.0	-4.3	*
6.879	43.0	39.3	0.3	43.3	39.6	48.0	-4.7	
15.230	27.1	32.2	0.6	27.7	32.8	48.0	-15.2	
21.875	38.0	37.3	0.8	38.8	38.1	48.0	-9.2	
29.808	30.7	30.0	1.2	31.9	31.2	48.0	-16.1	

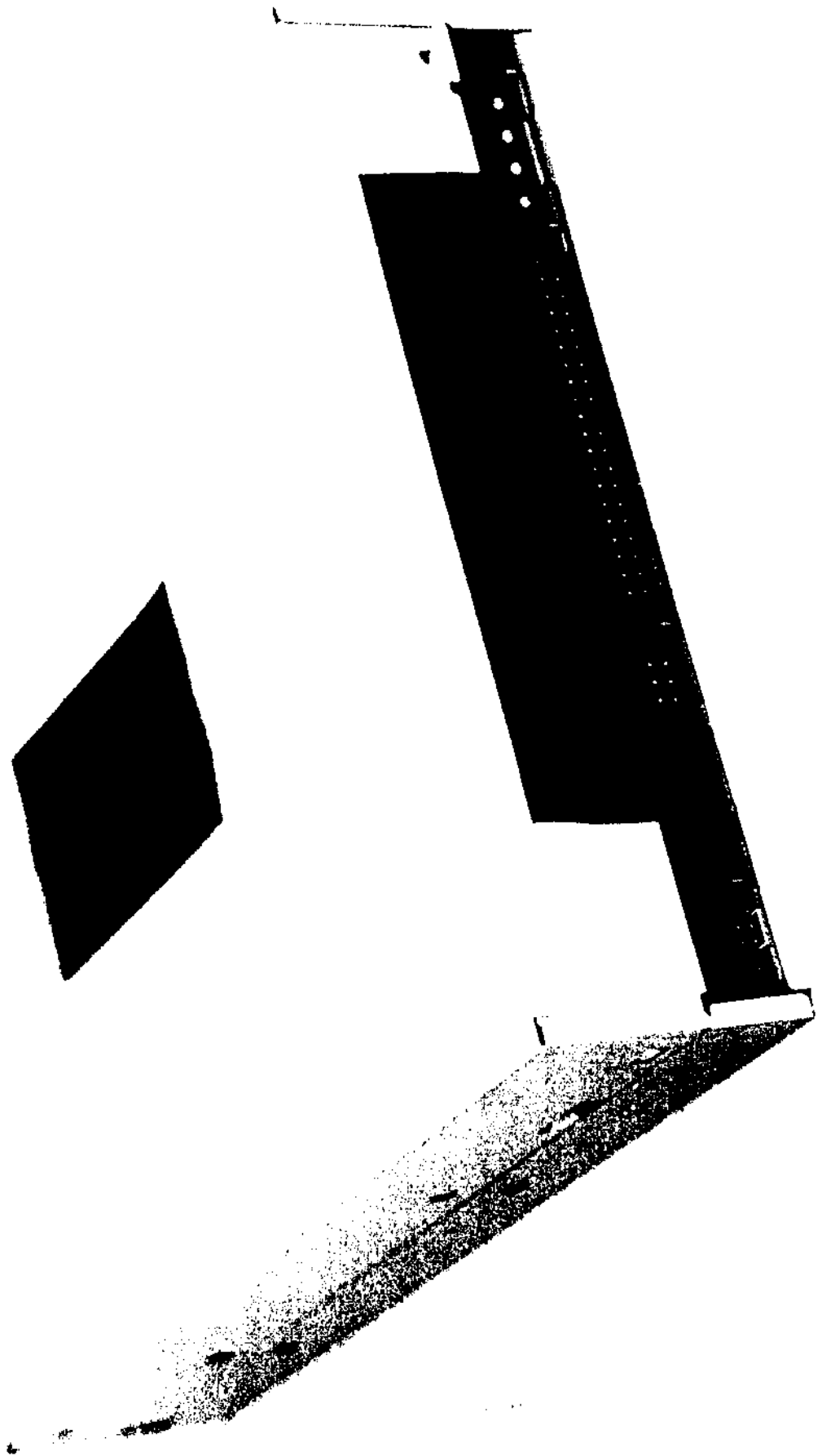
= FCC PART15B class B LINE CONDUCTED DATA SHEET =

