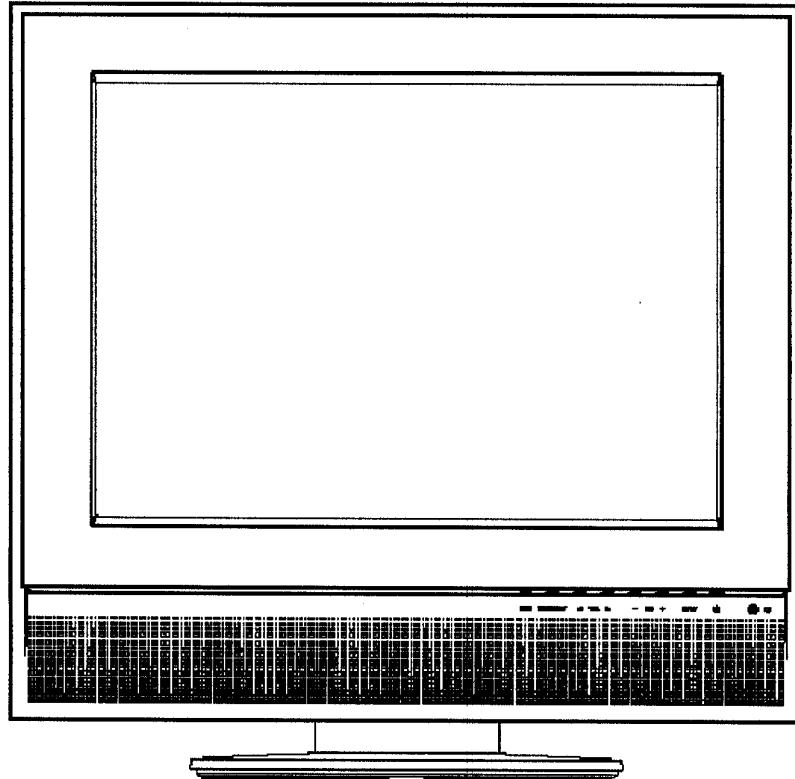


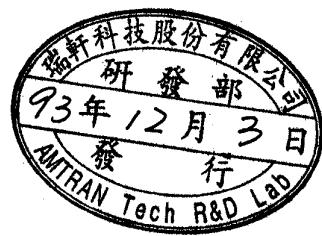
Service Manual



Model #: TM-20V

V, Inc

320A Kalmus Drive Costa Mesa, CA 92626
TEL : +714-668-0588 FAX :+714-668-9099



Top Confidential

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Appendix

1. Main Board Circuit Diagram
2. Main Board PCB Layout
3. Assembly Explosion Drawing

Block Diagram

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FCC INFORMATION

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause unacceptable interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures -- reorient or relocate the receiving antenna; increase the separation between equipment and receiver; or connect the into an outlet on a circuit different from that to which the receiver is connected.

FCC WARNING

To assure continued FCC compliance, the user must use a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications to Amtrak products will void the user's authority to operate this device. Thus **VINC** Will not be held responsible for the product and its safety.

CE CERTIFICATION

This device complies with the requirements of the EEC directive 89/336/EEC with regard to "Electromagnetic compatibility."

SAFETY CAUTION

Use a power cable that is properly grounded. Always use the AC cords as follows – USA (UL); Canada (CSA); Germany (VDE); Switzerland (SEV); Britain (BASEC/BS); Japan (Electric Appliance Control Act); or an AC cord that meets the local safety standards.

Chapter 1 Features

TM-20V is a world class TFT LCD analog display monitor/TV that includes the following features.

1. Digital On Screen Display Controls

User friendly buttons [OSD,MUTE/EXIT,▲,▼—, +,INPUT,POWER] allowing for picture perfect quality.

2. Power Supply Support

Ability to accept voltages from 100~240Vac, thus allowing a full range of input AC power supply.

3. Power Saving System

This environmental friendly product is able to reduce power consumption by more than 90% in Active Off Mode.

4. Frequency Range

Monitor can support video standards from VGA to SVGA, where Horizontal Frequency is from 30 to 38KHz and Vertical Refresh Rate is from 50 to 75Hz.

5. Input Signal

Input signal includes RF、S-Video、Composite*2、Component、Graphic、Audio*2

6. Audio output

Include speaker 5W *2、earphone output.

7. Other features

Close Caption、V-Chip function、Noise reduction、3:2 pull-down、HDTV support to 720P.

Chapter 2 Specification

Characteristic	Description
LCD Panel	AUO 20.1" TVPM A201SN01 V1, 0.51mm (H/V), Hard Coating + AR
Viewing Angles	120(V), 160(H) (Typical)
Luminance	450cd/m ² (Typical)
Contrast Ratio	500 (Typical)
Signal Input	Video : RGB analog Sync : H.V. Separate Sync, H.V. Composite Sync (TTL Compatible), Sync. On Green Horizontal : 30K~38KHz Vertical : 50~75Hz
Connector	Analog: 15 Pin Mini D-Sub F-terminal, S-video, Composite input x 2 (RCA type.), Component input (RCA type.), Audio input (L+R) x 2 (RCA type.) Mini Jack x 1 (For Audio input) PC, Mini Jack x 1 (For Audio earphone output)
Maximum Resolution	800x600
Display Area	408 (H) . 306 (V) (20.1inch diagonal)
Power Voltage	90 Vac ~ 240 Vac (50 / 60 Hz)
Power Consumption	65W (Typical) (AC input)
Operating Conditions	Temperature : 41°F to +95°F(5°C~35°C), Humidity : 10~95% RH, Altitude: 0~10,000ft
Storage Conditions	Temperature : -4°F to +140°F (-20°C to +60°C) Humidity : 10% to 95% (no condensation) Altitude: 0~40,000hpa
Mechanical Dimensions	Width: 522.89mm Height: 548.45mm Depth: 284.83mm Monitor Weight: 11.6kg
Package Dimensions	Width: 700.0mm Height: 590.0mm Depth: 330.0mm Gross: 15.40kg

Chapter 3 On Screen Display

Main unit button

POWER

INPUT

CH +

CH -

VOL ▲

VOL ▼

MUTE/EXIT

OSD

OSD Adjustment

1. D-SUB MODE

A. Picture adjust:

- a. AUTO ADJUST
- b. BRIGHTNESS
- c. CONTRAST
- d. CLOCK
- e. PHASE
- f. H-POSITION
- g. V-POSITION

B. COLOR TEMP.

- a. COLOR TEMP.
 - NEATRAL
 - COOL
 - WARM
 - USER
- RED
- GREEN
- BLUE

C. INPUT SETUP

- a. D-SUB
- b. COMPONENT
- c. VIDEO1
- d. VIDEO2
- e. S-VIDEO
- f. TV

D. AUDIO ADJUST

- a. VOLUME
- b. BASS
- c. TREBLE
- d. BALANCE
- e. LOUDNESS
 - ON
 - OFF
- f. MUTE
 - ON
 - OFF

E. SPECIAL FEATURE

- a. OSD H POS.
- b. OSD V POS.
- c. OSD TIMEOUT
- d. OSD TRANS
- e. LANGUAGE
 - ENGLISH
 - ESPAÑOL
 - FRANÇAIS
- f. RESET ALL SETUP

2. TV Mode

A. PICTURE ADJUST

- a. Brightness
- b. Contrast
- c. Color
- d. TINT
- g. Sharpness
- h. Close Caption

ON
OFF

B. INPUT SETUP

- a. D-SUB
- b. COMPONENT
- c. VIDEO1
- d. VIDEO2
- e. S-VIDEO
- f. TV

C. TV TUNER SETUP

- a. SOUND
 - MONO
 - STEREO
 - SAP
- b. CHANNEL SEARCH
- c. SET CHANNEL
- d. ADD/DELETE

D. AUDIO ADJUST

- a. VOLUME
- b. BASS
- c. TREBLE
- d. BALANCE
- e. LOUDNESS
 - ON
 - OFF
- f. MUTE
 - ON
 - OFF

E. PARENTAL CONTROLS

- a. TV RATING

TV Y:

TV Y7: FV

TV G:

TV PG: D L S V

TV 14: D L S V

TV MA: L S V

-
- b. MOVIE RATING
 - G:
 - PG:
 - PG 13:
 - R:
 - NC 17:
 - X:
 - c. ACCESS CODE EDIT.
 - OLD: -----
 - NEW: -----
 - CONFIRE: -----

F.SPECIAL FEATURES

- a. OSD H POS.
- b. OSD V POS.
- c. OSD TIMEOUT
- d. OSD TRANS.
- e. LANGUAGE
 - ENGLISH
 - ESPAÑOL**
 - FRANCAIS**
- f. SLEEP TIMER
 - ON
 - OFF
- g. RESET ALL SETTINGS

3. S-VIDEO Mode

A. PICTURE ADJUST

- a. Brightness
- b. Contrast
- c. Color
- d. TINT
- e. Sharpness
- f. Close Caption
 - ON
 - OFF

B. INPUT SETUP

- a. D-SUB
- b. COMPONENT
- c. VIDEO1
- d. VIDEO2
- e. S-VIDEO
- f. TV

C. AUDIO ADJUST

- a. VOLUME
- b. BASS
- c. TREBLE
- d. BALANCE
- e. LOUDNESS
 - ON
 - OFF
- f. MUTE
 - ON
 - OFF

D.PARENTAL CONTROLS

- a. TV RATING
 - TV Y:
 - TV Y7: FV
 - TV G:
 - TV PG: D L S V
 - TV 14: D L S V
 - TV MA: L S V
- b. MOVIE RATING
 - G:
 - PG:
 - PG 13:
 - R:
 - NC 17:
 - X:
- c. ACCESS CODE EDIT.
 - OLD: -----
 - NEW: -----
 - CONFIRE: -----

E.SPECIAL FEATURES

- a. OSD H POS.
- b. OSD V POS.
- c. OSD TIMOUT
- d. OSD TRANS.
- e. LANGUAGE
 - ENGLISH
 - ESPAÑOL
 - FRANÇAIS
- f. SLEEP TIMER
 - ON
 - OFF
- g. RESET ALL SETTINGS

4. VIDEO MODE

A. PICTURE ADJUST

- a. Brightness
- b. Contrast
- c. Color
- d. TINT
- g. Sharpness
- h. Close Caption

ON
OFF

B. INPUT SETUP

- a. D-SUB
- b. COMPONENT
- c. VIDEO1
- d. VIDEO2
- e. S-VIDEO
- f. TV

C. AUDIO ADJUST

- a. VOLUME
- b. BASS
- c. TREBLE
- d. BALANCE
- e. LOUDNESS

ON
OFF

- f. MUTE

ON
OFF

D. PARENTAL CONTROLS

- a. TV RATING

TV Y:
TV Y7: FV
TV G:
TV PG: D L S V
TV 14: D L S V
TV MA: L S V

- b. MOVIE RATING

G:
PG:
PG 13:
R:
NC 17:
X:

c. ACCESS CODE EDIT.

OLD: -----

NEW: -----

CONFIRE: -----

E.SPECIAL FEATURES

a. OSD H POS.

b. OSD V POS.

c. OSD TIMOUT

d. OSD TRANS.

e. LANGUAGE

ENGLISH

ESPAÑOL

FRANCAIS

f. SLEEP TIMER

ON

OFF

g. RESET ALL SETTINGS

5. COMPONENT 480I

A. PICTURE ADJUST

a. Brightness

b. Contrast

c. Color

d. TINT

d. Sharpness

e. Close Caption

ON

OFF

B. INPUT SETUP

a. D-SUB

b. COMPONENT

c. VIDEO1

d. VIDEO2

e. S-VIDEO

f. TV

C. AUDIO ADJUST

a. VOLUME

b. BASS

c. TREBLE

d. BALANCE

e. LOUDNESS
ON
OFF

f. MUTE
ON
OFF

D.PARENTAL CONTROLS

a. TV RATING

TV Y:
TV Y7: FV
TV G:
TV PG: D L S V
TV 14: D L S V
TV MA: L S V

b. MOVIE RATING

G:
PG:
PG 13:
R:
NC 17:
X:

c. ACCESS CODE EDIT.

OLD: ----
NEW: ----
CONFIRE: ----

E.SPECIAL FEATURES

a. OSD H POS.
b. OSD V POS.
c. OSD TIMEOUT
d. OSD TRANS.
e. LANGUAGE
ENGLISH
ESPAÑOL
FRANCAIS

f. SLEEP TIMER

ON
OFF

g. RESET ALL SETTINGS

6. COMPONENT 480P

A. PICTURE ADJUST

a. Brightness
b. Contrast

B. INPUT SETUP

- a. D-SUB
- b. COMPONENT
- c. VIDEO1
- d. VIDEO2
- e. S-VIDEO
- f. TV

C. AUDIO ADJUST

- a. VOLUME
- b. BASS
- c. TREBLE
- d. BALANCE
- e. LOUDNESS
 - ON
 - OFF
- f. MUTE
 - ON
 - OFF

D. SPECIAL FEATURES

- a. OSD H POS.
- b. OSD V POS.
- c. OSD TIMOUT
- d. OSD TRANS.
- e. LANGUAGE
 - ENGLISH
 - ESPAÑOL
 - FRANÇAIS
- f. SLEEP TIMER
 - ON
 - OFF
- g. RESET ALL SETTINGS

7. COMPONENT 1080I

A. PICTURE ADJUST

- a. Brightness
- b. Contrast

B. INPUT SETUP

- a. D-SUB
- b. COMPONENT
- c. VIDEO1
- d. VIDEO2

-
- e. S-VIDEO
 - f. TV

C. AUDIO ADJUST

- a. VOLUME
- b. BASS
- c. TREBLE
- d. BALANCE
- e. LOUDNESS
 - ON
 - OFF
- f. MUTE
 - ON
 - OFF

D.SPECIAL FEATURES

- a. OSD H POS.
- b. OSD V POS.
- c. OSD TIMOUT
- d. OSD TRANS.
- e. LANGUAGE
 - ENGLISH
 - ESPAÑOL
 - FRANCAIS
- f. SLEEP TIMER
 - ON
 - OFF
- g. RESET ALL SETTING

8. COMPONENT 720P

A. PICTURE ADJUST

- a. Brightness
- b. Contrast

B. INPUT SETUP

- a. D-SUB
- b. COMPONENT
- c. VIDEO1
- d. VIDEO2
- e. S-VIDEO
- f. TV

C. AUDIO ADJUST

- a. VOLUME
- b. BASS
- c. TREBLE
- d. BALANCE
- e. LOUDNESS
 - ON
 - OFF
- f. MUTE
 - ON
 - OFF

D.SPECIAL FEATURES

- a. OSD H POS.
- b. OSD V POS.
- c. OSD TIMOUT
- d. OSD TRANS.
- e. LANGUAGE
 - ENGLISH
 - ESPAÑOL**
 - FRANÇAIS**
- f. SLEEP TIMER
 - ON
 - OFF
- g. RESET ALL SETTINGS

FACTORY SETTINGS

Chapter 4 Factory preset timings

This timing chart is already preset for the TFT LCD analog display monitors.

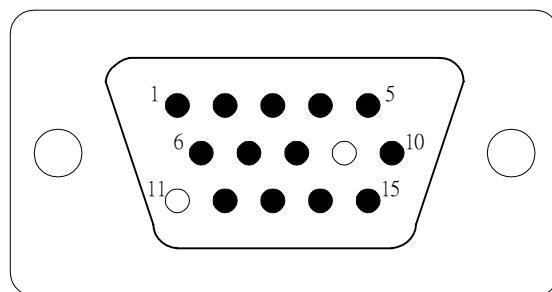
Resolution	Refresh rate	Horizontal Frequency	Vertical Frequency	Horizontal Polarity	Vertical Polarity	Pixel Rate(MHz)
720x400	70Hz	31.46KHz	70.08Hz	N	P	28.320
640x480	60Hz	31.5KHz	59.94Hz	N	N	25.175
640x480	66Hz	35KHz	66.67Hz	P	P	30.24
640x480	72Hz	37.9KHz	72.81Hz	N	N	31.500
640x480	75Hz	37.5KHz	75.00Hz	N	N	31.500
800x600	56Hz	35.1KHz	56.25Hz	P	P	36.000
800X600	60Hz	37.9KHz	60.317Hz	P	P	40.000

Remark : P: positive N: negative

Chapter 5 Pin Assignment

The TFT LCD analog display monitors use a 15 Pin Mini D-Sub connector as video input source.

Pin	Description
1	Red
2	Green
3	Blue
4	Ground
5	Ground
6	R-Ground
7	G-Ground
8	B-Ground
9	+5V for DDC
10	Ground
11	No Connection
12	(SDA)
13	H-Sync (Composite Sync)
14	V-Sync
15	(SCL)



F-type TV RF connector:

- a. Signal Level 65dB μ V \pm 20

S-Video or Composite Signal:

- a. Type Analog
- b. Polarity Positive
- c. Level
 - Composite: 1.0Vp-p
 - S-Video: Y=1.0Vp-p
 - C=0.286Vp-p
- d. Frequency H: 15.734KHz V: 60Hz(NTSC)
H: 15.625KHz V: 50Hz(PAL)
- e. Input impedance 75 ohms

Component Signal:

- a. Type Analog
- b. Polarity Positive
- c. Level
 - Component: Y=1.0Vp-p
 - Cb=0.7Vp-p
 - Cr=0.7Vp-p
- d. Frequency H: 15.734KHz V: 59.94Hz(480i)
H: 31.468KHz V: 59.94Hz(480p)
H: 33.715KHz V: 59.94Hz(1080i)
H: 44.964KHz V: 59.94Hz (720p)
- e. Input impedance 75 ohms

RGB Signal:

- a. Sync Type TTL (Separate / Composite) or Sync. On Green
- b. Sync polarity Positive or Negative
- c. Video Amplitude RGB: 0.7Vp-p
- d. Frequency H: support to 24K~38KHz
V: support to 50~75Hz

Audio Signal (Mini Jack):

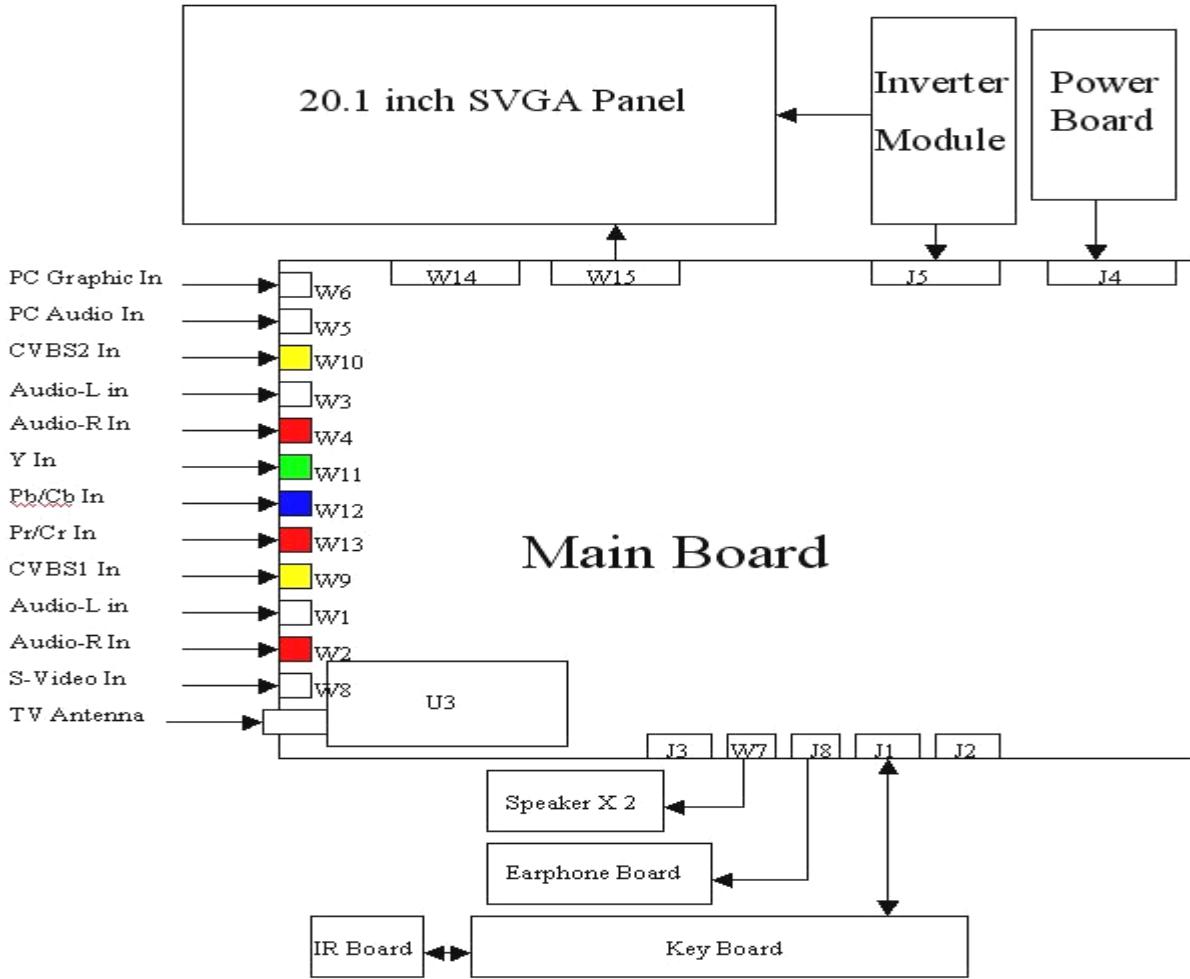
Analog 1000mVrms(MAX) /more than 22Kohm

Audio Signal (RCA Jack):

Analog 500mVrms(MAX) /more than 22Kohm

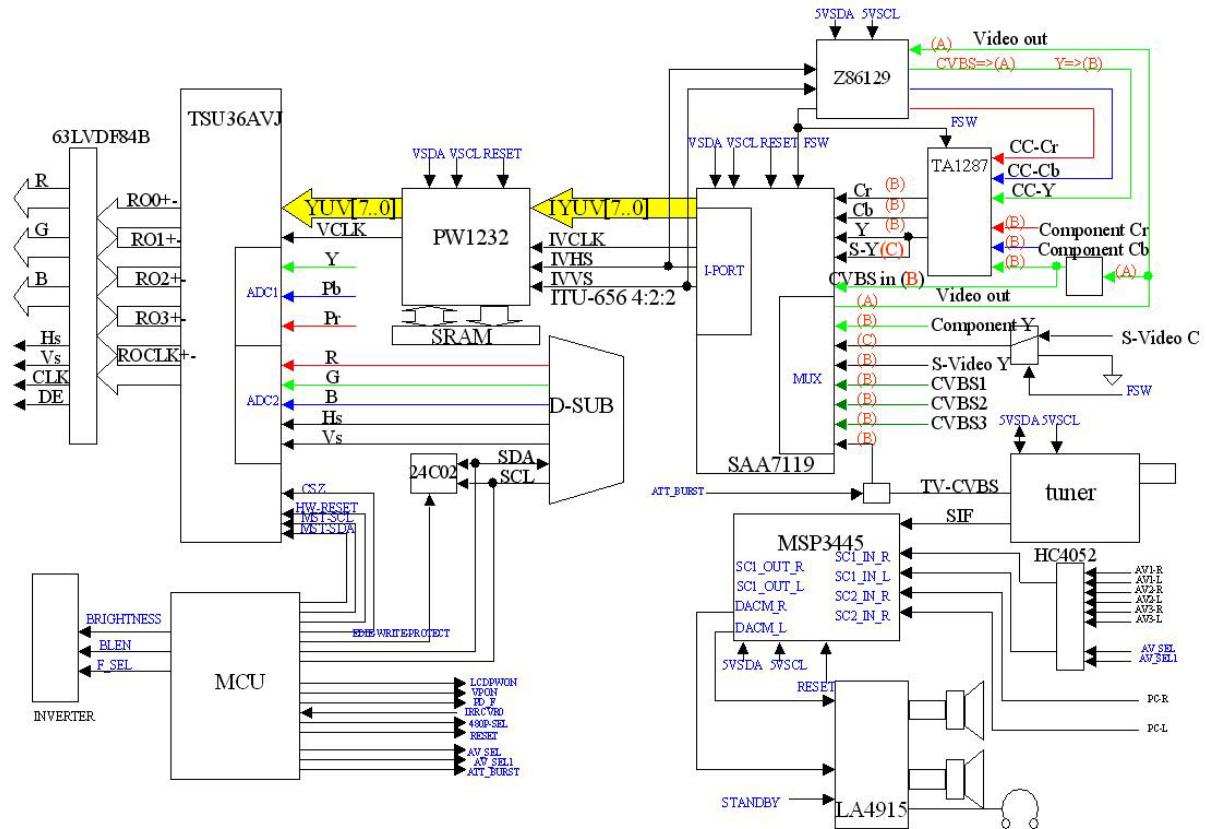
Chapter 6 Block Diagram

System Block Diagram



The TV's system block diagram is powered by a power board that transforms AC source of 100V AC +/- 10% @ 50/60 HZ into DC 12V source. The DC source supplies three important parts of the system block diagram. They are the main board, inverter and 20.1" SVGA panel unit. The main board converts different types of video signal into digital video signal that is include PC graphic input. Afterward, the main board process the digital signals control the various functions of the monitor and outputs control signal, video signal and power to the 20.1" SVGA panel to be displayed. The power be sent to the panel is first processed by the inverter. The function of the inverter is to step up the voltage supplied by the main board to the power that is needed to light up the six lamps in the panel. Simultaneously, the digital video signals are processed in the panel and the outcome determines the brightness, pixel on/off and the color displayed on the panel.

Main board block diagram



The function of the main board is to transmit different type of PC graphic, audio, video signal in to compatible digital video and audio formation fit for the TSU36AVJ.

The FQ1236-MK5 tuner processes the T.V antenna and the cable into analog signal. The audio signal exiting from FQ1236-MK5 is further processed by MSP3445. The purpose is to process the input IF signal into AF signal and control all sound signal input that features like volume, bass, treble, balance, and loudness. The processing procedure conforms to standard recommend for Broadcast Television System Committee (BTSC).

The processed analog video and audio signal are fed to the audio and video decoder. The analog audio and video signal of S-Video, CVBS, and Component signal are fed to the audio decoder and video decoder. At the video decoder, all signals are translated from analog signals into compatible digital signal which will be ultimately be processed by the TSU36AVJ. After the video signal has been converted into digital signals, the digital video signal is de-interlaced by PW1232. The de-interlace processor automatically determines and de-interlace the incoming video content – static or motion and applies different algorithm to each of the content type. An external SDRAM is used to help store the video fields and motion video data processed in PW1232. More over, the internal memory controller in PW1232 controls the external SDRAM.

Chapter 7 Main Board I/O Connections

J4 CONNECTION TO POWER BOARD(RIGHT→LEFT)

Pin	Description
1	NC
2	GND_POWER_IN
3	GND_POWER_IN
4	GND_POWER_IN
5	GND_POWER_IN
6	GND_POWER_IN
7	+12V_I
8	+12V_I
9	+12V_I
10	+12V_I
11	+12V_I

J5 CONNECTION TO INVERTER(RIGHT→LEFT)

Pin	Description
1	+12V_I
2	+12V_I
3	+12V_I
4	+12V_I
5	+12V_I
6	GND_POWER_IN
7	GND_POWER_IN
8	GND_POWER_IN
9	GND_POWER_IN
10	GND_POWER_IN
11	BRIGHTNESS
12	BLEN
13	IF_SEL

W15 CONNECTION TO PANEL(RIGHT→LEFT)

Pin	Description
1	NC
2	NC
3	NC
4	DGND
5	DGND
6	LCDVCC
7	LCDVCC
8	LCDVCC
9	LCDVCC
10	DGND
11	HSO
12	VSO
13	DGND
14	DEO
15	DGND
16	CLKO
17	DGND
18	RO7
19	RO6
20	RO5
21	RO4
22	DGND
23	RO3
24	RO2
25	RO1
26	RO0
27	DGND
28	GO7
29	GO6
30	GO5
31	GO4

32	DGND
33	GO3
34	GO2
35	GO1
36	GO0
37	DGND
38	BO7
39	BO6
40	BO5
41	BO4
42	DGND
43	BO3
44	BO2
45	BO1
46	BO0
47	DGND
48	DGND
49	NC
50	NC

J1 CONNECTION TO DISPLAY BOARD(LEFT→RIGHT)

Pin	Description
1	PKEY
2	DGND
3	LED1
4	LED2
5	V33
6	SN1
7	SN2
8	SN3
9	IRRCVR0
10	V50

J2 CONNECTION (LEFT→RIGHT)

Pin	Description
1	DGND
2	TXD
3	RXD
4	V50

J8 CONNECTION TO EARPHONE BOARD(LEFT→RIGHT)

Pin	Description
1	L output
2	L output
3	Ground-Audio
4	Earphone detect
5	Ground-Audio

W7 CONNECTION TO SPEAKER (LEFT→RIGHT)

Pin	Description
1	R -
2	R +
3	L +
4	L -

Chapter 8 Theory of Circuit Operation

The operation of D-SUB 15pin route

The D-SUB 15pin connector receives graphic signal from host device. Then, the signal is process by the A/D converter (TSU36AVJ) and output LVDS signal to THC63LVDF84B; the THC63LVDF84B recovery the vertical and horizontal timing signals, data enable signal and data signal for display device.

The operation of S-Video route

The S-Video signal is connected to SAA7119 (video decoder) and output to PW1232 via ITU656 interface. The PW1232 output via ITU656 interface to TSU36AVJ, then TSU36AVJ output vertical and horizontal timing signals, data enable signal and data signal for display device.

The operation of Video route

The Video signal is connected to SAA7119 (video decoder) and output to PW1232 via ITU656 interface. The PW1232 output via ITU656 interface to TSU36AVJ, then TSU36AVJ output vertical and horizontal timing signals, data enable signal and data signal for display device.

The operation of TV route

TV video signal output from the tuner module FQ1236MK5 is connected to SAA7119 (video decoder) and output to PW1232 via ITU656 interface. The PW1232 output via ITU656 interface to TSU36AVJ, then TSU36AVJ output vertical and horizontal timing signals, data enable signal and data signal for display device

The operation of 480i route

The 480i signal is connected to SAA7119 (video decoder) and output to PW1232 via ITU656 interface. The PW1232 output via ITU656 interface to TSU36AVJ, then TSU36AVJ output vertical and horizontal timing signals, data enable signal and data signal for display device.

The operation of 480p/1080i/720p route

The 480p/1080i/720p signal is connected to TSU36AVJ, Then, the signal is process by the A/D converter (TSU36AVJ) and output LVDS signal to THC63LVDF84B; the THC63LVDF84B recovery the vertical and horizontal timing signals, data enable signal and data signal for display device

The operation of CC route

All signal will be selected and output from SAA7119, then the SAA7119 output signal is processed by Zilog Z86129 (CC decoder) to generate the OSD signals do display closed caption. SAA7119 is processing mixing the closed caption in TV and CVBS mode. The TA1287 and HC4053 is processing mixing close caption. Then feed back to SAA7119. SAA7119 outputs decoded video signal to PW1232 via ITU656 interface. The PW1232 output via ITU656 interface to TSU36AVJ, then TSU36AVJ output vertical and horizontal timing signals, data enable signal and data signal for display device.

