GREEN 735

NOTEBOOK COMPUTER

SERVICE MANUAL

Version :1.0
August 1998

GVC/ALPHA-TOP

Table of Contents

Chapter 1 Green 735 Specification

1..General Description

This document describes the detailed product specification of Green 735 notebook. Green 735 is a full function, high performance notebook PC providing complete multimedia function. The notebook has CD-ROM and FDD drive built-in to provide the portability of notebook PC.

2..CPU

- Intel Pentium P55C-166 up to Tillamook-266
- AMD K6-166/200/233/266/300 (For Mobile)
- TCP/SPGA (socket 7) daughter board
- Bus clock up to 66MHz

3..Core Logic

- Intel 430TX
- Supports USB
- PCI 2.1 compliance
- Supports ACPI

4.. Memory

4.1..Main Memory

- 0 or 16MB memory on board
- 8/16/32/64 MB memory options
- Two 144 pin SODIMM type memory slots
- Supports EDO/Synchronous DRAM (W/O 64MB SDRAM)

4.2..ROM

- 256KB Flash ROM
- Boot block protection, factory optional

4.3..Cache Memory

- 512 KB L2 write-back cache, burst pipeline synchronous SRAM

5..Mass Storage

5.1..HDD

- Enhance IDE interface, PIO mode 4
- 2.5" 12.7mm HDD, removable

5.2..FDD

- 3.5" 720KB/1.2MB/1.44MB FDD supported

5.3..CD-ROM drive

- 5.25" standard CD-ROM

- 20X speed or higher
- Enhance IDE and ATAPI interface

6..Graphic and Video

6.1..Video Control

- Neo-Magic NM2160 / 2097

6.2..Feature

- Software MPEG1
- Full power management
- Supports up to 1024X768X64K color on external CRT (For NM 2160)
- Supports 1024X768X64K color LCD(TFT) (For NM 2160)

6.3..Video Memory

- 2MB / 1.12 MB RAM on-chip

6.4..LCD Display

- Supports 13.3" TFT XGA color LCD
- Supports 12.1" TFT SVGA color LCD
- Models : 13.3" TFT Samsung LT133X1-104
  Sharp LQ13X02A
  12.1" TFT Samsung LT121S1-105
  Sharp LQ121S56A

7..I/O Ports

7.1..I/O controller

- NS 97338

7.2..Standard Ports

- One 16550 UART RS-232 serial port (9-pin male D-connector)
- One parallel port supports EPP/ECP (25-pin female D-connector)
- One video port for external analog VGA monitor (15-pin female D- connector)
- One external auto-sensed PS/2 keyboard/mouse connector (6-pin mini-DIN connector)
- One DC input port for external AC adapter (2-pin DC jack)
- One type III or two type II PCMCIA card socket
- One port replicator connector (204-pin connector)
- Line-in, Line-out and Mic in
- One FIR port
- One USB port
- One Game port (factory option)

- One S – Video connector

7.3..PCMCIA

- Controller : O_2 Micro Oz6833 with ACPI compliance
- Compliance to PCMCIA 2.1 and Cardbus
- Supports ZV port

8..I/O Device

8.1..Keyboard

- US/Europe, DOS/V keyboard for Japan, full size keyboard alike pitch
- Key stroke 3mm
- Twelve function keys and Windows95 function keys
- Inverted "T" cursor control keys layout
- Internal keyboard works as standard 101/102 keys desktop keyboard

8.2..Pointing Device

- Touchpad
- External PS/2 mouse can be used concurrently with internal pointing device

9..Sound System

9.1..Controller

- ESS 1879

9.2..Features

- Hardware Wavetable sound (Factory option)
- 16-bit stereo
- Microphone and two speaker built-in
- Sound Blaster, Sound Blaster Pro compatible and Microsoft sound system for Windows compatible

10..Wireless Communication Device

10.1..Infra-Red

- Fast IrDA compliance

11..System Software

11.1..System BIOS

- Phoenix BIOS 4.06 or later

11.2..Video BIOS

- Neo Magic 1.16 or later

11.3..Operation System

- Optional MS-DOS 6.22 or above version
- Optional Windows 3.11 or above version
- Optional Windows 95 OSR2 or above version
- Optional Windows NT4.0 or above version

12..CMOS Setup

- Display system information
- Password protection
- Supervisor and user password supported
- No cursor stop if item is unchangeable
- Block mode IDE supported
- Boot block protection

13..Power Management System

13.1..PC97 specification

- ACPI compliance
- Hot key suspend
- Timer, modem ring triggered resume

13.2..Feature

- SM bus system supported
- Suspend or warning beep on low battery
- Suspend to HDD on critical battery

14..Power Subsystem

14.1..AC Adapter

- Universal type AC adapter output maximum 56W

14.2..Smart Battery

- Battery pack with 10 X 17670 Ni-MH battery @48Whr
  or Factory optional 9 X 18650 Lithium-Ion battery @45Whr
- Charge time for one battery pack (Base on Ni-MH battery: 48Whr and Li- Ion battery :45Whr)

	system off or in suspend	system on
NiMH	2~3 hours to full charge	5.5 hrs
Li-Ion	4~5 hours to full charge	10 hrs

- Removable and rechargeable
- Battery gas gauge function supported, providing accurate battery charging and discharging status

- Battery status indicator is showed on LCM

15..Human Factors

15.1..Dimension

- 309mm(W) ×241mm(D) ×51.5mm(H)
- 12.16"(W) × 9.49"(D) × 2"(H)

15.2.. Weight :(Equips 12.1 TFT LCD , CD-ROM , FDD)

- 3.3Kg (W / 45Whr,Li-Ion Battery and HDD)
- 7.27lbs (W / 45Whr,Li-Ion Battery and HDD)

15.3.. LCM indicator

- AC-in
- Battery gas gauge
- Num lock
- Caps lock
- Scroll lock
- Pads lock
- HDD
- FDD
- CD-ROM
- PCMCIA
- Suspend

15.4..Hot key

• Display mode (LCD/CRT/Simultaneously)	Fn+F12
• Display Expand / Non-Expand	Fn+F11
• Suspend	Fn+F8
• Sound Mute / middle / loud	Fn+F5
• Contrast up	Fn+F4
• Contrast down	Fn+F3
• Brightness up	Fn+F2
• Brightness down	Fn+F1

16..Accessories

- AC adapter
- Power cord
- User's manual
- Utility diskettes
- Carrying bag
- Game port transfer cable (option)

17..Optional item

- Spare battery pack
- Port replicator
- External charger

18..Environment

18.1..Temperature

- Operation : 5℃ ~ 35℃
- Non operation : -20℃ ~ 60℃

18.2..Humidity

- Operating : 30% ~ 90% (non-condensing)
- Non-operating : 5% ~ 95% (non-condensing)

18.3..Altitude

- Operating : -200 ~ 10000 ft
- Non-operating : -200 ~ 30000 ft

18.4..Shock

- Operating : 10G , 11ms
- Non-operating : 50G , 11ms

18.5..Vibration

- Operating : 10 ~27 Hz , 0.01"
- Non-operating : 5 ~ 62 Hz , 0.02"

18.6..Drop

- 900mm

18.7..Noise

- 40dB (max.) at 1 meter when FDD idle
- 45dB (Max.) at meter W/FDD

18.8..ESD

- Test specification to IEC 801-2 / 84 standard level 1 - 4

18.9..P.L.T.

- 1 KV : no any error

19..Regulation

19.1..Safety

- UL , CSA , TUV
- T mark (AC/DC adapter only)

19.2..EMI

- FCC class B , Part 15 , VCCI , CE

19.3.."Design for Windows NT and Windows 95" logo

20..MTBF

- 25K hrs , 90% confidence level

ADAPTER SPECIFICATION：

1. F1700C18：Manufactured by ILAN Electronics Co., Ltd.

Specification Table

	F1700C18	Comment
Input Voltage：	100~240 +/- 10% V_{ac}	
Input Frequency：	47~63Hz	
$90V_{ac}$	N/A	
$115V_{ac}$：	1.2A max.	
$230V_{ac}$：	0.6A max.	
Efficiency：	83%	Nominal, Full load
$115V_{ac}$	50A	Max. value
$230V_{ac}$	100A	
$264V_{ac}$	N/A	
Hold up time	10mS MIN.	Full load, nominal line
Efficiency	83%	
Output Power	50W	
Output Current	2.6A	Maximum Value
Range	18.05 to 19.95 V_{dc}	
Load Regulation	+/-5%	
Ripple & Noise Voltage	350 mV	
Over Voltage	27 V_{dc}	Maximum Value
Operating Temperature	0 ~ 40 °C	
Non-operating Temperature	-20 ~ 85 °C	
Max. Operating Altitude	10,000 feet	
Max. Non-operating Altitude	40,000 feet	
Operation	8%~90% RH	
Storage	5%~90% RH	
Leakage current	0.25mA max.	

* Some values don't show because the vendor didn't provide them. For more detail specification, please refer to the following descriptions.

ILAN—Model No. : F1700C18

1-0 Input requirements

1-1 Input voltage： 100 to 240 +/- 10% V_{ac}，full range。

1-2 Input frequency：47 to 63Hz。

1-3 Input current：

1. 1.2A max.，at $115V_{ac}$，full load。
2. 0.6A max.，at $230V_{ac}$，full load。

1-4 Efficiency：83% min. at full load，(CV mode)，nominal line。

1-5 Power factor：0.5 min. ref. Full load

1-6 Inrush current:

1. 50A max. at 115 V_{ac}，cold start。
2. 100A max. at $230V_{ac}$，cold start。

1-7 Hold up time：10mS min. at full load，nominal line。

1-8 Configuration：2-wire input AC line (line，neutral)。

1-9 Input fuse：The hot line side of the input shall have a fuse。

1-10 Line regulation：The maximum voltage change on DC output shall be within tolerance when AC input voltage varies within the range specified in 1-1。

1-11 Input protection device：An adequate internal fuse on the AC input line shall be provided。

1-12 Power line noise：The power supply will have an on board AC filter that will meet conducted noise specification of FCC and FTZ。

1-13 Hi-pot tests：Primary-secondary 3.0KV$_{ac}$ for 1 minute (leakage current 10mA)

1-14 Insulation resistance：Insulation resistance shall be more than 100Mohm at 500V$_{dc}$ between primary live，neutral live and secondary between primary live neutral live and frame ground (F.G)。

2-0 Output requirements

2-1 DC output：

	Tolerance	Output Current	
Output voltage	(Accuracy)	Min.	Max.
+19 V$_{dc}$ (main)	+/- 5%	0	2.6A

2-2 Load regulation：

Voltage	Tolerance	Regulation
+19V$_{dc}$ (main)	+/- 5%	18~20 V$_{dc}$

2-3 Dynamic load regulation：

+/- 5% excursion for 50%~100% or 100%~50% load change of DC output at any frequency up to 1KHz (duty 50%)。

2-4 Ripple & Noise

The power supply shall not exceed the following limits on the indicated voltages for 60Hz or 50 Hz ripple，switching frequency ripple and noise and dynamic load variations measured with a 20MHz bandwidth。

A	B
+19 Vdc	350mV

Column A：Out voltage。

Column B：60Hz ripple + switching ripple and noise。

◎Ripple and noise are measured at the end of output cables which are added a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor。

2-5 Over current protection

The power supply shall not be damaged by a over current from the output to return line，protection to be invoked if current exceeds max. rating by about 5% or more。(measured at 110V$_{ac}$ input)

Output Voltage	Lower	Upper

+19 to +10.0 V_{dc}	2.6A	2.9A

2-6 Over—Voltage protection：27V max.。(do not test with external DC source)

2-7 Shutdown voltage protection：10V max.

2-8 Short-circuit protection

A short circuit place at any output will cause no damage to this adapter。

2-9 Open circuit protection

When primary power is supplied with no load on any output level，no damages or hazardous conditions should occur。

2-10 Stability

2% max. at constant load with constant input (after 30 minutes of operation)

2-11 Drop-out (power line disturbance)

Output voltages shall remain within the specified regulation range，through the absence of a line input during 1/2 cycle，at full load and nominal line input。

2-12 ESD requirements

The adapter shall meet IEC PUB. 801-2 (ESD) LEVEL 4 REQUIREMENTS。

2-13 Surge immunity

The adapter shall withstand IEC PUB. 801-5 (SURGE) LEVEL 4 REQUIREMENTS。

2-14 Cooling

Cooling shall be neutral convection cooling，the power supply must be capable of operation when mounted either vertically or horizontally according to the mechanical drawing。

2-15 Leakage current：0.25mA maximum。

2-16 LED display

Description	Green
Power on	On
Power off	Off

3-0 Environmental requirements

3-1 Temperature

1. Operation：0 to 40 °C
2. Storage：-20 to 85 °C

3-2 Humidity

1. Operation：8%~90% RH。
2. Storage：5%~90% RH。

3-3 Vibration and shock

No evidence of any mechanical or functional damage after the vibration and shock testing。

1.) Shipping vibration

This AC adapter may be vibrated in the three mutually perpendicular axes of 0.5mm displacement peak to peak at 2 to 55 to 2 Hz，7 minutes per cycle for a duration of 30

minutes。

2.) Shipping shock

This AC adapter in the shipping package may be dropped 8 times from a height of 900mm。

3-4 Altitude

1.) Operation：10,000 feet。

2.) Storage：40,000 feet。

3-5 Marking (label)

The power supply will marked by the vendor with the following information：vendor identification, vendor, datecode, model name input voltage, output current safety approval mark。

4-0 EMI/EMC requirements

The radiated and conducted emissions of this AC adapter complies with the requirements of the FCC part 15，Class B & EN 55022。

5-0 Approval

This AC adapter is designed approved by following standards：

5-1 Listed by UL, CUL

5-2 Approved by TUV, T-MARK, FIMKO, NEMKO, SEMKO, DEMKO

6-0 Reliability

The power supply shall be designed and produced to have a mean time between failures (MTBF) of 30,000 operating hours at 90% confidence-level while operating under the following conditions：

Test condition：Input vol. 220V_{ac} and 40 pcs of units for 30 days burn-in at full load and 40°C ambient without failure。

7-0 Mechanical features

7-1 Mounting connector：90 degree，cable 1200 +/- 30mm。

7-2 Weight

Power assembly：250 gram。

7-3 Dimension：107 (L) * 60.5 (W) * 30 (H) mm。

DMA channel:

DMA Channel No.	Function
Channel 0	ECP/Sound system/Fast IR
Channel 1	Sound system/ECP/Fast IR
Channel 2	Floppy Disk
Channel 3	Sound system/ECP/Fast IR
Channel 4	[Cascade]
Channel 5	Sound system
Channel 6	Available
Channel 7	Available

Programmable Timer/Counters:

Channel No.	Function
Channel 0	Supports system timer
Channel 1	Supports refresh cycles
Channel 2	Supports the Digital speaker

Chapter 4 Interrupt

Interrupt	Function
IRQ 0	System Timer
IRQ 1	Keyboard
IRQ 2	[Cascade]
IRQ 3	COM2 / SIR / FIR
IRQ 4	COM1
IRQ 5	Audio / Parallel Printer Port 2
IRQ 6	Floppy Disk
IRQ 7	Parallel Printer Port 1 / Audio
IRQ 8	Clock / Calendar
IRQ 9	Available
IRQ10	CardBus(0,1) / USB
IRQ11	Available
IRQ12	Touch Pad or External Mouse
IRQ13	Coprocessor
IRQ14	Fixed Disk Controller
IRQ15	CD-ROM Drive

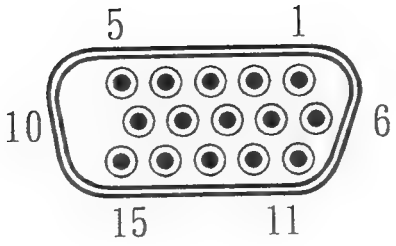
Chapter 5 Memory Address Mapping

000000H 0A0000H	640K Base memory
0CA000H	128KB reserved for graphics display area & 40KB VGA BIOS
0D0000H	Reserved
0E0000H	Reserved
0F0000H	PMU
100000H	64KB for system BIOS
9000000H	Extend memory

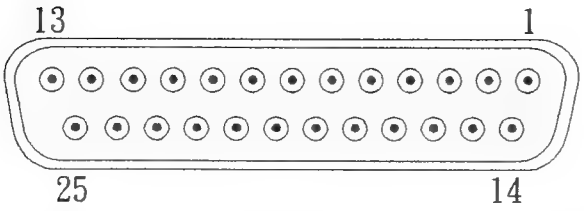
Chapter 6 I/O Address Mapping

Hexadecimal Range	Devices	Usage
000-01F	DMA controller 1	System
020-03F	Interrupt controller 1	System
040-05F	Timer	System
060,064	Keyboard I/O	System
062,066	Embedded controller	System
070-07F	Real time clock, NMI mask	System
080-09F	DMA page register	System
0A0-0BF	Interrupt controller 2	System
0C0-0DF	DMA Controller 2	System
0F0	Clear math coprocessor busy	System
0F1	Reset math coprocessor	System
0F8-0FF	Math coprocessor	System
110,114	Micro Processor	UP
170-177, 376	Secondary IDE Controller	I/O
1FO-1F7,3F6	Primary IDE Channel	I/O
200-207	Game port	I/O
220-22F/280-28F	Sound Blaster 8/16	I/O
278-27F	Parallel Printer Port 2	I/O
2F8-2FF	Serial port2	I/O
300-31F	Prototype card	I/O
360-36F	Reserved	
378-37F	Parallel printer port 1	I/O
388-397	ADLIB Synthesizer	I/O
398-399	NS97338 IO controller	
3A0-3AF	Bisynchronous 1	I/O
3B0-3BF	Mono display printer adapter	I/O
3C0-3DF	Color/graphic monitor adapter	I/O
3E0-3EF	Legacy PCMCIA controller	I/O
3F8-3FF	Serial port 1	I/O
800-807	ESS1879 Sound controller	I/O

The Pin Assignment of Video Port



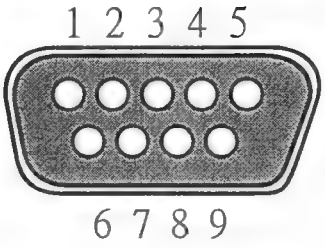
Pin	Signal	Pin	Signal
1	Red	9	V_{cc}
2	Green	10	Ground
3	Blue	11	MS0#
4	MS2#	12	DDC2BD
5	Ground	13	Horizontal Sync
6	Ground	14	Vertical Sync
7	Ground	15	DDC2BC
8	Ground		



The Pin Assignment of Parallel Port

Pin	Signal	Pin	Signal
1	-STROBE	14	- AUTO FEED
2	D0	15	- ERROR
3	D1	16	- INIT
4	D2	17	- SLCT IN
5	D3	18	GND
6	D4	19	GND
7	D5	20	GND
8	D6	21	GND
9	D7	22	GND
10	- ACK	23	GND
11	BUSY	24	- EXT FDD
12	PE	25	GND
13	SLCT		

The Pin Assignment of Serial Port



Pin	Signal	Pin	Signal
1	Carrier Detect	6	Data Set Ready
2	Receive Data	7	Request to Send
3	Transmit Data	8	Clear to Send
4	Data Terminal Ready	9	Ring Indicate
5	Signal Ground		

The Pin Assignment of Docking Port(1)

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	DCLK	42	AD29	83	PGNT #2	124	PD7	165	VAD
2	AD1	43	AD31	84	SERR #	125	PD6	166	VAD
3	AD0	44	RED	85	INT #C	126	SOUT0	167	NC
4	AD3	45	DDC2BD	86	PERR #	127	DCD0	168	NC
5	AD2	46	GREEN	87	GND	128	CTS0	169	GND
6	AD5	47	DDC2BC	88	GND	129	DSR0	170	GND
7	AD4	48	BLUE	89	LPTSLCT	130	DTR0	171	GND
8	AD7	49	MS#	90	LPTSTB #	131	SIN0	172	DKGND #1
9	AD6	50	EHSYNC	91	LPTBUSY	132	RI0	173	CRMA
10	AD9	51	GND	92	LPTPE	133	RTS0	174	GND
11	AD8	52	EVSYNC	93	LPTINIT #	134	735DIS#	175	LUMA
12	AD11	53	GND	94	LPTACK #	135	GND	176	+12V
13	AD10	54	NC	95	LPTAFD #	136	GND	177	DSR1 #
14	AD13	55	DKGND#2	96	LPTSLCTIN #	137	GND	178	+12V
15	AD12	56	INT #D	97	EXKBDATA	138	GND	179	DCD1 #
16	AD15	57	DPCMRI #	98	LPTERROR #	139	WDATA #	180	+12V
17	AD14	58	DPCMSPK	99	EXKBCLK	140	WGATE #	181	RI1 #
18	AD16	59	SUS #B	100	MDATA	141	DRV 1#	182	+12V
19	GND	60	PWRBTN #	101	GND	142	MTR 1#	183	BRI 1
20	AD17	61	CLKRUN #	102	MCLK	143	DSKCHG #	184	NC
21	AD18	62	SERIRQ	103	PCIRSTNS #	144	RDATA#	185	VCC5
22	AD19	63	DUSBP 1+	104	EXTIR	145	STEP #	186	VCC5
23	AD20	64	DUSBP 1-	105	SWC	146	WP #	187	VCC5
24	AD21	65	GND	106	SWA	147	FDIR #	188	VCC5
25	AD22	66	OC #1	107	JDC	148	TRK0 #	189	VCC5
26	SAGND	67	DMIC	108	JDA	149	HDSEL #	190	VCC5
27	SAGND	68	GND	109	JDD	150	INDEX #	191	VCC5
28	LINE-R	69	C/BE#0	110	MSOUT	151	DENSEL	192	VCC5
29	LINE-L	70	C/BE#2	111	SWD	152	EXTDC #	193	GND
30	SAGND	71	C/BE#1	112	JDB	153	DTR1 #	194	NC
31	SAGND	72	C/BE#3	113	MS692	154	CTS1 #	195	VAD
32	VROR	73	DEVSEL #	114	SWB	155	RXD1	196	VAD
33	VROL	74	FRAME #	115	EXTPOK	156	DKSCI #	197	VAD
34	SAGND	75	TRDY #	116	ENEXTDC	157	TXD1	198	VAD
35	AD24	76	IRDY #	117	COMPOSITE	158	DPCM-LED #	199	VAD
36	AD23	77	STOP #	118	PD1	159	RTS1 #	200	VAD
37	AD26	78	PAR	119	PD0	160	DISISPK #	201	NC
38	AD25	79	PLOCK#	120	PD3	161	NC	202	NC
39	AD28	80	INTA#	121	PD2	162	NC	203	GND
40	AD27	81	INTB #	122	PD5	163	VAD	204	GND
41	AD30	82	PREQ #2	123	PD4	164	VAD		

Chapter 8 INT Function

The following lists the available interrupt services made through the system BIOS. For detailed information about each function, refer to any one of the many books on interrupts.

INT	Type	Function
02	Logical	Non-maskable Interrupt
05h	Software	Print Screen
08h	Hardware	System Timer
09h	Hardware	Keyboard
0Ah	Hardware	Slave PIC Redirect
0Eh	Hardware	Diskette
10h	Software	Video

AH Value	Function
00h	Set video mode
01h	Set cursor type
02h	Set cursor position
03h	Read current cursor position
04h	Not supported
05h	Select new video page
06h	Scroll current page up
07h	Scroll current page down
08h	Read character/Attribute to screen
09h	Write character/attribute from screen
0Ah	Write character only to screen
0Bh	Set color palette
0Ch	Write pixel
0Dh	Read pixel
0Eh	Write teletype to active page
0Fh	Return video status
10h-12h not supported	
13h	Write String
14h-ffh reserved	

11h	Software	Equipment List
12h	Software	Memory Size
13h	Software	Diskette Service (Interrupt 40h)

AH Value	Function
00h	Reset diskette system
01h	Read diskette status
02h	Read diskette sectors
03h	Write diskette sectors
04h	Verify diskette sectors
05h	Format diskette track
06h,07h	Reserved
08h	Read drive parameters
09h-14h reserved	
15h	Read drive type
16h	Detect media change
17h	Set diskette type

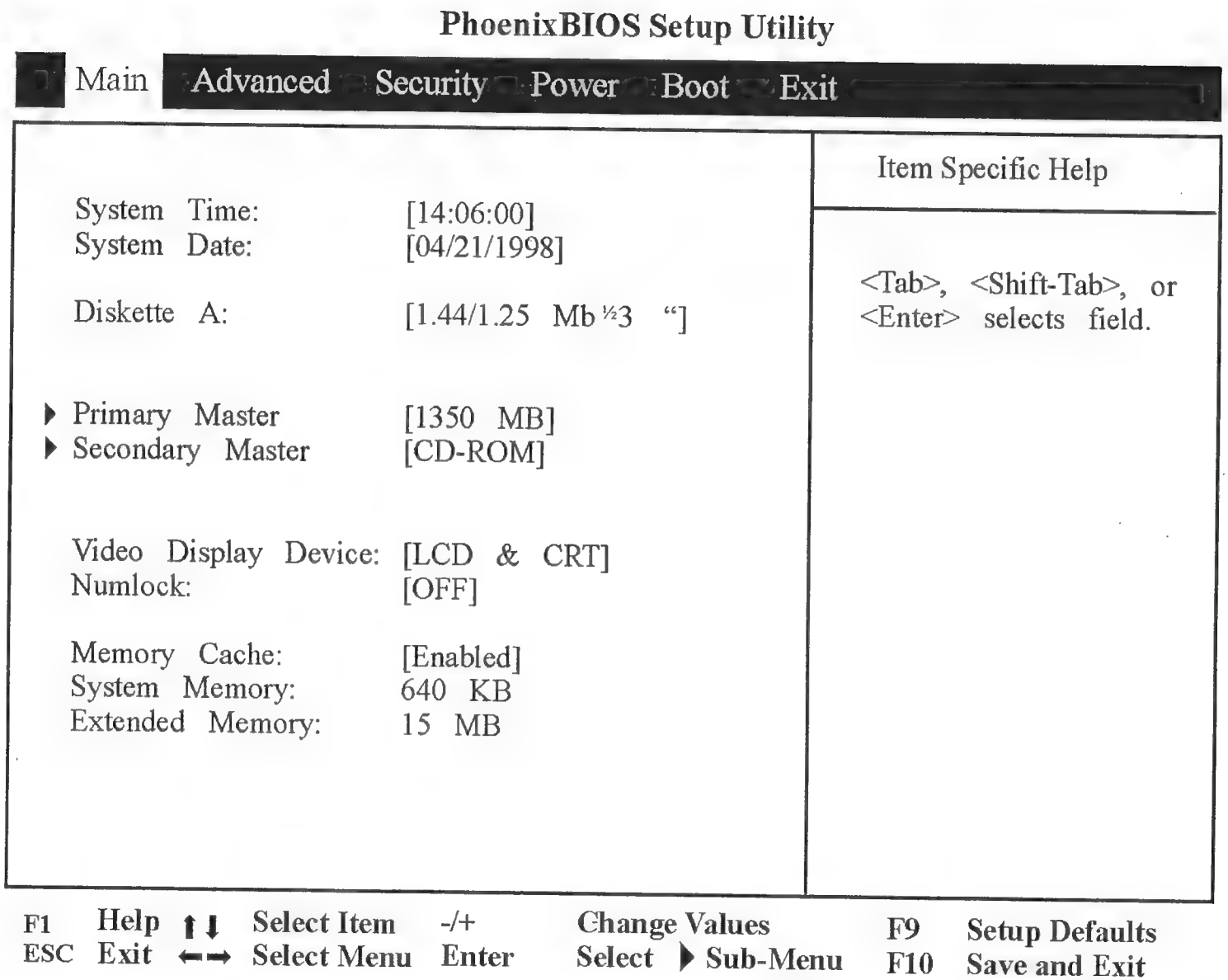
		18h	Set media type for format
		19h-FFh reserved	
13h	Software	Hard disk services	
		AH Value	**Function**
		00h	Reset disk system
		01h	Read disk status
		02h	Read disk sectors
		03h	Write disk sectors
		04h	Verify disk sectors
		05h	Format disk cylinder
		06h,07h	Reserved
		08h	Read drive parameters
		09h	Initialize drive parameters
		0Ah	Read long disk sectors
		0Bh	write long disk sectors
		0Ch	Seek to cylinder
		0Dh	Alternate reset fixed disk
		0Eh	Diagnostics 1, read test buffer
		0Fh	Diagnostics 2, write test buffer`
		10h	Test for drive ready
		11h	Recalibrate drive
		12h-14h reserved	
		15h	Read disk type
		16h-18h reserved	
		19h, 1Ah	Not supported
		1Bh-FFh	Reserved
14h	Software	Serial Communication	
		AH Value	**Function**
		00h	Initialize serial communication port
		01h	Send character
		02h	Receive character
		03h	Read serial port status
		04h-FFh reserved	
15h	Software	System Services	
		AH Value	**Function**
		00h-4Eh reserved	
		4Fh	Keyboard intercept
		50h-7Fh reserved	
		80h	Device open
		81h	Device close
		82h	Program termination
		83h	Set event wait interval
		84h	Joystick support
		85h	System request key
		86h	Wait
		87h	Move block
		88h	Read extended memory size
		89h	Switch processor to protected mode
		8Ah-8Fh	Reserved
		90h	Device busy loop

		91h	Interrupt complete
		92h-BFh	Reserved
		C0h	Return system configuration parameters
		C1h	Return extended BIOS data area segment address
		C2h	Pointing device interface
		C3h-FFh	Reserved
16h	Software	Keyboard	
		AH Value	**Function**
		00h	Read keyboard input
		01h	Return keyboard status
		02h	Return shift flag status
		03h	Set typematic rate and delay
		04h	Reserved
		05h	Store key data
		06h-0Fh reserved	
		10h	Read extended key input
		11h	Return extended keyboard status
		12h	Return extended shift flags status
		13h-FFh reserved	
17h	Software	Parallel Printer	
		AH Value	**Function**
		00h	Print character
		01h	Initialize printer
		02h	Read printer status
		03h-FFh reserved	
18h	Software	Load ROM BASIC	
19h	Software	Bootstrap Loader	
1Ah	Software	System Timer and Real-Time Clock	
		AH Value	**Function**
		00h	Read system timer time counter
		01h	Set system timer time counter
		02h	Read real time clock time
		03h	Set real time clock time
		04h	Read real time clock date
		05h	Set real time clock date
		06h	Reserved
		07h	Set real time clock alarm
		08h	Read day of week from real time clock(SystmeSoft only)
		09h	Write day of week to real time clock(SystemSoft only)
		0Ah-FFh	Reserved
1Bh	Software	Keyboard Break	
1Ch	User	User timer tick	
1Dh	BIOS table	Video parameters table	
1Eh	BIOS table	Diskette parameters table	
1Fh	User	Video graphics characters	
40h	Software	diskette BIOS receptor	

41h	BIOS table	Fixed disk parameter table
46h	BIOS table	Fixed disk parameter table
70h	Hardware	Real time clock
71h	Hardware	Redirect cascade
74h	Hardware	Pointing device(Mouse)
76h	Hardware	fixed disk

Any 80386 and/or coprocessor exception interrupts normally handled by the operating system are vectored by default to the BIOS at system power-on.

Chapter 9 BIOS Setup


PhoenixBIOS Setup Utility
Main
Advanced
Security
Power
Boot
Exit
System Time: [14:06:00]
System Date: [04/21/1998]
Diskette A: [1.44/1.25 Mb ½3 "]
Primary Master [1350 MB]
Secondary Master [CD-ROM]
Video Display Device: [LCD & CRT]
Numlock: [OFF]
Memory Cache: [Enabled]
System Memory: 640 KB
Extended Memory: 15 MB
Item Specific Help
<Tab>, <Shift-Tab>, or <Enter> selects field.
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ←→ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

PhoenixBIOS Setup Utility

Main

Primary Master (1350MB)		Item Specific Help
Type:	[Auto]	User = you enter parameters of hard-disk drive installed at this connection. Auto = autotypes hard-disk drive installed here. 1-39 = you select pre-determined type of hard-disk drive installed here. CD-ROM = a CD-ROM drive is installed here. ATAPI Removable = removable disk drive is installed here.
Cylinders:	[2616]	
Heads:	[16]	
Sectors:	[63]	
Maximum Capacity:	1350MB	
Multi-Sector Transfer:	[16 Sectors]	
LBA Mode Control:	[Enabled]	
32 Bit I/O:	[Disabled]	
Transfer Mode:	[Fast PIO 4]	
Ultra DMA Mode:	[Disabled]	

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ←→ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

PhoenixBIOS Setup Utility

Advanced

Audio Options Menu		Item Specific Help
Sound:	[Auto]	Configure the sound device.
Joystick:	[Enabled]	

F1	Help	↑↓	Select Item	-/+	Change Values	F9	Setup Defaults
ESC	Exit	←→	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

PhoenixBIOS Setup Utility

Main | Advanced | Security | Power | Boot | Exit

Warning

Setting items on this menu to incorrect values may cause your system to malfunction.

▶ Peripheral Configuration
▶ Audio Option Menu

Plug & Play OS [No]
PS/2 Mouse: [Enabled]

Large Disk Access Mode: [DOS]

Item Specific Help

Select 'Yes' if you are using a Plug & Play capable operating system.

Select 'No' if you need the BIOS to configure non-boot devices.

F1	Help	↑↓	Select Item	-/+	Change Values	F9	Setup Defaults
ESC	Exit	←→	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

PhoenixBIOS Setup Utility

Advanced

Integrated Peripherals		Item Specific Help
Serial port A:	[Enabled]	Configure serial port A using options:
Base I/O address:	[3F8 IRQ4]	
Serial port B:	[Enabled]	[Disabled]
Base I/O address:	[2F8 IRQ3]	No configuration
Mode:	[FIR]	
DMA channel:	[DMA 1]	[Enabled]
Parallel port:	[Auto]	User configuration
Mode:	[Bi-directional]	
Floppy disk controller:	[Enabled]	[Auto]
		BIOS or OS chooses configuration

F1	Help	↑↓	Select Item	-/+	Change Values	F9	Setup Defaults
ESC	Exit	←→	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

PhoenixBIOS Setup Utility

Main | Advanced | Security | Power | Boot | Exit

Set Supervisor Password	[Enter]
Set User Password	[Enter]
Password on boot:	[Disabled]
Diskette access:	[Supervisor]

Item Specific Help

Supervisor Password controls access to the setup utility.

F1	Help ↑↓	Select Item	-/+	Change Values	F9 Setup Defaults
ESC	Exit ←→	Select Menu	Enter	Select ▶ Sub-Menu	F10 Save and Exit

PhoenixBIOS Setup Utility

Main | Advanced | Security | Power | Boot | Exit

Power Savings:	[Disabled]
Standby Timeout:	[Off]
Suspend Mode:	[Suspend]
Auto Suspend Timeout:	[Off]
Hard Disk Timeout:	[Disabled]
Video Timeout:	[Disabled]
Low Battery Suspend	[Off]
Resume On Modem Ring:	[Off]
Resume On time::	[Off]
Resume Time:	[00:00:00]

Item Specific Help

Select Power Management Mode. Choosing modes changes system power management settings. Maximum Power Savings conserves the greatest amount of system power while Maximum Performance conserves power but allows greatest system performance. To alter these settings, choose Customize. To turn off power management, choose Disable.

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ←→ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

PhoenixBIOS Setup Utility

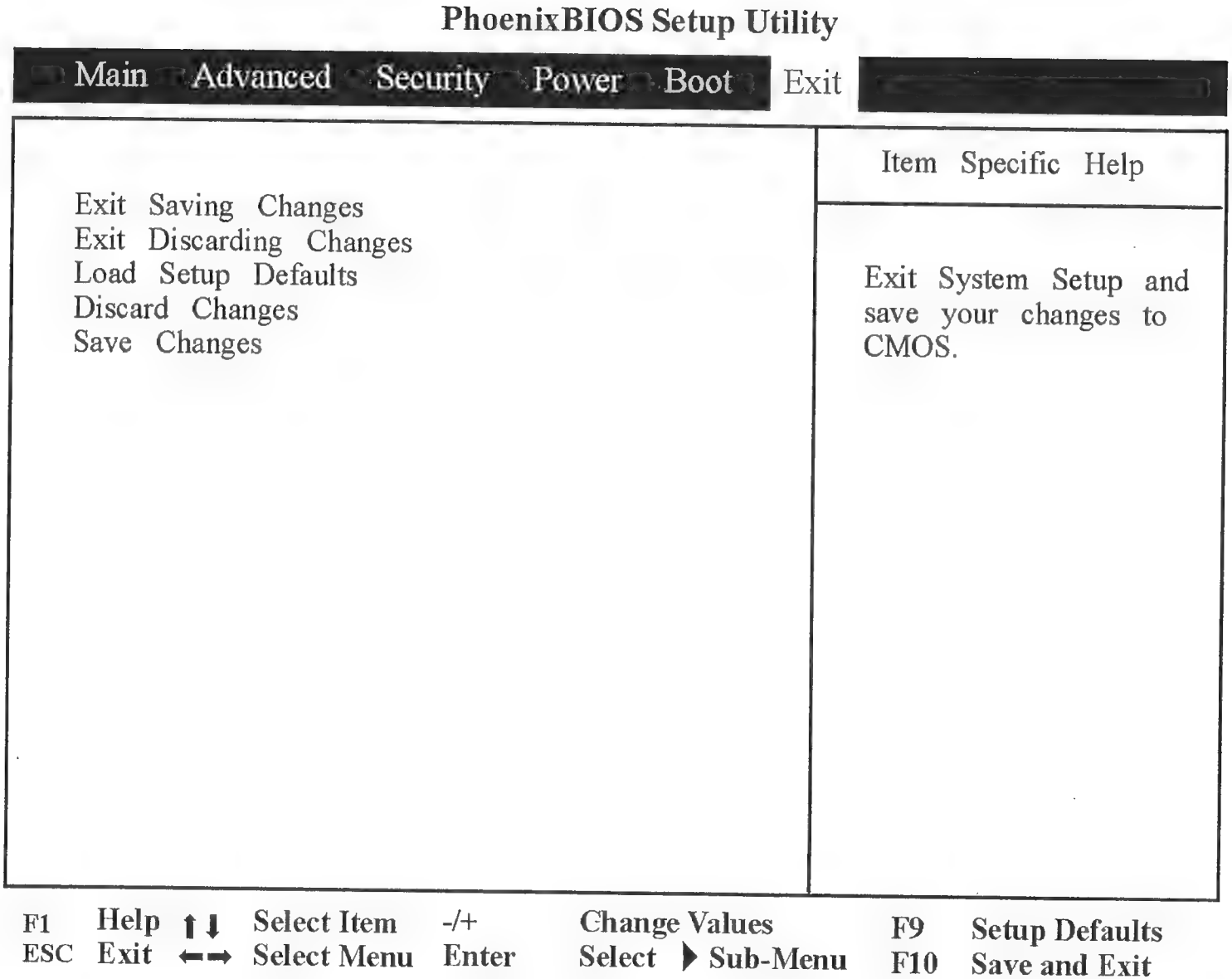
Main | Advanced | Security | Power | Boot | Exit

1. [Diskette Drive]
2. [Hard Drive]
3. [ATAPI CD-ROM Drive]

Item Specific Help

To select the boot device, use the up and down arrows, then press <+> to move the device up the list, or <-> to move it down the list. Press <Esc> to exit this menu

F1	Help	↑↓	Select Item	-/+	Change Values	F9	Setup Defaults
ESC	Exit	←→	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit


PhoenixBIOS Setup Utility
Main Advanced Security Power Boot Exit
Exit Saving Changes
Exit Discarding Changes
Load Setup Defaults
Discard Changes
Save Changes
Item Specific Help
Exit System Setup and save your changes to CMOS.
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ←→ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

POST Errors

A. Recoverable POST Error

Whenever a recoverable error occurs during POST, *Phoenix BIOS* displays an error message describing the problem.

Phoenix BIOS also issues a beep code (one long tone followed by two short tones) during POST if the video configuration fails (no card installed or faulty) or if an external ROM module does not properly checksum to zero.

An external ROM module (e.g. VGA) can also issue audible errors, usually consisting of one long tone followed by a series of short tones.

B. Terminal POST Errors

There are several POST routines that issue a POST Terminal Error and shut down the system if they fail. Before shutting down the system, the terminal-error handler issues a beep code signifying the test point error, writes the error to port 80h, attempts to initialize the video, and writes the error in the upper left corner of the screen (using both mono and color adapters).

The routine derives the beep code from the test point error as follows:

1. The 8-bit error code is broken down to four 2-bit groups.
2. Each group is made one-based (1 through 4) by adding 1.
3. Short beeps are generated for the number in each group.

Example:

Testpoint 01Ah = 00 01 10 10 = 1-2-3-3 beeps

If the BIOS detects error 2C, 2E, or 30 (base 512k RAM error), it displays an additional word of information reflecting the bit or address line that failed. For example, if "2C 0002" is displayed, address line I (represented by bit one) has failed. If "2E 1020" is displayed, then data bits 12 and 5 have failed in the upper 16 bits.

BIOS sends the same information to the port-80 LED display (See below). The check point code is followed by a delay, the high order byte, another delay, and then the low order byte of the error. This

C. Test Points and Beep Codes

At the beginning of each POST routine, the BIOS outputs the test point error code to I/O address 80h. Use this code during trouble shooting to establish at what point the system failed and what routine was being performed.

Some motherboards are equipped with a seven-segment LED display that displays the current value of port 80h. For production board which do not contain the LED display, you can purchase a card that performs the same function.

If the BIOS detects a terminal error condition, it halts POST after issuing a terminal error beep code (See above) and attempting to display the error code on upper left corner of the screen and on the port 80h LED display. It attempts repeatedly to write the error to the screen.. This may cause ash" on some CGA display.

If the system hangs before the BIOS can process the error, the value displayed at the port 80h is the last test performed. In this case, the screen does not display the error code.

The following is a list of the checkpoint codes written at the start of each test and the beep codes issued for terminal errors:

Code	Beeps	POST Routine Description
02		Verify Real Mode
04		Get CPU type
06		Initialize system hardware
08		Initialize chipset registers with initial POST values
09		Set in POST flag
0A		Initialize CPU registers
0C		Initialize cache to initial POST values
0E		Initialize I/O
0F		Initialize the local bus IDE
10		Initialize Power Management
11		Load alternate registers with initial POST values
12		Jump to UserPatch0
14		Initialize keyboard controller
16	2-2-3	BIOS ROM checksum
18		Initialize 8254 timer
1A		8237 DMA controller initialization
1C		Reset Programmable Interrupt Controller
20	3-1-1	Test DRAM refresh
22	3-1-3	Test 8742 Keyboard Controller
24		Set ES segment register to 4GB
28		Autosize DRAM
2A		Clear 512K base RAM
2C	3-4-1	Test 512K base address lines
2E	3-4-3	Test 512K base memory
32		Test CPU bus-clock frequency
34		Test CMOS RAM
35		Initialize other hardware devices
37		Reinitialize the chipset (MB only)
38		Shadow system BIOS ROM
39		Reinitialize the cache (MB only)
3A		Autosize cache
3C		Configure advanced chipset register

3D		Load alternate registers with CMOS values
42		Initialize interrupt vectors
44		Initialize BIOS interrupts
46	2-1-2-3	Check ROM copyright notice
47		Initialize manager for PCI Option ROM
48		Check the equipment specified in the CMOS
49		Initialize PCI bus and devices
4A		Initialize all video adapters in system
4C		Shadow video BIOS ROM
4E		Display copyright notice
50		Display CPU type and speed
51		Initialize EISA slots
52		Test keyboard
54		Set key click if enabled
56		Enable keyboard
58	2-2-3-1	Test for unexpected interrupts
5A		Display prompt press F2 to enter SETUP"
5C		Test RAM between 512K and 640K
60		Test extended memory
62		Test extended memory address lines
64		Jump to UserPatch1
66		Configure advanced cache register
68		Enable external and CPU caches
6A		Display external cache size
6C		Display shadow message
6E		Display non-disposable segments
70		Display error messages
72		Check for configuration errors
74		Test real-time clock
76		Check for keyboard errors
7C		Set up hardware interrupt vectors
7E		Test coprocessor if present
80		Disable onboard I/O ports
82		Detect and install external RS232 ports
84		Detect and install external parallel ports

86		Re-initialize onboard I/O ports
88		Initialize BIOS Data Area
8A		Initialize Extended BIOS Data Area
8C		Initialize floppy controller
90		Initialize hard-disk drives
91		Local-bus IDE timing
92		Jump to UserPatch2
93		Build MPTABLE for multi-processor boards
94		Disable A20 address line
96		Clear huge ES segment register
98		Search for option ROMs
9A		Shadow option ROMs
9C		Setup Power Management
9E		Enable hardware interrupts
A0		Set time for day
A2		Check key lock
A4		Initialize typematic rate
A8		Erase F2 prompt
AA		Scan for F2 key stroke
AC		Enter SETUP
AE		Clear in-POST flag
B0		Check for errors
B2		POST done - prepare to boot operating system
B4		One beep
B6		Check password (optional)
B8		Clear global descriptor table
BC		Clear parity checkers
BE		Clear screen (optional)
BF		Check virus and backup reminders
C0		Try to boot with INT 19
D0		Interrupt handler error
D2		Unknown interrupt error
D4		Pending interrupt error
D6		Initialize option ROM error
D8		Shutdown error

DA		Extended Block Move
DC		Shutdown 10 error
		The following are for boot block in Flash ROM
E2		Initialize the chipset
E3		Initialize refresh counter
E4		Check for Forced Flash
E5		Check HW status of ROM
E6		BIOS ROM is OK
E7		Do a complete RAM test
E8		Do OEM initialization
E9		Initialize interrupt controller
EA		Read in the bootstrap code
EB		Initialize all vectors
EC		Boot the Flash program
ED		Initialize the boot device
EE		Boot code was read OK

D. Phoenix BIOS Messages

nnnn Cache SRAM Passed
Diskette drive A error
Diskette drive B error
Entering SETUP...
Extended RAM Failed at offset : *nnnn* *
Extended RAM Passed
Failing Bits : *nnnn* *
Fixed Disk 0 Failure
Fixed Disk 1 Failure
Fixed Disk Controller Failure *
Incorrect Drive A type - run SETUP
Incorrect Drive B type - run SETUP
Invalid NVRAM media type *
Keyboard controller error *
Keyboard error
Keyboard locked - Unlocked key switch
Monitor type does not match CMOS - Run SETUP
Operating system not found
Parity Check 1 nnnn *
Parity Check 2 nnnn *
Press <F1> to resume, <F2> to Setup
Press <F2> to enter SETUP
Real time clock error *

Shadow Ram Failed at offset : *nnnn* *
nnnn Shadow RAM Passed
System battery is dead - Replace and run SETUP
System BIOS shadowed
System cache error - Cache disabled *
System CMOS checksum bad - run SETUP
System RAM Failed at offset : *nnnn* *
nnnn System RAM Passed
System timer error *
UMB upper limit segment address : *nnnn*
Video BIOS shadowed

If your system displays this message, write down the message and contact your dealer. If your system fails after you made changes in the Setup menus, you may able to correct the problem by entering Setup and restoring the original values.
The following is an explanation of each of the messages listed above.

nnnn* Cache SRAM Passed** Where ***nnnn is the amount of system cache in kilobytes successfully tested.

