Following is a English-translated copy of documents distributed at P1394a meeting on 6/24/1997.

Contents

This data has been prepared for posting by

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Sony DV Related Products

All models have 4 pin connectors.

Model #	Description	FCC Part 15 Classification	Authorization	FCC ID
DVBK-2000	DV Still Image Capture Board	Class B computers & peripherals	Certification	AK8DVBK2000
DVBK-1000	DV Still Image Capture Board	Class B computers & peripherals	Certification	AK8DVBK1000
PCGA-DB7	Docking Station	Class B computers & peripherals	Certification	not required (DOC)
PCGA-DH7	Docking Station	Class B computers & peripherals	Certification	not required (DOC)
DCR-VX1000	Digital Video Camera	Other Class B digital devices & peripherals	Verification	not required
DCR-VX700	Digital Video Camera	Other Class B digital devices & peripherals	Verification	not required
DCR-PC7	Digital Video Camera	Other Class B digital devices & peripherals	Verification	not required
DCR-TR7	Digital Video Camera	Other Class B digital devices & peripherals	Verification	not required
DHR-1000	Digital Video Deck	TV Interface device	Certification	AK8DHR1000

DCR-PC7

Pre-Production Unit Radiated Emission

Model name: DCR-PC7 (Pre-Production Unit) --- NOTE
Serial number: None
Power Supply: AC-V100
Load: 120V/60Hz
Date: July 9, 1996
Regulation: [FCC Part 15] Class B Digital Device

	Frequency	Antenna Polarity	Meter Reading at 3m	Correction Factor	Field Strength at 3m	
	MHz	H/V	dB (uV)	dB	dB (uV/m)	(uV/m)
	41.9	H	17.4	15.6	33.0	44.6
	49.2	H	19.6	12.6	32.2	40.9
	82.0	H	23.8	8.9	32.7	43.1
*	126.9	H	27.2	14.7	41.9	124.2
	134.0	H	20.4	15.2	35.6	60.2
	145.3	H	20.2	15.9	36.1	64.2
	159.4	H	18.8	16.8	35.6	60.6
	196.7	H	19.0	18.6	37.6	75.7

* Quasi-Peak Mode

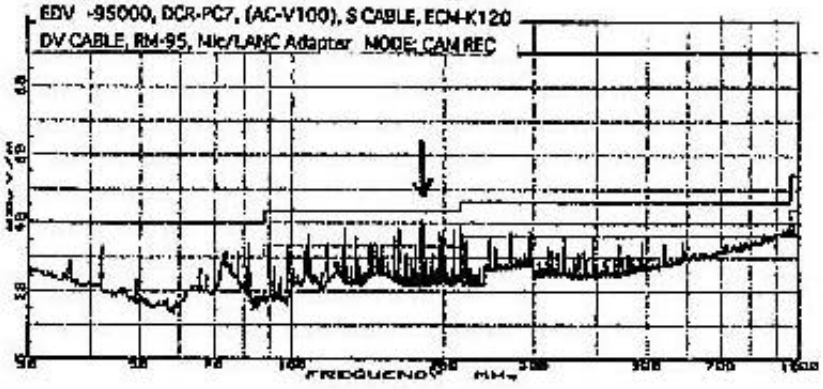
NOTE:
This test has been done as one of the Q&A clearance procedures before the market launch of the model.

DCR-PC7

Mass Production Unit Radiated Emission

MODEL NAME	DCR-PC7	BAND NUMBER	S MEARS MODE: G
SERIAL NO.	1005300	ANTENNA MODE	H && V
POWER SUPPLY	AC-V100	TEST EQUIP	R3361, R3551
LOAD	1200V/60Hz	OPERATOR	KARIYA
DET. MODE	PEAK	WEATHER COND.	FINE
Limits	(30 - 1000 MHz)	DATE:15 NOV. 1996	TIME: 10:00

[FCC] Class B (3m)



Arrow indicates the point with less than 3 dB of margin.

((((((((((WORST DATAS OF MEASUREMENT RESULTS))))))))))

No.	Emission Frequency (MHz)	Corr. Factor (dB)	Meter Read. dB(uV)	Field Strng. dBuV/m	Table Deg. (°)	Antna Pos. (cm)	Limits dBuV/m at 3m	Margin Level (dB)
1	180.143	17.9	22.8	40.7	***	***	43.5	+2.8
2	181.671	18.0	22.0	40.0	***	***	43.5	+3.5
3	216.000	19.2	20.0	39.2	***	***	43.5	+4.3
4	127.143	14.7	23.8	38.5	***	***	43.5	+5.0
5	163.429	17.1	21.0	38.1	***	***	43.5	+5.4
6	209.286	19.0	18.6	37.6	***	***	43.5	+5.9
7	92.200	8.9	24.8	33.7	***	***	40.0	+6.3
8	196.714	18.6	18.4	37.0	***	***	43.5	+6.5
9	41.900	15.6	17.4	33.0	***	***	40.0	+7.0
10	159.143	16.8	19.6	36.4	***	***	43.5	+7.1