The operation of 480p/1080i/720p route

The 480p/1080i/720p signal is connected to TSU36AVJ. Then, the signal is processed by the A/D converter (TSU36AVJ) and output LVDS signal to THC63LVDF84B; the THC63LVDF84B recovers the vertical and horizontal timing signals, data enable signal and data signal for display device.

The operation of audio route

The audio route is two ways: 1. The modulated audio signal from FQ1236MK5 is decoded by MSP3445 to generate proper sound signals (Mono, Stereo, or SAP). 2. The AV and PC audio input is selected by HC4052 then output to the MSP3445. Then these input signals are selected by MSP3445 then processed and output to amplified LA4915. The output of LA4915 is feed to the speakers.

The operation of keypad and IR Board

There are 8 keys to control and select the function of TM-20V and also has one LED to indicate the status of operation. They are “MANU, EXIT/MUTE, ▲, ▼, -, +, INPUT, POWER” keys in keypad. The LED and IR receiver is in IR Board.

1. The power key through SW8 and GND to intimate MTV412, MTV412 will receive a low signal to turn on or off system while press the power key.
2. The other seven keys are connected to the ADC inputs of MTV412. It's depended on which key is pressed, and the corresponding ADC level (SN1/AD2, SN2/AD1 or SN3/AD0) will be changed and monitored by MTV412. Then MTV412 will activate corresponding function.
3. The LED is constructed with two separate LED which color is green and orange. The MTV412 direct control the LED's on or off. When normal operation the MTV412 (P5.4) is on high state and MTV412 (P5.5) is low state and the LED will be green. The LED will be orange while enter power saving states or the system is standby.

The operation of Analog port

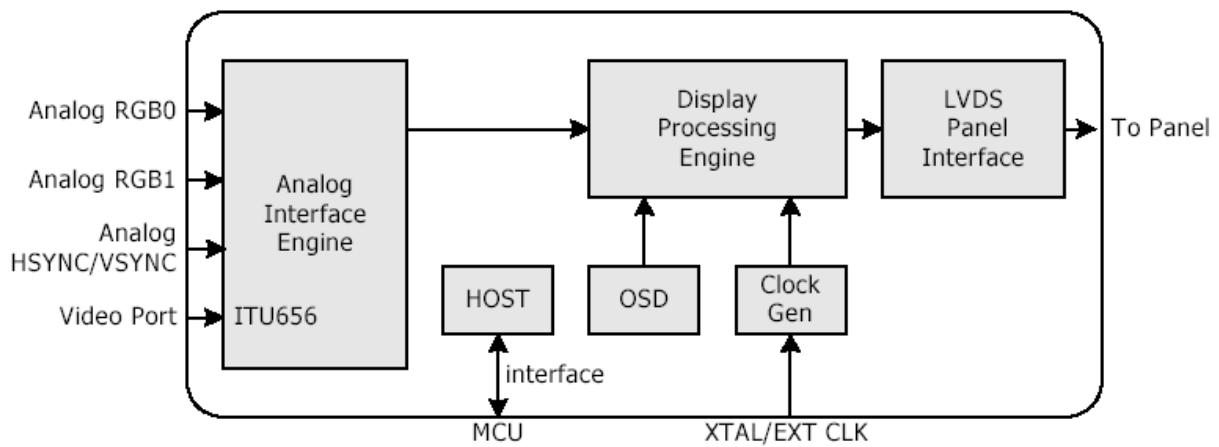
The analog port is consist of 15 pin mini D-Sub connector which receiving graphic signal from host device, EEPROM which compliance with DDC2B protocol, H-sync and V-sync input buffer circuit which regenerate separate synchronous signal for TSU36AVJ, graphic signal matching circuit and TSU36AVJ which captures RGB graphic signal and digitizes for each pixel and scale the display frame.

The pin assignment of 15 pins connector are as follows :

Pin No.	Pin Name	Description
1	GRAI	Red signal
2	GGAI	Green signal
3	GBAI	Blue signal
4	GND	Ground
5	GND	Ground
6	GND	R-Ground
7	GND	G-Ground
8	GND	B-Ground
9	+5V	For DDC
10	GND	Ground
11	X	No connection
12	RGSA	SDA
13	GHSI	H-Sync
14	RVSI	V-Sync
15	RGSL	SCL

The RGB graphics signal of host device transmits to the analog port through pin 1 to 3. The transmission lines should be 75ohm resistance matching which are fulfilled by each impedance matching circuit and support voltage limitation through D18, D24 and D19. The video signal should be coupled to RIN, GIN, BIN and SOGIN of TSU36AVJ through C44, C53, C78 and C55. The EDID data is stored in EEPROM (24C02) which compliance with DDC2B protocols that perform a plug and play function. When DDC2B protocol the host device access EDID data through RGSA (pin12) and RGSL (pin15).

Then all the signal that is include separate sync, composite, sync, SOG and R, G, B graphic signal input to the TSU36AVJ analog input 0. TSU36AVJ is a high performance, and fully integrated graphics processing IC solution for LCD monitors with resolution up to SXGA. It configured triple-ADC/PLL, a high quality scaling engine, an on-screen display controller, a built-in output clock generator, and LVDS display interface. The TSU36AVJ also integrates intelligent power management control capability for green-mode requirement and spread-spectrum support for EMI management. The TSU36AVJ block diagram is shown below.



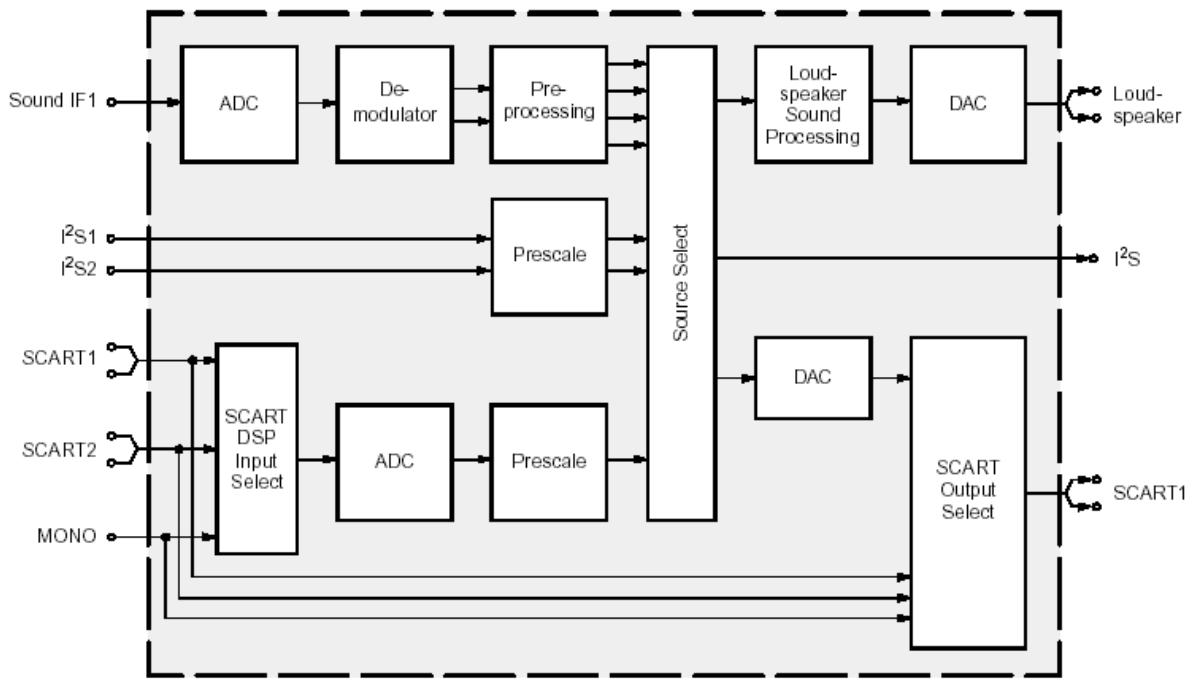
The operation of FQ1236

The cable and antenna will be plug in FQ1236 H-5, The FQ1236 H-5 tuner is include all band TV tuner and a Quasi-Split Sound IF demodulation unit. The front is built in digital(I2C) PLL tuning system.

The operation of MSP3445

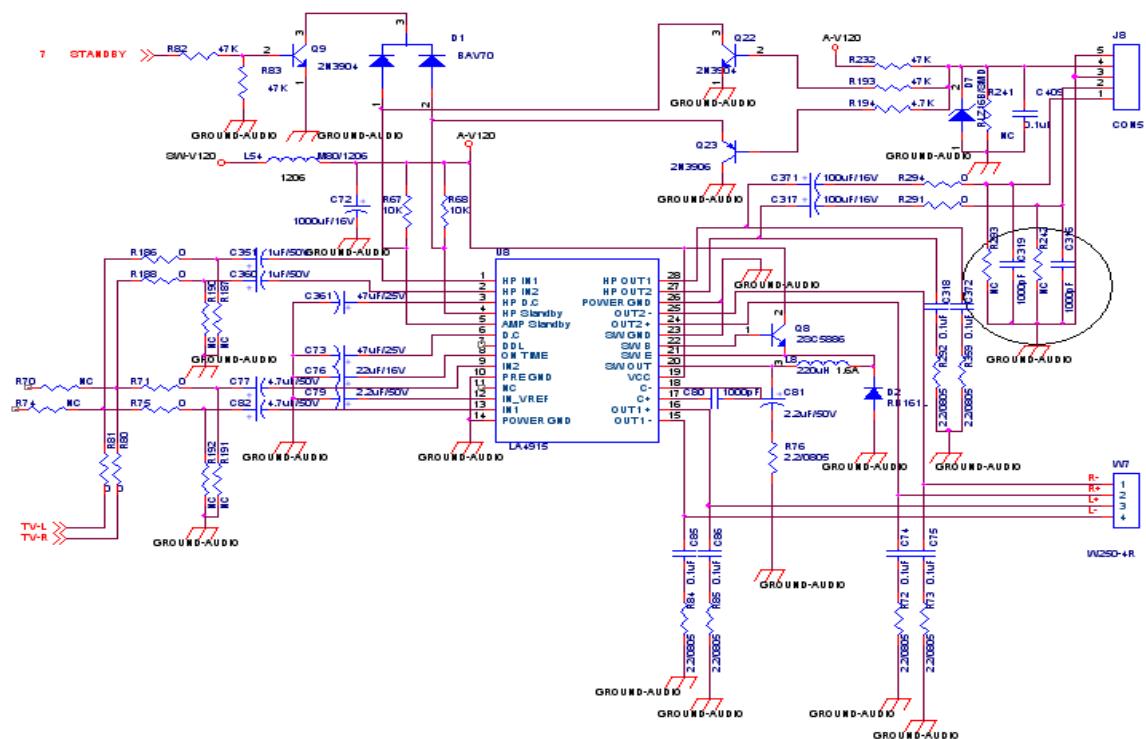
There are three audio signal input to this system, the two of three is be selected by 74HC4052 then output to the scart2 of MSP3445, PC audio is input to the scart1 of MSP3445. SIF signal is input to the Sound IF 1. The input signal will be converted from analog to digital in front-end of MSP3445. The SIF signal input via AGC function then demodulated. The prescale function control the SIF output to a constant value. The SACRT1 and SCART2 input also have prescale function after the ADC.

The SIF signal and SCART input will be selected after prescale. The selected signal is output to back-end. The back-end is also processing loudness, balance, volume, treble and bass function. The block diagram of MSP3445 is showed in below.

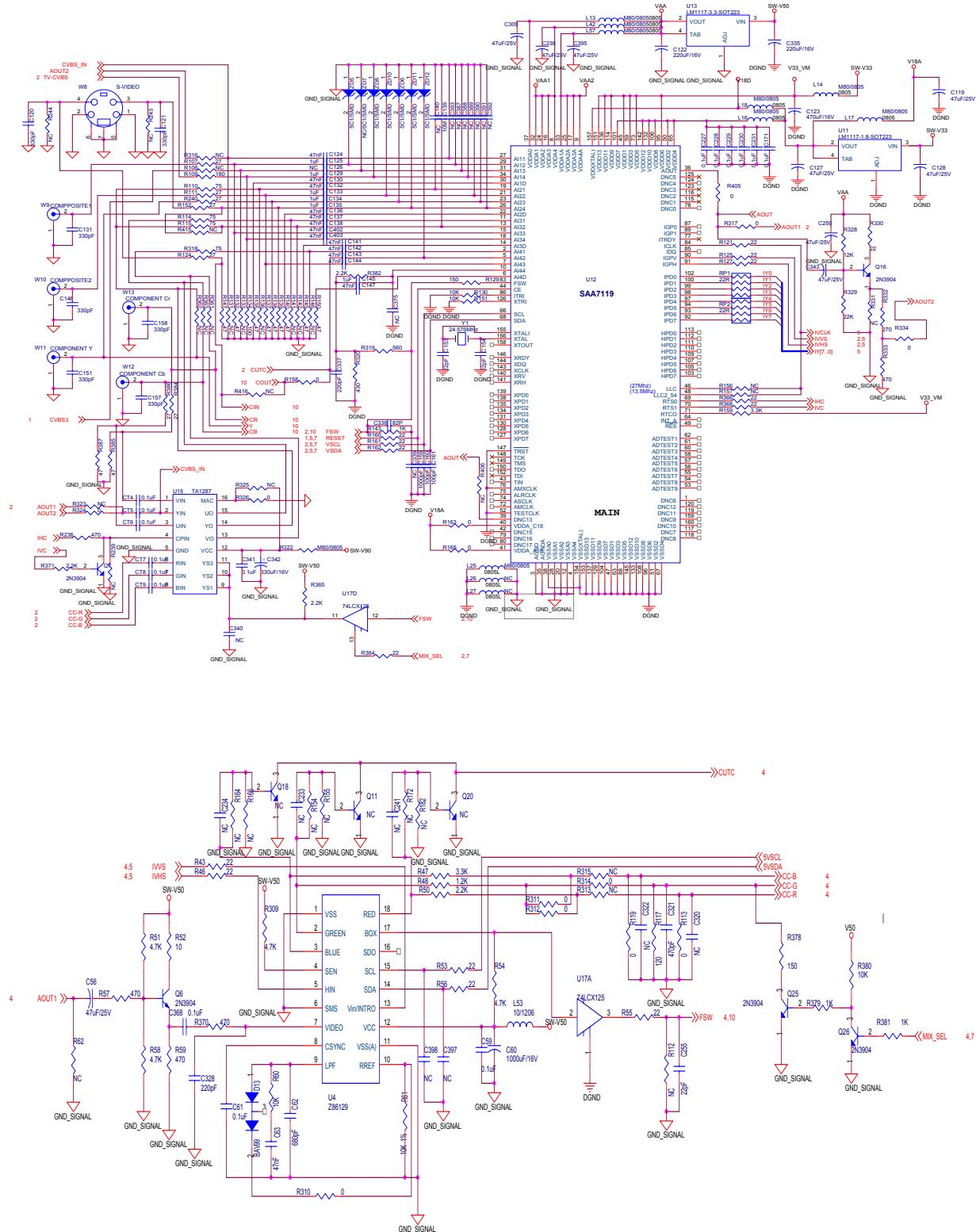


The operation of LA4915

The TM-20V use LA4915 for stereo system, AN7522 is a 5W audio power amplifier IC. When system is into power saving mode the MPU will mute this amplifier. Then turn off the power of the amplifier. Below scheme is LA4915 circuit scheme.



The operation of SAA7119,TA1287 and Z86129



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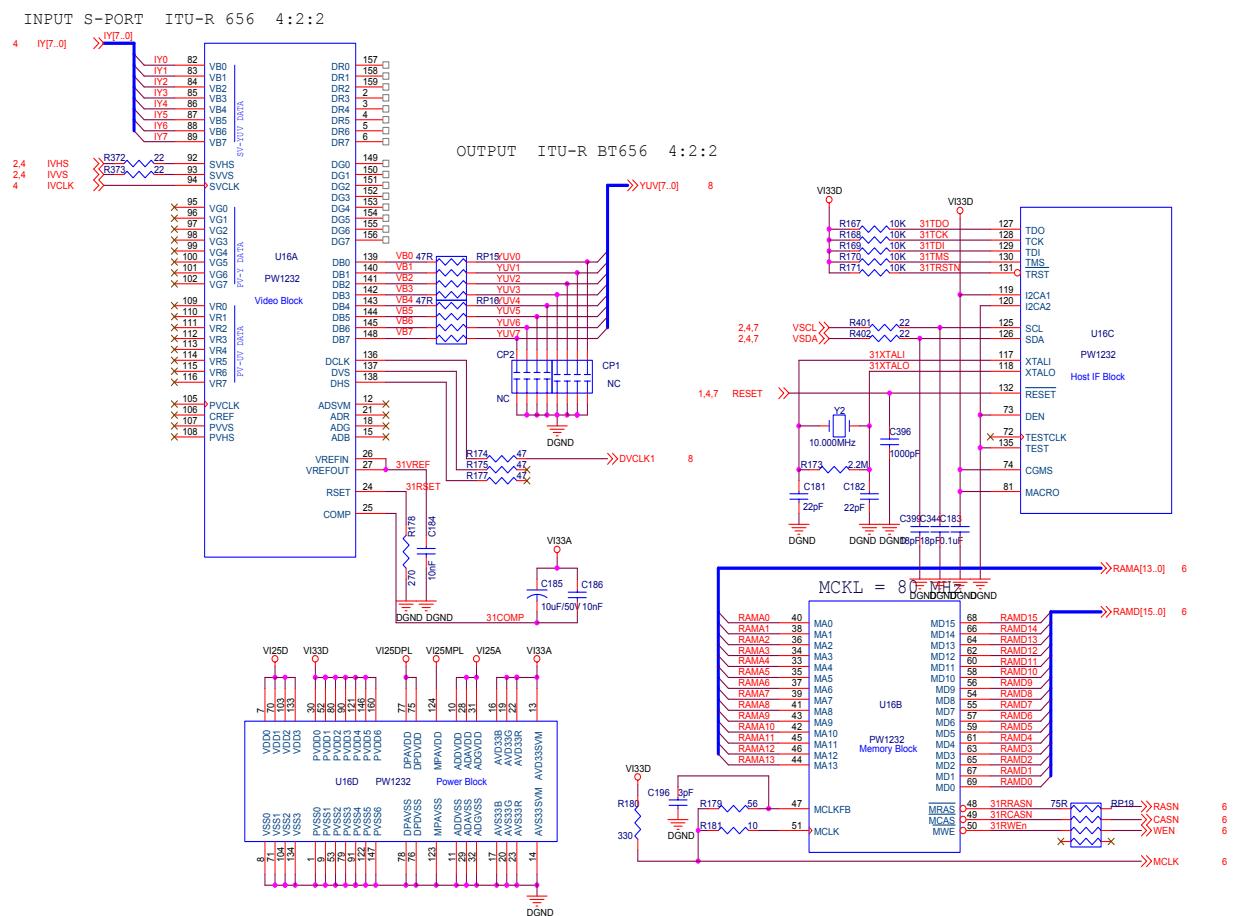
Page 8-7

File No. SG-0151

There are three CVBS signal, one S-video, and one component signal input to the SAA7119. SAA7119 is control by internal register to output a signal. The output signal is using to provide Z86129 to decode Close Caption and V-CHIP data.

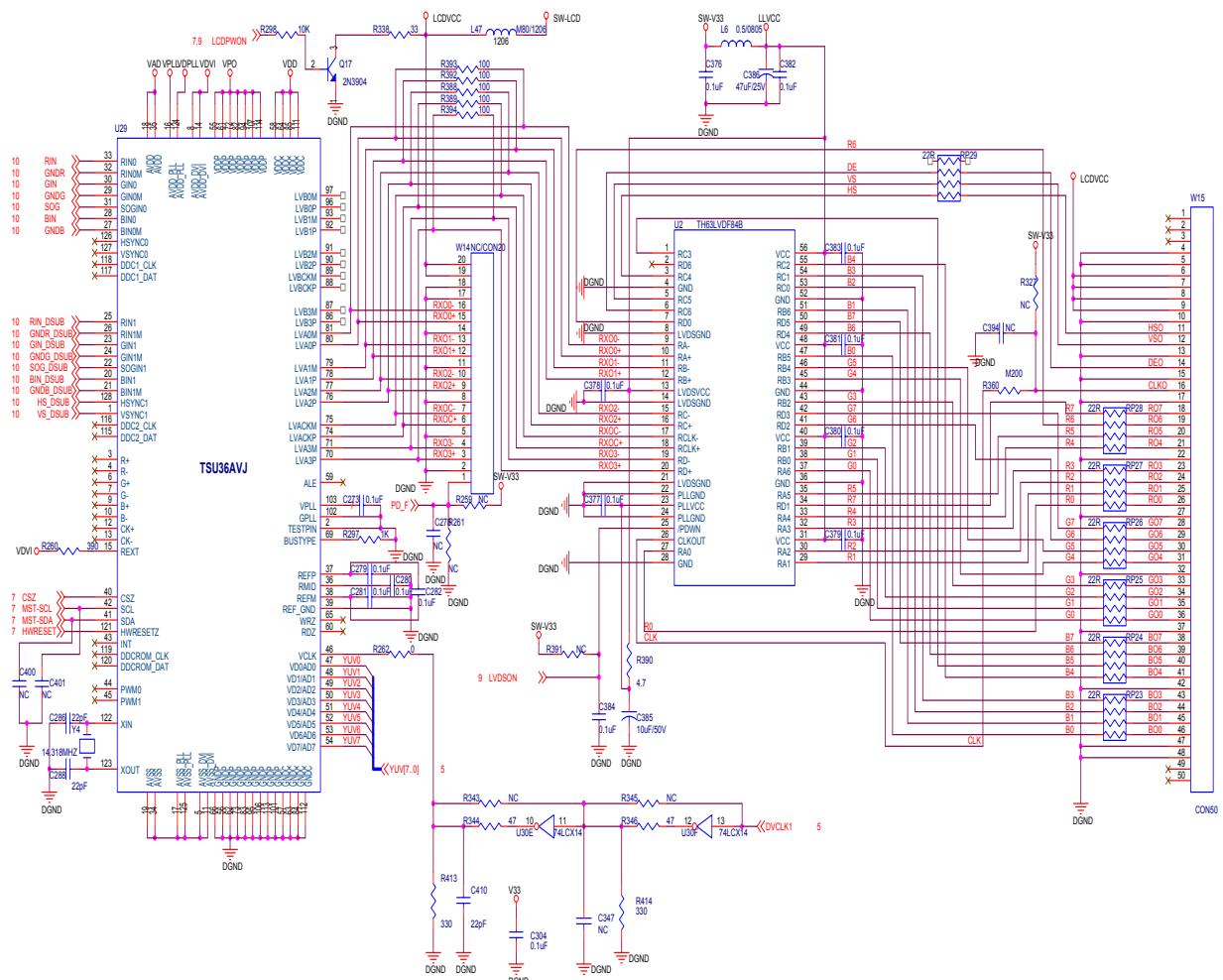
Now there are two methods to MIX close caption and video. In CVBS video signal, the close caption data is mixed in the SAA7119, and the FSW pin is control mix function. S-Video and component video signal, the close caption is mixed in TA1287. The TA1287 clamping signal is control by SAA7119 IHC, IVC output. TA1287 mix control signal is control by FSW signal. FSW signal is the output of the Z86129. When Video, S-video or component signal input to the SAA7119, then SAA7119 will output digital data that is ITU-656 format data stream and transmit to de-interlace chip PW1232.

The operation of PW1232

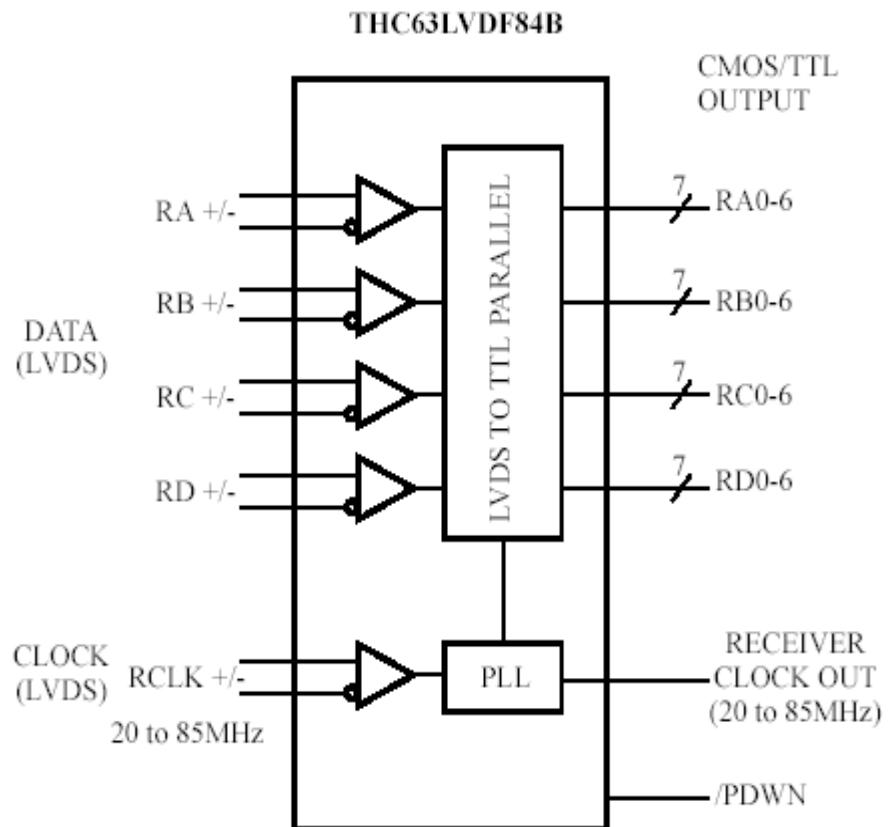


The digital data stream output from SAA7119 is input to PW1232 SV-port. When PW1232 receive the data stream it will process de-interlace, 3-2 pull down, 2-2 pull down, scale, video enhance, and noise reduce function in PW1232. After PW1232 processing, it will output ITU-656 digital data to scaler chip that is TSU36AVJ that is processing scale function, then TSU36AVJ output a LVDS signal to the LVSD receiver chip THC63LVDF84B.

The operation of THC63LVDF84B

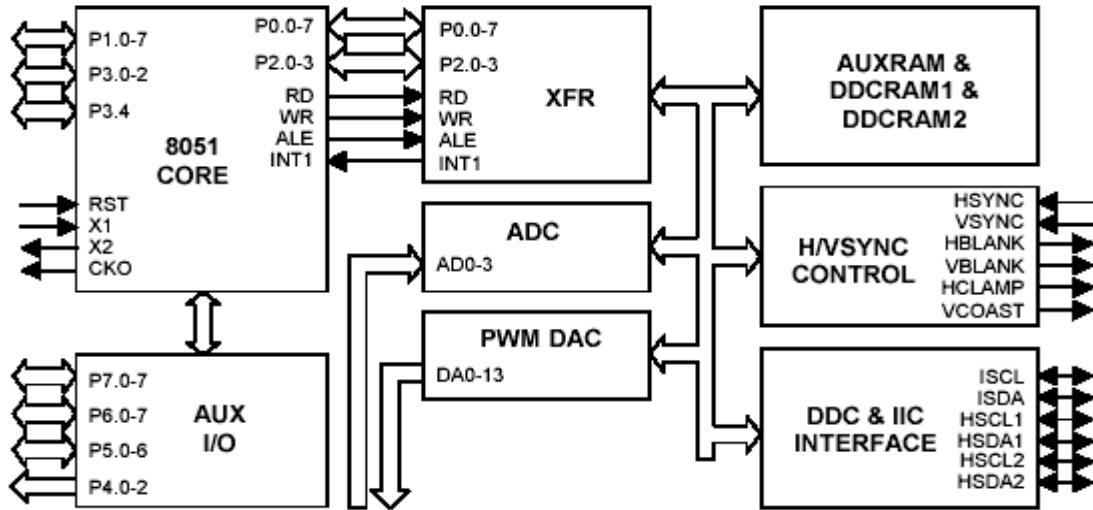


THC63LVDF84B is a LVDS receiver that is transfer LVDS signal to digital signal. The digital will deliver to the panel. THC63LVDF84B block diagram is show in below.



The operation of MTV412M

The MTV230M micro-controller is an 8051 CPU core embedded device targeted for LCD Monitor, or LCD TV or smart panel application. It includes an 8051 CPU core, 1024-byte SRAM, 14PWN DACs, VESA DDC for both D-sub and DVI interface, 4-channel 8 bit ADC, hardware ISP without boot code and a 128K-byte internal program Flash-ROM.



8051 CPU core

The CPU core of MTV412M is compatible with the industry standard 8051, which includes 256 bytes RAM. Special Function Registers (SFR), two timers, five interrupt sources and serial interface. The CPU core fetches its program code from the 128K bytes Flash in MTV412M. It uses Port0 and Port2 to access the "external special function register" (XFR) and external auxiliary RAM (AUXRAM).

The CPU core can run at double rate when FclkE is set. Once the bit is set, the CPU runs as if a 24MHz X'tal is applied on MTV412M, but the peripherals (IIC, DDC, H/V processor) still run original frequency.

PWM DAC

Each output pulse width of PWM DAC converter is controlled by an 8-bit register in XFR. The frequency of PWM clock is 47KHz or 94KHz, selected by PWMF. And the total duty cycle step of these DAC outputs is 253 or 256, selected by DIV253=1, writing FDH/FEH/FFH to DAC register generates stable high output. If DIV 253=0, the output pulse low at least once even if the DAC register's content is FFH, Writing 00H to DAC register generates.

A/D converter

The MTV412M is equipped with four VDD range 8-bit A/D converters. So if the VDD = 5V/3.3V, and then the ADC conversion range is 5V/3.3V, S/W can select the current convert channel by setting the SADC1/SADC0 bit. The refresh rate for the ADC is OSC freq/1536(128us for 12MHz X'tal). The ADC compares the input pin voltage with internal $VDD \cdot N / 64$ Voltage (where N=0-255). The ADC output value is N where pin voltage is greater than $VDD \cdot N / 255$ and smaller than $VDD \cdot (N+1) / 255$.

