TUNER SCHEMATIC

41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

A B C D E F G H I J K L

TUN701 TT7600

AGC FM AS SCL SDA +5V +5V NC +3.3V NC NC FN-SW AUDIO SIF GND VIDEO FN-IF +5-IF NC NC

R704 0R ALT · C701 1 · C722 1 · R701 220R · R702 220R · R703 1K · C724 82P ALT · C725 82P ALT · C702 33P ALT · C703 33P ALT · L701 10uH · R730 0R ALT · C704 22N · C705 470 16V · L702 10uH · C706 100N · C707 1 · R707 6.8K · R710 180 · C709 22N · C710 100U/16V · L703 10uH · C708 330P · R739 0 ALT · Q701 BT3 4 · R711 47R · R705 2.7K · R708 1.5K · R709 91 ALT · R712 · R706 0 ALT · Q703 BT3904 · R732 6.8K ALT · R734 330 · L708 15uH · R735 1.5K · R736 47R ALT · R737 1K · R738 · L707 10uH · C726 100N · R731 1K · R733 · Q704 BT3 · +5V · +3.3V · +6.5V · AUDIO · SIF · VIDEO · ASCL_SYS · ASDA_SYS

J701 TO BH101 AV BOARD: +6.5V, CVBS, AUDIO, SIF, ASDA_SYS, ASCL_SYS, GND

ZH101 TT7601

RF_AGC BC +5V VT SDA SCL +5V IFOUT NC IFAGC IF IF2

CH101 100P · LH103 220R · LH102 10uH · +5VR · CH104 100P · CH103 100N · CH102 470U 10V · YH101 · RH103 100R · RH101 100R · CH105 100P ALT · CH109 470 ALT · CH110 479 ALT · CH111 479 ALT · CH112 479 ALT · RH110 4.7K · RH111 4.7K · +5VR +5VR · +3.3VR · RH109 10K · TH10 · UPA673 · YH102 · CH113 ALT · TUNER_SCL TUNER_SDA · LH104 220R · RH105 100R · IF_AFC · RH106 2R2 · RH107 2R2 · C1105 100N · C1106 100N · RH152 470R ALT · CH116 100P · CH117 1 · CH114 ALT · CH115 10P

R102 · Q101 25M/14.2 · C101 27P 2% · C102 27P 2% · R101 100K ALT

+1.8_LINK · LI101 2200R · LI102 2200R · LI103 2200R · LI104 2200R · C1103 100N · C1104 100P · C1107 10U 6.3V · C1108 10N · C1109 100N · C1112 4.7U 6.3V · C1113 · C1114 100N ALT · C1115 100N · C1116 100P

II101 ATI312

VDD_3P3_1 DGND_1 VDD_1P0_1 DGND_2 VDD_1P8_1 OSC_XTAL_OUT OSC_XTAL_IN AGND_1 AVDD_OSC FAT_INP FAT_INN AVDD_FAT_1 AGND_2 FAT_VREF_P AVDD_FAT_2 AGND_3 FAT_VREF_N FDC_INP FDC_INN AVDD_FDC_1 AGND_4 FDC_VREF_P AVDD_FDC_2 AGND_5 FDC_VREF_N DGND_3 AVDD_FS_1 AVDD_FS_2 AGND_6 AGND_7 FS_OUTP FS_OUTN VDD_1P8_2 DGND_4 VDD_1P0_2 DGND_5 VDD_3P3_2 VDD_3P3_3 PDD_CRX PDD_DRX MPEG_DATA_0 MPEG_DATA_1 VDD_3P3_4 VDD_1P8_3 VDD_1P0_3 DGND_6 MPEG_DATA_2 MPEG_DATA_3 DGND_7 MPEG_DATA_4 MPEG_CLK VDD_1P0_4 DGND_8 MPEG_DATA_5 VDD_3P3_5 VDD_1P8_4 MPEG_DATA_6 DGND_9 MPEG_DATA_7/SER_DATA DGND_10 VDD_1P0_5 DGND_11 MPEG_DATA_EN VDD_3P3_6

NC2 NC3 NC AVDD_PLL AGND_B DGND_23 VDD_1P0_11 DGND_22 VDD_3P3_13 IF_AGC FDC_AGC AUX_AGC VDD_1P8_9 VDD_3P3_14 RF_AGC DGND_21 VDD_1P0_10 PDET_REF_OUT VREF DGND_20 DGND_19 VDD_1P0_9 VDD_1P8_8 VDD_3P3_11 GPIO_0 GPIO_1 VDD_3P3_10 DGND_18 GPIO_2/PDET_EN GPIO_3 DGND_17 DGND_16 I2C_ADDR1 I2C_ADDR0 GPIO_4 VDD_1P0_8 VDD_1P8_7 VDD_3P3_9 GPIO_5 GPIO_6 GPIO_7 GPIO_8 DGND_15 DGND_14 GPIO_9 GPIO_10 TDO VDD_1P0_7 VDD_1P8_6 VDD_3P3_8 TCK TMS TRST DGND_13 DGND_12 TDI POWER_RESET# I2C_DATA VDD_1P0_6 VDD_1P8_5 VDD_3P3_7 I2C_SCL MPEG_PKT_SYNC MPEG_ERR

+1.8_LINK · LI108 2200R · +3.3V_LINK · +3.3VR · +1.8VR · +1.0V_LINK · +1.0VR

RH130 33R · RH128 33R · RH127 3.3K · RH129 3.3K · LI107 1000R · C1122 A 10N · C1123 100P · R134 1K · C1121 100N · R131 1K · C119 100P · RH132 K · C1147 10N · C1146 10N · C1145 10N · C1144 10N · C1143 10N · C1142 · C1141 4.7U 6.3V · C1140 4.7U 6.3V · C1139 100P · TUNER_SDA TUNER_SCL

RH135 33R · KI101 PAD · R125 10K ALT · R123 10K · R126 · R124 0 ALT · R121 4.7K · RH122 33R · LINK_INT# · LI106 1000R · C1161 10N · C1160 10N · C1159 10N · C1158 10N · C1157 10N · C1156 10N · C1155 · C1154 4.7U 6.3V · C1153 4.7U 6.3V · C1152 100P

LINK_TDO · R111 10K · R162 10K · R151 10K · R150 10K · R151 10K · TCK · TMS · TRST · TDI · LINK_TDI · RH118 · RH117 33R · RH116 · RH115 33R · 100R · LINK_RESET# · SDA_SYS · SCL_SYS · LINK_SYNC · C1174 33P ALT · C1175 33P ALT · C1176 33P ALT · C1177 33P ALT · LI105 200R/2500mA

C1133 10N · C1132 10N · C1131 10N · C1130 10N · C1129 10N · C1128 100P · C1127 4.7U 6.3V · C1126 4.7U 6.3V · CP139 4.7U 6.3V · CP140 4.7U 6.3V · CP141 4.7U 6.3V · C1125 4.7U 6.3V · C1124 100P

LINK_CLK · C1171 33P ALT · LINK_DATA · RH113 33R · C1172 A 33P ALT · RH114 33R · LINK_VALID · C1173 33P ALT · RH112 33R · C1162 A 10N · C1163 10N · C1164 10N · C1165 10N · C1166 10N · C1167 10N · C1134 A 10N · C1135 10N · C1136 10N · C1137 10N · C1138 10N

R1146 51R · R1148 100R · R1147 1K · C1169 1U/16V · DI101 LED · TI102 · R1149 · BC847 2.2K · TI101 · BC847 · R1145 33K · CI170 100N

+3.3VR · RP147 1R/2W · LP115 200R 2500mA · CP136 10U 6.3V · RP139 0R ALT · IP109 NCP555SDT1RG · IN · OUT · NC · ADJ · ON · OFF · YP110 · RP143 1.1K 1% · RP144 10K 1% · CP137 10P · RP145 1R · RP146 1R · CP138 10U 6.3V · CP135 100U 16V · +1.0VR

C713 22N · L705 1mH · D701 1N4148 · D702 33V DIODE · R713 10K · R714 150 · R715 · R716 10K · C715 4.7N · Q702 BT3 4 · C714 10N/50V · C717 180P · C718 1UF/16V · R717 22 · L706 10uH · +3.3V · +6.5V

+5V · U703 1117-5 · C719 100U/16V · C720 220N/16V · C721 100U/16V · +6.5V

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

PRODUCT SAFETY NOTE

COMPONENTS WITH ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

TO BM404 QAM BOARD

BI101 · LINK_RESET# · LINK_INT# · SDA_SYS · SCL_SYS · LINK_VALID · LINK_SYNC · LINK_DATA · LINK_CLK · RI152 · RI153 · RI154 2K · RI155 · RI156 · LI112 240R · LI113 240R · LI114 240R · LI115 240R

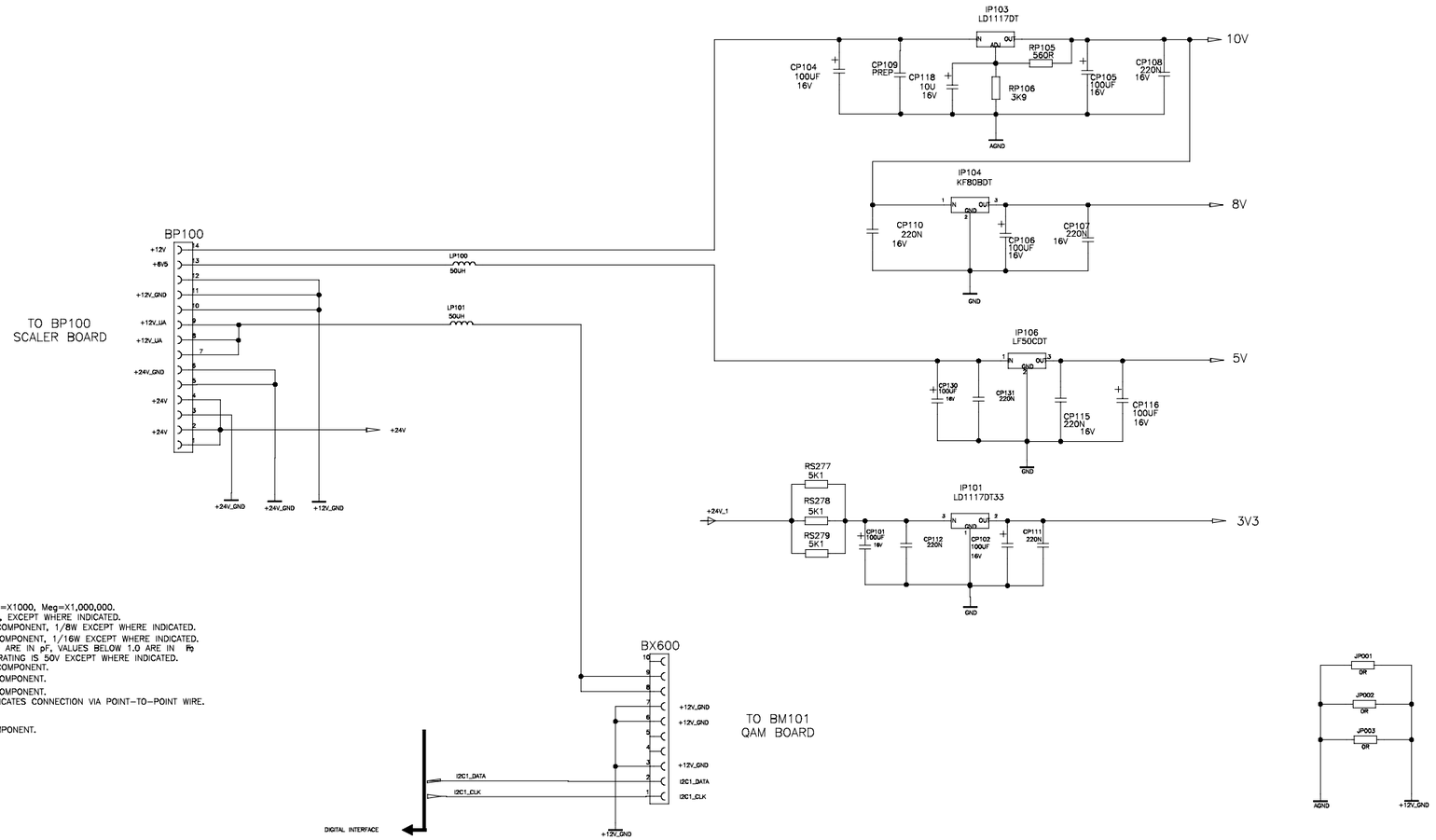
TO BP101 QAM BOARD

BI102 · TUNPWR · LI109 200R 2000mA · LI110 1000R 500mA · LI111 1000R 500mA · CH120 100P · CH121 100N · CH122 100P · CH123 100N · CH118 100P · CH119 100N