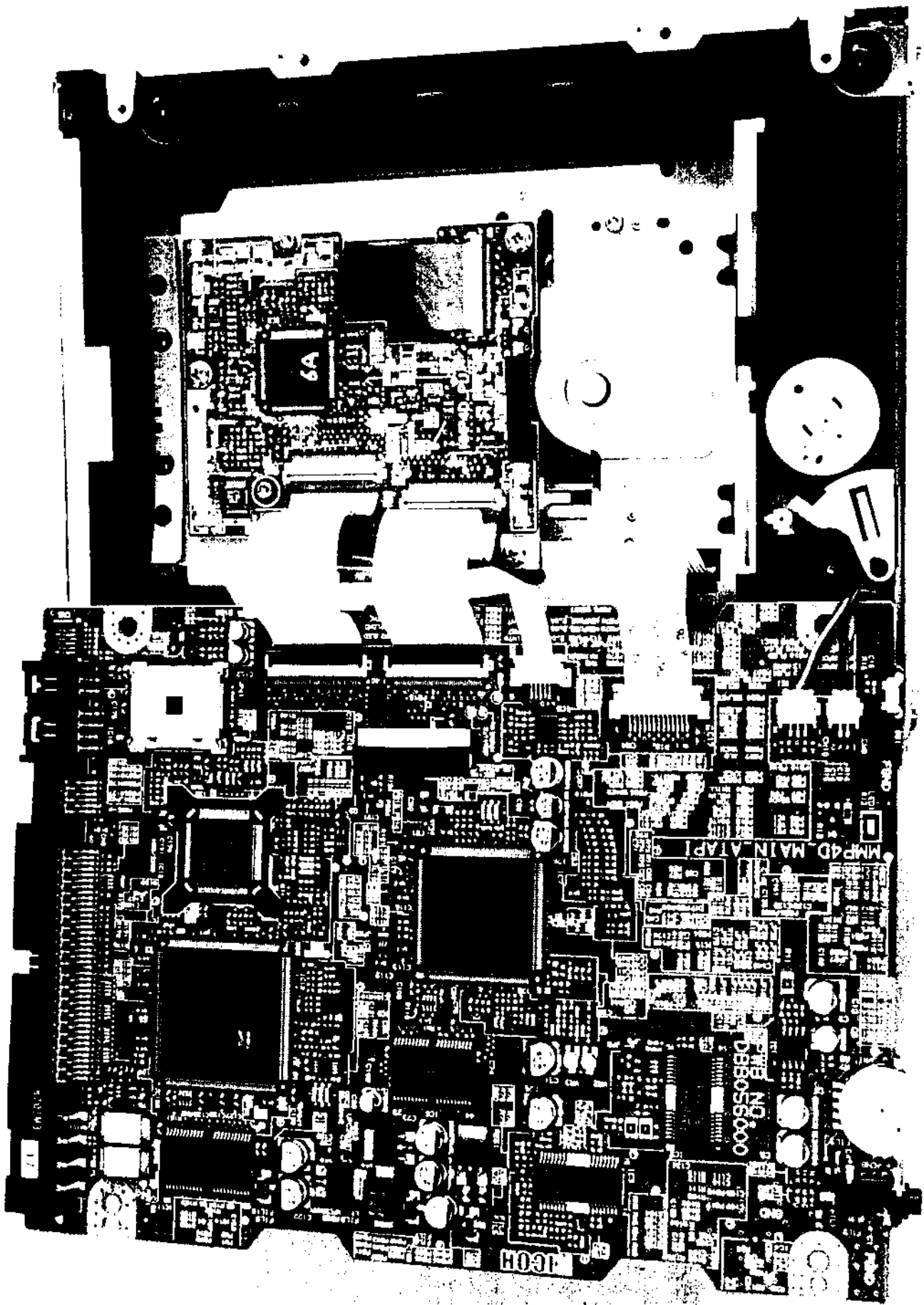
DATE OF TESTS : 99/05/27 SITE: 2 CHART NO. - SHEET NO. 6  
 COMPANY NAME : RICOH MODEL: MP9060A MODE: DVD READ  
 COMMENT:

