Subject:	Circuit Operation Theory	Part No.:		Rev.: 0
		Doc. No.	318-C01	Page 1 of 38
Project Code:	91.74502.001			
Model Name:	72211c			

[A] 211c System Block Diagram

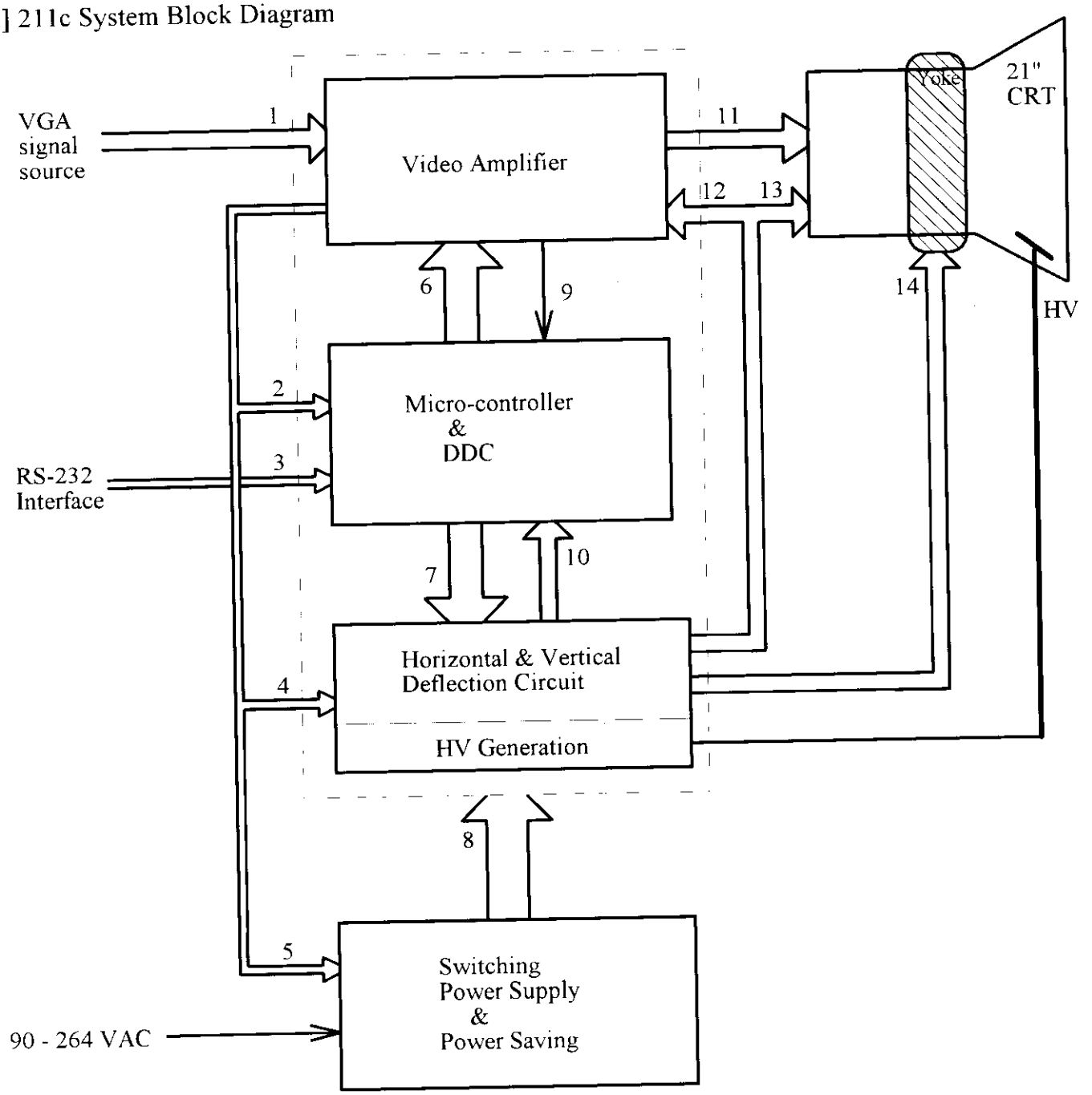


FIGURE.1 211c System Block Diagram

[B] Deflection and HV generation circuit introduction

B.1. Deflection and HV generation circuit block diagram

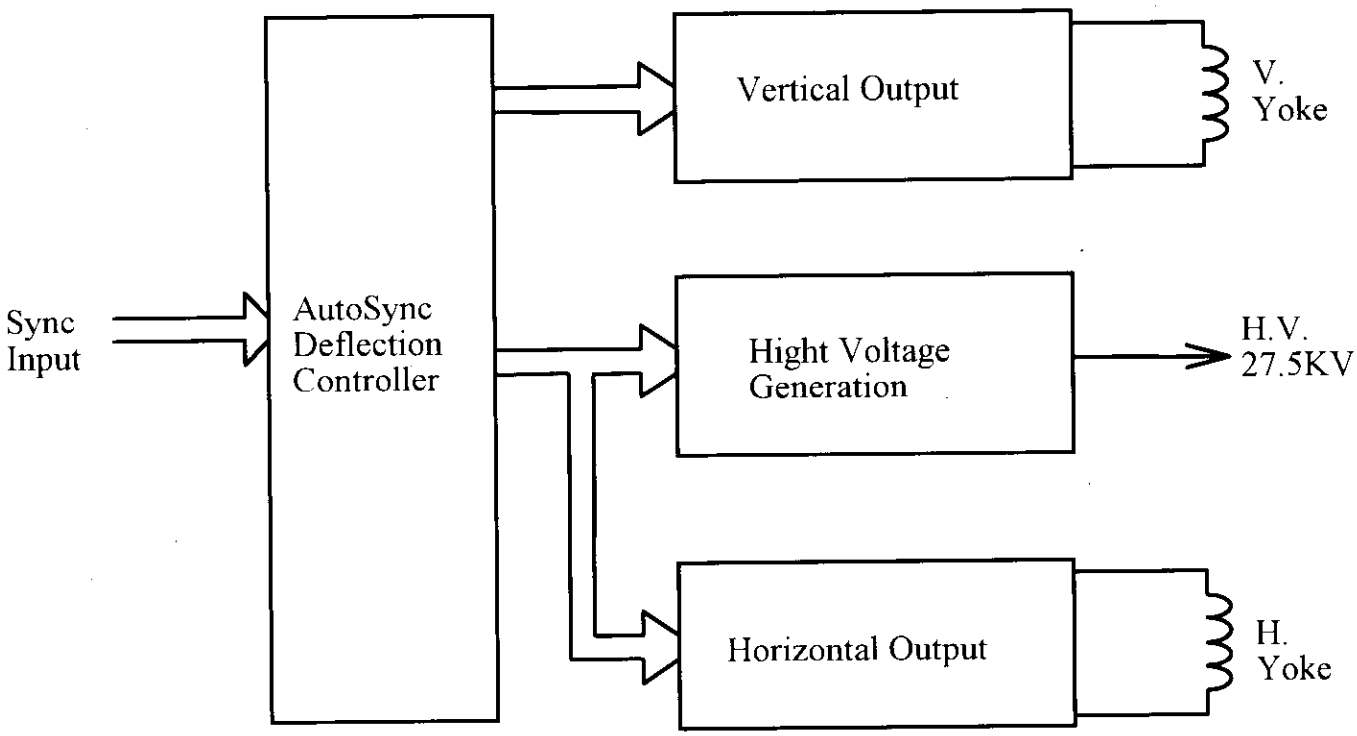


FIGURE.2 Deflection and HV generation circuit block diagram

As FIGURE.2, the 211c monitor is difference with another monitor; the 211c monitor use separated Hor. output circuit. One is H-size processing circuit, another is high voltage processing circuit. Separated Hor. output circuit has a big advantage : excellent high voltage regulation, so this monitor adopts the advantage to get perfect picture.