8-30-2005 TD

Page 9-3

AV BOARD – VOLTAGE REGULATOR SCHEMATIC (1 of 5)



SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN µF EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊕ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   ⌒ –INDICATES JUMPER WIRE.
   ⊶⊷ –INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

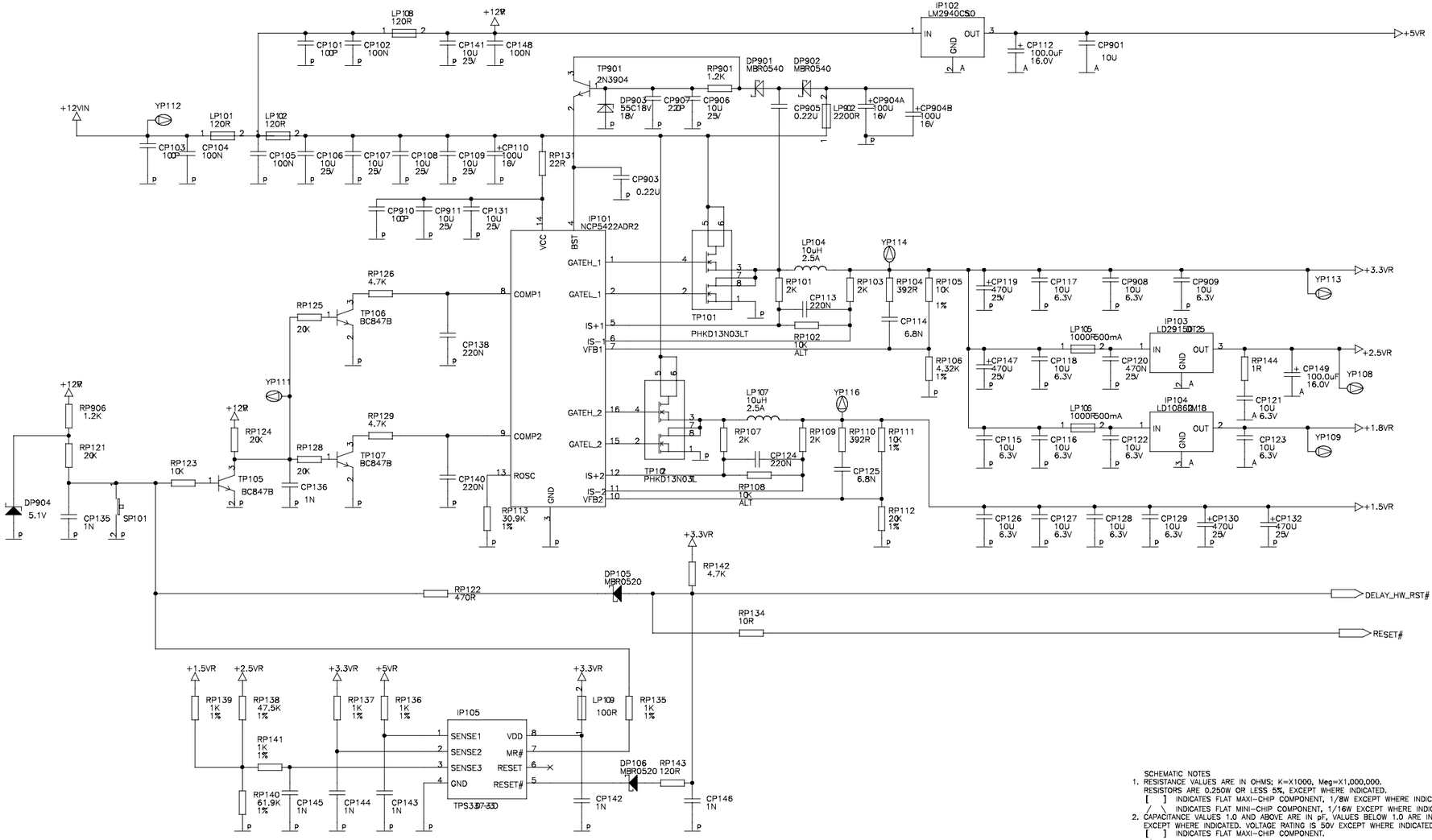
PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

1-17-2006 TD

Page 9–10

DIGITAL & ANALOG QAM BOARD – POWER RESET SCHEMATIC (1 of 6)



SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fo
   EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ↓ DENOTES CHASSIS GROUND. ⊙ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   ⌒ –INDICATES JUMPER WIRE.
   ⊶ –INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

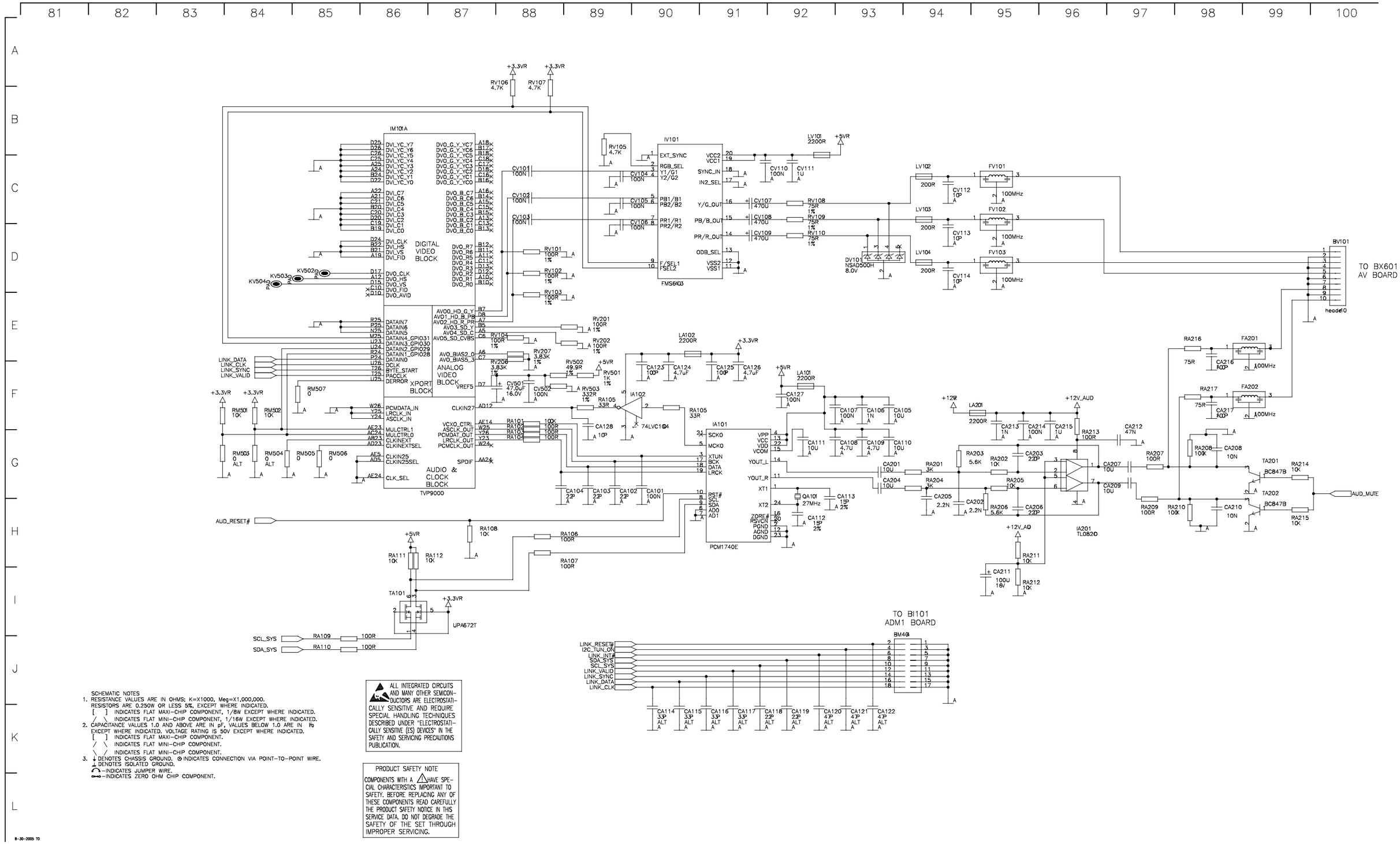
PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

8-30-2005 TD

Page 9–4

DIGITAL & ANALOG QAM BOARD – AUDIO/VIDEO SCHEATIC (2 of 6)



SCHEMATIC NOTES
1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fo
   EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊙ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⏚ DENOTES ISOLATED GROUND.
   —INDICATES JUMPER WIRE.
   —INDICATES ZERO OHM CHIP COMPONENT.

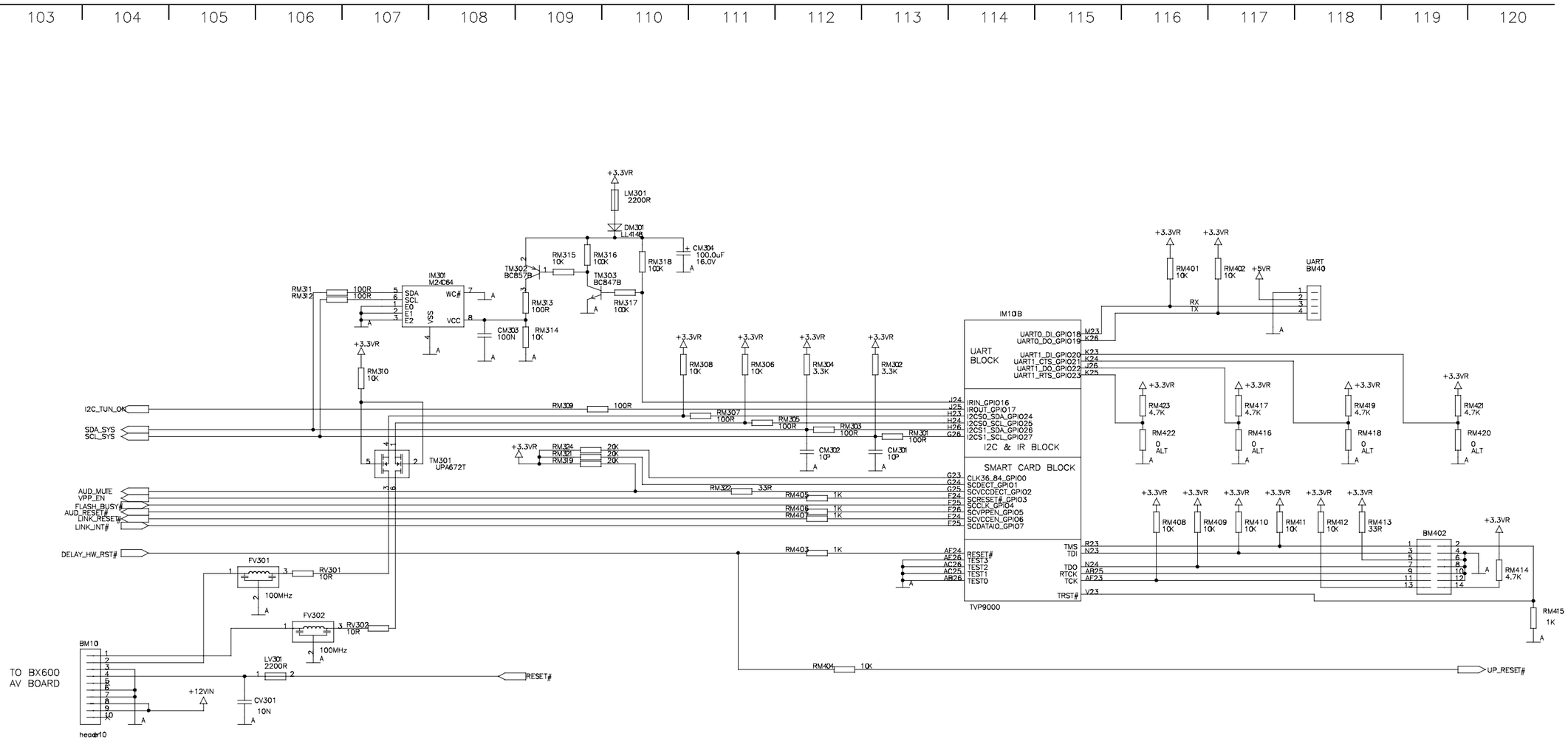
ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