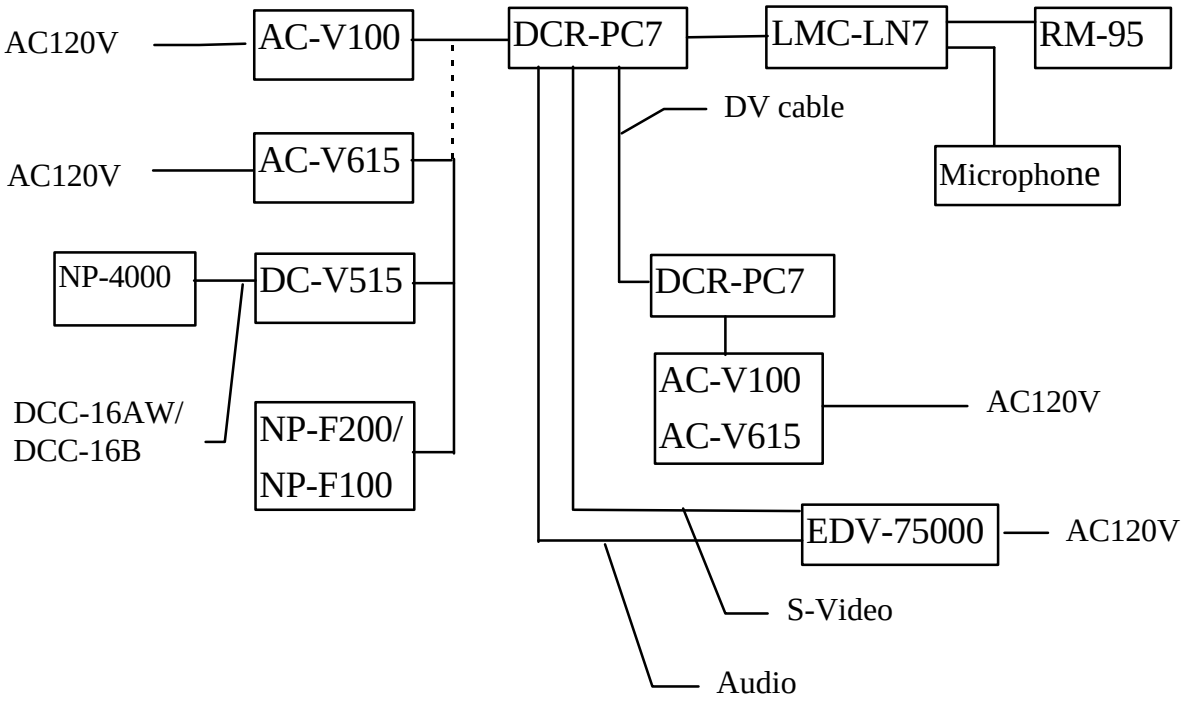
DCR-PC7

Equipment List for Measurement

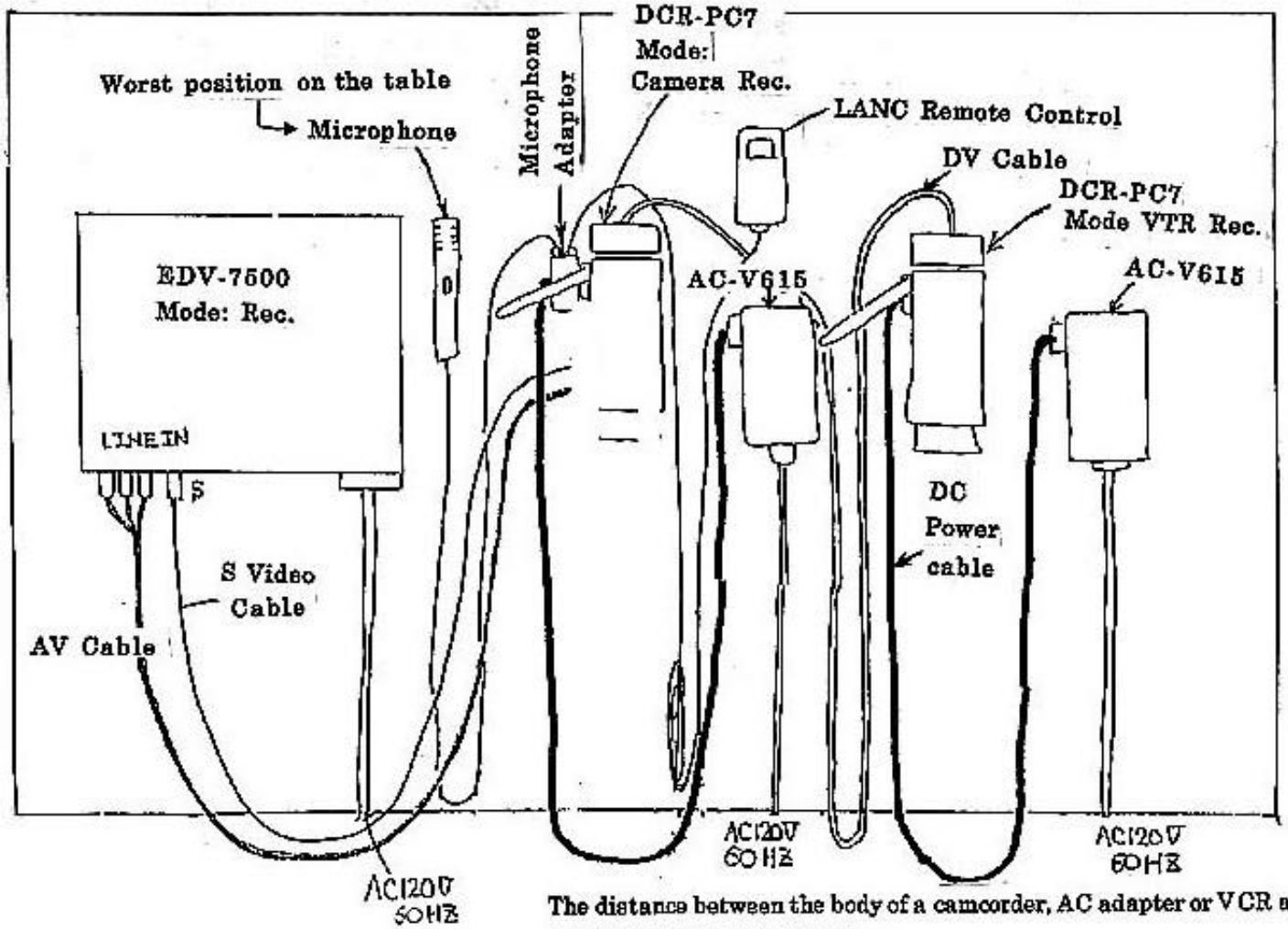
		Model #	Description	Manufacturer	Accessory category
	1	DCR-PC7	Video Camera Recorder	Sony Minokamo	
	2	AC-V100	AC Power Adapter	Sony Sendai	supplied
	3	AC-V615	AC Power Adapter	Towada Audio	optional
	4	RM-95	Remote commander	Hoshiden	optional
*	5	NP-4000	Rechargeable Battery	Matsushita/ Sanyo	optional
*	6	DC-V515	DC Adapter		optional
*	7	DCC-16B/DCC-16AW	Car Battery Cable	Hoshiden	optional
	8	NP-F200/NP-F100	Rechargeable Battery		supplied
*	9	EDV-7500	VCR	Sony	optional
	10	VMC-LM7	Microphone Adapter		optional

* can be replaced with equivalent equipment

System Connection Diagram



DCR-PC7 Table layout for radiated emission measurement



The distance between the body of a camcorder, AC adapter or VCR and their peripherals should be 10 cm.

DVBK-1000

Equipment List for Measurement

Host Digital Device (Certified or Verified)

Manufacturer	Model Name	FCC ID	Description
HP	Vectra VL 5/100 Series 4	HCJVECTRAVL5	Personal computer

Peripheral Device (Certified or Verified)

Manufacturer	Model Name	Serial #	FCC ID	Description
Sony	DVBK-2000	None	AK8DVBK1000	Still Image Capture Board
Compaq	Presario	15SV	CSYSC-428PTJ	Monitor
HP	Mouse	None	DZL210582	Mouse
HP	RT6670 TJP	None	AQ6ZG-RT687XT	Keyboard
HP	225C	None	BS46XU2225C-L	Printer
Sony	CVI-1000	None	AK8CV1000	RS-232C Peripheral
Sony	DCR-VX700	None	N/A	VCR
Sony	AC-V515	None	N/A	AC Power Adapter