B.2. 211c Function Block of Deflection & HV generation

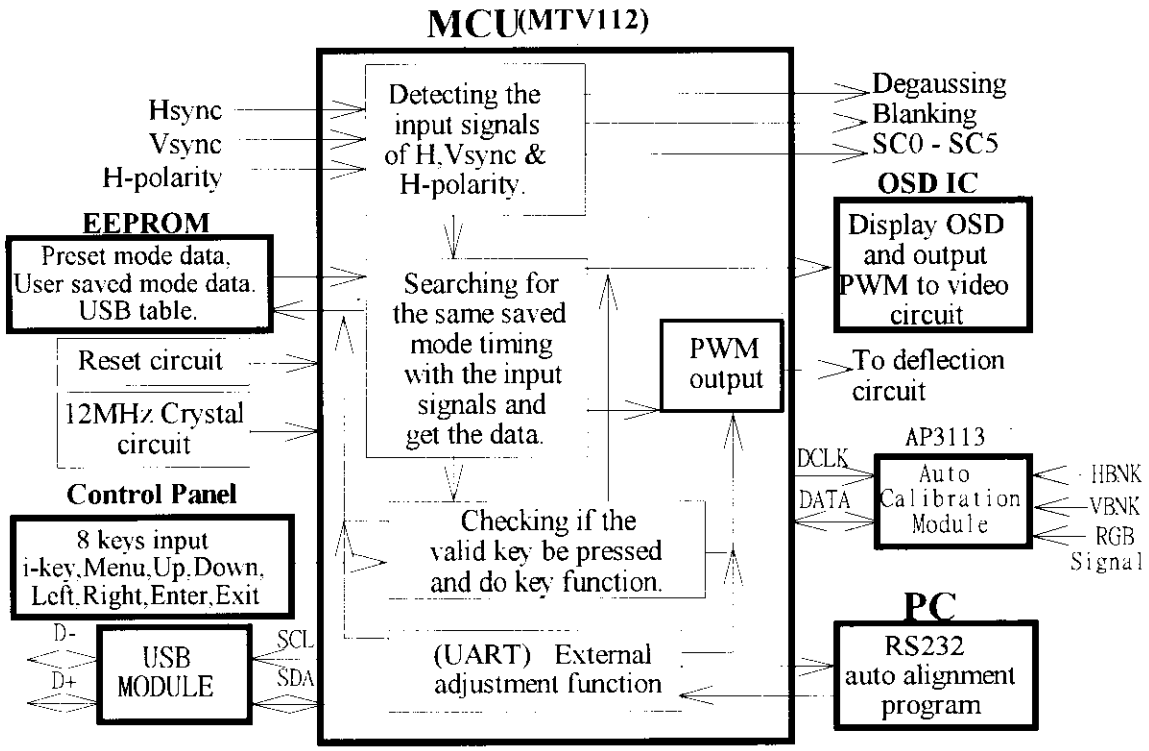
ACERVIEW 72211c MICROCONTROLLER CIRCUIT OPERATION THEORY

1. Introduction :

This model, 72211c, will support powerful OSD function to help end user fine adjustment. The Microcontroller circuit of the 72211c can determine what mode it is by detecting the frequency of horizontal and vertical synchronous and the polarity of horizontal synchronous, and provide DC voltages to control the picture and save the adjusted value into the EEPROM by using the OSD, "On Screen Display control", that means the user can get any information of the picture display or adjust it and save the status values into the EEPROM by choosing and pressing the proper key according to the indication of the OSD. In addition, user can press i-key to do auto-calibration.

2. Block diagram :

The major parts of 72211c Microcontroller circuit are MCU, EEPROM, OSD IC, and Auto Calibration Module. The circuit block diagram is shown as below.



Switching Power Supply Operation Theory

1. General Specification

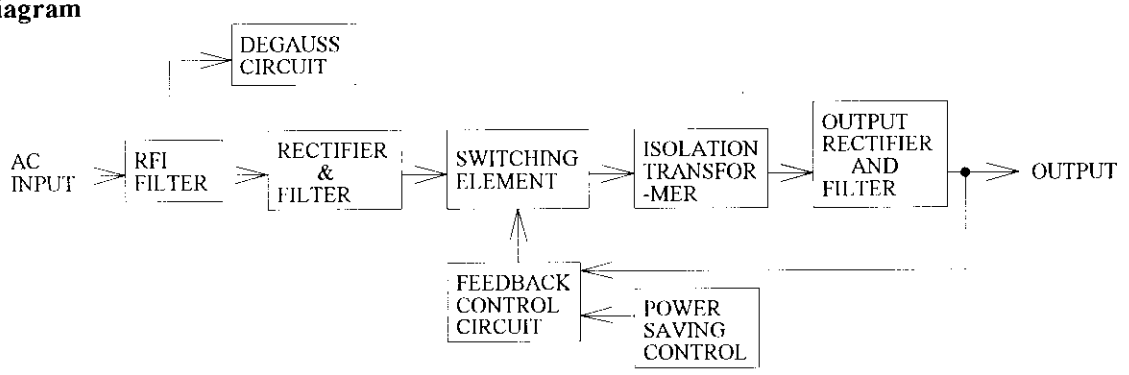
Input Voltage : 90~132,180~264VAC (AUTO RANGE)

Input Frequency : 47~63Hz

Output Requirement:

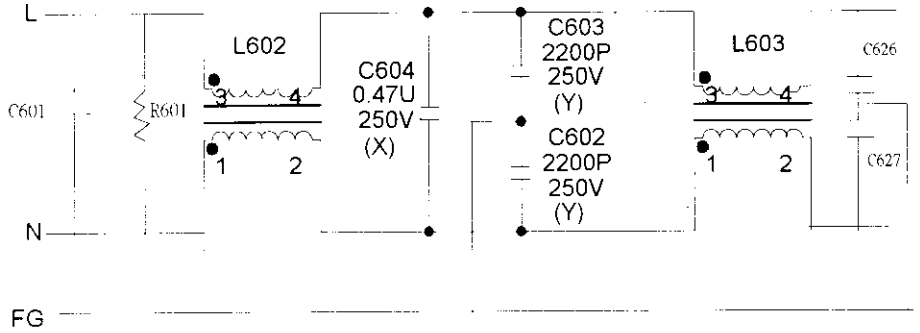
Output	MAX. Load Current
+6.5V	0.7A
+16V	0.8A
+24V	0.2A
+80V	0.2A
+200V	0.42A

2. Block Diagram



3. Circuit Operation Theorem

3.1 RFI FILTER



This circuit designed to inhibit electric and magnetic interference for meet FCC, VDE, VCCI standard requirements.

Video Circuit :

1. Design Specifications :

1.1 input :
D-sub and BNC

1.2 sync type :
separate sync
composite sync
SOG

1.3 pixel rate = 230 MHz

1.4 light output (3" block pattern) = 40F.L. [max brightness and max contrast]
light output (full white pattern)= 25F.L. [max brightness and max contrast]

2. CRT Specifications :

2.1 heater voltage = 6.3V
heater current = 0.32A (typical)

2.2 cathode spot cutoff voltage = 110V [G2=600V]