PRODUCT SAFETY NOTE
COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

8-30-2005 TO

Page 9–5

DIGITAL & ANALOG QAM BOARD – EMBEDDED SCHEMTIC (3 of 6)



SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN µF EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊙ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   ⌒ –INDICATES JUMPER WIRE.
   ⊶⊷ –INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

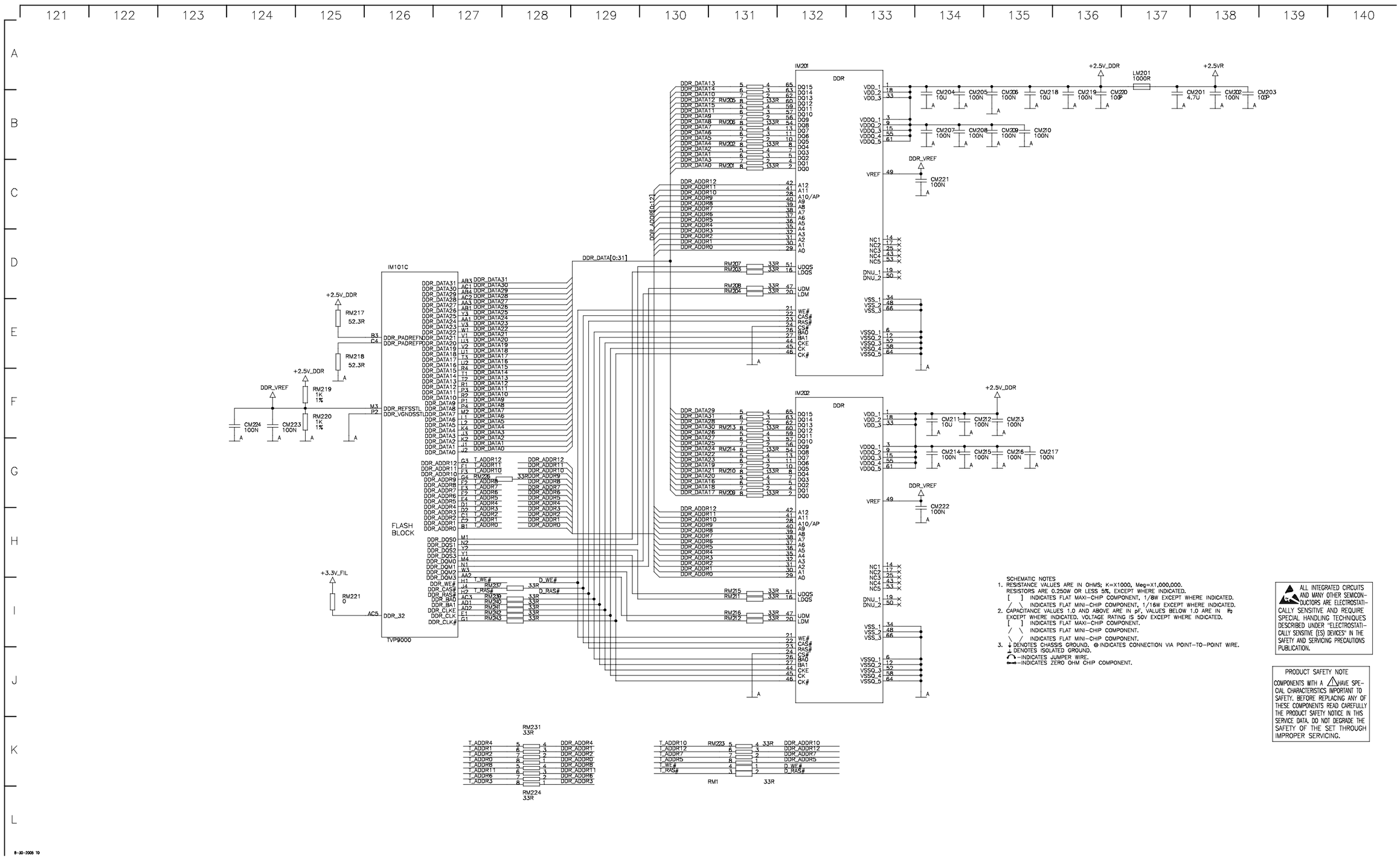
PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

8-30-2005 TO

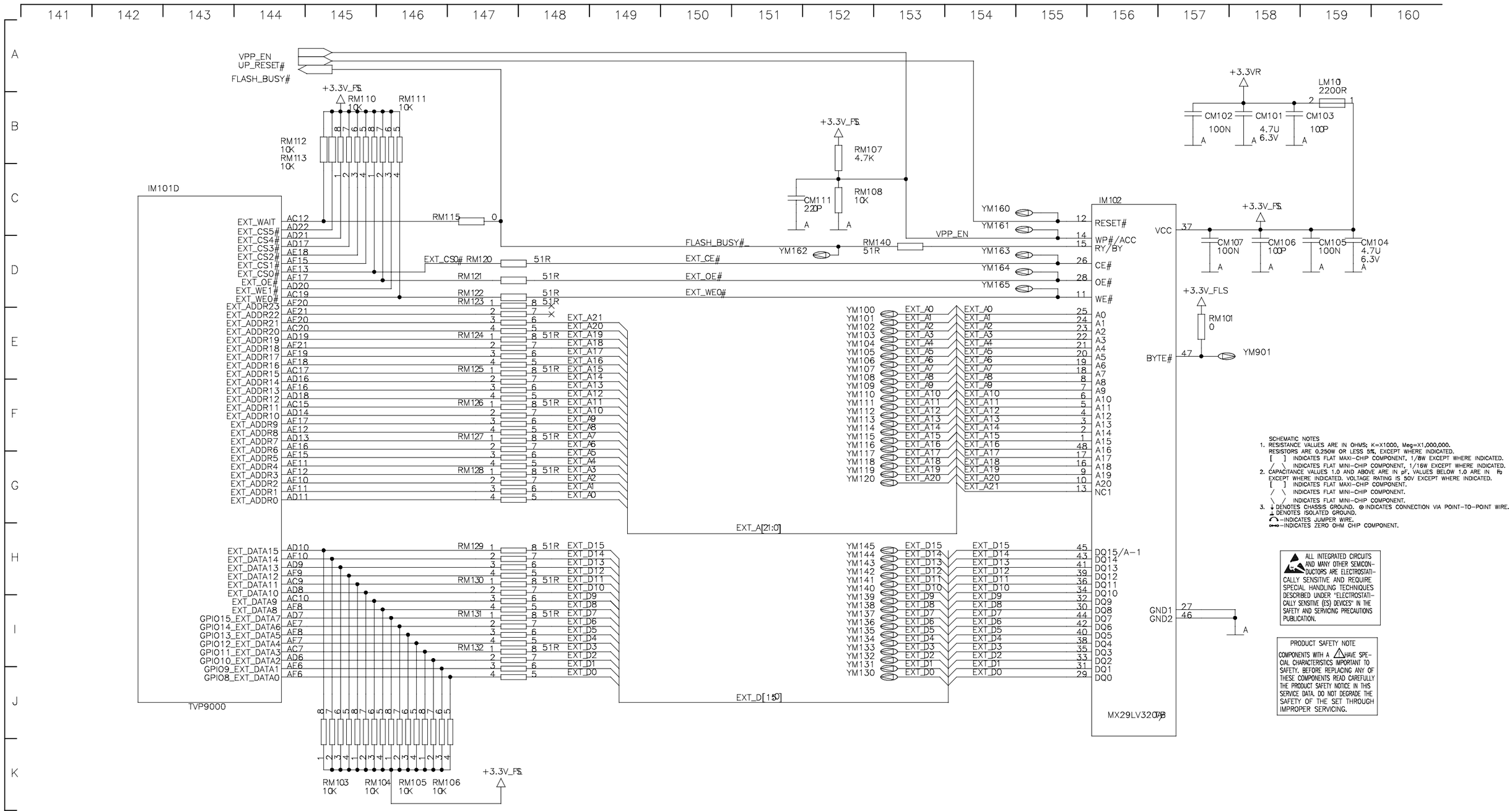
Page 9–6

DIGITAL & ANAOLG QAM BOARD – DDR SCHEMATIC (4 OF 6)



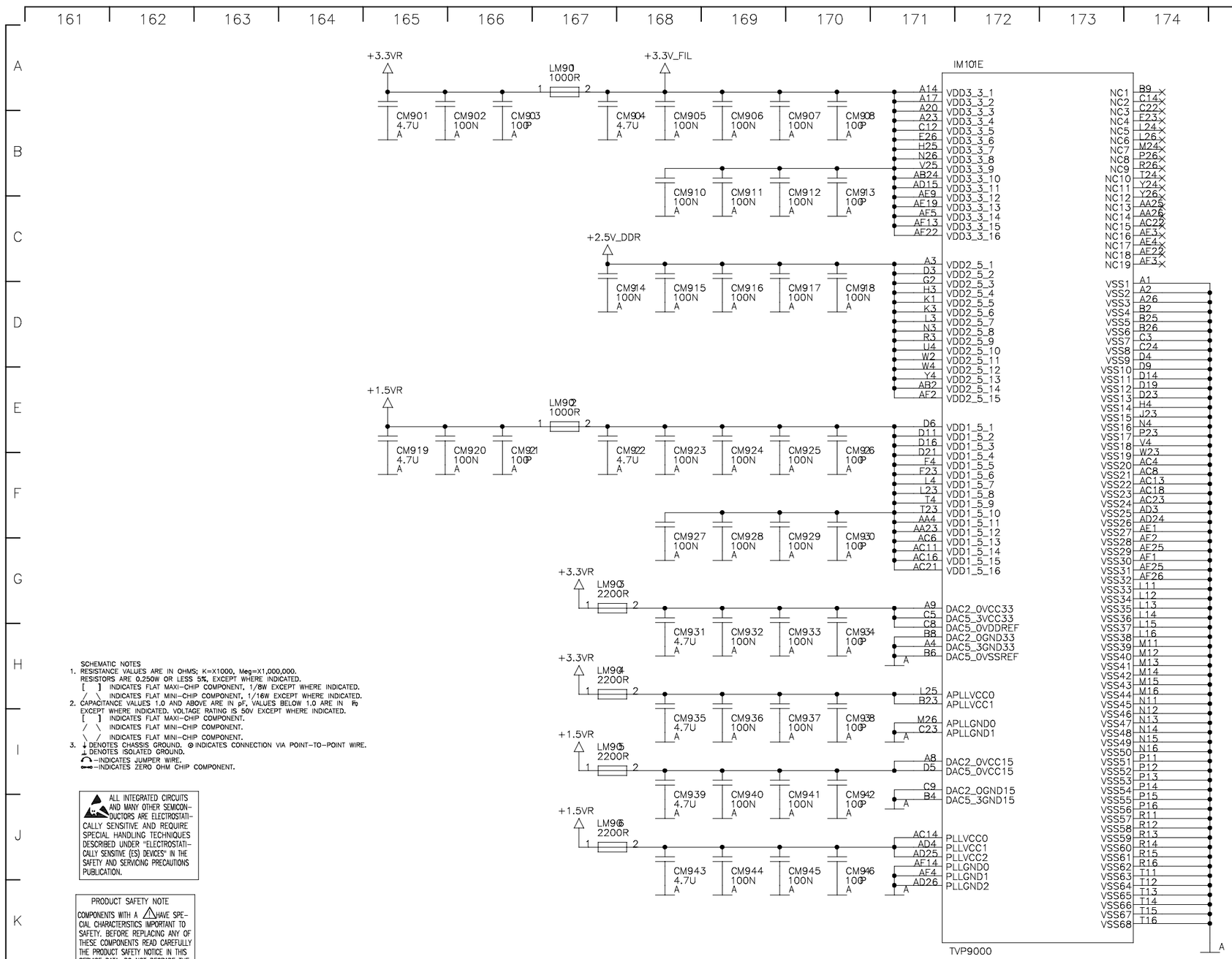
Page 9–7

DIGITAL & ANALOG QAM BOARD – FLASH SCHEMATIC (5 OF 6)