The ports are configured as follows :

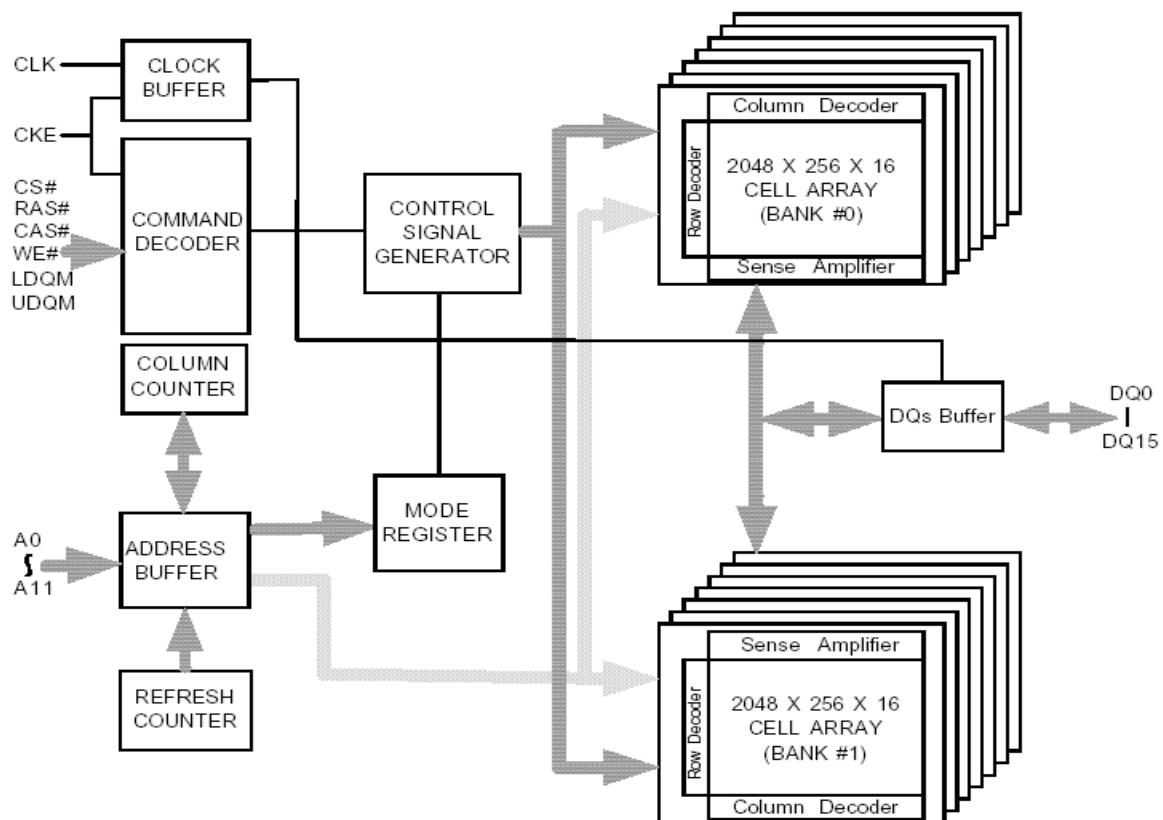
Pin No	Pin Name	Function	Type	Description
Pin17	P1.0	MST-SDA	I/O	TSU36AVJ three wire serial data bus
Pin18	P1.1	MST-SCL	Output	TSU36AVJ three wire serial clock bus
Pin20	P1.2	CSZ	Output	TSU36AVJ three wire serial bus select
Pin21	P1.3	BLEN	Output	Backlight enable
Pin22	P1.4	HWRESET	Output	TSU36AVJ Hardware reset
Pin23	P1.5	LCDPWON	Output	Panel module power on control
Pin24	P1.6	STANDBY	Output	Amplifier mute control
Pin25	P1.7	VPON	Output	Video module power on control
Pin14	P3.5	VSCL	Output	Video module two wire serial clock bus
Pin13	P3.4	VSDA	I/O	Video module two wire serial data bus
Pin3	P5.0	EDIE ERITE PROTECT	Output	EDID write protect control
Pin2	P5.1	WOW _OFF	Output	WOW function control
Pin42	P5.3	AV_SEL	Output	Audio input select signal
Pin41	P5.4	LED2	Output	LED light orange color control
Pin40	P5.5	LED1	Output	LED light green color control
Pin34	P5.6	PKEY	Input	Power on/off detect
Pin35	P7.0	MIX_SEL	Output	CC mix control
Pin39	P7.1	ATT_BURST	Output	Tuner color burst attenuation control
Pin38	P7.2	AV_SEL_1	Output	Audio input select signal
Pin30	P6.4	IF_SEL	Output	Inverter burst mode frequency select
Pin31	P6.5	BRIGHTNESS	Output	Back brightness control
Pin32	P6.6	SCL	Output	EEPROM two wire serial clock bus
Pin33	P6.7	SDA	I/O	EEPROM two wire serial data bus
Pin19	P3.2	IRRCVR0	Input	IR receive signal input
Pin37	P4.1	RESET	Output	System Reset signal
Pin27	AD0	SN3	Input	Key pad function select
Pin26	AD1	SN2	Input	Key pad function select
Pin16	AD2	SN1	Input	Key pad function select

The operation of EM636165TS

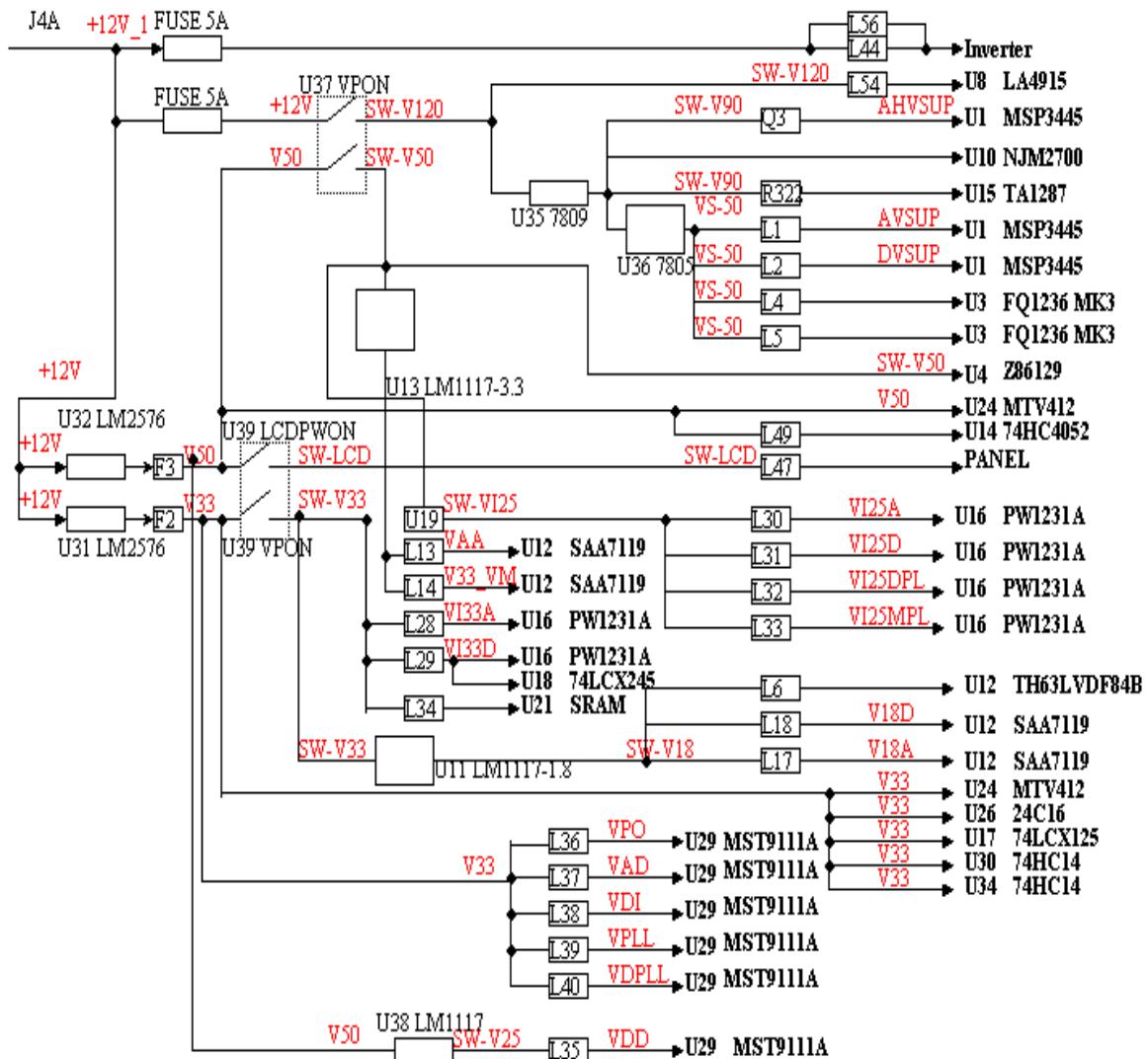
The EM636165 SDRAM is a high-speed CMOS synchronous DRAM containing 16Mbits. It is internally configured as a dual 512K x 16bit DRAM with a synchronous interface (all signals are registered on the positive edge of the clock signal, CLK). Each of the 512K x 16bit bank is organized as 2048 row by 256 columns by 16bits. Read and write accesses to the SDRAM are burst oriented; accesses start at a selected location and continue for a programmed number of locations in a programmed sequence.

The EM 636165 provides for programmable Read or Write burst lengths of 1 , 2 , 4 , 8 , or full page , with a burst termination option . An auto precharge function may be enabled to provide a self-time row precharge that is initiated at the end of the burst sequence. The refresh functions, either Auto or Self Refresh are easy to use . By having a programmable mode register, the system can choose the most suitable modes to maximize its performance. These devices are well suited for applications requiring high memory bandwidth and particularly well suited to high performance PC applications.

Block Diagram

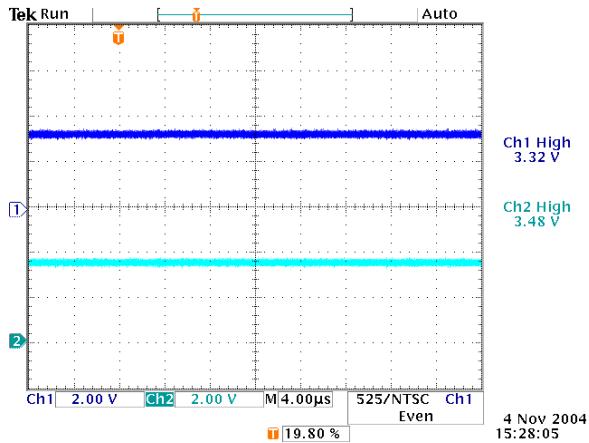


POWER SYSTEM

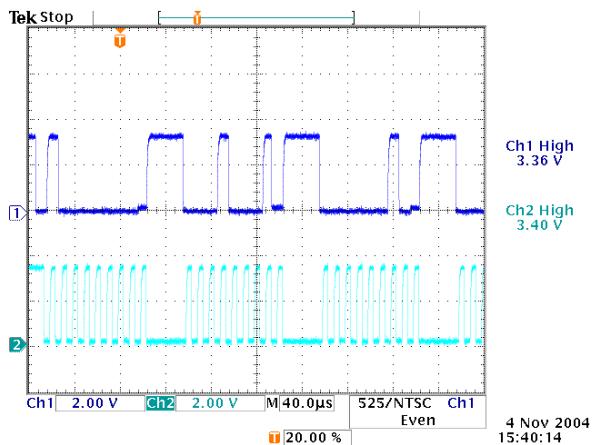


Chapter 9 Waveforms

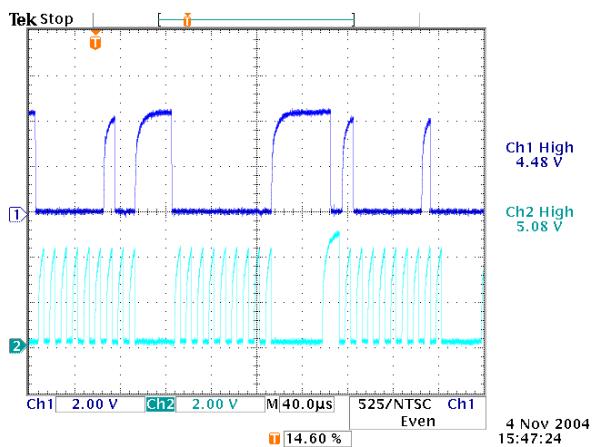
CH1 : SDA (U26 pin5) CH2 : SCL (U26 pin6)



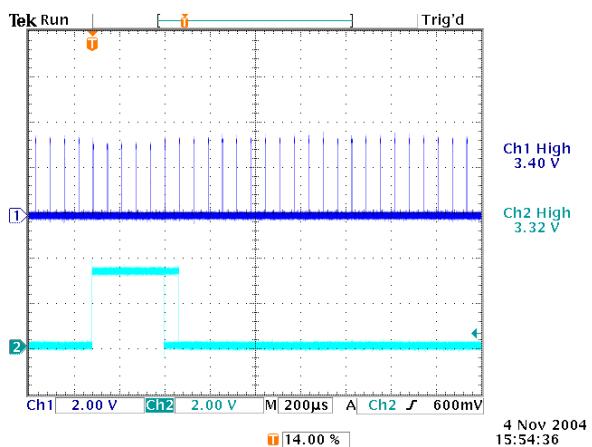
CH1 : VSDA (R216) CH2 : VSCL (R215)



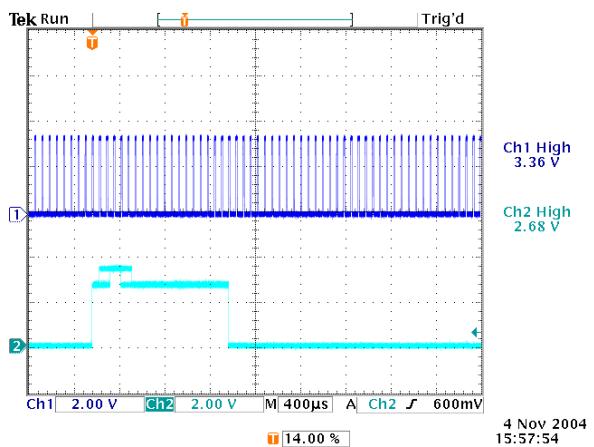
CH1 : 5VSDA (RT7) CH2 : 5VSCL (RT3)



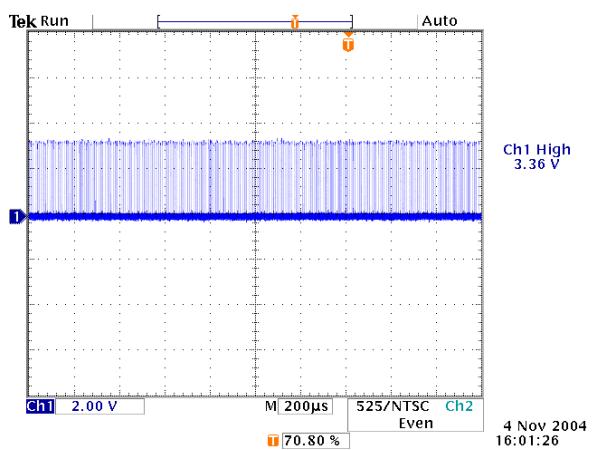
CH1 : IHC(R366) CH2 : IVC (R368)



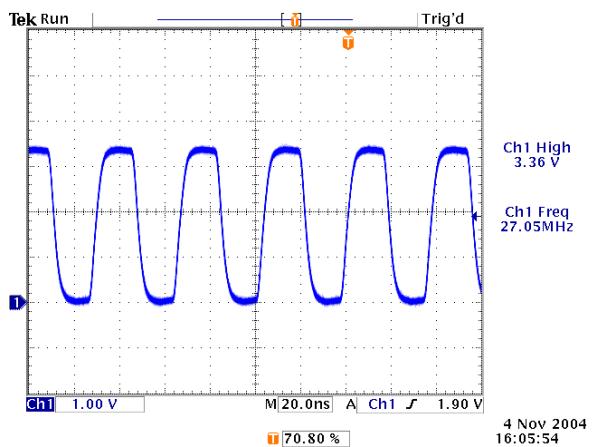
CH1 : IVHS(R127) CH2 : IVVS (R125)



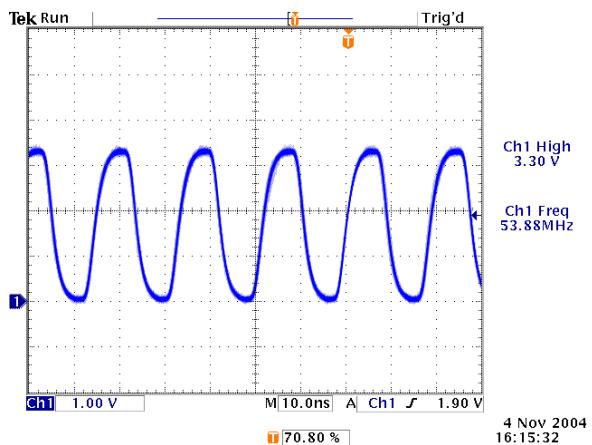
CH1 : U15(pin4)



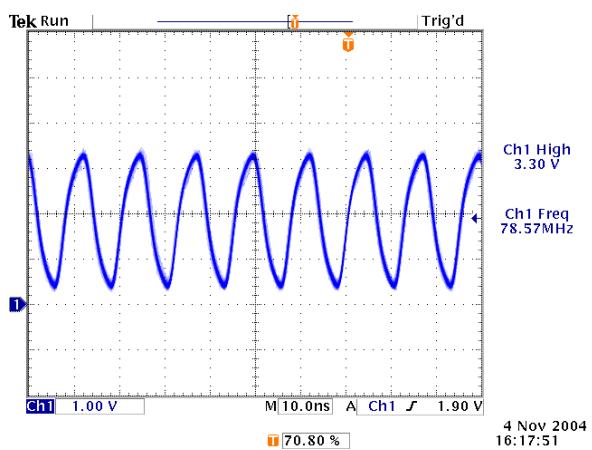
CH1 : U12(pin84)



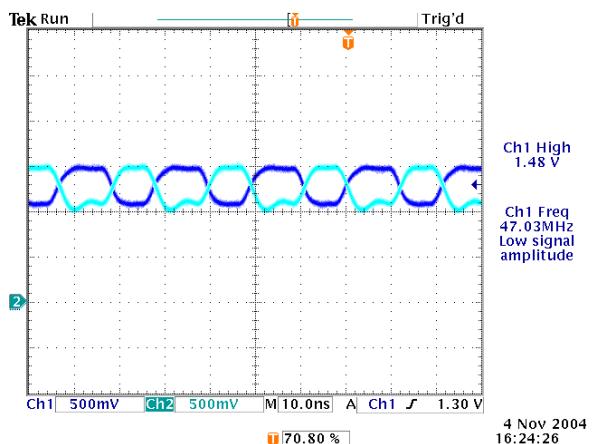
CH1 : U16(pin136)



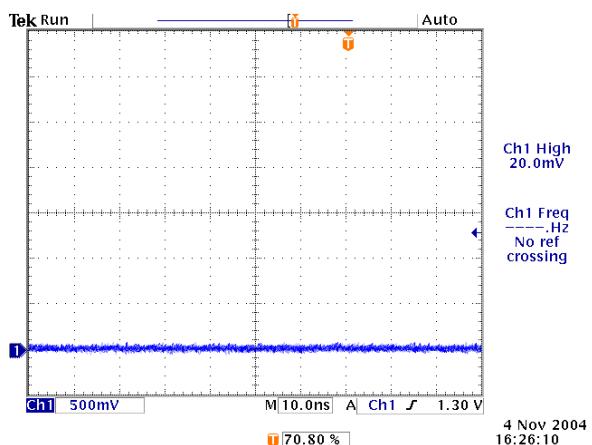
CH1 : U16(pin51)



CH1 : W14(pin6) CH2 : W14(pin7)

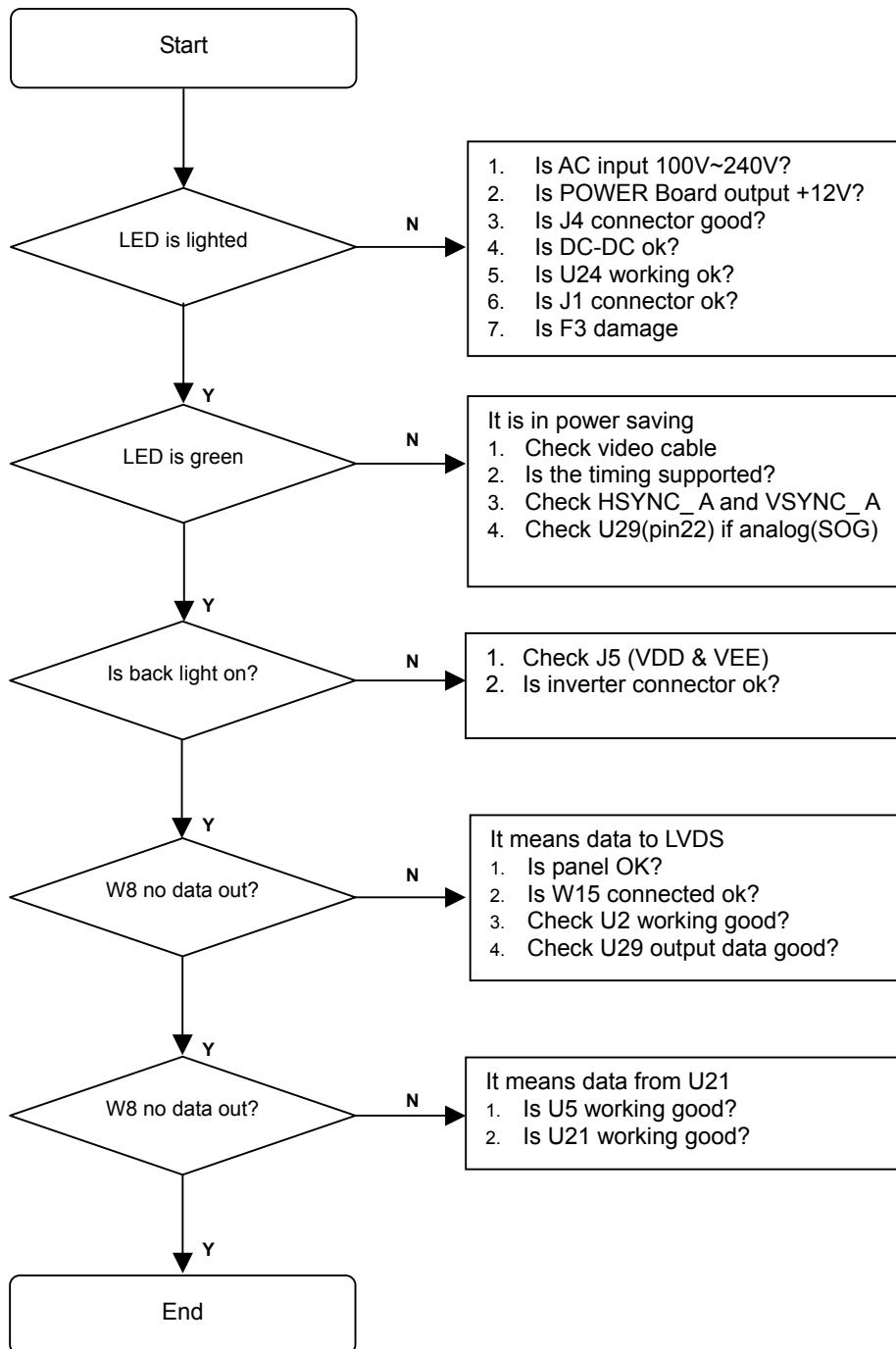


CH1 : W15(pin16)

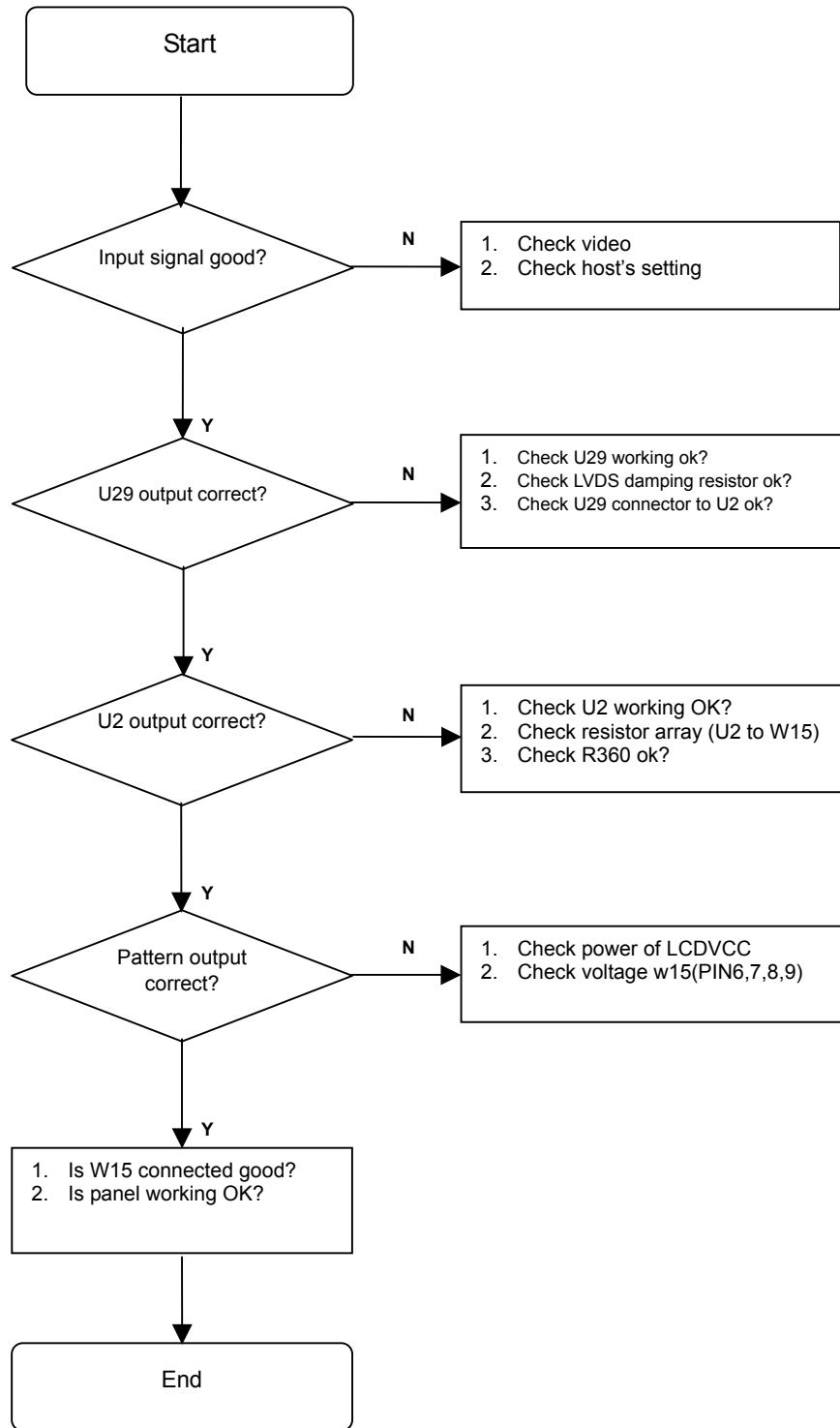


Chapter 10 Trouble Shooting

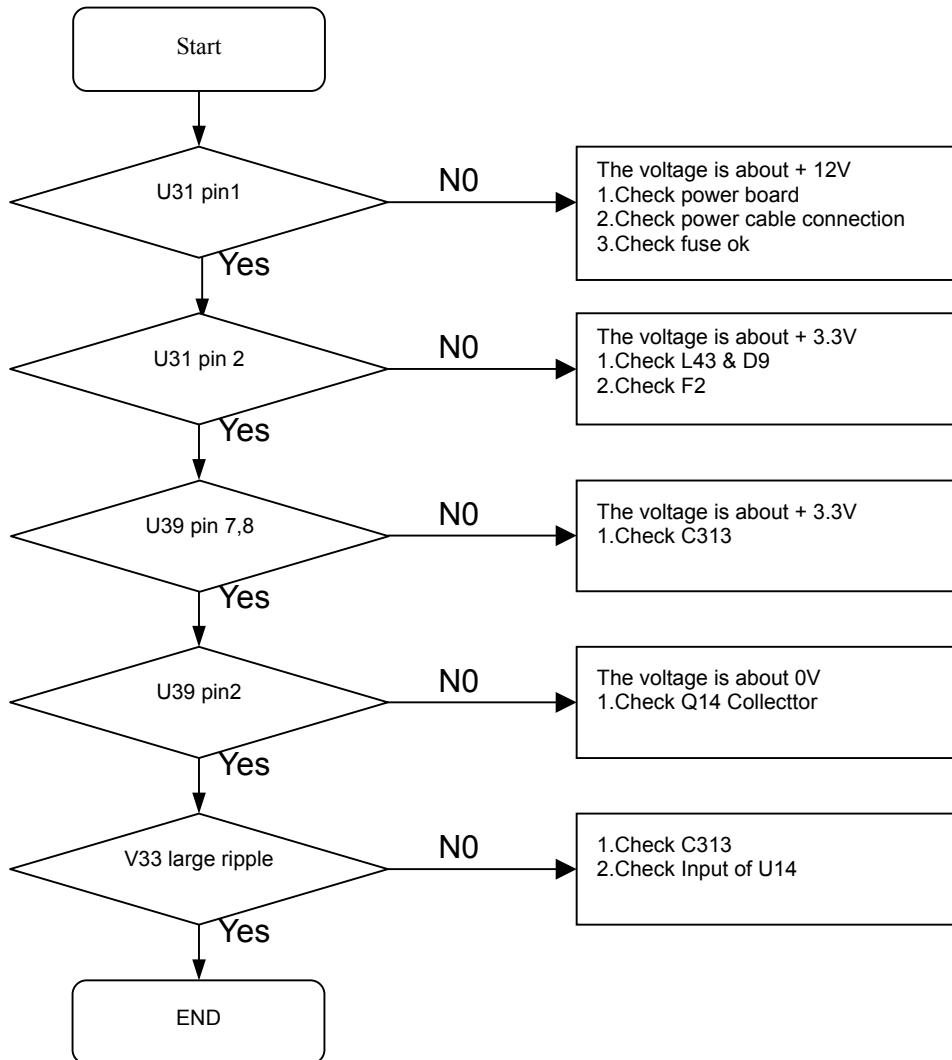
Monitor Display Nothing



R, G, B IS NOT DISPLAY CORRECTL



TROUBLE OF DC-DC CONVERTER (+3.3V)



Trouble of DC-DC Converter (+5.0V)