2.3 max-to- min cutoff ratio = 1.17

3. Block Diagram :

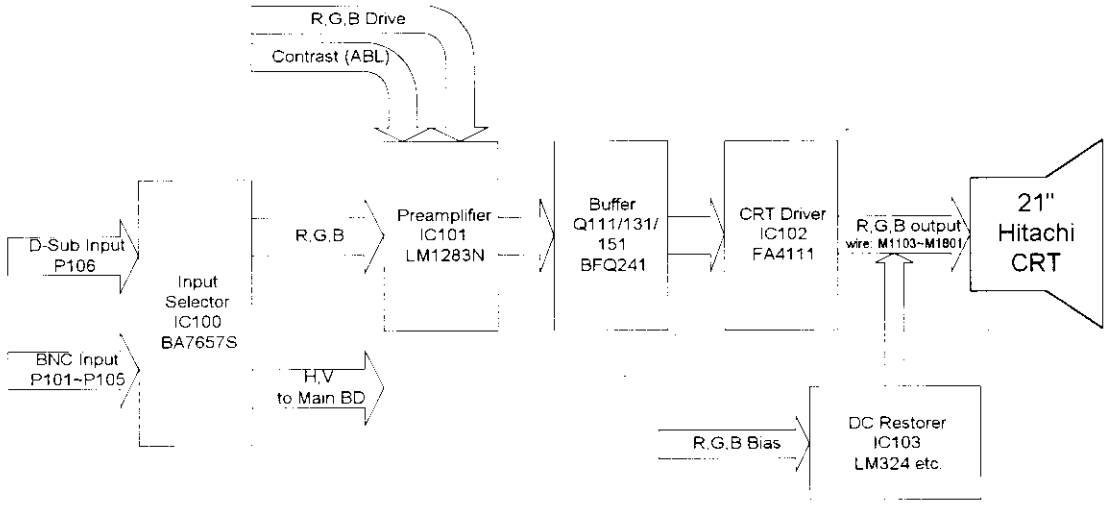
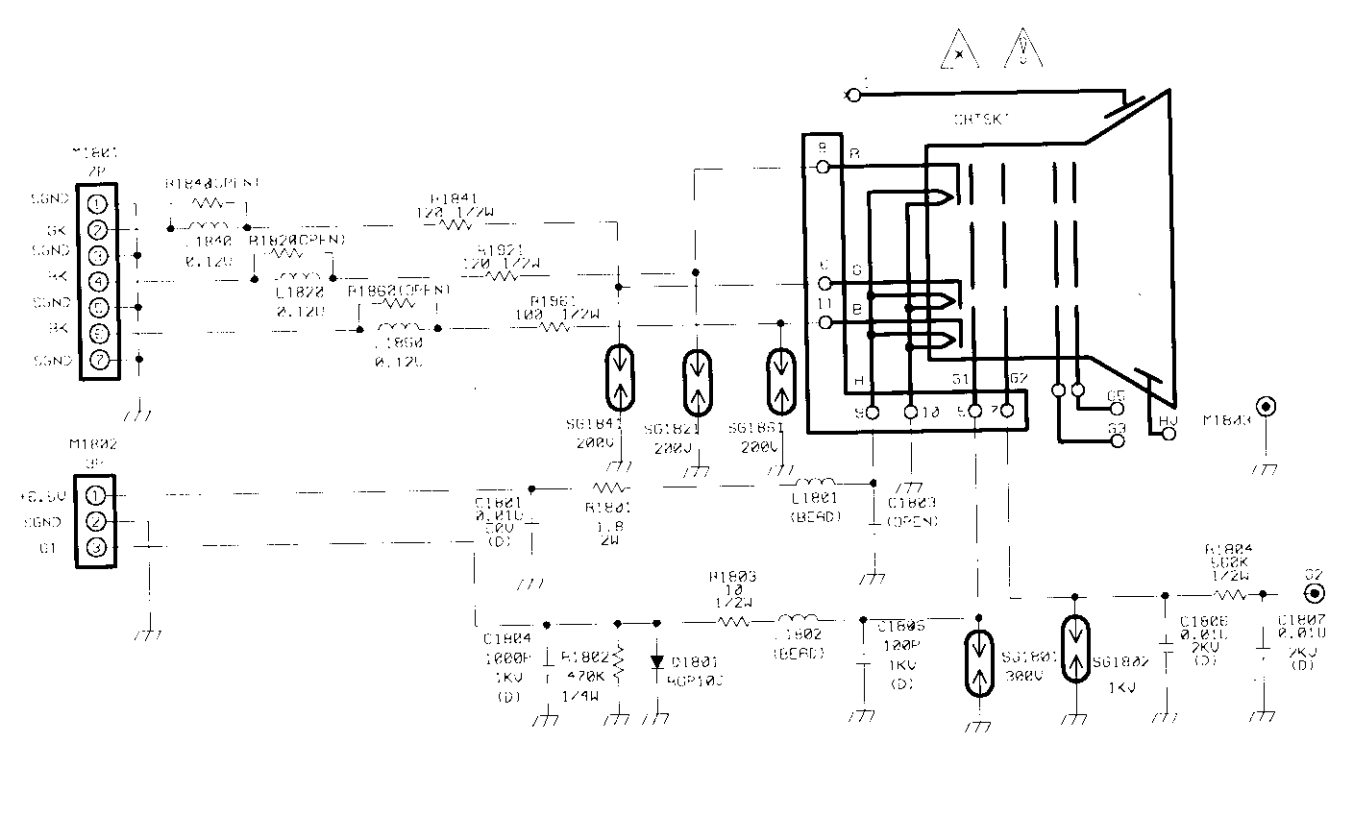
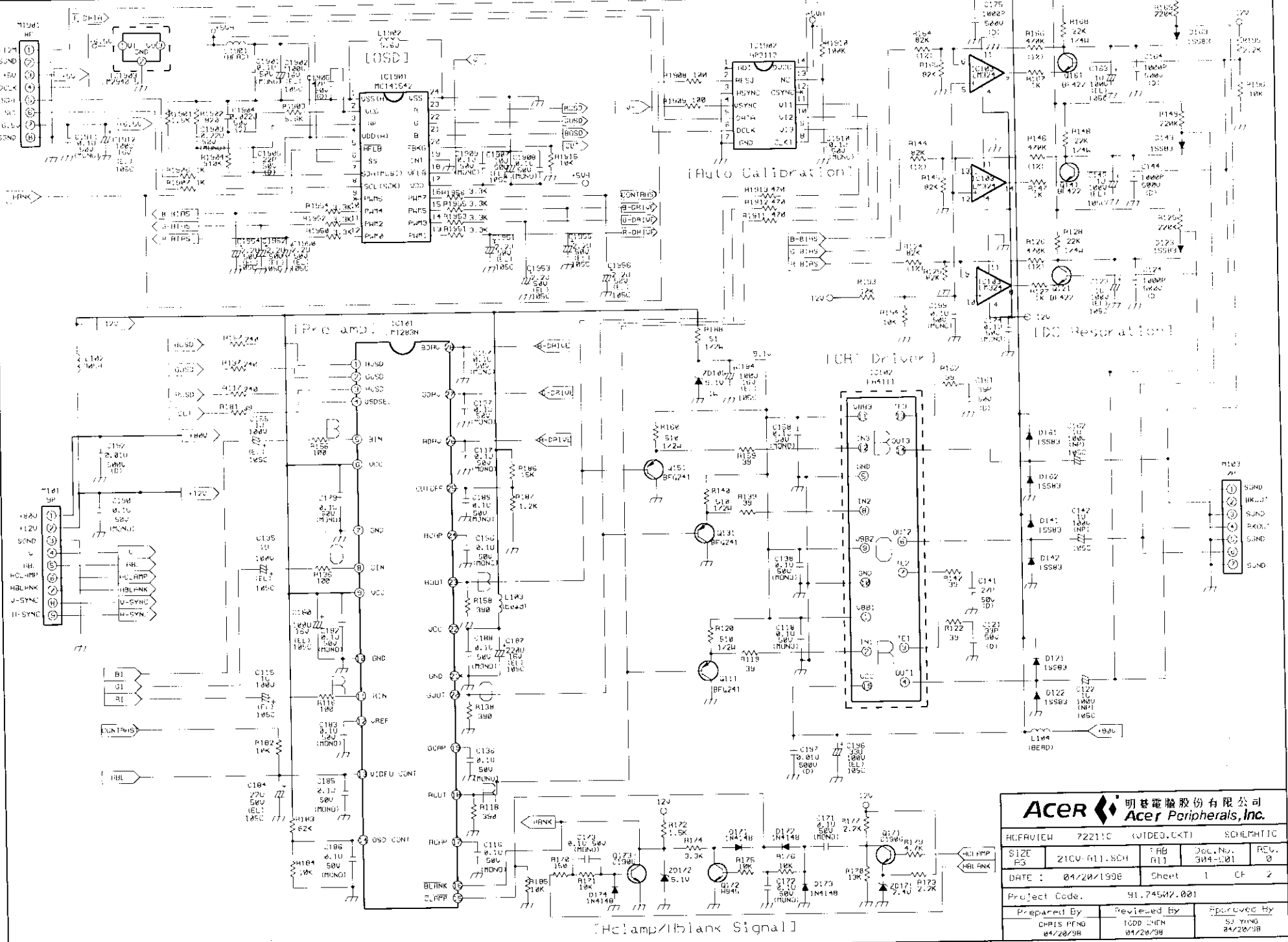
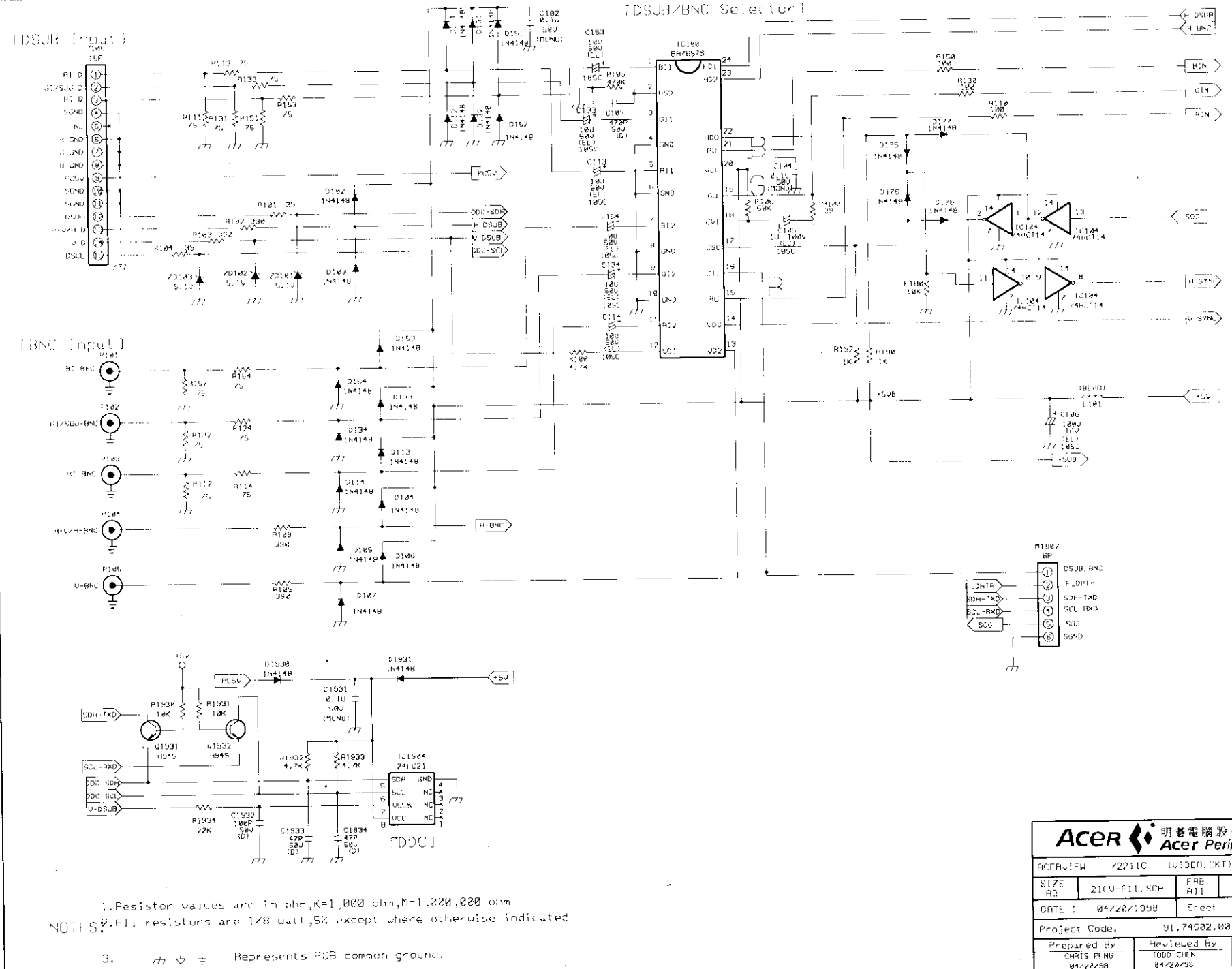