FREQ. [MHz]	READ.A [dBuV]	READ.B [dBuV]	FACTOR [dB]	NET A [dBuV]	NET B [dBuV]	LIMITS [dBuV]	MARGIN [dB]	COMMENT
6.126	43.0	42.2	0.3	43.3	42.5	48.0	-4.7	
6.138	43.0	43.0	0.3	43.3	43.3	48.0	-4.7	
6.492	42.7	43.2	0.3	43.0	43.5	48.0	-4.5	*
15.229	27.4	25.0	0.6	28.0	25.6	48.0	-20.0	
21.870	38.6	38.3	0.8	39.4	39.1	48.0	-8.6	
29.704	29.1	28.5	1.2	30.3	29.7	48.0	-17.7	



DVD-R



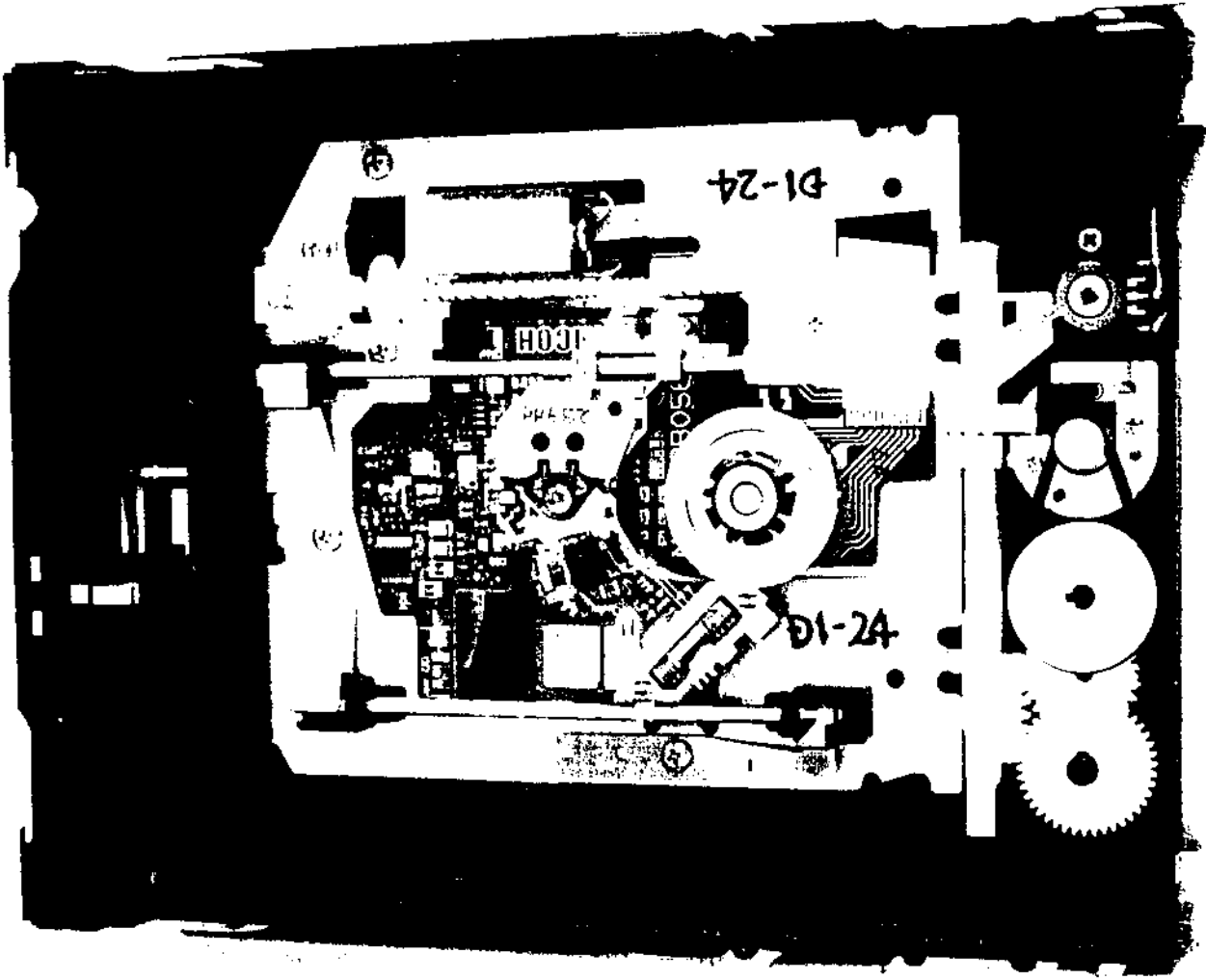