Diskette drive A error or
Diskette drive B error Drive A: or B: is present but fails the BIOS POST diskette test. Check to see that the drive is defined with proper diskette type in Setup and that the diskette drive is attached correctly.

Entering SETUP... Starting Setup program

Extended RAM Failed at offset: *nnnn* Extended memory not working or not configured properly at offset *nnnn*.

nnnn Extended RAM Passed Where nnnn is the amount of RAM in kilobytes successfully tested.

Failing Bits: nnnn The hex number nnnn is a map of the bits at the RAM address (in System, Extended, or Shadow memory) which failed the memory test. Each 1 (one) in the map indicates a failed bit.

Fixed Disk 0 Failure or
Fixed Disk 1 Failure or
Fixed Disk Controller Failure Fixed disk is not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup be sure the fixed-disk type is correctly identified.

Incorrect Drive A type - run SETUP Type of floppy drive A: not correctly identified in Setup.

Incorrect Drive B type - run SETUP Type of floppy drive B: not correctly identified in Setup.

Invalid NVRAM media type Problem with NVRAM (CMOS) access.

Keyboard controller error The keyboard controller failed test. You may have to replace keyboard or controller.

Keyboard error Keyboard not working.

Keyboard locked -Unlocked key switch Unlocked the system to proceed.

Monitor type does not match CMOS - Run SETUP Monitor type not correctly identified in Setup.

Operating system not found Operating system cannot be located on either drive A: or Drive C:.
Enter Setup and see if fixed disk and drive A: are properly identified.

Parity Check 1 Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, It displays ????

Parity Check 2 Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????

Press <F1> to resume, <F2> to Setup Display after any recoverable error messages. Press <F1> to start the boot process or <F2> to enter Setup and change any settings.

Press <F2> to enter SETUP Optional message displayed during POST. Can be turned off in Setup.

Previous boot incomplete - Default configuration used Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with control of wait states, improper Setup setting can also terminate POST and cause this error on the next boot. Run Setup and verify that wait-state configuration is correct. This error is cleared the next time the system is booted.

Real time clock error Real-time clock fails BIOS test. May require board repair.

Shadow Ram Failed at offset : *nnnn* Shadow RAM failed at offset nnnn of the 64K block at which the error was detected.

***nnnn* Shadow RAM Passed** Where *nnnn* is the amount of shadow RAM in kilobytes successfully tested.

System battery is dead - Replace and run SETUP The CMOS clock battery indicator shows the battery is dead. Replace the battery and run Setup to reconfigure the system.

System BIOS shadowed - System BIOS copied to shadow RAM.

System cache error - Cache disabled RAM cache failed the BIOS test, BIOS disabled the cache.

System CMOS checksum bad - run SETUP System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. Run Setup and reconfigure the system either by getting the Default Values and/or making your own selections.

System RAM Failed at offset : *nnnn* System RAM failed at offset nnnn of in the 64K block at which the error was detected.

nnnn System RAM Passed Where nnnn is the amount of system RAM in kilobytes successfully tested.

System timer error The timer test failed. Requires repair of system board.

UMB upper limit segment address: nnnn Displays the address nnnn of the upper limit or Upper Memory Blocks, indicating released segments of the BIOS which may be reclaimed by a virtual memory manager.

Video BIOS shadowed Video BIOS successfully copied to shadow RAM.

G735 M/B


```
!LINK
!140602.SCH
!140603.SCH
!140604.SCH
!140605.SCH
!140606.SCH
!140607.SCH
!140608.SCH
!140609.SCH
!140610.SCH
!140611.SCH
!140612.SCH
!140613.SCH
!140614.SCH
!140615.SCH
!140616.SCH
!140617.SCH
!140618.SCH
!140619.SCH
!140620.SCH
!140621.SCH
!140622.SCH
!140623.SCH
!140624.SCH
!140625.SCH
!140626.SCH
!140627.SCH
!140628.SCH
!140629.SCH
!140630.SCH
!140631.SCH
!140632.SCH
!140633.SCH
!140634.SCH
!140635.SCH
!140636.SCH
```

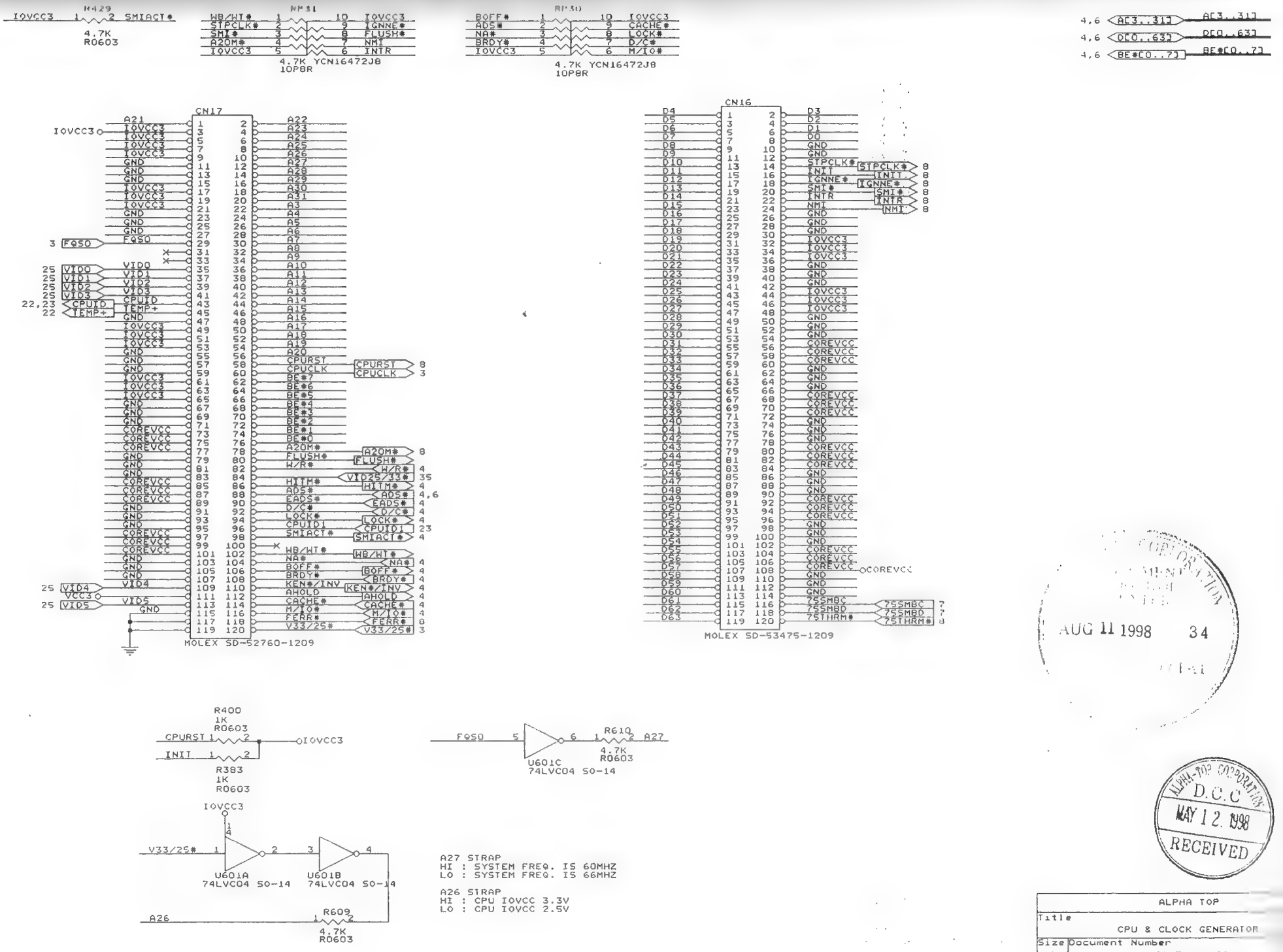
PAGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REV	1.C	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.B	1.B	1.B	1.B
DATE	7/29	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	5/11	7/16	7/16	7/16	7/16

PAGE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
REV	1.0	1.0	1.0	1.B	1.0	1.0	1.B	1.0	1.0	1.0	1.C	1.0	1.A	1.0	1.B	1.C
DATE	5/11	5/11	5/11	7/16	5/11	5/11	7/16	5/11	5/11	5/11	7/29	5/11	7/2	5/11	7/16	7/29

P/N : KK103210 (KK0G735M/B11(1))

Appr. by	Check by	Design by
Nicolo Tien JUL 29,1998		Andy Lee Jul 29,1998

P.Leader	Title: G735 M/B	
	Size: B	Document Number: G735-1-4-06 REV: 1.C
	Date: July 29, 1998	Sheet 1 of 36



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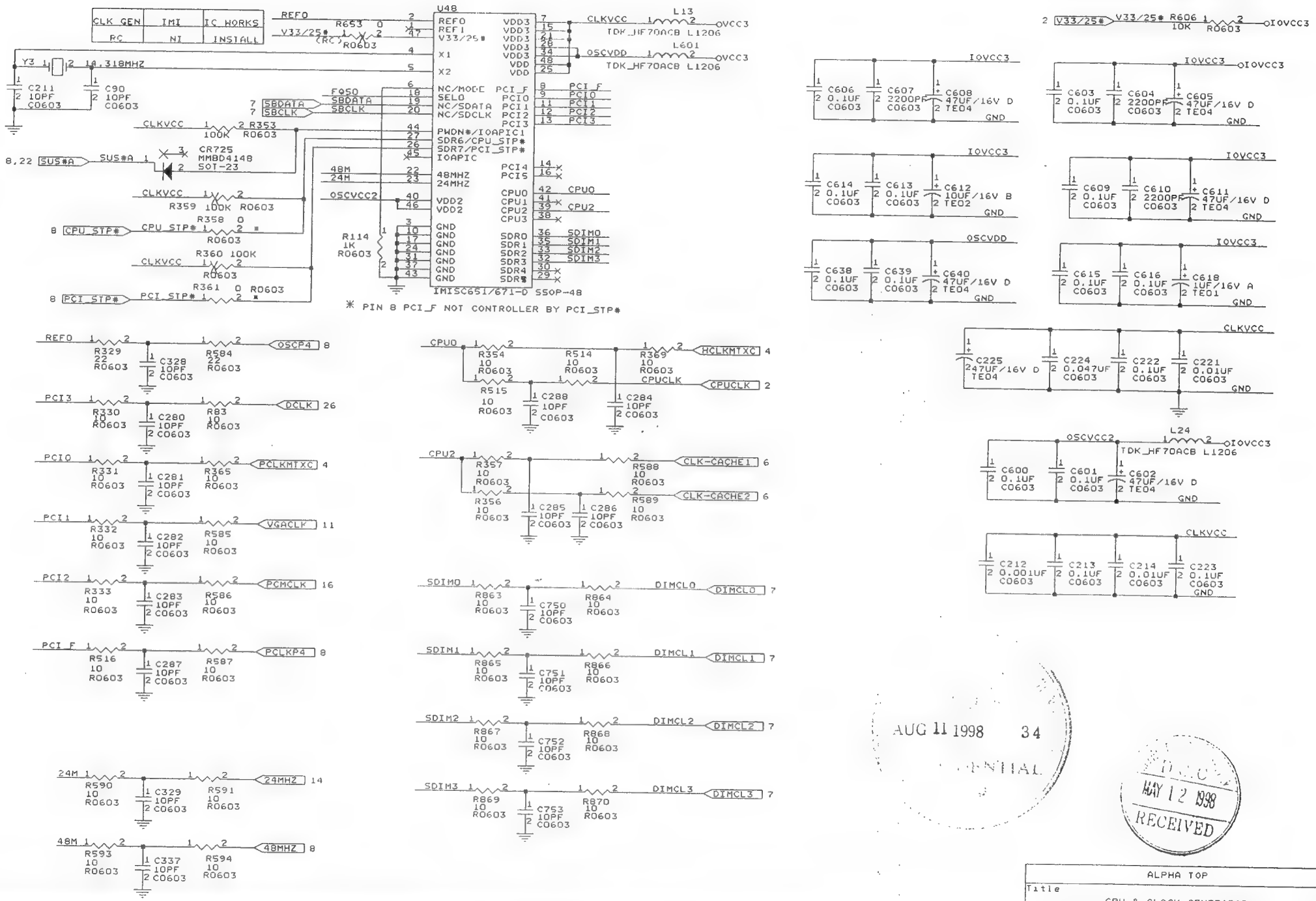
Title	CPU & CLOCK GENERATOR
Size: B	Document Number: G735-1-4-06
Date: May 11, 1998	Sheet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RC | NI | INSTALL
U48
IMISC651/671-D SSOP-48
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14.318MHZ
CR725 MMBD4148 SOT-23
TDK_HF70ACB L1206
AUG 11 1998 34
MAY 12 1998 RECEIVED
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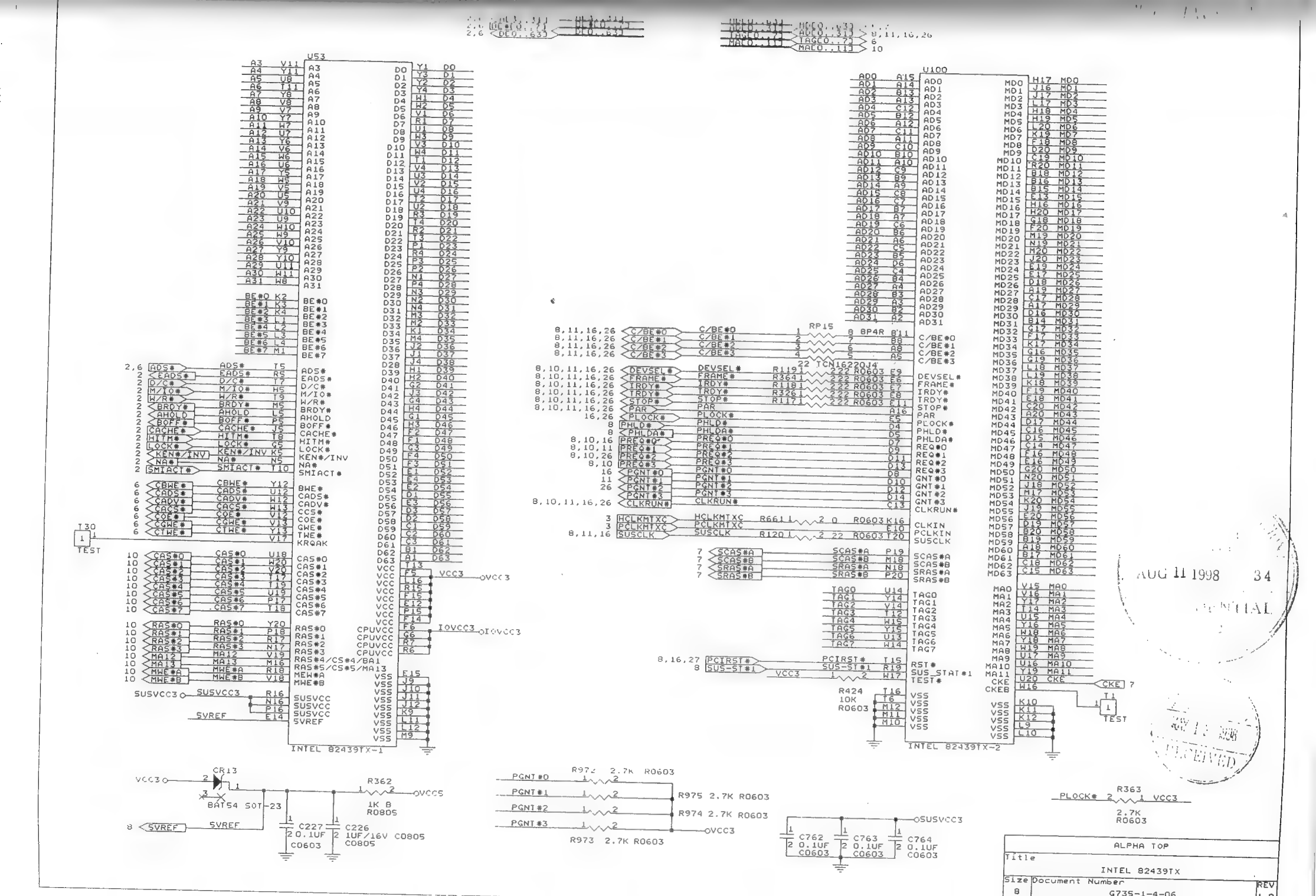
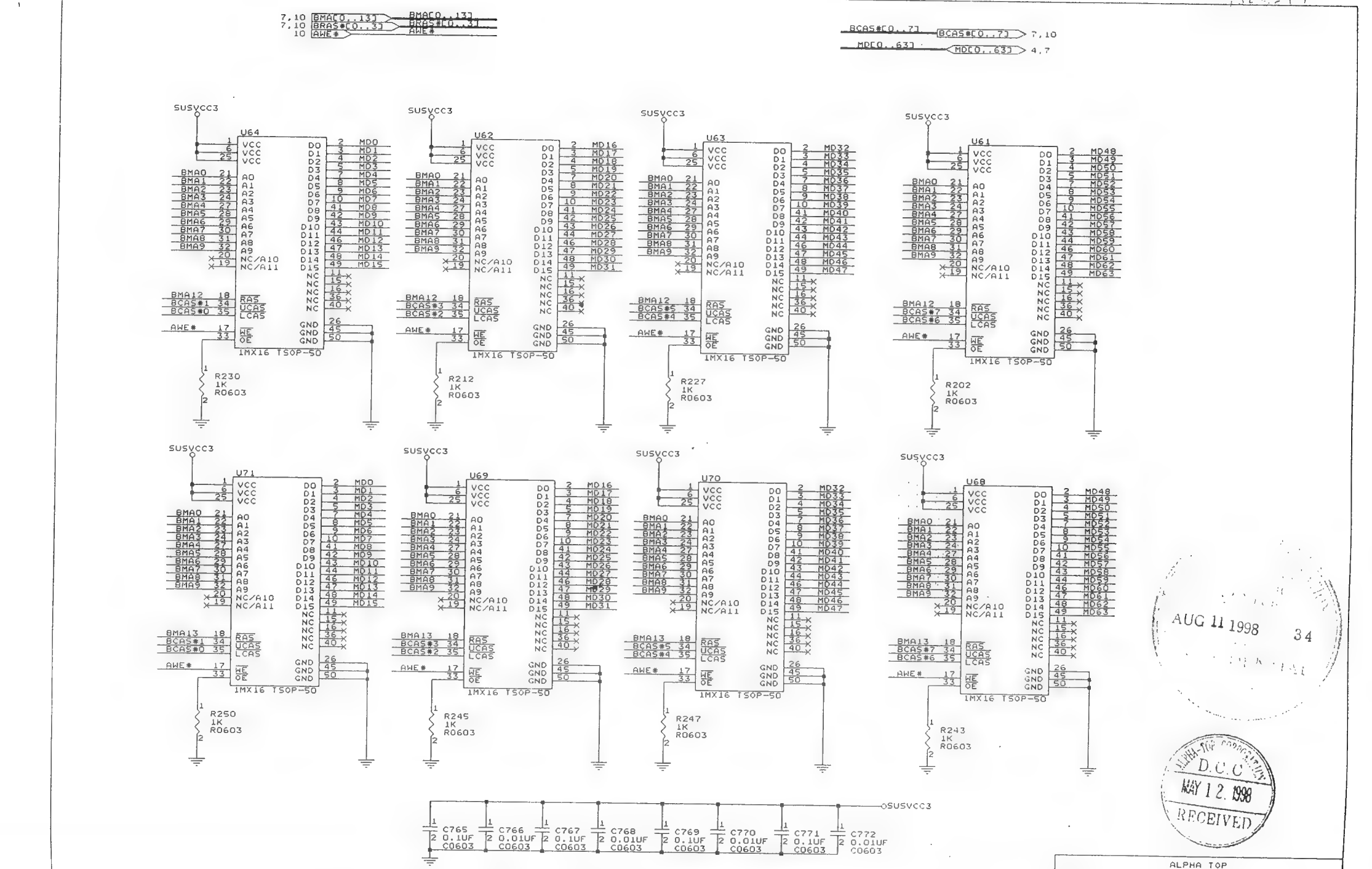
Size B
Document Number G735-1-4-06
REV 1.0





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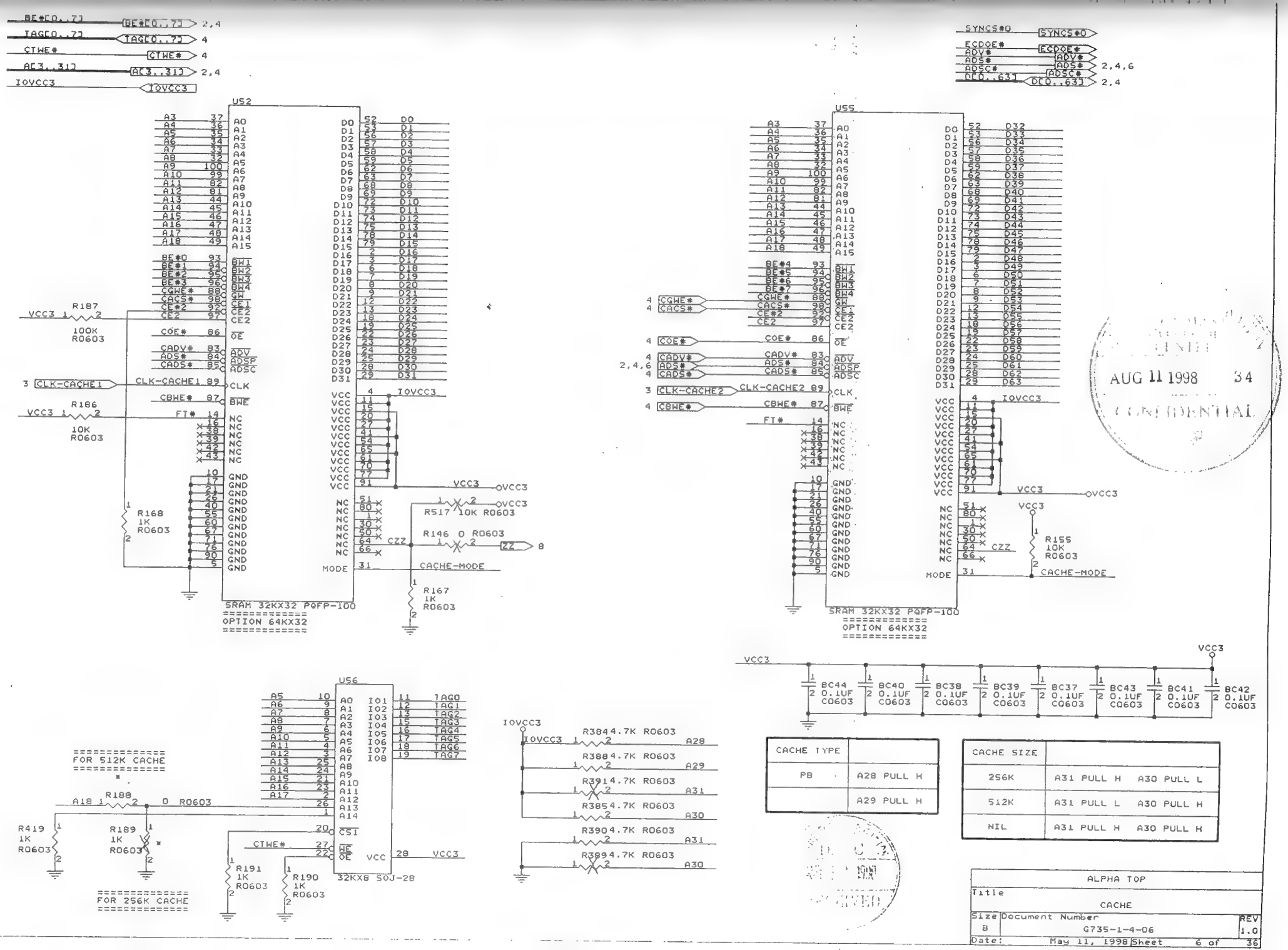
Title	DRAM	
Size B	Document Number G735-1-4-06	REV 1.0
Date: May 11, 1998	Sheet 5 of 36	


BE#[0..7] 2,4
TAG[0..7] 4
CTWE# 4
A[3..31] 2,4
IOVCC3
SYNCS#0
ECDOE#
ADV# 2,4,6
ADS#
ADSC#
D[0..63] 2,4
U52
SRAM 32KX32 PQFP-100
OPTION 64KX32
U55
SRAM 32KX32 PQFP-100
OPTION 64KX32
R187 100K R0603
R186 10K R0603
R168 1K R0603
R517 10K R0603
R146 0 R0603
R167 1K R0603
R155 10K R0603
CLK-CACHE1
CLK-CACHE2
CACHE-MODE
U56
FOR 512K CACHE
FOR 256K CACHE
R188 0 R0603
R419 1K R0603
R189 1K R0603
R191 1K R0603
R190 1K R0603
32KX8 SOJ-28
R384 4.7K R0603
R388 4.7K R0603
R391 4.7K R0603
R385 4.7K R0603
R390 4.7K R0603
R389 4.7K R0603
BC44 0.1UF C0603
BC40 0.1UF C0603
BC38 0.1UF C0603
BC39 0.1UF C0603
BC37 0.1UF C0603
BC43 0.1UF C0603
BC41 0.1UF C0603
BC42 0.1UF C0603
CACHE TYPE
PB
A28 PULL H
A29 PULL H
CACHE SIZE
256K A31 PULL H A30 PULL L
512K A31 PULL L A30 PULL H
NIL A31 PULL H A30 PULL H
AUG 11 1998
CONFIDENTIAL
ALPHA TOP
Title
CACHE
Size B
Document Number G735-1-4-06
REV 1.0
Date: May 11, 1998
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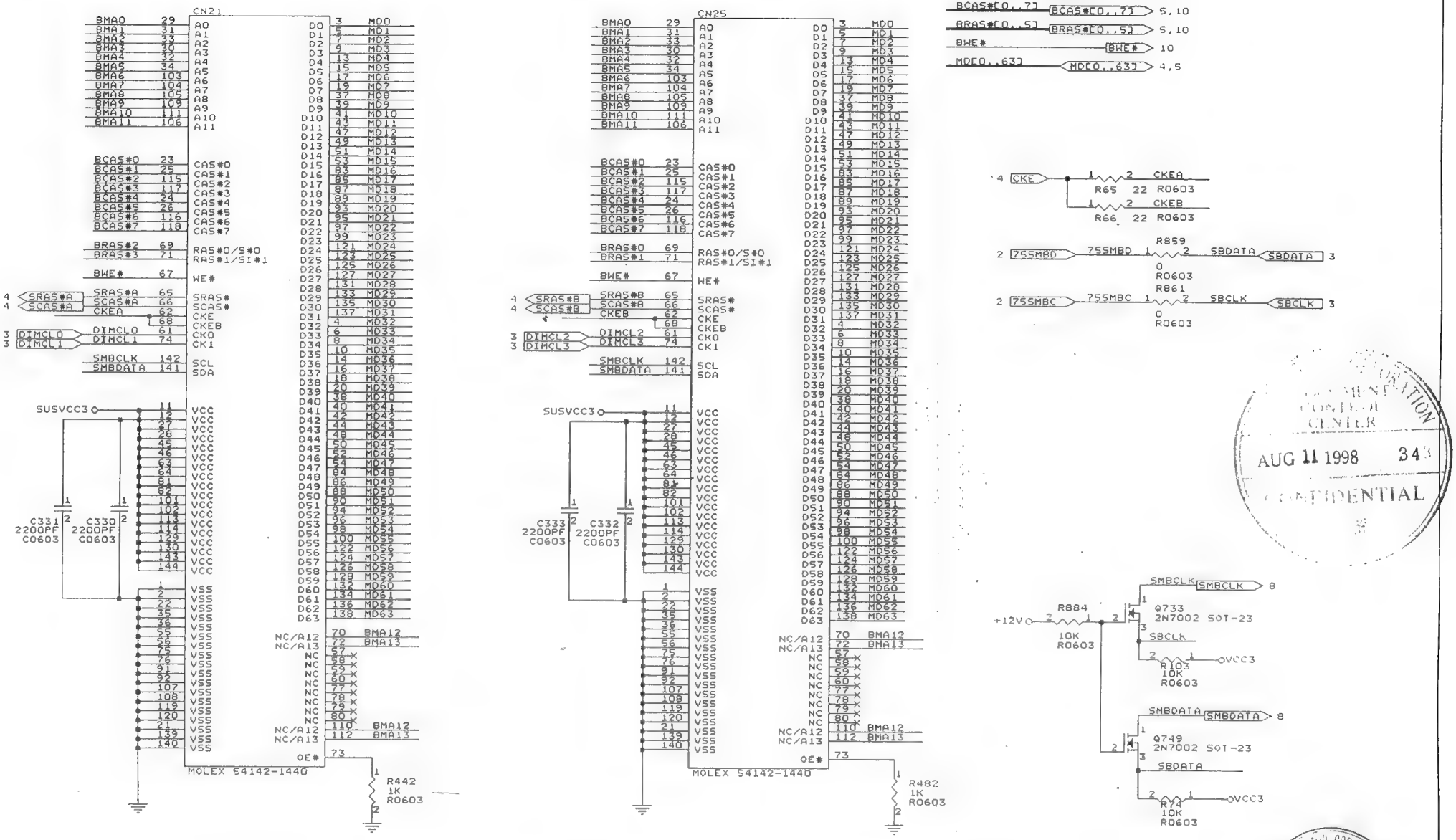

Title	ALPHA TOP 144PIN DIMM SOCKET
Size	B
Document Number	G735-1-4-06
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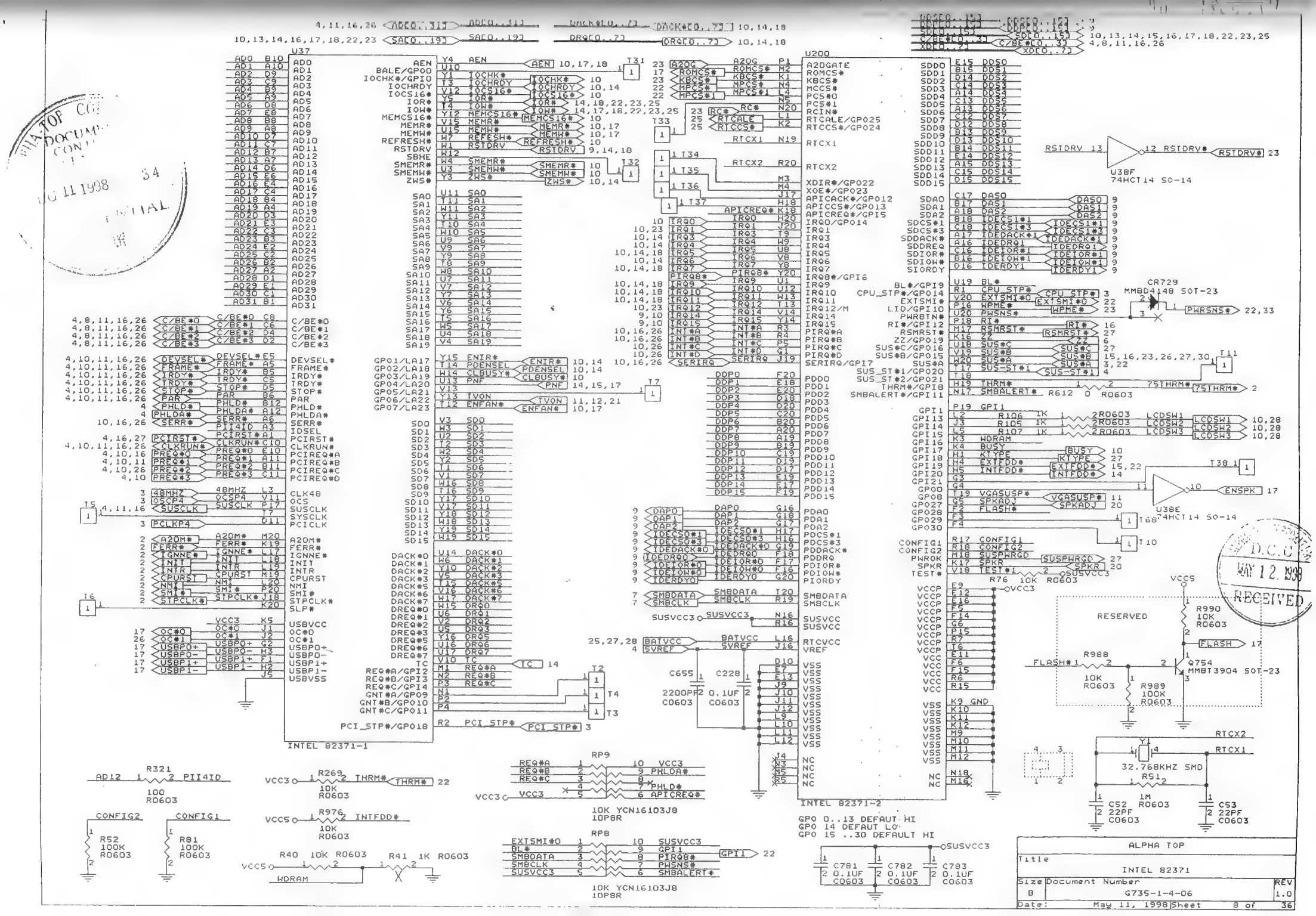
U37
INTEL 82371-1
U200
INTEL 82371-2
U38F
74HCT14 SO-14
U38E
74HCT14 SO-14
CR729
MMBD4148 SOT-23
Q754
MMBT3904 SOT-23
RESERVED
32.768KHZ SMD
GPO 0..13 DEFAUT HI
GPO 14 DEFAUT LO
GPO 15 ..30 DEFAULT HI
ALPHA TOP
INTEL 82371
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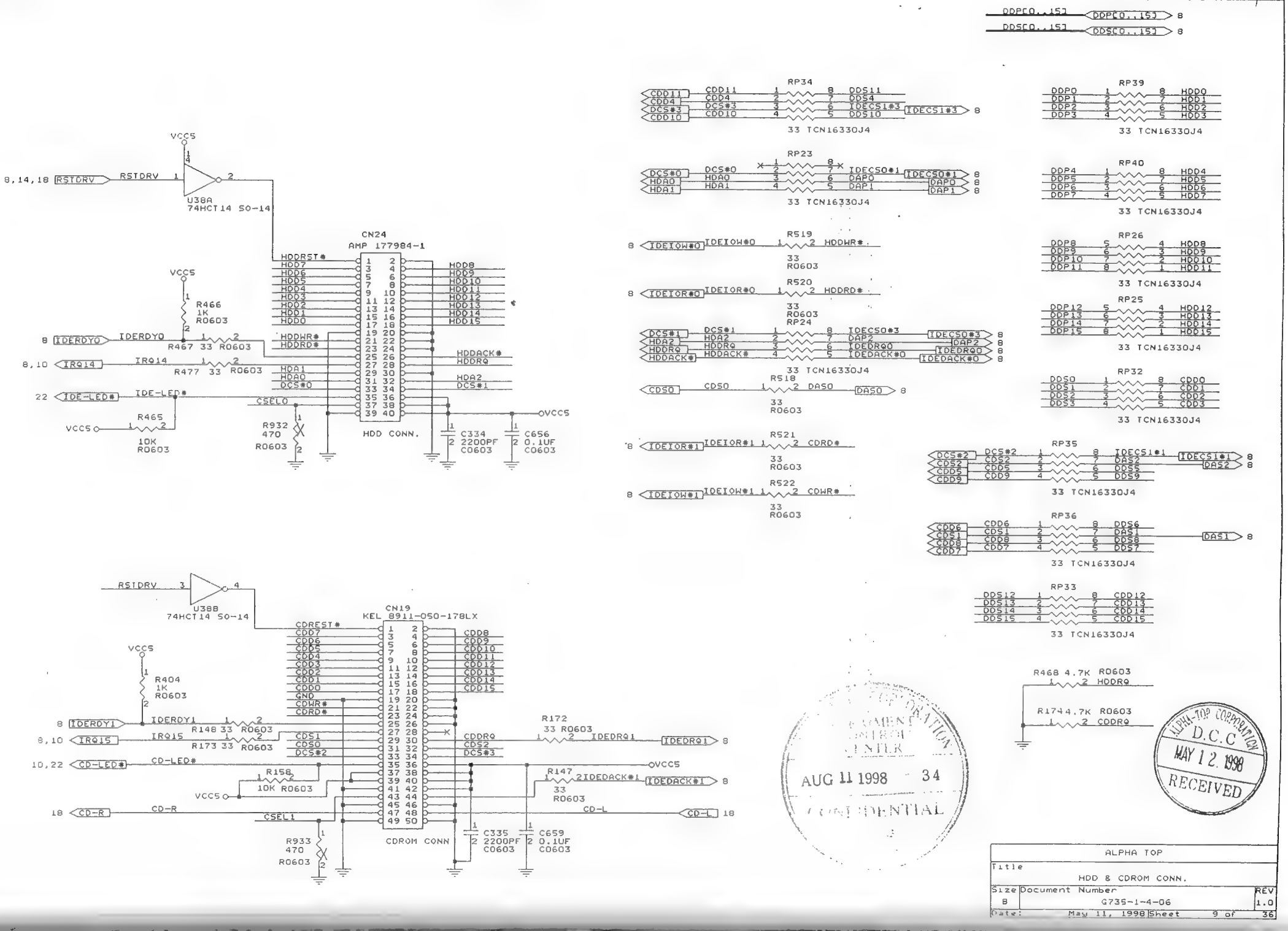
MAY 12 1998