Power Supply Cord: 3 Pronged, Unshielded

Connection Cable List

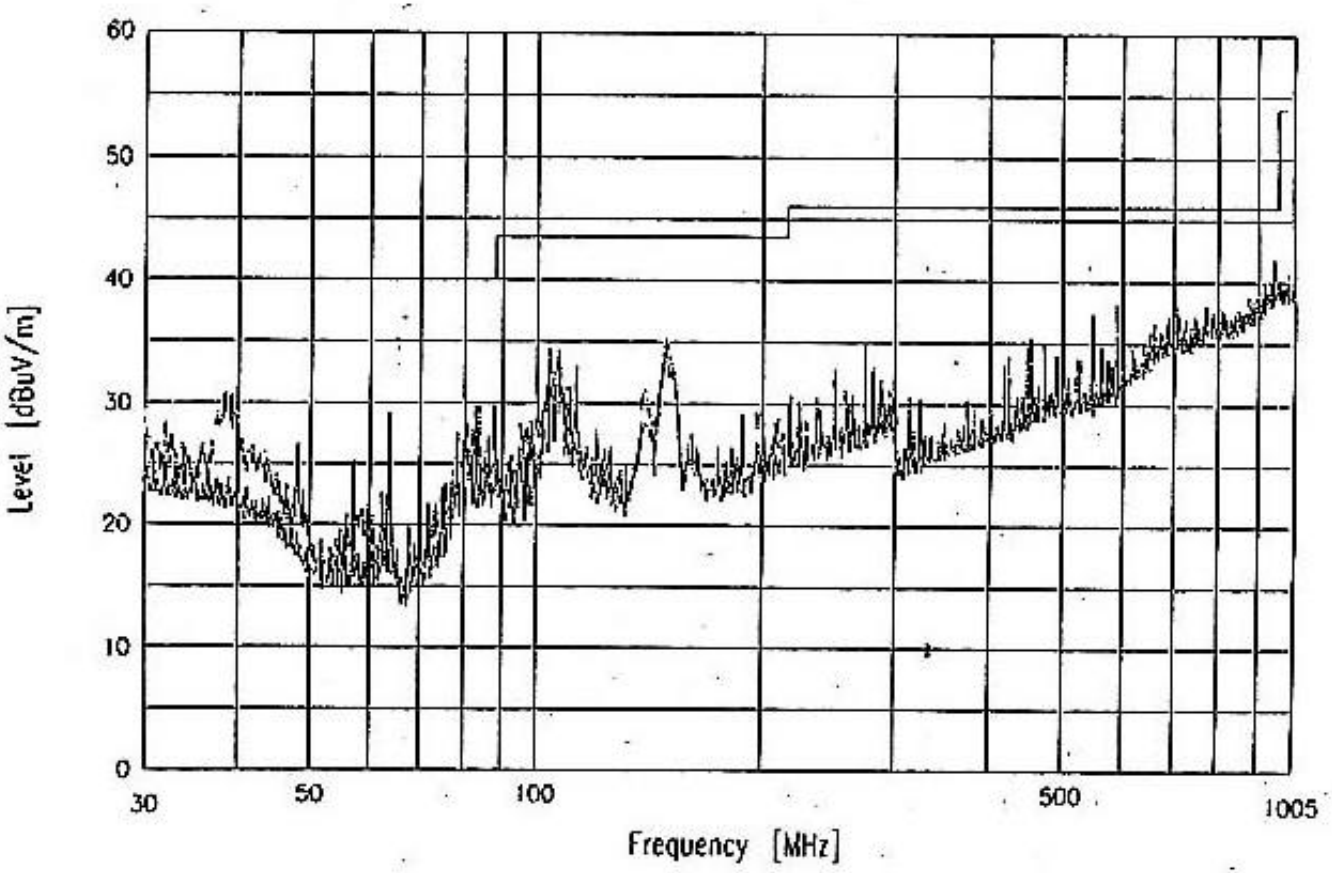
Description	Model #	Construction	Length
DV Cable	VMC-2DV	Shielded; Metallic hoods	2m
LANC Cable	VK820	Shielded; Metallic hoods	2m
Printer Cable	none	Shielded; Metallic hoods	2m

DVBK-1000

Date/Time 26 Mrch, 1996, 14:25

Model	DVBK-1000	Standard	FCC New Part 15 (Original) B
Serial #	None	Operator	K. Morita
Remarks	Capture Mode		