Page 9–8

DIGITAL & ANALOG QAM BOARD – POWER GROUND SCHEMATIC (6 OF 6)



SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fp
   EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊗ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⏚ DENOTES ISOLATED GROUND.
   ⌒ —INDICATES JUMPER WIRE.
   —0— INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

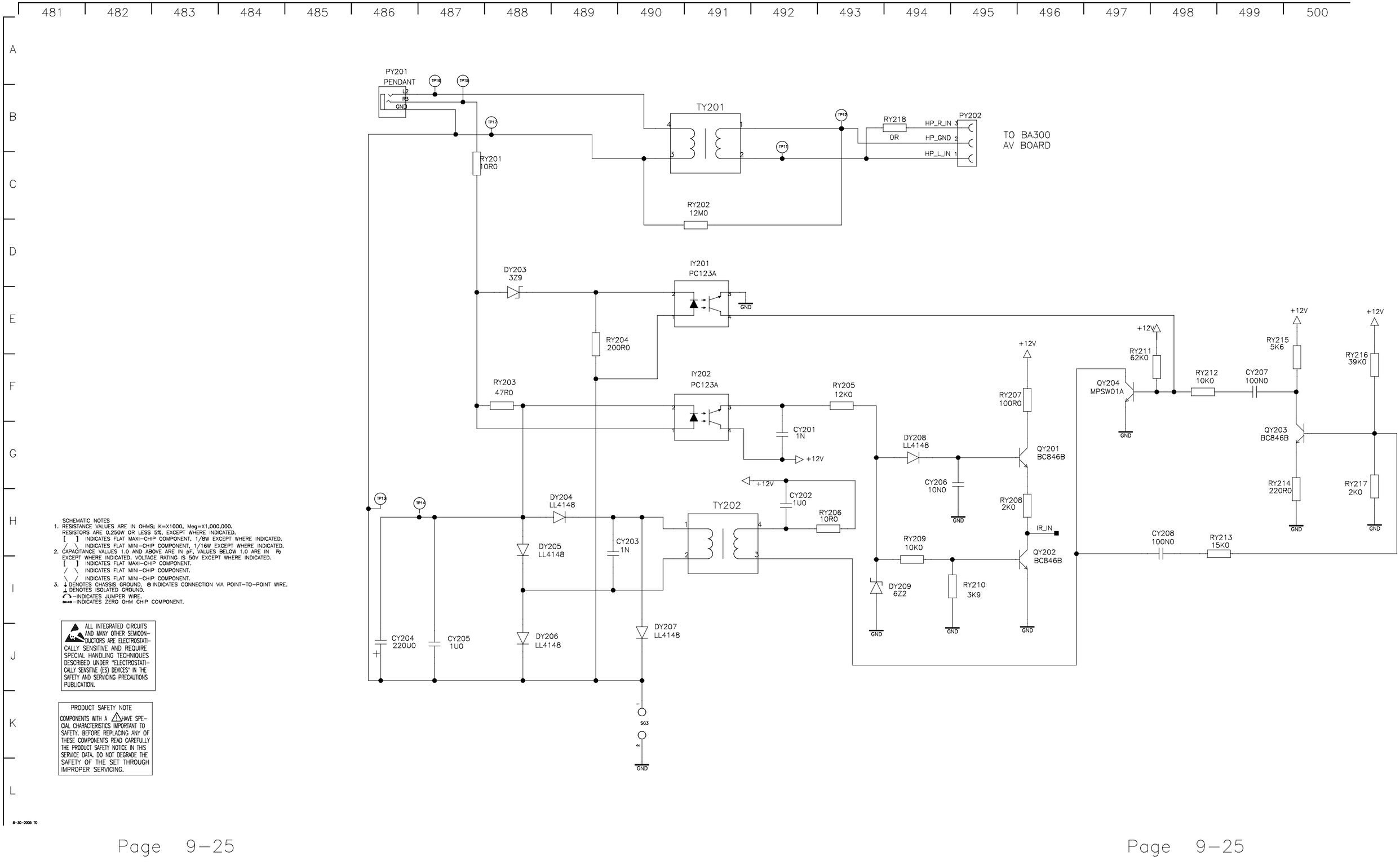
PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

8-30-2005 TO

Page 9–9

DSCI BOARD – DSCI SCHEMATIC (1 OF 2)



SCHEMATIC NOTES
1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN µF
   EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊗ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⏚ DENOTES ISOLATED GROUND.
   –INDICATES JUMPER WIRE.
   –INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

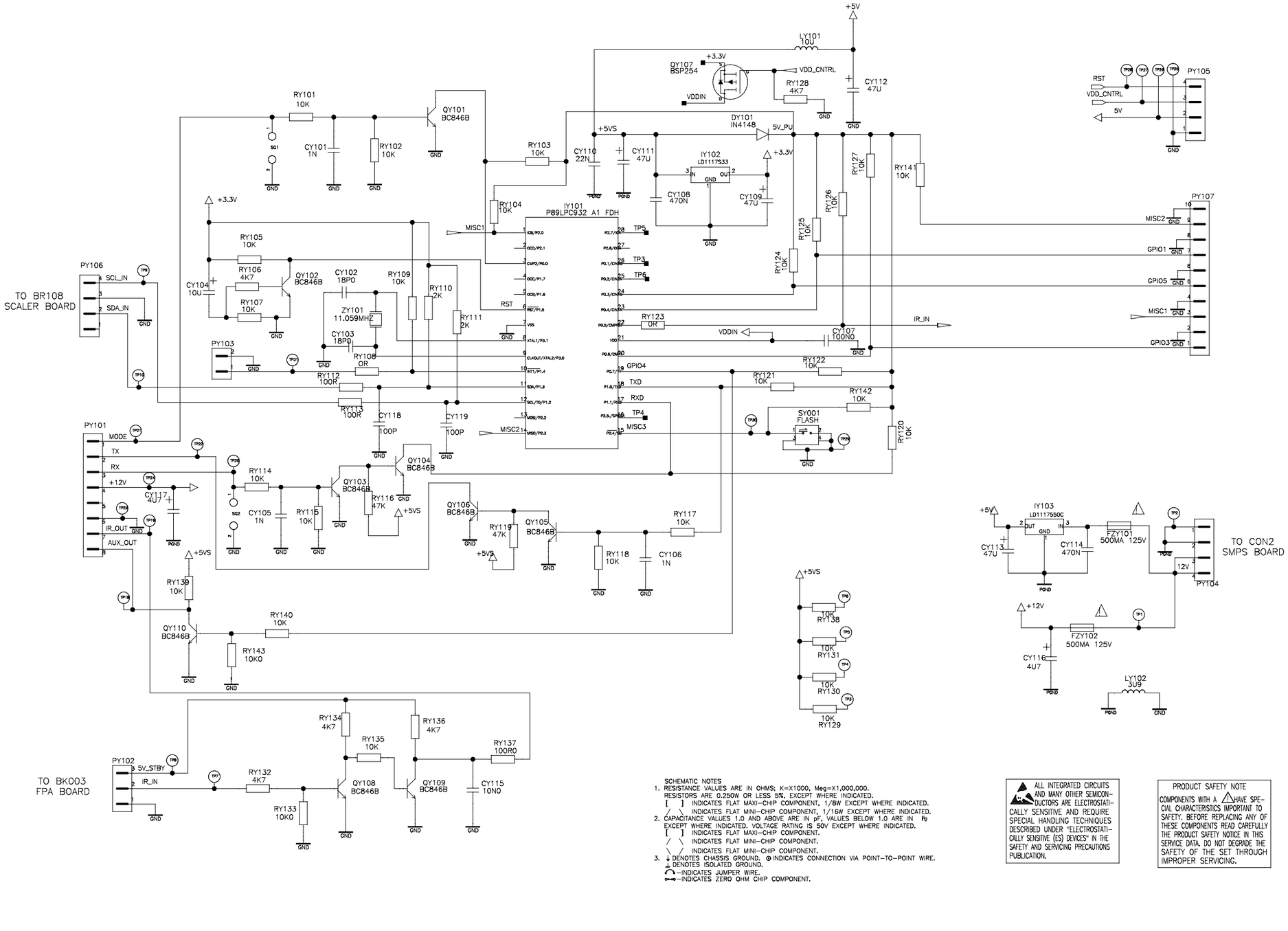
8-30-2005 TO

Page 9–25

DSCI BOARD – DSCI SCHEMATIC (2 OF 2)

501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520

A B C D E F G H I J K L



Page 9–26

461 462 463 464 465 466 467 468 469 470 471 472 173 474 475 476 477 478 479 480

A B C D E F G H I J K L

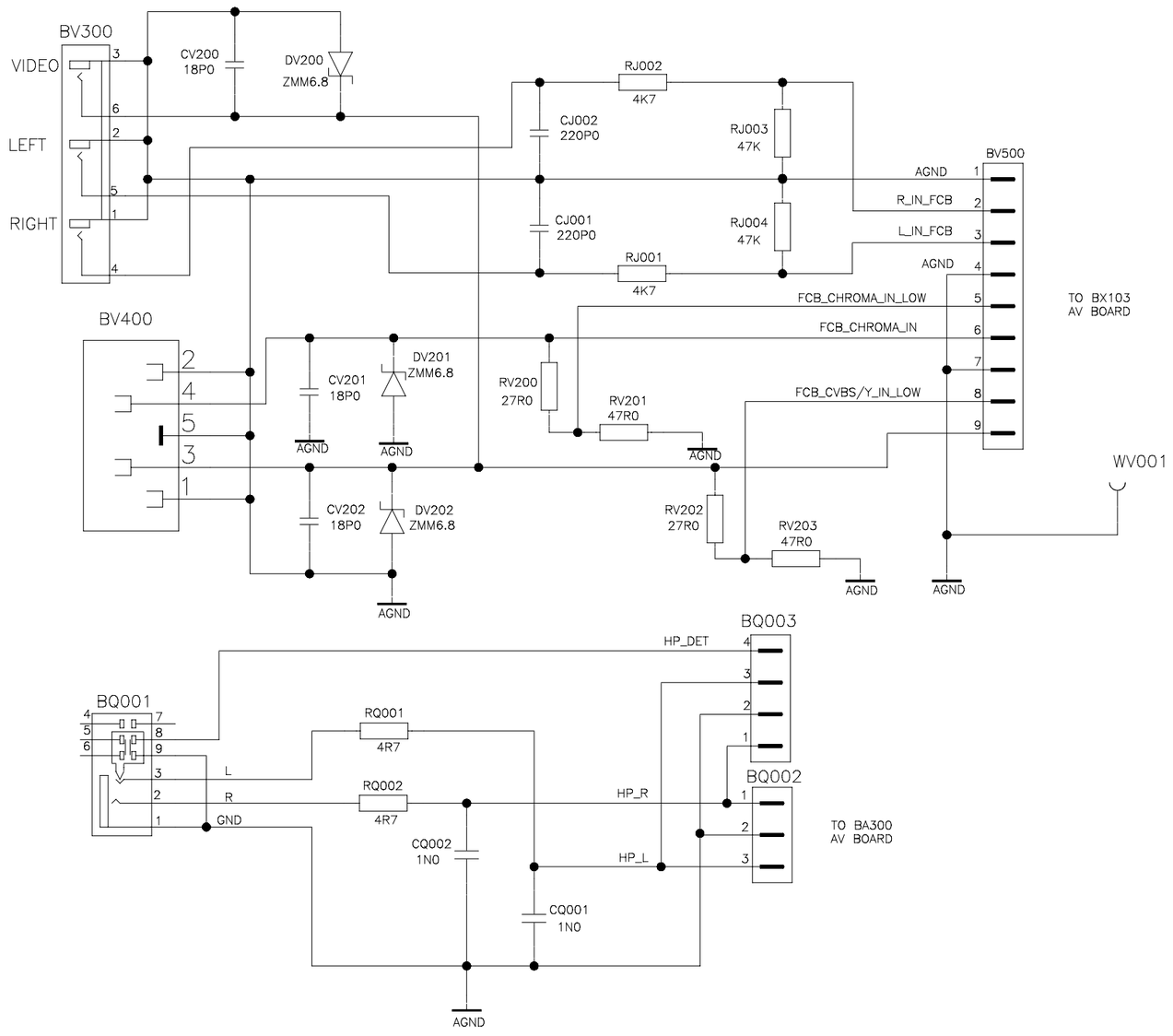
SCHEMATIC NOTES
1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fo
   EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊘ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   –INDICATES JUMPER WIRE.
   –INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