ALPHA TOP		
Title: HDD & CDROM CONN.		
Size: B	Document Number: G735-1-4-06	REV: 1.0
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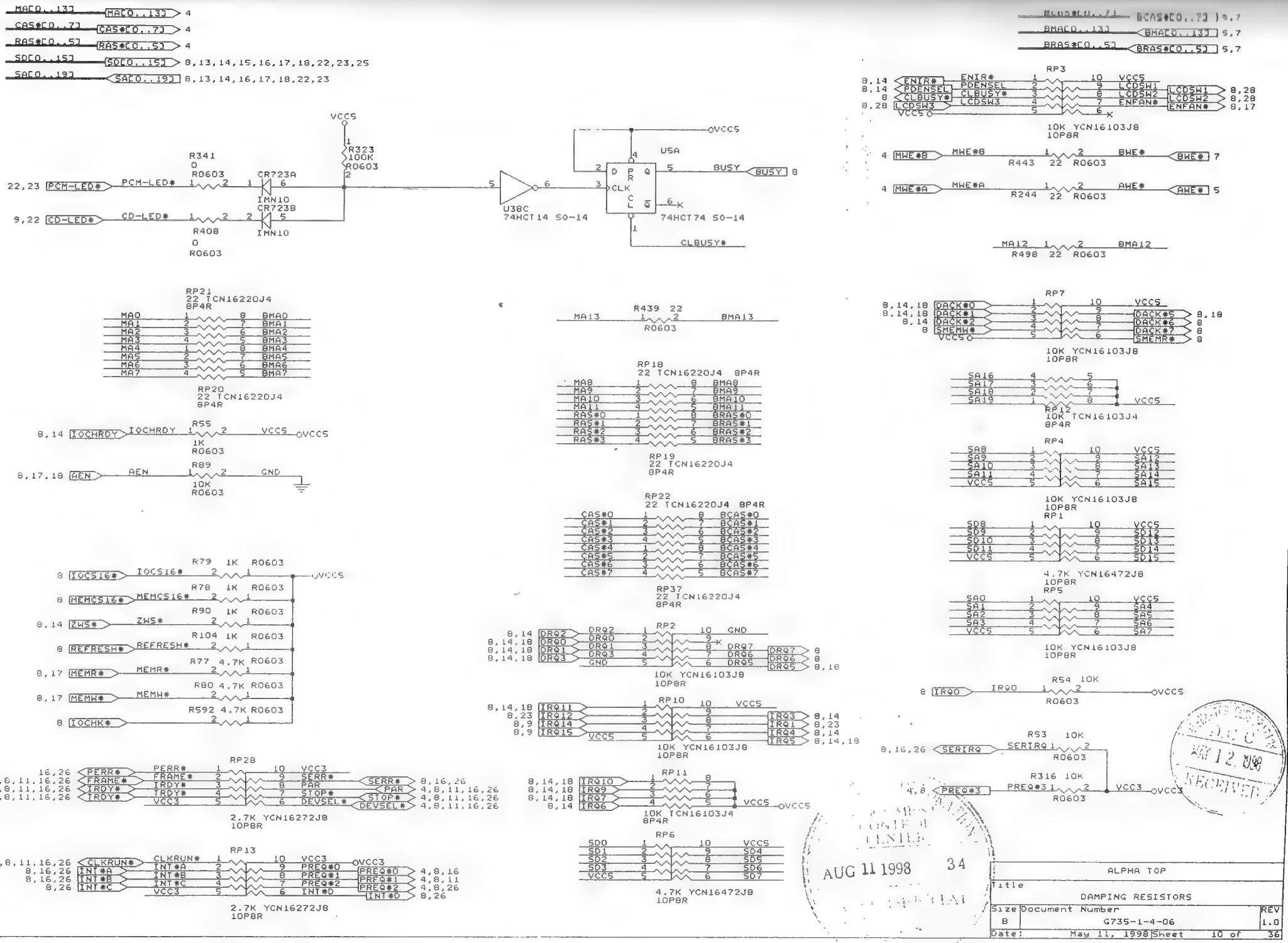
MACO..13] MACO..13] 4
CAS*CO..7] CAS*CO..7] 4
RAS*CO..5] RAS*CO..5] 4
SDCO..15] SDCO..15] 8,13,14,15,16,17,18,22,23,25
SACO..19] SACO..19] 8,13,14,16,17,18,22,23
BCAS*CO..7] 5,7
BMACO..13] BMACO..13] 5,7
BRAS*CO..5] BRAS*CO..5] 5,7
VCC5
R323 100K R0603
R341 0 R0603
CR723A
IMN10
CR723B
IMN10
R408 0 R0603
22,23 PCM-LED# PCM-LED#
9,22 CD-LED# CD-LED#
U38C 74HCT14 S0-14
U5A 74HCT74 S0-14
BUSY BUSY 8
CLBUSY*
RP3
8,14 ENIR# ENIR#
8,14 PDENSEL PDENSEL
8 CLBUSY* CLBUSY*
8,28 LCDSW3 LCDSW3
VCC5
LCDSW1 8,28
LCDSW2 8,28
ENFAN* 8,17
10K YCN16103J8 10P8R
4 MWE*B MWE*B
R443 22 R0603
BWE* BWE* 7
4 MWE*A MWE*A
R244 22 R0603
AWE* AWE* 5
MA12 MA12
R498 22 R0603
RP21 22 TCN16220J4 8P4R
MA0 BMA0
MA1 BMA1
MA2 BMA2
MA3 BMA3
MA4 BMA4
MA5 BMA5
MA6 BMA6
MA7 BMA7
RP20 22 TCN16220J4 8P4R
MA13 R439 22 BMA13
R0603
RP18 22 TCN16220J4 8P4R
MA8 BMA8
MA9 BMA9
MA10 BMA10
MA11 BMA11
RAS*0 BRAS*0
RAS*1 BRAS*1
RAS*2 BRAS*2
RAS*3 BRAS*3
RP19 22 TCN16220J4 8P4R
RP7
8,14,18 DACK*0
8,14,18 DACK*1
8,14 DACK*2
8 SMEMW*
VCC5
DACK*5 8,18
DACK*6 8
DACK*7 8
SMEMR* 8
10K YCN16103J8 10P8R
SA16
SA17
SA18
SA19
VCC5
RP12 10K TCN16103J4 8P4R
RP4
SA8
SA9
SA10
SA11
VCC5
SA12
SA13
SA14
SA15
10K YCN16103J8 10P8R
8,14 IOCHRDY IOCHRDY R55 1K R0603 VCC5
8,17,18 AEN AEN R89 10K R0603 GND
RP1
SD8
SD9
SD10
SD11
VCC5
SD12
SD13
SD14
SD15
4.7K YCN16472J8 10P8R
RP5
SA0
SA1
SA2
SA3
VCC5
SA4
SA5
SA6
SA7
10K YCN16103J8 10P8R
RP22 22 TCN16220J4 8P4R
CAS*0 BCAS*0
CAS*1 BCAS*1
CAS*2 BCAS*2
CAS*3 BCAS*3
CAS*4 BCAS*4
CAS*5 BCAS*5
CAS*6 BCAS*6
CAS*7 BCAS*7
RP37 22 TCN16220J4 8P4R
R79 1K R0603
8 IOCS16# IOCS16# VCC5
R78 1K R0603
8 MEMCS16# MEMCS16#
R90 1K R0603
8,14 ZWS# ZWS#
R104 1K R0603
8 REFRESH# REFRESH#
R77 4.7K R0603
8,17 MEMR# MEMR#
R80 4.7K R0603
8,17 MEMW# MEMW#
R592 4.7K R0603
8 IOCHK#
RP2
8,14 DRQ2
8,14,18 DRQ0
8,14,18 DRQ1
8,14,18 DRQ3
GND
DRQ7 8
DRQ6 8
DRQ5 8,18
10K YCN16103J8 10P8R
R54 10K
8 IRQ0 IRQ0
R0603 VCC5
RP10
8,14,18 IRQ11
8,23 IRQ12
8,9 IRQ14
8,9 IRQ15
VCC5
IRQ3 8,14
IRQ1 8,23
IRQ4 8,14
IRQ5 8,14,18
10K YCN16103J8 10P8R
R53 10K
8,16,26 SERIRQ SERIRQ
R0603
RP28
16,26 PERR#
4,8,11,16,26 FRAME#
4,8,11,16,26 IRDY#
4,8,11,16,26 TRDY#
VCC3
SERR# 8,16,26
PAR 4,8,11,16,26
STOP# 4,8,11,16,26
DEVSEL# 4,8,11,16,26
2.7K YCN16272J8 10P8R
R316 10K
4,8 PREQ#3 PREQ#3
R0603 VCC3
RP11
8,14,18 IRQ10
8,14,18 IRQ9
8,14,18 IRQ7
8,14 IRQ6
VCC5
10K YCN16103J4 8P4R
RP13
4,8,11,16,26 CLKRUN#
8,16,26 INT#A
8,16,26 INT#B
8,26 INT#C
VCC3
PREQ#0 4,8,16
PREQ#1 4,8,11
PREQ#2 4,8,26
INT#D 8,26
2.7K YCN16272J8 10P8R
RP6
SD0
SD1
SD2
SD3
VCC5
SD4
SD5
SD6
SD7
4.7K YCN16472J8 10P8R
AUG 11 1998
34
MAY 12 1998
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DAMPING RESISTORS
Size B
Document Number G735-1-4-06
REV 1.0
Date: May 11, 1998
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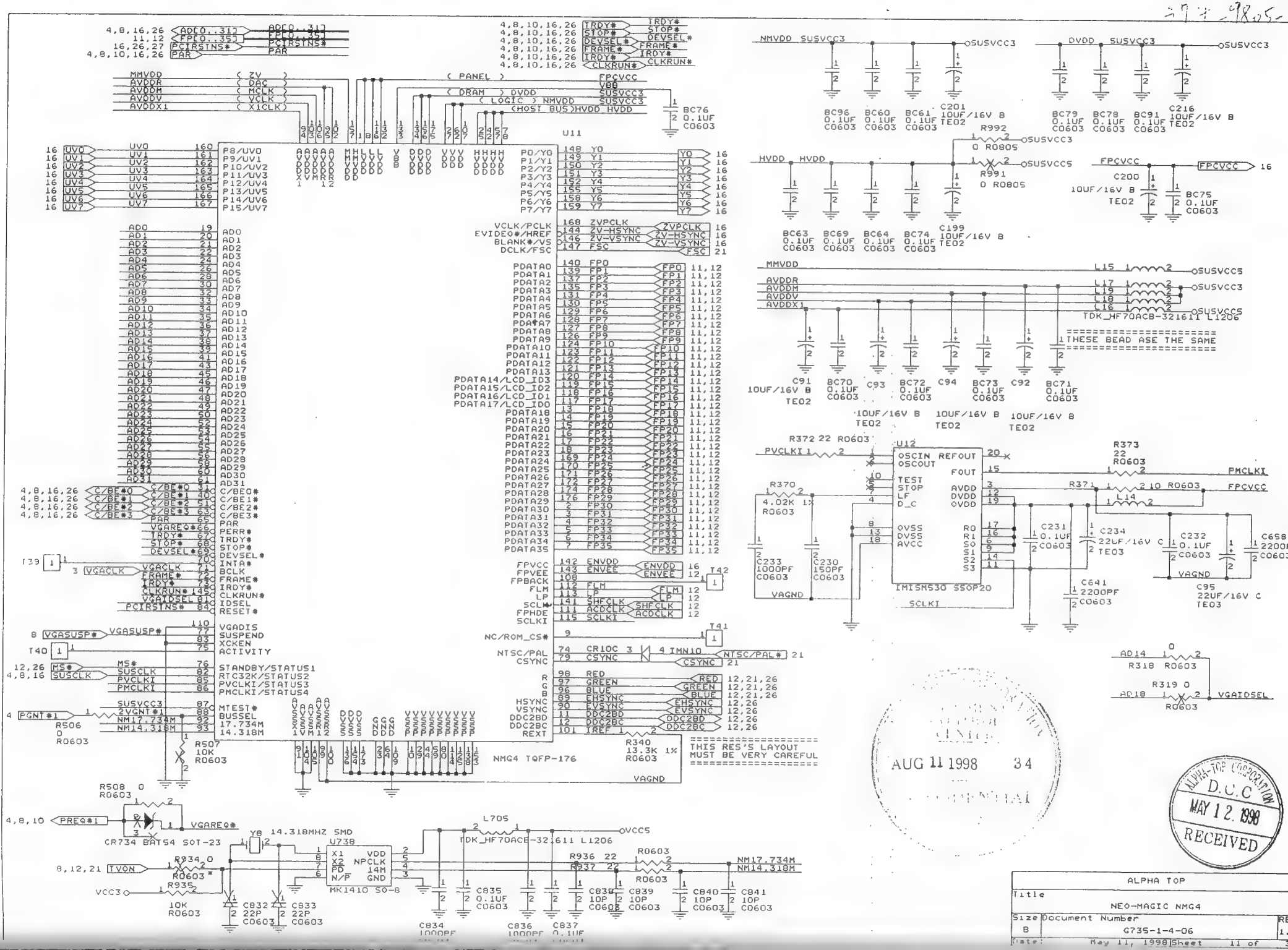

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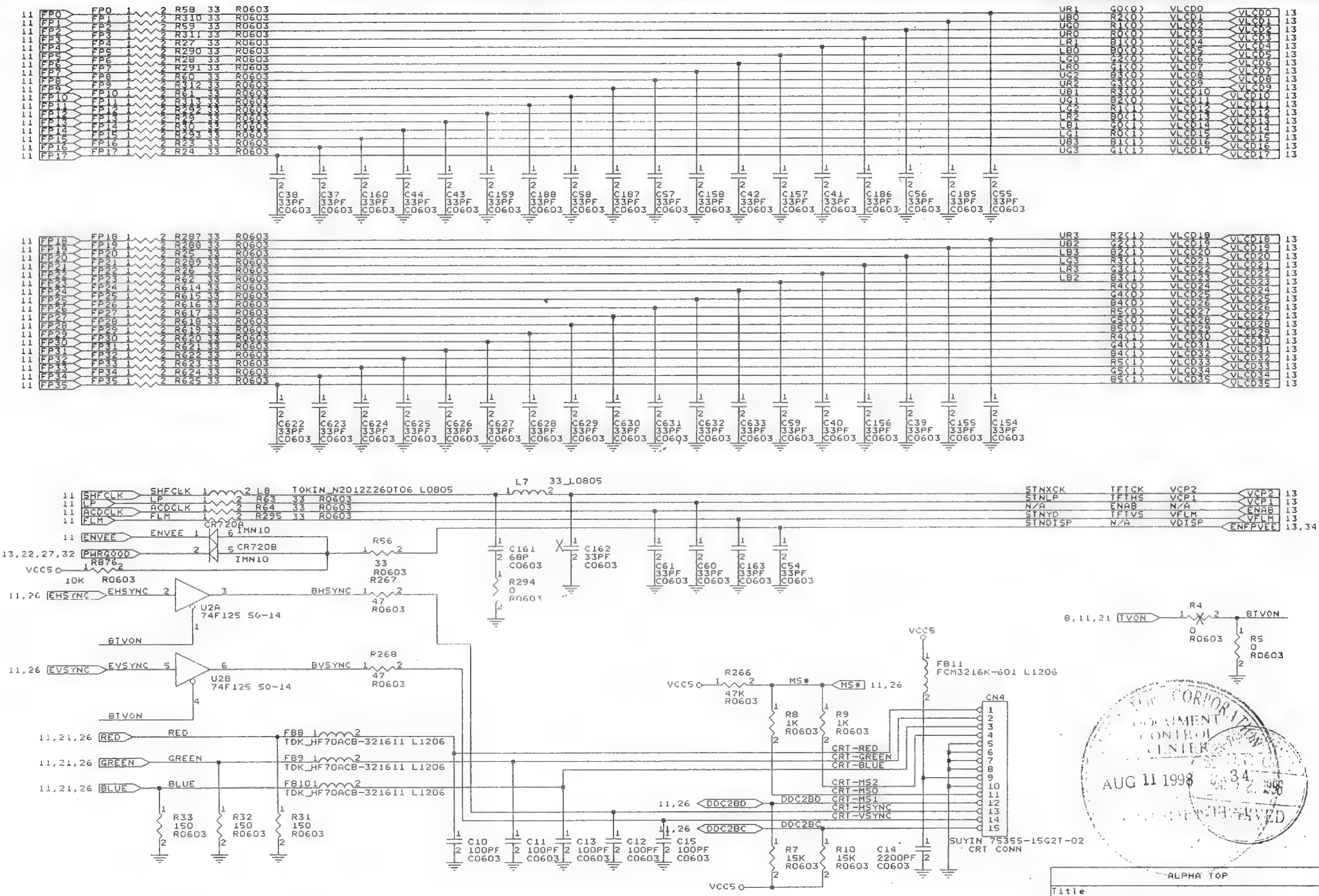
Size B	Document Number G735-1-4-06 REV 1.0
Date: May 11, 1998	Sheet 11 of 36


FP0 FP0 1 2 R58 33 R0603
FP1 FP1 1 2 R310 33 R0603
FP2 FP2 1 2 R59 33 R0603
FP3 FP3 1 2 R311 33 R0603
FP4 FP4 1 2 R27 33 R0603
FP5 FP5 1 2 R290 33 R0603
FP6 FP6 1 2 R28 33 R0603
FP7 FP7 1 2 R291 33 R0603
FP8 FP8 1 2 R60 33 R0603
FP9 FP9 1 2 R312 33 R0603
FP10 FP10 1 2 R61 33 R0603
FP11 FP11 1 2 R313 33 R0603
FP12 FP12 1 2 R292 33 R0603
FP13 FP13 1 2 R29 33 R0603
FP14 FP14 1 2 R30 33 R0603
FP15 FP15 1 2 R293 33 R0603
FP16 FP16 1 2 R23 33 R0603
FP17 FP17 1 2 R24 33 R0603
C38 33PF C0603
C37 33PF C0603
C160 33PF C0603
C44 33PF C0603
C43 33PF C0603
C159 33PF C0603
C188 33PF C0603
C58 33PF C0603
C187 33PF C0603
C57 33PF C0603
C158 33PF C0603
C42 33PF C0603
C157 33PF C0603
C41 33PF C0603
C186 33PF C0603
C56 33PF C0603
C185 33PF C0603
C55 33PF C0603
FP18 FP18 1 2 R287 33 R0603
FP19 FP19 1 2 R288 33 R0603
FP20 FP20 1 2 R25 33 R0603
FP21 FP21 1 2 R289 33 R0603
FP22 FP22 1 2 R26 33 R0603
FP23 FP23 1 2 R62 33 R0603
FP24 FP24 1 2 R614 33 R0603
FP25 FP25 1 2 R615 33 R0603
FP26 FP26 1 2 R616 33 R0603
FP27 FP27 1 2 R617 33 R0603
FP28 FP28 1 2 R618 33 R0603
FP29 FP29 1 2 R619 33 R0603
FP30 FP30 1 2 R620 33 R0603
FP31 FP31 1 2 R621 33 R0603
FP32 FP32 1 2 R622 33 R0603
FP33 FP33 1 2 R623 33 R0603
FP34 FP34 1 2 R624 33 R0603
FP35 FP35 1 2 R625 33 R0603
C622 33PF C0603
C623 33PF C0603
C624 33PF C0603
C625 33PF C0603
C626 33PF C0603
C627 33PF C0603
C628 33PF C0603
C629 33PF C0603
C630 33PF C0603
C631 33PF C0603
C632 33PF C0603
C633 33PF C0603
C59 33PF C0603
C40 33PF C0603
C156 33PF C0603
C39 33PF C0603
C155 33PF C0603
C154 33PF C0603
UR1 G0(0) VLCD0 VLCD0
UB0 R2(0) VLCD1 VLCD1
UG0 R1(0) VLCD2 VLCD2
UR0 R0(0) VLCD3 VLCD3
LR1 B1(0) VLCD4 VLCD4
LB0 B0(0) VLCD5 VLCD5
LG0 G2(0) VLCD6 VLCD6
LR0 G1(0) VLCD7 VLCD7
UG2 B3(0) VLCD8 VLCD8
UR2 G3(0) VLCD9 VLCD9
UB1 R3(0) VLCD10 VLCD10
UG1 B2(0) VLCD11 VLCD11
LG2 R1(1) VLCD12 VLCD12
LR2 B0(1) VLCD13 VLCD13
LB1 G0(1) VLCD14 VLCD14
LG1 R0(1) VLCD15 VLCD15
UB3 B1(1) VLCD16 VLCD16
UG3 G1(1) VLCD17 VLCD17
UR3 R2(1) VLCD18 VLCD18
UB2 G2(1) VLCD19 VLCD19
LB3 B2(1) VLCD20 VLCD20
LG3 R3(1) VLCD21 VLCD21
LR3 G3(1) VLCD22 VLCD22
LB2 B3(1) VLCD23 VLCD23
R4(0) VLCD24 VLCD24
G4(0) VLCD25 VLCD25
B4(0) VLCD26 VLCD26
R5(0) VLCD27 VLCD27
G5(0) VLCD28 VLCD28
B5(0) VLCD29 VLCD29
R4(1) VLCD30 VLCD30
G4(1) VLCD31 VLCD31
B4(1) VLCD32 VLCD32
R5(1) VLCD33 VLCD33
G5(1) VLCD34 VLCD34
B5(1) VLCD35 VLCD35
SHFCLK SHFCLK L8 TOKIN_N2012Z260T06 L0805
LP LP R63 33 R0603
ACDCLK ACDCLK R64 33 R0603
FLM FLM R295 33 R0603
L7 33 L0805
STNXCK TFTCK VCP2 VCP2
STNLP TFTHS VCP1 VCP1
N/A ENAB N/A ENAB
STNYD TFTVS VFLM VFLM
STNDISP N/A VDISP ENFPVEE
ENVEE ENVEE
PWRGOOD PWRGOOD
CR720B IMN10
R876 10K R0603
R56 33 R0603
C161 68P C0603
R294 0 R0603
C162 33PF C0603
C61 33PF C0603
C60 33PF C0603
C163 33PF C0603
C54 33PF C0603
EHSYNC EHSYNC U2A 74F125 SO-14 BHSYNC R267 47 R0603
EVSYNC EVSYNC U2B 74F125 SO-14 BVSYNC R268 47 R0603
BTVON
RED RED FB8 TDK_HF70ACB-321611 L1206
GREEN GREEN FB9 TDK_HF70ACB-321611 L1206
BLUE BLUE FB10 TDK_HF70ACB-321611 L1206
R33 150 R0603
R32 150 R0603
R31 150 R0603
C10 100PF C0603
C11 100PF C0603
C13 100PF C0603
C12 100PF C0603
C15 100PF C0603
VCC5
R266 47K R0603
MS# MS# 11,26
FB11 FCM3216K-601 L1206
R8 1K R0603
R9 1K R0603
CRT-RED
CRT-GREEN
CRT-BLUE
CRT-MS2
CRT-MS0
CRT-MS1
CRT-HSYNC
CRT-VSYNC
DDC2BD DDC2BD
DDC2BC DDC2BC
R7 15K R0603
R10 15K R0603
C14 2200PF C0603
CN4
SUYIN 75355-15G2T-02 CRT CONN
8,11,21 TVON R4 0 R0603 BTVON
R5 0 R0603
AUG 11 1998
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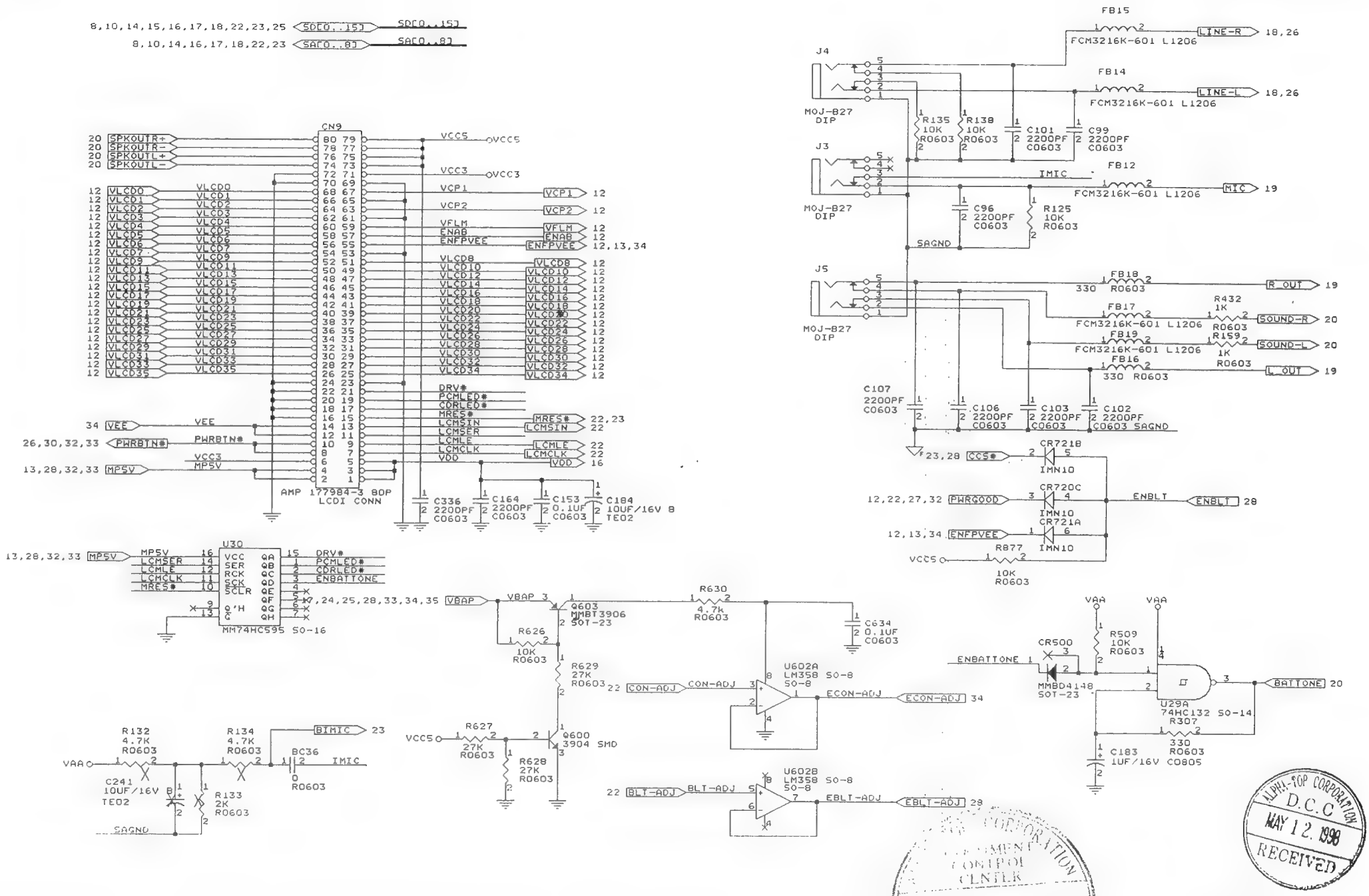
LCD I/F & CRT CONN.
Size B
Document Number G735-1-4-06
REV 1.0



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Size: B	Document Number: G735-1-4-06	REV: 1.0
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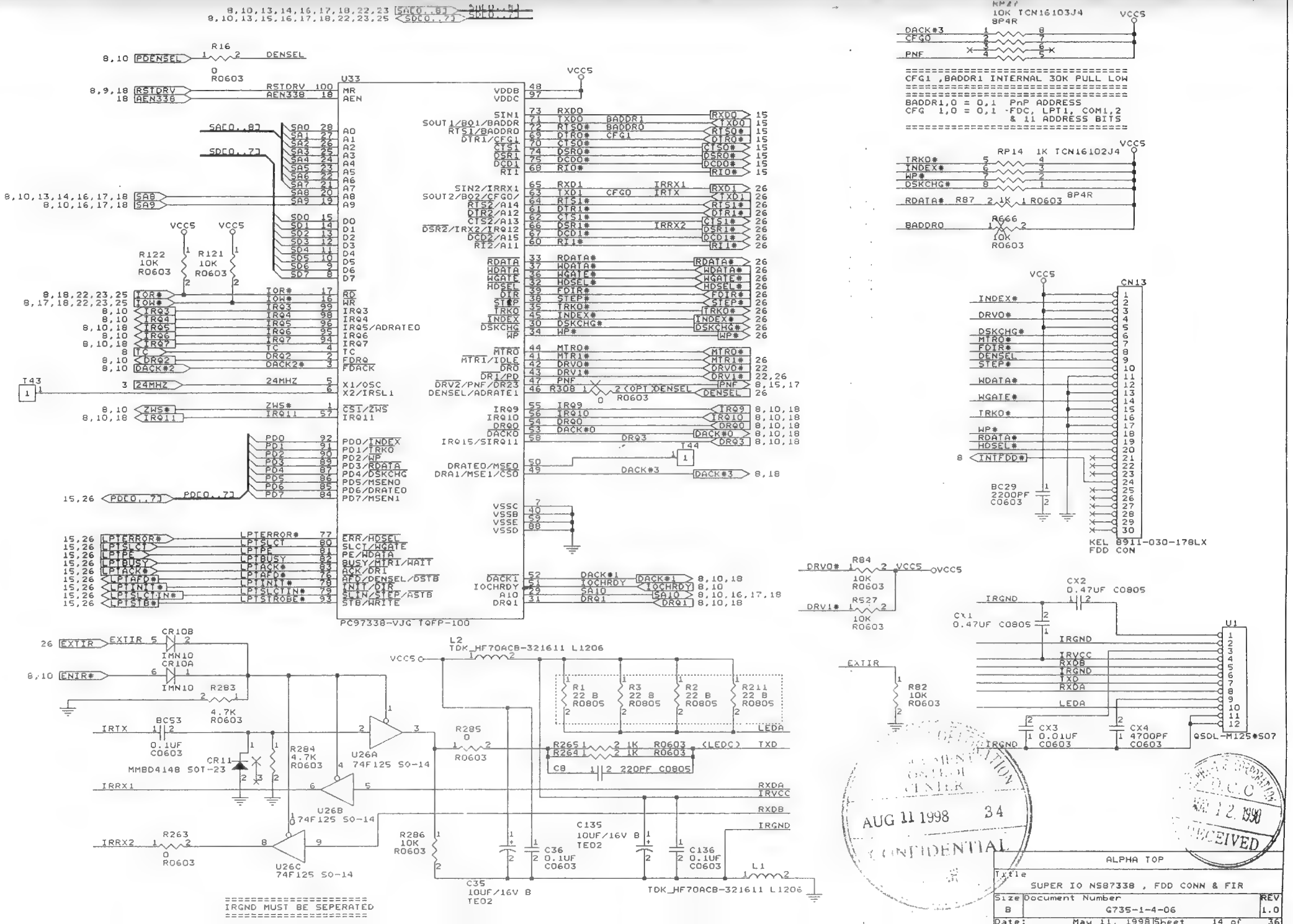
8,10,13,14,16,17,18,22,23 SAC0..8
8,10,13,15,16,17,18,22,23,25 SDC0..7
R16
8,10 PDENSEL
0
R0603
DENSEL
U33
8,9,18 RSTDRV
18 AEN338
RSTDRV 100
AEN338 18
MR
AEN
VCC5
VDDB 48
VDDC 97
SAC0..8
SDC0..7
SA0 28
SA1 27
SA2 26
SA3 25
SA4 24
SA5 23
SA6 22
SA7 21
SA8 20
SA9 19
8,10,13,14,16,17,18 SA8
8,10,16,17,18 SA9
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
SD0 15
SD1 14
SD2 13
SD3 12
SD4 11
SD5 10
SD6 9
SD7 8
D0
D1
D2
D3
D4
D5
D6
D7
SIN1
SOUT1/BQ1/BADDR
RTS1/BADDR0
DTR1/CFG1
CTS1
DSR1
DCD1
RI1
73 RXD0
71 TXD0 BADDR1
72 RTS0* BADDR0
69 DTR0* CFG1
70 CTS0*
74 DSR0*
75 DCD0*
68 RI0*
RXD0 15
TXD0 15
RTS0* 15
DTR0* 15
CTS0* 15
DSR0* 15
DCD0* 15
RI0* 15
SIN2/IRRX1
SOUT2/BQ2/CFG0/
RTS2/A14
DTR2/A12
CTS2/A13
DSR2/IRX2/IRQ12
DCD2/A15
RI2/A11
65 RXD1 IRRX1
63 TXD1 CFG0 IRTX
64 RTS1*
61 DTR1*
62 CTS1*
66 DSR1* IRRX2
67 DCD1*
60 RI1*
RXD1 26
TXD1 26
RTS1* 26
DTR1* 26
CTS1* 26
DSR1* 26
DCD1* 26
RI1* 26
R122 10K R0603
R121 10K R0603
IOR* 17
IOW* 16
IRQ3 99
IRQ4 98
IRQ5 96
IRQ6 95
IRQ7 94
TC 4
DRQ2 2
DACK2* 3
8,18,22,23,25 IOR*
8,17,18,22,23,25 IOW*
8,10 IRQ3
8,10 IRQ4
8,10,18 IRQ5
8,10 IRQ6
8,10,18 IRQ7
8 TC
8,10 DRQ2
8,10 DACK#2
RD
WR
IRQ3
IRQ4
IRQ5/ADRATE0
IRQ6
IRQ7
TC
FDRQ
FDACK
RDATA 33 RDATA*
WDATA 37 WDATA*
WGATE 36 WGATE*
HDSEL 32 HDSEL*
DIR 39 FDIR*
STEP 38 STEP*
TRK0 35 TRK0*
INDEX 45 INDEX*
DSKCHG 30 DSKCHG*
WP 34 WP*
RDATA* 26
WDATA* 26
WGATE* 26
HDSEL* 26
FDIR* 26
STEP* 26
TRK0* 26
INDEX* 26
DSKCHG* 26
WP* 26
T43
3 24MHZ
24MHZ 5
X2 6
X1/OSC
X2/IRSL1
MTR0 44 MTR0*
MTR1/IDLE 41 MTR1*
DR0 42 DRV0*
DR1/PD 43 DRV1*
DRV2/PNF/DR23 47 PNF
DENSEL/ADRATE1 46 R308 1 2 (OPT) DENSEL
0
R0603
MTR0* 26
MTR1* 26
DRV0* 22
DRV1* 22,26
PNF 8,15,17
DENSEL 26
8,10 ZWS*
8,10,18 IRQ11
ZWS* 1
IRQ11 57
CS1/ZWS
IRQ11
IRQ9 55
IRQ10 56
DRQ0 54
DACK0 53
IRQ15/SIRQ11 58
IRQ9 8,10,18
IRQ10 8,10,18
DRQ0 8,10,18
DACK#0 8,10,18
DRQ3 8,10,18
T44
DRATE0/MSE0 50
DRA1/MSE1/CS0 49
DACK#3 8,18
PD0 92
PD1 91
PD2 90
PD3 89
PD4 87
PD5 86
PD6 85
PD7 84
15,26 PDC0..7
PDC0..7
PD0/INDEX
PD1/TRK0
PD2/WP
PD3/RDATA
PD4/DSKCHG
PD5/MSENO
PD6/DRATE0
PD7/MSEN1
VSSC 7
VSSB 40
VSSE 62
VSSD 88
15,26 LPTERROR*
15,26 LPTSLCT
15,26 LPTPE
15,26 LPTBUSY
15,26 LPTACK*
15,26 LPTAFD*
15,26 LPTINIT*
15,26 LPTSLCTIN*
15,26 LPTSTB*
LPTERROR* 77
LPTSLCT 80
LPTPE 81
LPTBUSY 82
LPTACK* 83
LPTAFD* 76
LPTINIT* 78
LPTSLCTIN* 79
LPTSTROBE* 93
ERR/HDSEL
SLCT/WGATE
PE/WDATA
BUSY/MIR1/WAIT
ACK/DR1
AFD/DENSEL/DSTB
INIT/DIR
SLIN/STEP/ASTB
STB/WRITE
DACK1 52 DACK#1 DACK#1 8,10,18
IOCHRDY 51 IOCHRDY IOCHRDY 8,10
SA10 29 SA10 SA10 8,10,16,17,18
DRQ1 31 DRQ1 DRQ1 8,10,18
PC97338-VJG TQFP-100
RP#?
10K TCN16103J4
8P4R
VCC5
DACK#3 1 8
CFG0 2 7
3 6
PNF 4 5
CFG1 ,BADDR1 INTERNAL 30K PULL LOW
BADDR1,0 = 0,1 PnP ADDRESS
CFG 1,0 = 0,1 -FDC, LPT1, COM1,2
& 11 ADDRESS BITS
RP14 1K TCN16102J4
8P4R
VCC5
TRK0* 5 4
INDEX* 6 3
WP* 7 2
DSKCHG* 8 1
RDATA* R87 2 1K 1 R0603
BADDR0 R666 1 2 10K R0603
CN13
INDEX* 1
DRV0* 2
3
DSKCHG* 4
MTR0* 5
FDIR* 6
DENSEL 7
STEP* 8
9
WDATA* 10
WGATE* 11
12
TRK0* 13
WP* 14
RDATA* 15
HDSEL* 16
17
8 INTFDD* 18
19
20
21
22
23
24
25
26
27
28
29
30
BC29 2200PF C0603
KEL 8911-030-178LX
FDD CON
DRV0* R84 2 VCC5 VCC5
10K R0603
DRV1* R527 1 2
10K R0603
CX2 0.47UF C0805
CX1 0.47UF C0805
IRGND
U1
IRVCC
RXDB
IRGND
TXD
RXDA
LEDA
QSDL-M125*S07
CX3 0.01UF C0603
CX4 4700PF C0603
EXTIR
R82 10K R0603
26 EXTIR
EXIIR 5
CR10B
IMN10
CR10A
8,10 ENIR*
6 1
IMN10
R283 4.7K R0603
2 1
L2
TDK_HF70ACB-321611 L1206
VCC5
R1 22 B R0805
R3 22 B R0805
R2 22 B R0805
R211 22 B R0805
LEDA
R265 1 2 1K R0603 (LEDC) TXD
R264 1 2 1K R0603
C8 1 2 220PF C0805
IRTX
BC53 0.1UF C0603
CR11 MMBD4148 SOT-23
R284 4.7K R0603
U26A 4 74F125 SO-14
R285 0 R0603
IRRX1
U26B 74F125 SO-14
RXDA
IRVCC
RXDB
IRRX2
R263 0 R0603
U26C 74F125 SO-14
R286 10K R0603
C36 0.1UF C0603
C135 10UF/16V B TE02
C136 0.1UF C0603
IRGND
L1
C35 10UF/16V B TE02
TDK_HF70ACB-321611 L1206
IRGND MUST BE SEPERATED
AUG 11 1998 34
CONFIDENTIAL
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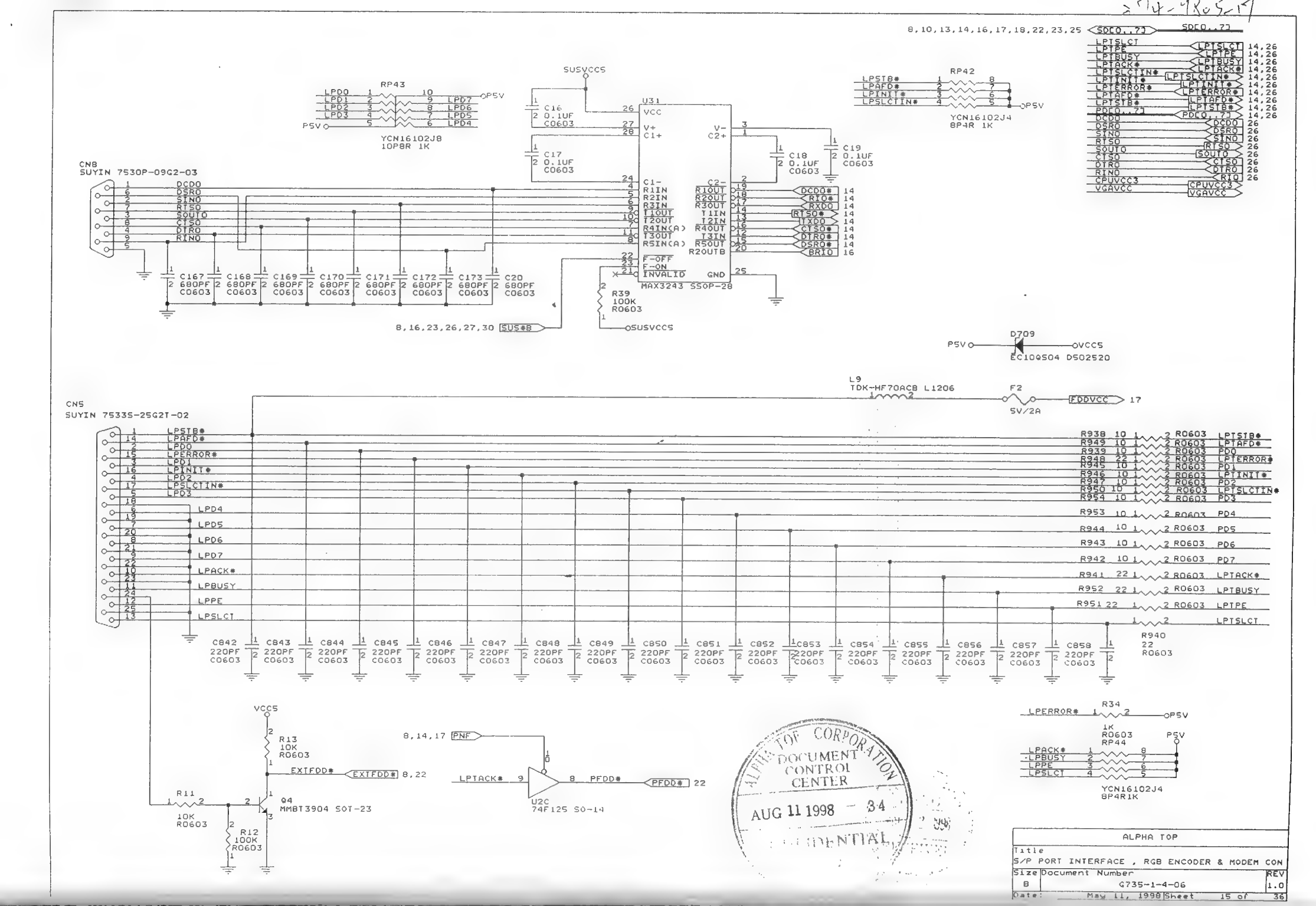
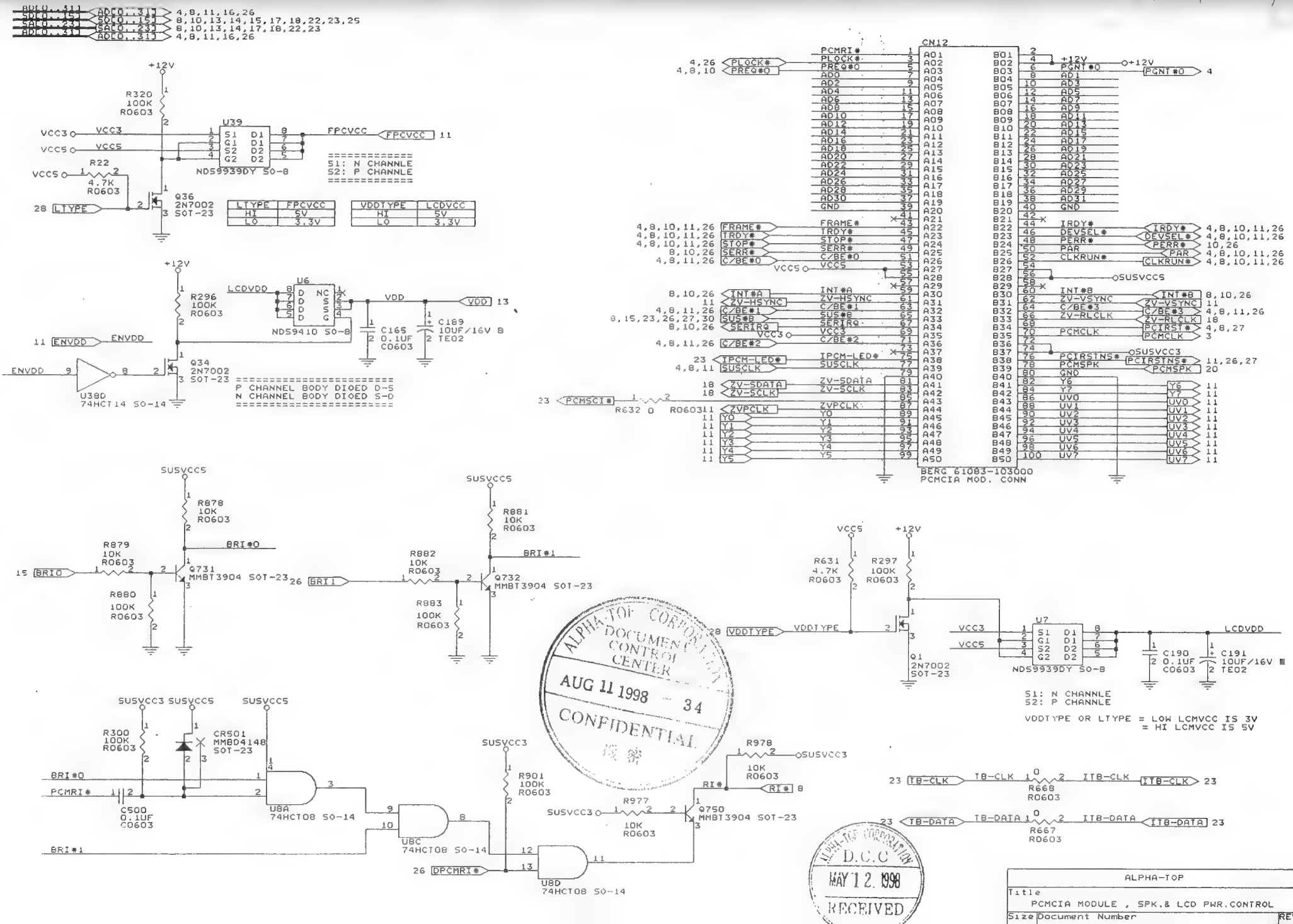
ALPHA TOP
Title
SUPER IO NS87338 , FDD CONN & FIR
Size B
Document Number G735-1-4-06
REV 1.0
Date: May 11, 1998 Sheet 14 of 36