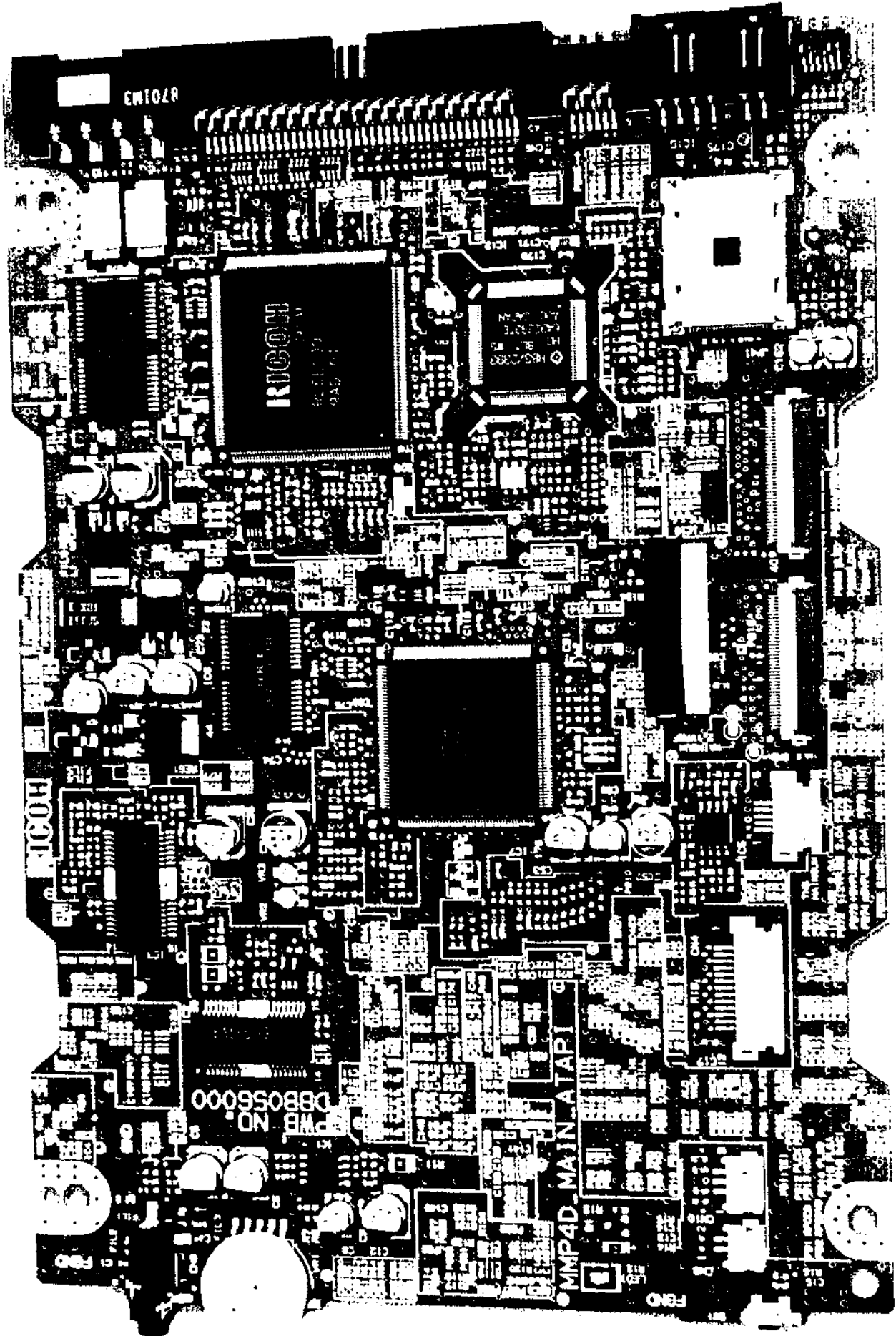
6A

MMP4D MAIN ATAPI

FWB NO. 00086000

11031





8701M

RIKOH

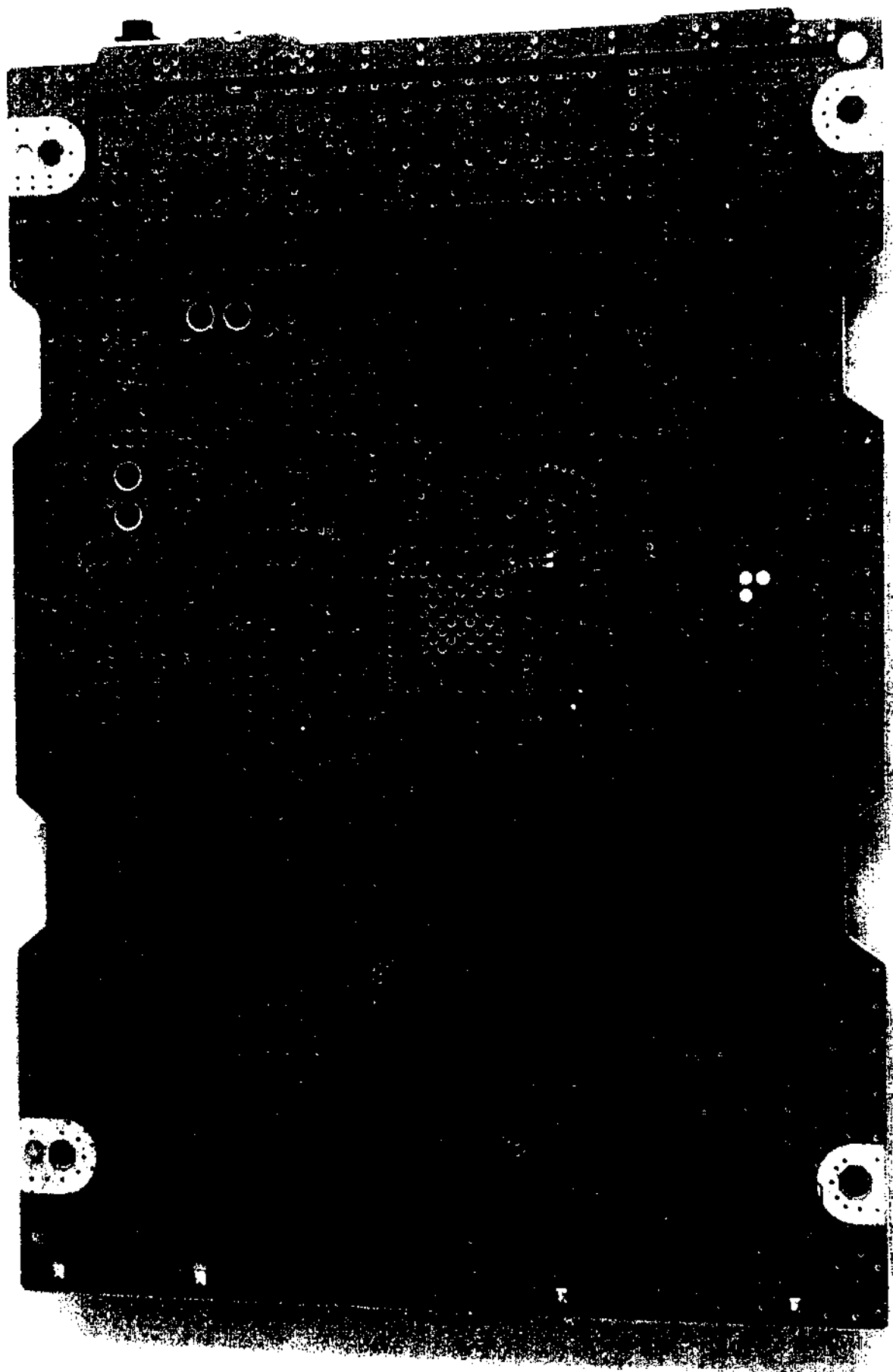