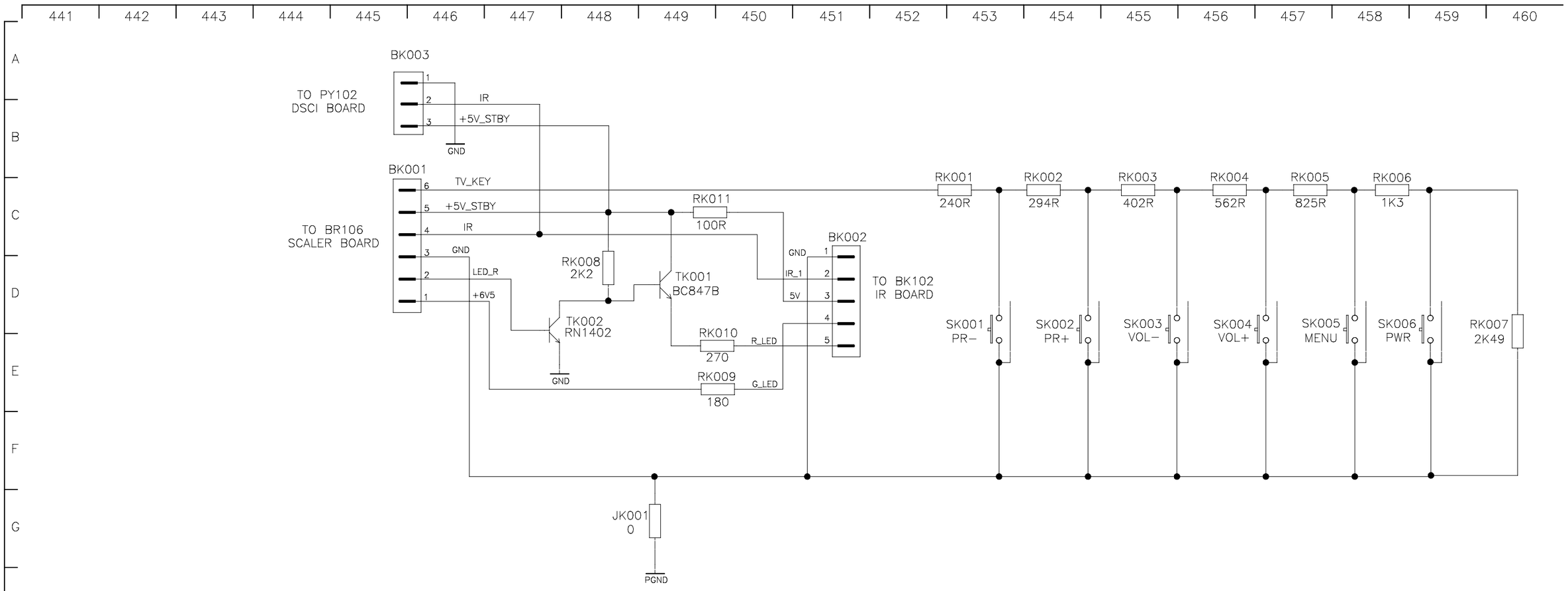
PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

1-17-2006 TD



Page 9–24



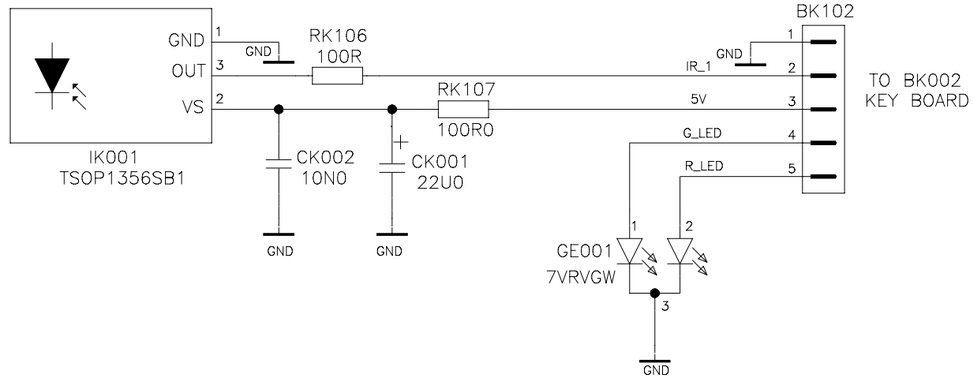
SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fp
   EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND, ⊙ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   —INDICATES JUMPER WIRE.
   —INDICATES ZERO OHM CHIP COMPONENT.

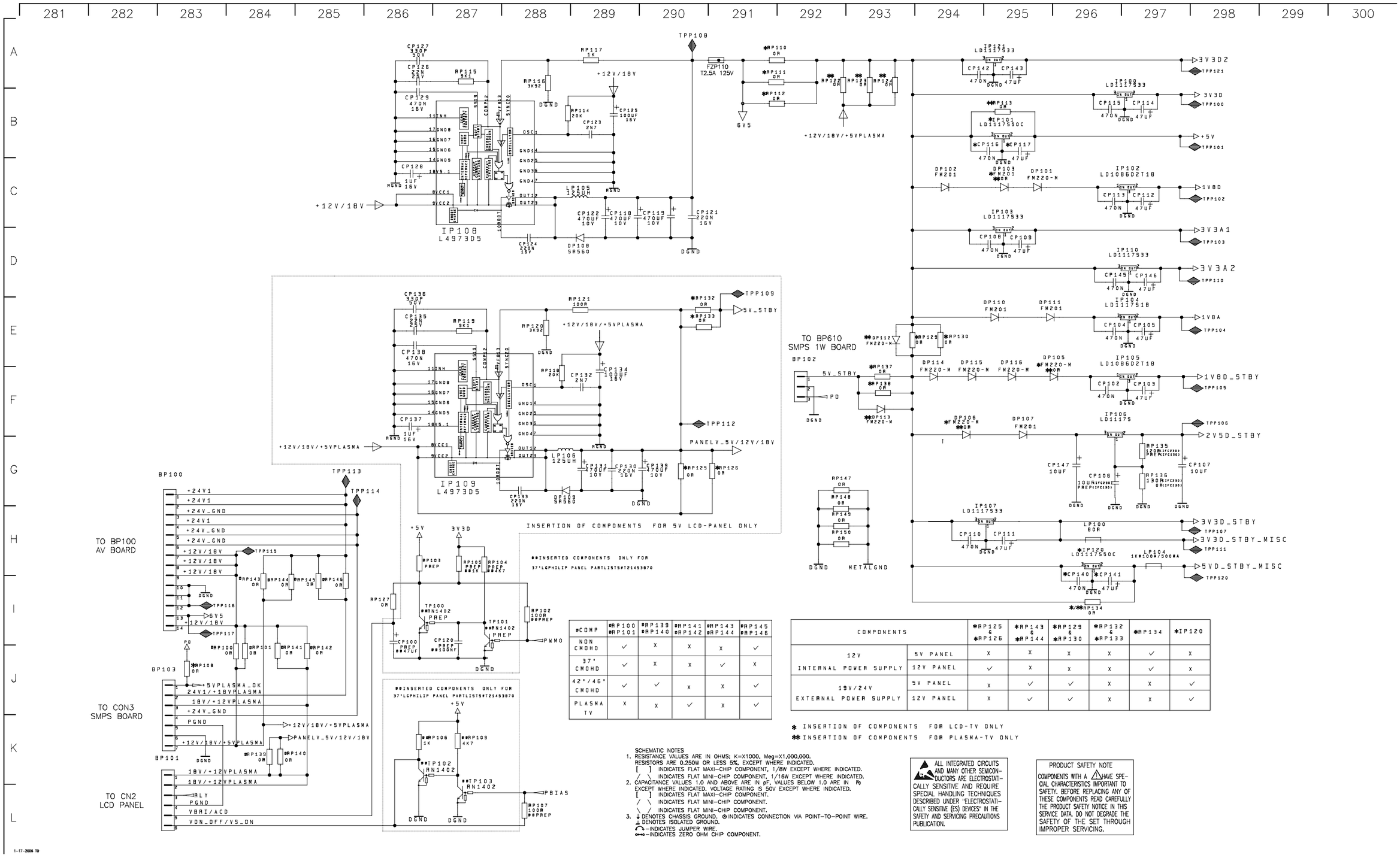
ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.



SCALER BOARD – POWER SUPPLY SCHEMATIC (1 of 8)



*COMP	*RP100 *RP101	*RP139 *RP140	*RP141 *RP142	*RP143 *RP144	*RP145 *RP146
NON CMOHD	✓	X	X	X	✓
37" CMOHD	✓	X	X	✓	X
42"/46" CMOHD	✓	✓	X	X	✓
PLASMA TV	X	X	✓	X	✓

COMPONENTS		*RP125 & *RP126	*RP143 & *RP144	*RP129 & *RP130	*RP132 & *RP133	*RP134	*IP120
12V INTERNAL POWER SUPPLY	5V PANEL	X	X	X	X	✓	X
	12V PANEL	✓	X	X	X	✓	X
19V/24V EXTERNAL POWER SUPPLY	5V PANEL	X	✓	✓	X	X	✓
	12V PANEL	X	✓	✓	X	X	✓

* INSERTION OF COMPONENTS FOR LCD-TV ONLY
** INSERTION OF COMPONENTS FOR PLASMA-TV ONLY

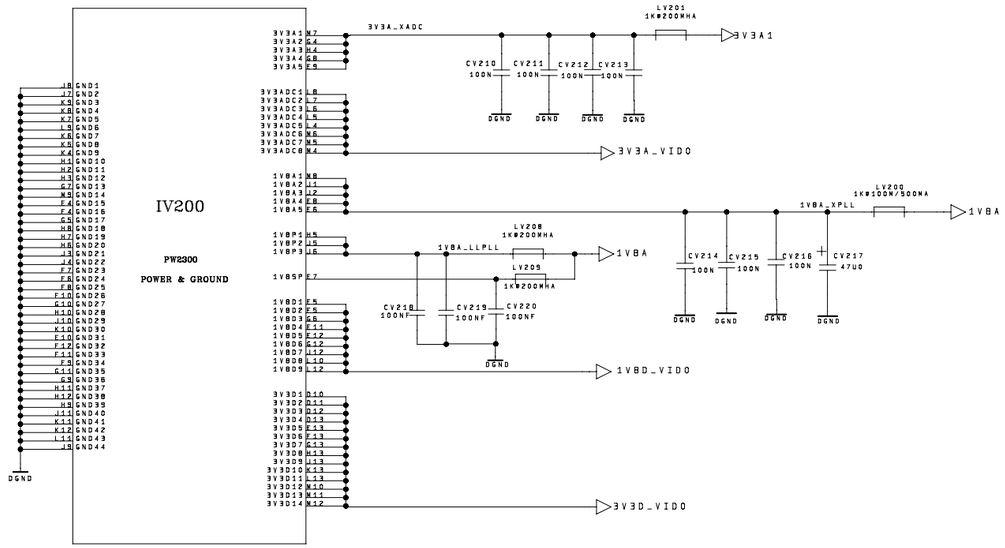
SCHEMATIC NOTES
1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fo EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊜ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   —INDICATES JUMPER WIRE.
   —INDICATES ZERO OHM CHIP COMPONENT.