ADL0..31
SDL0..15
SAL0..23
ADE0..31
4,8,11,16,26
8,10,13,14,15,17,18,22,23,25
8,10,13,14,17,18,22,23
4,8,11,16,26
+12V
R320
100K
R0603
VCC3
VCC5
U39
S1 D1
G1 D1
S2 D2
G2 D2
NDS9939DY SO-8
FPCVCC
FPCVCC 11
S1: N CHANNLE
S2: P CHANNLE
R22
4.7K
R0603
28 LTYPE
Q36
2N7002
SOT-23
LTYPE | FPCVCC
HI | 5V
LO | 3.3V
VDDTYPE | LCDVCC
HI | 5V
LO | 3.3V
U6
LCDVDD
NDS9410 SO-8
VDD
VDD 13
C165
0.1UF
C0603
C189
10UF/16V B
TE02
R296
100K
R0603
11 ENVDD
Q34
2N7002
SOT-23
U38D
74HCT14 SO-14
P CHANNEL BODY DIOED D-S
N CHANNEL BODY DIOED S-D
CN12
BERG 61083-103000
PCMCIA MOD. CONN
4,26 PLOCK#
4,8,10 PREQ#0
PGNT#0 4
4,8,10,11,26 FRAME#
4,8,10,11,26 TRDY#
4,8,10,11,26 STOP#
8,10,26 SERR#
4,8,11,26 C/BE#0
IRDY# 4,8,10,11,26
DEVSEL# 4,8,10,11,26
PERR# 10,26
PAR 4,8,10,11,26
CLKRUN# 4,8,10,11,26
SUSVCC5
8,10,26 INT#A
11 ZV-HSYNC
4,8,11,26 C/BE#1
8,15,23,26,27,30 SUS#B
8,10,26 SERIRQ
4,8,11,26 C/BE#2
INT#B 8,10,26
ZV-VSYNC 11
C/BE#3 4,8,11,26
ZV-RLCLK 18
PCIRST# 4,8,27
PCMCLK 3
SUSVCC3
23 IPCM-LED#
4,8,11 SUSCLK
PCIRSTNS# 11,26,27
PCMSPK 20
18 ZV-SDATA
18 ZV-SCLK
23 PCMSCI#
R632 0 R0603
11 ZVPCLK
11 YO
11 Y1
11 Y2
11 Y3
11 Y4
11 Y5
Y6 11
Y7 11
UV0 11
UV1 11
UV2 11
UV3 11
UV4 11
UV5 11
UV6 11
UV7 11
SUSVCC5
R878
10K
R0603
BRI#0
R879
10K
R0603
15 BRIO
Q731
MMBT3904 SOT-23
R880
100K
R0603
R881
10K
R0603
BRI#1
R882
10K
R0603
26 BRI1
Q732
MMBT3904 SOT-23
R883
100K
R0603
VCC5
+12V
R631
4.7K
R0603
R297
100K
R0603
28 VDDTYPE
Q1
2N7002
SOT-23
U7
NDS9939DY SO-8
C190
0.1UF
C0603
C191
10UF/16V
TE02
LCDVDD
S1: N CHANNLE
S2: P CHANNLE
VDDTYPE OR LTYPE = LOW LCMVCC IS 3V
= HI LCMVCC IS 5V
SUSVCC3
SUSVCC5
R300
100K
R0603
CR501
MMBD4148
SOT-23
BRI#0
PCMRI#
C500
0.1UF
C0603
U8A
74HCT08 SO-14
U8C
74HCT08 SO-14
U8D
74HCT08 SO-14
R901
100K
R0603
R978
10K
R0603
RI#
RI# 8
R977
10K
R0603
Q750
MMBT3904 SOT-23
BRI#1
26 DPCMRI#
23 TB-CLK
TB-CLK
R668
R0603
IIB-CLK
ITB-CLK 23
23 TB-DATA
TB-DATA
R667
R0603
IIB-DATA
ITB-DATA 23
ALPHA-TOP CORPORATION
DOCUMENT CONTROL CENTER
AUG 11 1998 34
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MAY 12 1998
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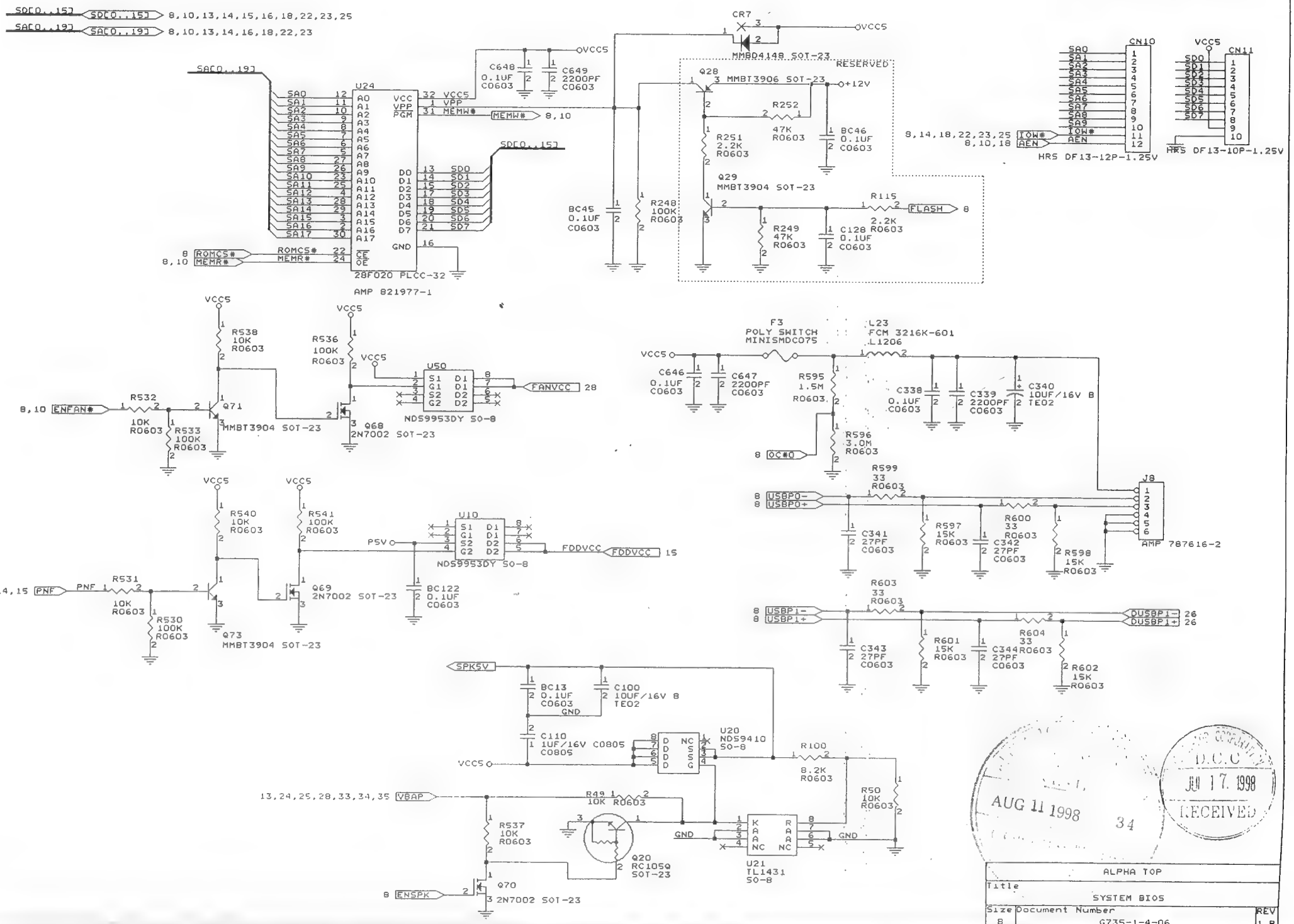
PCMCIA MODULE , SPK.& LCD PWR.CONTROL
Size Document Number REV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ROMCS#
MEMR#
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VPP
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C649 2200PF C0603
CR7
MMBD4148 SOT-23
RESERVED
Q28 MMBT3906 SOT-23
+12V
R252 47K R0603
R251 2.2K R0603
BC46 0.1UF C0603
Q29 MMBT3904 SOT-23
R115 2.2K R0603
FLASH
R249 47K R0603
C128 0.1UF C0603
BC45 0.1UF C0603
R248 100K R0603
CN10
CN11
HRS DF13-12P-1.25V
HRS DF13-10P-1.25V
IOW#
AEN
R538 10K R0603
R536 100K R0603
R532 10K R0603
R533 100K R0603
ENFAN#
Q71 MMBT3904 SOT-23
Q68 2N7002 SOT-23
U50
NDS9953DY SO-8
FANVCC
F3 POLY SWITCH MINISMDC07S
L23 FCM 3216K-601 L1206
C646 0.1UF C0603
C647 2200PF C0603
R595 1.5M R0603
C338 0.1UF C0603
C339 2200PF C0603
C340 10UF/16V TE02
R596 3.0M R0603
OC#0
R599 33 R0603
USBP0-
USBP0+
C341 27PF C0603
R597 15K R0603
C342 27PF C0603
R600 33 R0603
R598 15K R0603
J8
AMP 787616-2
R540 10K R0603
R541 100K R0603
R531 10K R0603
R530 100K R0603
PNF
Q73 MMBT3904 SOT-23
Q69 2N7002 SOT-23
U10
NDS9953DY SO-8
PSV
FDDVCC
BC122 0.1UF C0603
R603 33 R0603
USBP1-
USBP1+
C343 27PF C0603
R601 15K R0603
C344 27PF C0603
R604 33 R0603
R602 15K R0603
SPK5V
BC13 0.1UF C0603
C100 10UF/16V TE02
C110 1UF/16V C0805
U20 NDS9410 SO-8
R100 8.2K R0603
R49 10K R0603
R50 10K R0603
R537 10K R0603
Q20 RC105Q SOT-23
U21 TL1431 SO-8
Q70 2N7002 SOT-23
ENSPK
VBAP
GND
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JU 17. 1998
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REV 1.B
Date: July 16, 1998
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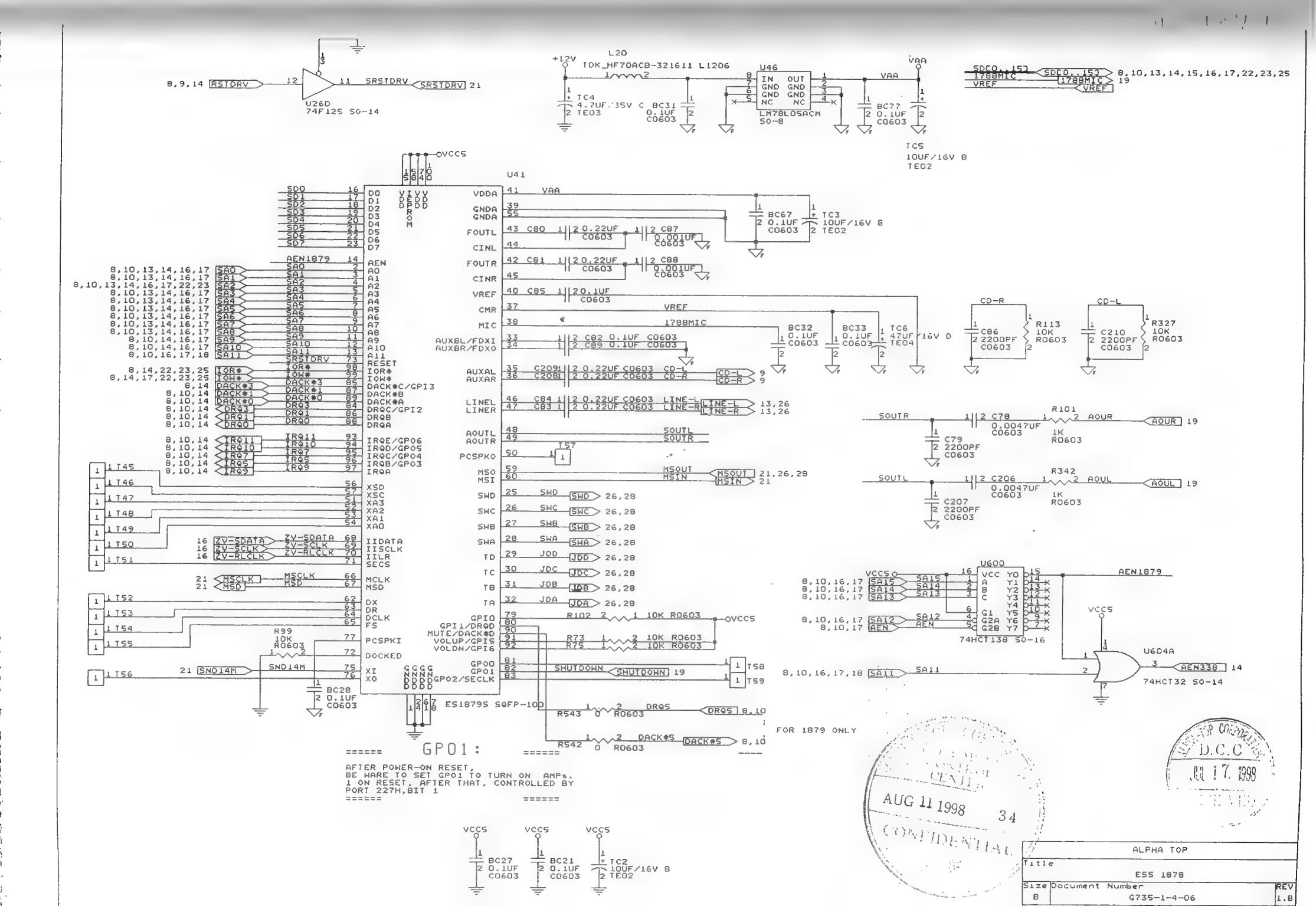

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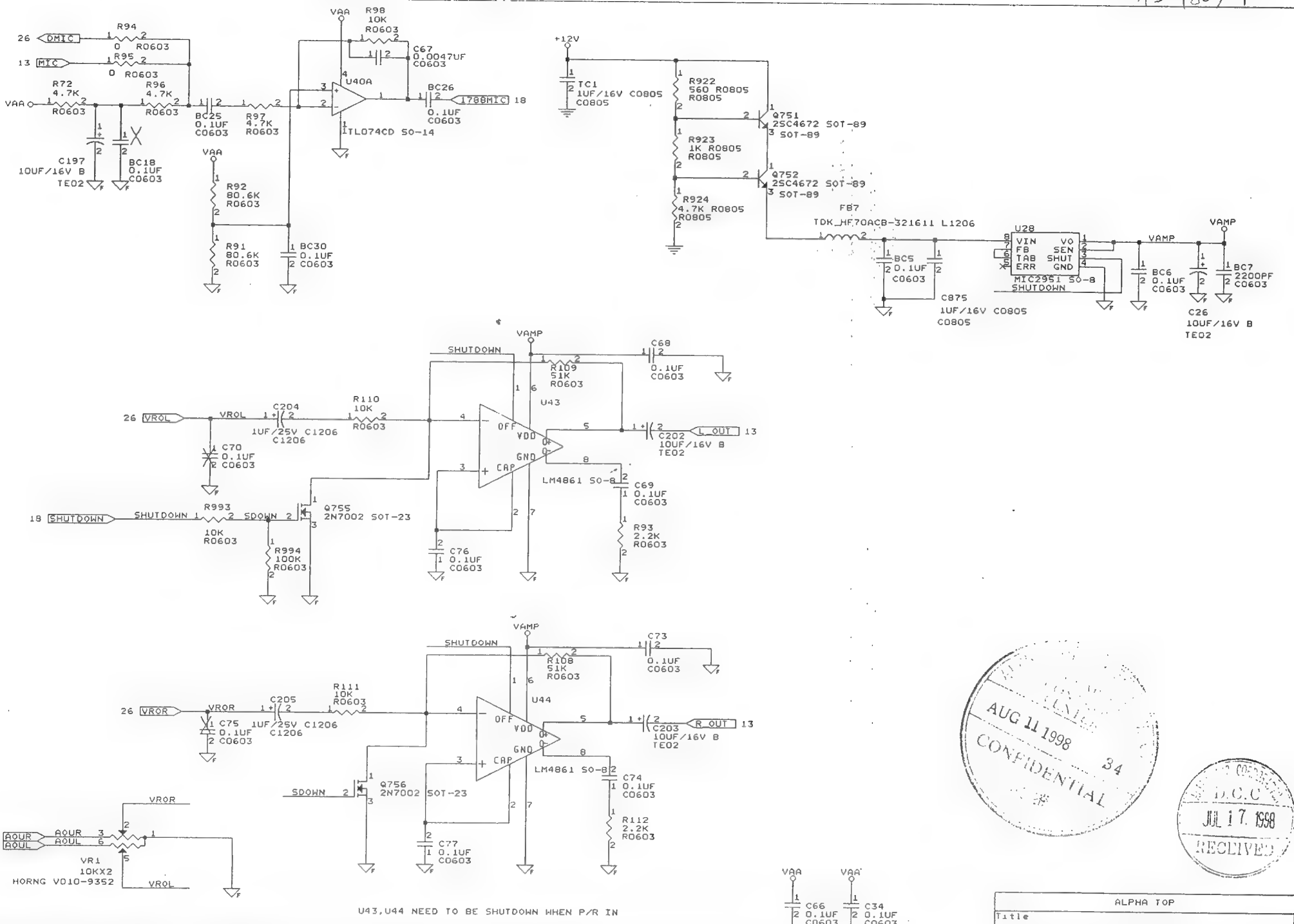

U43,U44 NEED TO BE SHUTDOWN WHEN P/R IN

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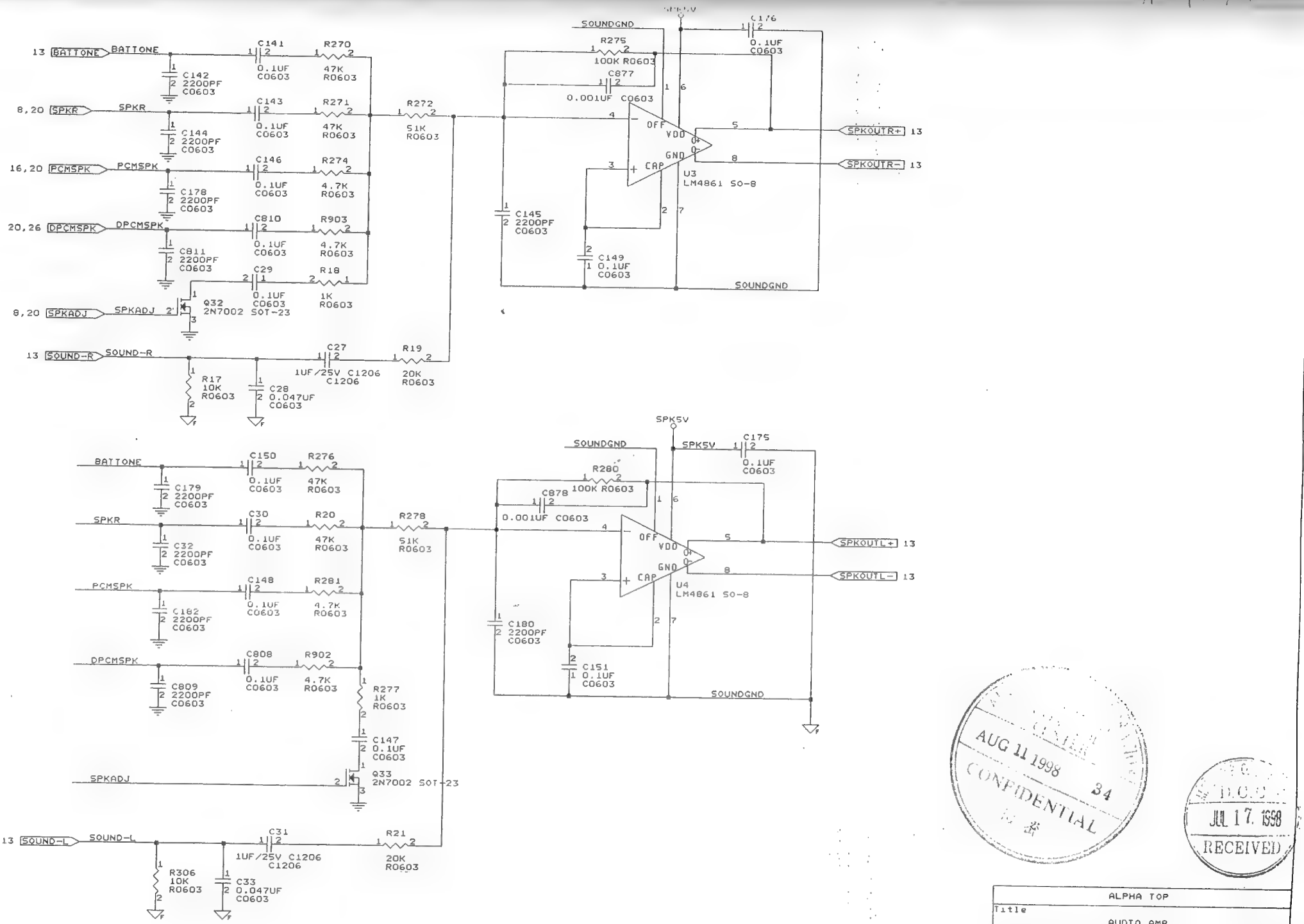
Size: B	Document Number: G735-1-4-06	REV: 1.B
Date: July 16, 1998	Sheet 19 of 36	



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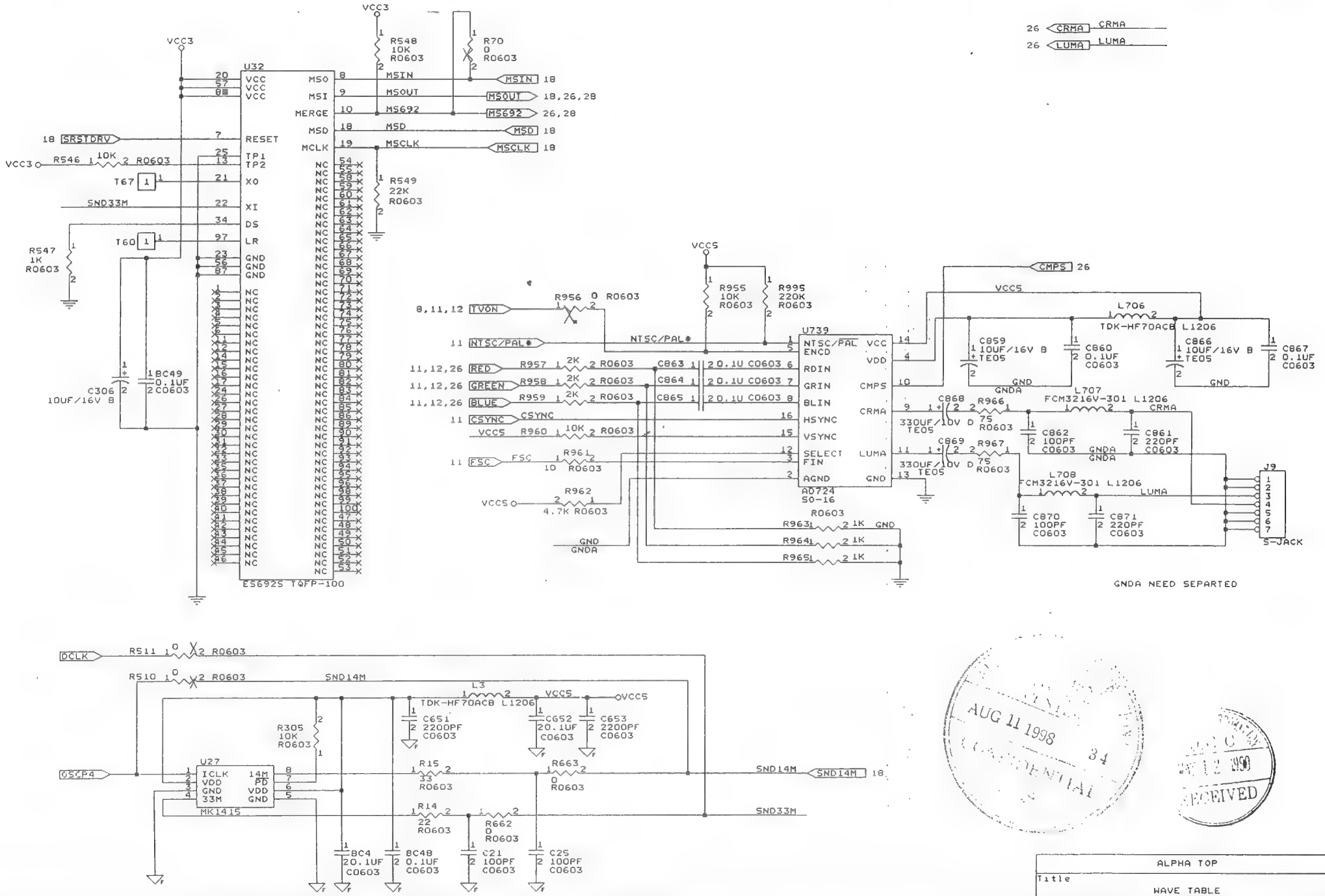
Date: July 16, 1998	Sheet 20 of 36	


U32
ES6925 TQFP-100
U739
AD724 SO-16
U27
MK1415
TDK-HF70ACB L1206
FCM3216V-301 L1206
S-JACK
GNDA NEED SEPARTED
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RECEIVED
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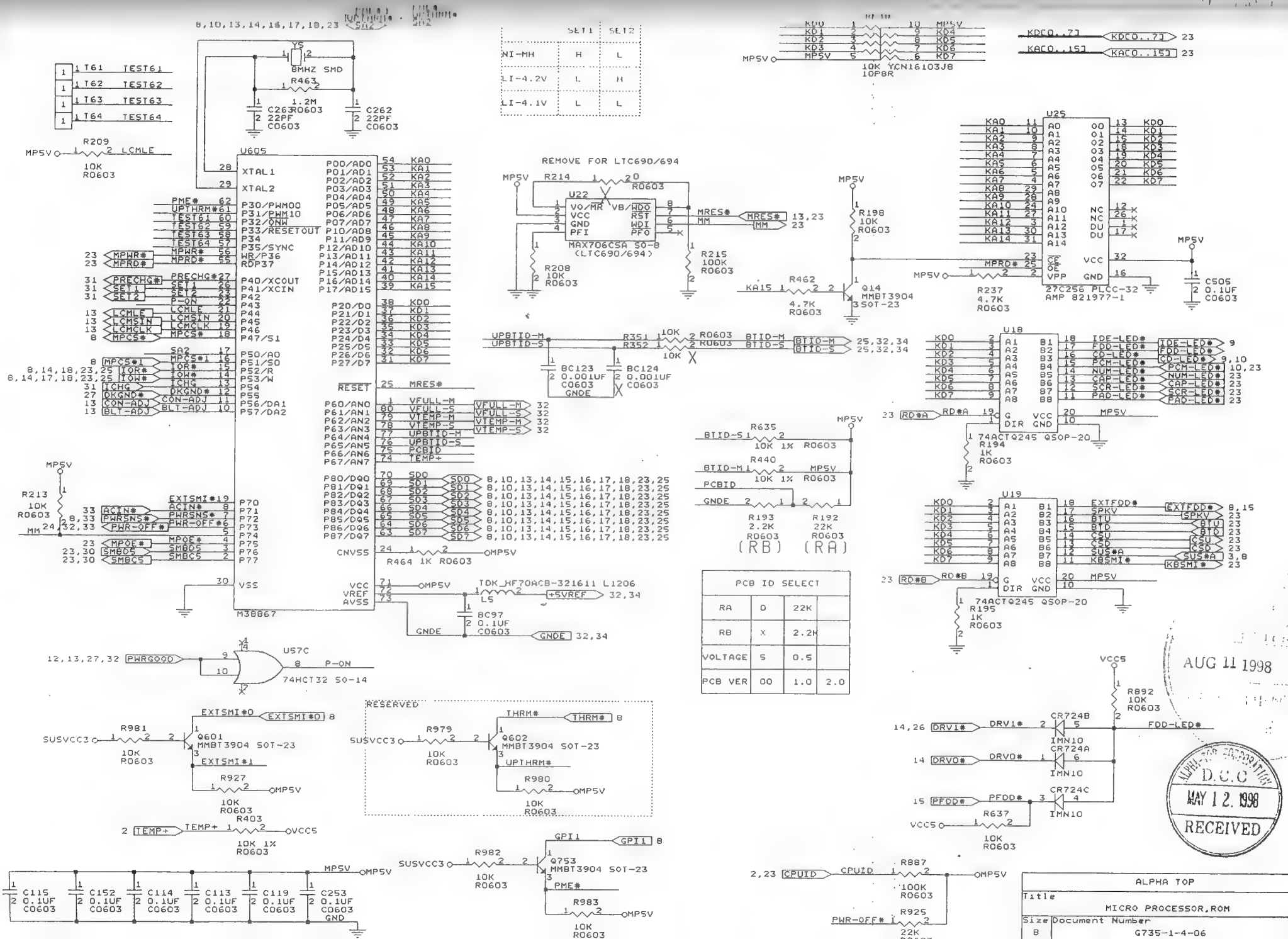
WAVE TABLE
G735-1-4-06
REV 1.0


8,10,13,14,16,17,18,23
Y5
8MHZ SMD
R463
1.2M
C263 R0603
22PF
C0603
C262
22PF
C0603
T61 TEST61
T62 TEST62
T63 TEST63
T64 TEST64
R209
LCMLE
10K
R0603
U605
XTAL1
XTAL2
PME# 62
UPTHRM# 61
TEST61 60
TEST62 59
TEST63 58
TEST64 57
MPWR# 56
MPRD# 55
PRECHG# 27
SET1 26
SET2 25
P-ON 22
LCMLE 21
LCMSIN 20
LCMCLK 19
MPCS# 18
SA2 17
MPCS#1 16
TOR# 15
TOW# 14
TCHG 13
DKGND# 12
CON-ADJ 11
BLT-ADJ 10
P30/PWM00
P31/PWM10
P32/ONW
P33/RESETOUT
P34
P35/SYNC
WR/P36
RDP37
P40/XCOUT
P41/XCIN
P42
P43
P44
P45
P46
P47/S1
P50/A0
P51/S0
P52/R
P53/W
P54
P55
P56/DA1
P57/DA2
P00/AD0
P01/AD1
P02/AD2
P03/AD3
P04/AD4
P05/AD5
P06/AD6
P07/AD7
P10/AD8
P11/AD9
P12/AD10
P13/AD11
P14/AD12
P15/AD13
P16/AD14
P17/AD15
P20/D0
P21/D1
P22/D2
P23/D3
P24/D4
P25/D5
P26/D6
P27/D7
RESET
P60/AN0
P61/AN1
P62/AN2
P63/AN3
P64/AN4
P65/AN5
P66/AN6
P67/AN7
P80/DQ0
P81/DQ1
P82/DQ2
P83/DQ3
P84/DQ4
P85/DQ5
P86/DQ6
P87/DQ7
CNVSS
VSS
VCC
VREF
AVSS
M38867
R213
10K
R0603
EXTSMI#19
ACIN# 8
PWRSNS# 7
PWR-OFF# 6
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SMBD5 3
SMBC5 2
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P71
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P73
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P77
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L5
+5VREF
BC97
0.1UF
C0603
GNDE
12,13,27,32 PWRGOOD
U57C
74HCT32 SO-14
P-ON
EXTSMI#0
R981
Q601
MMBT3904 SOT-23
EXTSMI#1
R927
10K
R0603
RESERVED
THRM#
R979
Q602
MMBT3904 SOT-23
UPTHRM#
R980
R403
10K 1%
R0603
TEMP+
VCC5
C115
C152
C114
C113
C119
C253
0.1UF
C0603
GND
GPI1
R982
Q753
MMBT3904 SOT-23
PME#
R983
SET1 SET2
NI-MH H L
LI-4.2V L H
LI-4.1V L L
REMOVE FOR LTC690/694
R214
R0603
U22
MAX706CSA SO-8
(LTC690/694)
R208
10K
R0603
R215
100K
R0603
MRES#
MM
R198
10K
R0603
R462
4.7K
R0603
Q14
MMBT3904
SOT-23
KA15
R237
4.7K
R0603
U25
27C256 PLCC-32
AMP 821977-1
C505
0.1UF
C0603
UPBTID-M
UPBTID-S
R351
R352
10K
R0603
BTID-M
BTID-S
BC123
BC124
0.001UF
C0603
GNDE
U18
74ACTQ245 QSOP-20
IDE-LED#
FDD-LED#
CD-LED#
PCM-LED#
NUM-LED#
CAP-LED#
SCR-LED#
PAD-LED#
RD#A
R194
1K
R0603
R635
10K 1%
R0603
R440
BTID-S1
BTID-M1
PCBID
R193
2.2K
R0603
(RB)
R192
22K
R0603
(RA)
U19
EXTFDD#
SPKV
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BTD
CSU
CSD
SUS#A
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RD#B
R195
1K
R0603
PCB ID SELECT
RA 0 22K
RB X 2.2K
VOLTAGE 5 0.5
PCB VER 00 1.0 2.0
VCC5
R892
10K
R0603
CR724B
IMN10
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CR724C
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DRVO#
PFDD#
R637
CPUID
R887
100K
R0603
PWR-OFF#
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22K
AUG 11 1998
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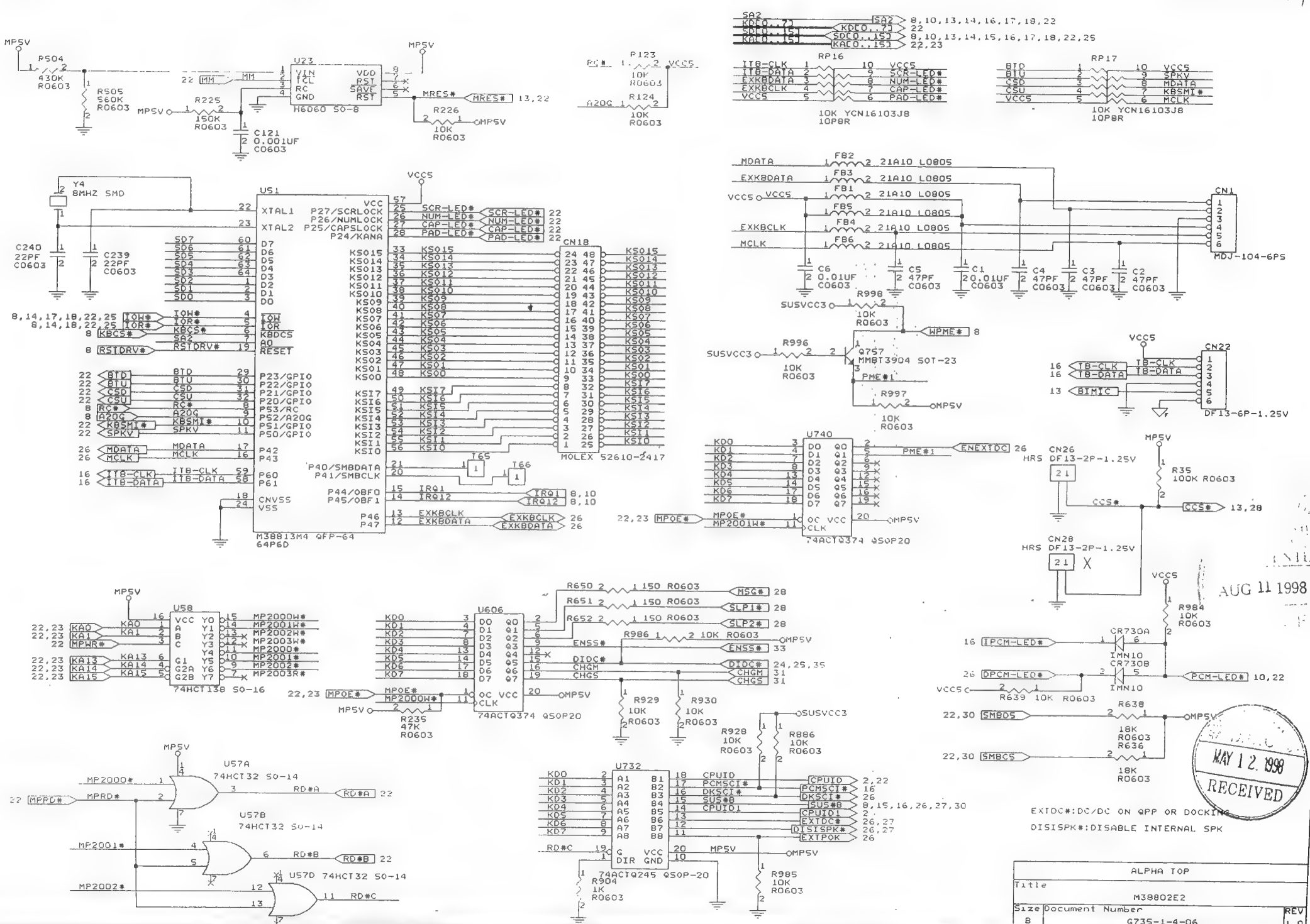
Size B
Document Number
G735-1-4-06
REV 1.0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R505 560K R0603
R225 150K R0603
C121 0.001UF C0603
U23 H6060 SO-8
MRES*
R226 10K R0603
P123 10K R0603
R124 10K R0603
RC#
A20G
SA2
KDCO..7
SDCO..15
KACO..15
RP16
ITB-CLK
ITB-DATA
EXKBDATA
EXKBCLK
VCC5
SCR-LED*
NUM-LED*
CAP-LED*
PAD-LED*
10K YCN16103J8 10P8R
RP17
BTD
BTU
CSD
CSU
SPKV
MDATA
KBSMI*
MCLK
Y4 8MHZ SMD
C240 22PF C0603
C239 22PF C0603
U51 M38813M4 QFP-64 64P6D
CN18 MOLEX 52610-2417
T65
T66
IRQ1
IRQ12
FB2
FB3
FB1
FB5
FB4
FB6
21A10 L0805
CN1 MDJ-104-6PS
C6 0.01UF C0603
C5 47PF C0603
C1 0.01UF C0603
C4 47PF C0603
C3 47PF C0603
C2 47PF C0603
R998 10K R0603
SUSVCC3
WPME*
R996 10K R0603
Q757 MMBT3904 SOT-23
PME#1
R997 10K R0603
CN22 DF13-6P-1.25V
BIMIC
U740 74ACTQ374 QSOP20
ENEXTDC
CN26 HRS DF13-2P-1.25V
R35 100K R0603
CCS*
CN28 HRS DF13-2P-1.25V
U58 74HCT138 SO-16
U606 74ACTQ374 QSOP20
R650 150 R0603
R651 150 R0603
R652 150 R0603
R986 10K R0603
ENSS*
DIDC*
CHGM
CHGS
R929 10K R0603
R930 10K R0603
R235 47K R0603
R984 10K R0603
CR730A IMN10
CR730B IMN10
IPCM-LED*
DPCM-LED*
PCM-LED*
R639 10K R0603
R638 18K R0603
R636 18K R0603
SMBDS
SMBCS
U57A 74HCT32 SO-14
U57B 74HCT32 SO-14
U57D 74HCT32 SO-14
U732 74ACTQ245 QSOP-20
R928 10K R0603
R886 10K R0603
R904 1K R0603
R985 10K R0603
CPUID
PCMSCI*
DKSCI*
SUS*8
CPUID1
EXTDC*
DISTSPK*
EXTPOK
EXIDC*:DC/DC ON QPP OR DOCKING
DISISPK*:DISABLE INTERNAL SPK
AUG 11 1998
MAY 12 1998
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ALPHA TOP
M38802E2
G735-1-4-06
May 11, 1998
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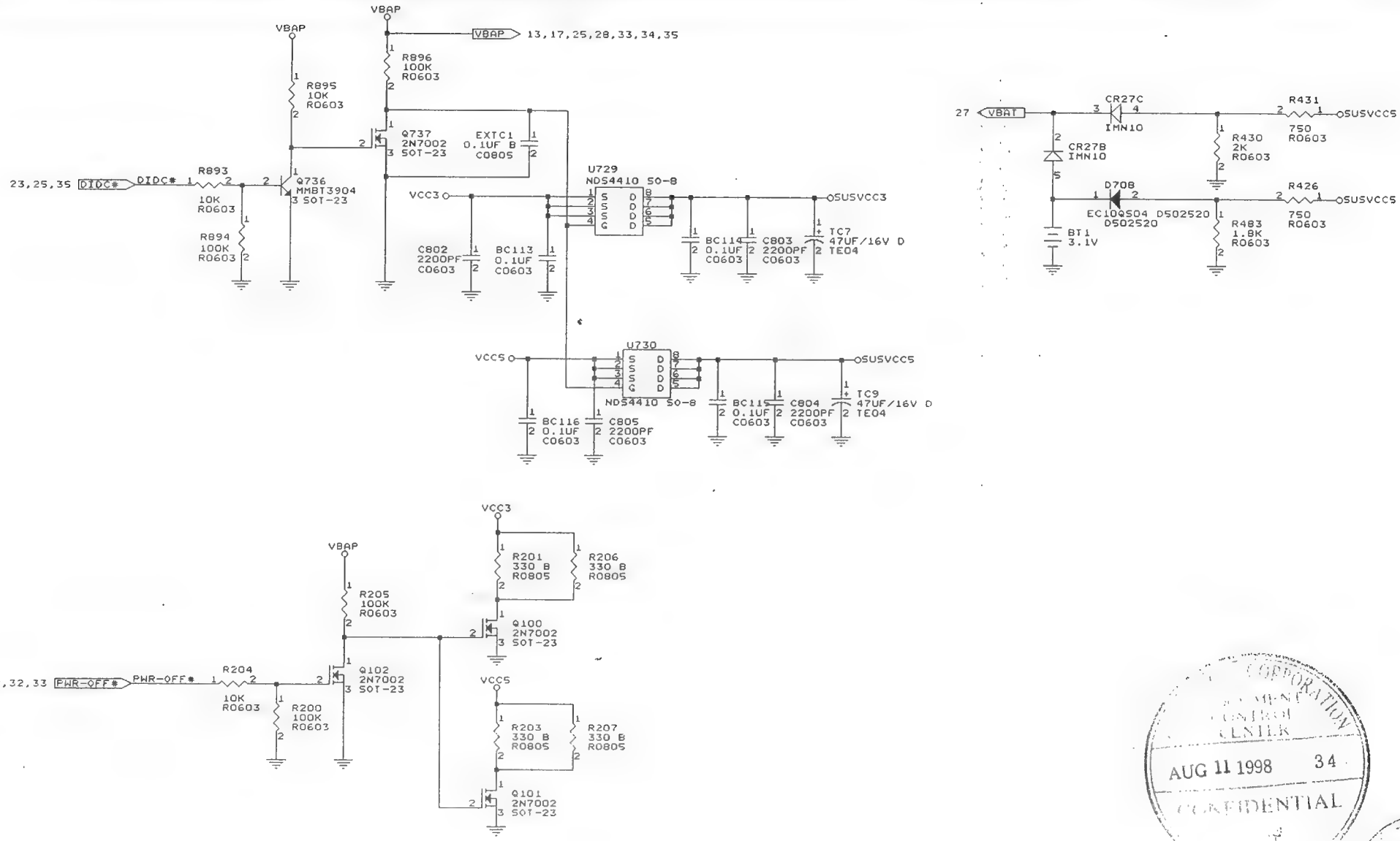

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Size: B	Document Number: G735-1-4-06	REV: 1.B
Date: July 16, 1998	Sheet 34 of 36	

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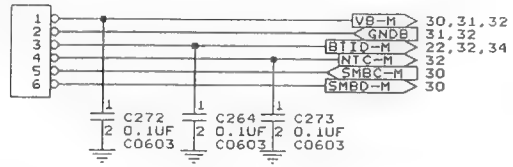
KEL GC11-06-1
DIP



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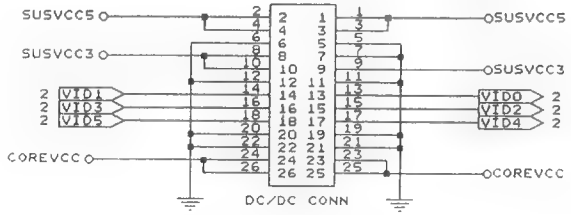
CEN-BAT06D1
2ND BATT CON

CN20
SUYIN 20009A-105-26G2



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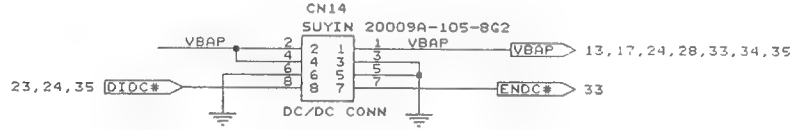

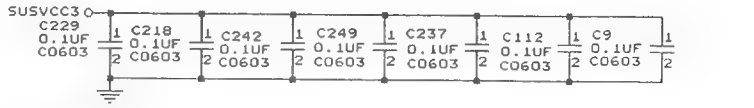

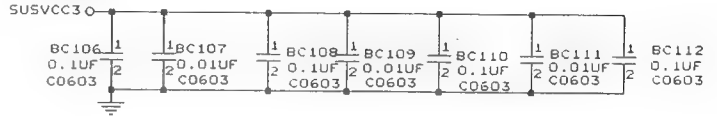

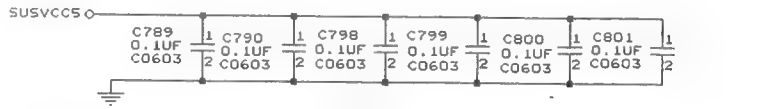

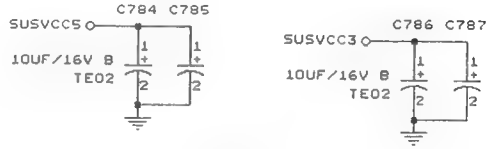

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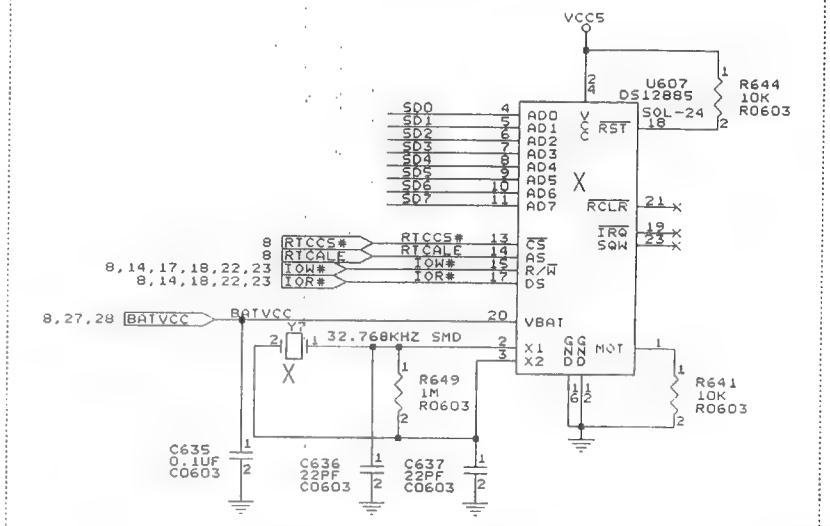