RIKOH

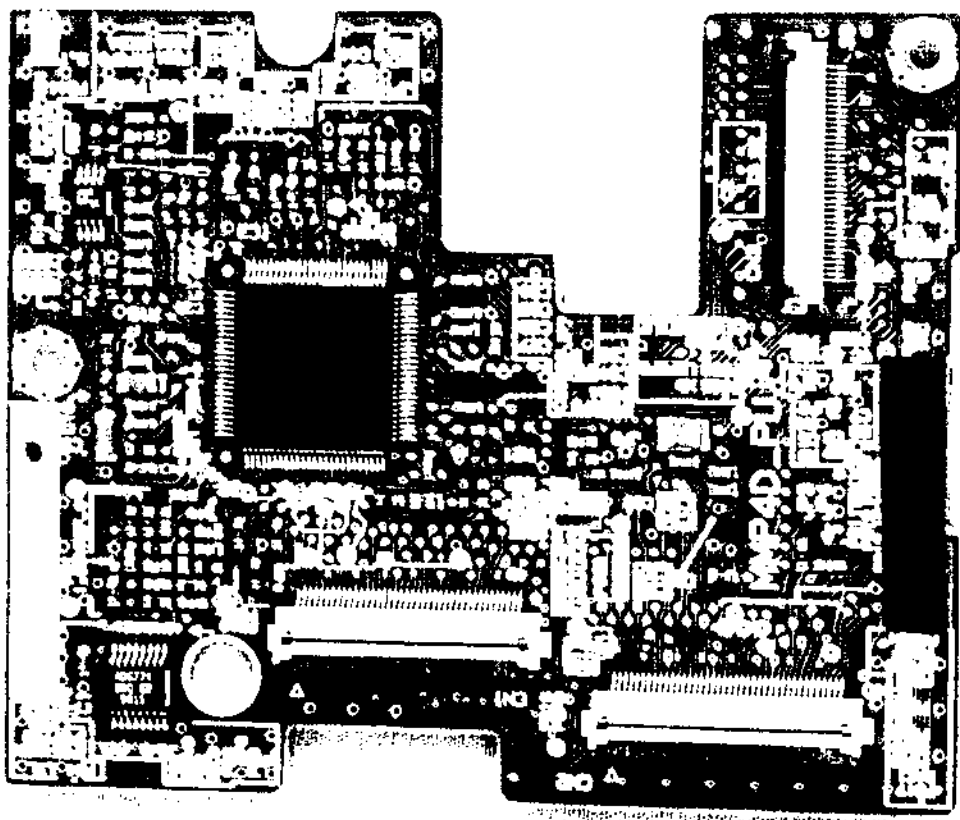
MPWB NO. DB805600

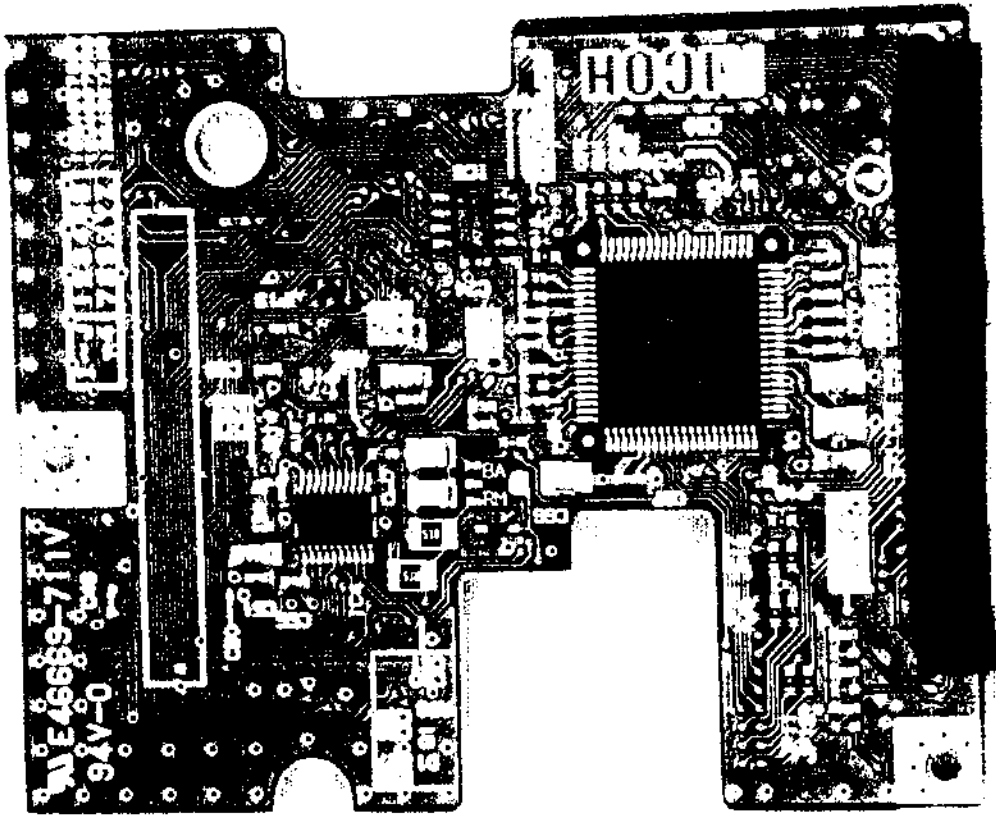
MP4D\_MAIN\_ATAPI