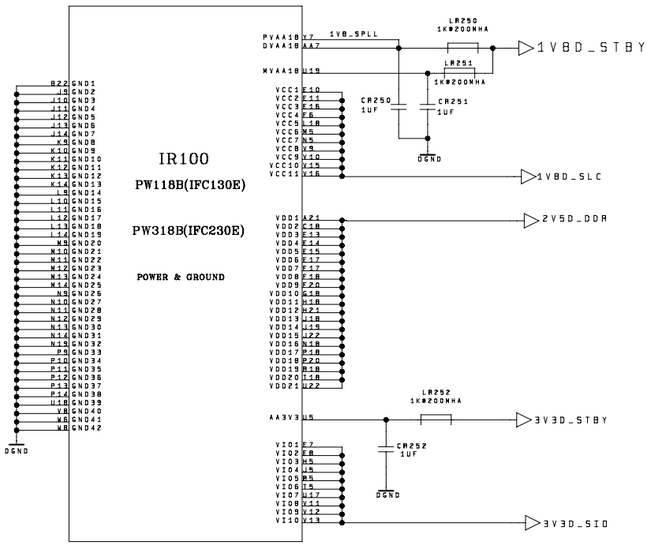
ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

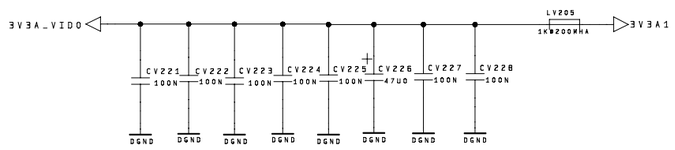
PRODUCT SAFETY NOTE
COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

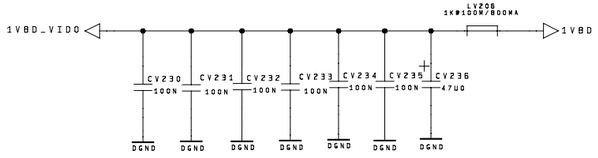
Page 9–15

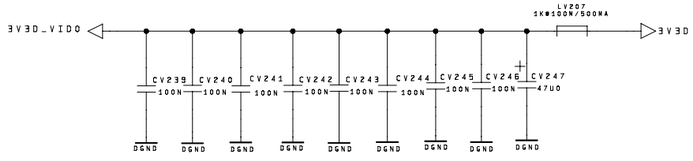
SCALER BOARD – CHIPSET POWER SUPPLY SCHEMATIC (2 of 8)

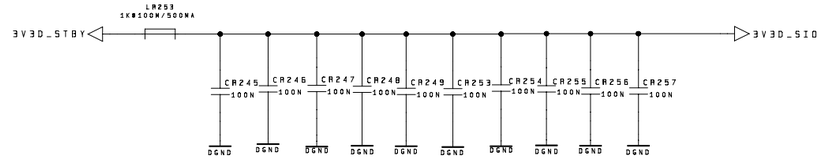


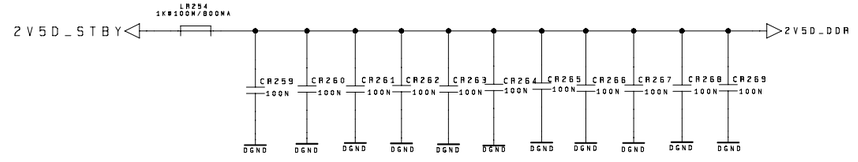


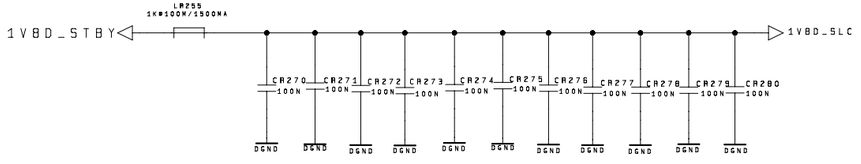












SCHEMATIC NOTES
1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fo EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊙ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   ⌒ –INDICATES JUMPER WIRE.
   ⊶ –INDICATES ZERO OHM CHIP COMPONENT.

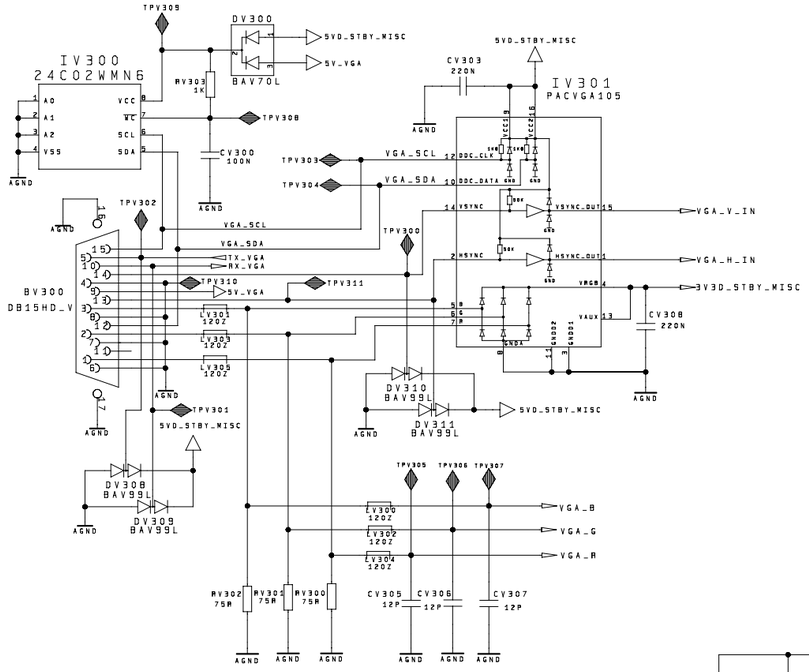
ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

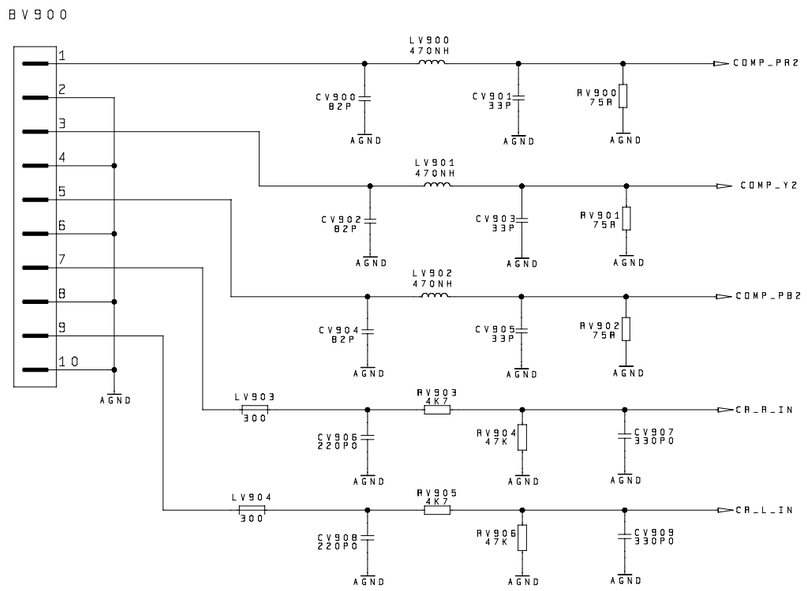
PRODUCT SAFETY NOTE
COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

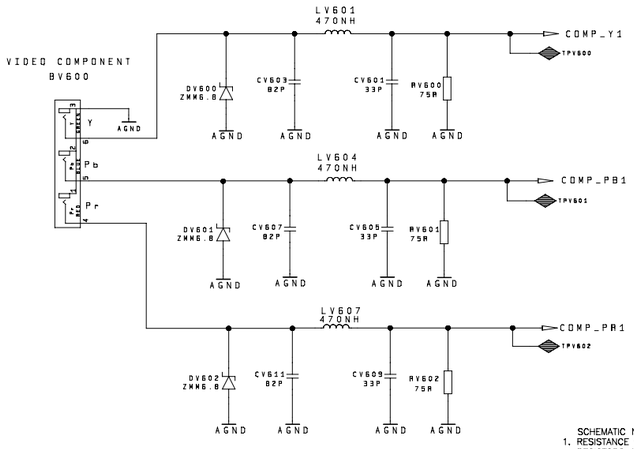
1-17-2006 TO

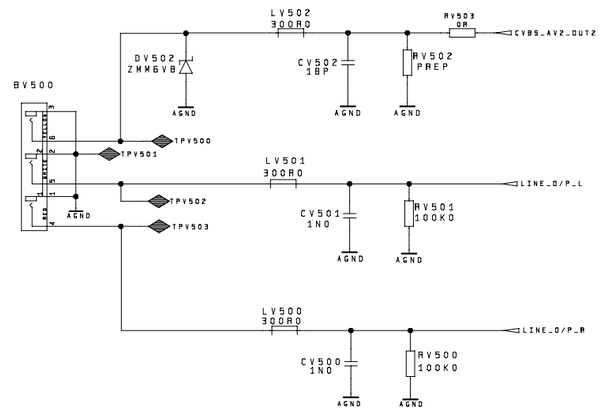
Page 9–16

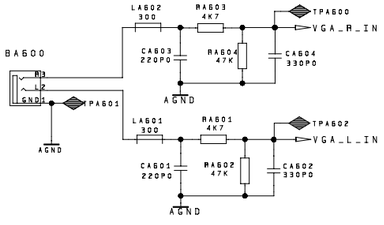
SCALER BOARD – ANALOG/DIGITAL INPUT SCHEMATIC (3 of 8)

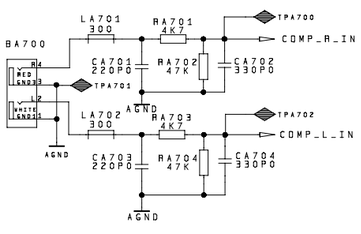












SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fp
   EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊖ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   —INDICATES JUMPER WIRE.
   —INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

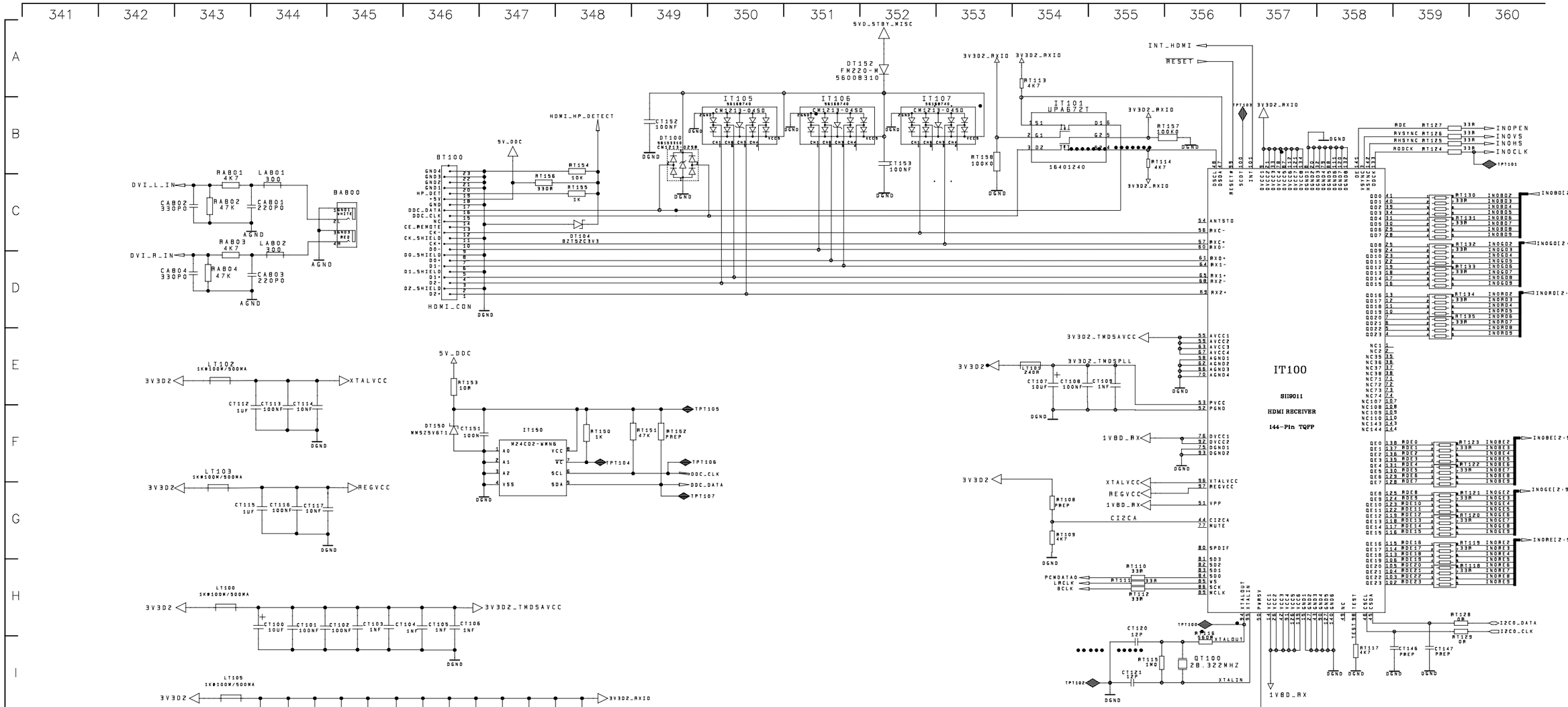
PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