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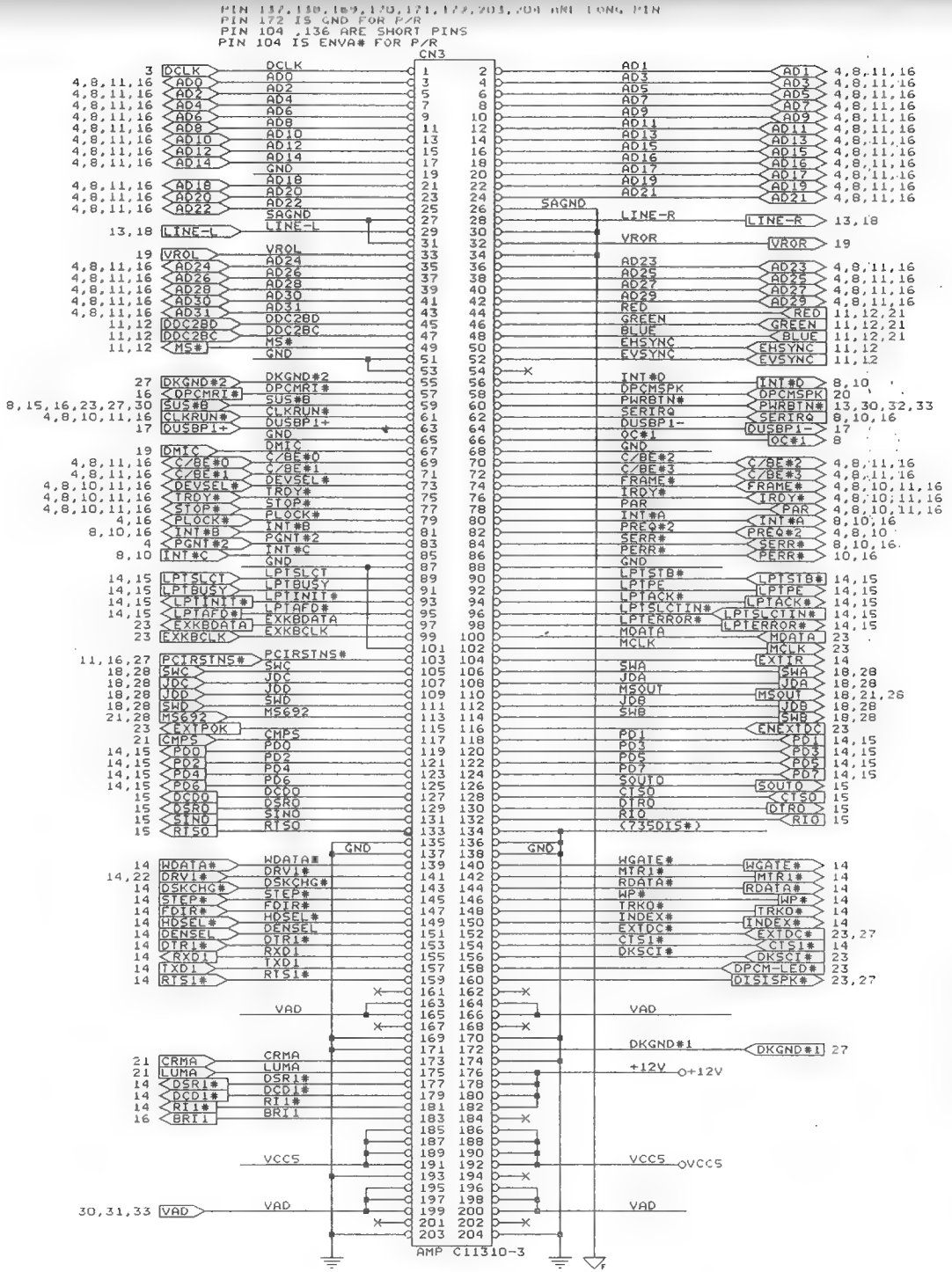

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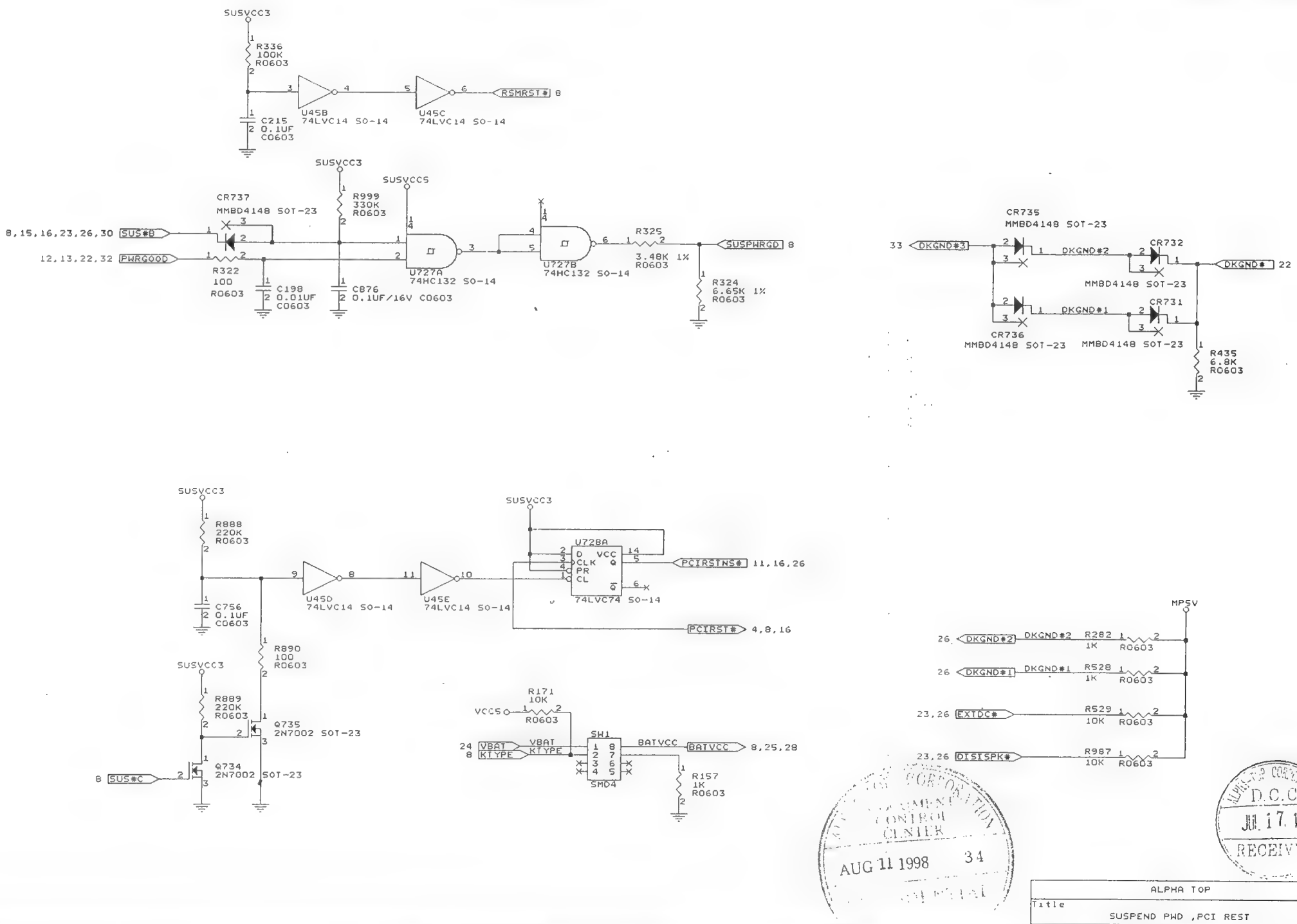
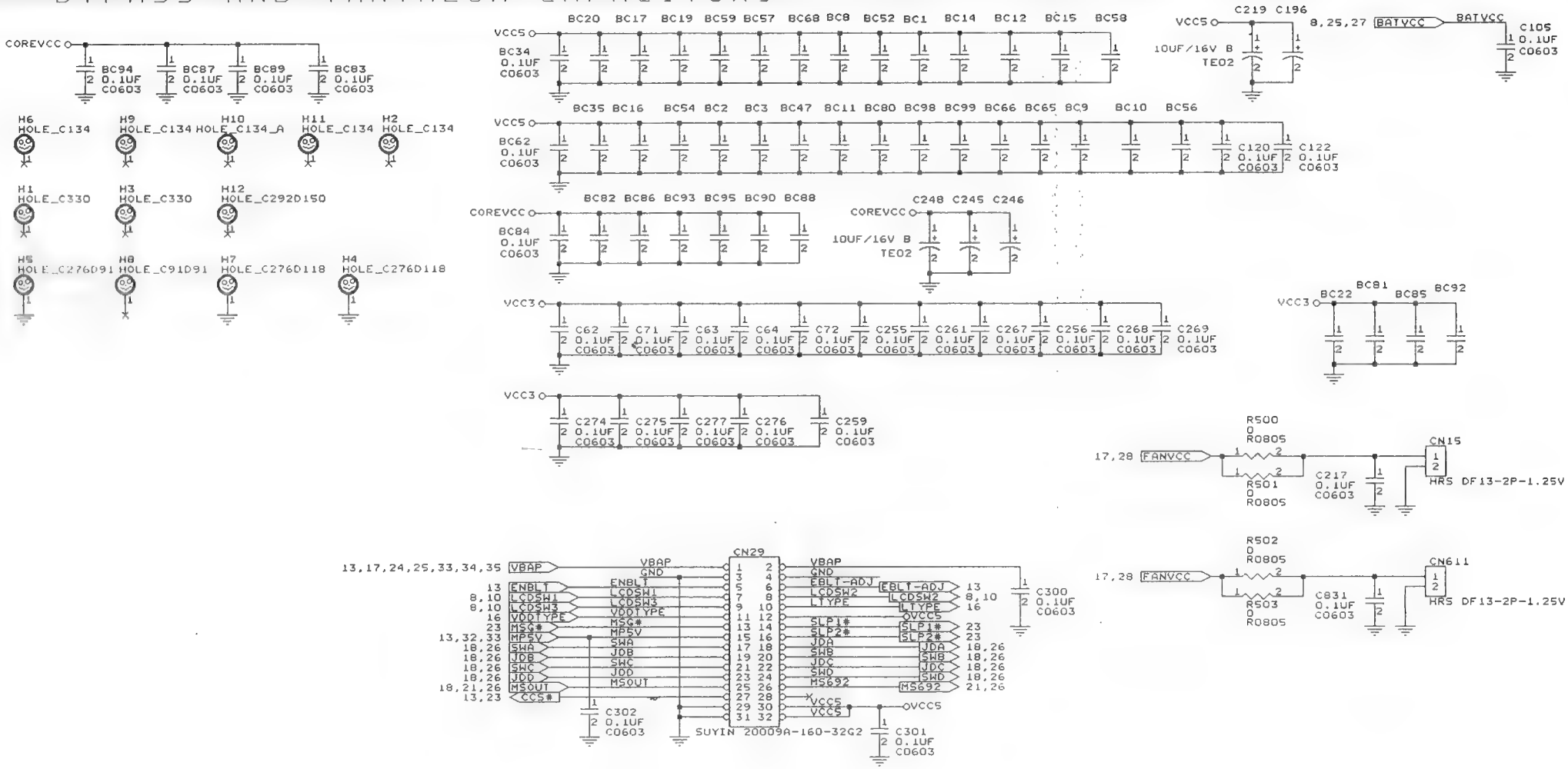
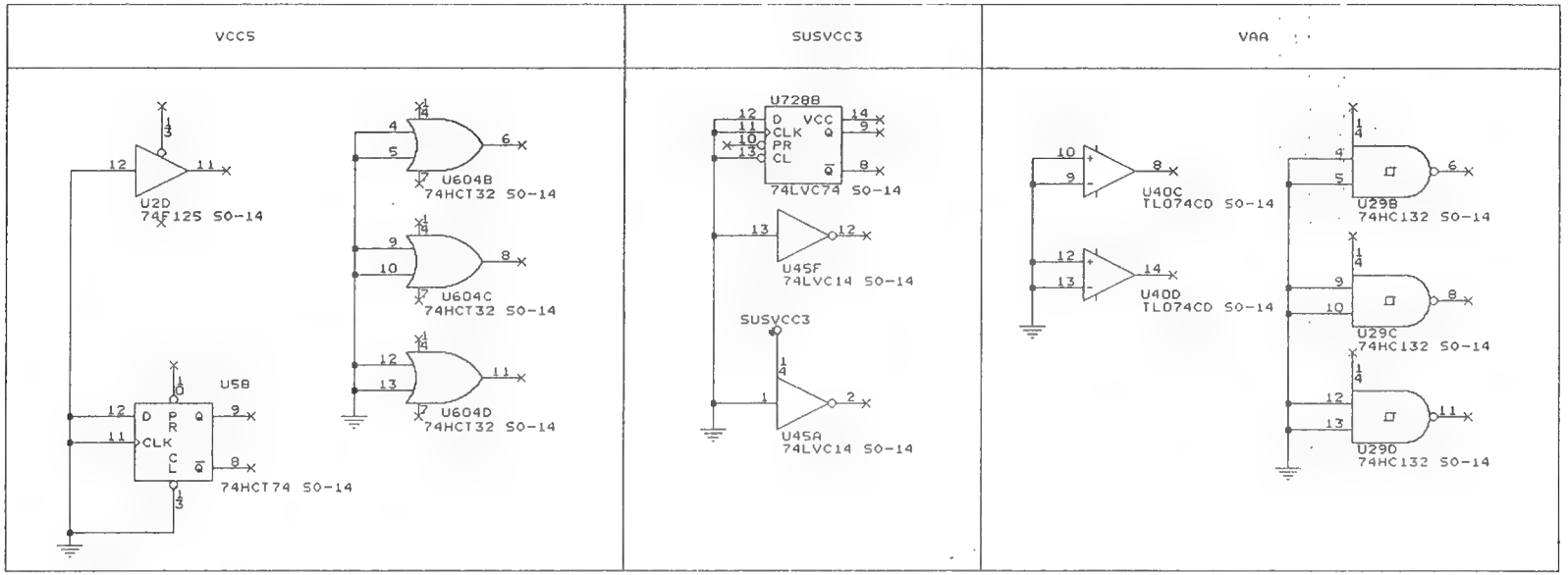


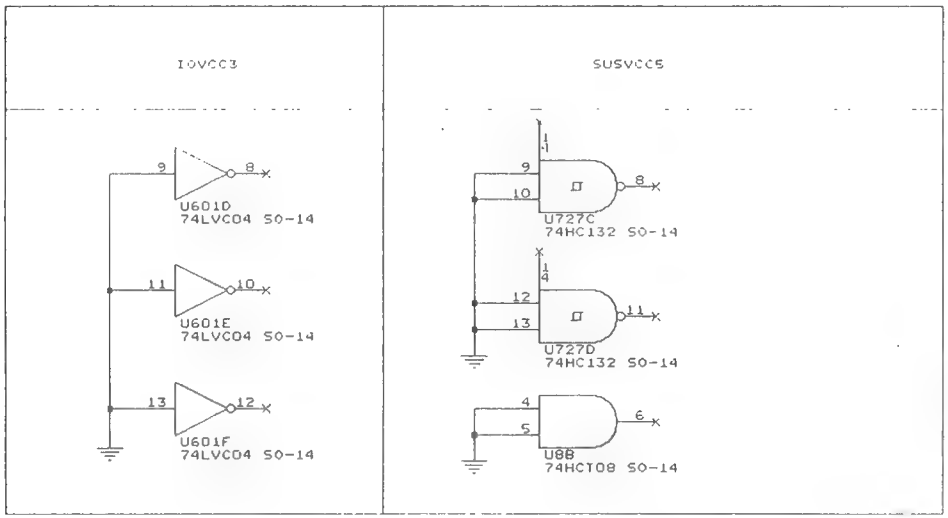
ALPHA TOP		
Title: SUSPEND PWD ,PCI REST		
Size: B	Document Number: G73S-1-4-06	REV: 1.8
Date: July 16, 1998	Sheet: 27 of	36

BYPASS AND TANTALUM CAPACITORS

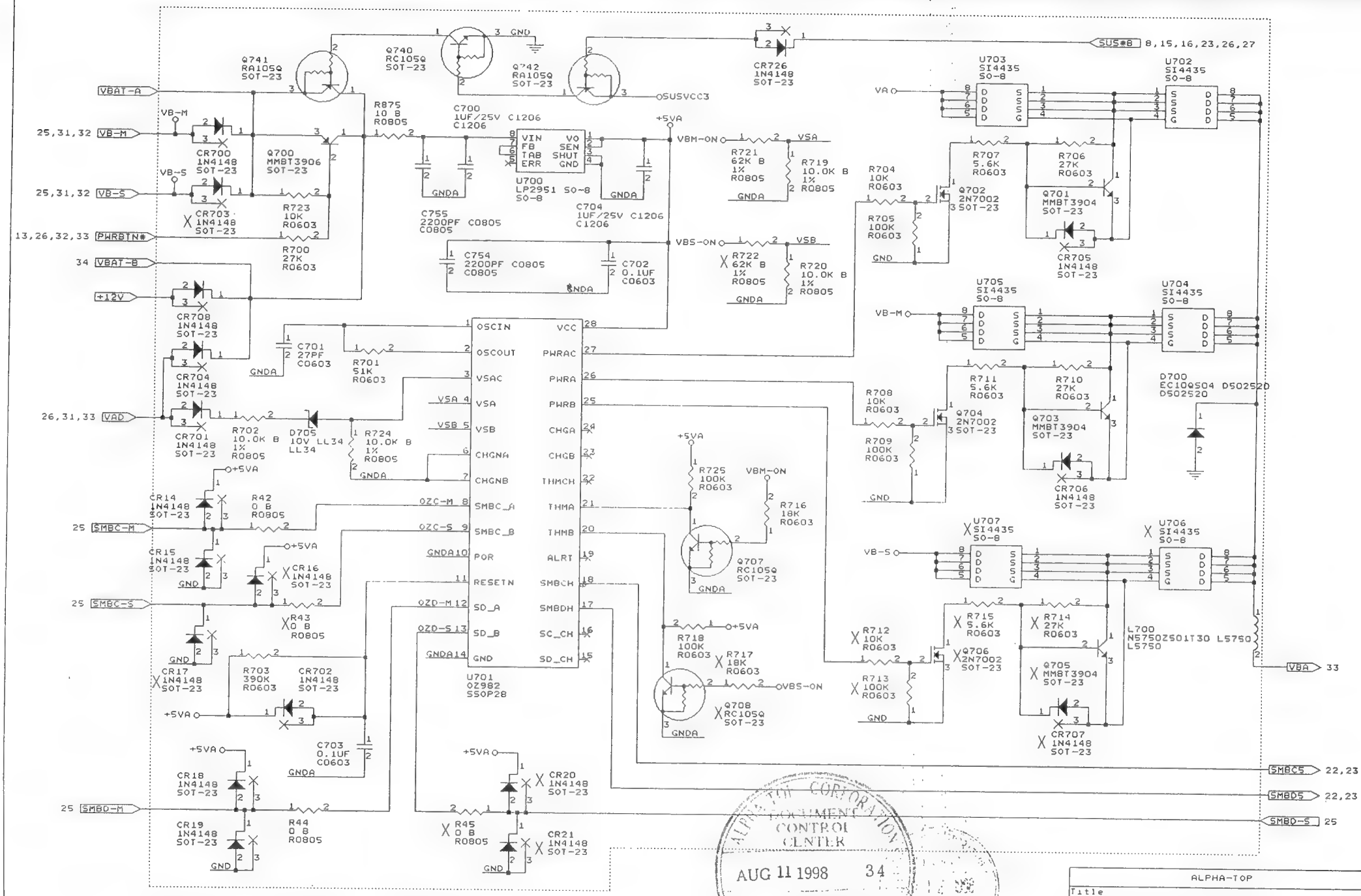


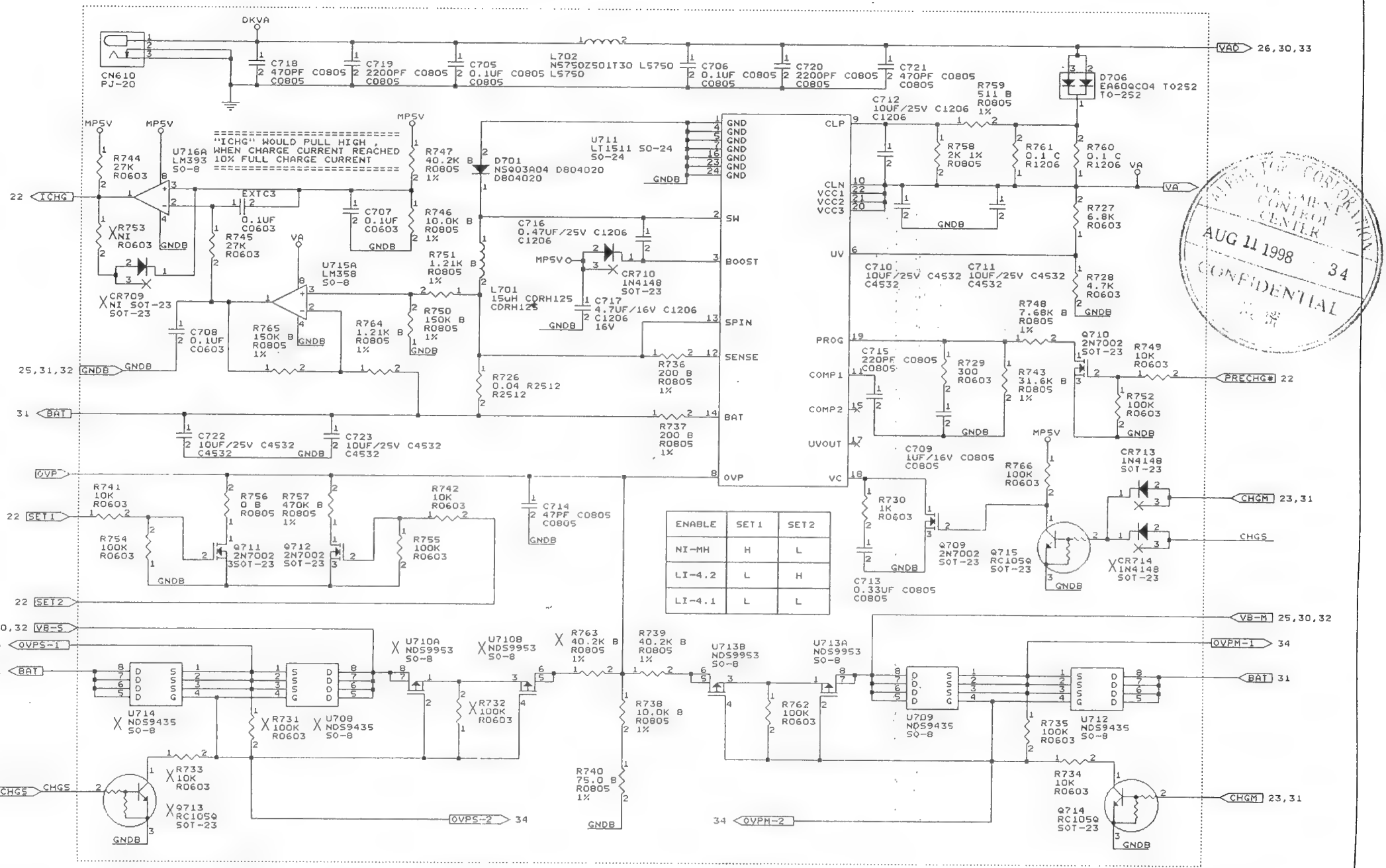
ALPHA TOP		
Title: BYPASS, BULK CAPS, INVERT CONN.		
Size: B	Document Number: G735-1-4-06	REV: 1.0
Date: May 11, 1998	Sheet 28 of 36	





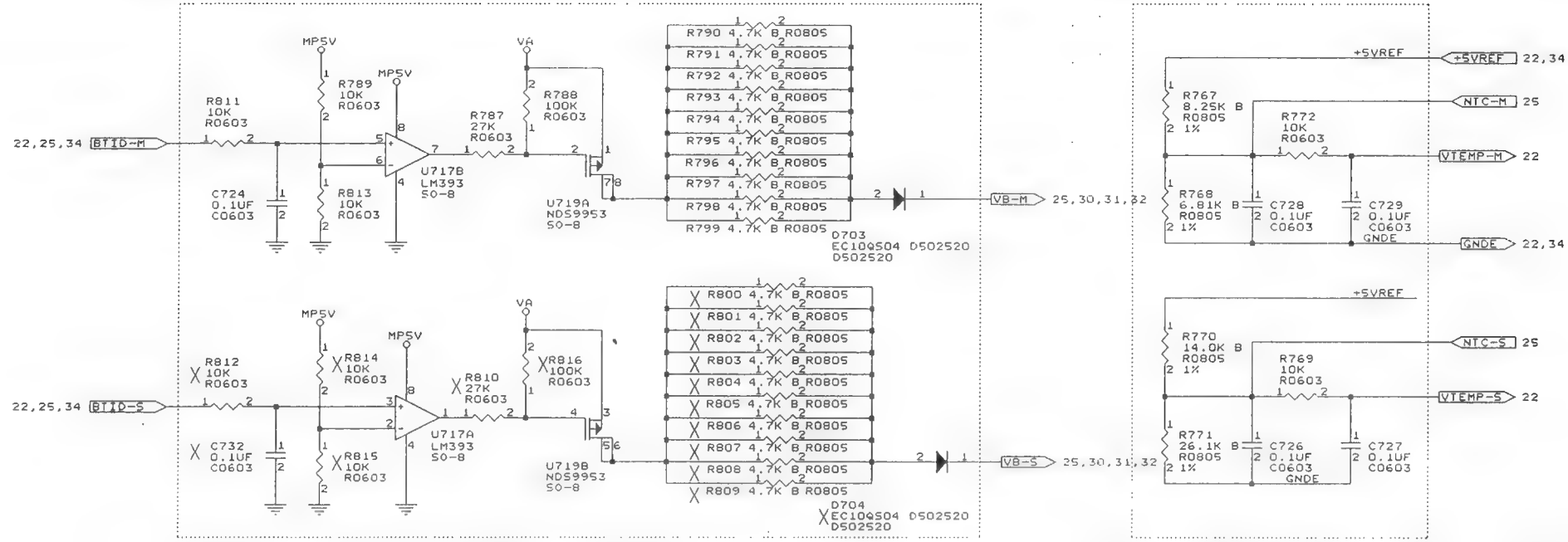
ALPHA TOP		
Title: SPARE PARTS		
Size: B	Document Number: G735-1-4-06	REV: 1.0
Date: May 11, 1998	Sheet 29 of 36	

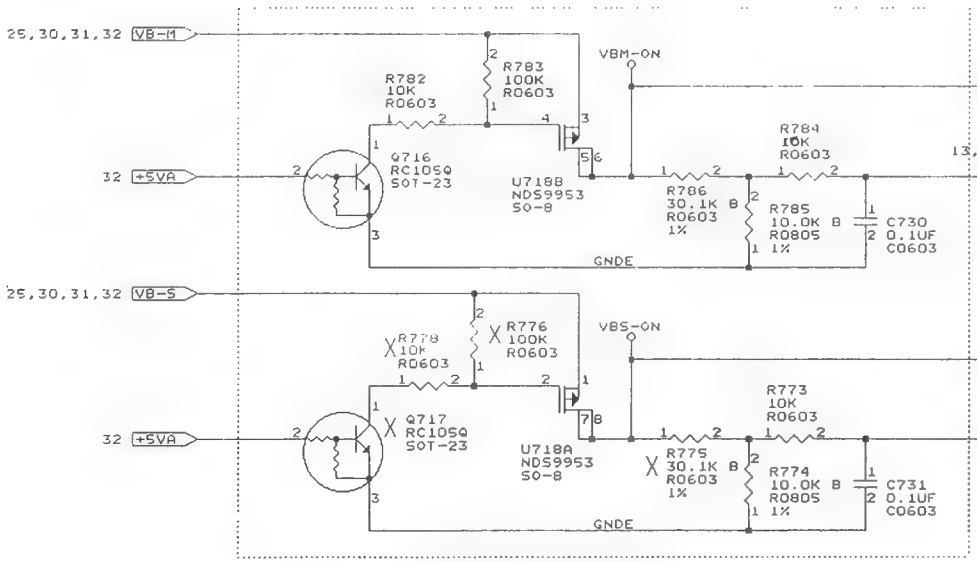

SMB SMART BATTERY SELECTOR
U701 0Z982 SSOP28
OSCIN OSCOUT VSAC VSA VSB CHGNA CHGNB GNDA10 RESETN SD_A SD_B GNDA14 GND VCC PWRAC PWRA PWRB CHGA CHGB THMCH THMA THMB ALRT SMBCH SMBDH SC_CH SD_CH
U700 LP2951 SO-8
U702 SI4435 SO-8
U703 SI4435 SO-8
U704 SI4435 SO-8
U705 SI4435 SO-8
U706 SI4435 SO-8
U707 SI4435 SO-8
Q700 MMBT3906 SOT-23
Q701 MMBT3904 SOT-23
Q702 2N7002 SOT-23
Q703 MMBT3904 SOT-23
Q704 2N7002 SOT-23
Q705 MMBT3904 SOT-23
Q706 2N7002 SOT-23
Q707 RC105Q SOT-23
Q708 RC105Q SOT-23
Q740 RC105Q SOT-23
Q741 RA105Q SOT-23
Q742 RA105Q SOT-23
CR700 1N4148 SOT-23
CR701 1N4148 SOT-23
CR702 1N4148 SOT-23
CR703 1N4148 SOT-23
CR704 1N4148 SOT-23
CR705 1N4148 SOT-23
CR706 1N4148 SOT-23
CR707 1N4148 SOT-23
CR708 1N4148 SOT-23
CR14 1N4148 SOT-23
CR15 1N4148 SOT-23
CR16 1N4148 SOT-23
CR17 1N4148 SOT-23
CR18 1N4148 SOT-23
CR19 1N4148 SOT-23
CR20 1N4148 SOT-23
CR21 1N4148 SOT-23
CR726 1N4148 SOT-23
D700 EC10QS04 DS02520
D705 10V LL34 LL34
L700 N5750ZS01T30 L5750
R700 27K R0603
R701 51K R0603
R702 10.0K B 1% R0805
R703 390K R0603
R704 10K R0603
R705 100K R0603
R706 27K R0603
R707 5.6K R0603
R708 10K R0603
R709 100K R0603
R710 27K R0603
R711 5.6K R0603
R712 10K R0603
R713 100K R0603
R714 27K R0603
R715 5.6K R0603
R716 18K R0603
R717 18K R0603
R718 100K R0603
R719 10.0K B 1% R0805
R720 10.0K B 1% R0805
R721 62K B 1% R0805
R722 62K B 1% R0805
R723 10K R0603
R724 10.0K B 1% R0805
R725 100K R0603
R42 0 B R0805
R43 0 B R0805
R44 0 B R0805
R45 0 B R0805
R875 10 B R0805
C700 1UF/25V C1206
C701 27PF C0603
C702 0.1UF C0603
C703 0.1UF C0603
C704 1UF/25V C1206
C754 2200PF C0805
C755 2200PF C0805
VBAT-A
VBAT-B
VB-M
VB-S
+12V
+5VA
VAD
VA
VBA
VSA
VSB
VBM-ON
VBS-ON
SUSVCC3
SUS#8 8,15,16,23,26,27
PWRBTN# 13,26,32,33
25,31,32 VB-M
25,31,32 VB-S
34 VBAT-B
26,31,33 VAD
25 SMBC-M
25 SMBC-S
25 SMBD-M
SMBC5 22,23
SMBD5 22,23
SMBD-S 25
VBA 33
GNDA
GND
AUG 11 1998
RECEIVED
ALPHA-TOP
G735 POWER ON BOARD (1)
Document Number G735-1-4-06
REV 1.0
Date: May 11, 1998 Sheet 30 of 36

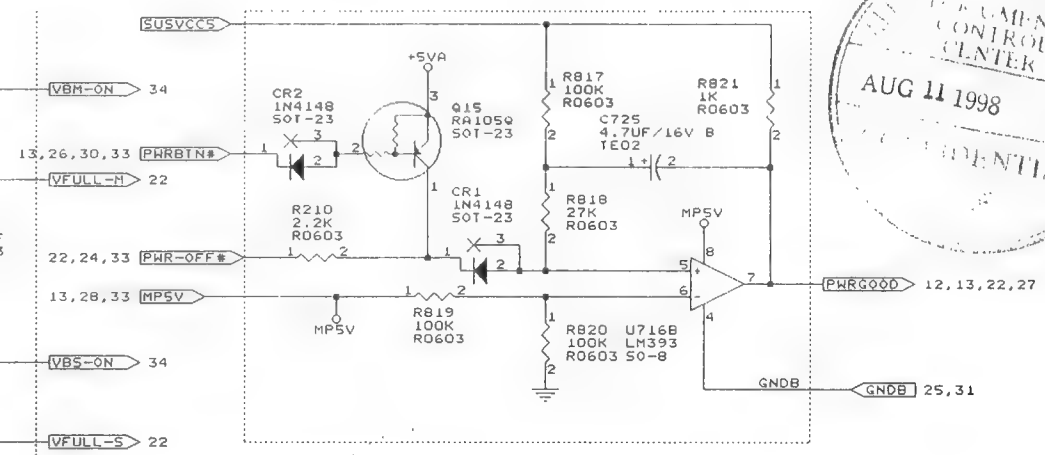


BATTERY CHARGER

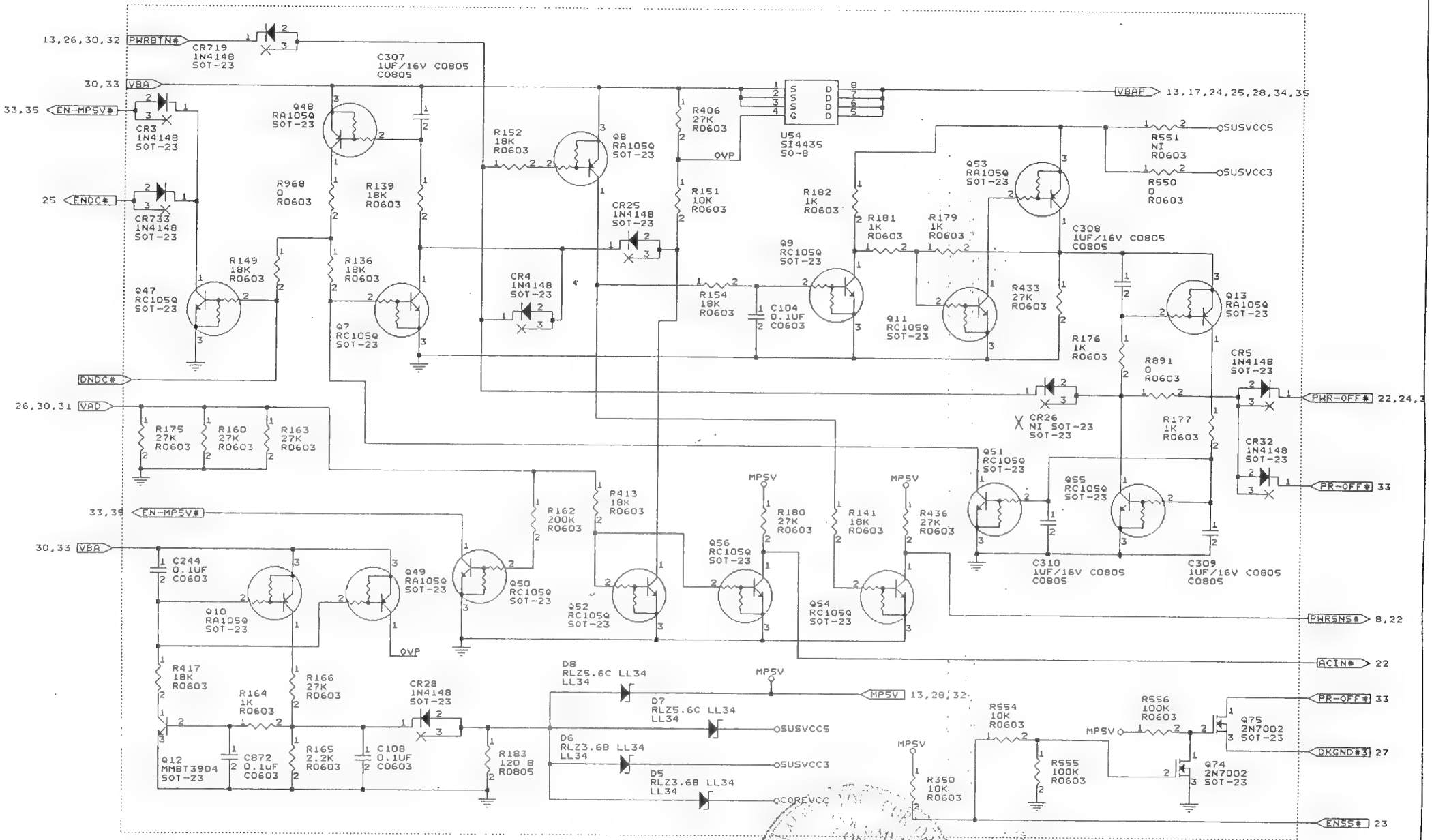
ALPHA-TOP		
Title	G735 POWER ON BOARD (2)	
Size B	Document Number G735-1-4-06	REV 1.C
Date: July 29, 1998	Sheet 31 of 36	





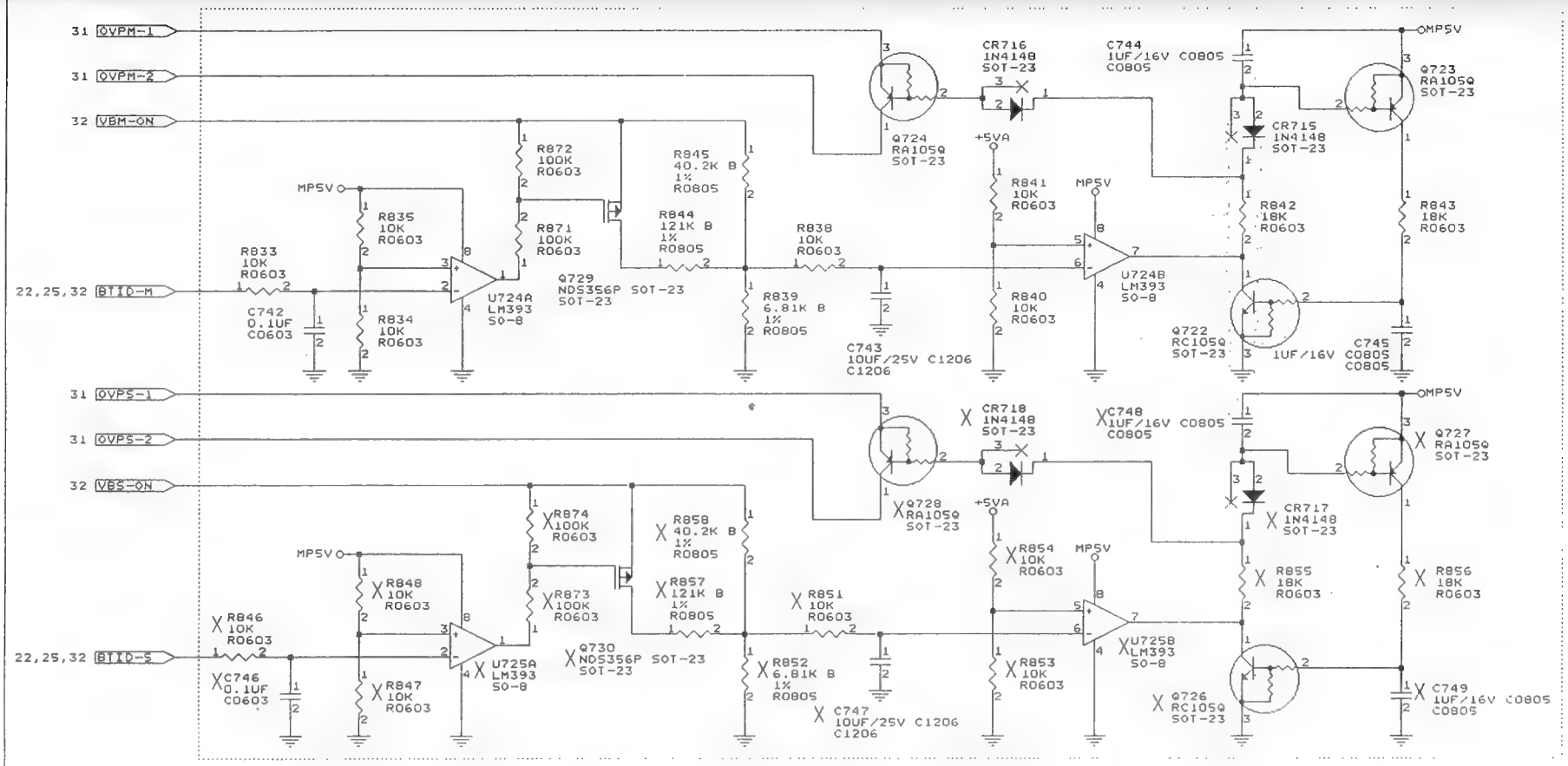


ALPHA-TOP		
Title: G735 POWER ON BOARD (3)		
Size: B	Document Number: G735-1-4-06	REV: 1.0

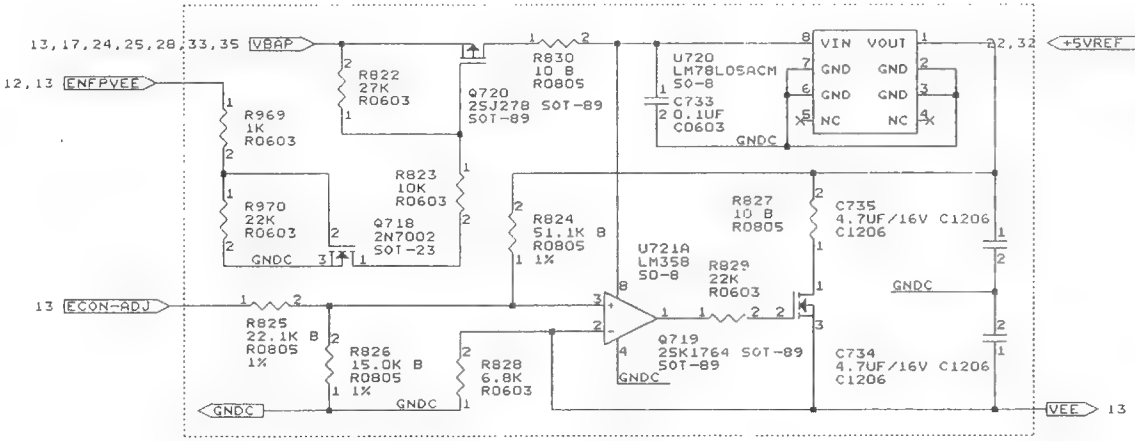


POWER ON/OFF & OVP CIRCUIT

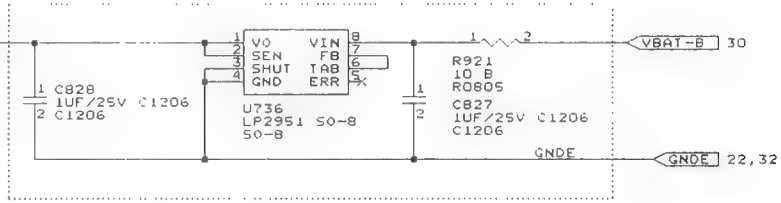
ALPHA-TOP		
Title: G735 POWER ON BOARD (4)		
Size: B	Document Number: G735-1-4-06	REV: 1.A
Date: July 2, 1998	Sheet 33 of 36	