Fig. 1 Block Diagram of 72211C video


CRT&K'
M1801
P
SGND
GK
SGND
RK
SGND
BK
SGND
R1840(OPEN)
.1840
0.12W
R1820(OPEN)
L1820
0.12W
R1862(OPEN)
.1860
0.12W
R1841
120 1/2W
R1921
120 1/2W
R1961
100 1/2W
R
G
B
H
S1
G2
G1
HV
M1804
M1802
P
+B.5V
SGND
G1
SG1841
200V
SG1821
200V
SG1861
200V
C1801
0.01U
50V
(D)
R1801
1.8
2W
L1801
(BEAD)
C1803
(OPEN)
R1804
5.6K
1/2W
G2
R1803
10
1/2W
L1802
(BEAD)
C1804
1000P
1KV
(D)
R1802
470K
1/4W
D1801
40P10
C1805
100P
1KV
(D)
SG1801
300V
SG1802
1KV
C1806
0.01U
2KV
(D)
C1807
0.01U
2KV
(D)



Acer 明碁電腦股份有限公司 Acer Peripherals, Inc.				
ACERVIEW 72211C (VIDEO.CKT)				SCHEMATIC
SIZE B3	2100-A11.SCH	TAB A11	Doc.No. 304-C001	REV. 0
DATE : 04/20/1998		Sheet 1 OF 2		
Project Code.	91.74507.001			
Prepared By	Reviewed By	Approved By		
CHRIS PENG 04/20/98	TODD CHEN 04/20/98	SU YING 04/20/98		



NOTES:

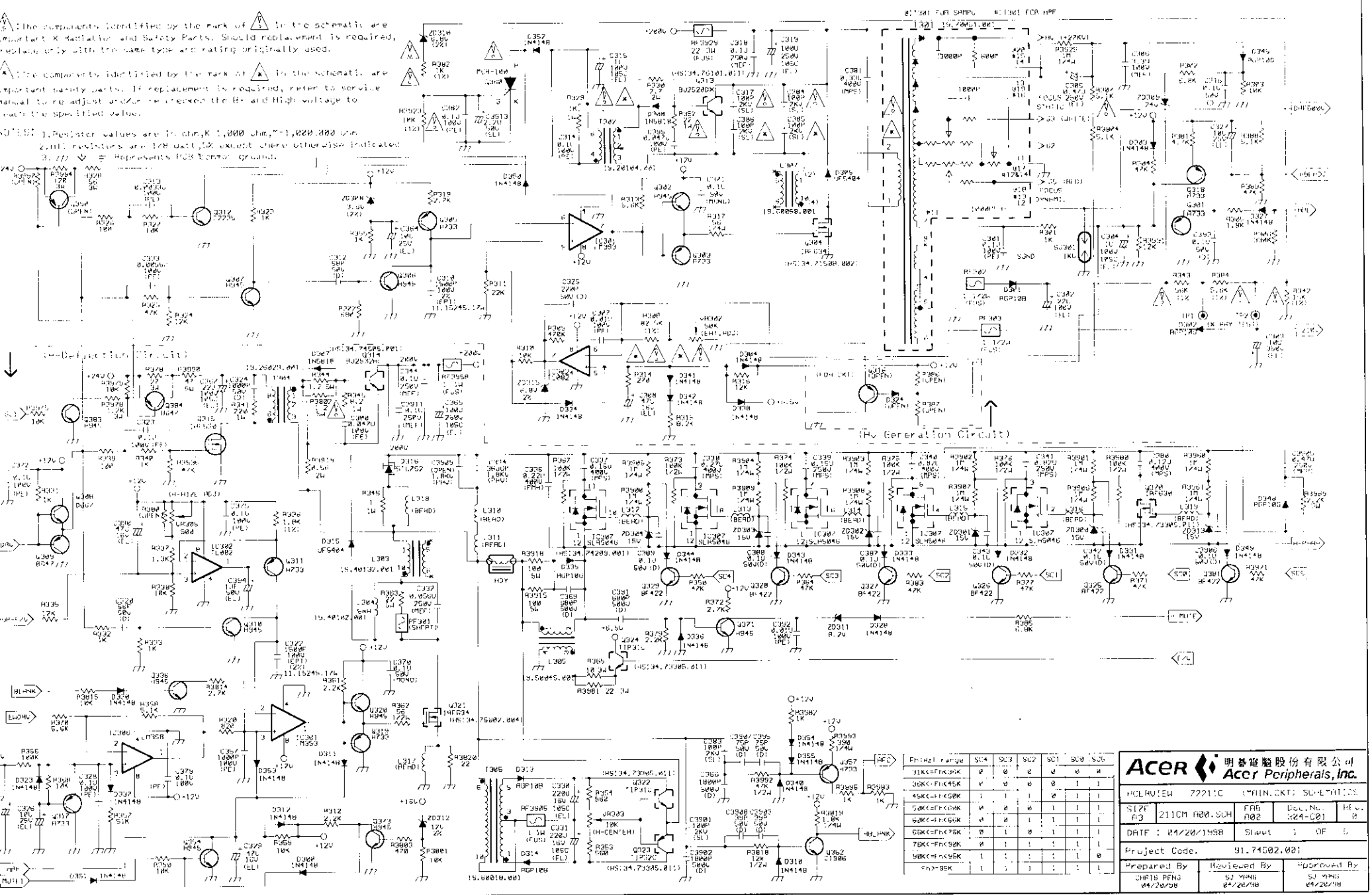
1. Resistor values are in ohm, K=1,000 ohm, M=1,000,000 ohm
2. All resistors are 1/8 watt, 5% except where otherwise indicated
3. ⏚ Represents PCB common ground.