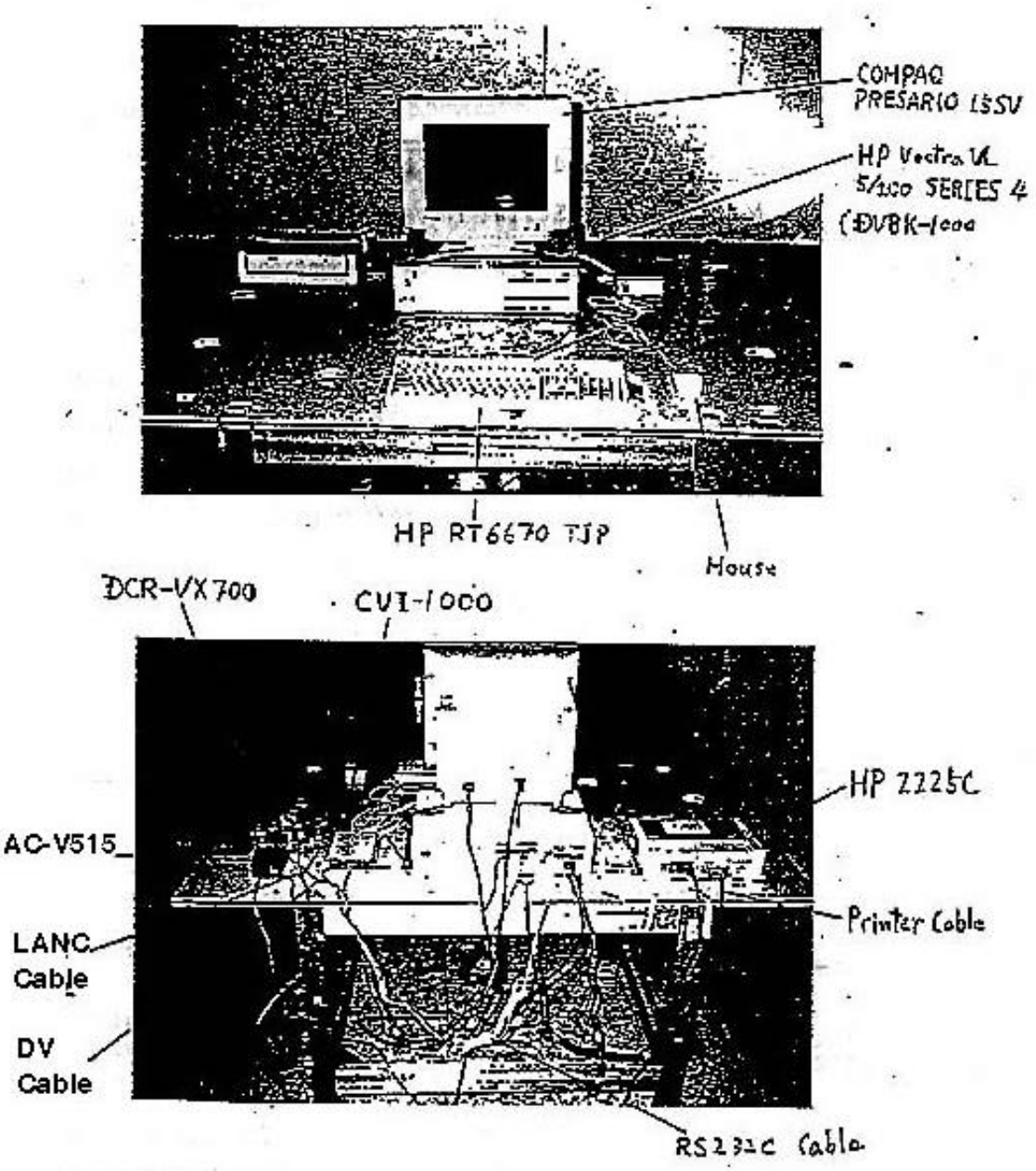
DCR-VX700, Vectra VL 5//10, Presario 15 SV, CI100, 2225C



DVBK-1000

(still image capture board)