BATTERY OVP

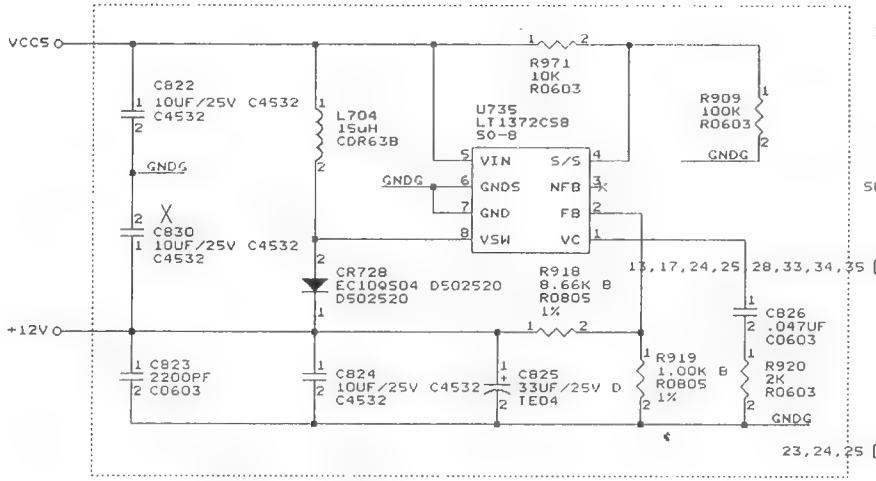


CONTRAST CONTROL POWER SUPPLY VEE

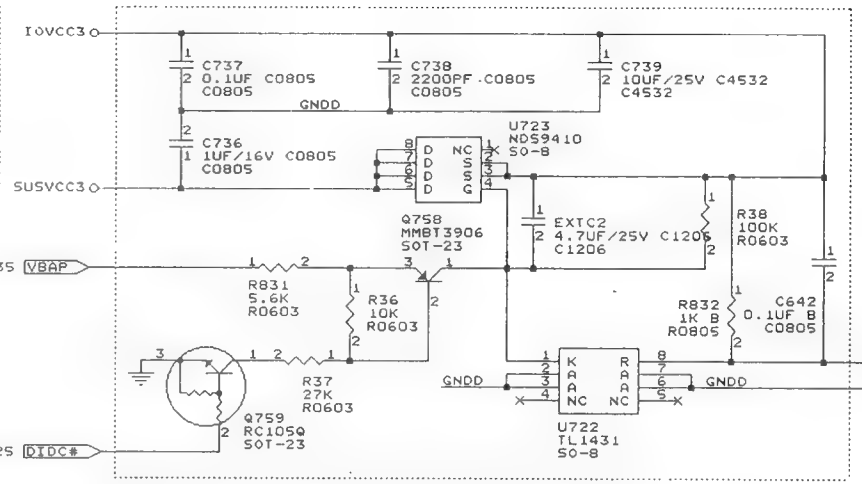


5V REFERANCE VOLTAGE

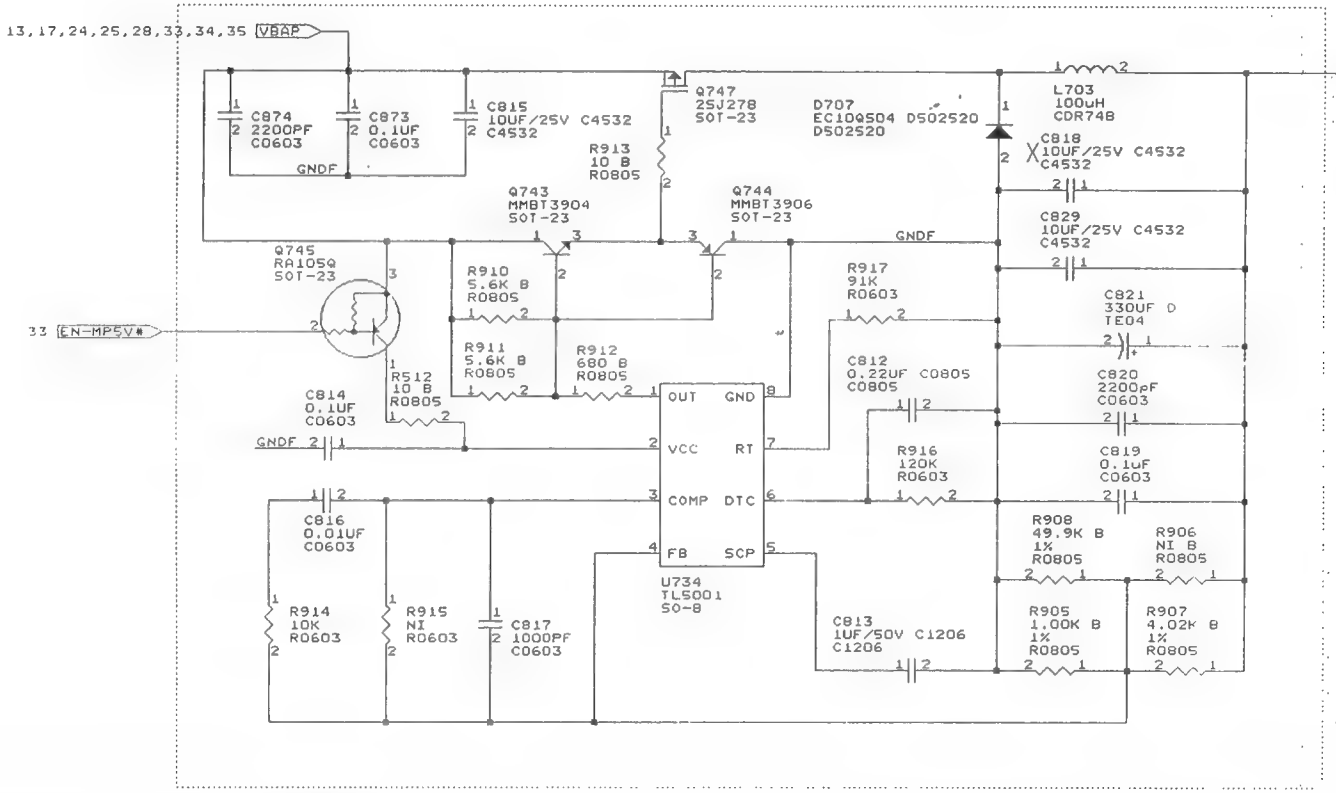
ALPHA-TOP		
Title: G735 POWER ON BOARD (5)		
Size: B	Document Number: G735-1-4-06	REV: 1.0
Date: May 11, 1998	Sheet 34 of 36	



+12V POWER SUPPLY



CPU I/O VCC POWER SUPPLY



MP5V POWER SUPPLY

ALPHA-TOP		
Title: G735 POWER ON BOARD (6)		
Size: B	Document Number: G735-1-4-06	REV: 1.B
Date: July 16, 1998	Sheet 35 of 36	

HISTORY:

REV1.0 : 5/11/1998

1. (SHEET11) ADD R506/R507/R508
2. (SHEET13) ADD CR500/R509
3. (SHEET16) ADD C500/CR501
4. (SHEET17) R537 PIN1 CHANGE FROM VCC5 TO VBAP
5. (SHEET21) DELETE Y2/C50/C51
   ADD R510/R511
   CHANGE W42C07 TO MK1415
   C861/C871 CHANGE FROM 100PF TO 220PF
6. (SHEET22) R192 CHANGE FROM 0 TO 22K
   R193 ADD 2.2K
   ADD C505
7. (SHEET23) U23 PIN1 ADD R504/R505
8. (SHEET28) ADD R500/501/502/503
9. (SHEET35) ADD R512

REV1.A : 7/2/1998

1. (SHEET33) R162 CHANGE FROM 18K TO 200K

REV1.B : 7/16/1998

1. (SHEET17) R100 CHANGE FROM 3.3K TO 8.2K
2. (SHEET18) C78/C206 CHANGE 0 ohm TO 0.0047uF
3. (SHEET19) R108/109 CHANGE FROM 18K TO 51K
   C204/C205 CHANGE FROM 10uF TO 1uF C1206
   R19/R21 CHANGE FROM 100K TO 20K
4. (SHEET20) C27/C31 CHANGE FROM 10uF TO 1uF C1206
5. (SHEET24) ADD EXTRA CAP (EXTC1 0.1uF)
6. (SHEET27) R999 CHANGE FROM 100K TO 330K
7. (SHEET35) ADD EXTRA CAP (EXTC2 4.7uF/25V C1206)

REV1.C : 7/29/1998

1. (SHEET31) R758 ADD 2K 1% R0805
2. (SHEET31) ADD EXTC3 (0.1UF C0603) AT U716 PIN2 & PIN3

ALPHA-TOP		
Title: G735 HISTORY		
Size: B	Document Number: G735-1-4-06	REV: 1.C
Date: July 29, 1998	Sheet 36 of 36	

3/4-9712-11

PAGE 1 : THIS PAGE
PAGE 2 : SPGA CPU (SOCKET 7)
PAGE 3 : CPU BOARD TO M/B CONNECTOR
PAGE 4 : BYPASS CAPS,CPU SETTING
PAGE 5 : CPU COREVCC ID SELECT
PAGE 6 : HISTORY

!LINK
!981-2.SCH
!981-3.SCH
!981-4.SCH
!981-5.SCH
!981-6.SCH

PAGE NO.	1	2	3	4	5	6
REVISON	2.0	2.0	2.0	2.0	2.0	2.0
DATE	12/4	12/4	12/4	12/4	12/4	12/4

PART NO :KK418720Ø
GERBER FILE:981DGBR.ZIP

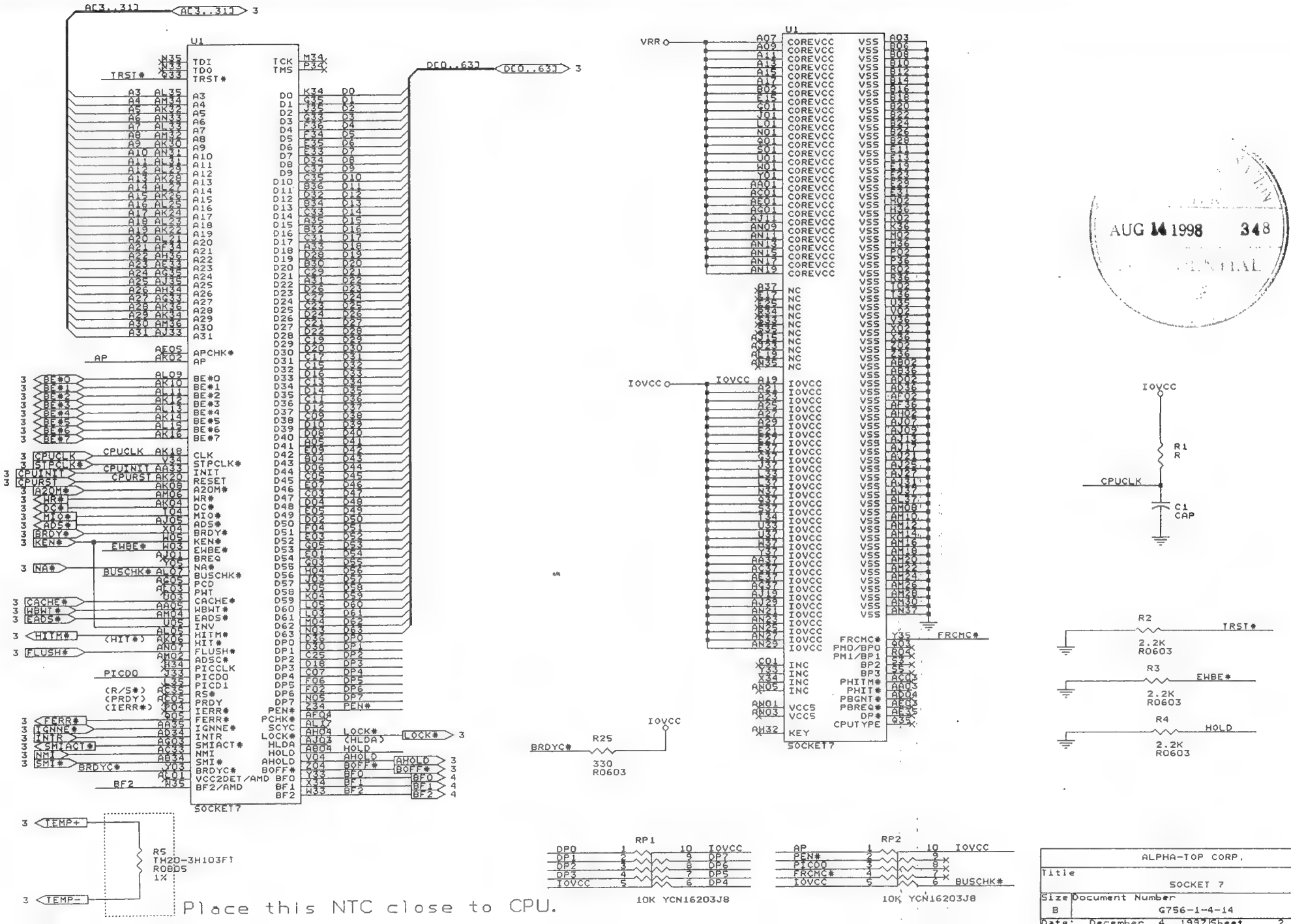
Approved by	Checked by	Designed by
	12/8	12/4

ALPHA-TOP CORP.

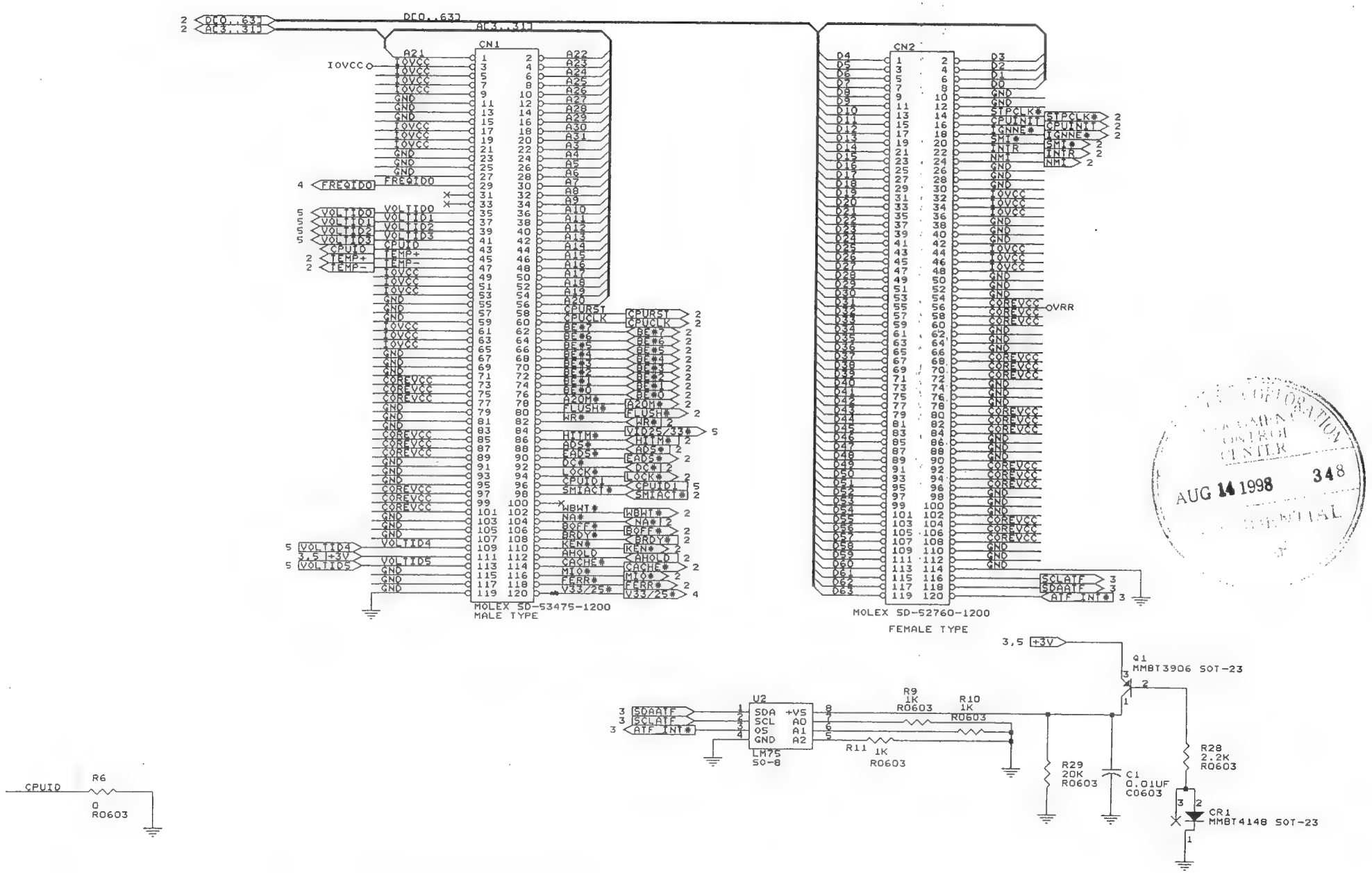
Title: SOCKET7 54.5*68.5 G756

Size	Document Number	REV
B	G756-1-4-14	2.0

Date: December 4, 1997 Sheet 1 of 6



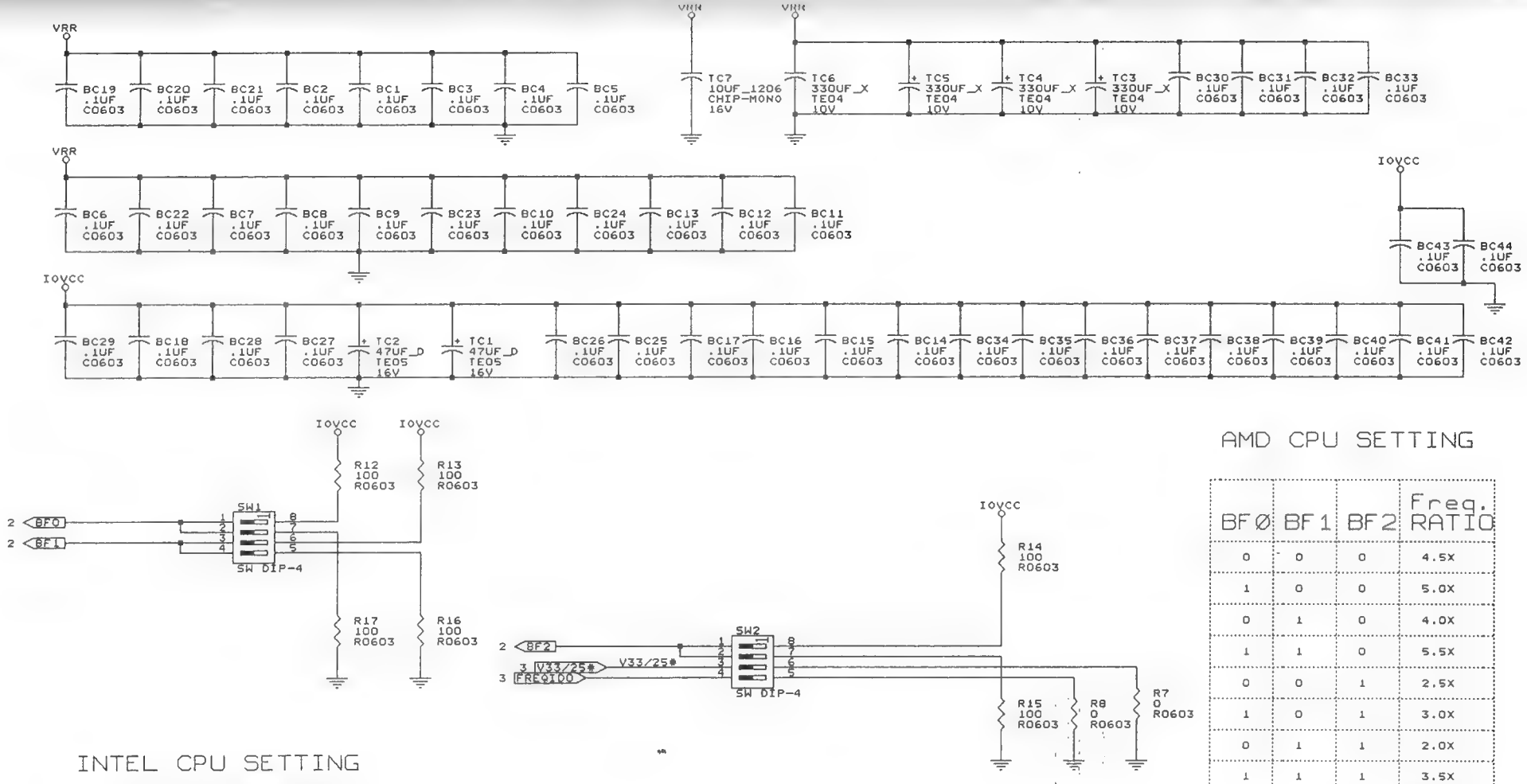
ALPHA-TOP CORP.		
Title: SOCKET 7		
Size: B	Document Number: G756-1-4-14	REV: 2.0
Date: December 4, 1997	Sheet: 2 of 6	



NOTE:

1.CPUID LOW FOR SOCKET7, HI FOR TCP

ALPHA-TOP CORP.		
Title: G756+ CPU BOARD TO M/B CONNECTOR		
Size: B	Document Number: G756-1-4-14	REV: 2.0



AMD CPU SETTING

BF0	BF1	BF2	Freq. RATIO
0	0	0	4.5X
1	0	0	5.0X
0	1	0	4.0X
1	1	0	5.5X
0	0	1	2.5X
1	0	1	3.0X
0	1	1	2.0X
1	1	1	3.5X

INTEL CPU SETTING

BF0	BF1	BF2	Freq. RATIO
0	0	0	2.5X
1	0	0	3.0X
0	1	0	2.0X
1	1	0	3.5X
0	0	1	4X

NOTE :

1. BF[2:0] have different defaults depending on different version of the Pentium Processor.
2. V33/25# FOR A26 STRAPING & CLK GEN :HI CPU IOVCC 3.3V , LO CPU IOVCC 2.5V
3. VID25/33# FOR DC/DC LO 3.3V, HI 2.5V

NOTE :

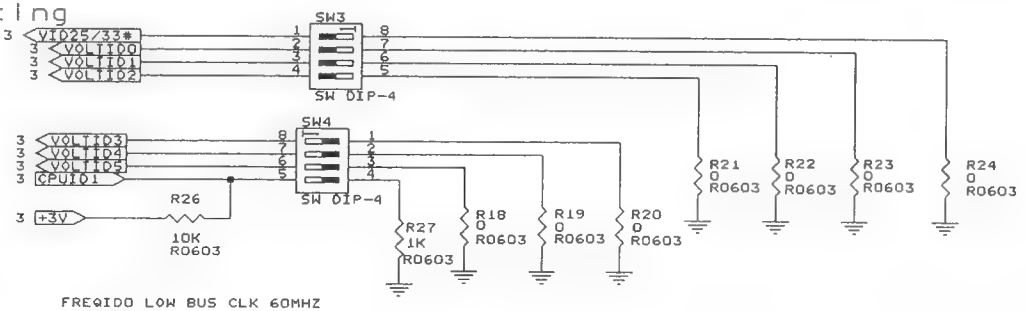
ALPHA-TOP CORP.		
Title: Bypass CAPs, ID setting		
Size: B	Document Number: G756-1-4-14	REV: 2.0
Date: December 4, 1997	Sheet 4 of 6	

VRR OUTPUT VOLTAGE SETTING

VRR / VOLTID	4.35	4.30	4.25	4.20	4.15	4.10	4.05	4.00	3.95	3.90	3.85	3.80	3.75	3.70	3.65	3.60	3.55	3.50	3.45	3.40	3.35	3.30	3.25	3.20	3.15	3.10	3.05	3.00	2.95	2.90	2.85	2.80
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	<- THESE VOLTAGES DOESN'T BE SUPPORTED													
ID5 (R20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ID4 (R23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ID3 (R7)	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x
ID2 (R6)	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x
ID1 (R5)	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x
ID0 (R4)	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x

VRR / VOLTID	2.75	2.70	2.65	2.60	2.55	2.50	2.45	2.40	2.35	2.30	2.25	2.20	2.15	2.10	2.05	2.00	1.95	1.90	1.85	1.80	1.75	1.70	1.65	1.60	1.55	1.50	1.45	1.40	1.35	1.30	1.25	1.20
ID5 (R20)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ID4 (R23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ID3 (R7)	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x
ID2 (R6)	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x
ID1 (R5)	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x
ID0 (R4)	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x

NOTE : Ø -> Connect to GND
X -> Floating



VOLTID	LOGIC
NC	x
GND	0

NOTE :

For proper operation,
VOLID must be connect to GND
or left no-connected.

FREQIDO LOW BUS CLK 60MHZ

FREQIDO HI BUS CLK 66MHZ

SW4 OFF IS FOR MOBILE CPU THERMAL IS 85 DEGREE C

SW4 ON IS FOR DESKTOP CPU THERMAL IS 70 DEGREE C

ALPHA-TOP		
Title: CPU COREVCC SELECT ID		
Size: B	Document Number: G756-1-4-14	REV: 2.0
Date: December 4, 1997	Sheet 5 of 6	

G756 CPU BOARD HISTORY
REV ØØ:
REV Ø1: MODIFY M/E
REV 1.Ø: ADD CPUID FOR DESKTOP ,MOBILE CPU & TEST PAD
REV 2.Ø: MODIFY LM75 VCC3

ALPHA-TOP CORP.		
Title: G756 CPU BOARD HISTORY		
Size: B	Document Number: G756-1-4-14	REV: 2.0

312-9806-14

G756/U360 TCP BOARD


```
!LINK
!141502.SCH
!141503.SCH
!141504.SCH
!141505.SCH
!141506.SCH
```

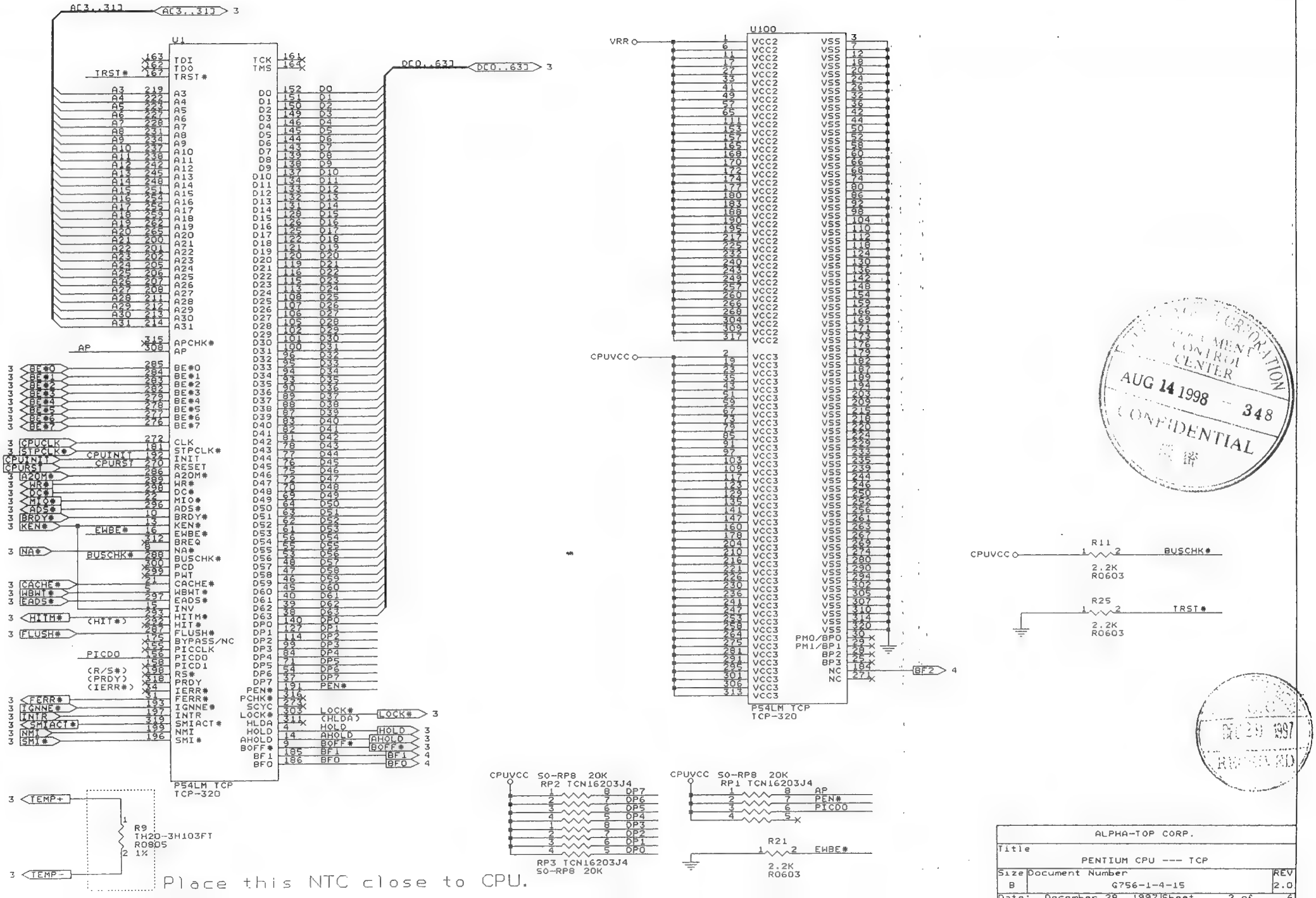
PAGE NO.	1	2	3	4	5	6
REVISON	2.A	2.0	2.A	2.0	2.0	2.A
DATE	6/16	12/28	6/16	12/28	12/28	6/16

P/N :KK418820
GERBER :KK418820.EXE

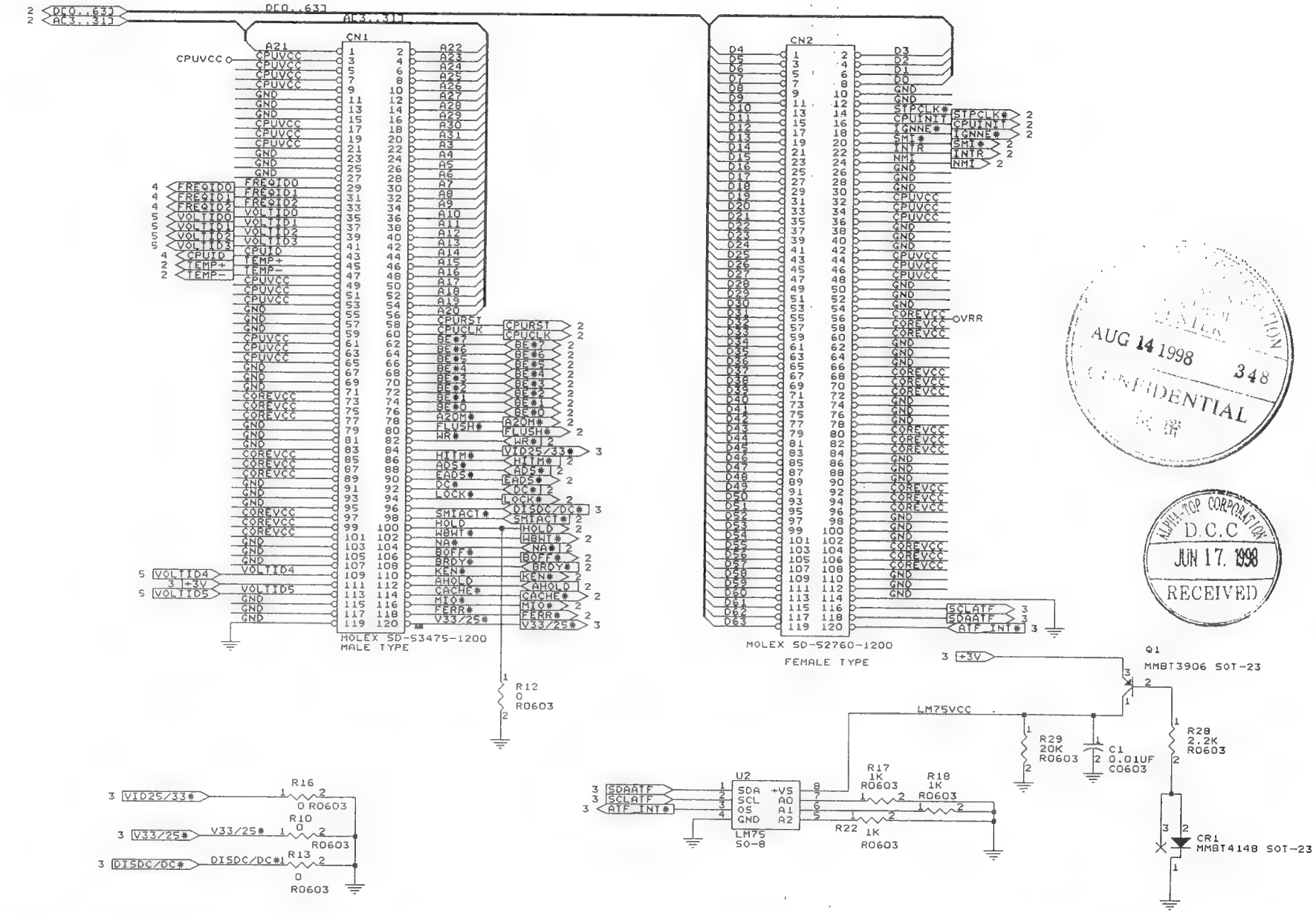
Appr. by	Check by	Design by
6/16	6/16	6/16

ALPHA-TOP CORP.

P.Leader	Title: G756/U360 TCP BOARD COVER PAGE	
Nicolo Tien JUN 16 98	Size: B / Document Number: G756-1-4-15	REV: 2.A
	Date: June 16, 1998 / Sheet 1 of 6	



312-9806-19

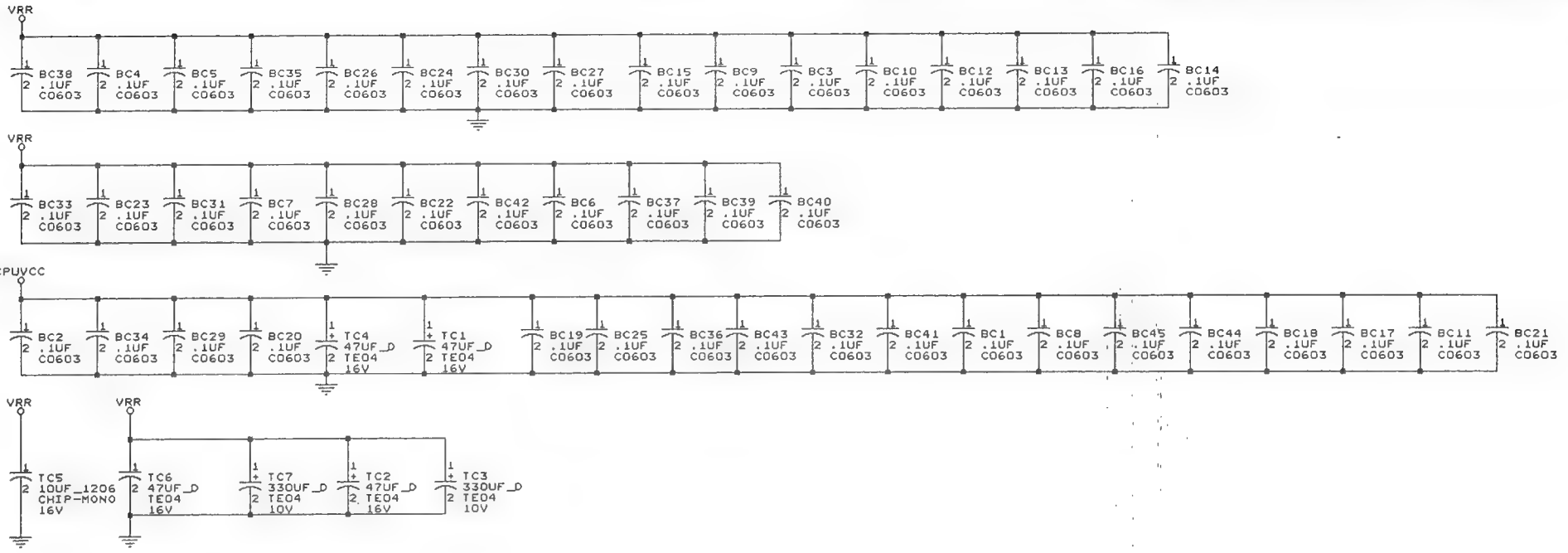


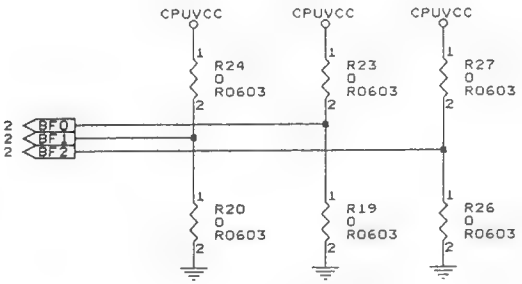
NOTE:
1.VID25/33# SELECT IOVCC ,WHEN R16 ADD 0 ohm RESISTER IOVCC IS 3.3V ,ADD 24.9K IOVCC IS 2.6V
NONE RESISTER IOVCC IS 2.5V

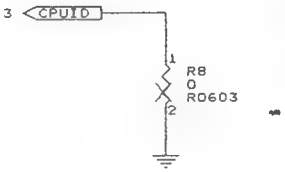
2.V33/25# CONNECT TO CLOCK GENERATOR & MTXC,WHEN R10 ON 2.5V is indicated,R10 OFF 3.3V is.indicated(CPU IOVCC).

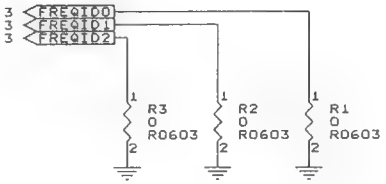
3.R13 ON--> E251 TCP MODULE INSERT TO G757/U351 WILL DISABLE DC/DC.

ALPHA-TOP CORP.		
Title: G756/U360 CPU BOARD TO M/B CONNECTOR		
Size: B	Document Number: G756-1-4-15	REV: 2.A
Date: June 16, 1998	Sheet 3 of 6	







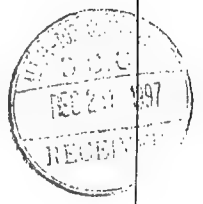


FREQID[2:0] 2 1 0	Frequency (MHz)
X X 1	66
X X 0	60

BF0	BF1	BF2	Freq. RATIO
0	1	0	2.0X
0	0	0	2.5X
1	0	0	3.0X
1	1	0	3.5X
0	0	1	4X

NOTE:

For proper operation, VOLID must be connect to GND or left no-connected.



NOTE:

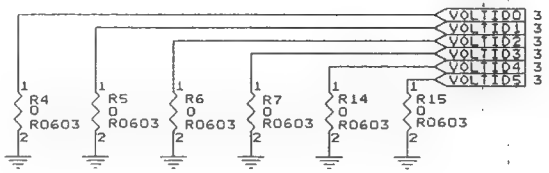
BF[2:0] have different defaults depending on different version of the Pentium Processor.

ALPHA-TOP CORP.		
Title: Bypass CAPs, ID setting		
Size: B	Document Number: G756-1-4-1S	REV: 2.0
Date: December 28, 1997	Sheet 4 of 6	

312-94/12-30

NOTE :

For proper operation,
VOLID must be connect to GND
or left no-connected.



VOLTID	LOGIC
NC.	×
GND	0

VRR OUTPUT VOLTAGE SETTING

X X X X X X X X X X X X X X X X X X X ← THESE VOLTAGES DOESN'T BE SUPPORTED

VOLTID \ VRR	4.35	4.30	4.25	4.20	4.15	4.10	4.05	4.00	3.95	3.90	3.85	3.80	3.75	3.70	3.65	3.60	3.55	3.50	3.45	3.40	3.35	3.30	3.25	3.20	3.15	3.10	3.05	3.00	2.95	2.90	2.85	2.80
ID5 (R20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ID4 (R23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
ID3 (R7)	0	0	0	0	0	0	0	0	×	×	×	×	×	×	×	×	0	0	0	0	0	0	0	0	×	×	×	×	×	×	×	×
ID2 (R6)	0	0	0	0	×	×	×	×	0	0	0	0	×	×	×	×	0	0	0	0	×	×	×	×	0	0	0	0	×	×	×	×
ID1 (R5)	0	0	×	×	0	0	×	×	0	0	×	×	0	0	×	×	0	0	×	×	0	0	×	×	0	0	×	×	0	0	×	×
ID0 (R4)	0	×	0	×	0	×	0	×	0	×	0	×	0	×	0	×	0	×	0	×	0	×	0	×	0	×	0	×	0	×	0	×

VOLTID \ VRR	2.75	2.70	2.65	2.60	2.55	2.50	2.45	2.40	2.35	2.30	2.25	2.20	2.15	2.10	2.05	2.00	1.95	1.90	1.85	1.80	1.75	1.70	1.65	1.60	1.55	1.50	1.45	1.40	1.35	1.30	1.25	1.20
ID5 (R20)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ID4 (R23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ID3 (R7)	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x
ID2 (R6)	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x	0	0	0	0	x	x	x	x
ID1 (R5)	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x	0	0	x	x
ID0 (R4)	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x

NOTE : Ø -> Connect to GND
X -> Floating

ALPHA-TOP		
Title: CPU COREVCC SELECT ID		
Size: B	Document Number: G756-1-4-1S	REV: 2.0
Date: December 30, 1997	Sheet	of

REV:ØØ

REV:Ø1

1. SEPARATE LM75VCC FROM SYSTEM VCC3

REV:2.Ø

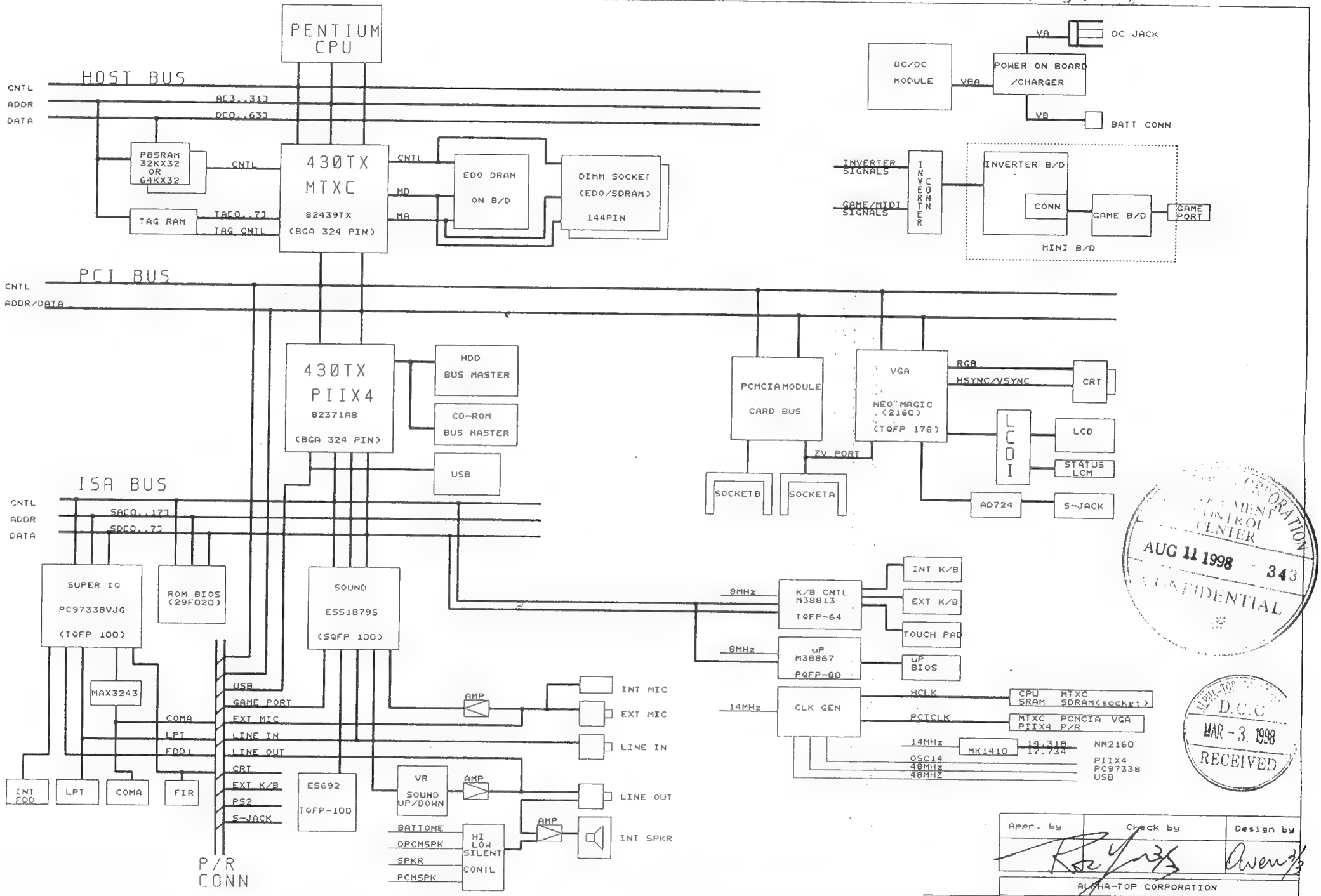
1. CHANGE TC3 , TC7 FROM 47U/16V TO 33ØU/1ØV

REV:2.A

ADD A RESISTOR 24.9K AT LOCATION R16 TO ADJUST IOVCC FROM 2.5V TO 2.6V
TO SOLVE THE PROBLEM THAT IMIXG571CYB CLOCK GENERATOR OUTPUT DRIVE CAPABILITY
TOLERANCE RANGE IS TOO WIDE AND CAUSE CLOCK HIGH-TIME LESS THAN SPEC.