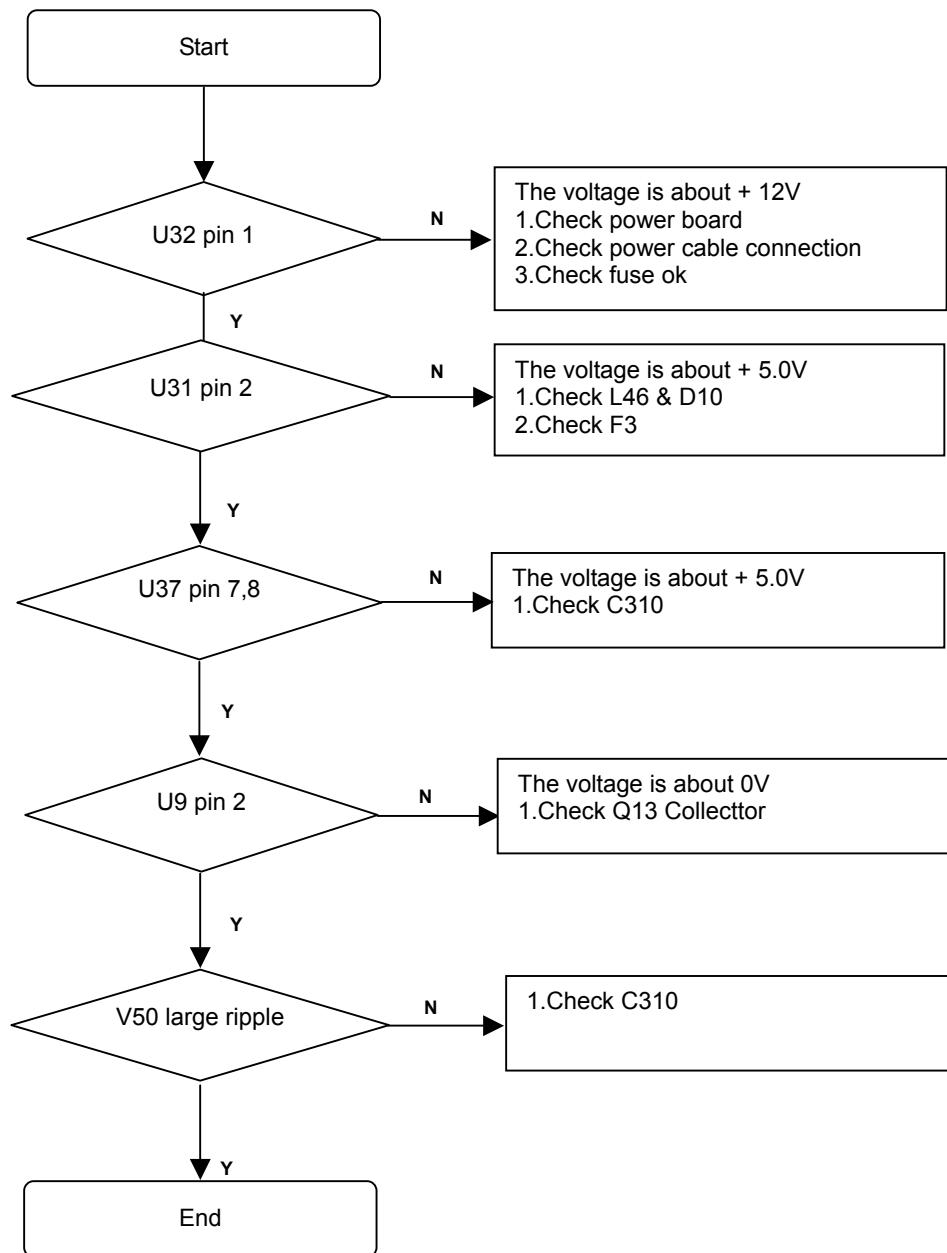
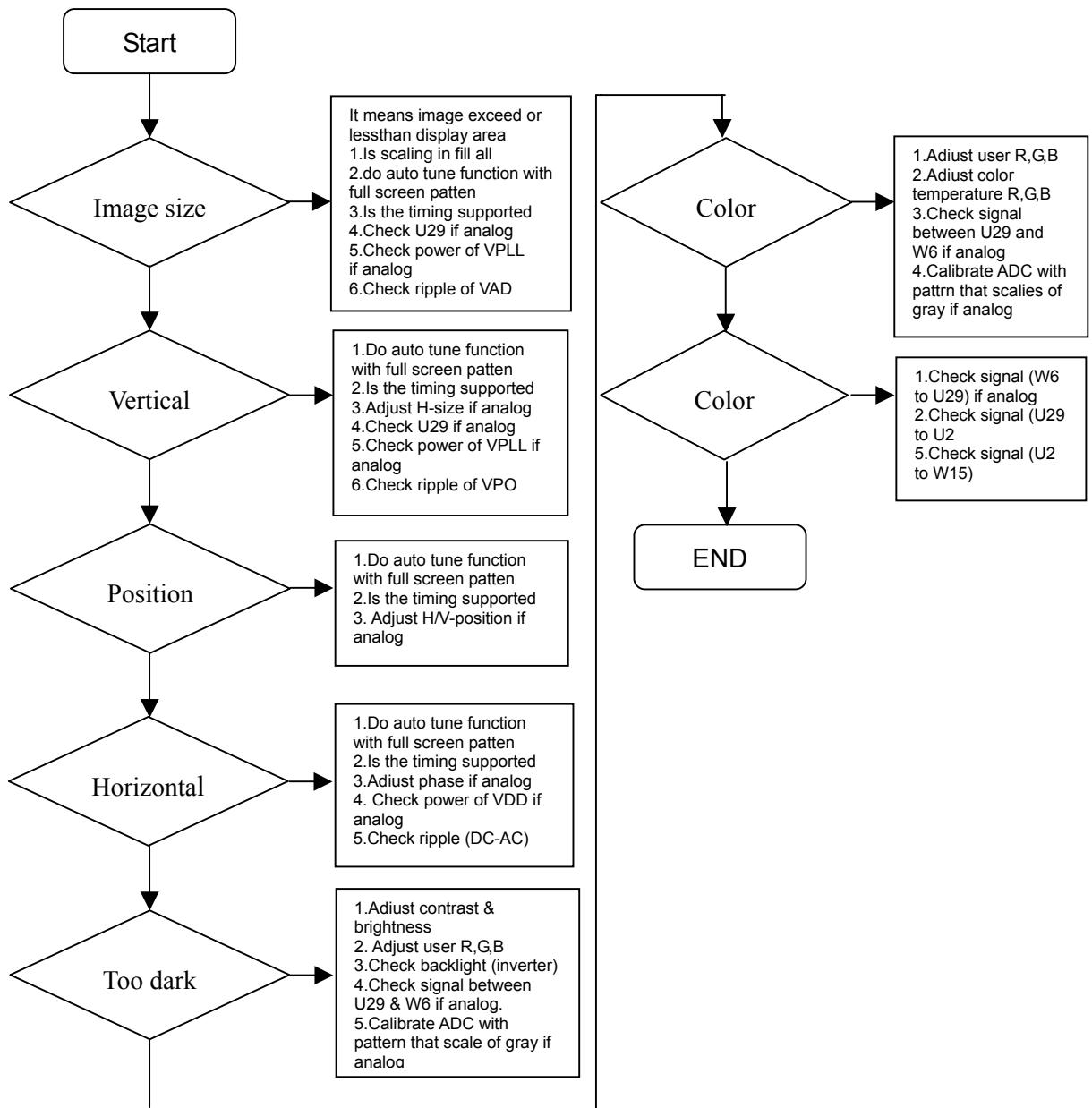


Image Quality is Not Good(PC mode)



Chapter 11 Spare Parts List

PART NO	DESCRIPTION	LOC	QTY	REMARK
0102-8229-1571	E/C 2.2uF 50V 105' F-T 5*11 (KMF L-F)	C81	1	
0103-1102-1216	E/C VZ 1000uF 16V 105'C F (10*12.5)	C292,C349, C350,C72	4	
0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	C308	1	
0130-1009-1859	RES. CF 10ohm 1/8W J 1206	L53	1	
0130-3309-0055	RES. CF 33ohm 1/10W J 0603	R338,R367, R409	3	
0182-1202-3703	PICO FUSE 125V 2A 2.4*7MM (R251002)	F2,F3	2	
0182-1502-3703	PICO FUSE 125V 5A 3*7mm	F1,F4	2	
0320-4000-0140	POWER CORD 1800mm 110V UL/CSA (BLK)(N.M.)		1	
0321-0000-0121	S.CABLE RCA-RCA 1500mm (R/W/Y) (BLK)		1	
0400-0471-0000	ZENER 1N4732A 4.7V 1W	ZD13	1	
0400-0621-0000	ZENER 1N4735A 6.2V 1W	ZD14	1	
0400-1521-2012	ZENER RLZ16B 15.25-16.04V 1/2W SMD	D7	1	
0410-5000-1604	TRANSISTOR 2N3904 SMD T	Q17,Q19,Q21	3	
0500-0105-0740	INVERTER DC-AC (T65I029.00)		1	
0980-0303-6000	REMOTE CONTROL 3439B01		1	
1701-0210-2010	BACK COVER (VIZIO C20L) (ABS 94-V0,433C)		1	
1801-0118-0010	BEZEL (VIZIO C20L) (ABS 94-V0,433C/877C) ASS'Y		1	
1801-1918-9010	DECORATION BEZEL (VIZIO C20L) (ABS ,433C) ASS'Y		1	
1925-1200-7180	CARTON TM-20V/ VIZIO C20L		1	
1925-1300-6400	MANUAL VIZIO C20L		1	
3200-0042-0157	POWER BD ASS'Y TM-20V		1	
3200-0062-0189	IR BD ASS'Y (VINC 20")		1	
3200-0132-0156	LCD DISPLAY BD ASS'Y (VINC 20")		1	
3200-0182-0334	LCD BASE ASS'Y TM-20V (ABS,877C)		1	
3200-0312-0150	LCD MAIN BD ASS'Y (VINC 20")		1	

Chapter 12 Complete Parts List

2614-3285-1189 LCD MONITOR 20" TM-20V/VIZIO C20L (ABS,877C)

ITEM	M/S	LOCATION	PART NO.	DESCRPTION	QTY
1			3200-0182-0334	LCD BASE ASS'Y TM-20V (ABS,877C)	1
2			3200-0492-0312	LCD PACKING ASS'Y TM-20V/VIZIO C20L (877C)	1
3			3200-0492-0331	LCD PANEL ASS'Y TM-20V/VIZIO C20L (ABS,877C)	1

3200-0182-0334 LCD BASE ASS'Y TM-20V (ABS,877C)

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			1701-0515-6010	BASE (VIZIO C20L) (ABS 94-V0,538C/877C)	1
2			1701-0515-7010	BASE ROTATION TRAY (VIZIO C20L) (ABS 94-V0,433C)	1
3			1701-0515-8010	FRONT NECK (VIZIO C20L) (ABS 94-V0,538C/877C)	1
4			1701-0515-9010	REAR NECK (VIZIO C20L) (ABS 94-V0,538C/877C)	1
5			1701-1000-0360	BASE FOOT (ARC 1.2t/SILCON)	4
6			1712-0100-7150	NECK BRACKET TM-20V	1
7			1712-0100-7160	BASE BRACKET TM-20V	1
8			1720-1503-0620	MAC.SCREW-MPSWF M3.0*6.0L Ni	1
9			1720-1504-1220	MAC. SCREW-MPSWF M4.0*12.0L,Ni	4
10			1720-5004-0820	MAC. SCREW-MI M4.0*8.0L,Ni	4
11			1721-3003-0620	TAP. SCREW-TF #3.0*6.0L,Ni	10

3200-0492-0312 LCD PACKING ASS'Y TM-20V/VIZIO C20L (877C)

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			1701-0516-0010	WIRE CLIP (VIZIO C20L) (PC,TRANSPARENT/877C)	1
2			1701-1920-9010	TUNER COVER (VIZIO C20L) (ABS 94-V0,433C)	1
3			1925-1000-2350	EPS FOAM TOP TM-20V	1
4			1925-1000-2360	EPS FOAM BOTTOM TM-20V	1
5			1925-1100-0810	PE BAG (630W*900L*0.08t)(PE-HD)(20")	1
6			1925-1200-7180	CARTON TM-20V/ VIZIO C20L	1
7			1936-1100-7350	BACK LBL VIZIO C20L	1
8			1947-1200-2350	PROTECT FILM (W70.0*H15.0*0.1t)	4
9			3200-0252-0393	LCD ACCESSORY ASS'Y TM-20V/VIZIO C20L (877C)	1

3200-0492-0331 LCD PANEL ASS'Y TM-20V/VIZIO C20L (ABS,877C)

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			0211-0201-2477	LCD MODULE 20.1" TFT A201SN02 V0 (AU)	1
2	SS		0211-0201-2377	LCD MODULE 20.1" TFT A201SN02 V2 (AU)	
3			0260-0000-0156	AC SOCKET 7001 1617#22 135mm	1
4			0335-0080-0171	SPK 8 ohm 10W BOX core*1 KRB1216540U8TS22-270	1
5			0460-1005-0441	WH PH5P-PH5P+14402BS-2 1061#26 360mm CORE*1	1
6			0460-1006-0220	WH PH6P-PH6P 1061#26 185mm	1
7			0460-1010-0071	WH PH10P-PH10P+STM14402BS-2 1061#26 255mm CORE*1	1
8			0460-1013-0050	WH PH13-PH9 1007#24 250mm	1
9			0460-1111-0040	WH XH11P-XH11P 1007#22 155mm	1
10			0460-2850-0061	WH FFC 50P 20624 380mm CORE*2	1
11			0500-0105-0740	INVERTER DC-AC (T65I029.00)	1
12			1701-0210-2010	BACK COVER (VIZIO C20L) (ABS 94-V0,433C)	1
13			1701-0800-0910	AV PLATE TM-20V	1
14			1701-0800-1460	DECORATION MYLAR (W95.0*H45.0*0.3t,433C)	1
15			1701-1500-0030	WIRE SADDLE (CH-01C)	7
16			1701-1500-0450	WIRE SADDLE (CH-01B)	3
17			1701-1919-0010	I/O COVER (VIZIO C20L) (ABS 94-V0,433C)	1
18			1712-0100-7100	CHASSIS TM-20V	1
19			1712-0100-7110	SHIELD TM-20V	1
20			1712-0100-7120	INVERTER TOP BRACKET TM-20V	1
21			1712-0100-7130	INVERTER BOTTOM BRACKET TM-20V	1
22			1712-0100-7140	I/O BRACKET TM-20V	1
23			1712-0400-0740	HEAT SINK (16.6W*16.0H*40.0L)	1
24			1712-0600-0320	COPPER FINGER Tennrich (CKC-020)	1
25			1712-0900-1170	HINGE ASS'Y TM-20V	1
26			1720-0003-1250	MAC.SCREW-MB M3.0*12.0L,BLK-Ni	2
27			1720-1204-0820	MAC. SCREW-MPGW M4.0*8.0L,Ni	1
28			1720-1503-0620	MAC.SCREW-MPSWF M3.0*6.0L Ni	10
29			1720-1503-1420	MAC.SCREW-MPSWF M3.0*14.0L,Ni	4
30			1720-1504-1220	MAC. SCREW-MPSWF M4.0*12.0L,Ni	2

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
31			1720-3003-0850	MAC. SCREW-MF M3.0*8.0L,BLK-Ni	6
32			1720-5003-0520	MAC.SCREW-MI M3.0*5.0L,Ni	20
33			1720-5003-0750	MAC. SCREW-MI M3.0*7.0L,BLK-NI	2
34			1720-5003-0850	MAC. SCREW-MI M3.0*8.0L,BLK-Ni	2
35			1801-0118-0010	BEZEL (VIZIO C20L) (ABS 94-V0,GRAY/877C) ASS'Y	1
36			1801-1918-9010	DECORATION BEZEL (VIZIO C20L) (ABS ,433C) ASS'Y	1
37			1947-1200-0310	ACETATE CLOTH TAPE (醋酸布膠帶) 27*75mm	1
38			1947-1200-0400	ACETATE CLOTH TAPE (醋酸布膠帶) 20*45mm	3
39			1947-1200-1500	ACETATE CLOTH TAPE (醋酸布膠帶) 35*45mm	1
40			1947-1800-0090	GASKET BLOCK (17*25*25mm) (773GT)	9
41			1947-1800-0240	GASKET EMI (5*1*100mm)	1
42			1947-1800-0490	GASKET BLOCK (12L*10W*2.5Hmm) HOLE 6 φ	1
43			1947-1800-0510	GASKET BLOCK (41.0L*15.0W*4.0H)mm (THREE HOLE 10@)	3
44			3200-0022-0192	LCD Earphone BD ASS'Y (VINC 20")	1
45			3200-0042-0157	POWER BD ASS'Y TM-20V	1
46			3200-0062-0189	IR BD ASS'Y (VINC 20")	1
47			3200-0132-0156	LCD DISPLAY BD ASS'Y (VINC 20")	1
48			3200-0312-0150	LCD MAIN BD ASS'Y (VINC 20")	1

3200-0022-0192 LCD Earphone BD ASS'Y (VINC 20")

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			0170-4640-0121	PCB PH-JK BD V0 30*25mm*1.6t TM-20V REV:01	1
2		C4	0111-3102-5101	C/M MULTI 1000PF 50V NPO DIP	1
3		C5	0111-3102-5101	C/M MULTI 1000PF 50V NPO DIP	1
4		J4	0451-2000-0566	WAFER 2.00MM 5P 90° KINK (STM)	1
5		W1	0302-0350-0230	PHONE JACK 3.5 φ 5P 90° BLK	1

3200-0042-0157 POWER BD ASS'Y TM-20V

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			3200-0042-0157A	POWER BD ASS'Y TM-20V AI	1
2			3200-0042-0157M	POWER BD ASS'Y TM-20V MI	1
3			3200-0042-0157S	POWER BD ASS'Y TM-20V SMD	1

3200-0062-0189 IR BD ASS'Y (VINC 20")

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			0170-1640-0252	PCB IR BD VO 30x25mmx1.6t VINC 20" REV:02	1
2		C1	0111-3475-1631	C/M MULTI 4.7uF 16V Y5V Z F-T	1
3		C2	0111-3104-5111	C/M MULTI 0.1uF 50V X7R F	1
4		D1	0440-5000-0030	LED L-3WYGW 3 φ	1
5		J3	0451-2000-0666	WAFER 2.00MM 6P 90' KINK (STM)	1
6		R1	0131-2200-1810	RES. MF 220ohm 1/8W F A	1
7		R6	0131-1001-1810	RES. MF 1.00Kohm 1/8W F A	1
8		U1	0980-0200-2030	MODULE. IR RECEIVER (FM-6038LM-5A)	1

3200-0132-0156 LCD DISPLAY BD ASS'Y (VINC 20")

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			0170-1740-1321	PCB DISPLAY BD V0 125*25*1.6t VINC 20" REV:01	1
2		C3	0111-3104-5111	C/M MULTI 0.1uF 50V X7R F	1
3		J1	0451-2000-1066	WAFER 2.00MM 10P 90' KINK (STM)	1
4		J2	0451-2000-0666	WAFER 2.00MM 6P 90' KINK (STM)	1
5		R10	0131-2002-1810	RES. MF 20.0Kohm 1/8W F A	1
6		R11	0131-2002-1810	RES. MF 20.0Kohm 1/8W F A	1
7		R12	0131-2002-1810	RES. MF 20.0Kohm 1/8W F A	1
8		R13	0131-1001-1810	RES. MF 1.00Kohm 1/8W F A	1
9		R14	0131-1001-1810	RES. MF 1.00Kohm 1/8W F A	1
10		R15	0131-1001-1810	RES. MF 1.00Kohm 1/8W F A	1
11		R16	0131-2002-1810	RES. MF 20.0Kohm 1/8W F A	1
12		R17	0131-1001-1810	RES. MF 1.00Kohm 1/8W F A	1
13		R18	0131-1001-1810	RES. MF 1.00Kohm 1/8W F A	1
14		R19	0131-1001-1810	RES. MF 1.00Kohm 1/8W F A	1
15		R2	0131-1002-1810	RES. MF 10.0Kohm 1/8W F A	1
16		R20	0131-2002-1810	RES. MF 20.0Kohm 1/8W F A	1
17		R21	0131-1002-1810	RES. MF 10.0Kohm 1/8W F A	1
18		R3	0131-1002-1810	RES. MF 10.0Kohm 1/8W F A	1
19		R4	0131-1002-1810	RES. MF 10.0Kohm 1/8W F A	1
20		R5	0131-1002-1810	RES. MF 10.0Kohm 1/8W F A	1
21		R7	0131-2002-1810	RES. MF 20.0Kohm 1/8W F A	1
22		R8	0131-2002-1810	RES. MF 20.0Kohm 1/8W F A	1
23		R9	0131-2002-1810	RES. MF 20.0Kohm 1/8W F A	1
24		SW1	0220-7020-0167	SW TACTILE 6*6MM 4P	1
25	CS		0220-7020-0965	SW TACT 6*6mm 180' 160g SFKHHAM2520	
26		SW2	0220-7020-0167	SW TACTILE 6*6MM 4P	1
27	CS		0220-7020-0965	SW TACT 6*6mm 180' 160g SFKHHAM2520	
28		SW3	0220-7020-0167	SW TACTILE 6*6MM 4P	1
29	CS		0220-7020-0965	SW TACT 6*6mm 180' 160g SFKHHAM2520	
30		SW4	0220-7020-0167	SW TACTILE 6*6MM 4P	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
31	CS		0220-7020-0965	SW TACT 6*6mm 180' 160g SFKHHAM2520	
32		SW5	0220-7020-0167	SW TACTILE 6*6MM 4P	1
33	CS		0220-7020-0965	SW TACT 6*6mm 180' 160g SFKHHAM2520	
34		SW6	0220-7020-0167	SW TACTILE 6*6MM 4P	1
35	CS		0220-7020-0965	SW TACT 6*6mm 180' 160g SFKHHAM2520	
36		SW7	0220-7020-0167	SW TACTILE 6*6MM 4P	1
37	CS		0220-7020-0965	SW TACT 6*6mm 180' 160g SFKHHAM2520	
38		SW8	0220-7020-0167	SW TACTILE 6*6MM 4P	1
39	CS		0220-7020-0965	SW TACT 6*6mm 180' 160g SFKHHAM2520	

3200-0252-0393 LCD ACCESSORY ASS'Y TM-20V/VIZIO C20L (877C)

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			0320-4000-0140	POWER CORD 1800mm 110V UL/CSA (BLK)(N.M.)	1
2			0321-0000-0290	S.CABLE RCA-RCA 1800mm (Y/W/R) (BLK)	1
3			0602-1000-0020	Battery Zn-Carbon 1.5V AA	2
4			0980-0303-6000	REMOTE CONTROL 3439B01	1
5			1925-1200-7080	ACCESSORY BOX (330W*230D*50H)	1
6			1925-1300-6400	MANUAL VIZIO C20L	1

3200-0312-0150 LCD MAIN BD ASS'Y (VINC 20")

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			320003120150A	LCD MAIN BD ASS'Y (VINC 20") AI	1
2			320003120150M	LCD MAIN BD ASS'Y (VINC 20") MI	1
3			320003120150S	LCD MAIN BD ASS'Y (VINC 20") SMD	1

3200-0042-0157A POWER BD ASS'Y TM-20V AI

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			0174-2040-0293	PCB POWER BD K1 170*100mm*1.6T (TM-20V) REV:03	1
2		C10	0121-2223-1032	P/C R82 0.022UF 100V J B	1
3		C13	0111-2471-5112	C/C DISK 470PF 50V SL F-K	1
4		C14	0111-1102-5112	C/C DISK 1000PF 50V Y5P F-K	1
5		C15	0111-1101-1312	C/C DISK 100PF 1KV Y5P F-K	1
6		C2	0111-1222-1312	C/C DISK 2200PF 1KV Y5P F-K	1
7		C5	0121-2104-1032	P/C R82 0.1UF 100V J B	1
8		C6	0111-1472-5212	C/C DISK 4700PF 500V Y5P F-K	1
9		C7	0111-1472-5212	C/C DISK 4700PF 500V Y5P F-K	1
10		D1	0390-8000-2312	DIODE T.V.S P6KE160A DO-15	1
11		D3	0390-4000-6272	FAST DIODE UF4006G 1A 800V 75ns	1
12		D4	0390-4000-7272	FAST DIODE UF4003G 1A 200V 50ns	1
13		D5	0390-5000-1052	GEN. DIODE 1N4148 T	1
14	CS		0390-5000-1092	GEN. DIODE 1N4148 T	
15	CS		0390-5000-1222	GEN. DIODE 1N4148 T	
16		D6	0390-6003-8030	SCHOTTKY DIODE 20A 120V YG865C12R TO-220	1
17		D7	0390-6003-8030	SCHOTTKY DIODE 20A 120V YG865C12R TO-220	1
18		J1	0230-7508-0000	JUMPER WIRE 7.5*0.6MM	1
19		J2	0230-1009-0000	JUMPER WIRE 10*0.6mm	1
20		J3	0230-1009-0000	JUMPER WIRE 10*0.6mm	1
21		J4	0230-1759-0000	JUMPER WIRE 17.5*0.6MM	1
22		J5	0230-1009-0000	JUMPER WIRE 10*0.6mm	1
23		Q2	0410-0000-1105	TRANSISTOR 2SA1015GR TO-92 T	1
24	CS		0410-0000-1109	TRANSISTOR 2SA733P TO-92 T	
25	CS		0410-0000-1110	TRANSISTOR 2SA733P TO-92 T	
26	CS		0410-0000-1111	TRANSISTOR 2PA1015GR TO-92 T	
27	CS		0410-0000-1119	TRANSISTOR KTA733P TO-92 T	
28		Q3	0410-2000-1105	TRANSISTOR 2SC1815GR TO-92 T	1
29	CS		0410-2000-1106	TRANSISTOR 2SC945P TO-92 T	
30	CS		0410-2000-1109	TRANSISTOR 2SC945PTZ TO-92	

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
31	CS		0410-2000-1110	TRANSISTOR 2SC945P TO-92 T	
32	CS		0410-2000-1111	TRANSISTOR 2PC1815GR TO-92 T	
33	CS		0410-2000-1119	TRANSISTOR KTC945P TO-92 T	
34		R1	0130-1004-1250	RES. CF 1.0Mohm 1/2W J A	1
35		R10	0130-1003-1850	RES. CF 100Kohm 1/8W J A	1
36		R11	0130-1003-1850	RES. CF 100Kohm 1/8W J A	1
37		R12	0130-1001-1850	RES. CF 1.0Kohm 1/8W J A	1
38		R13	0130-3309-0153	RES. CF 33ohm 1W J R	1
39		R14	0130-3309-0153	RES. CF 33ohm 1W J R	1
40		R15	0130-1001-1450	RES. CF 1.0Kohm 1/4W J A	1
41		R17	0130-3300-1850	RES. CF 330ohm 1/8W J A	1
42		R19	0130-1102-1450	RES. CF 11Kohm 1/4W J A	1
43		R2	0130-7503-1450	RES. CF 750Kohm 1/4W J A	1
44		R20	0131-9531-1810	RES. MF 9.53Kohm 1/8W F A	1
45		R21	0130-1002-1850	RES. CF 10Kohm 1/8W J A	1
46		R22	0131-2491-1810	RES. MF 2.49Kohm 1/8W F A	1
47		R23	0130-2002-1450	RES. CF 20Kohm 1/4W J A	1
48		R24	0130-1000-1450	RES. CF 100ohm 1/4W J A	1
49		R3	0130-7503-1450	RES. CF 750Kohm 1/4W J A	1
50		R4	0130-1509-1450	RES. CF 15ohm 1/4W J A	1
51		R5	0130-3302-1850	RES. CF 33Kohm 1/8W J A	1
52		R7	0130-2208-1450	RES. CF 2.2ohm 1/4W J A	1
53		R8	0130-1002-1850	RES. CF 10Kohm 1/8W J A	1
54		R9	0130-1001-1850	RES. CF 1.0Kohm 1/8W J A	1
55		U4	0430-6002-6307	IC TL431ACZ-AP TO-92 3PIN T	1
56	SS		0430-6000-4356	IC KIA431A TO-92 3PIN T	
57		ZD1	0400-2621-2000	ZENER 27-2 26.2-27.6V 1/2W	1
58		ZD2	0400-1451-2000	ZENER 15-2 14.5-15.1V 1/2W	1

3200-0042-0157M POWER BD ASS'Y TM-20V MI

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1		BD1	0390-1000-5270	BRIDGE DIODE GBU4J 4A/600V	1
2		C1	0102-1181-4072	E/C 180uF 400V 105'C F 18*40 KMG L-F	1
3		C12	0103-6152-1312	E/C HF 1500uF 25V 105'C (12.5*25mm)	1
4	SS		0102-2152-1372	E/C L-L 1500uF 25V 105'C F 12.5*25 KY L-F	
5		C4	0102-2100-1511	E/C L-L 10uF 50V 105' T 5*11 (KY TYPE)	1
6		C8	0103-6152-1312	E/C HF 1500uF 25V 105'C (12.5*25mm)	1
7	SS		0102-2152-1372	E/C L-L 1500uF 25V 105'C F 12.5*25 KY L-F	
8		C9	0102-2471-1312	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY)	1
9	SS		0103-6471-1312	E/C HF 470uF 25V 105'C (10*16mm)	
10		D6S	1724-1703-0802	SCREW,PB,M3.0X8L,ZN-CC	1
11		D7S	1724-1703-0802	SCREW,PB,M3.0X8L,ZN-CC	1
12		F1	0181-4312-5203	FUSE HB T-L 250V 3.15A 5*20	1
13		F1-1	0190-0000-0010	FUSE CLIP 5*20MM	1
14		F1-2	0190-0000-0010	FUSE CLIP 5*20MM	1
15		HS1	1712-0400-0750	HEAT SINK (15.0W*35.0H*45.0L)	1
16		HS2	1712-0400-0850	HEAT SINK (15.0W*35.0H*60.0L)	1
17		L3	0360-1010-0510	COMMON CHOKE 14mH 1.5A	1
18	SS		0360-1010-0520	COMMON CHOKE 14mH 1.5A	
19		L4	0362-1000-0020	COIL CHOKE 4.0uH 9A 6*20	1
20		L5	0370-0000-1010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
21		L6	0370-0000-0410	BEAD CORE RH 3.5X4.7X1.0MM	1
22		Q1	0420-1003-9408	MOSFET N-CH 9A/650V 2SK2645-54MR TO-220F	1
23		Q1S	1724-1703-0802	SCREW,PB,M3.0X8L,ZN-CC	1
24		RT1	0160-5095-0921	NTCR SCK-055 5ohm 5A 15@ F7.5 REV:01	1
25		R6	0133-0228-0253	RES. MOF(M) 0.22ohm 2W J R	1
26		T1	0350-0900-0120	X'FMR PQ3220 366uH (TDK)	1
27	SS		0350-0900-0110	X'FMR PQ3220 366uH (LSE)	
28		U1	0430-8001-9113	IC SG6841 DIP 8PIN	1
29		U2	0430-7025-5121	IC PS2561L1-1-V W DIP 4PIN	1
30		U3	0430-7025-5121	IC PS2561L1-1-V W DIP 4PIN	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
31		VZ1	0271-0004-7170	SURGE PROTECTOR TVR10471 N-F	1
32		W1	0459-3960-0590	WAFER 3.96mm 3PIN/5PIN 180'	1
33		W2	0451-2500-1114	WAFER 2.50MM 11P 180' KINK	1
34		X1	0122-0474-2725	P/C X2 0.47uF 275V M B (15mm) MKP	1
35		X2	0122-0104-2725	P/C X2 0.1UF 275V M B	1
36		Y1	0122-1102-2520	D/C Y 1000PF 250V M N-F	1
37		Y2	0122-1102-2520	D/C Y 1000PF 250V M N-F	1
38		Y3	0122-2332-2520	D/C Y1 3300PF 250V M N-F	1