1-17-2006 TD

Page 9–17

SCALER BOARD – SII 9011 HDMI RX SCHEMATIC (4 of 8)

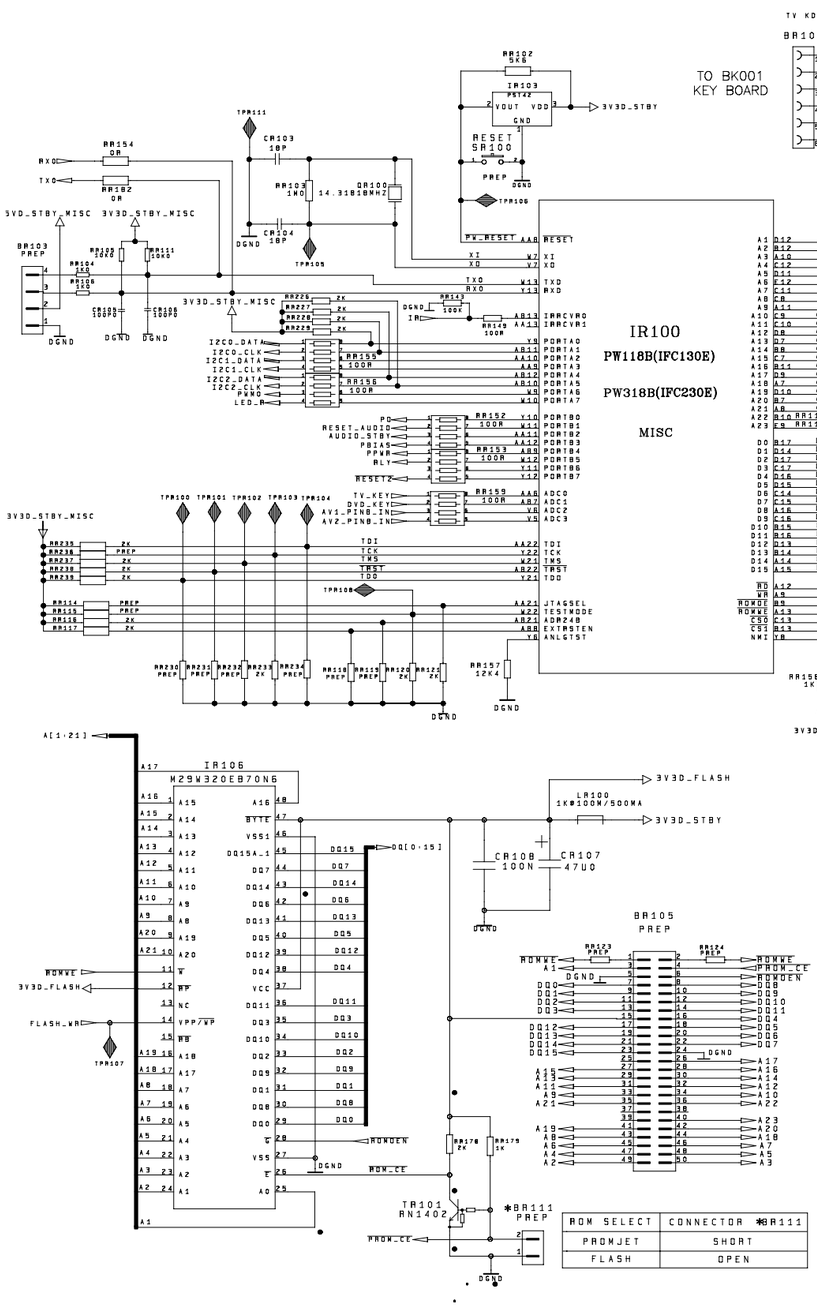


Page 9–18

SCALER BOARD – SCALER GPIO SCHEMATIC (5 of 8)

361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380

A B C D E F G H I J K L



ROM SELECT	CONNECTOR *RR111
PROMJET	SHORT
FLASH	OPEN

Panel size	RP202	RP203	RP204	RP205	RP206	RP207	RP208	RP209
23"	X	✓	X	✓	X	✓	X	✓
26"	X	✓	✓	X	X	✓	X	✓
27"(1280x720)	✓	X	✓	X	X	✓	X	✓
27"(1366x768)	X	✓	X	✓	✓	X	X	✓
32"	✓	X	X	✓	✓	X	X	✓
37"	✓	X	✓	X	✓	X	X	✓
40"	✓	X	X	✓	X	✓	✓	X
42"V	X	✓	✓	X	X	✓	✓	X
42"X	X	✓	X	✓	X	✓	✓	X
42"HD	✓	X	✓	X	X	✓	✓	X
46"	X	✓	X	✓	✓	X	✓	X
47"	✓	X	X	✓	✓	X	✓	X
50"	X	✓	✓	X	✓	X	✓	X

SUPPLIER	RP210	RP211	RP212	RP213	RP214	RP215	RP216	RP217
AUO	X	✓	✓	X	X	✓	X	✓
CMO	✓	X	✓	X	X	✓	X	✓
HITACHI	X	✓	X	✓	✓	X	X	✓
SEC	✓	X	X	✓	✓	X	X	✓
HANNSTAR	X	✓	✓	X	✓	X	X	✓
LPL	✓	X	✓	X	✓	X	X	✓
CPT	X	✓	X	✓	X	✓	✓	X
DDI	✓	X	X	✓	X	✓	✓	X
SHARP	✓	X	X	✓	X	✓	X	✓
LG	✓	X	✓	X	✓	X	✓	X

SCHEMATIC NOTES
1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN µF EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊙ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⏚ DENOTES ISOLATED GROUND.
   ⌒ INDICATES JUMPER WIRE.
   ⊶ INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

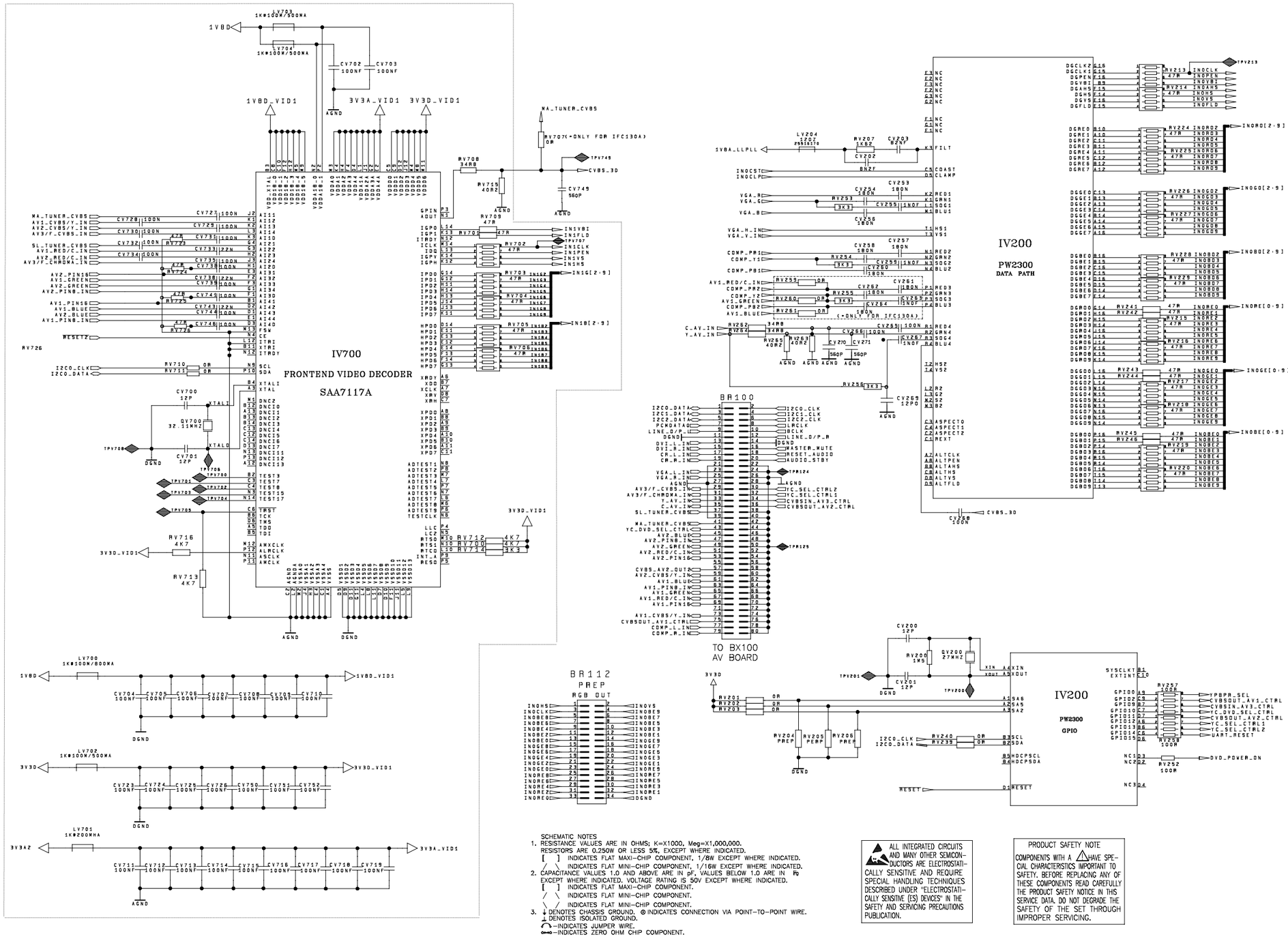
1-17-2006 TD

Page 9–19

SCALER BOARD – FRONTEND VIDEO DECODER SCHEMATIC (6 of 8)

381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400

A B C D E F G H I J K L



SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN µF
   EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊗ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   ⌒ –INDICATES JUMPER WIRE.
   ⊶ –INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