Acer 明碁電腦股份有限公司 Acer Peripherals, Inc.				
ACERVIEW /2211C (VIDEO.SCH) SCHEMATIC				
SIZE A3	2100-A11.SCH	FAB A11	Doc.No. 304-0301	REV. 0
DATE : 04/20/1998		Sheet 2 OF 7		
Project Code. 91.74502.001				
Prepared By CHRIS PING 04/20/98	Reviewed By TODD CHEN 04/20/98	Approved By SJ YANG 04/20/98		

△ : The components identified by the mark of △ in the schematic are important X Radiation and Safety Parts. Should replacement is required, replace only with the same type and rating originally used.

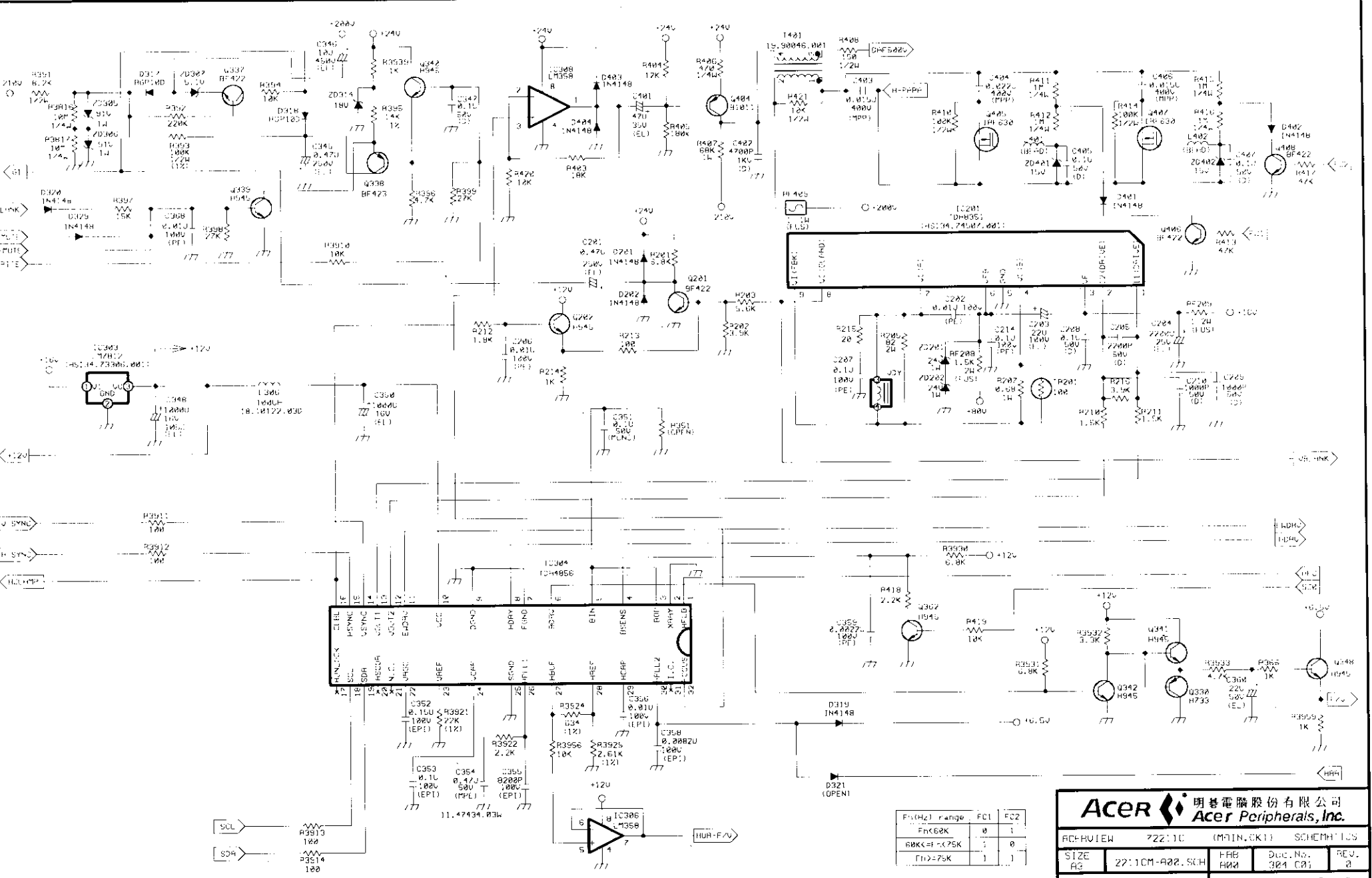
△ : The components identified by the mark of △ in the schematic are important safety parts. If replacement is required, refer to service manual to re adjust and/or re checked the B+ and High voltage to reach the specified value.

NOTES: 1.Resistor values are in ohm,K 1,000 ohm,M=1,000,000 ohm
2.All resistors are 1/8 watt,5% except where otherwise indicated
3. /// ⏚ = Represents PCB common ground.



Fh(Hz) range	SC4	SC3	SC2	SC1	SC0	SC5
31K<=Fh<36K	0	0	0	0	0	0
36K<=Fh<45K	0	0	0	0	1	1
45K<=Fh<50K	1	1	1	0	1	1
50K<=Fh<60K	0	0	0	1	1	1
60K<=Fh<66K	0	0	1	1	1	1
66K<=Fh<76K	0	1	0	1	1	1
76K<=Fh<90K	0	1	1	1	1	1
90K<=Fh<95K	1	1	1	1	1	0
Fh>=95K	1	1	1	1	1	1

ACER 明碁電腦股份有限公司 Acer Peripherals, Inc.				
ACERVIEW 7221C (MAIN CKT) SCHEMATICS				
SIZE A3	211CM A00.SCH	FAB A02	Doc.No. 324-C01	REV. 0
DATE : 04/20/1998	Sheet 1 OF 5			
Project Code. 91.74502.001				
Prepared By	Reviewed By	Approved By		
CHRIS PENG 04/20/98	SJ YANG 04/20/98	SJ YANG 04/20/98		



NOTES: 1.Resistor values are in ohm,K=1,000 ohm,M=1,000,000 ohm
2.All resistors are 1/8 watt,5% except where otherwise indicated
3. /// ▽ ≒ Represents PCB common ground.