3200-0312-0150A LCD MAIN BD ASS'Y (VINC 20") AI

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1		C1	0103-1339-1511	E/C VT 3.3uF 50V 105'C F-T (5*11mm)	1
2		C10	0103-1229-1511	E/C VT 2.2uF 50V 105'C F-T (5*11mm)	1
3		C119	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
4		C122	0103-1221-1311	E/C VT 220uF 25V 105'C F-T (8*11.5mm)	1
5		C123	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
6		C127	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
7		C128	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
8		C13	0103-1100-1511	E/C VT 10uF 50V 105'C F-T (5*11mm)	1
9		C14	0103-1109-1511	E/C VT 1uF 50V 105'C F-T (5*11mm)	1
10		C149	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
11		C150	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
12		C152	0103-1221-1311	E/C VT 220uF 25V 105'C F-T (8*11.5mm)	1
13		C185	0103-1100-1511	E/C VT 10uF 50V 105'C F-T (5*11mm)	1
14		C187	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
15		C194	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
16		C20	0103-1100-1511	E/C VT 10uF 50V 105'C F-T (5*11mm)	1
17		C218	0103-1220-1211	E/C VT 22uF 16V 105'C F-T (5*11mm)	1
18		C25	0103-1100-1511	E/C VT 10uF 50V 105'C F-T (5*11mm)	1
19		C250	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
20		C256	0103-1100-1511	E/C VT 10uF 50V 105'C F-T (5*11mm)	1
21		C261	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
22		C270	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
23		C275	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
24		C284	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
25		C287	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
26		C289	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
27		C292	0103-1102-1216	E/C VZ 1000uF 16V 105'C F (10*12.5)	1
28		C294	0102-2471-1372	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY LF)	1
29	SS		0102-2471-1312	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY)	
30		C295	0102-2471-1372	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY LF)	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
31	SS		0102-2471-1312	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY)	
32		C296	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
33		C298	0102-2471-1372	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY LF)	1
34	SS		0102-2471-1312	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY)	
35		C299	0102-2471-1372	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY LF)	1
36	SS		0102-2471-1312	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY)	
37		C30	0103-1331-1211	E/C VT 330uF 16V 105'C F-T (8*11.5mm)	1
38		C300	0102-2471-1372	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY LF)	1
39	SS		0102-2471-1312	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY)	
40		C301	0102-2471-1372	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY LF)	1
41	SS		0102-2471-1312	E/C L-L 470uF 25V 105'C NF-T 10*16 (KY)	
42		C302	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
43		C307	0103-1100-1511	E/C VT 10uF 50V 105'C F-T (5*11mm)	1
44		C308	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
45		C309	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
46		C31	0103-1220-1211	E/C VT 22uF 16V 105'C F-T (5*11mm)	1
47		C310	0103-1331-1211	E/C VT 330uF 16V 105'C F-T (8*11.5mm)	1
48		C311	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
49		C312	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
50		C313	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
51		C314	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
52		C317	0103-1101-1211	E/C VZ 100uF 16V 105'C F-T (5*11mm)	1
53		C335	0103-1221-1311	E/C VT 220uF 25V 105'C F-T (8*11.5mm)	1
54		C336	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
55		C342	0103-1331-1211	E/C VT 330uF 16V 105'C F-T (8*11.5mm)	1
56		C343	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
57		C348	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
58		C349	0103-1102-1216	E/C VZ 1000uF 16V 105'C F (10*12.5)	1
59		C35	0103-1220-1211	E/C VT 22uF 16V 105'C F-T (5*11mm)	1
60		C350	0103-1102-1216	E/C VZ 1000uF 16V 105'C F (10*12.5)	1
61		C351	0103-1109-1511	E/C VT 1uF 50V 105'C F-T (5*11mm)	1
62		C360	0103-1109-1511	E/C VT 1uF 50V 105'C F-T (5*11mm)	1
63		C361	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
64		C370	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
65		C371	0103-1101-1211	E/C VZ 100uF 16V 105'C F-T (5*11mm)	1
66		C385	0103-1100-1511	E/C VT 10uF 50V 105'C F-T (5*11mm)	1
67		C386	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
68		C39	0103-1220-1211	E/C VT 22uF 16V 105'C F-T (5*11mm)	1
69		C395	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
70		C4	0103-1229-1511	E/C VT 2.2uF 50V 105'C F-T (5*11mm)	1
71		C43	0103-1331-1211	E/C VT 330uF 16V 105'C F-T (8*11.5mm)	1
72		C50	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
73		C52	0103-1471-1211	E/C VZ 470uF 16V 105'C F-T (8*11.5mm)	1
74		C56	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
75		C58	0103-1101-1211	E/C VZ 100uF 16V 105'C F-T (5*11mm)	1
76		C6	0103-1229-1511	E/C VT 2.2uF 50V 105'C F-T (5*11mm)	1
77		C60	0103-1102-1216	E/C VZ 1000uF 16V 105'C F (10*12.5)	1
78		C72	0103-1102-1216	E/C VZ 1000uF 16V 105'C F (10*12.5)	1
79		C73	0103-1470-1311	E/C VT 47uF 25V 105'C F-T (5*11mm)	1
80		C76	0103-1220-1211	E/C VT 22uF 16V 105'C F-T (5*11mm)	1
81		C77	0103-1479-1511	E/C VT 4.7uF 50V 105'C F-T (5*11mm)	1
82		C79	0103-1229-1511	E/C VT 2.2uF 50V 105'C F-T (5*11mm)	1
83		C8	0103-1229-1511	E/C VT 2.2uF 50V 105'C F-T (5*11mm)	1
84		C81	0102-8229-1571	E/C 2.2uF 50V 105' F-T 5*11 (KMF L-F)	1
85	SS		0102-8229-1511	E/C 2.2uF 50V 105' F-T 5*11 (KMF)	
86		C82	0103-1479-1511	E/C VT 4.7uF 50V 105'C F-T (5*11mm)	1
87		D10	0390-6000-9172	SCHOTTKY DIODE SB340 T	1
88		D9	0390-6000-9172	SCHOTTKY DIODE SB340 T	1
89		JP1	0230-2508-0000	JUMPER WIRE 2.5*0.6MM	1
90		J10	0230-2508-0000	JUMPER WIRE 2.5*0.6MM	1
91		J7	0230-2508-0000	JUMPER WIRE 2.5*0.6MM	1

3200-0312-0150M LCD MAIN BD ASS'Y (VINC 20") MI

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			0303-3000-0010	TV JACK 3/8-32UNEF (RF JACK)	1
2			1712-0600-0220	COPPER SPRING (NEC LCD1565)	1
3		F1	0182-1502-3703	PICO FUSE 125V 5A 3*7mm	1
4		F2	0182-1202-3703	PICO FUSE 125V 2A 2.4*7MM (R251002)	1
5	CS		0182-1202-3701	PICO FUSE 125V 2A 3*7MM MQ2	
6		F3	0182-1202-3703	PICO FUSE 125V 2A 2.4*7MM (R251002)	1
7	CS		0182-1202-3701	PICO FUSE 125V 2A 3*7MM MQ2	
8		F4	0182-1502-3703	PICO FUSE 125V 5A 3*7mm	1
9		J1	0451-2000-1066	WAFER 2.00MM 10P 90' KINK (STM)	1
10		J4	0451-2500-1146	WAFER 2.50MM 11P 90' KINK (STM)	1
11		J5	0451-2000-1366	WAFER 2.00MM 13P 90' KINK (STM)	1
12		J8	0451-2000-0566	WAFER 2.00MM 5P 90' KINK (STM)	1
13		L41	0370-0000-1010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
14		L43	0360-1000-0150	COIL CHOKE 70uH 3A	1
15		L44	0370-0000-1010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
16		L45	0370-0000-1010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
17		L46	0360-1000-0150	COIL CHOKE 70uH 3A	1
18		L55	0370-0000-1010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
19		L56	0370-0000-1010	FERRITE CORE RH 3.5X6X1.0(W)X2	1
20		L8	0361-2022-1040	CHOKE COIL 220uH 1.6A 12.5*15	1
21		U3	0980-0102-3010	MODULE TUNER (FQ1236/PH-5)	1
22		U35	0430-6004-2235	IC KA7809 3PIN TO-220	1
23		U36	0430-6000-3210	IC MC7805CT TO-220 3 PIN	1
24	CS		0430-6000-3204	IC LM7805 CT TO-220 3PIN	
25	CS		0430-6000-3207	IC LM7805 TO-220 3 PIN	
26	SS		0430-6000-3204	IC LM7805 CT TO-220 3PIN	
27		U8	0430-4008-3114	IC LA4915 DIP 28PIN	1
28		W1	0302-9010-0898	RCA JACK 1ROW 1I/O WHITE L=18mm	1
29		W10	0302-9010-0848	RCA JACK 1ROW 1I/O YELLOW L=18mm	1
30		W11	0302-9010-0858	RCA JACK 1ROW 1I/O GREEN L=18mm	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
31		W12	0302-9010-0868	RCA JACK 1ROW 1I/O BLUE L=18mm	1
32		W13	0302-9010-0828	RCA JACK 1ROW 1I/O RED L=18mm	1
33		W2	0302-9010-0828	RCA JACK 1ROW 1I/O RED L=18mm	1
34		W3	0302-9010-0898	RCA JACK 1ROW 1I/O WHITE L=18mm	1
35		W4	0302-9010-0828	RCA JACK 1ROW 1I/O RED L=18mm	1
36		W5	0302-0350-0011	PHONE JACK 3.5 φ 5PIN 90 ° +SHIELDING	1
37		W6	0300-1202-3150	D-SUB FEMALE 90° 15P 3ROW (PC99)	1
38		W7	0451-2500-0446	WAFER 2.50mm 4P 90° KINK (STM)	1
39		W8	0300-3040-0040	S-VIDEO 4P (621R04-***)	1
40		W9	0302-9010-0848	RCA JACK 1ROW 1I/O YELLOW L=18mm	1
41		X1	0280-1800-0025	XTAL 18.432MHz 49/US 30ppm 30pf + pad(H.T)0~70°C	1
42		X2	0370-0040-0170	FILTER 3.58MHZ2P TPSRF3M58J00-B0	1
43		Y1	0280-2401-0218	XTAL 24.576MHz 49US 30PPM 20PF 30ohm + Pad 0~70°C	1
44		Y2	0280-1000-0412	XTAL 10MHz 49US 30PPM 20PF 60ohm -20~85 °C	1
45		Y3	0280-1200-0015	XTAL 12MHZ 49/US CL:30PF	1
46		Y4	0280-1400-0125	XTAL 14.31818MHz 49/US 30ppm 30pf + pad(H.T)0~70	1
47		ZD13	0400-0471-0000	ZENER 1N4732A 4.7V 1W	1
48		ZD14	0400-0621-0000	ZENER 1N4735A 6.2V 1W	1

3200-0312-0150S LCD MAIN BD ASS'Y (VINC 20") SMD

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
1			0171-2242-1593	PCB MAIN BD FR4 235*240*1.6t 4M VINC 20" REV:03	1
2		CT1	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
3		CT2	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
4		CT3	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
5		CT4	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
6		CT5	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
7		CT6	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
8		CT7	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
9		CT8	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
10		CT9	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
11		C11	0111-3474-1615	C/M MULTI 0.47uF 16V X7R 0805	1
12		C12	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
13		C120	0111-3331-5106	C/M Multi 330PF 50V NPO 0603	1
14		C121	0111-3331-5106	C/M Multi 330PF 50V NPO 0603	1
15		C124	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
16		C125	0112-3105-1116	C/M MULTI 1.0uF 10V X7R 0603	1
17		C129	0112-3105-1116	C/M MULTI 1.0uF 10V X7R 0603	1
18		C130	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
19		C131	0111-3331-5106	C/M Multi 330PF 50V NPO 0603	1
20		C132	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
21		C133	0112-3105-1116	C/M MULTI 1.0uF 10V X7R 0603	1
22		C134	0112-3105-1116	C/M MULTI 1.0uF 10V X7R 0603	1
23		C135	0112-3105-1116	C/M MULTI 1.0uF 10V X7R 0603	1
24		C136	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
25		C137	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
26		C138	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
27		C139	0130-1005-0055	RES. CF 10Mohm 1/10W J 0603	1
28		C141	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
29		C142	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
30		C143	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
31		C144	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
32		C145	0112-3105-1116	C/M MULTI 1.0uF 10V X7R 0603	1
33		C146	0111-3331-5106	C/M Multi 330PF 50V NPO 0603	1
34		C147	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
35		C148	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
36		C15	0111-3221-5106	C/M MULTI 220PF 50V NPO 0603	1
37		C151	0111-3331-5106	C/M Multi 330PF 50V NPO 0603	1
38		C153	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
39		C154	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
40		C156	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
41		C158	0111-3331-5106	C/M Multi 330PF 50V NPO 0603	1
42		C159	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
43		C16	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
44		C160	0111-3101-5106	C/M MULTI. 100PF 50V NPO 0603	1
45		C161	0111-3101-5106	C/M MULTI. 100PF 50V NPO 0603	1
46		C162	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
47		C163	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
48		C164	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
49		C165	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
50		C166	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
51		C167	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
52		C168	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
53		C169	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
54		C17	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
55		C170	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
56		C171	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
57		C172	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
58		C173	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
59		C174	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
60		C175	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
61		C176	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
62		C177	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
63		C178	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
64		C179	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
65		C18	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
66		C180	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
67		C181	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
68		C182	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
69		C183	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
70		C184	0111-3103-5116	C/M MULTI 0.01UF 50V X7R 0603	1
71		C186	0111-3103-5116	C/M MULTI 0.01UF 50V X7R 0603	1
72		C188	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
73		C19	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
74		C192	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
75		C195	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
76		C196	0111-3309-5106	C/M MULTI. 3PF 50V NPO 0603	1
77		C197	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
78		C198	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
79		C199	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
80		C2	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
81		C200	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
82		C201	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
83		C202	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
84		C203	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
85		C204	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
86		C205	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
87		C206	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
88		C207	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
89		C208	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
90		C209	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
91		C21	0111-3101-5106	C/M MULTI. 100PF 50V NPO 0603	1
92		C210	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
93		C211	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
94		C212	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
95		C213	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
96		C214	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
97		C215	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
98		C216	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
99		C217	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
100		C219	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
101		C22	0111-3560-5106	C/M Multi. 56PF 50V NPO 0603	1
102		C220	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
103		C221	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
104		C222	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
105		C223	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
106		C224	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
107		C225	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
108		C226	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
109		C227	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
110		C228	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
111		C229	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
112		C23	0111-3221-5106	C/M MULTI 220PF 50V NPO 0603	1
113		C230	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
114		C231	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
115		C232	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
116		C235	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
117		C236	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
118		C237	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
119		C238	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
120		C239	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
121		C24	0111-3560-5106	C/M Multi. 56PF 50V NPO 0603	1
122		C240	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
123		C242	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
124		C243	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
125		C244	0111-3101-5106	C/M MULTI. 100PF 50V NPO 0603	1
126		C245	0111-3101-5106	C/M MULTI. 100PF 50V NPO 0603	1
127		C246	0111-3101-5106	C/M MULTI. 100PF 50V NPO 0603	1
128		C247	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
129		C248	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
130		C249	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
131		C251	0111-3470-5106	C/M MULTI. 47PF 50V NPO 0603	1
132		C252	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
133		C253	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
134		C254	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
135		C255	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
136		C257	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
137		C258	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
138		C259	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
139		C26	0111-3221-5106	C/M MULTI 220PF 50V NPO 0603	1
140		C260	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
141		C262	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
142		C263	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
143		C264	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
144		C265	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
145		C266	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
146		C267	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
147		C268	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
148		C269	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
149		C271	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
150		C272	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
151		C273	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
152		C274	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
153		C276	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
154		C277	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
155		C279	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
156		C280	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
157		C281	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
158		C282	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
159		C283	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
160		C285	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
161		C286	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
162		C288	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
163		C290	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
164		C291	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
165		C293	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
166		C297	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
167		C3	0111-3221-5106	C/M MULTI 220PF 50V NPO 0603	1
168		C303	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
169		C304	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
170		C305	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
171		C306	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
172		C315	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
173		C316	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
174		C318	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
175		C319	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
176		C32	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
177		C321	0111-3471-5106	C/M MULTI 470PF 50V NPO 0603	1
178		C323	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
179		C326	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
180		C327	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
181		C328	0111-3221-5106	C/M MULTI 220PF 50V NPO 0603	1
182		C329	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
183		C33	0111-3471-5106	C/M MULTI 470PF 50V NPO 0603	1
184		C330	0111-3683-5116	C/M MULTI 0.068uF 50V X7R 0603	1
185		C331	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
186		C332	0111-3683-5116	C/M MULTI 0.068uF 50V X7R 0603	1
187		C333	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
188		C334	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
189		C337	0111-3221-5106	C/M MULTI 220PF 50V NPO 0603	1
190		C338	0111-3820-5106	C/M MULTI 82PF 50V NPO 0603	1
191		C34	0111-3221-5106	C/M MULTI 220PF 50V NPO 0603	1
192		C341	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
193		C344	0111-3180-5106	C/M MULTI. 18PF 50V NPO 0603	1
194		C358	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
195		C359	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
196		C36	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
197		C362	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
198		C363	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
199		C364	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
200		C365	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
201		C366	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
202		C367	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
203		C368	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
204		C369	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
205		C37	0111-3471-5106	C/M MULTI 470PF 50V NPO 0603	1
206		C372	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
207		C376	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
208		C377	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
209		C378	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
210		C379	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
211		C38	0111-3221-5106	C/M MULTI 220PF 50V NPO 0603	1
212		C380	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
213		C381	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
214		C382	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
215		C383	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
216		C384	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
217		C396	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
218		C399	0111-3180-5106	C/M MULTI. 18PF 50V NPO 0603	1
219		C40	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
220		C402	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
221		C403	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
222		C404	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
223		C405	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
224		C406	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
225		C407	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
226		C408	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
227		C409	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
228		C41	0111-3471-5106	C/M MULTI 470PF 50V NPO 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
229		C410	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
230		C42	0111-3221-5106	C/M MULTI 220PF 50V NPO 0603	1
231		C46	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
232		C47	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
233		C48	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
234		C49	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
235		C5	0111-3474-1615	C/M MULTI 0.47uF 16V X7R 0805	1
236		C51	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
237		C53	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
238		C54	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
239		C55	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
240		C57	0111-3474-1615	C/M MULTI 0.47uF 16V X7R 0805	1
241		C59	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
242		C61	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
243		C62	0111-3681-5106	C/M MULTI 680PF 50V NPO 0603	1
244		C63	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
245		C64	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
246		C66	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
247		C68	0111-3220-5106	C/M MULTI. 22PF 50V NPO 0603	1
248		C69	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
249		C7	0111-3474-1615	C/M MULTI 0.47uF 16V X7R 0805	1
250		C71	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
251		C74	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
252		C75	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
253		C78	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
254		C80	0111-3102-5116	C/M MULTI 1000PF 50V X7R 0603	1
255		C84	0111-3473-1616	C/M MULTI 0.047UF 16V X7R 0603	1
256		C85	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
257		C86	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
258		C87	0111-3104-2516	C/M Multi. 0.1uF 25V X7R 0603	1
259		C9	0111-3474-1615	C/M MULTI 0.47uF 16V X7R 0805	1
260		DT2	0390-6001-3223	SCHOTTKY DIODE RB495D SMD	1
261		D1	0390-5001-8273	DUAL SURFACE DIODE BAV70 SMD (SOT-23)	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
262		D11	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
263		D12	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
264		D13	0390-5001-9293	DUAL SURFACE DIODES BAV99 SMD (SOT-23)	1
265		D14	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
266		D15	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
267		D16	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
268		D17	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
269		D18	0390-5001-9293	DUAL SURFACE DIODES BAV99 SMD (SOT-23)	1
270		D19	0390-5001-9293	DUAL SURFACE DIODES BAV99 SMD (SOT-23)	1
271		D2	0390-6003-1223	SCHOTTKY DIODE 1A 40V RB161L-40 PMDS	1
272		D20	0390-5001-8273	DUAL SURFACE DIODE BAV70 SMD (SOT-23)	1
273		D21	0400-0541-2012	ZENER RLZ5.6B 5.45V~5.73V 1/2W SMD	1
274		D22	0390-5001-9293	DUAL SURFACE DIODES BAV99 SMD (SOT-23)	1
275		D23	0400-0541-2012	ZENER RLZ5.6B 5.45V~5.73V 1/2W SMD	1
276		D24	0390-5001-9293	DUAL SURFACE DIODES BAV99 SMD (SOT-23)	1
277		D25	0390-5001-9293	DUAL SURFACE DIODES BAV99 SMD (SOT-23)	1
278		D4	0390-5001-9293	DUAL SURFACE DIODES BAV99 SMD (SOT-23)	1
279		D5	0390-5001-9293	DUAL SURFACE DIODES BAV99 SMD (SOT-23)	1
280		D6	0390-5001-9293	DUAL SURFACE DIODES BAV99 SMD (SOT-23)	1
281		D7	0400-1521-2012	ZENER RLZ16B 15.25-16.04V 1/2W SMD	1
282		D8	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
283		L1	0344-6880-0603	PEAKING COIL 0.68UH 1/4W K 2012	1
284		L13	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
285		L14	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
286		L16	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
287		L17	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
288		L18	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
289		L19	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
290		L2	0344-6880-0603	PEAKING COIL 0.68UH 1/4W K 2012	1
291		L25	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
292		L28	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
293		L29	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
294		L3	0344-6880-0603	PEAKING COIL 0.68UH 1/4W K 2012	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
295		L30	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
296		L31	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
297		L32	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
298		L33	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
299		L34	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
300		L35	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
301		L36	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
302		L37	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
303		L38	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
304		L39	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
305		L4	0130-0000-1858	RES. CF 0.0ohm 1/8W J 0805	1
306		L40	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
307		L42	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
308		L47	0370-0000-4651	CHIP BEAD CORE 80ohm (MLB-321611-0080P-N1)	1
309		L48	0370-0000-4651	CHIP BEAD CORE 80ohm (MLB-321611-0080P-N1)	1
310		L49	0130-4708-1859	RES. CF 4.7ohm 1/4W J 1206	1
311		L5	0130-0000-1858	RES. CF 0.0ohm 1/8W J 0805	1
312		L50	0130-2700-1859	RES. CF 270ohm 1/8W J 1206	1
313		L51	0344-6880-0603	PEAKING COIL 0.68UH 1/4W K 2012	1
314		L52	0344-6880-0603	PEAKING COIL 0.68UH 1/4W K 2012	1
315		L53	0130-1009-1859	RES. CF 10ohm 1/8W J 1206	1
316		L54	0370-0000-4651	CHIP BEAD CORE 80ohm (MLB-321611-0080P-N1)	1
317		L57	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
318		L6	0130-0508-1858	RES. CF 0.5ohm 1/8W 0805	1
319		L9	0370-0000-4651	CHIP BEAD CORE 80ohm (MLB-321611-0080P-N1)	1
320		QT1	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
321	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
322		QT2	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
323	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
324		Q1	0410-5000-2604	TRANSISTOR MMBT3906 SMD (SOT-23)	1
325	CS		0410-5000-2610	TRANSISTOR MMBT3906LT1 SMD	
326		Q12	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
327	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
328		Q13	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
329	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
330		Q14	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
331	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
332		Q15	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
333	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
334		Q16	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
335	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
336		Q17	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
337	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
338		Q19	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
339	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
340		Q21	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
341	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
342		Q22	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
343	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
344		Q23	0410-5000-2604	TRANSISTOR MMBT3906 SMD (SOT-23)	1
345	CS		0410-5000-2610	TRANSISTOR MMBT3906LT1 SMD	
346		Q24	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
347	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
348		Q25	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
349	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
350		Q26	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
351	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
352		Q27	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
353	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
354		Q3	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
355	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
356		Q5	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
357	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
358		Q6	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
359	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
360		Q7	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
361	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
362		Q8	0410-2001-9005	TRANSISTOR 2SC5886 SMD	1
363		Q9	0410-5000-1604	TRANSISTOR 2N3904 SMD T	1
364	CS		0410-5000-1610	TRANSISTOR MMBT3904LT1 SMD T	
365		RP1	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1
366		RP15	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1
367		RP16	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1
368		RP19	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1
369		RP2	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1
370		RP20	0141-4701-3851	ARRAY RES. A(X) 4.7Kohm 4R J 8P	1
371		RP21	0141-1002-3851	ARRAY RES. A(X) 10Kohm 4R J 8P	1
372		RP22	0141-1002-3851	ARRAY RES. A(X) 10Kohm 4R J 8P	1
373		RP23	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1
374		RP24	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1
375		RP25	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1
376		RP26	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1
377		RP27	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1
378		RP28	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1
379		RP29	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1
380		RT1	0130-2202-0055	RES. CF 22Kohm 1/10W J 0603	1
381		RT2	0130-3301-0055	RES. CF 3.3Kohm 1/10W J 0603	1
382		RT3	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
383		RT4	0130-5601-0055	RES. CF 5.6Kohm 1/10W J 0603	1
384		RT5	0130-2202-0055	RES. CF 22Kohm 1/10W J 0603	1
385		RT6	0130-3301-0055	RES. CF 3.3Kohm 1/10W J 0603	1
386		RT7	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
387		RT8	0130-5601-0055	RES. CF 5.6Kohm 1/10W J 0603	1
388		RT9	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
389		R1	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
390		R10	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
391		R106	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
392		R107	0130-2709-0055	RES. CF 27ohm 1/10W J 0603	1
393		R109	0130-1800-0055	RES. CF 180ohm 1/10W J 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
394		R11	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
395		R110	0130-7509-0055	RES. CF 75ohm1/10W J 0603	1
396		R111	0130-2709-0055	RES. CF 27ohm 1/10W J 0603	1
397		R113	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
398		R114	0130-7509-0055	RES. CF 75ohm1/10W J 0603	1
399		R115	0130-7509-0055	RES. CF 75ohm1/10W J 0603	1
400		R116	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
401		R117	0130-1200-0055	RES. CF 120ohm 1/10W J 0603	1
402		R118	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
403		R119	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
404		R12	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
405		R120	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
406		R121	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
407		R124	0130-2709-0055	RES. CF 27ohm 1/10W J 0603	1
408		R125	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
409		R127	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
410		R129	0130-1500-0055	RES. CF 150ohm 1/10W J 0603	1
411		R130	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
412		R132	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
413		R134	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
414		R135	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
415		R137	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
416		R138	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
417		R139	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
418		R14	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
419		R140	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
420		R143	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
421		R144	0130-7509-0055	RES. CF 75ohm1/10W J 0603	1
422		R145	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
423		R147	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
424		R148	0130-7509-0055	RES. CF 75ohm1/10W J 0603	1
425		R149	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
426		R15	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
427		R150	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
428		R151	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
429		R152	0130-2709-0055	RES. CF 27ohm 1/10W J 0603	1
430		R158	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
431		R159	0130-3301-0055	RES. CF 3.3Kohm 1/10W J 0603	1
432		R16	0130-2200-0055	RES. CF 220ohm 1/10W J 0603	1
433		R160	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
434		R161	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
435		R162	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
436		R163	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
437		R165	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
438		R167	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
439		R168	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
440		R169	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
441		R17	0130-2200-0055	RES. CF 220ohm 1/10W J 0603	1
442		R170	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
443		R171	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
444		R173	0130-2204-0055	RES. CF 2.2Mohm 1/10W J 0603	1
445		R174	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
446		R175	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
447		R176	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
448		R177	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
449		R178	0130-2700-0055	RES. CF 270ohm 1/10W J 0603	1
450		R179	0130-5609-0055	RES. CF 56ohm1/10W J 0603	1
451		R18	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
452		R180	0130-3300-0055	RES. CF 330ohm 1/10W J 0603	1
453		R181	0130-1009-0055	RES. CF 10ohm 1/10W J 0603	1
454		R183	0370-0000-3552	CHIP BEAD CORE 30ohm MLB-201209-0030A-N1	1
455		R184	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
456		R186	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
457		R188	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
458		R189	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
459		R19	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
460		R193	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
461		R194	0130-4701-0055	RES. CF 4.7Kohm 1/10W J 0603	1
462		R195	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
463		R196	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
464		R197	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
465		R198	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
466		R199	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
467		R2	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
468		R20	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
469		R200	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
470		R201	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
471		R202	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
472		R204	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
473		R206	0130-1200-0055	RES. CF 120ohm 1/10W J 0603	1
474		R207	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
475		R208	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
476		R209	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
477		R210	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
478		R211	0130-1200-0055	RES. CF 120ohm 1/10W J 0603	1
479		R212	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
480		R213	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
481		R214	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
482		R215	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
483		R216	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
484		R217	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
485		R218	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
486		R219	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
487		R220	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
488		R221	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
489		R222	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
490		R224	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
491		R225	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
492		R230	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
493		R231	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
494		R232	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
495		R233	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
496		R234	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
497		R235	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
498		R236	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
499		R237	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
500		R238	0130-4700-0055	RES. CF 470ohm 1/10W J 0603	1
501		R240	0130-2709-0055	RES. CF 27ohm 1/10W J 0603	1
502		R249	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
503		R25	0130-3301-0055	RES. CF 3.3Kohm 1/10W J 0603	1
504		R250	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
505		R251	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
506		R252	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
507		R253	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
508		R254	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
509		R255	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
510		R256	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
511		R257	0130-3301-0055	RES. CF 3.3Kohm 1/10W J 0603	1
512		R258	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
513		R26	0370-0000-3552	CHIP BEAD CORE 30ohm MLB-201209-0030A-N1	1
514		R260	0130-3900-0055	RES. CF 390ohm 1/10W J 0603	1
515		R262	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
516		R263	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
517		R265	0130-9100-0055	RES. CF 910ohm 1/10W J 0603	1
518		R266	0130-1601-0055	RES. CF 1.6Kohm 1/10W J 0603	1
519		R267	0130-2201-0055	RES. CF 2.2Kohm 1/10W J 0603	1
520		R269	0130-1501-0055	RES. CF 1.5Kohm 1/10W J 0603	1
521		R27	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
522		R270	0130-4701-0055	RES. CF 4.7Kohm 1/10W J 0603	1
523		R271	0130-2201-0055	RES. CF 2.2Kohm 1/10W J 0603	1
524		R272	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
525		R274	0130-2201-0055	RES. CF 2.2Kohm 1/10W J 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
526		R278	0130-1003-0055	RES. CF 100Kohm 1/10W J 0603	1
527		R279	0130-4701-0055	RES. CF 4.7Kohm 1/10W J 0603	1
528		R280	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
529		R281	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
530		R282	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
531		R283	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
532		R284	0130-2202-0055	RES. CF 22Kohm 1/10W J 0603	1
533		R285	0130-2202-0055	RES. CF 22Kohm 1/10W J 0603	1
534		R286	0130-2202-0055	RES. CF 22Kohm 1/10W J 0603	1
535		R287	0130-2202-0055	RES. CF 22Kohm 1/10W J 0603	1
536		R288	0130-4701-0055	RES. CF 4.7Kohm 1/10W J 0603	1
537		R289	0130-4701-0055	RES. CF 4.7Kohm 1/10W J 0603	1
538		R29	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
539		R290	0130-2201-1859	RES. CF 2.2Kohm 1/8W J 1206	1
540		R291	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
541		R292	0130-2208-1858	RES. CF 2.2ohm 1/8W J 0805	1
542		R294	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
543		R295	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
544		R296	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
545		R297	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
546		R298	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
547		R299	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
548		R3	0130-2200-0055	RES. CF 220ohm 1/10W J 0603	1
549		R30	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
550		R301	0130-6801-0055	RES. CF 6.8Kohm 1/10W J 0603	1
551		R302	0130-3302-0055	RES. CF 33Kohm 1/10W J 0603	1
552		R303	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
553		R304	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
554		R305	0130-3302-0055	RES. CF 33Kohm 1/10W J 0603	1
555		R306	0130-6801-0055	RES. CF 6.8Kohm 1/10W J 0603	1
556		R308	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
557		R309	0130-4701-0055	RES. CF 4.7Kohm 1/10W J 0603	1
558		R31	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
559		R310	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
560		R311	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
561		R312	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
562		R314	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
563		R317	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
564		R318	0130-7509-0055	RES. CF 75ohm1/10W J 0603	1
565		R319	0130-5600-0055	RES. CF 560ohm 1/10W J 0603	1
566		R32	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
567		R320	0130-4300-0055	RES. CF 430ohm 1/10W J 0603	1
568		R321	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
569		R322	0370-0000-6752	CHIP BEAD CORE 80ohm (MLB-201209-0080P-N2)	1
570		R324	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
571		R326	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
572		R328	0130-1202-0055	RES. CF 12Kohm 1/10W J 0603	1
573		R329	0130-2202-0055	RES. CF 22Kohm 1/10W J 0603	1
574		R33	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
575		R330	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
576		R332	0130-2700-0055	RES. CF 270ohm 1/10W J 0603	1
577		R333	0130-4700-0055	RES. CF 470ohm 1/10W J 0603	1
578		R334	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
579		R335	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
580		R337	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
581		R338	0130-3309-0055	RES. CF 33ohm 1/10W J 0603	1
582		R34	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
583		R340	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
584		R342	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
585		R344	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
586		R346	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
587		R347	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
588		R348	0370-0000-3552	CHIP BEAD CORE 30ohm MLB-201209-0030A-N1	1
589		R349	0370-0000-3552	CHIP BEAD CORE 30ohm MLB-201209-0030A-N1	1
590		R35	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
591		R350	0370-0000-3552	CHIP BEAD CORE 30ohm MLB-201209-0030A-N1	1