Table layout for DVBK-1000 measurement



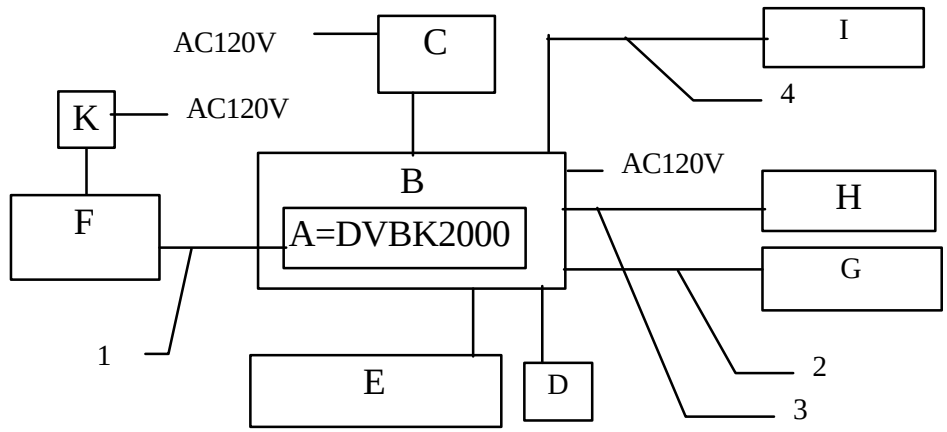
DVBK-2000

Equipment List and System configuration for Measurement

	Brand	Model name	Description	FCC ID	Serial #
A	Sony	DVBK-2000	Still image capture board	AK8DVBK2000	N/A
B	HP	Vectra VL5/100	Personal computer	HCJVCTRAVL5	SG61002193
C	HP	D2811A	Monitor	HCJVCTRAVL5	MY60303728
D	HP	C3571B	Mouse	JVP7134T	LZA40435992
E	HP	C3755B	Keyboard	DZL210582	61651391
F	Sony	DCR-VX700	Digital Camcorder	AQ6ZG-RT687XT	29679
G	Canon	BJ-200e	Printer	N/A	SLY59619
H	Sony	CVI-1000	Video computer I/F	AZDK10110A	N/A
I	Hayes	6802US	Modem	AK8CVI1000	B0896802356
J	Hayes	52-00005	AC Adapter	BFJ9-D9-6802US	N/A
K	Sony	AC-V515	AC Adapter	N/A	
L	Sony	AC-E4M	AC Adapter	N/A	

Cable List

	Brand	Model Name	Description	Length	Shielded/ Unshielded	W or W/O Ferrite
1	Sony	VMC-2DV	DV Cable	2.0 m	Shielded	W/O
2	Sanwa	KPU-PS552K	Printer Cable	2.0 m	Shielded	W
3	Sony	SMF-53F2A	Video/computer Cable	2.0 m	Shielded	W/O
4	Hayes	KRS-413XF1K	Modem Cable	1.5 m	Shielded	W/O



DVBK-2000

Model	DVBK-2000
Serial #	RYOU NT2
Standard	FCC New Part 15 (Digital) B
Condition file	fcc_n_db
Condition	PC+Boad+All Peripheral
Remarks	HP Vectra+HP Monitor+Keyboard+Mouse+DCR-VX700+Board +Modem+CVI-1000+Printer
AC Power	120V 60 Hz
Temperature	deg.
Humidity	%
Operator	Kikuchi

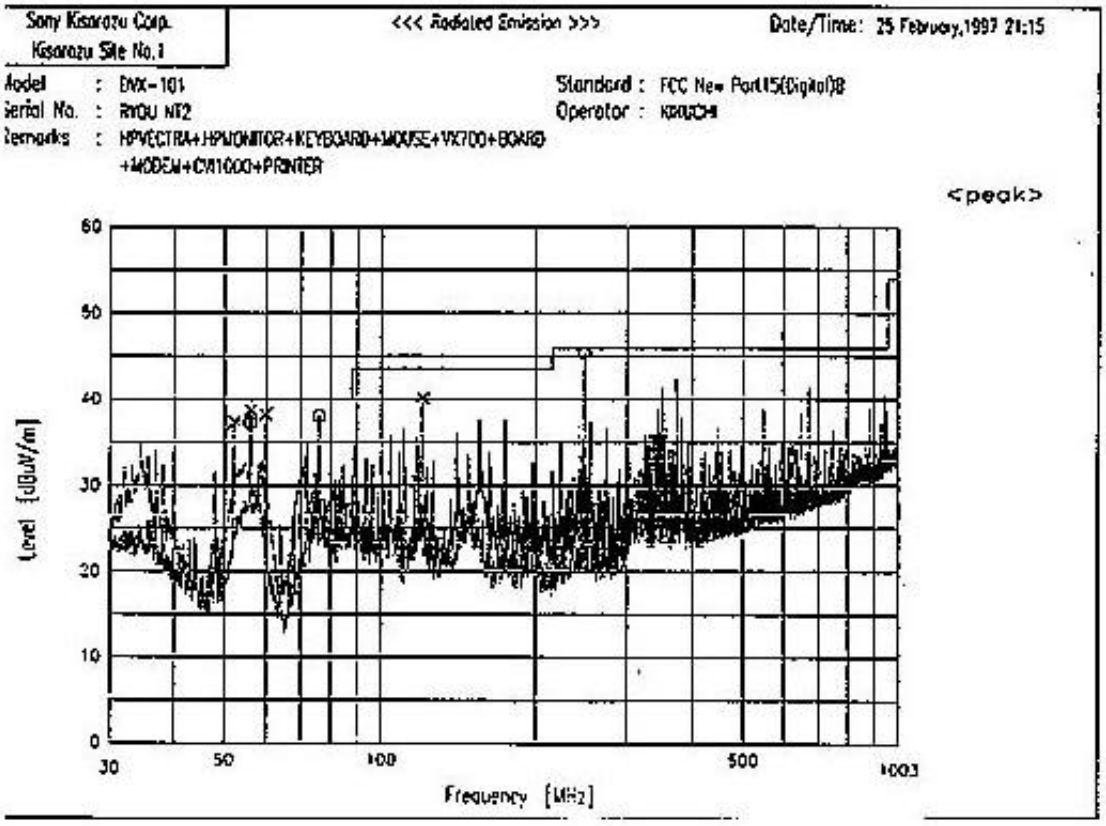
Spectrum Selection

rizontal Polarization -

Frequency (MHz)	Reading (dBuV)	c.f. (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
56.029	52.5	-15.2	37.3	40.0	2.7
76.148	51.4	-13.3	38.1	40.0	1.9
249.451	51.4	-6.0	45.4	46.0	0.6