R3924 = 634 HOR. FREQ. MAX. = 114.35KHZ (ACTUAL TEST DATA)

R3925 = 2.61K HOR. FREQ. MIN. FREE RUN = 28.6KHZ (ACTUAL TEST DATA)

Fh(Hz) range	FC1	FC2
Fh<60K	0	1
60K<=Fh<75K	1	0
Fh>=75K	1	1

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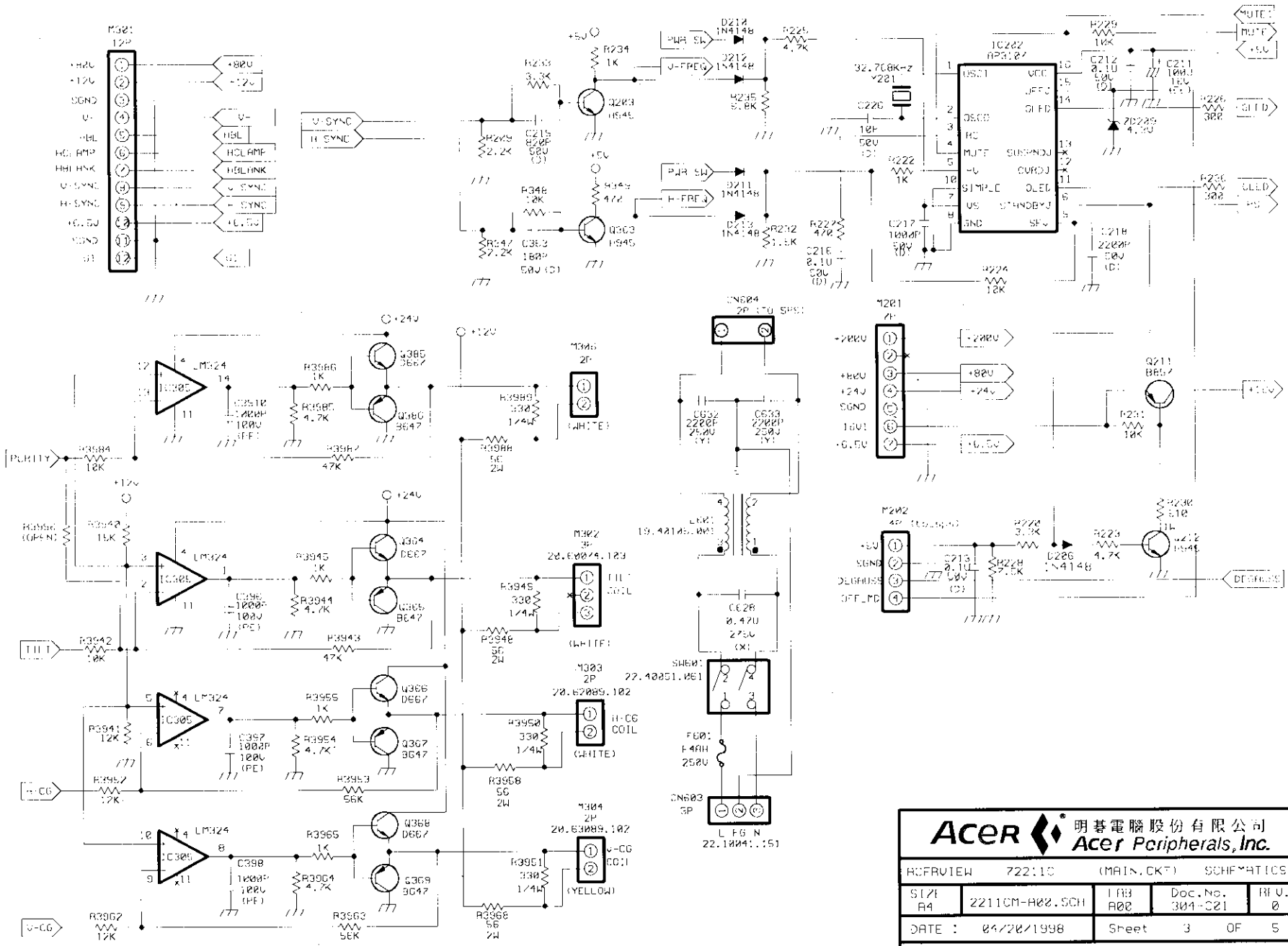
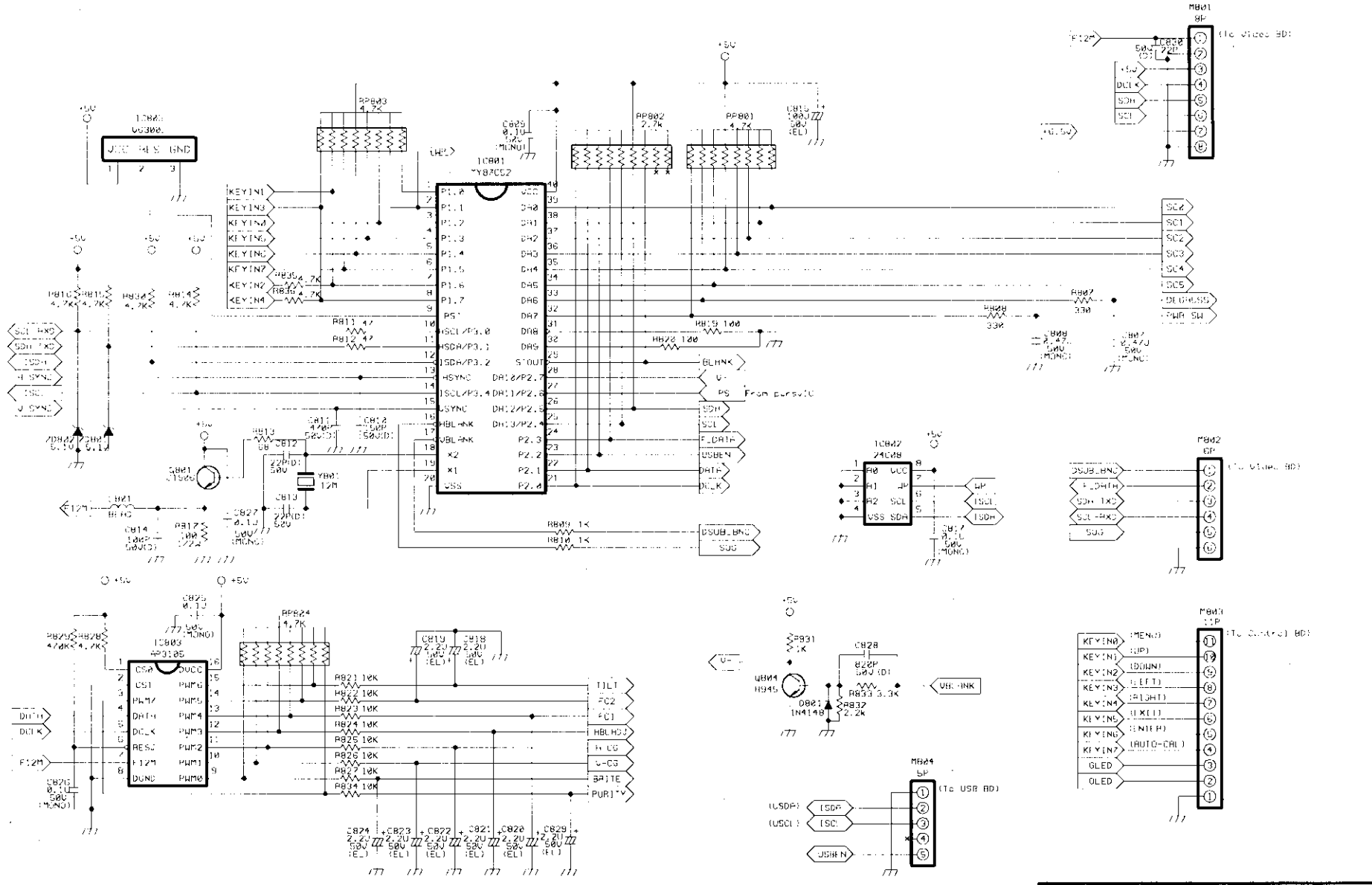
Acer Peripherals, Inc.

ACERVIEW 7221C	(MAIN.CKT)	SCHEMATICS		
SIZE A3	7221CM-A00.SCH	FAB A00	Doc.No. 301 C01	REV. 0
DATE : 04/20/1998		Sheet 2 OF 5		
Project Code. 91.74502.001				
Prepared By CHRIS PENG 04/20/98	Reviewed By SJ YANG 04/20/98	Approved By SJ YANG 04/20/98		



NOTES: 1.Resistor values are in ohm,K=1,000 ohm,M=1,000,000 ohm
2.All resistors are 1/8 watt,5% except where otherwise indicated
3. ⏚ ⏚ ⏚ Represents PCB common ground.