ALPHA-TOP CORP.		
Title: HISTORY		
Size: B	Document Number: G756-1-4-15	REV: 2.A
Date: June 16, 1998	Sheet 6 of 6	

Chapter 12 System Block Diagram

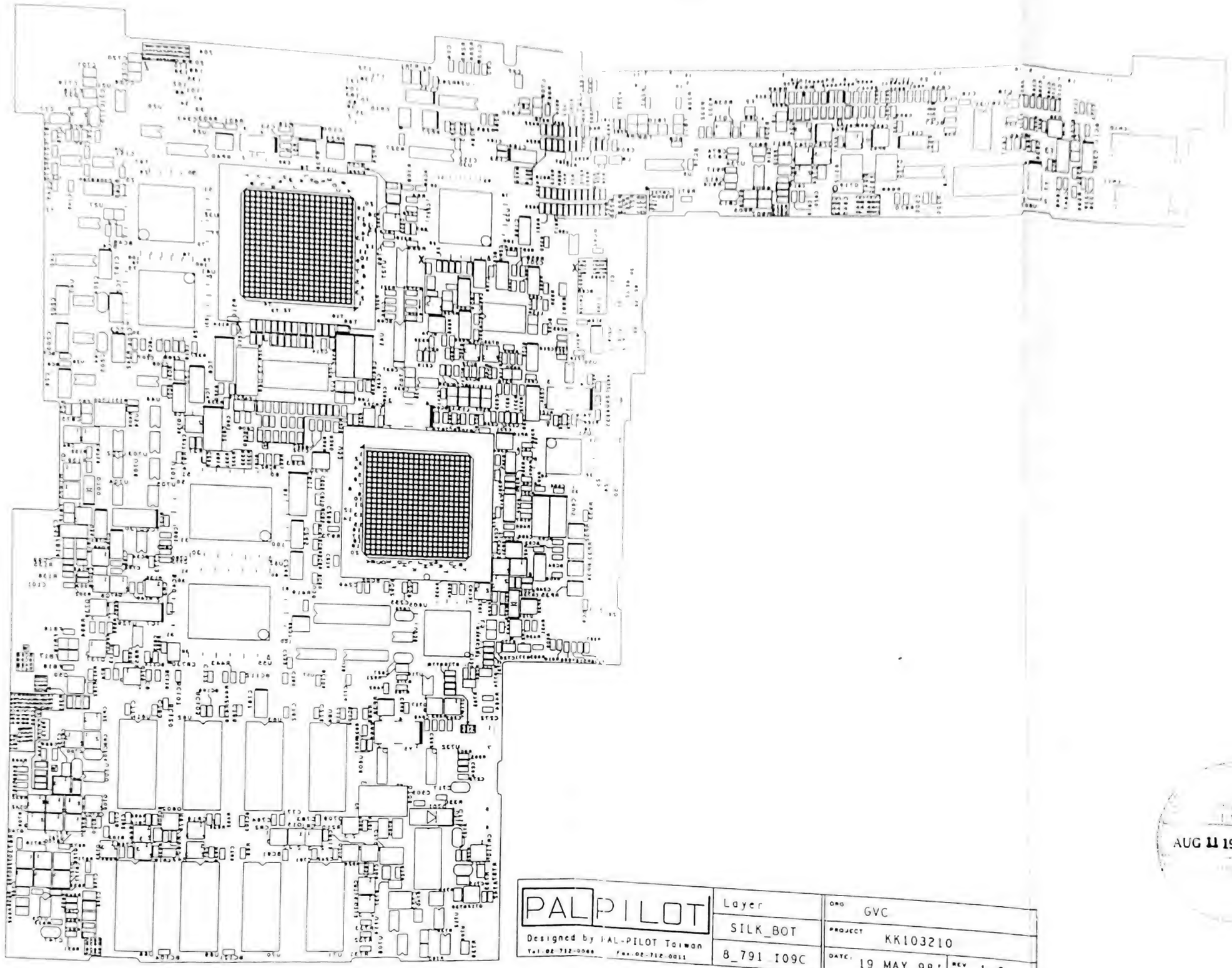


Appr. by	Check by	Design by
		Owen 3/3

ALPHA-TOP CORPORATION

P.Leader	Title: G735 M/B BLOCK DIAGRAM	
Owen 3/3	Size: B	Document Number: G735-1-4-00 REV: 1.0
	Date: March 3, 1998	Sheet 1 of 1

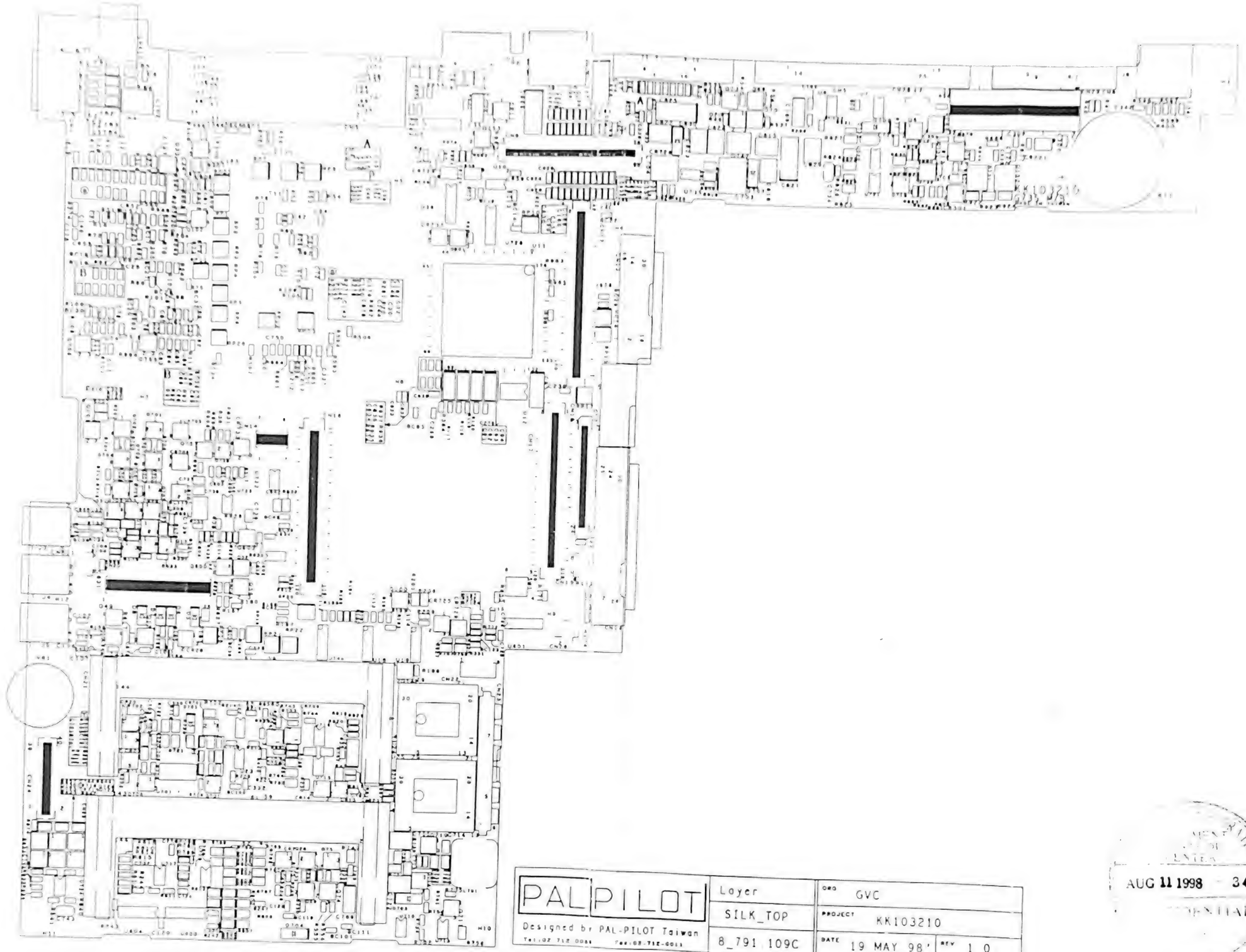
Chapter 13 Main Board Layout Placement



PAL PILOT	Layer	ORG GVC
Designed by PAL-PILOT Taiwan	SILK_BOT	PROJECT KK103210
Tel:02-712-0068 Fax:02-712-0811	8_791_109C	DATE: 19 MAY 98 REV 1.0

AUG 11 1998 34

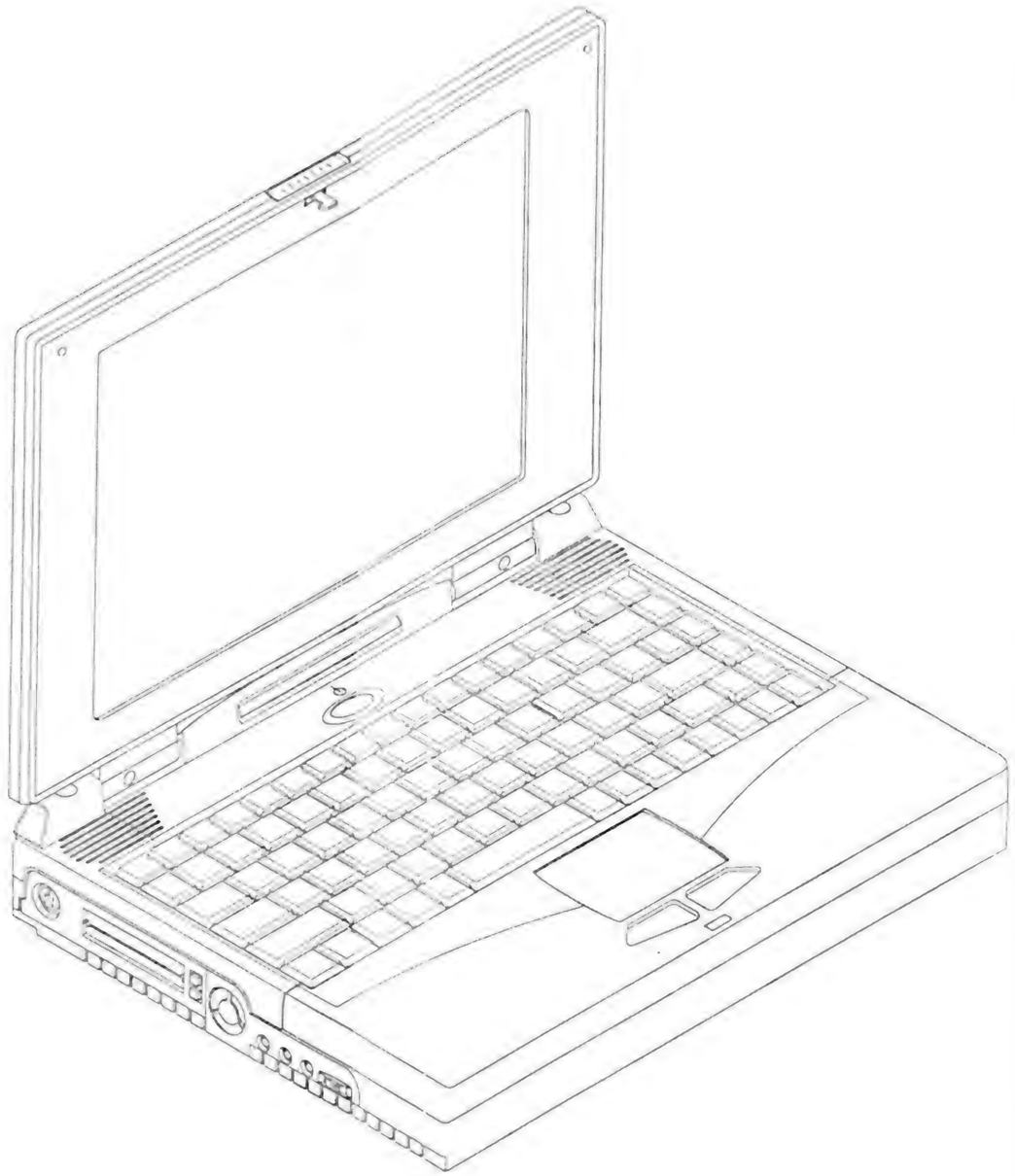
ALPHA-TOP COPRPORATION	MODEL	GT735	PROJECT LEADER	DESIGN	CHECK	LAYOUT
	PCB NAME	M/B				
	DWG NO.	GT735-3-01				
PAGE 1/1 VER 1.0	PART NO.	KK103210	6/1	6/1		

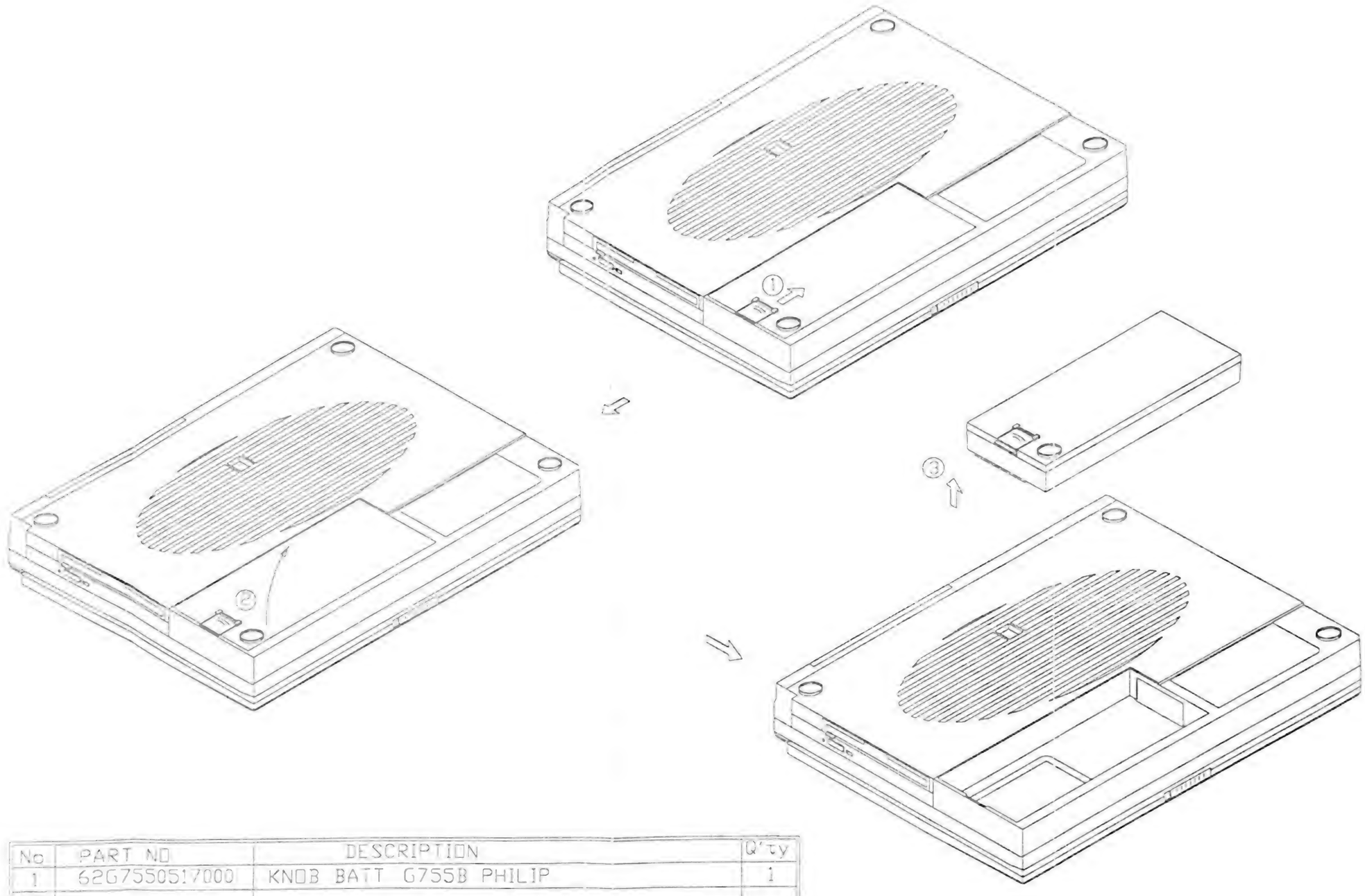


PAL PILOT	Layer	ORG GVC
Designed by PAL-PILOT Taiwan	SILK_TOP	PROJECT KK103210
Tel:02 712 0088 Fax:02-712-0011	8_791 109C	DATE 19 MAY 98' REV 1 0

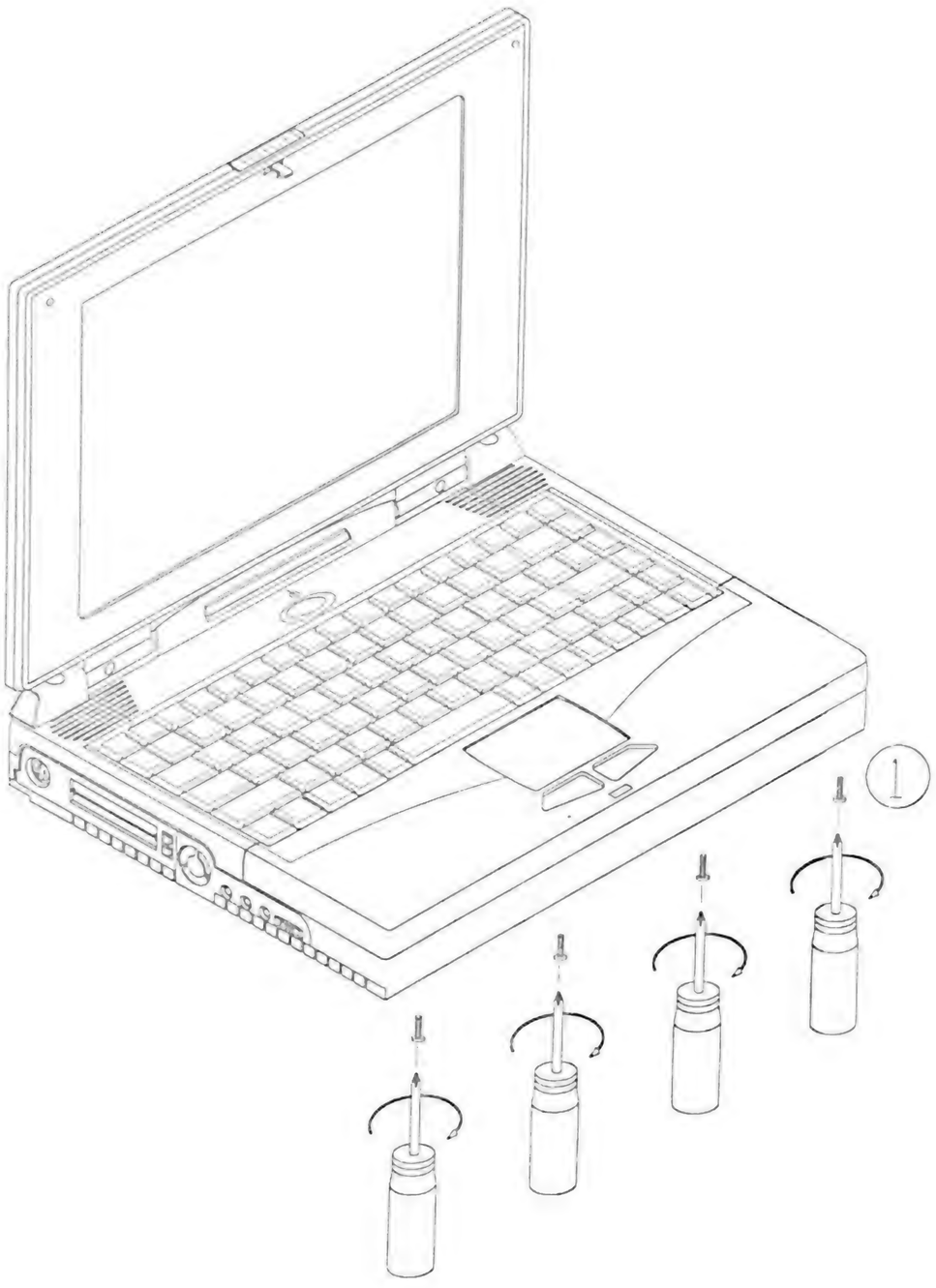
ALPHA-TOP COPRPORATION	MODEL	G735	PROJECT LEADER	DESIGN	CHECK	LAYOUT
	PCB NAME	MB				
	DWG NO.	G735-2-3-0				
PAGE 1/1 VER 1.0	PART NO.	KK103210	6/1	6/1		

Chapter 14 System & Module Parts Assembly and Disassembly Diagram

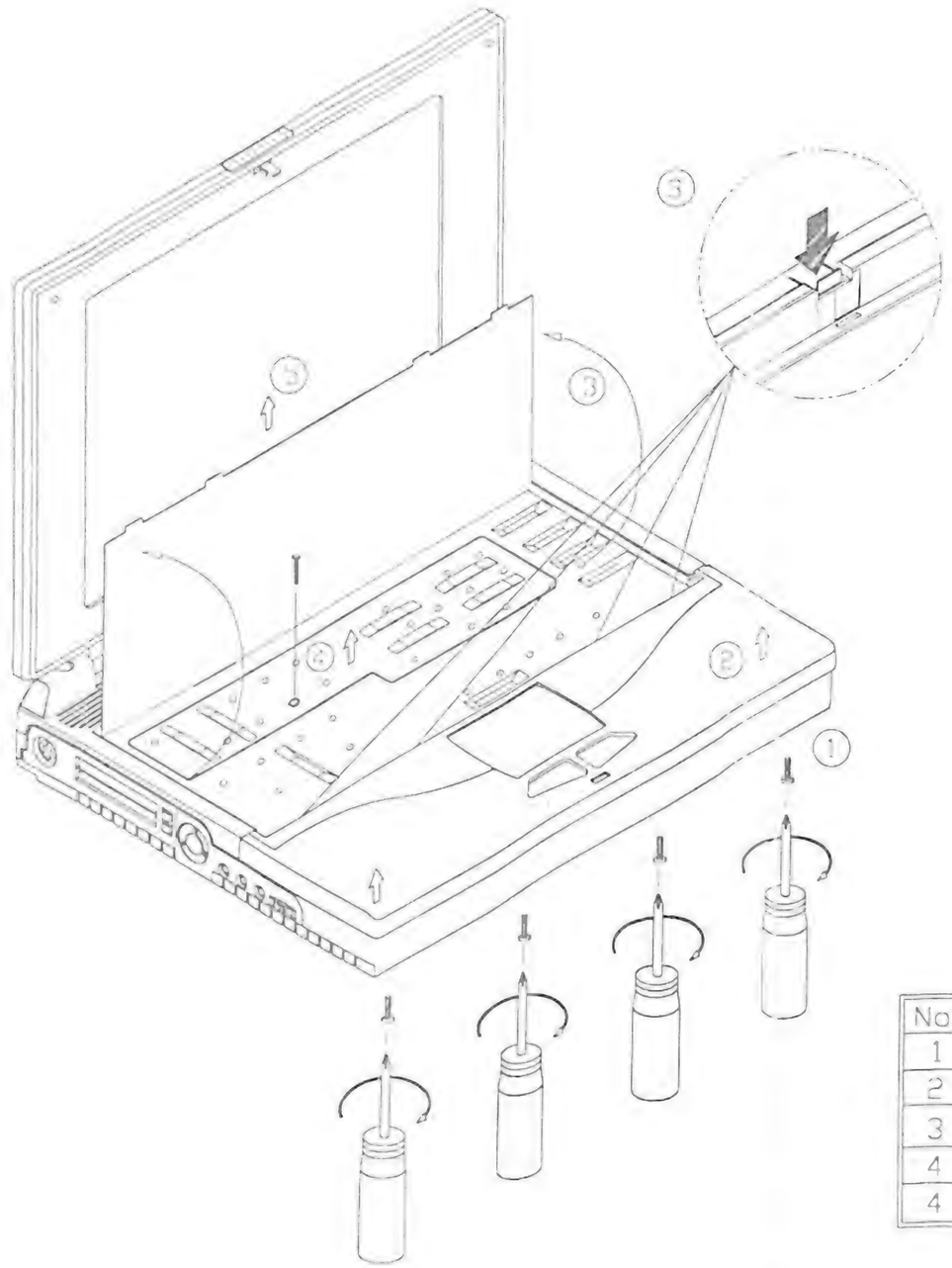


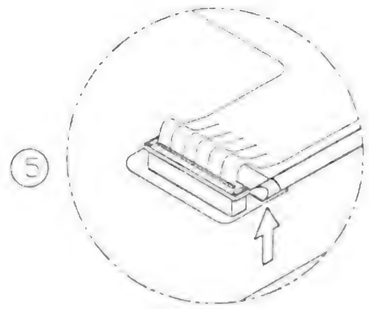


No	PART NO	DESCRIPTION	Q'ty
1	62G7550517000	KNOB BATT G755B PHILIP	1
2	62G7560310000	ASS'Y BATTERY SANYO Li-ION 4050mA G756	1
3			

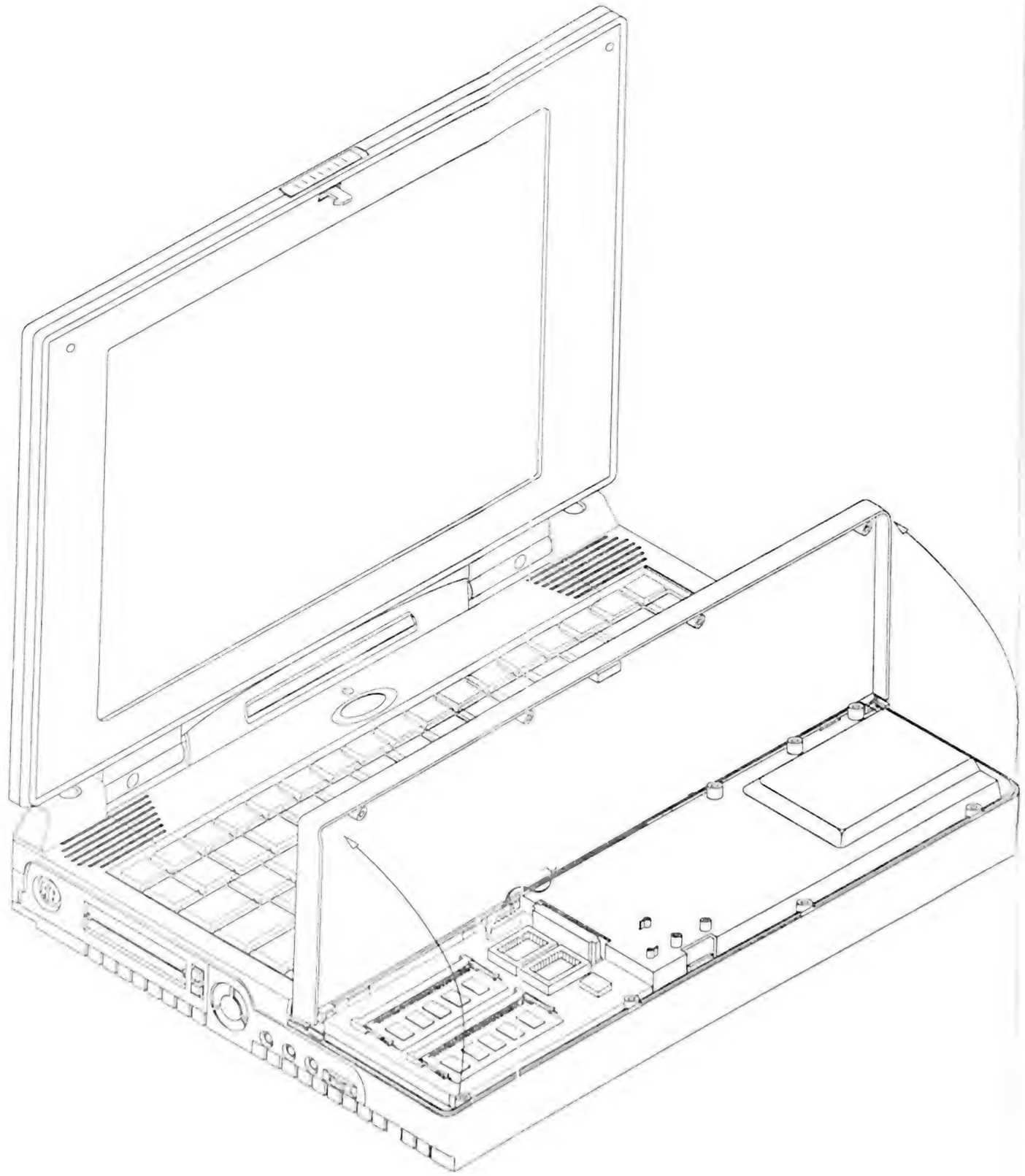


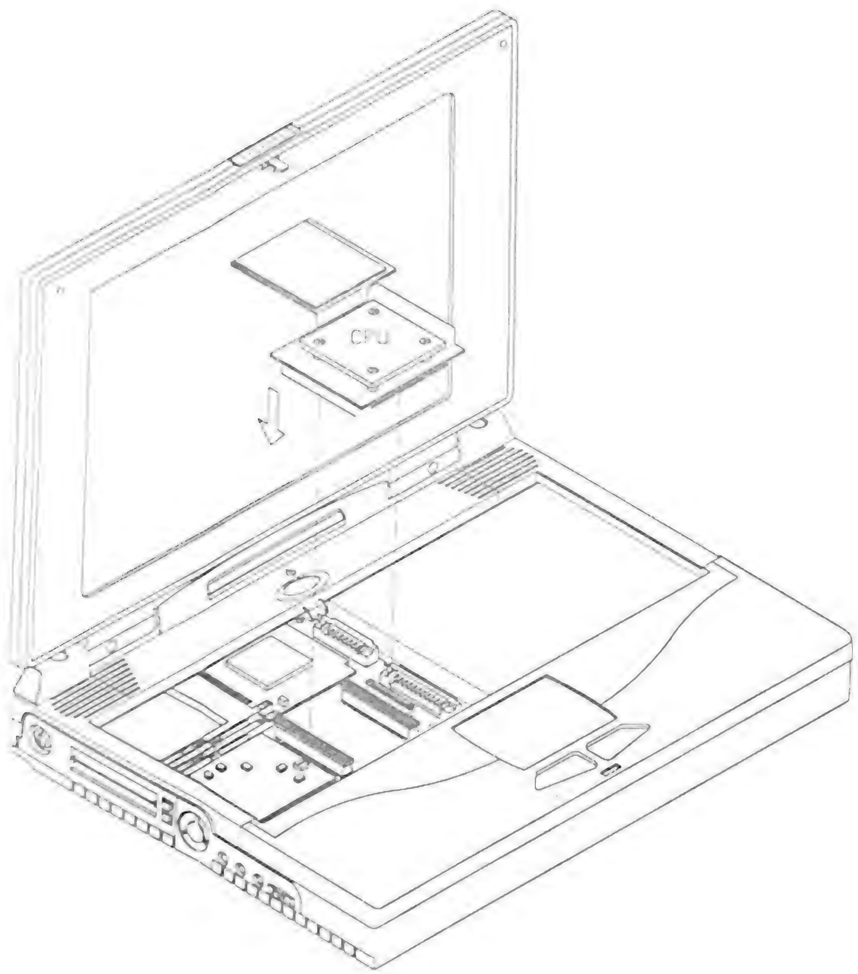
No.	PART NO.	DESCRIPTION	Q'ty
1	SA010F06R0001	SCREW P M2.6X0.45X6 NI	4
2	R0G7353010100	FRONT COVER G735	1

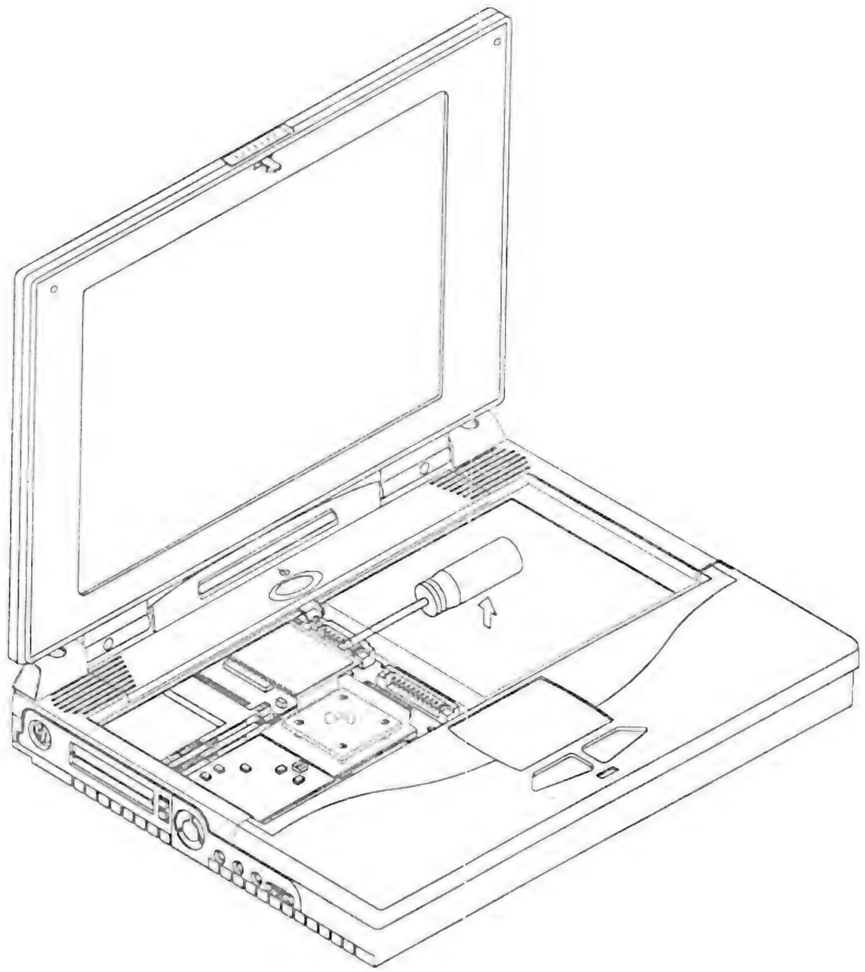


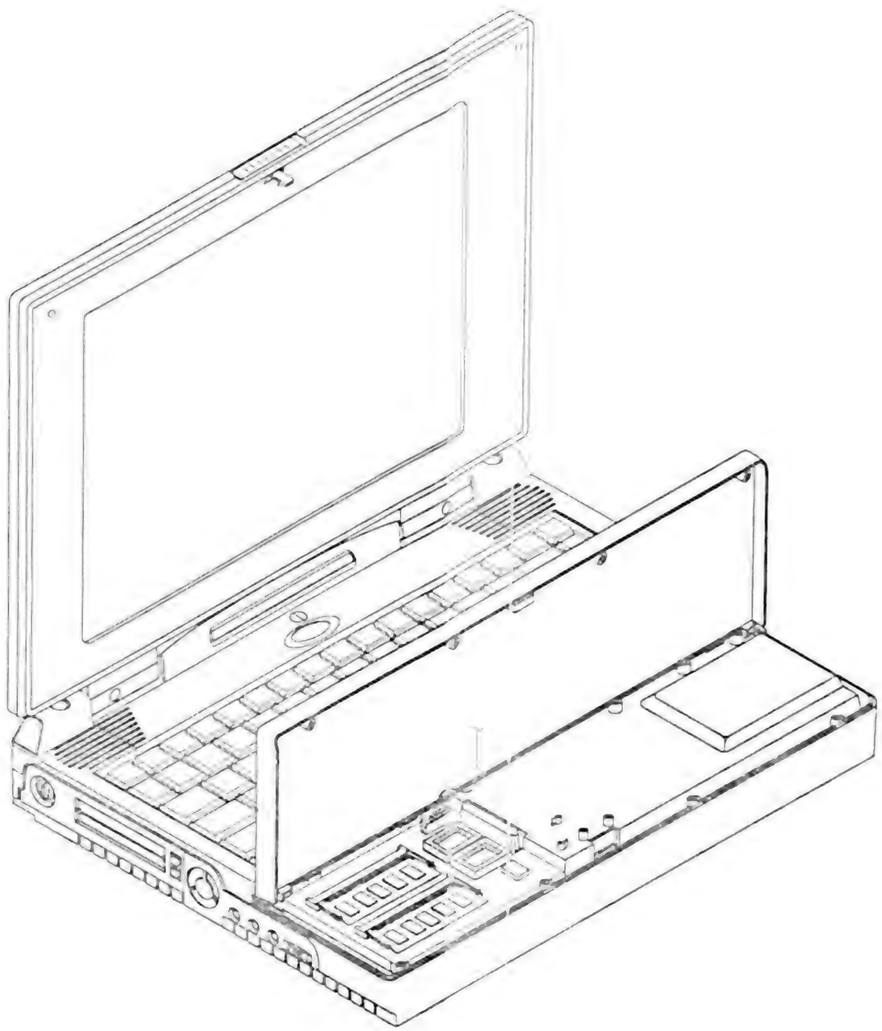


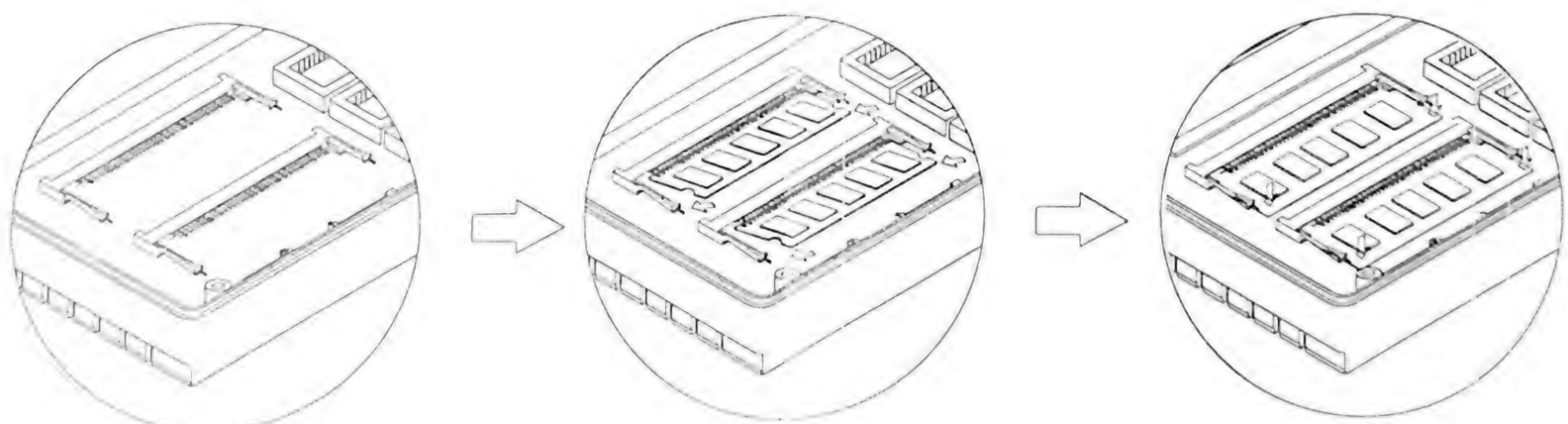
No.	PART NO.	DESCRIPTION	Q'ty
1	SA010F06R0001	SCREW P M3X0.5X15 NI(NYLOK)	4
2	R0G7353010100	FRONT COVER G735	1
3	JF00301010001	K.B 89K US K950528A JME	1
4	SA0B02120000A	SCREW I M2X0.4X20 (NYLOK)	1
4	R3G7350101000	HEAT PIPE MODULE G735	1