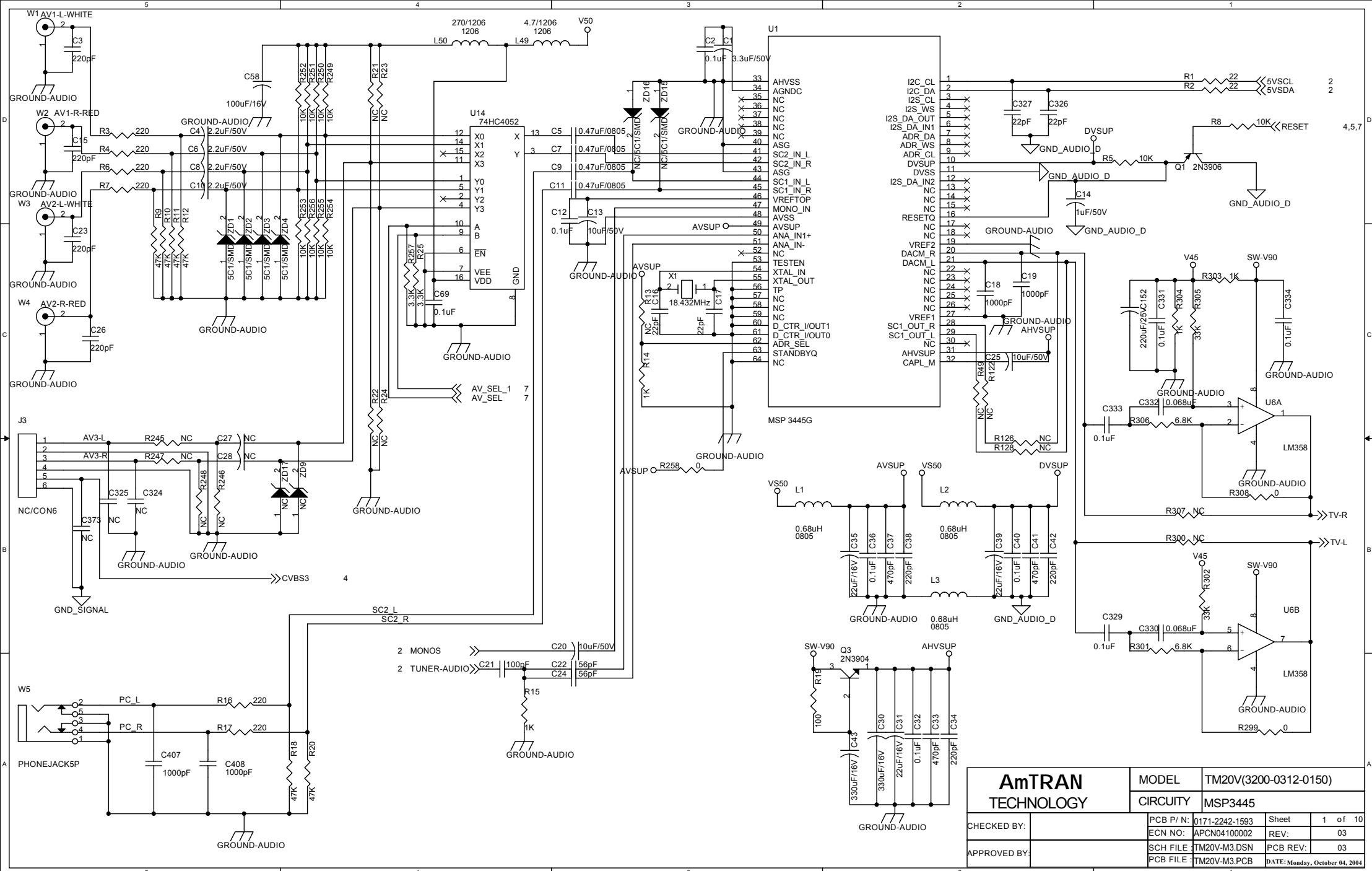
ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
592		R351	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
593		R354	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
594		R356	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
595		R357	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
596		R358	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
597		R359	0130-2208-1858	RES. CF 2.2ohm 1/8W J 0805	1
598		R36	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
599		R360	0370-0001-1953	CHIP BEAD CORE 200ohm (MLB-160808-0200B-N3)	1
600		R364	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
601		R365	0130-2201-0055	RES. CF 2.2Kohm 1/10W J 0603	1
602		R366	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
603		R367	0130-3309-0055	RES. CF 33ohm 1/10W J 0603	1
604		R368	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
605		R369	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
606		R37	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
607		R370	0130-4700-0055	RES. CF 470ohm 1/10W J 0603	1
608		R371	0130-2201-0055	RES. CF 2.2Kohm 1/10W J 0603	1
609		R372	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
610		R373	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
611		R374	0130-2202-0055	RES. CF 22Kohm 1/10W J 0603	1
612		R375	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
613		R376	0130-1200-0055	RES. CF 120ohm 1/10W J 0603	1
614		R377	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
615		R378	0130-1500-0055	RES. CF 150ohm 1/10W J 0603	1
616		R379	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
617		R380	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
618		R381	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
619		R382	0130-2201-0055	RES. CF 2.2Kohm 1/10W J 0603	1
620		R384	0130-2709-0055	RES. CF 27ohm 1/10W J 0603	1
621		R385	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
622		R386	0130-2709-0055	RES. CF 27ohm 1/10W J 0603	1
623		R387	0130-4709-0055	RES. CF 47ohm 1/10W J 0603	1
624		R388	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1

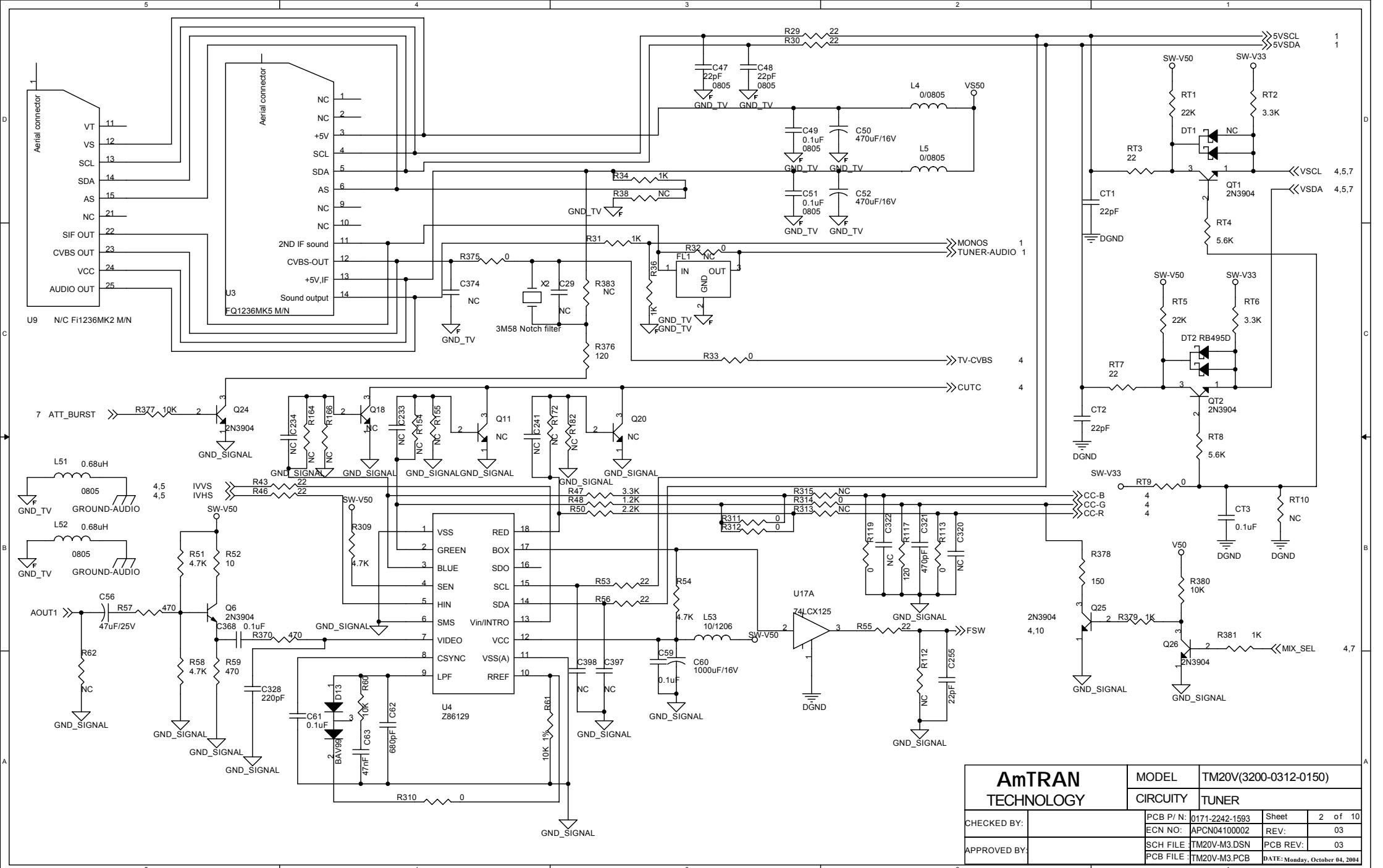
ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
625		R389	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
626		R39	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
627		R390	0130-4708-0055	RES. CF 4.7ohm1/10W J 0603	1
628		R392	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
629		R393	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
630		R394	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
631		R395	0130-7509-0055	RES. CF 75ohm1/10W J 0603	1
632		R396	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
633		R397	0370-0000-2143	CHIP BEAD CORE 600ohm 1608M T	1
634		R398	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
635		R399	0130-7509-0055	RES. CF 75ohm1/10W J 0603	1
636		R4	0130-2200-0055	RES. CF 220ohm 1/10W J 0603	1
637		R40	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
638		R400	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
639		R401	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
640		R402	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
641		R403	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
642		R405	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
643		R407	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
644		R408	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
645		R409	0130-3309-0055	RES. CF 33ohm 1/10W J 0603	1
646		R410	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
647		R411	0130-1001-0055	RES. CF 1.0Kohm 1/10W J 0603	1
648		R412	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
649		R413	0130-3300-0055	RES. CF 330ohm 1/10W J 0603	1
650		R414	0130-3300-0055	RES. CF 330ohm 1/10W J 0603	1
651		R42	0370-0000-3552	CHIP BEAD CORE 30ohm MLB-201209-0030A-N1	1
652		R43	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
653		R44	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
654		R45	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
655		R46	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
656		R47	0130-3301-0055	RES. CF 3.3Kohm 1/10W J 0603	1
657		R48	0130-1201-0055	RES. CF 1.2Kohm 1/10W J 0603	1

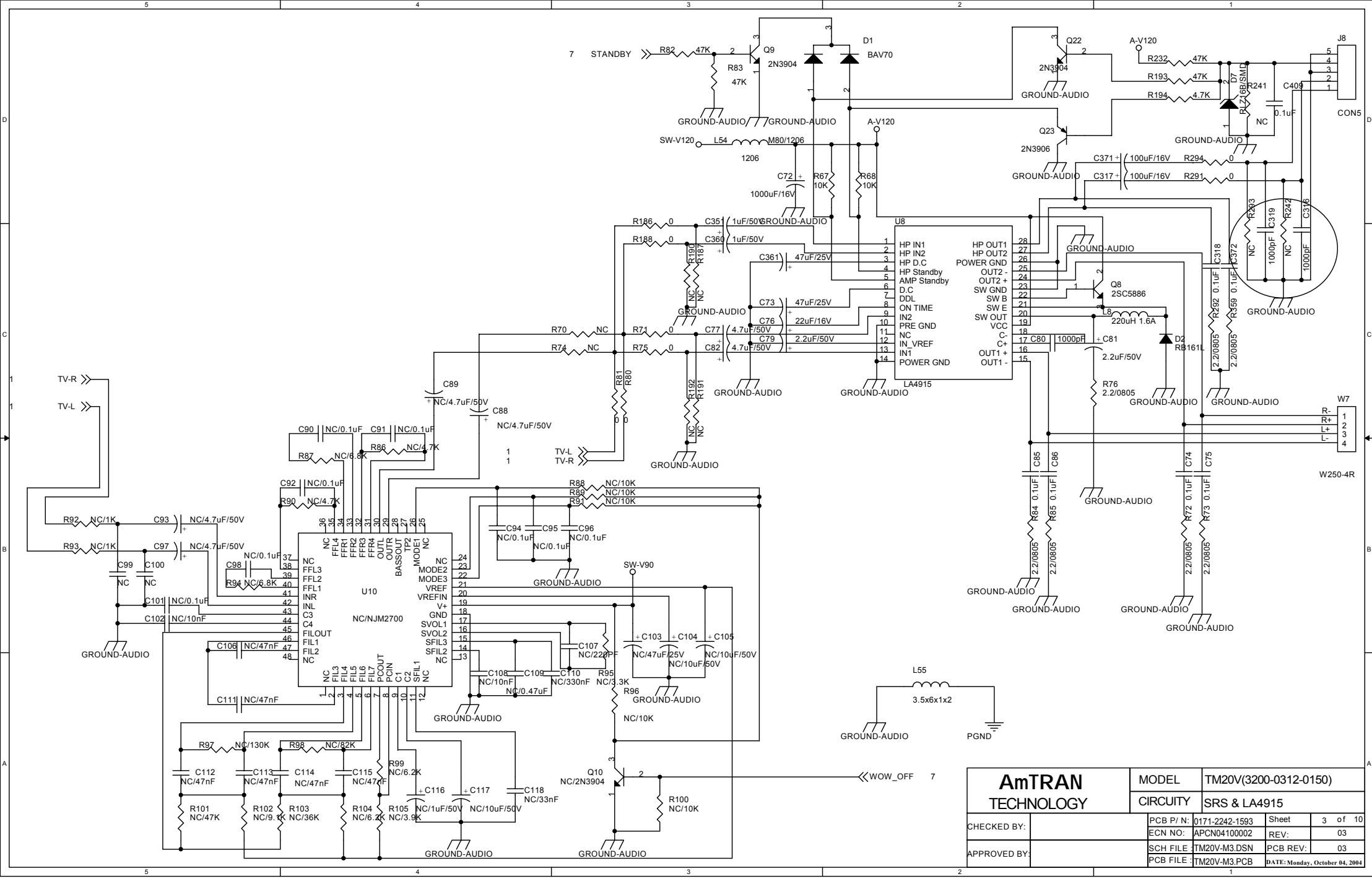
ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
658		R5	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
659		R50	0130-2201-0055	RES. CF 2.2Kohm 1/10W J 0603	1
660		R51	0130-4701-0055	RES. CF 4.7Kohm 1/10W J 0603	1
661		R52	0130-1009-0055	RES. CF 10ohm 1/10W J 0603	1
662		R53	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
663		R54	0130-4701-0055	RES. CF 4.7Kohm 1/10W J 0603	1
664		R55	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
665		R56	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
666		R57	0130-4700-0055	RES. CF 470ohm 1/10W J 0603	1
667		R58	0130-4701-0055	RES. CF 4.7Kohm 1/10W J 0603	1
668		R59	0130-4700-0055	RES. CF 470ohm 1/10W J 0603	1
669		R6	0130-2200-0055	RES. CF 220ohm 1/10W J 0603	1
670		R60	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
671		R61	0131-1002-0015	RES. MF 10.0Kohm 1/10W F 0603	1
672		R63	0370-0000-2143	CHIP BEAD CORE 600ohm 1608M T	1
673		R64	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
674		R65	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
675		R66	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
676		R67	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
677		R68	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
678		R69	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
679		R7	0130-2200-0055	RES. CF 220ohm 1/10W J 0603	1
680		R71	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
681		R72	0130-2208-1858	RES. CF 2.2ohm 1/8W J 0805	1
682		R73	0130-2208-1858	RES. CF 2.2ohm 1/8W J 0805	1
683		R75	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
684		R76	0130-2208-1858	RES. CF 2.2ohm 1/8W J 0805	1
685		R77	0130-7509-0055	RES. CF 75ohm1/10W J 0603	1
686		R78	0130-2209-0055	RES. CF 22ohm 1/10W J 0603	1
687		R79	0130-1000-0055	RES. CF 100ohm 1/10W J 0603	1
688		R8	0130-1002-0055	RES. CF 10Kohm 1/10W J 0603	1
689		R80	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1
690		R81	0130-0000-0055	RES. CF 0.0ohm 1/10W J 0603	1

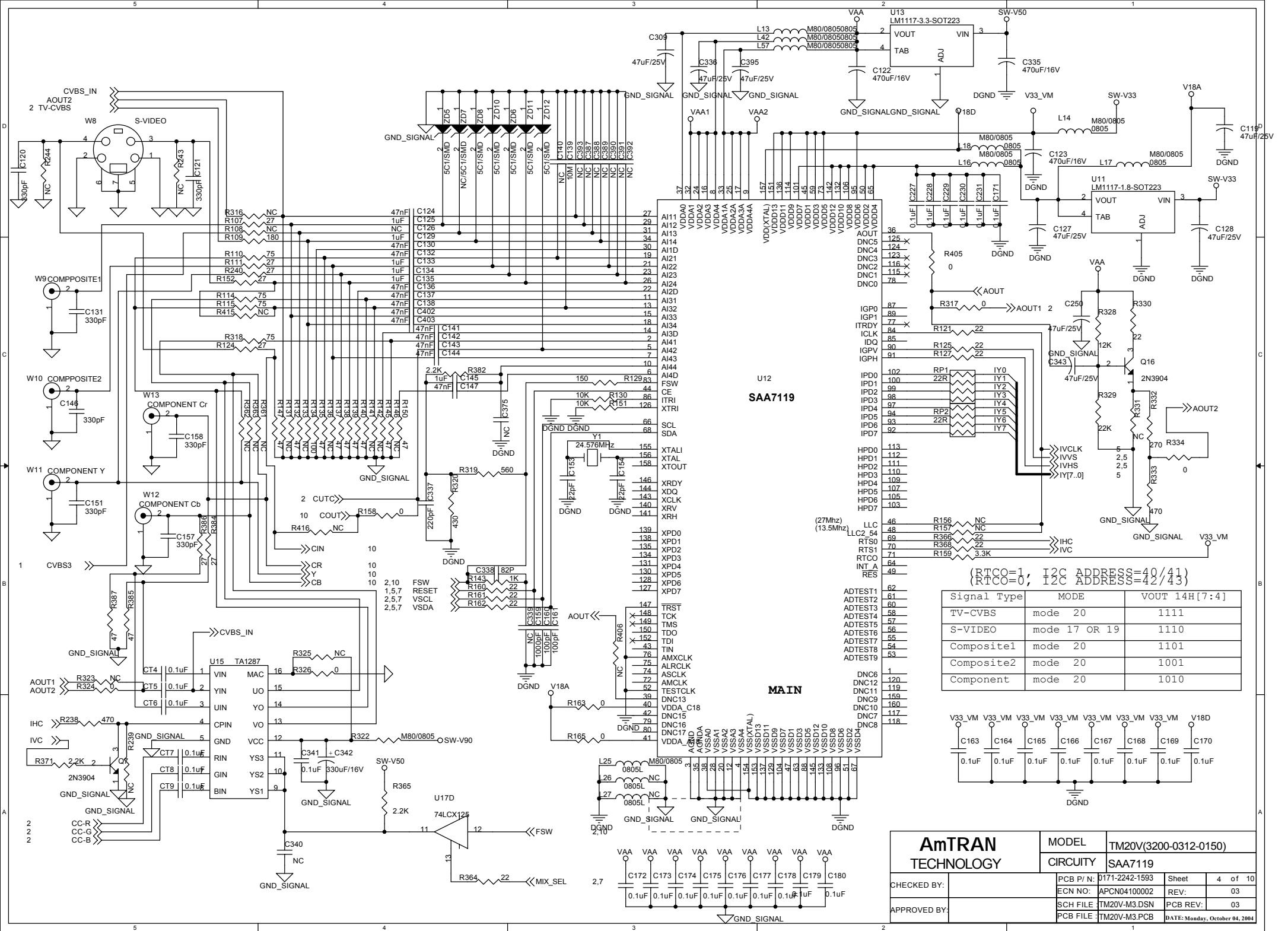
ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
691		R82	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
692		R83	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
693		R84	0130-2208-1858	RES. CF 2.2ohm 1/8W J 0805	1
694		R85	0130-2208-1858	RES. CF 2.2ohm 1/8W J 0805	1
695		R9	0130-4702-0055	RES. CF 47Kohm 1/10W J 0603	1
696		U1	0430-9000-5980	IC MSP3445 SMD 64PIN (LQFP)	1
697		U11	0430-6005-5004	IC LM1117MPX-1.8 SMD 3PIN (SOT-223)	1
698		U12	0430-7016-0909	IC SAA7119H/V2 QFP160	1
699		U13	0430-6002-1051	IC AMC1117SK-3.3 SMD 3PIN (STO-23)	1
700		U14	0430-0001-1035	IC MM74HC4052 SMD 16PIN	1
701	CS		0430-0001-1009	IC 74HC4052DT SMD 16PIN	
702		U15	0430-4007-7005	IC TA1287FG SMD 16PIN (SOP16)	1
703		U16	0430-7021-0953	IC PW1232 PQFP160	1
704		U17	0430-1003-5635	IC 74LCX125MTCX SMD 14PIN (TSSOP)	1
705		U19	0430-6005-5004	IC LM1117MPX-1.8 SMD 3PIN (SOT-223)	1
706		U2	0430-7020-9650	IC THC63LVDF84B SMD 56PIN (TSSOP)	1
707		U20	0430-0000-8035	IC MM74HC4053WMX SMD 16PIN	1
708		U21	0430-7010-5066	IC EM638165TS-7 SMD 54PIN TSOP	1
709		U24	0430-5008-5540	IC MTV412MV PLCC 44PIN	1
710		U24S	0204-1274-4012	PLCC SOCKET 44PIN SMD	1
711		U24X1	0990-4001-9002	SOFTWARE TM-20V CPU: TM20VRM1.H00	1
712		U24X2	0990-4001-9003	SOFTWARE TM-20V CPU: TM20VRM1.H01	1
713		U26	0430-3004-4011	IC AT24C08AN-10SI-2.7 SO-8	1
714	SS		0430-3004-4017	IC 24LC08B/SN SO-8	
715		U27	0430-7012-4058	IC MAX810RTR 3PIN SOT-23	1
716		U29	0430-5013-0985	IC TSU36AVJ 128PIN PQFP	1
717		U30	0430-1004-4035	IC 74LCX14 SMD 14PIN(SOIC)	1
718		U31	0430-6003-5072	IC N2576S-ADJ SMD 5PIN (TO-263)	1
719		U32	0430-6003-5072	IC N2576S-ADJ SMD 5PIN (TO-263)	1
720		U34	0430-1000-7035	IC 74HC14 SMD 14PIN	1
721		U37	0420-1001-6601	POWER MOS IRF7316TR SMD 8PIN	1
722	SS		0420-2001-2621	MOSFET P-CH 4.9A 30V Si4953DY SO-8	
723		U38	0430-6005-5004	IC LM1117MPX-1.8 SMD 3PIN (SOT-223)	1

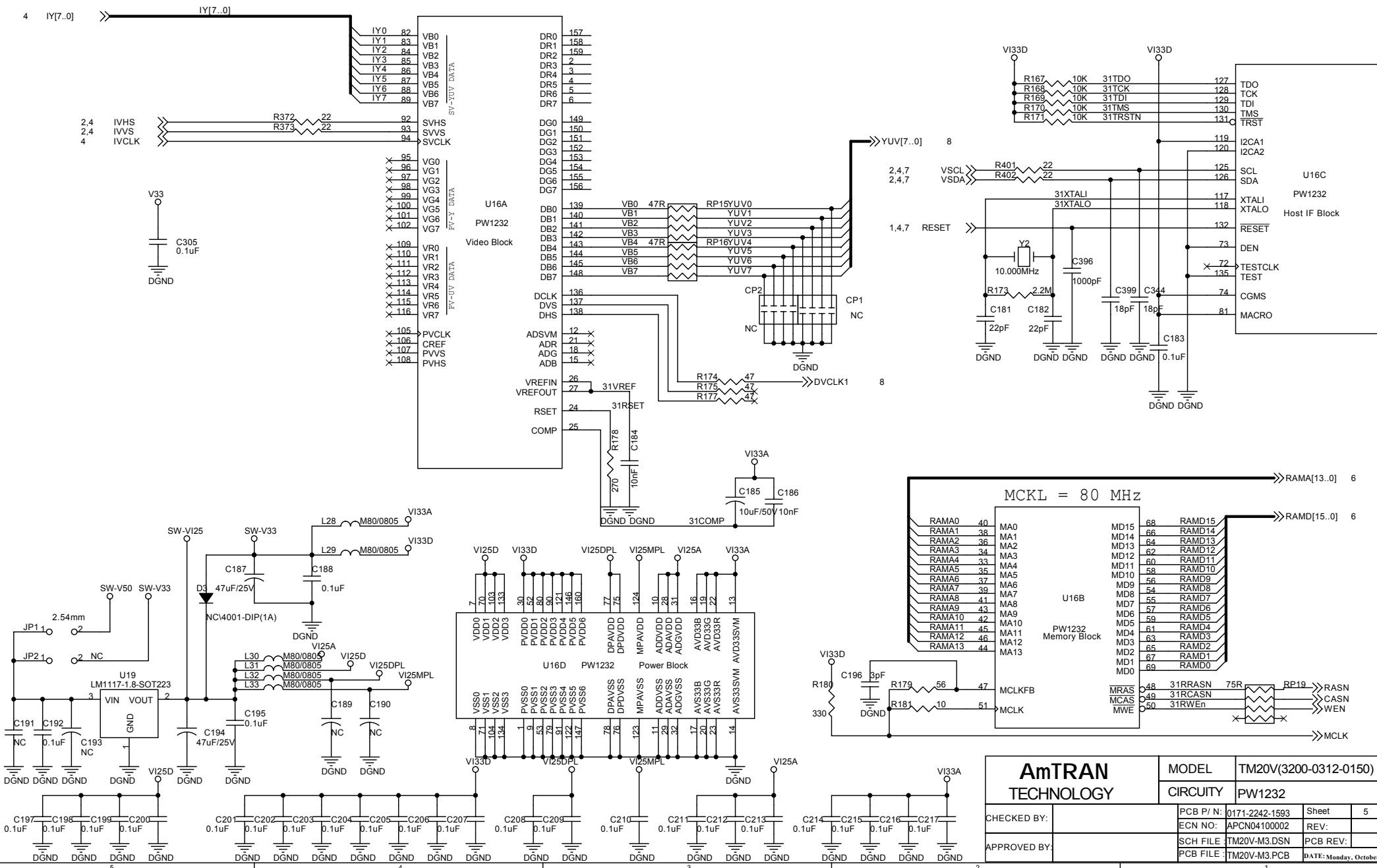
ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY
724		U39	0420-1001-6601	POWER MOS IRF7316TR SMD 8PIN	1
725	SS		0420-2001-2621	MOSFET P-CH 4.9A 30V Si4953DY SO-8	
726		U4	0430-7009-7073	IC Z86129 SMD 18PIN (SOIC)	1
727		U5	0430-3004-2011	IC AT24C02AN-10SU-2.7 SO-8 L-F	1
728		U6	0430-4000-1007	IC LM358DT SMD-8 PIN	1
729	SS		0430-4000-1004	IC LM358MX SMD-8 PIN	
730		U7	0430-1004-4035	IC 74LCX14 SMD 14PIN(SOIC)	1
731		W15	0303-1000-0507	CONN. B TO FPC 50PIN AF7501-A2G1T	1
732		ZD1	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
733		ZD10	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
734		ZD11	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
735		ZD12	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
736		ZD2	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
737		ZD3	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
738		ZD4	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
739		ZD5	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
740		ZD6	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1
741		ZD8	0400-0491-2012	ZENER RLZ5.1B 4.94-5.2V 1/2W SMD	1