Acer 明碁電腦股份有限公司 Acer Peripherals, Inc.				
REFRVIEW 7221C		(MAIN.CKT)		SCHEMATICS
SIZE A4	2211CM-A00.SCH	TAB A00	Doc.No. 304-C21	REV. 0
DATE : 04/20/1998		Sheet 3	OF	5
Project Code. 91.74502.001				
Prepared By	Reviewed By	Approved By		
CHRIS PENG 04/20/98	SJ YANG 04/20/98	SJ YANG 04/20/98		

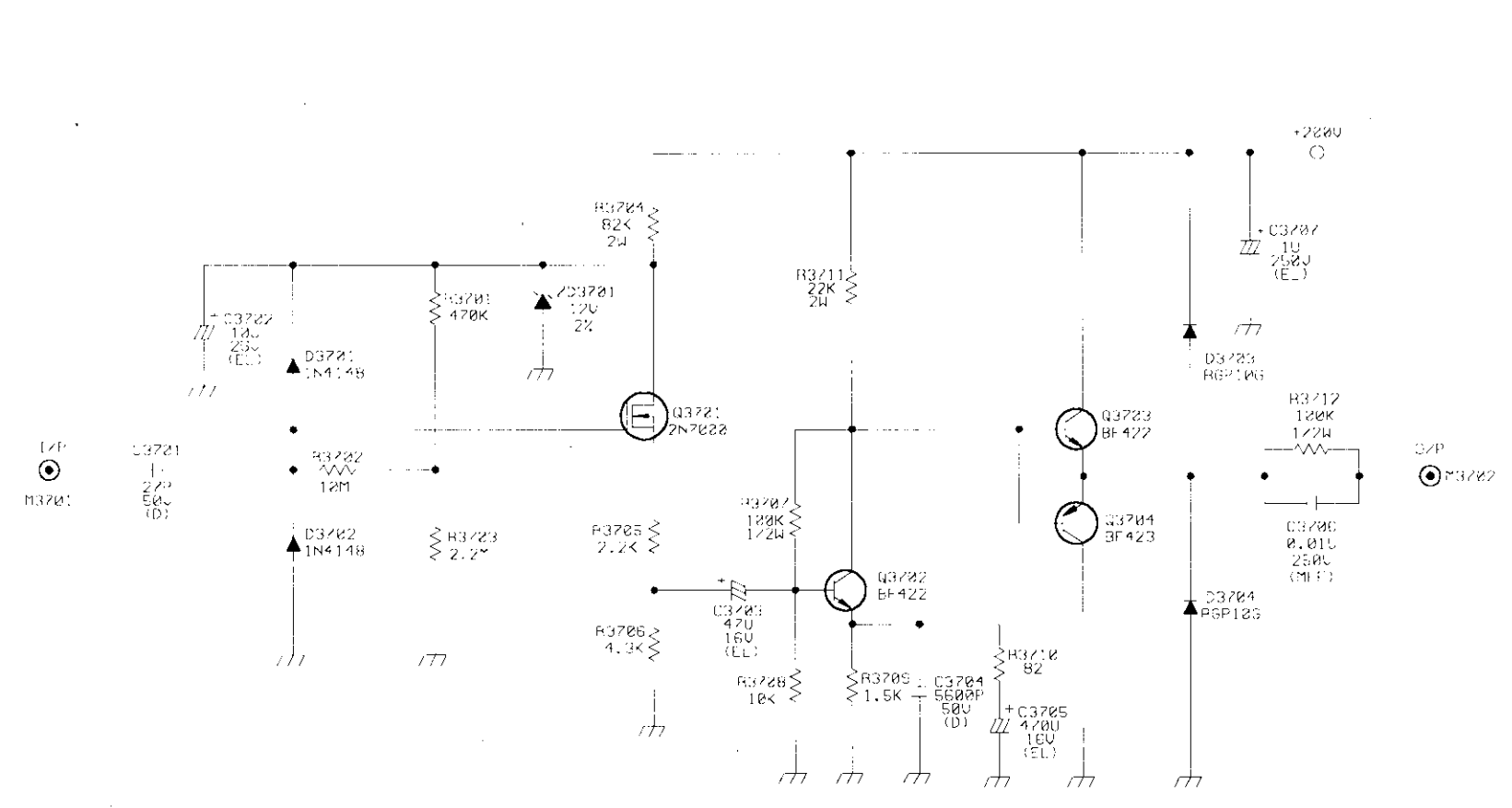


Fh(Hz) range	FC1	FC2
Fh<60K	0	1
60K<=Fh<75K	1	0
Fh>=75K	1	1

Fh(Hz) range	SC4	SC3	SC2	SC1	SC0	SCS
31K<=Fh<36K	0	0	0	0	0	0
36K<=Fh<45K	0	0	0	0	:	1
45K<=Fh<60K	1	:	1	0	:	1
60K<=Fh<62K	0	0	0	:	:	1
62K<=Fh<66K	0	0	1	:	1	1
66K<=Fh<76K	0	:	0	:	1	1
76K<=Fh<90K	0	:	1	:	1	1
90K<=Fh<95K	1	:	1	:	1	0
Fh>=95K	:	1	1	1	1	1

NOTES: 1.Resistor values are in ohm,K =1,000 ohm,M=1,000,000 ohm
2.All resistors are 1/8 watt,5% except where otherwise indicated.
3. ⏚ ▽ ⏚ Represents PCB common ground.

Acer 明碁電腦股份有限公司 Acer Peripherals, Inc.			
ACER/VIEW 7221:C (MICRO.CKT) SCHEMATICS			
SIZE A3	221:CUC1.SCH	FAB A00	Doc.No. 304-C01
REV. 0			
DATE : 04/20/1998	Sheet 4 OF 5		
Project Code.			
Prepared By	Reviewed By	Approved By	
CHAIS PENG 04/20/98	SJ YANG 04/20/98	SJ YANG 04/20/98	


I/P
M3701
C3701
1
220
50V
(D)
C3702
10
25V
(EL)
D3701
1N4148
R3701
470K
ZD3701
12V
2%
R3704
82K
2W
Q3701
2N7000
R3702
10M
D3702
1N4148
R3703
2.2K
R3705
2.2K
R3706
4.3K
C3703
470
16V
(EL)
R3707
100K
1/2W
Q3702
BF422
R3708
10K
R3709
1.5K
C3704
5600P
50V
(D)
R3710
82
C3705
470
16V
(EL)
R3711
22K
2W
+200V
C3707
1U
250V
(EL)
D3703
RGP10G
Q3703
BF422
Q3704
BF423
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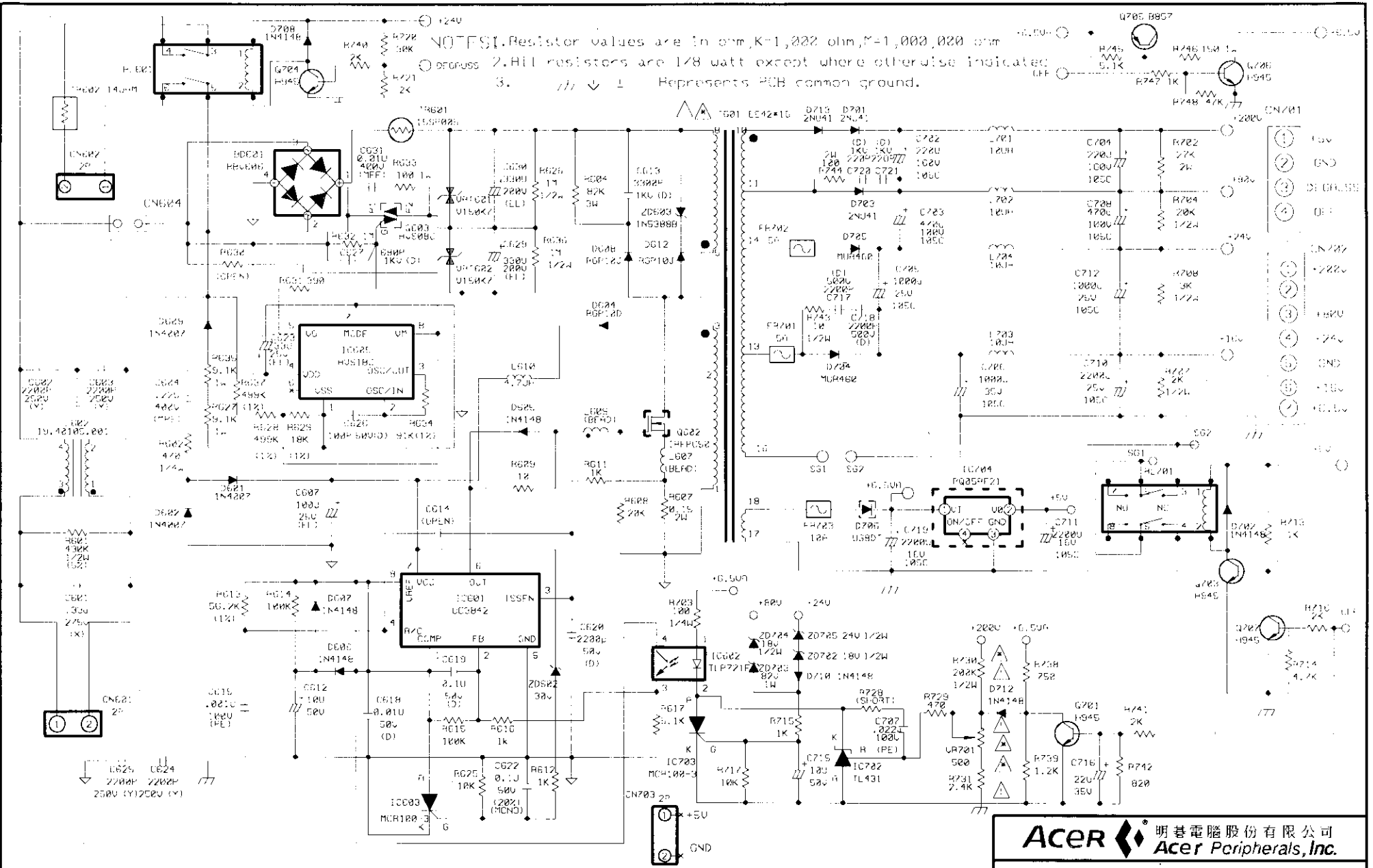
(MLE)
O/P
M3702