F90

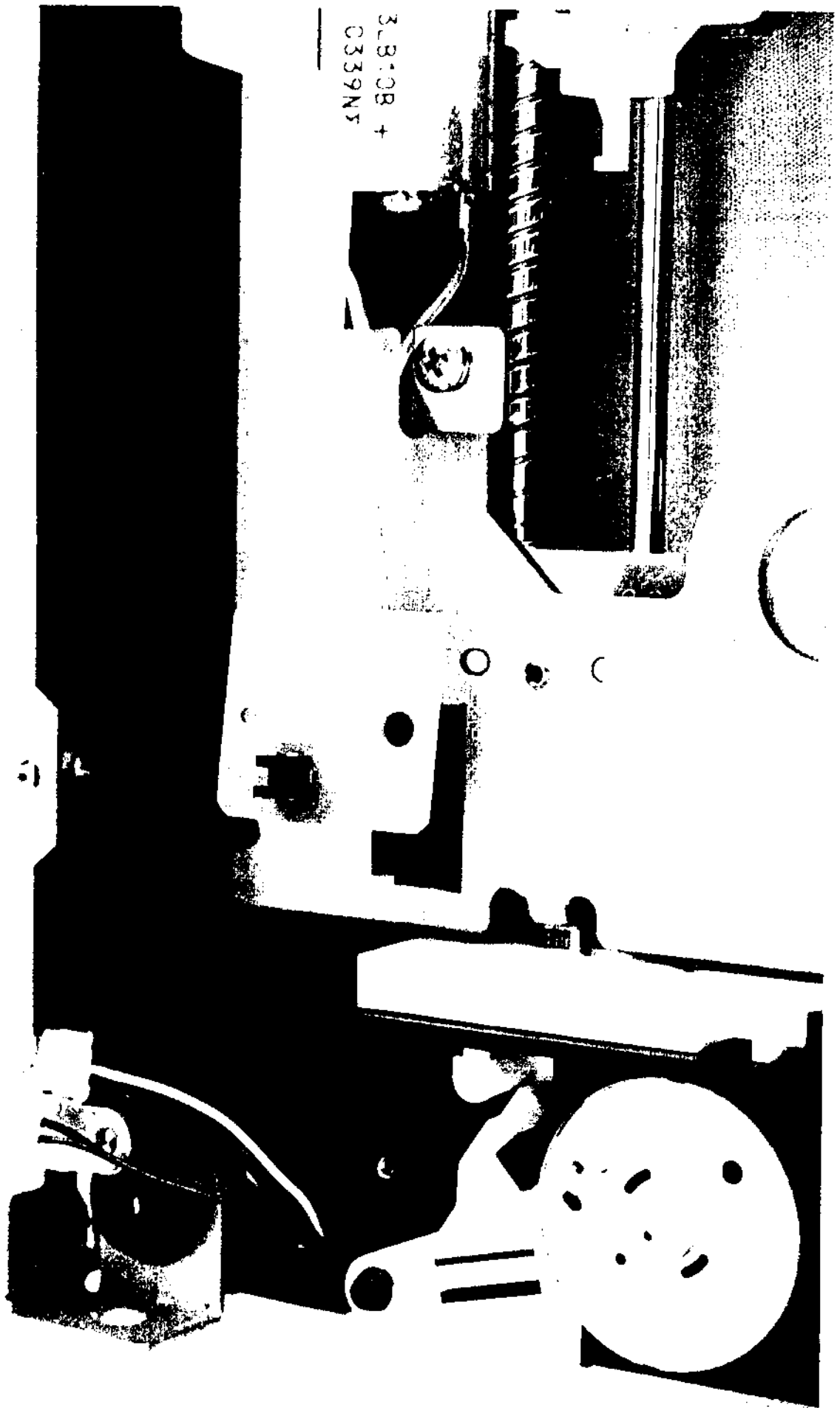


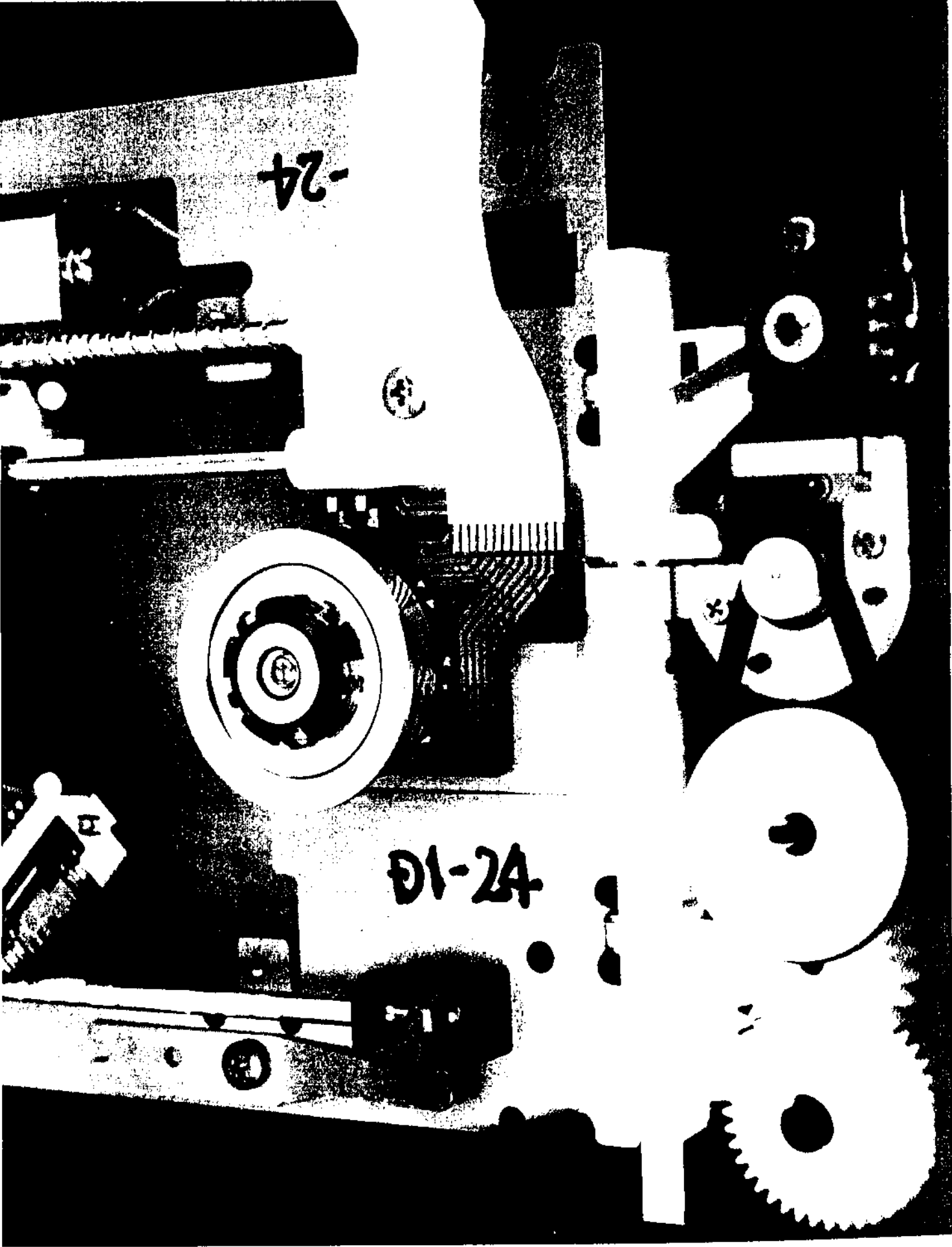






3.8:08 +  
0339N5





-24

D1-24

51