rtical Polarization -

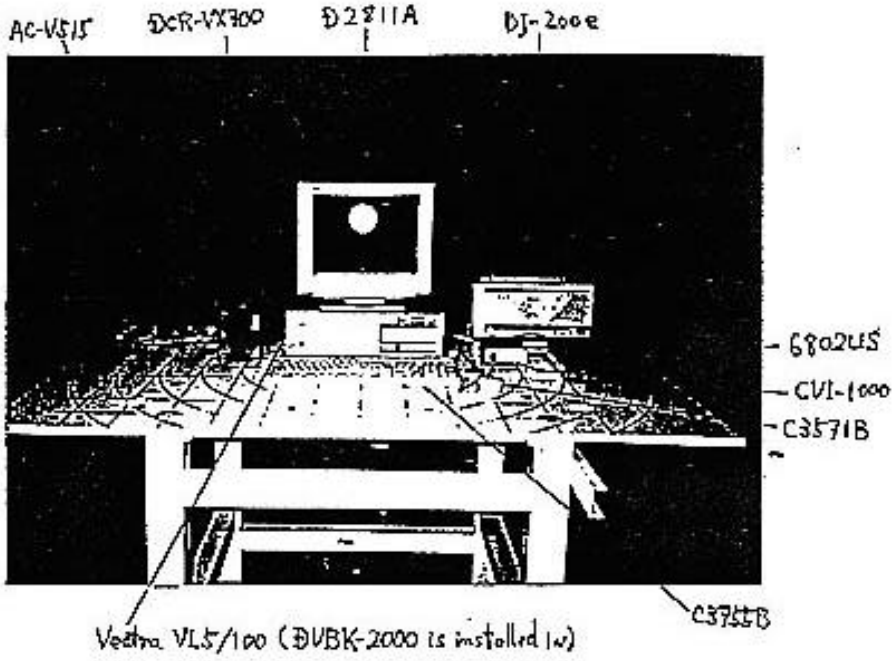
Frequency (MHz)	Reading (dBuV)	c.f. (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
52.167	51.2	-13.7	37.5	40.0	2.5
56.164	54.0	-15.3	38.7	40.0	1.3
60.025	54.1	-15.8	38.3	40.0	1.7
120.161	47.3	-7.1	40.2	43.5	3.3

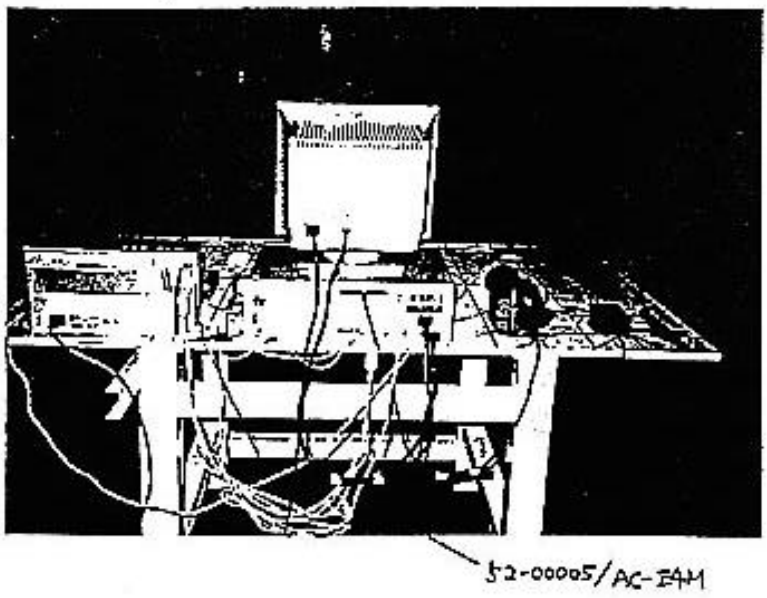


DVBK-2000

(still image capture board)

Equipment layout for DVBK-2000 measurement





Answers to the questions on the 4 pin connector issues in the IEEE P1394A Meeting Minutes from August 4-5

Prepared by Takao Yasuda, Architecture Lab, Sony Corporation
Contact: yasudat@net.arch.sony.co.jp

1. 'ALL' Japanese characters should be translated into English. Page 4 and 5 of the handout.