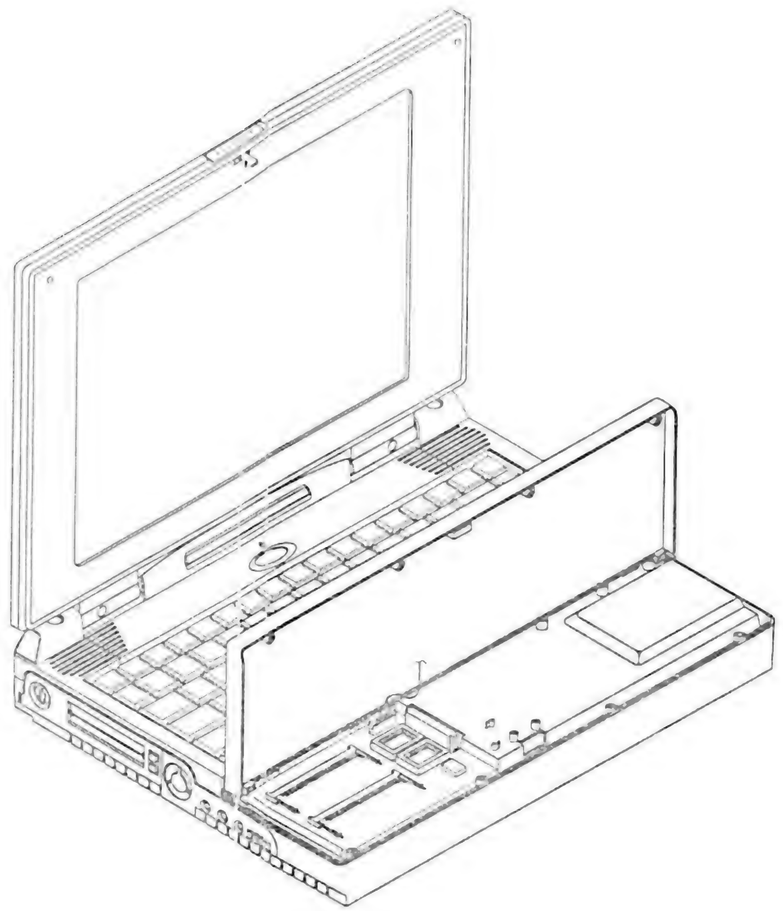


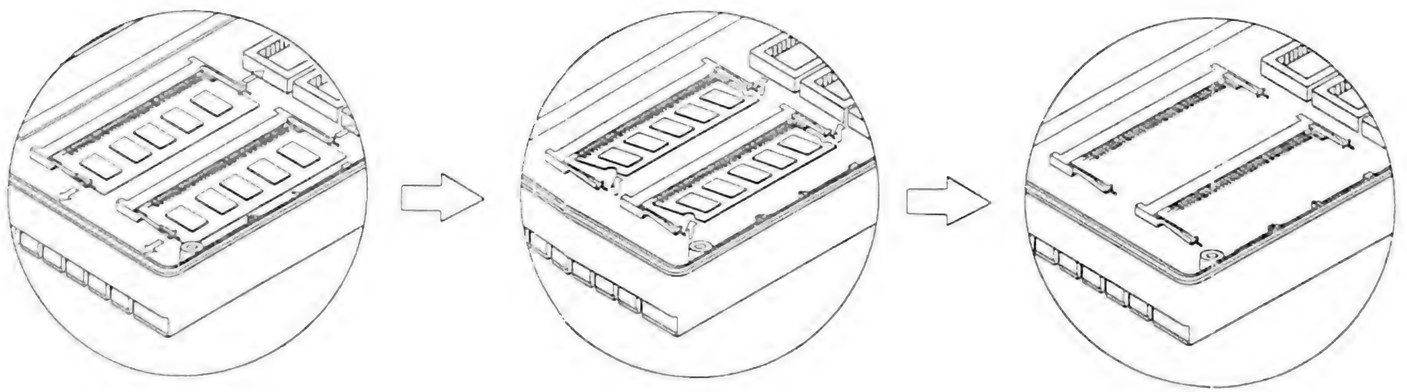

CPU

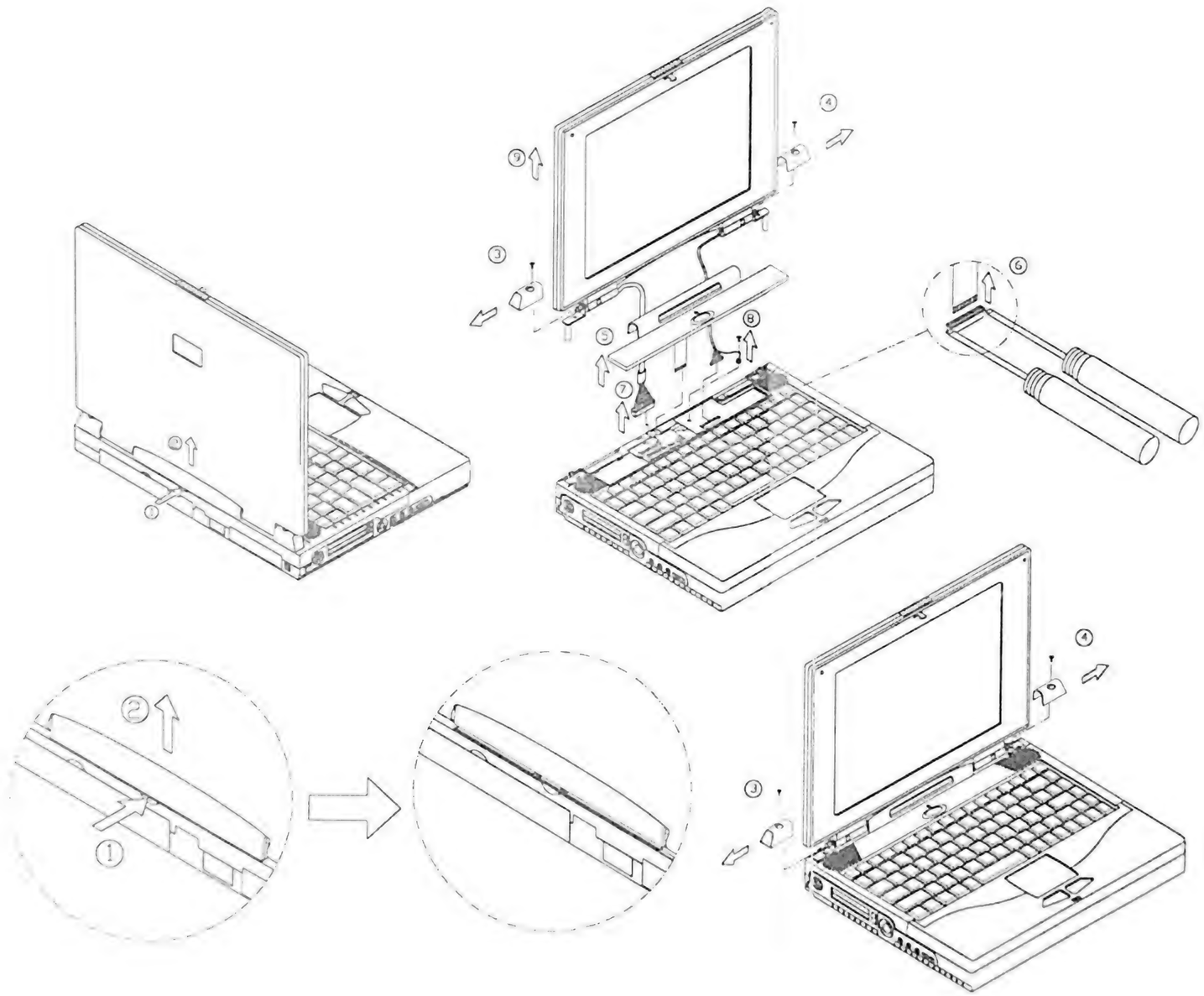

CPU



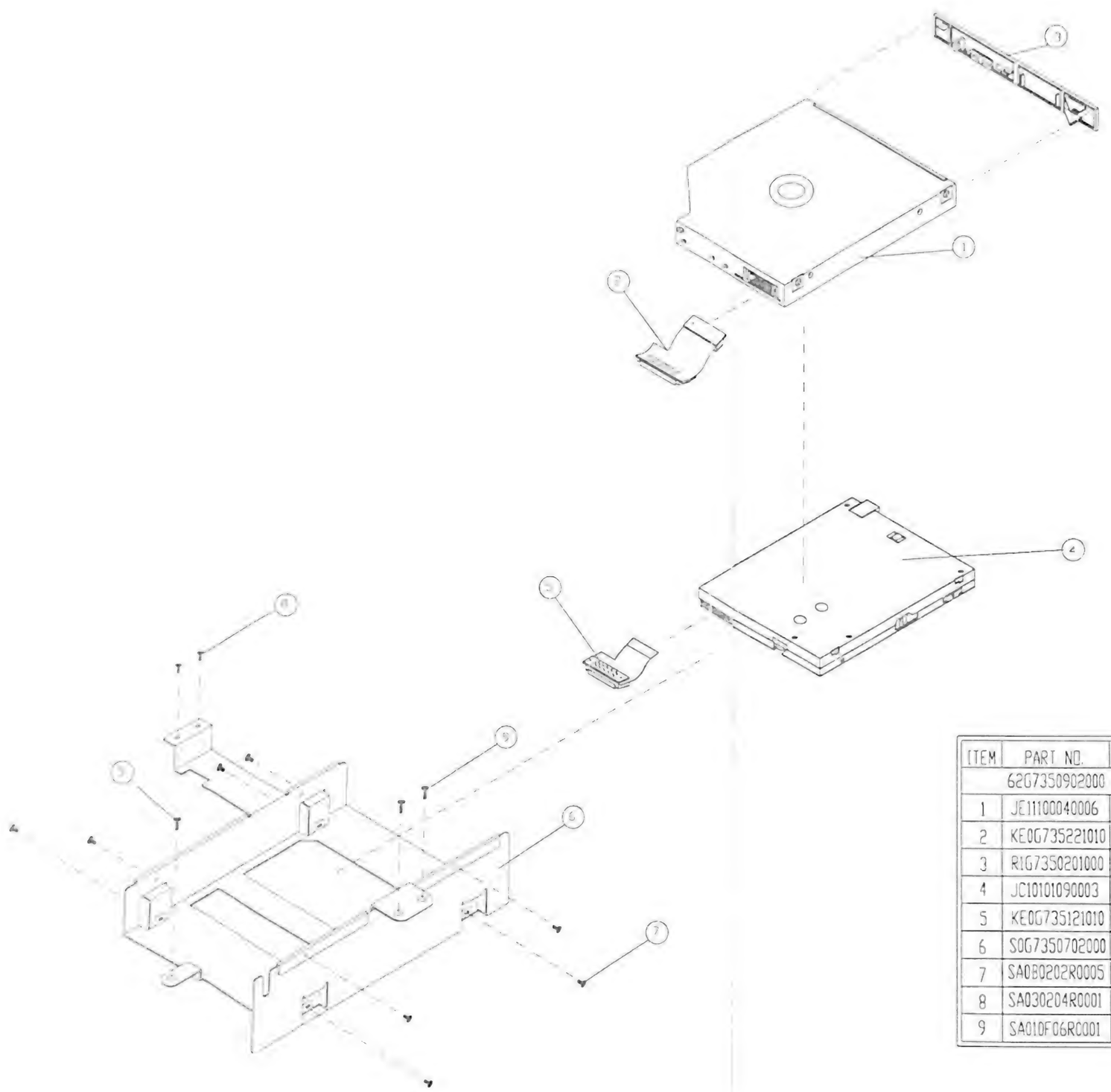






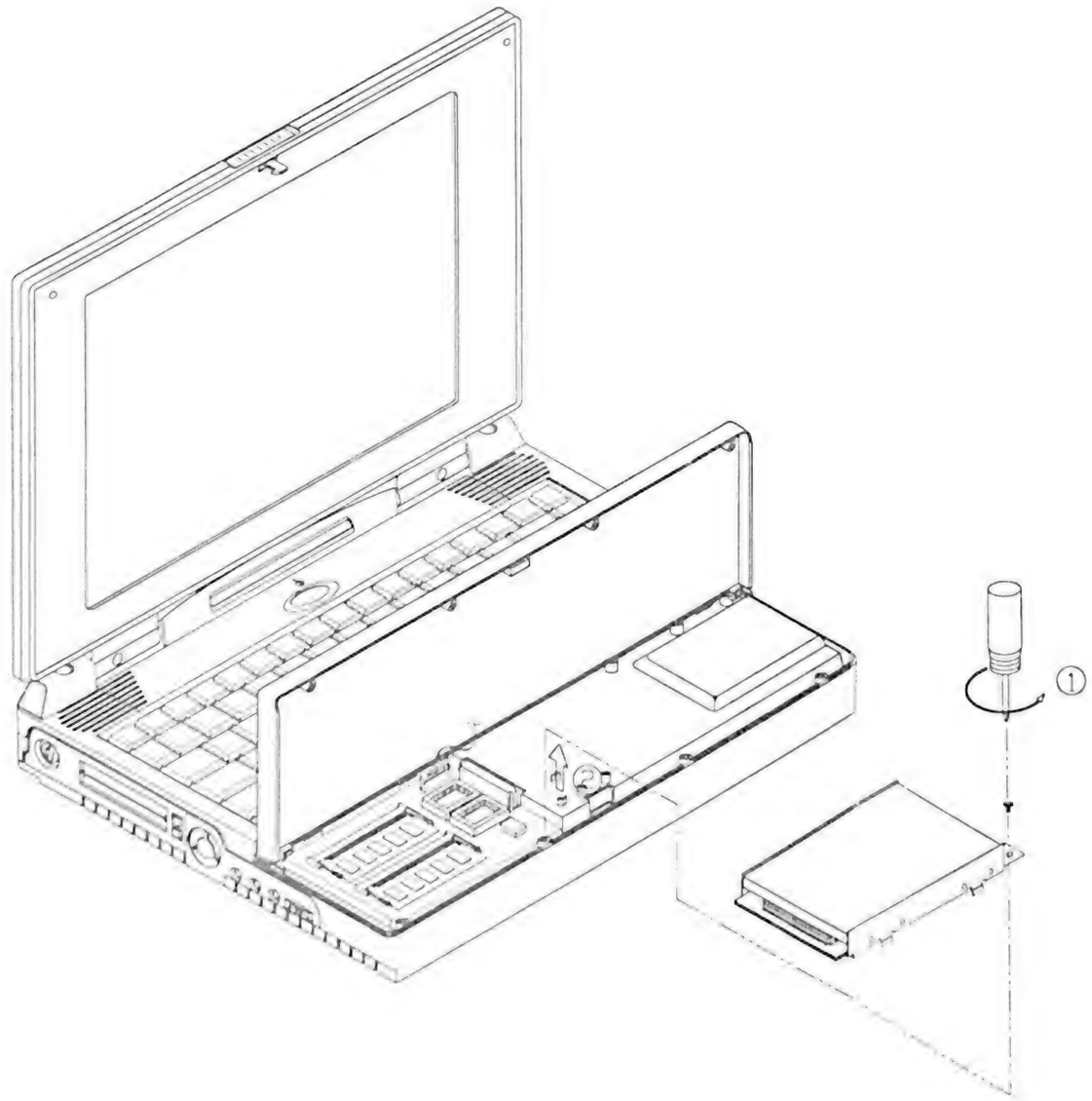


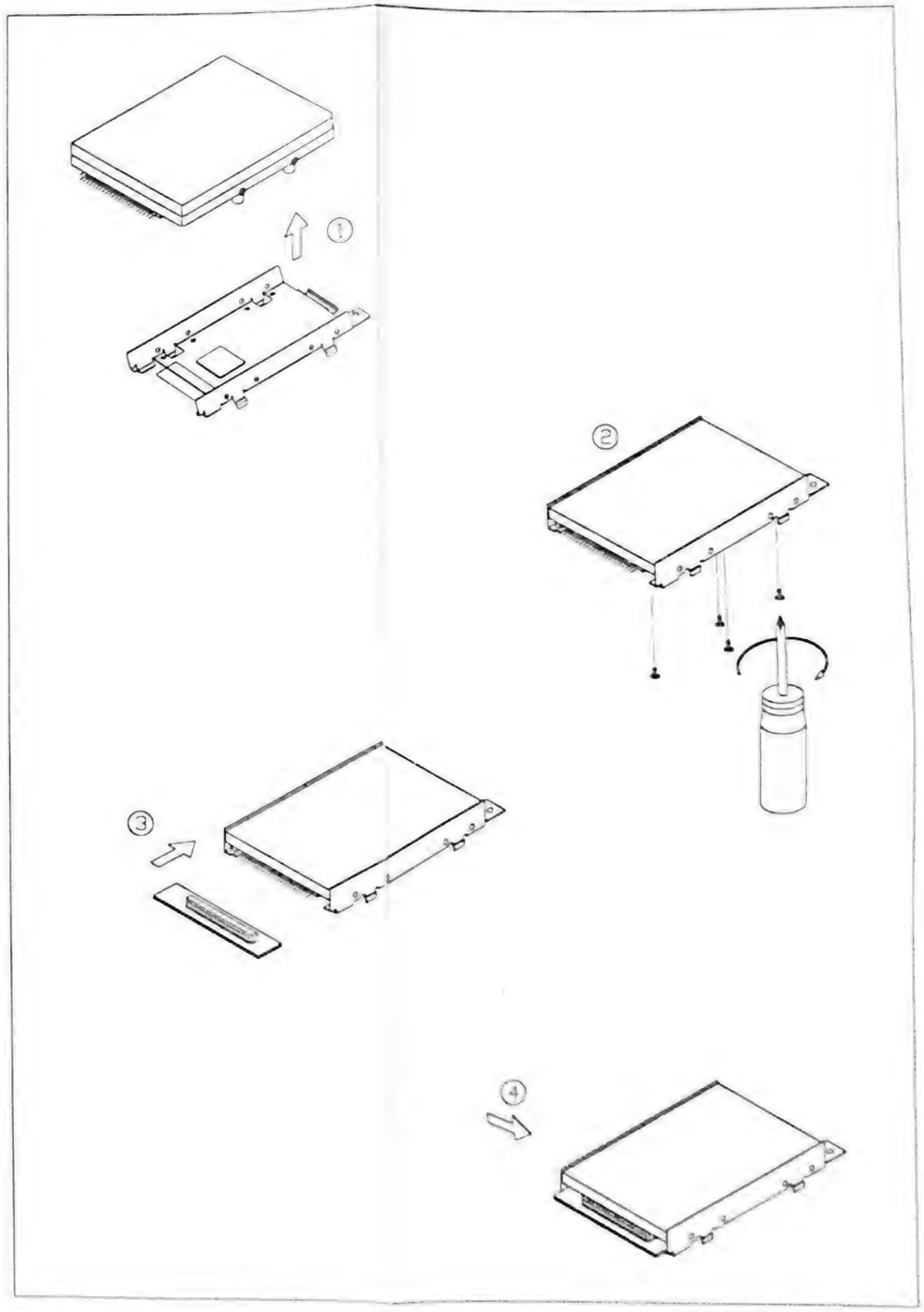
No.	PART NO	DESCRIPTION	Q'ty
1	R0G7354030100	COVER LCM G735 MAX	1
2			
3	R0G7564060200	COVER HINGE G756 MAX	2
4			
5	R0G7354030100	COVER LCM G735 MAX	1
6		CONN	1
7	H0G7560107000	CABLE LCD T121 SAM G756	1
8	SA030204R0001	SCREW B M2.0X0.4X4	1
9	62G7350102000	ASS'Y LCD MODULE TFT SAMSUNG 121" SVGA G735	1

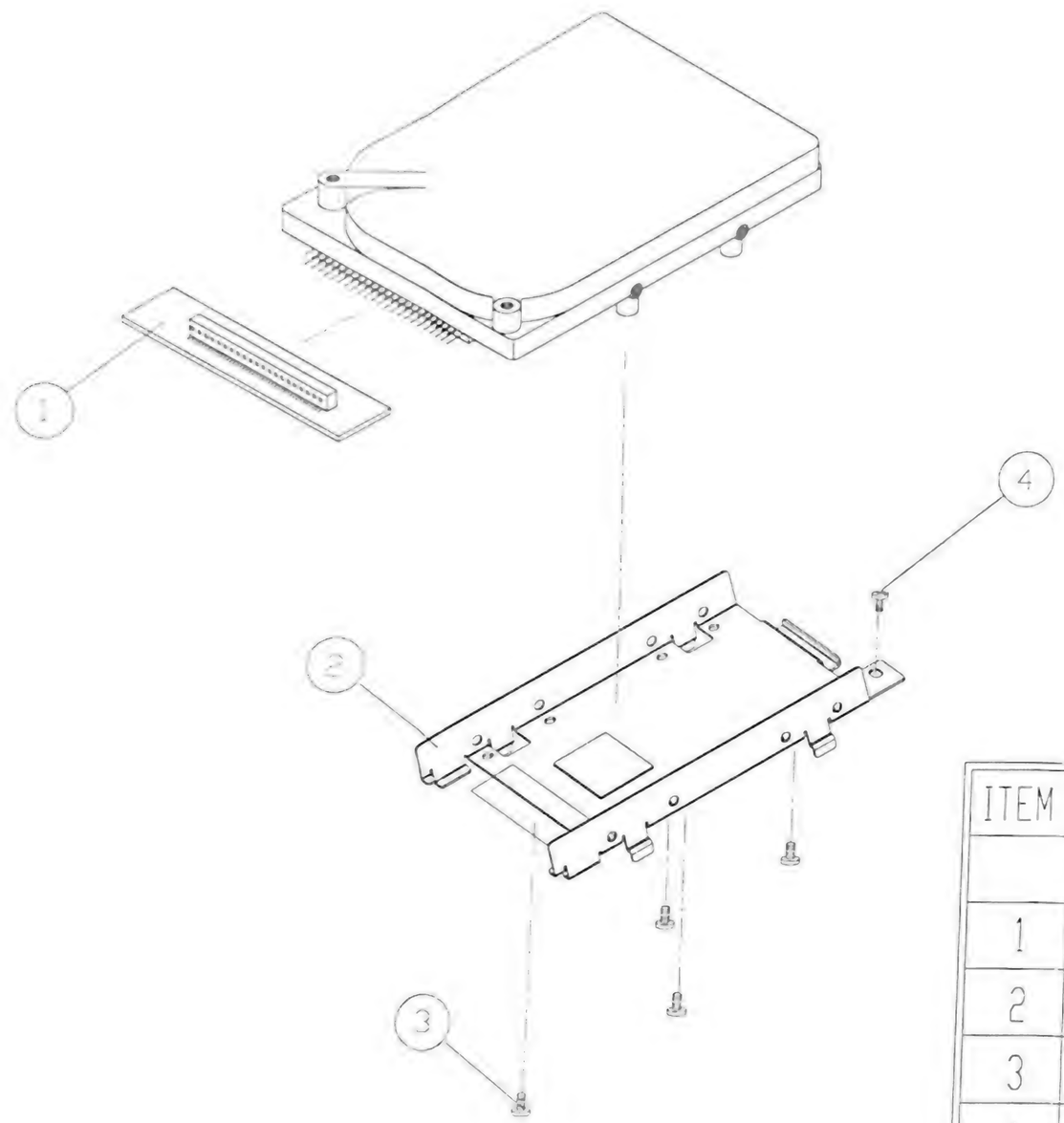


ITEM	PART NO.	DESCRIPTION		QTY
	62G7350902000	ASS'Y COMBO (CD-ROM 24X + FDD) G735		
1	JE11100040006	CD-ROM 24X UJDA150-XX MATSUSHITA		1
2	KE0G735221010	FPC CD-ROM G735		1
3	R1G7350201000	BEZEL CD-ROM MAT BLACK G735		1
4	JC10101090003	FDD MITSUMI D353F3 1.44 3.5'		1
5	KE0G735121010	FPC FDD G735		1
6	S0G7350702000	BRACKET COMBO G735		1
7	SA0B0202R0005	SCREW I M2X0.4X2 NI(NYLON)		8
8	SA030204R0001	SCREW B M2*0.4*4		2
9	SA010F06R0001	SCREW P M2.6*0.45*6 NI		3

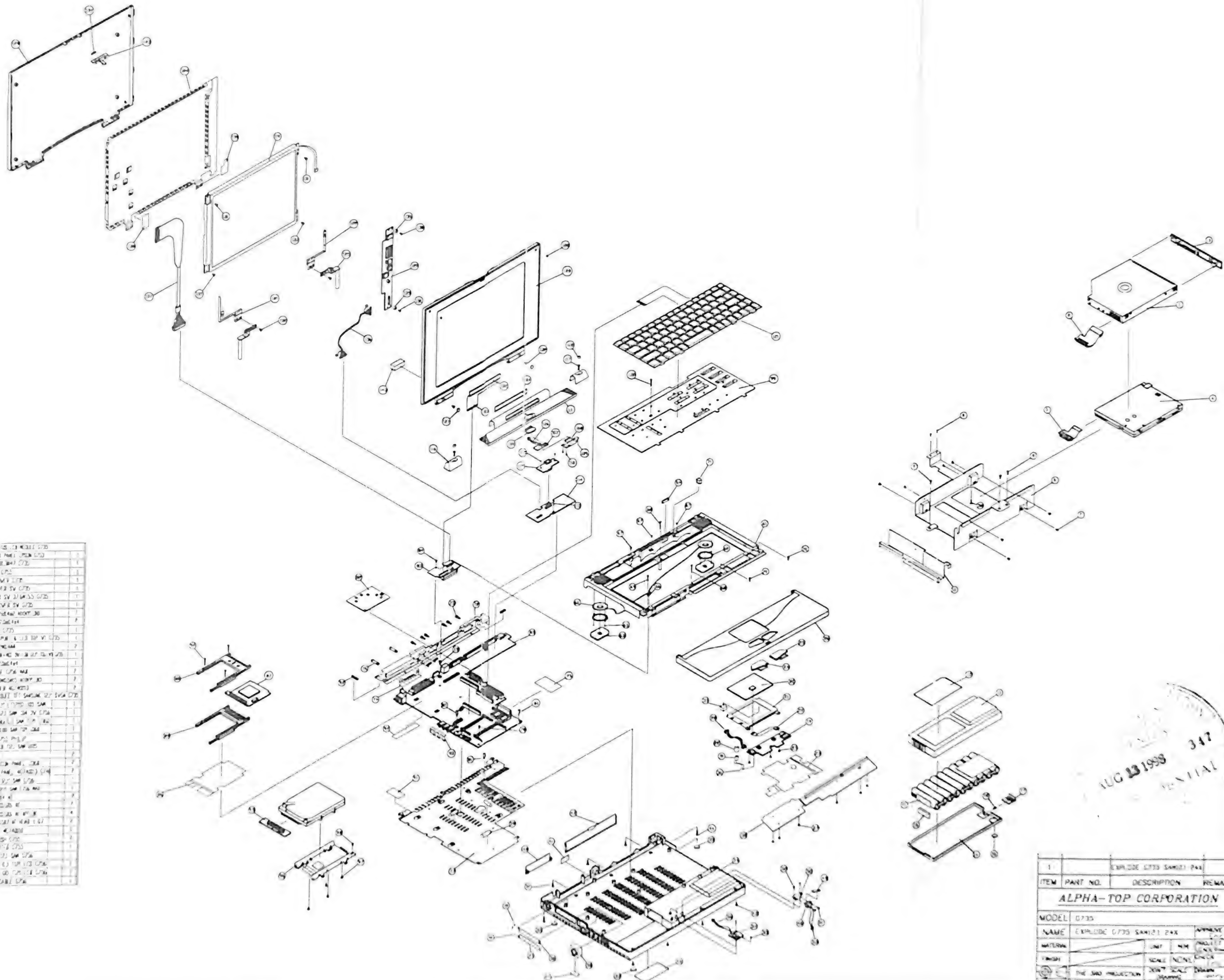
No.	PART NO.	DESCRIPTION	Q'ty
1	SA030204R0001	SCREW B M2X0.4X4 NI	1
2	62G7350501000	ASS'Y HDD KIT MODULE G756	1







ITEM	PART NO.	DESCRIPTION		QTY
	62G7350501000	ASS'Y HDD KIT MODULE G756		
1	40G7551300000	PCBA HDDI DIP V0 G755		1
2	S0G7350707000	BRACKET HDD G735		1
3	SA0B0304R0001	SCREW I M3X0.5X4 NI		4
4	SA030204R0001	SCREW B M2X0.4X4 NI		1



1		EXPLODE G735 SAM121 24X	
ITEM	PART NO.	DESCRIPTION	REMARK

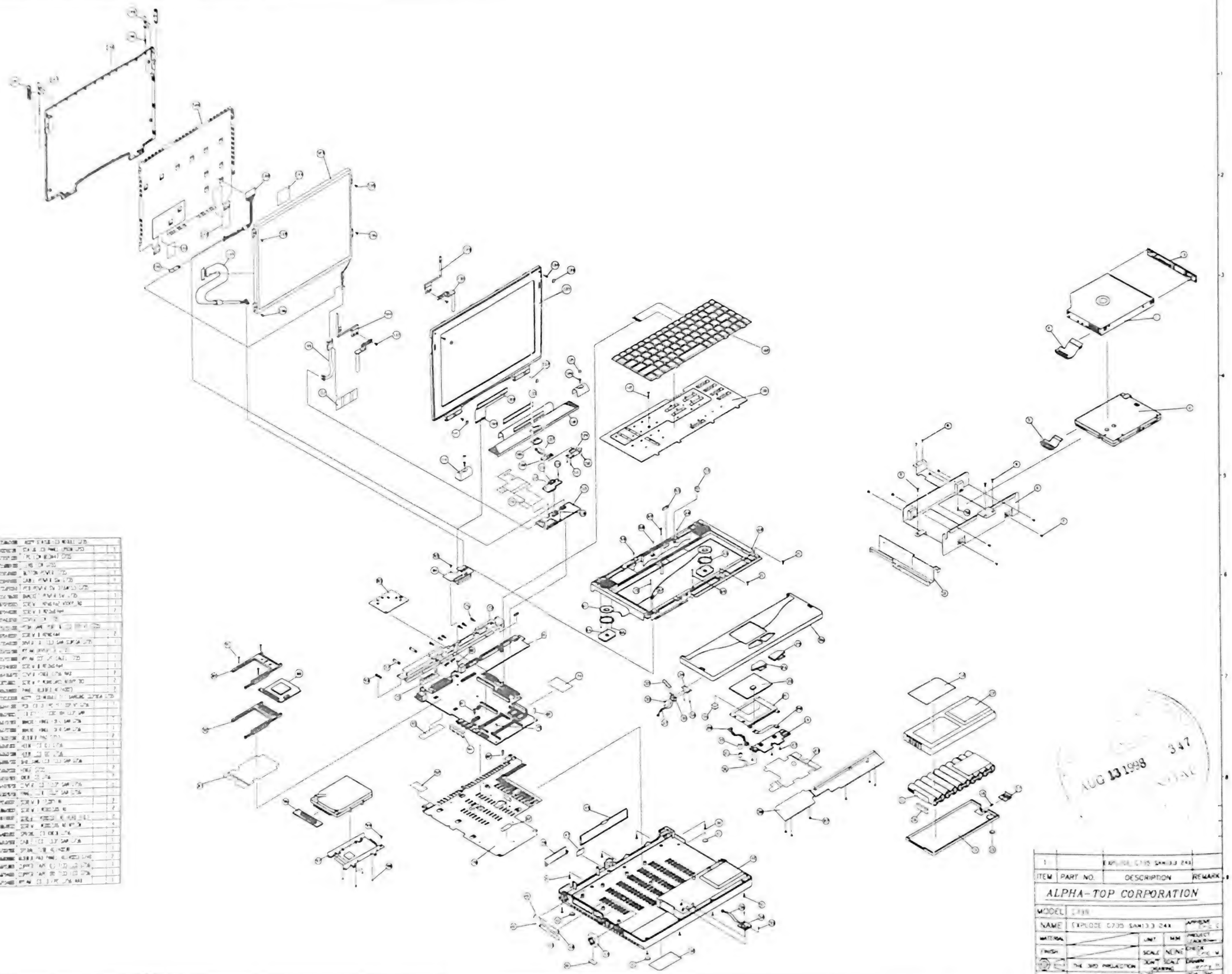
ALPHA-TOP CORPORATION

MODEL	G735
NAME	EXPLODE G735 SAM121 24X
MATERIAL	
FINISH	
THE 3RD PROJECTION	
SCALE	NONE
DWG. NO.	

ORIGINAL DRAWING

DESCRIPTION

HISTORY



ITEM	PART NO.	DESCRIPTION	REMARK
1		EXPLODE 5735 SAM33 241	

ALPHA-TOP CORPORATION

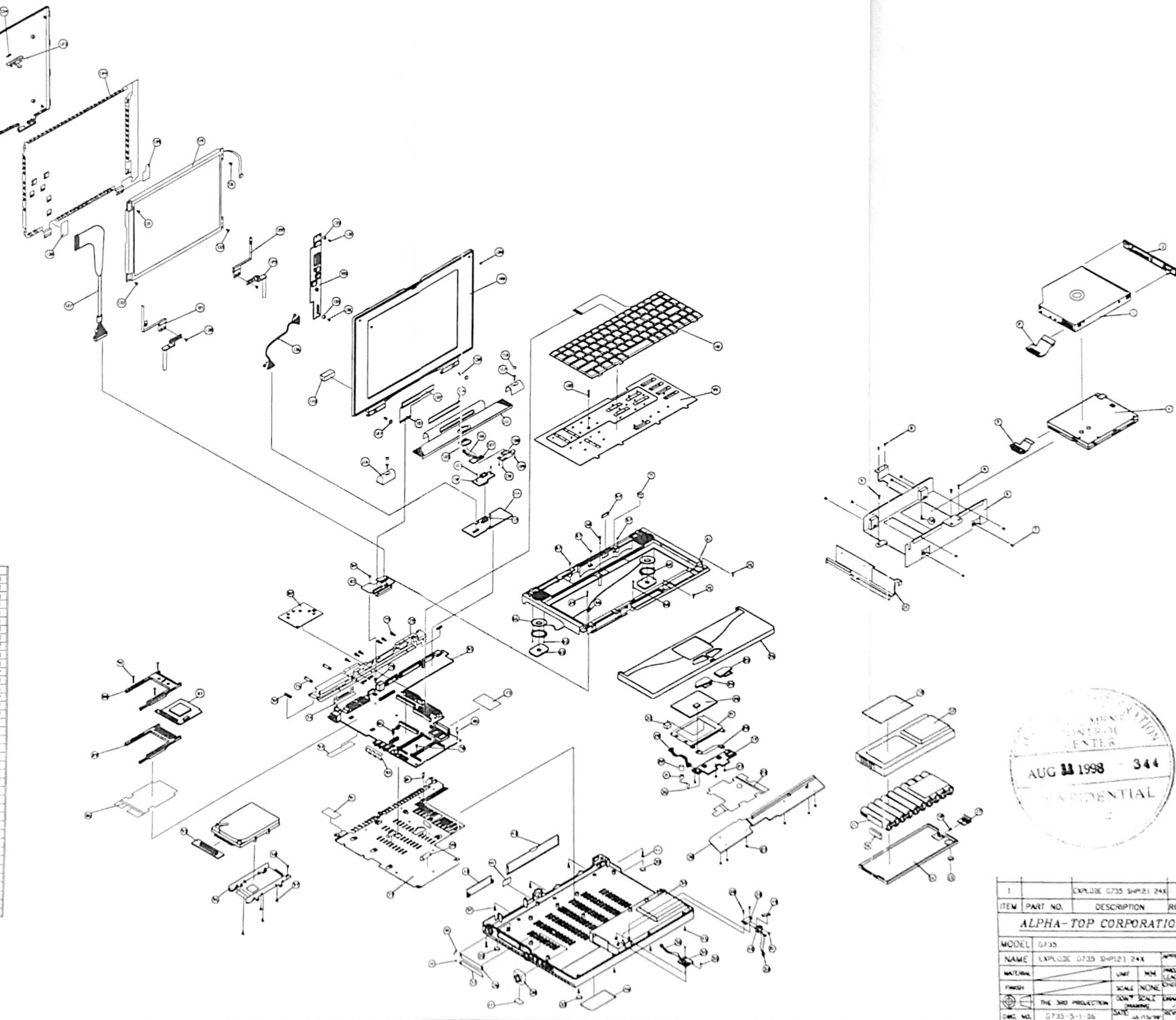
MODEL	5735		APPROVE
NAME	EXPLODE 5735 SAM33 241		CHECK
MATERIAL		UNIT MM	PROJECT
FINISH		SCALE NONE	CHECK
	THE 3RD PROJECTION	SCALE	DRAWN
DWG. NO.	5735152104	DRAWING DATE	REV.

AUG 13 1998

REV	DESCRIPTION	BY
	ORIGINAL DRAWING	

ITEM	PART NO.	DESCRIPTION	QTY
	[illegible]	ASSY COMBO CD-ROM FDD … G735	
1	[illegible]	CD-ROM 24X …	1
2	[illegible]	FPC CD-ROM G735	1
3	[illegible]	BEZEL CD-ROM … BLACK G735	1
4	[illegible]	FDD …	1
5	[illegible]	FPC FDD G735	1
6	[illegible]	BRACKET COMBO G735	1
7	[illegible]	SCREW …	8
8	[illegible]	SCREW B …	2
9	[illegible]	SCREW P …	3
10	[illegible]	BRACKET COMBO FPC SUPPORT G735	1
	[illegible]	ASSY BATTERY SANYO LI-ION … G736	
11	[illegible]	PCB SANYO …	1
12	[illegible]	LABEL BATT SANYO … G736	1
13	[illegible]	UP CASE BATT LI-ION …	1
14	[illegible]	BOTTOM CASE BATT LI-ION …	1
15	[illegible]	RUBBER FOOT …	1
16	[illegible]	RUBBER BATT G736	1
17	[illegible]	KNOB BATT …	1
18	[illegible]	SPRING BATT …	1
	[illegible]	ASSY FRONT CASE FOR 12.1" G735	
19	[illegible]	PCBA SW … G736	1
20	[illegible]	TOUCH PAD …	1
21	[illegible]	BRACKET TOUCH PAD G735	1
22	[illegible]	RUBBER G735 …	1
23	[illegible]	MYLAR FRONT COVER G735	1
24	[illegible]	BUTTON TOUCH PAD … G735	1
25	[illegible]	BUTTON TOUCH PAD … G735	1
26	[illegible]	FRONT COVER G735	1
27	[illegible]	SCREW …	4
28	[illegible]	CABLE TOUCH PAD G735	1
29	[illegible]	FPC TOUCH PAD G735	1
30	[illegible]	CABLE … G735	1
31	[illegible]	… PANASONIC …	1
32	[illegible]	HEAT SINK … G735	1
33	[illegible]	SPONGE TOUCH PAD G735	1
	[illegible]	ASSY …	
34	[illegible]	BOTTOM CASE G735	1
35	[illegible]	RUBBER FOOT …	3
36	[illegible]	DOOR PCMCIA UPPER G735 …	1
37	[illegible]	DOOR PCMCIA LOWER G735 …	1
38	[illegible]	COVER FAN G735	1
39	[illegible]	SPR-UP PCMCIA DOOR G735	1
40	[illegible]	SPR-LOW PCMCIA DOOR G735	1
41	[illegible]	LENS … G735	1
42	[illegible]	DOOR DOCKING G736 …	1
43	[illegible]	DOOR I/O G735	1
44	[illegible]	SCREW …	2
45	[illegible]	SCREW P …	4
46	[illegible]	LABEL … SYSTEM …	1
47	[illegible]	SPONGE FAN COVER G735	1
48	[illegible]	PUSH SW …	1
49	[illegible]	MYLAR … SW G735	1
50	[illegible]	BRACKET COVER CLOSE SW G735	1
51	[illegible]	SCREW …	2
52	[illegible]	SCREW B …	2
53	[illegible]	CABLE … G735	1
54	[illegible]	PCBA COVER CLOSE … G735	1
55	[illegible]	SCREW P …	2
56	[illegible]	CABLE … G735	1
57	[illegible]	SCREW …	3
58	[illegible]	SCREW …	1
59	[illegible]	DAMPER …	3
	[illegible]	ASSY TOP CASE G735	
60	[illegible]	SPEAKER …	2
61	[illegible]	TOP CASE G735	1
62	[illegible]	BRACKET SPEAKER G735	2
63	[illegible]	SPONGE SPEAKER G735	2
64	[illegible]	RUBBER GAME PORT G735	1
65	[illegible]	SCREW B …	4
66	[illegible]	CABLE SPEAKER G735	1
67	[illegible]	SCREW B …	2
68	[illegible]	SCREW P …	2
69	[illegible]	SCREW P …	1
70	[illegible]	SCREW P …	2
71	[illegible]	SPONGE … G735	1
	[illegible]	PCBA … G735	
72	[illegible]	BRACKET … G735	1
73	[illegible]	MYLAR BATT PROTECT G736	1
74	[illegible]	PLATE CONTACT … G735	1
75	[illegible]	HEX …	6
76	[illegible]	HEX …	2
77	[illegible]	SHIELDING PLATE … G735	1
78	[illegible]	SCREW B …	1
79	[illegible]	SCREW … G735	1
80	[illegible]	HEX … G735	2
81	[illegible]	HEX INVERTER G735	1
82	[illegible]	DOCK MODULE …	1
83	[illegible]	PCBA …	1
84	[illegible]	SCREW B …	1
85	[illegible]	PCBA … G735	1
86	[illegible]	MYLAR PCMCIA G735	1
87	[illegible]	PCBA PCMCIA … G736	1
88	[illegible]	SOCKET …	1
89	[illegible]	SOCKET …	1
90	[illegible]	SCREW P …	2
91	[illegible]	MYLAR …	1
92	[illegible]	SPONGE … G735	4
93	[illegible]	PLATE … CONTACT G736	1
94	[illegible]	MYLAR … G735	1
	[illegible]	ASSY HDD … G736	
95	[illegible]	PCBA HDD … G735	1
96	[illegible]	BRACKET HDD G735	1
97	[illegible]	SCREW …	4
98	[illegible]	SCREW …	1
	[illegible]	ASSY HEAT SINK G735	
99	[illegible]	HEAT …	1
100	[illegible]	SCREW …	1
101	[illegible]	…	1

ITEM	PART NO.	DESCRIPTION	QTY
	[illegible]	ASSY STATUS LCD MODULE G735	
102	[illegible]	STATUS LCD PANEL EPSON G735	1
103	[illegible]	FPC LCM … G735	1
104	[illegible]	LENS LCM G735	1
105	[illegible]	BUTTON POWER G735	1
106	[illegible]	CABLE POWER SW G735	1
107	[illegible]	PCB POWER SW … G735	1
108	[illegible]	BRACKET POWER SW G735	1
109	[illegible]	SCREW …	1
110	[illegible]	SCREW B …	2
111	[illegible]	COVER LCM G735	1
112	[illegible]	PCBA GAME PORT & LCD … G735	1
113	[illegible]	SCREW B …	2
114	[illegible]	PCB LCD … G735	1
115	[illegible]	SCREW B …	1
116	[illegible]	COVER HINGE G736 …	2
117	[illegible]	SCREW P …	2
118	[illegible]	PANEL RUBBER …	2
	[illegible]	ASSY LCD MODULE TFT SHARP 12.1" SVGA G735	
119	[illegible]	LCD … SHARP	1
120	[illegible]	INVERTER … G736	1
121	[illegible]	BRACKET HINGE …	1
122	[illegible]	BRACKET …	1
123	[illegible]	HOOK LCD G735 …	1
124	[illegible]	SHIELDING LCD …	1
125	[illegible]	HINGE G735	2
126	[illegible]	RUBBER SILICON PANEL …	2
127	[illegible]	RUBBER PAD PANEL …	2
128	[illegible]	COVER LCD 12.1" … G736	1
129	[illegible]	PANEL LCD 12.1" … G736 …	1
130	[illegible]	SCREW B …	2
131	[illegible]	SCREW …	2
132	[illegible]	SCREW …	4
133	[illegible]	SCREW …	2
134	[illegible]	HOOK SPRING …	1
135	[illegible]	INVERTER BUSH G735	2
136	[illegible]	CABLE INVERTER G735	1
137	[illegible]	CABLE LCD 12.1 … G736	1
138	[illegible]	COPPER TAPE … LCD G736	1
139	[illegible]	COPPER TAPE … LCD G736	1
140	[illegible]	RUBBER LCD CABLE G736	1



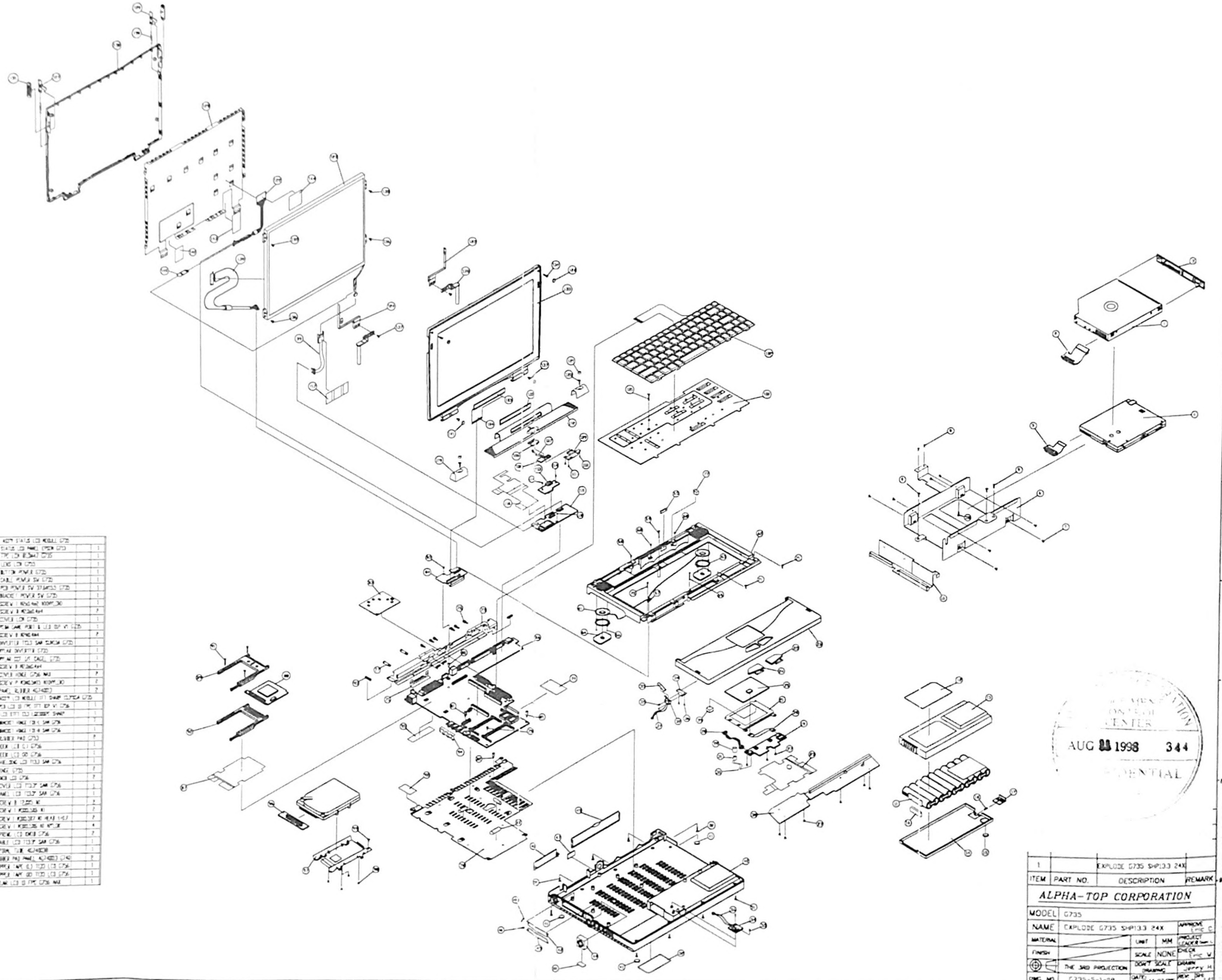
△		
△	FORMAL RELEASE	Jerry
	ORIGINAL DRAWING	Andy
REV	DESCRIPTION	BY
	HISTORY	

ITEM	PART NO.	DESCRIPTION	REMARK
1		EXPLODE G735 SHP121 24X	

ALPHA-TOP CORPORATION

MODEL	G735			
NAME	EXPLODE G735 SHP121 24X			APPROVE Eric C
MATERIAL		UNIT	MM	PROJECT LEADER
FINISH		SCALE	NONE	CHECK Eric W
	THE 3RD PROJECTION	DON'T SCALE DRAWING		DRAWN Jerry H
DWG. NO.	G735-5-1-06	DATE		REV. 1.0 SH. 1/1

374-008-01



REV.	DESCRIPTION	BY
	ORIGINAL DRAWING	JEFFY LIU 97/07/08
⚠	FORMAL RELEASE	JEFFY LIU 97/08/08
⚠		

HISTORY

ITEM	PART NO.	DESCRIPTION	REMARK
1		EXPLODE G735 SHP133 24X	

ALPHA-TOP CORPORATION

MODEL	G735		APPROVE Tyler C.
NAME	EXPLODE G735 SHP133 24X		PROJECT LEADER Tyler C.
MATERIAL		UNIT MM	CHECK Tyler V.
FINISH		SCALE NONE	DRAWN Jeffy H.
	THE 3RD PROJECTION	DON'T SCALE DRAWING	
DWG. NO.	G735-5-1-08	DATE 97/07/08	REV. SHT. 1/1

374-0068-01