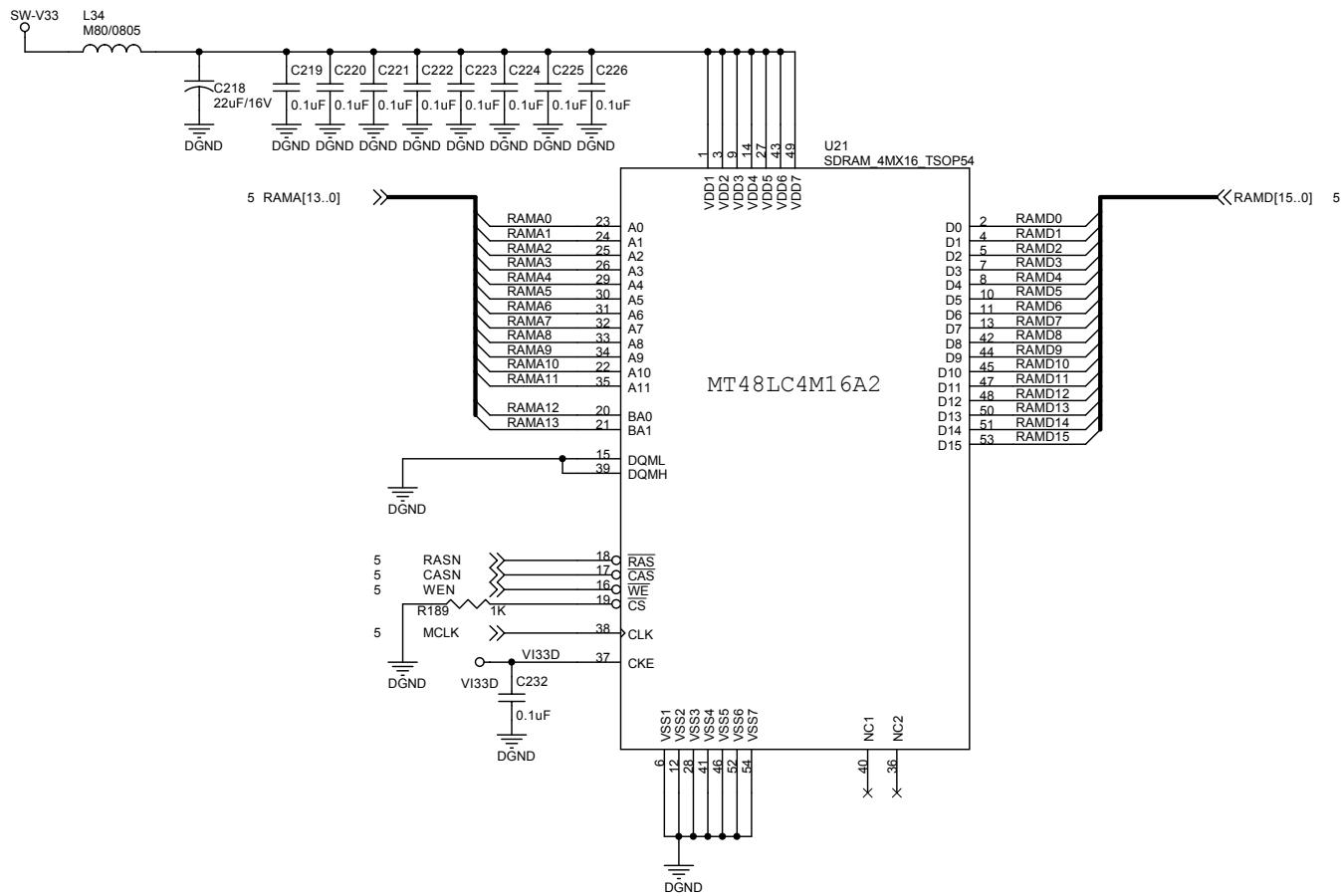




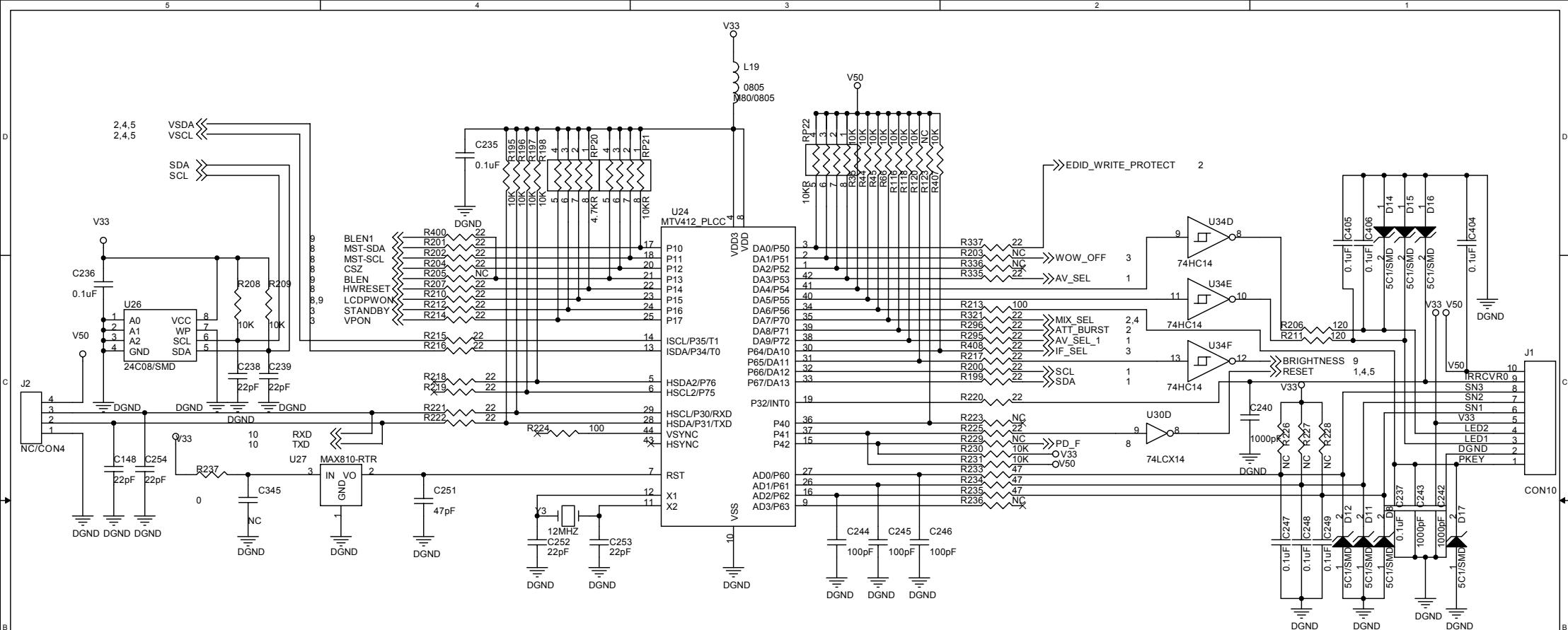




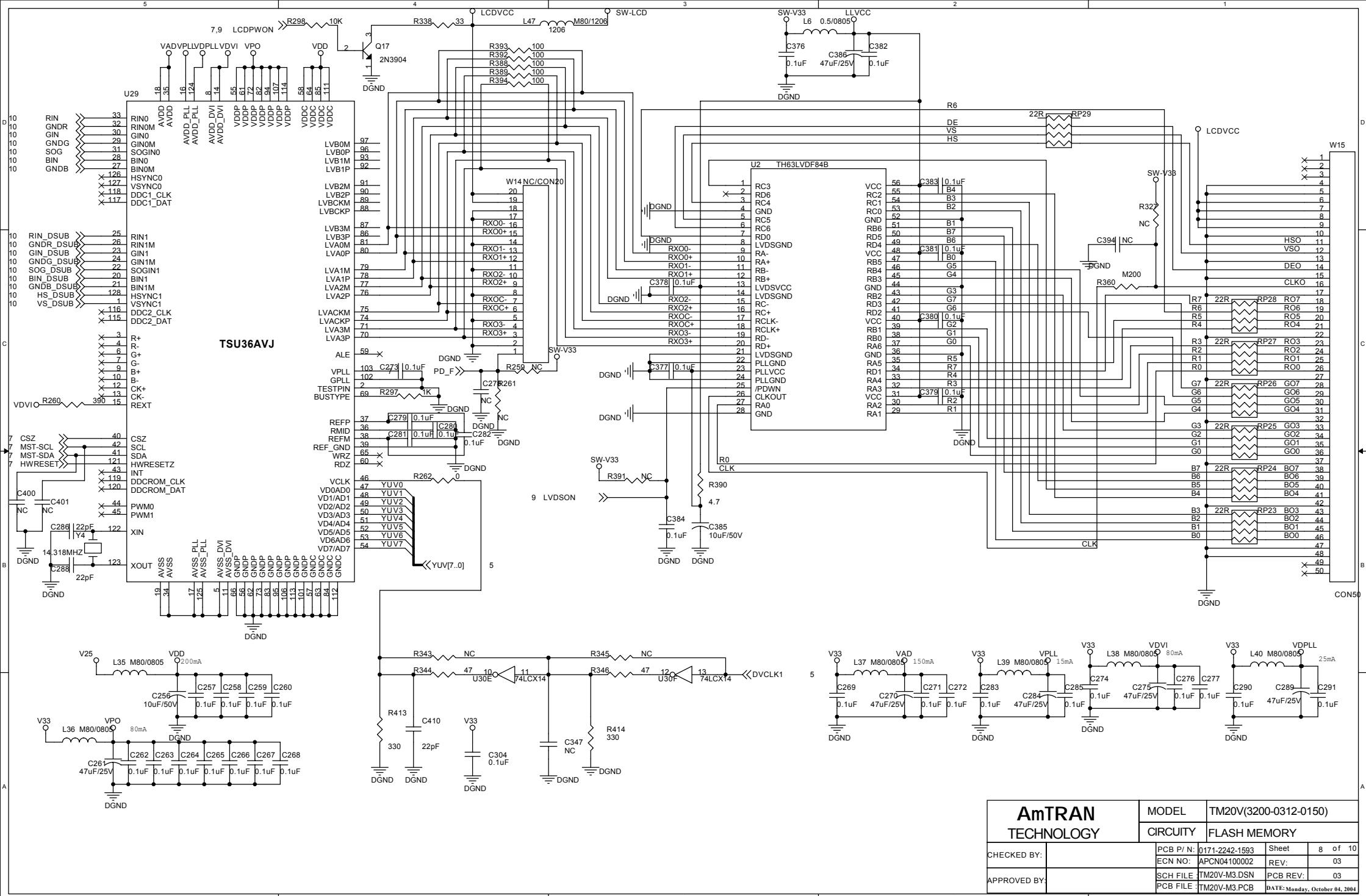
2Mx16 SDRAM

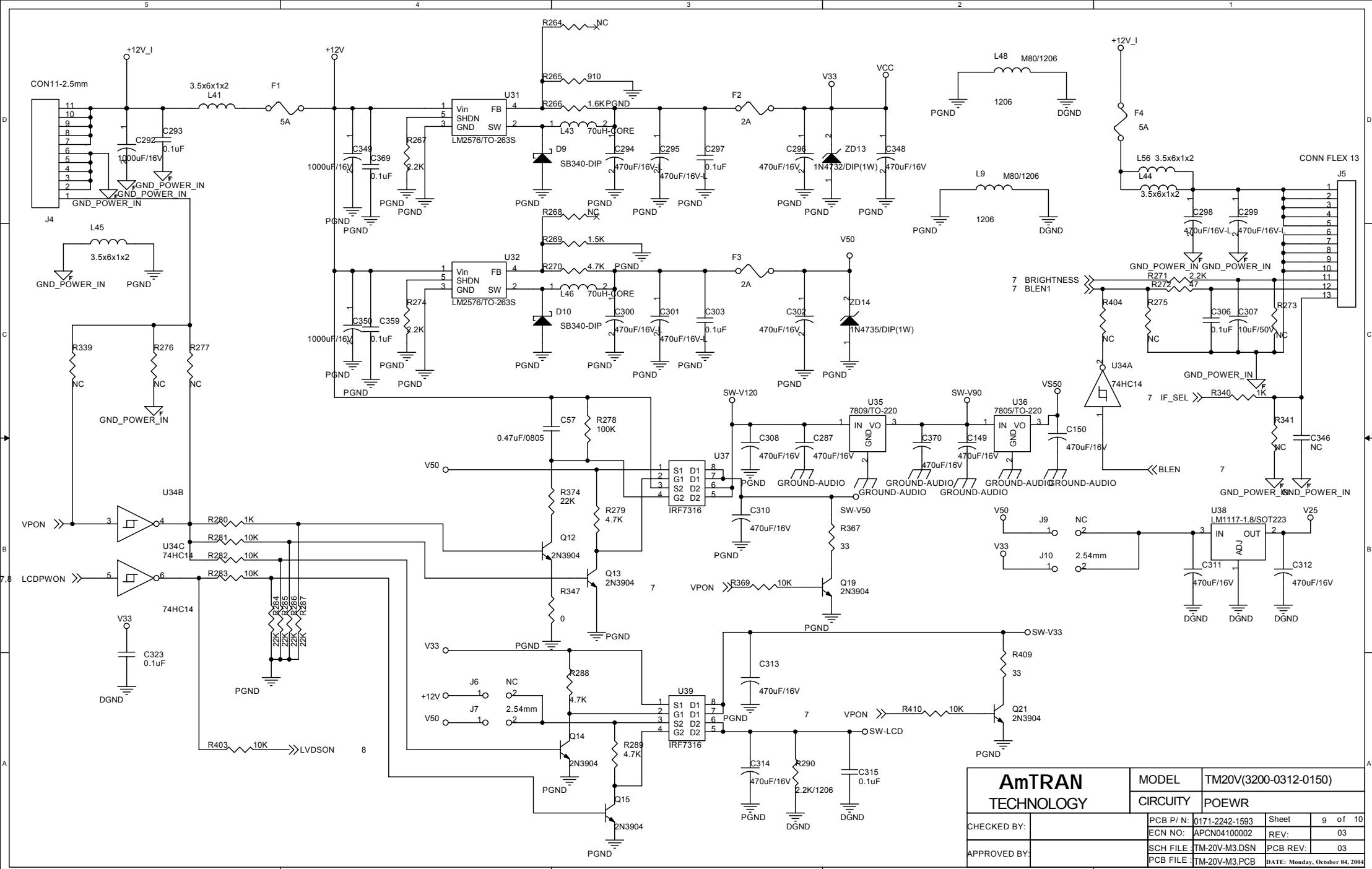


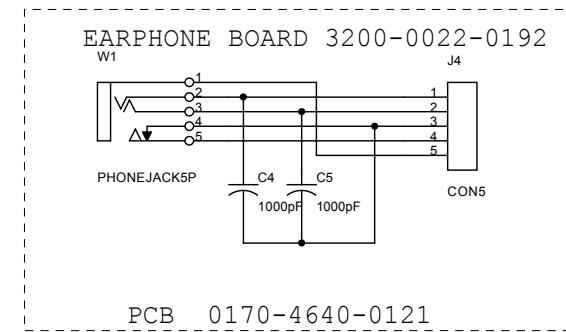
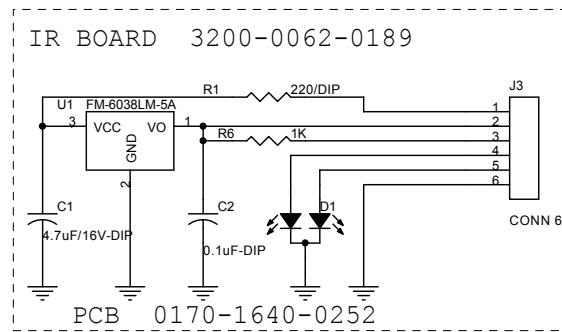
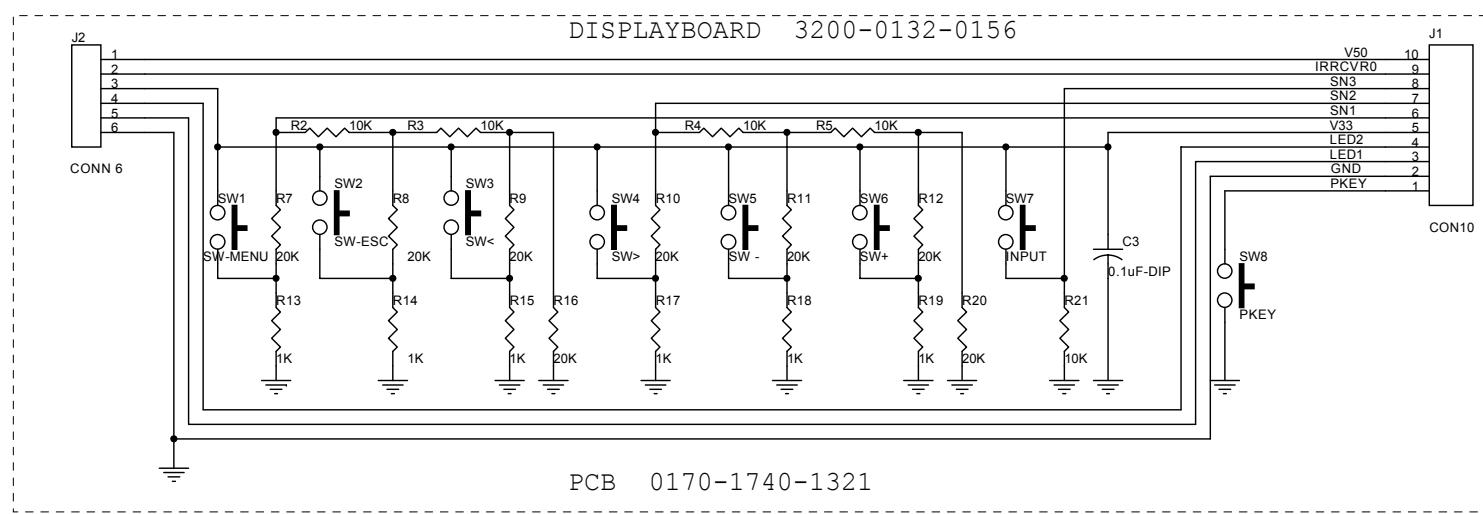
AmTRAN TECHNOLOGY	MODEL	TM20V(3200-0312-0150)	
	CIRCUITY	SDRAM	
CHECKED BY:		PCB P/N: 0171-2242-1593	Sheet 6 of 10
		ECN NO: APCN04100002	REV: 03
APPROVED BY:		SCH FILE: TM20V-M03.DSN	PCB REV: 03
		PCB FILE: TM20V-M03.PCB	DATE: Monday, October 04, 2004



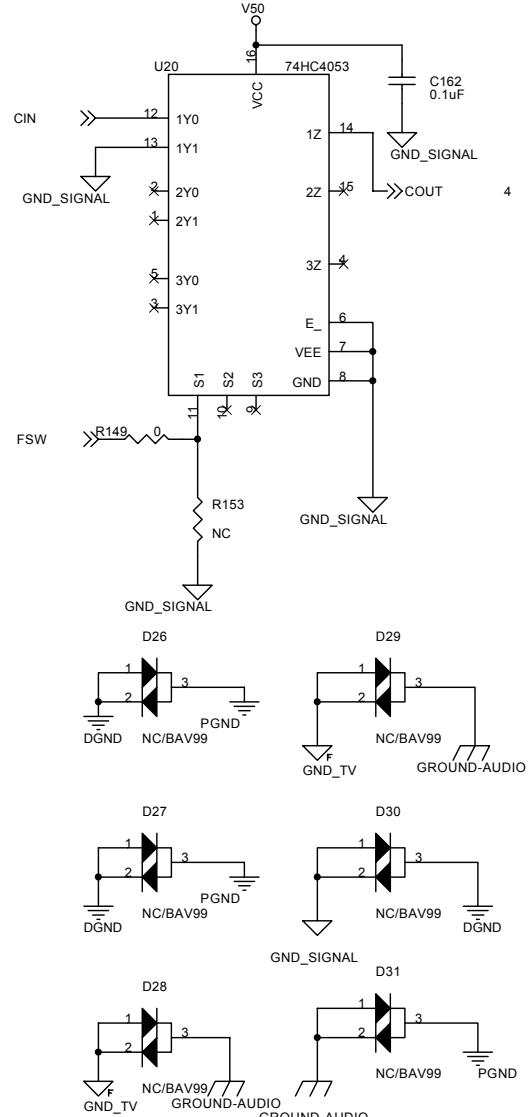
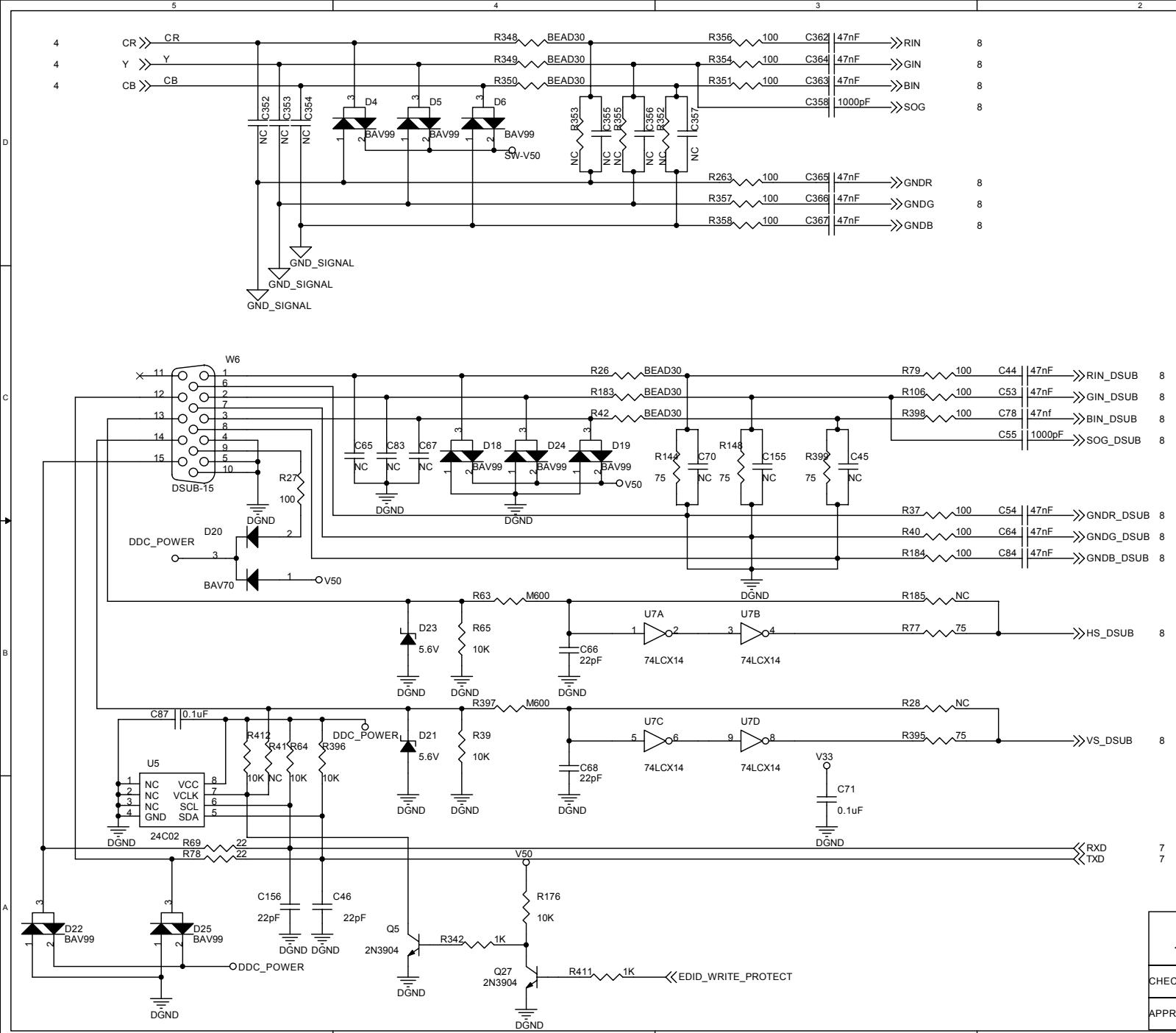
AmTRAN TECHNOLOGY	MODEL	TM20V(3200-0312-0150)		
	CIRCUITY	MTV412		
CHECKED BY:		PCB P/N:	0171-2242-1593	Sheet
		ECN NO:	APCN04100002	7 of 10 REV: 03
APPROVED BY:		SCH FILE:	TM20V-M3.DSN	PCB REV: 03
		PCB FILE:	TM20V-M3.PCB	DATE: Monday, October 04, 2004



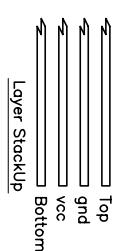
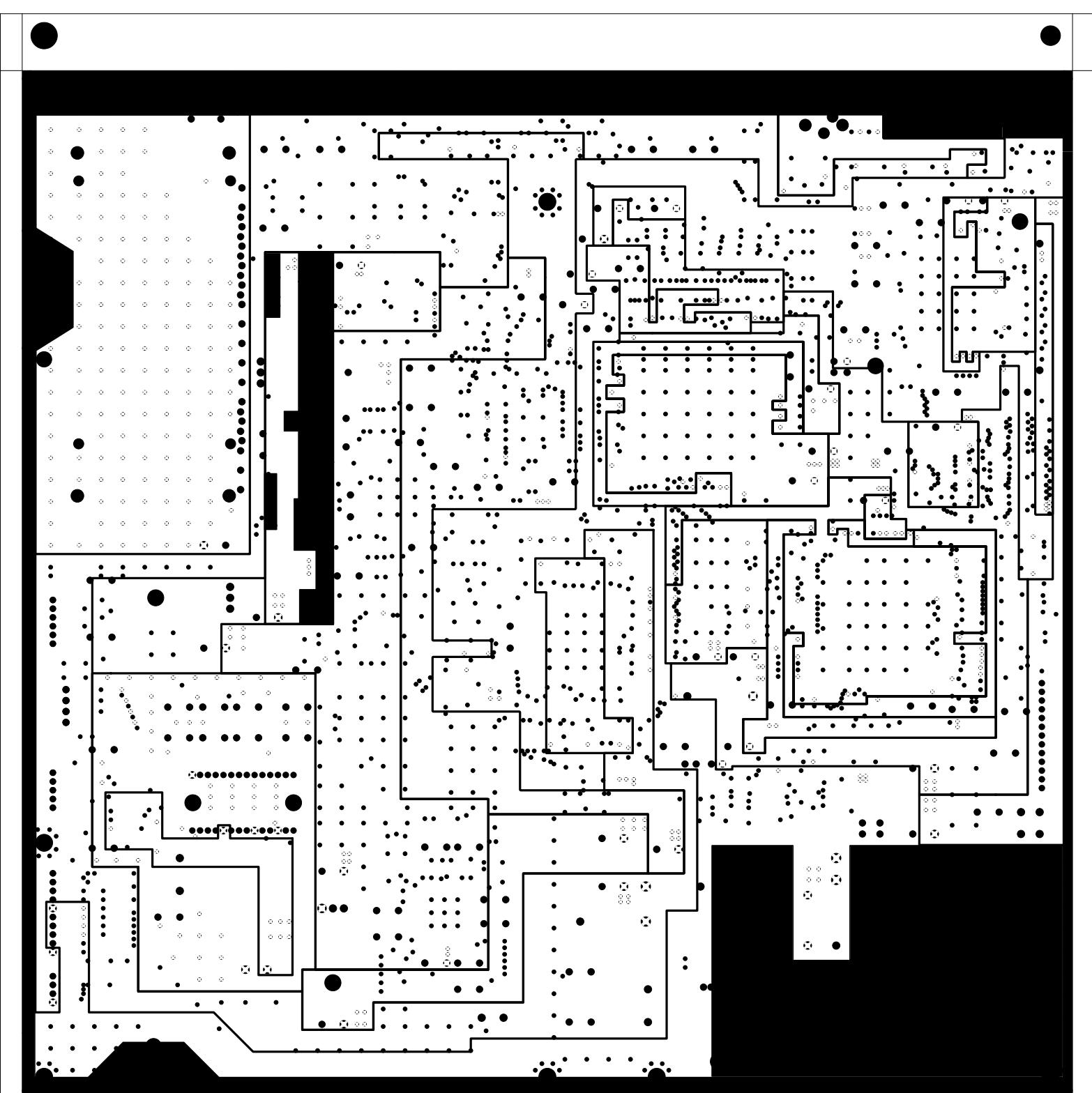


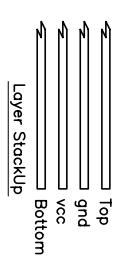
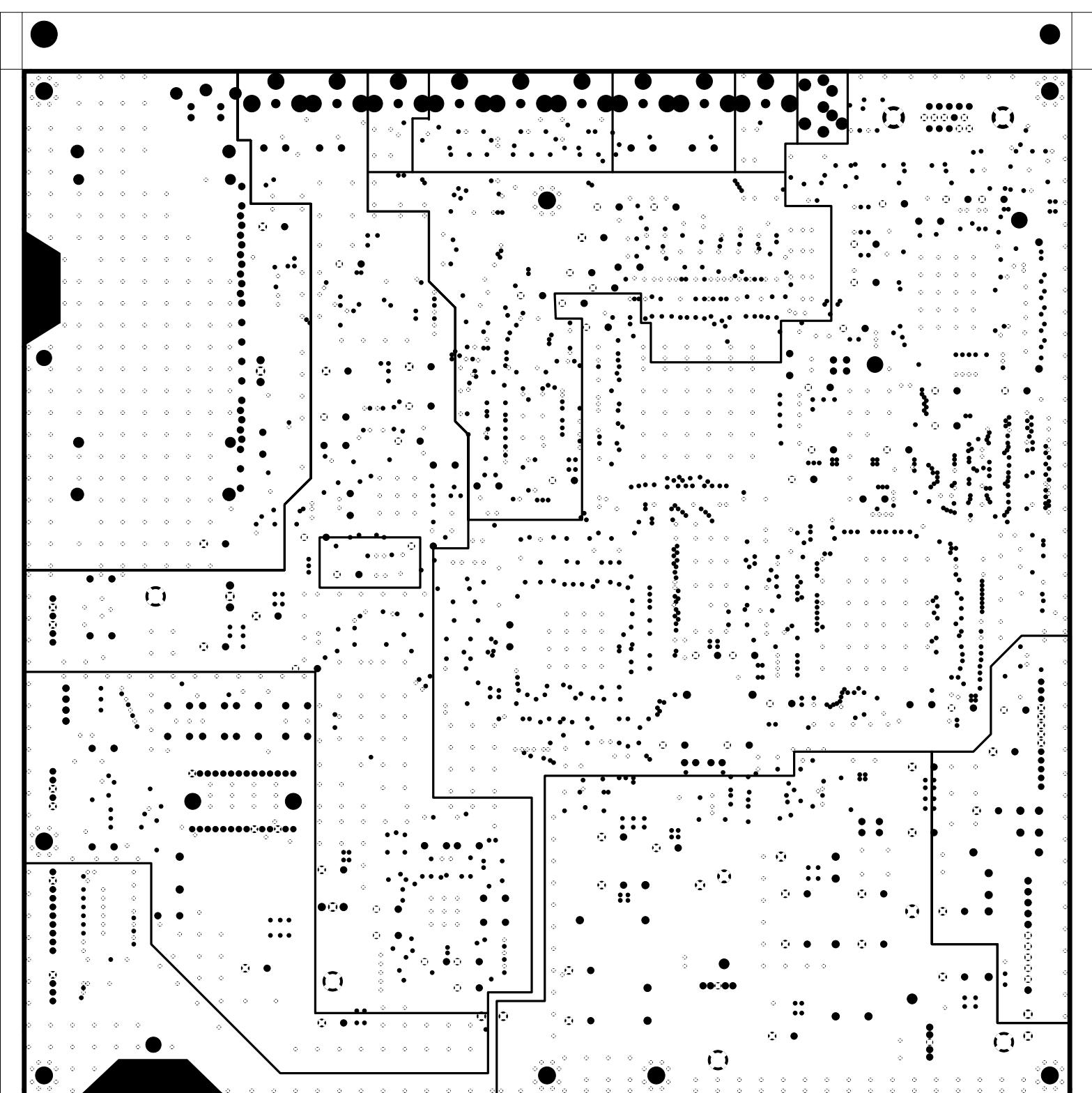