A. It has been taken care of as seen on the FTP site.

2. A summary of the data presented on page 6 Titled 'PC-7 Mass Production Unit'.

a. I would like to know if Peaked or Quasi-peaked.

A. All data indicate the peak values.

b. At what angle were these measurements taken? Is there 8 sided scan data available?

c. What was the height and polarity of the antenna? Was it varied during the scan process?

A. All data have been taken by the measurement following the requirement by FCC. The turntable on which the EUT is placed turns 360 degrees continuously, the antenna goes up and down from 1.0 meter to 4.0 meters and its polarity changes to either horizontal or vertical. Their movement is controlled by an automated measurement system.

Sony does not record the specific antenna height, angle or polarity for the data at each frequency but the data on the chart indicate the worst peak values taken by this system.

d. What signals does Sony interpret as being contributed by the 1394 clocks, and or circuitry?

A. For the DCR-PC7 Mass Production Unit data, 196.714MHz could be from the 1394 interface but all other frequencies on the list are from other circuitry. For the DCR-PC7 Pre-Production data, 49.2 MHz and 159.4 MHz are confirmed as from the 1394 interface but other frequencies are from other circuitry.

For the DVBK-1000 and DVBK-2000 data, we cannot specifically say which frequency is from 1394 but we have confirmed that the frequencies at which data have little margin on the chart are not from the 1394 signals and are from

other sources such as the PC itself or the monitor being used.

e. Have any tests been completed in a 10m chamber or 10m open range?

A. All data have been taken at 3 meter chambers which have been officially reviewed as compliant with the requirement of the FCC rules.

3. What is the correlation of the data on page 6 vs. page 7.

a. Is it just the difference between prototype and production units?

Do we care about prototype units if we do not know what the difference is between them?

A. The data for a pre-production unit was taken as part of a formal QA process at Sony before the introduction of the model. Although Sony calls it a pre-production unit, it has exactly the same mechanical and electrical construction and was produced exactly in the same way as the mass-production unit. The data are presented to show that the model has been tested and cleared the Sony QA criteria before its market launch.

The data for a mass-production unit were taken as part of another formal QA process at Sony AFTER the introduction of the model. If the data found to be exceeding the FCC limit, the shipment of the lot will be halted until a modification to reduce the noise to less than the limit is applied to all the units of the lot. An arrow on the presented chart at around 180 MHz indicates a Sony internal warning sign to indicate that the unit does not have enough margin against the limit.

4. Page 9. Could we get some pictures that are a little clearer so that we can better understand the setup?

A. Unfortunately, this is the clearest picture we could get. We hope the Equipment Lists will explain the combination of various peripherals used for the test.

5. Page 10. .

a. At what angle were these measurements taken? Is there 8 sided scan data available?

b. What was the height and polarity of the antenna? Was it varied during the scan process?

c. What frequencies does Sony interpret as being contributed by the 1394 clocks, and or circuitry?

d. Have any tests been completed in a 10m chamber or 10m open range?

A. Same as in 2.

e. What are we measuring? Cable tied to Ground, Chassis, bypassed, ??

A. The question is not clear.

6. Page 12. Would like clear pictures.

A. Same as in 4.

7. Page 13. Same questions as #2, and #5.

a. At what angle were these measurements taken? Is there 8 sided scan data available?

b. What was the height and polarity of the antenna? Was it varied during the scan process?

c. What signals does Sony interpret as being contributed by the 1394 clocks, and or circuitry?

d. Have any tests been completed in a 10m chamber or 10m open range?

e. What are we measuring? Cable tied to Ground, Chassis, bypassed, ??

A. Same as in 2.

8. Is there data available with just the Camera and just the VTR, and the Camera and VTR together?

A. The question is not clear. Because FCC requires the EUT to have all its connectors and ports connected to peripheral devices with appropriate cables, Sony measures the EMI data with a full configuration as shown in the chart presented. We do not have data available with just a camera and a VCR.

9. General questions about the 4 pin Cable. Could it be connected to a device that has a green wire ground, or will all 4 pin devices be battery powered and / or isolated?

A. The question is not clear. The 4 pin device can be connected to a green-wire-grounded-PC as long as the PC has a 1394 interface and you have an appropriate cable, either 4-6 or 4-4, depending on the connector on the PC or

the interface board on the PC.

There is no isolation between the signal ground and the chassis in the case of Sony digital camcorders and probably in most other consumer devices. The PHY ground is connected to the chassis and the outer shell of the 4 pin connector.