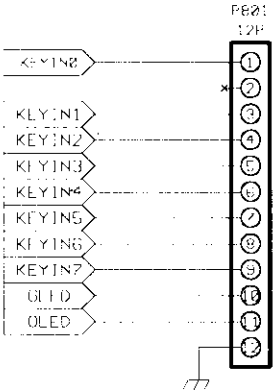


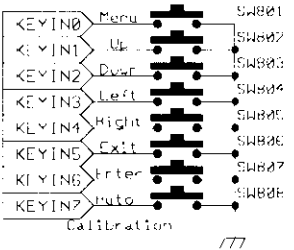
⚠ : The components identified by the mark of ⚠ in the schematic are important X-Radiation and Safety Parts. Should replacement is required, replace only with the same type and rating originally used.
T601,R730,R731,VR701.

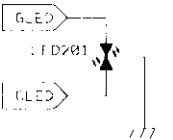
⚠* : The components identified by the mark of ⚠* in the schematic are important safety parts. If replacement is required, refer to service manual to re-adjust and/or re checked the B+ and High Voltage to reach the specified value.
T621,R730,R731,VR701.

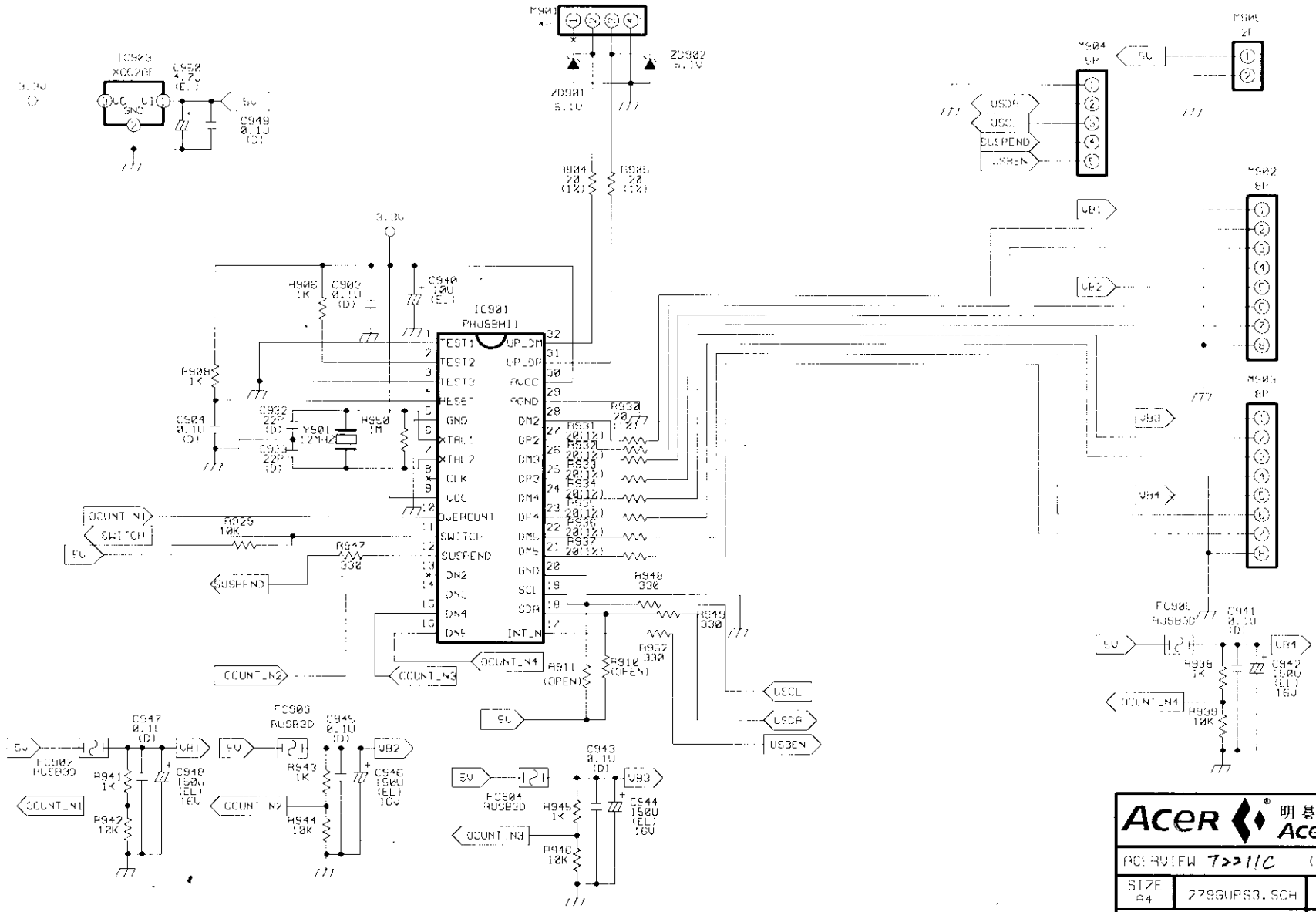
ACER VIEW 7221lc SPS SCHEMATICS				
SIZE A3	279GSPA00.SCH	FAB A00	Doc. No. 304 C01	REv. 0
DATE : 4/30/1998		Sheet 1 OF 1		
Project Code. 91.74502.001				
Prepared By	Reviewed By	Approved By		
CHRIS PENG 04/30/98	GEORGE SHEU 04/30/98	SJ YANG 04/30/98		

ACER 明碁電腦股份有限公司 Acer Peripherals, Inc.


P801
12P
KEYIN0
KEYIN1
KEYIN2
KEYIN3
KEYIN4
KEYIN5
KEYIN6
KEYIN7
OLED
OLED


KEYIN0
KEYIN1
KEYIN2
KEYIN3
KEYIN4
KEYIN5
KEYIN6
KEYIN7
Menu
Up
Down
Left
Right
Exit
Enter
Auto
SW801
SW802
SW803
SW804
SW805
SW806
SW807
SW808
Calibration


GLED
LED701
OLED



ACER 明基電腦股份有限公司 Acer Peripherals, Inc.				
PCB REVIEW 7>>1/C	(USB.CKT) SCHEMATIC			
SIZE B4	729USB3.SCH	FAB S3	Doc.No. 204-C01	REV. 0
DATE : 25/28/1997		Sheet 1 OF 1		
Project Code. 91.71804.001				
Prepared By	Reviewed By	Approved By		