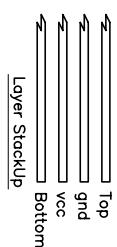
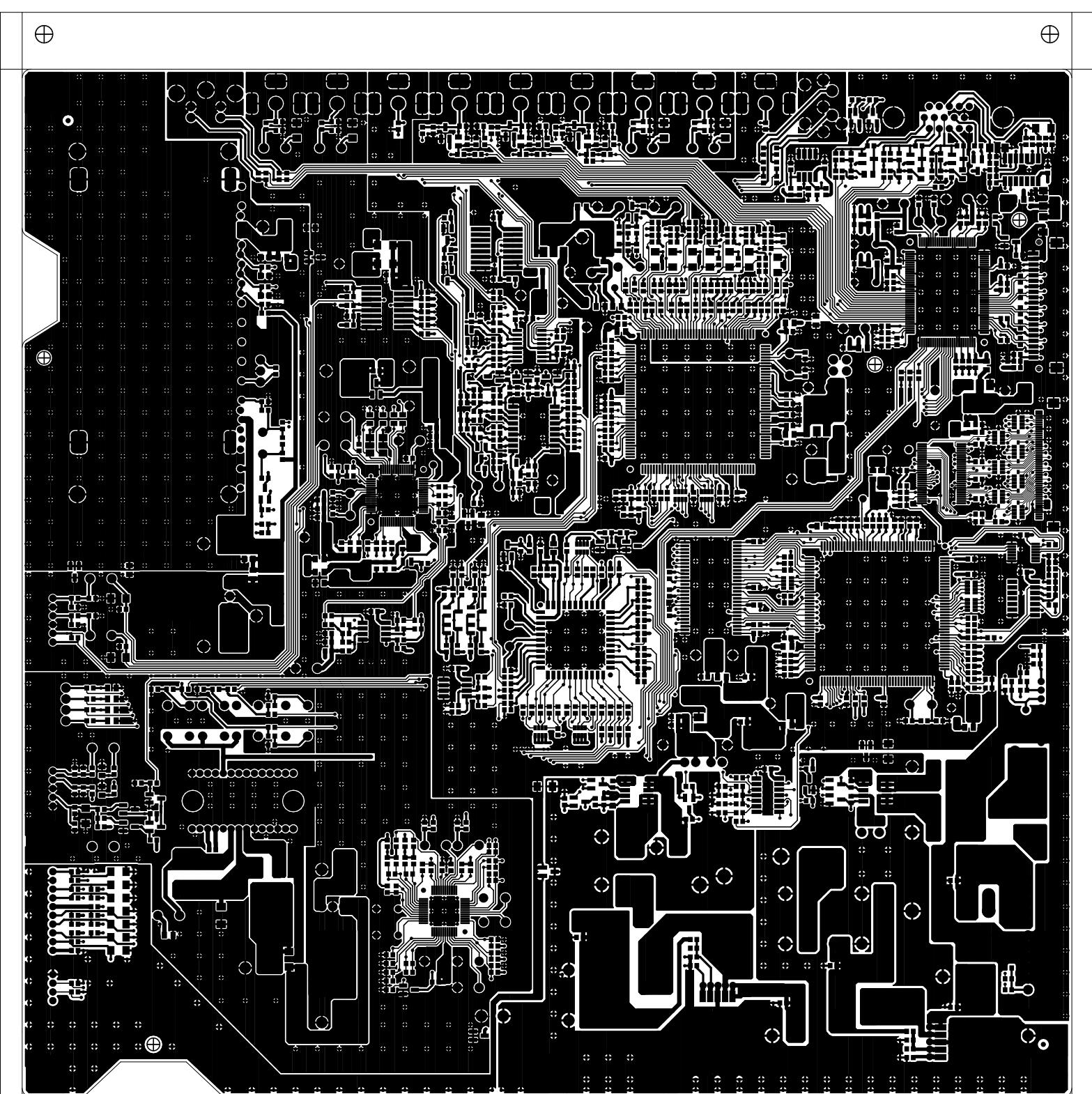
AmTRAN TECHNOLOGY	MODEL	TM20V(3200-0312-0150)		
	CIRCUITY	Display Board & IR Board		
CHECKED BY:		PCB P/N:	0171-2242-1593	Sheet 9 of 10
		ECN NO:	APCN04100002	REV: 03
APPROVED BY:		SCH FILE	TM-20V-M3.DSN	PCB REV: 03
		PCB FILE	TM-20V-M3.PCB	DATE: Monday, October 04, 2004



AmTRAN TECHNOLOGY	MODEL	TM20V(3200-0312-0150)		
	CIRCUITY	YCbCr		
CHECKED BY:	PCB P/N:	0171-2242-1593	Sheet	10 of 10
	ECN NO:	APCN04100002	REV:	03
APPROVED BY:	SCH FILE	TM-20V-M3.DSN	PCB REV:	03
	PCB FILE	TM-20V-M3.PCB	DATE:	Monday, October 04, 2004



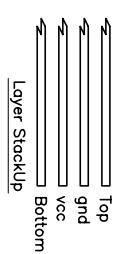
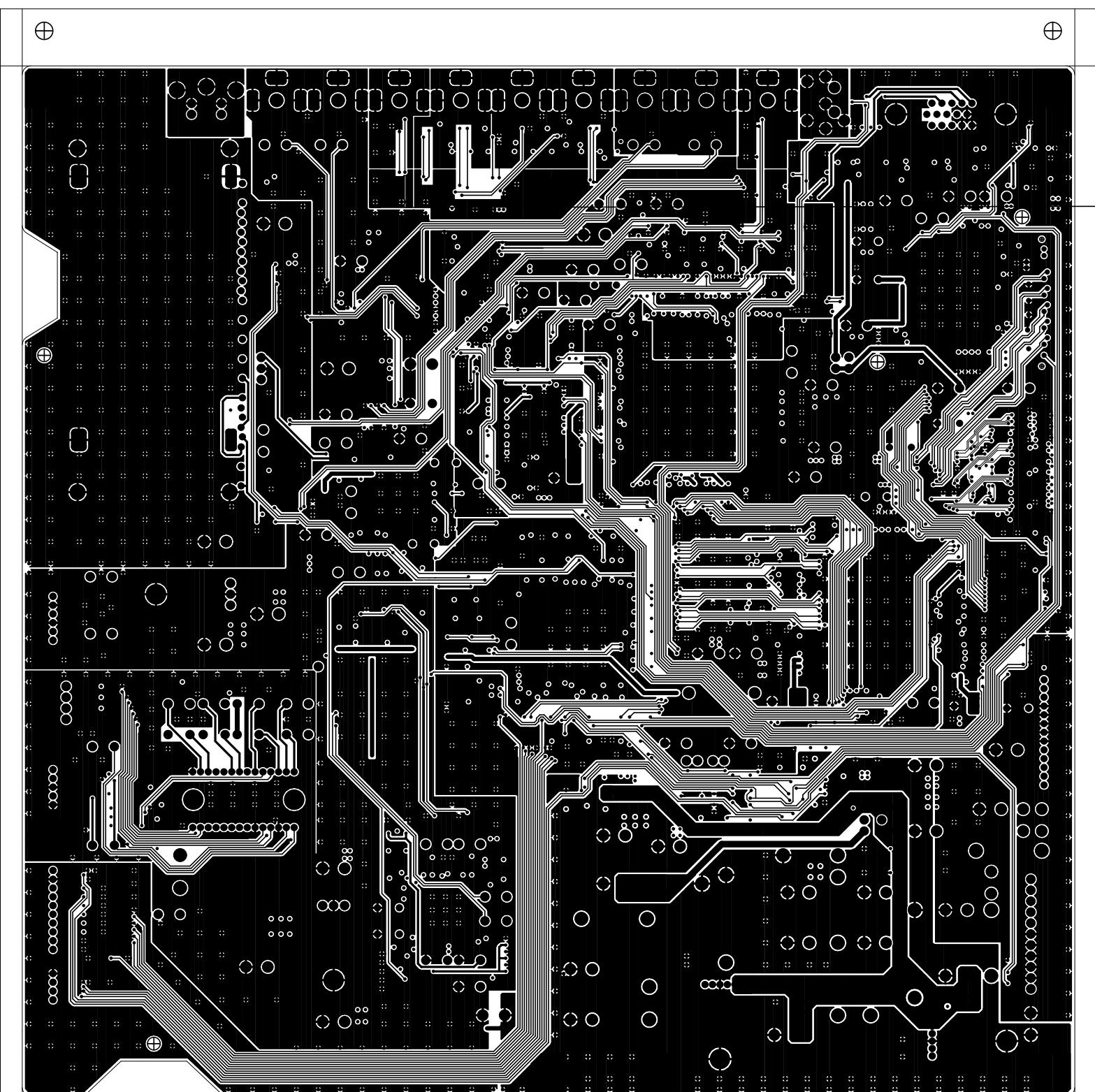




0171-2242-1593

The diagram illustrates a four-layer stack-up for a printed circuit board (PCB). The layers are arranged vertically and labeled from bottom to top as follows:

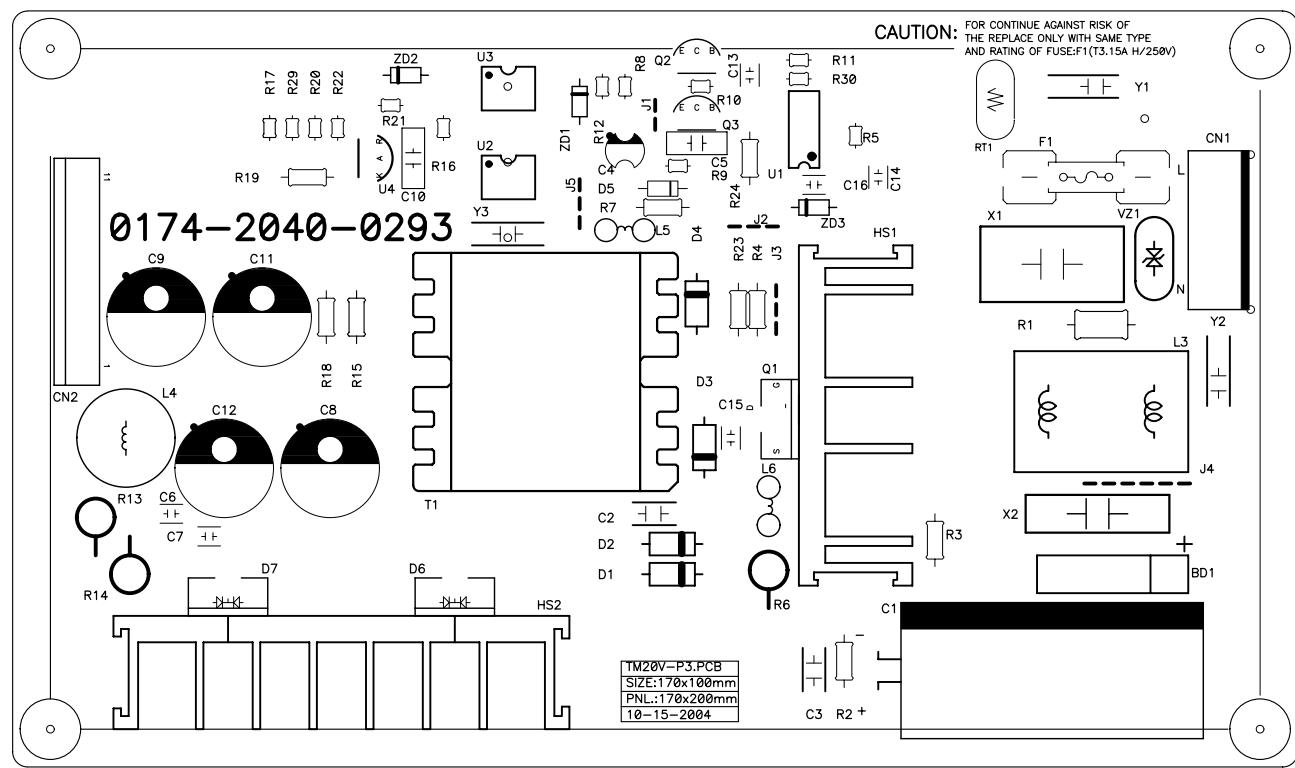
- Bottom**: The base layer.
- VCC**: The second layer, also known as the power plane.
- GND**: The third layer, also known as the ground plane.
- Top**: The topmost layer, used for signal routing.



AmTRAN Co.,Ltd.
0174-2040-0293
TM20V-P3.PCB
K1 1/0Z 1.6T
SIZE: 170x100mm
PNL.: 170x200mm
Q'TY: 5 PNL.
DATE:10-15-'04
REC.:10-22-'04

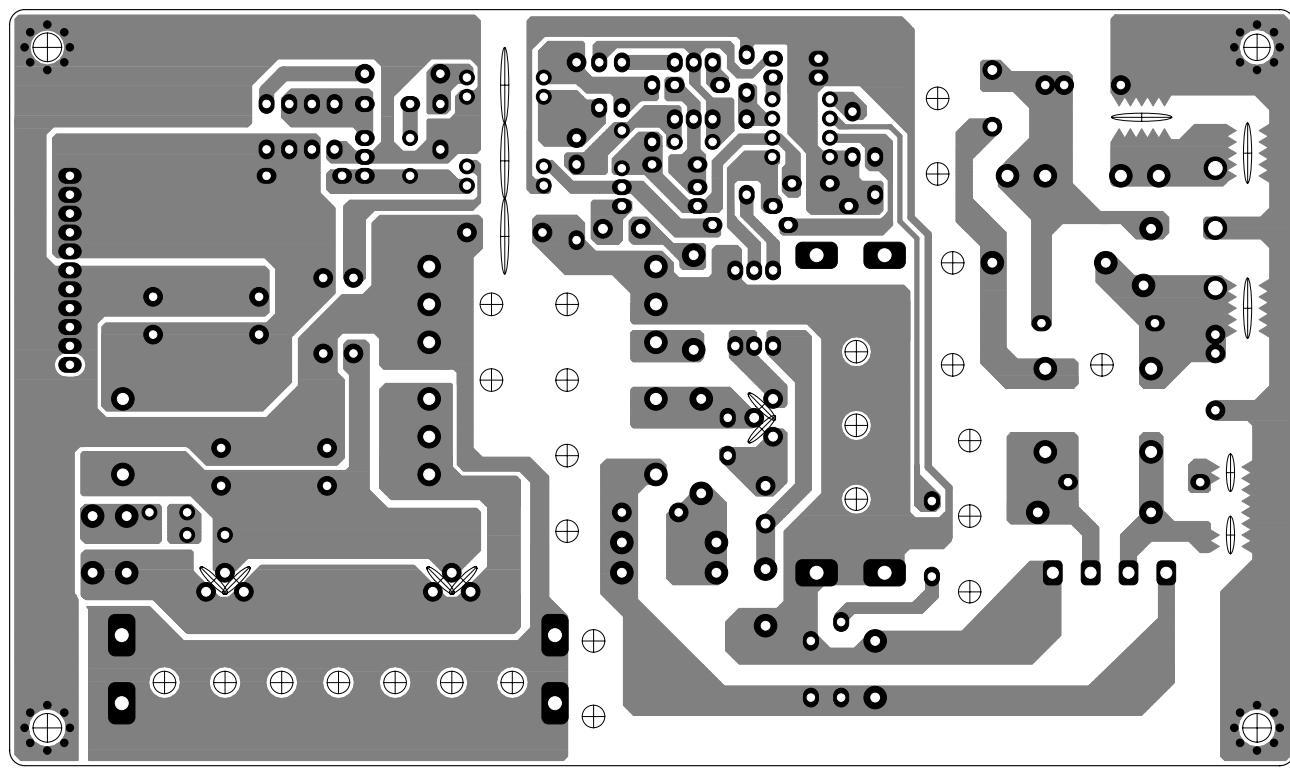
COMP TEXT

CAUTION: FOR CONTINUE AGAINST RISK OF
THE REPLACE ONLY WITH SAME TYPE
AND RATING OF FUSE-F1(T3 15A H/250V)



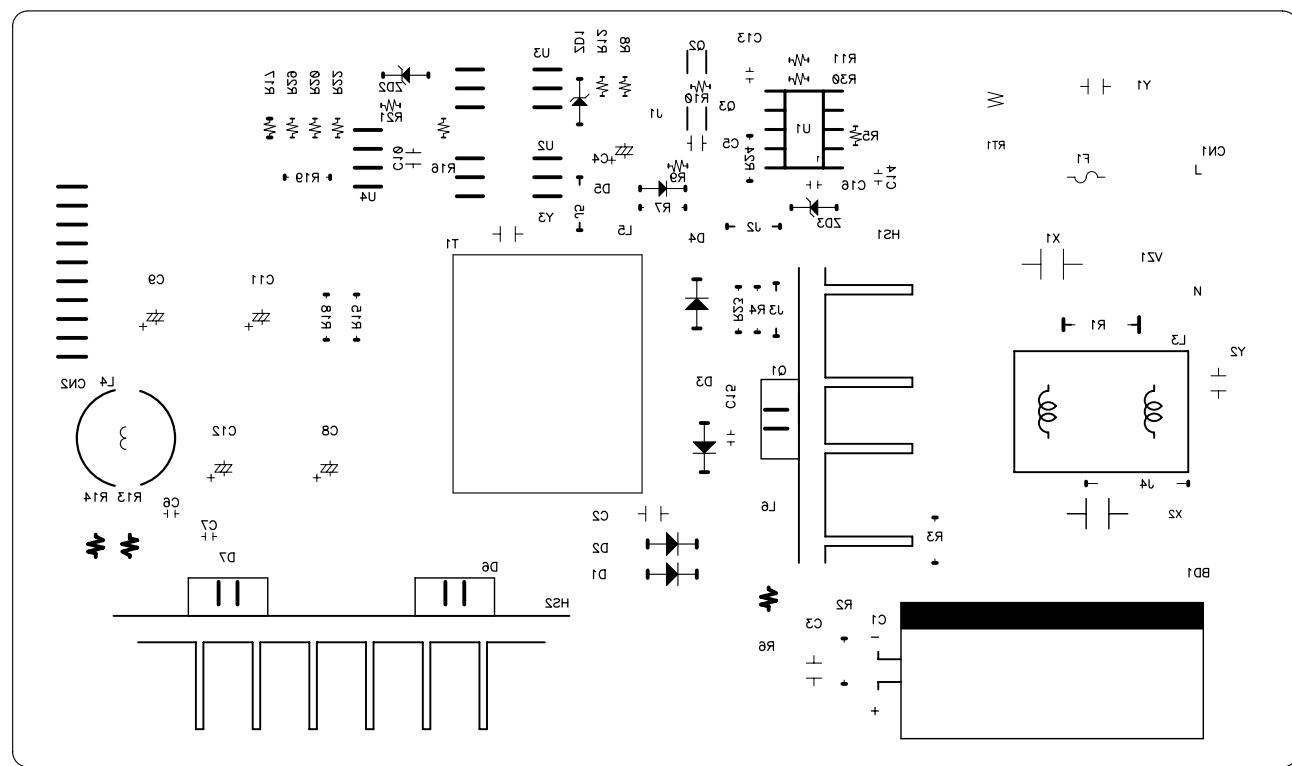
AmTRAN Co.,Ltd.
0174-2040-0293
TM20V-P3.PCB
K1 1/0Z 1.6T
SIZE: 170x100mm
PNL.: 170x200mm
Q'TY: 5 PNL.
DATE:10-15-'04
REC.:10-22-'04

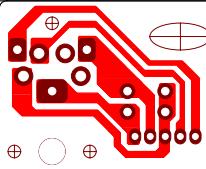
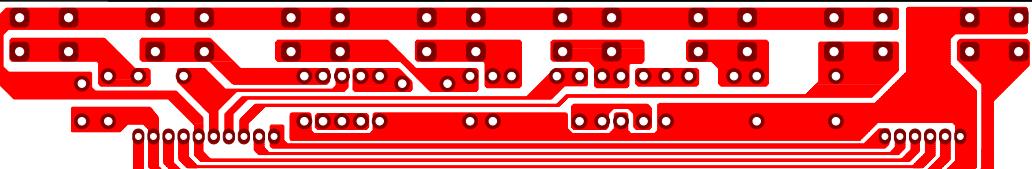
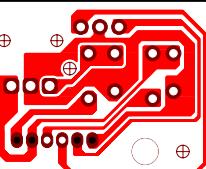
SOLDER TRACE



AmTRAN Co.,Ltd.
0174-2040-0293
TM20V-P3.PCB
K1 1/0Z 1.6T
SIZE: 170x100mm
PNL.: 170x200mm
Q'TY: 5 PNL.
DATE:10-15-'04
REC.:10-22-'04

SOLDER TEXT



AmTRAN Co.,Ltd 0170-4640-0121 0170-1740-1321 0170-1640-0252 V0 1.6T SIZE:201x25mm PNL.:206x255mm Q'TY:*REC.:*			
SOLDER TRACE			
			
	206.0 mm		255.0 mm

AmTRAN Co.,Ltd

0170-4640-0121

0170-1740-1321

0170-1640-0252

V0 1.6T

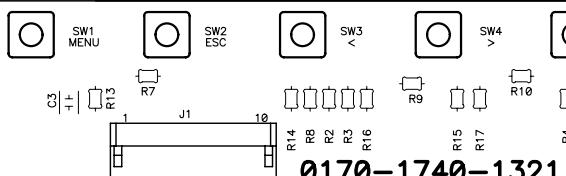
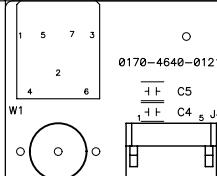
SIZE:201x25mm

PNL.:206x255mm

Q'TY:*

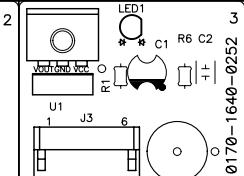
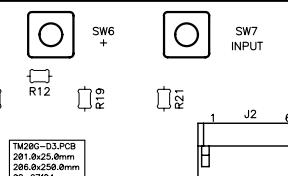
REC.:*

COMP-TEXT



0170-1740-1321

TM206-D3.PCB
201.0x25.0mm
206.0x250.0mm
BB-2794



206.0 mm

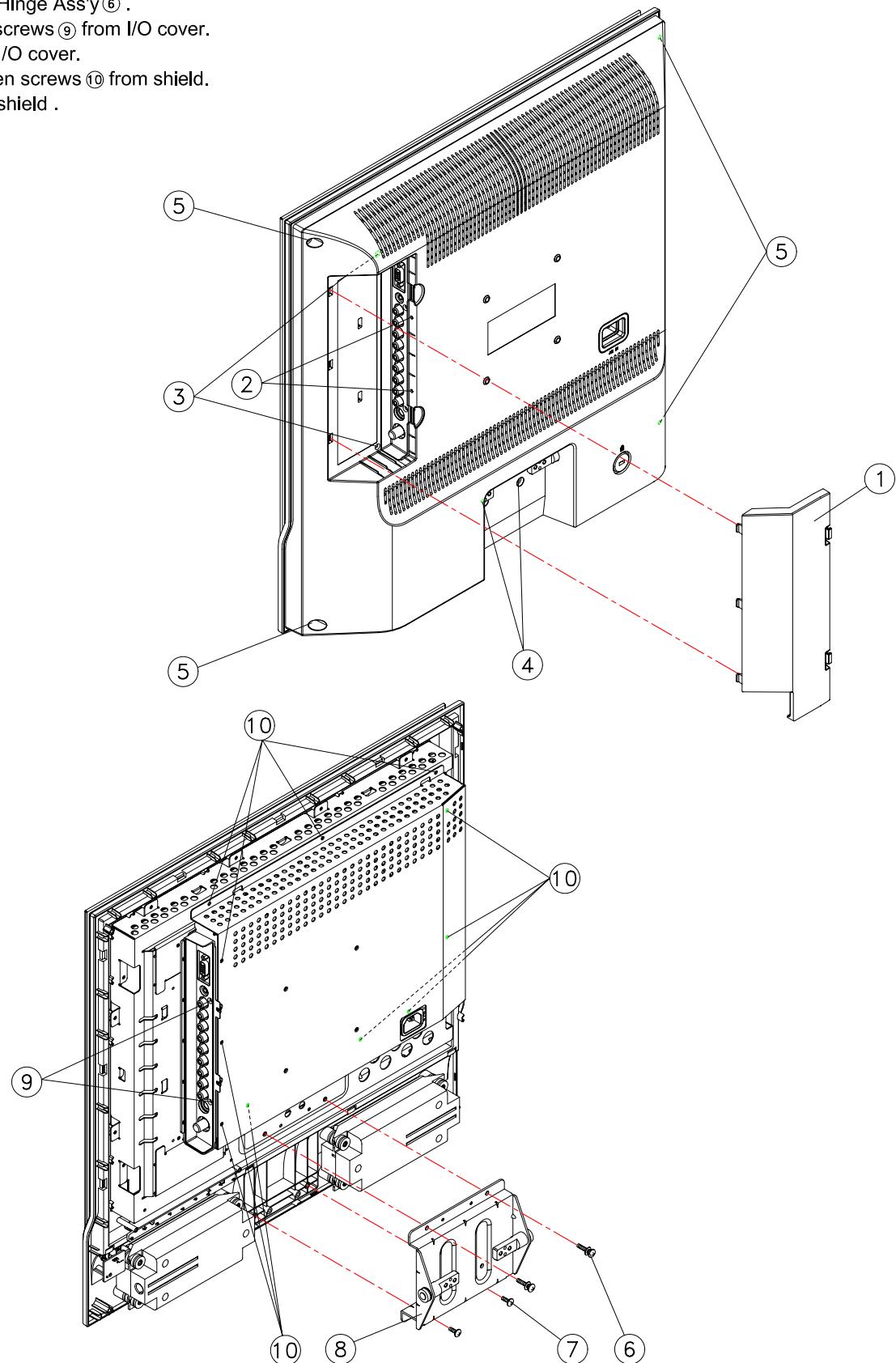
255.0 mm

DISASSEMBLY INSTRUCTIONS

1.REAR COVER ASS'Y REMOVAL

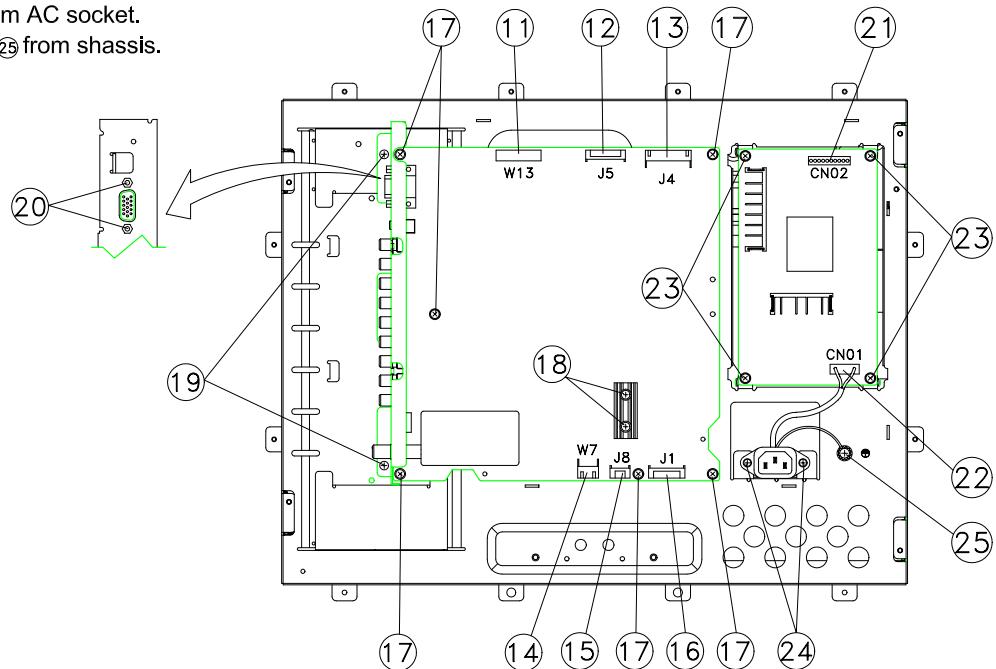
Note: Spread a mat underneath to avoid damaging the LCD TV surface.

- 1) Remove Tuner cover ① from back cover.
- 2) Remove four small screws ② ③ , Two screws ④ and four large screws ⑤ from back cover.
- 3) Separate the back cover.
- 4) Remove two large screws ⑥ and two screws ⑦ from Hinge Ass'y⑧ .
- 5) Separate the Hinge Ass'y ⑥ .
- 6) Remove two screws ⑨ from I/O cover.
- 7) Separate the I/O cover.
- 8) Remove eleven screws ⑩ from shield.
- 9) Separate the shield .



2. MAIN BD / POWER BD ASS'Y REMOVAL

- 1) Remove the connector ⑪ (W13) of the FFC cable.
- 2) Remove the connector ⑫ (J5) of the inverter cable.
- 3) Remove the connector ⑬ (J4) of the Power BD cable.
- 4) Remove the connector ⑭ (W7) of the speaker cable.
- 5) Remove the connector ⑮ (J8) of the earphone cable.
- 6) Remove the connector ⑯ (J1) of the keypad cable.
- 7) Remove six screws ⑰ from Main BD.
- 8) Remove two screws ⑱ from heat sink.
- 9) Remove two screws ⑲ and two hexagon screws ⑳ from I/O bracket .
- 10) Separate the MAIN BD and the I/O bracket.
- 11) Remove the connector ㉑(CN02) of the Power BD cable.
- 12) Remove the connector ㉒(CN01) of the AC socket cable.
- 13) Remove four screws ㉓ form Power BD.
- 14) Separate the Power BD.
- 15) Remove two screws ㉔ from AC socket.
- 16) Remove one large screw ㉕ from shassis.
- 16) Separate the AC socket .



3. INVERTER DC-AC ASS'Y REMOVAL

- 1) Remove two screws ㉖ from chassis.
- 2) Separate the inverter top bracket ㉗ and the inverter bottom bracket ㉘.
- 3) Remove the connector ㉙ (CN2) ㉚ (CN4) ㉛ (CN3) of the lamp cable.
- 4) Remove the connector ㉜ (CN6) ㉝ (CN7) ㉞ (CN5) of the lamp cable.
- 5) Remove four screws ㉟ from chassis.
- 6) Separate the chassis.
- 7) Remove the connector ㉟ (CN1) of the inverter cable.
- 8) Remove four screws ㉟ from inverter DC-AC .
- 9) Separate the inverter DC-AC .