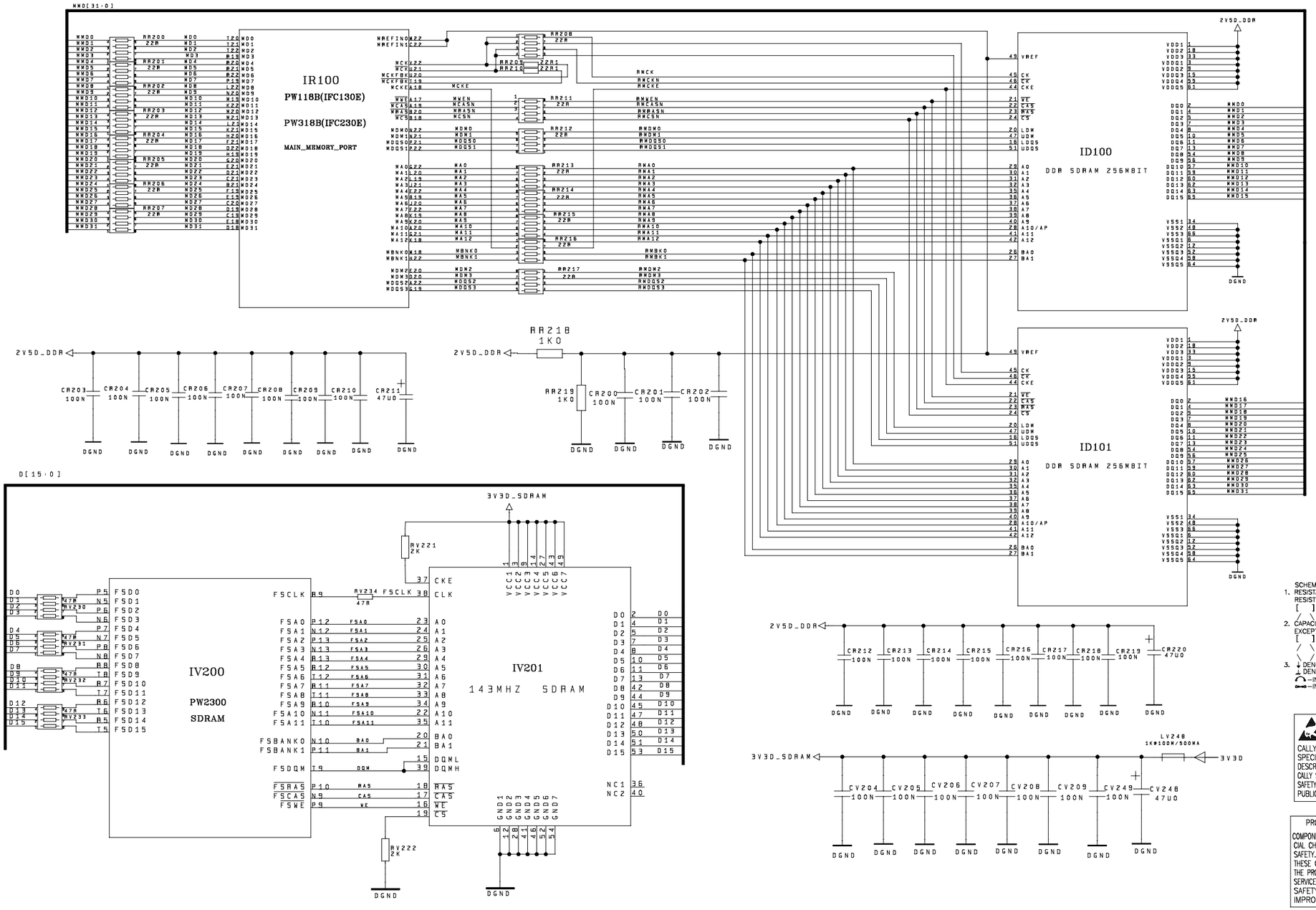
PRODUCT SAFETY NOTE

COMPONENTS WITH A △ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

1-17-2006 YD

Page 9–20

SCALER BOARD – SCALER DDRSDRAM SCHEMATIC (7 of 8)



SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT. 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT. 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fp
   EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊙ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   ⌒ INDICATES JUMPER WIRE.
   ⊶ INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

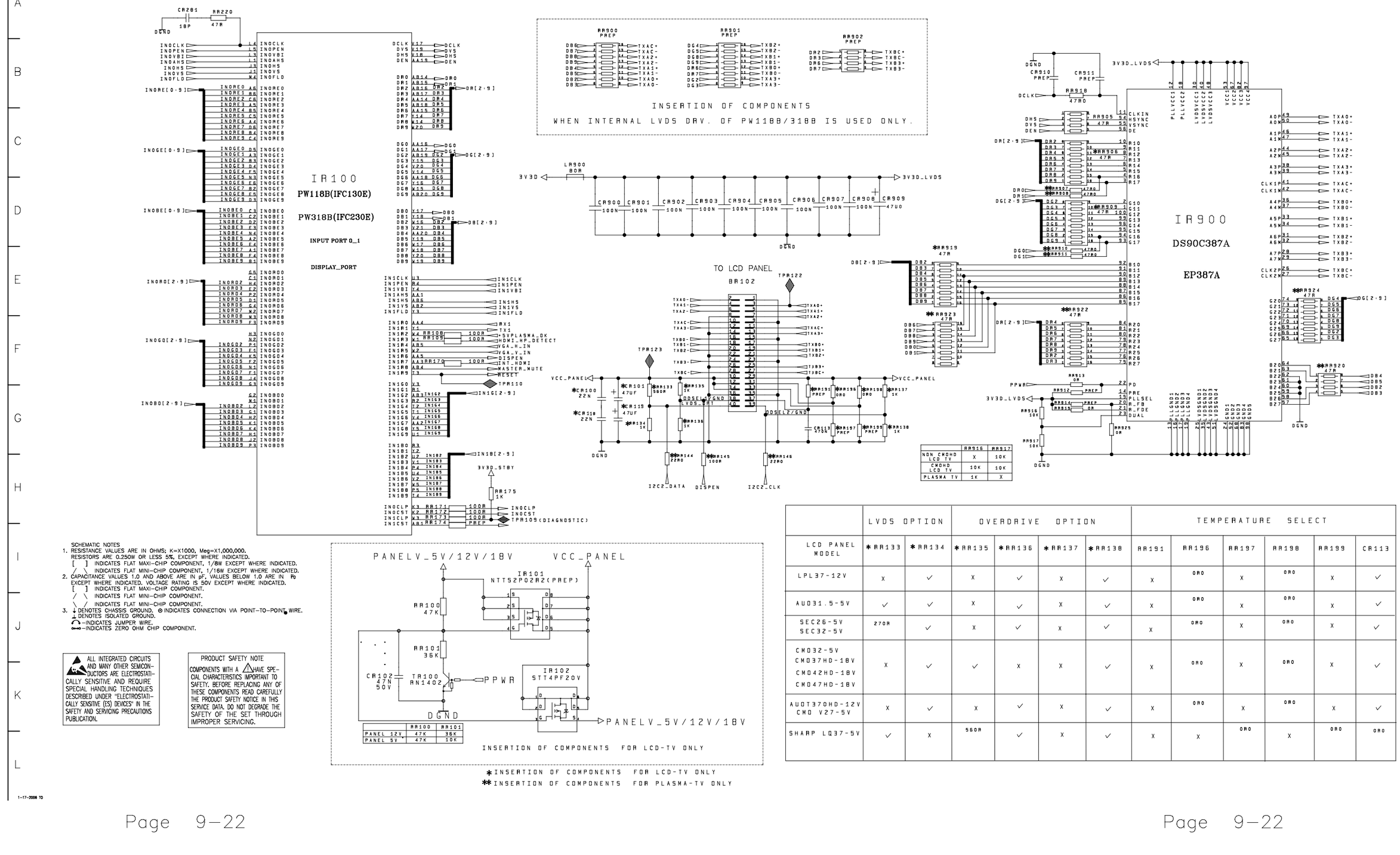
1-17-2006 TO

Page 9-21

SCALER BOARD – SCALER INPUT DISPLAY SCHEMATIC (8 of 8)

421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440

A B C D E F G H I J K L



SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fo EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊖ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   –INDICATES JUMPER WIRE.
   –INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

	RR100	RR101
PANEL 12V	47K	36K
PANEL 5V *	47K	10K

	RR916	RR917
NON CMOHD LCD TV	X	10K
CMOHD LCD TV	10K	10K
PLASMA TV	1K	X

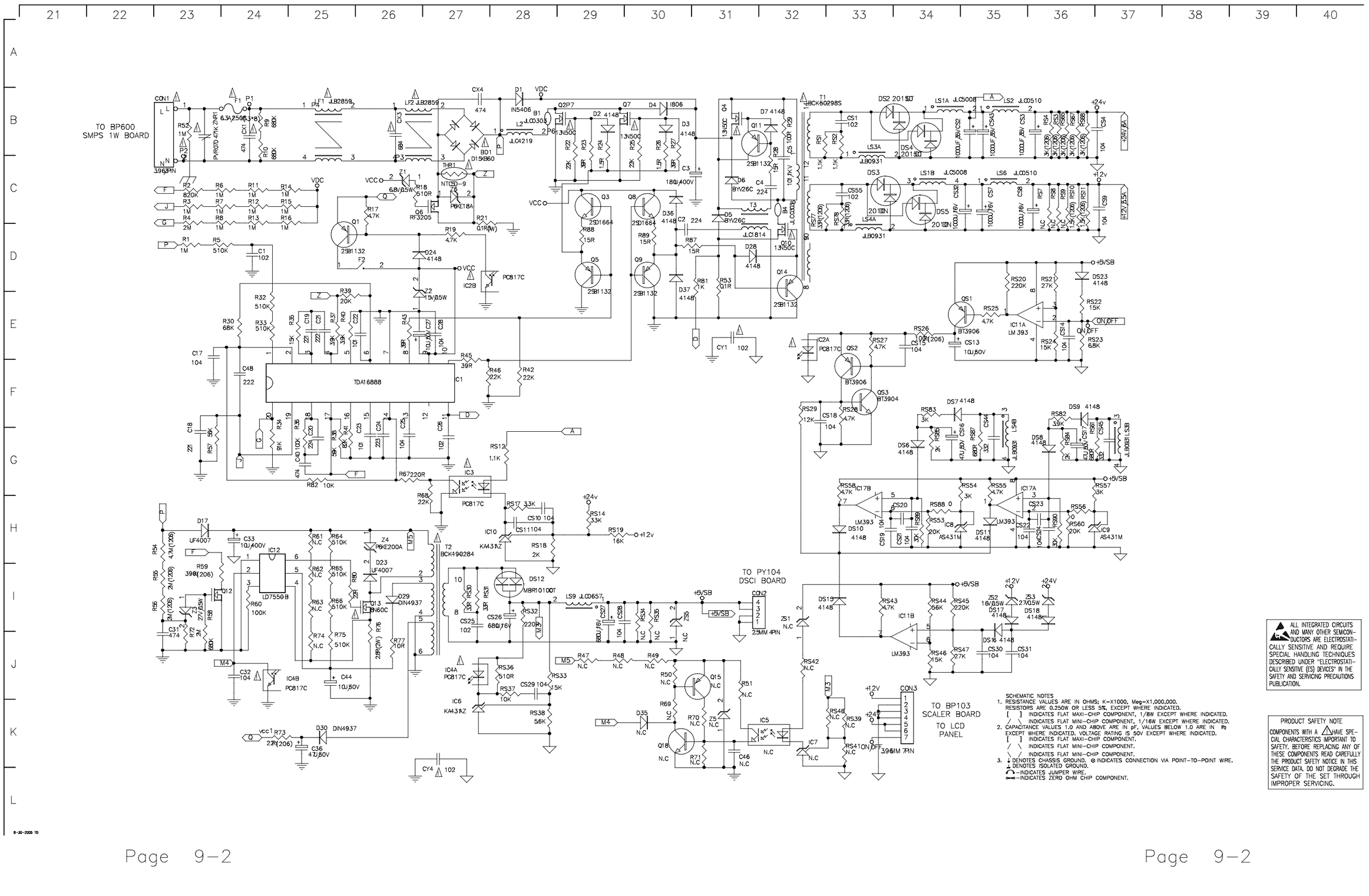
	LVDS OPTION		OVERDRIVE OPTION				TEMPERATURE SELECT					
LCD PANEL MODEL	*RR133	*RR134	*RR135	*RR136	*RR137	*RR138	RR191	RR196	RR197	RR198	RR199	CR113
LPL37-12V	X	✓	X	✓	X	✓	X	0R0	X	0R0	X	✓
AU031.5-5V	✓	✓	X	✓	X	✓	X	0R0	X	0R0	X	✓
SEC26-5V SEC32-5V	270R	✓	X	✓	X	✓	X	0R0	X	0R0	X	✓
CMO32-5V CMO37HD-18V CMO42HD-18V CMO47HD-18V	X	✓	✓	X	X	✓	X	0R0	X	0R0	X	✓
AUO T370HD-12V CMO V27-5V	X	✓	X	✓	X	✓	X	0R0	X	0R0	X	✓
SHARP LQ37-5V	✓	X	560R	✓	X	✓	X	X	0R0	X	0R0	0R0

*INSERTION OF COMPONENTS FOR LCD-TV ONLY
**INSERTION OF COMPONENTS FOR PLASMA-TV ONLY

1-17-2006 TO

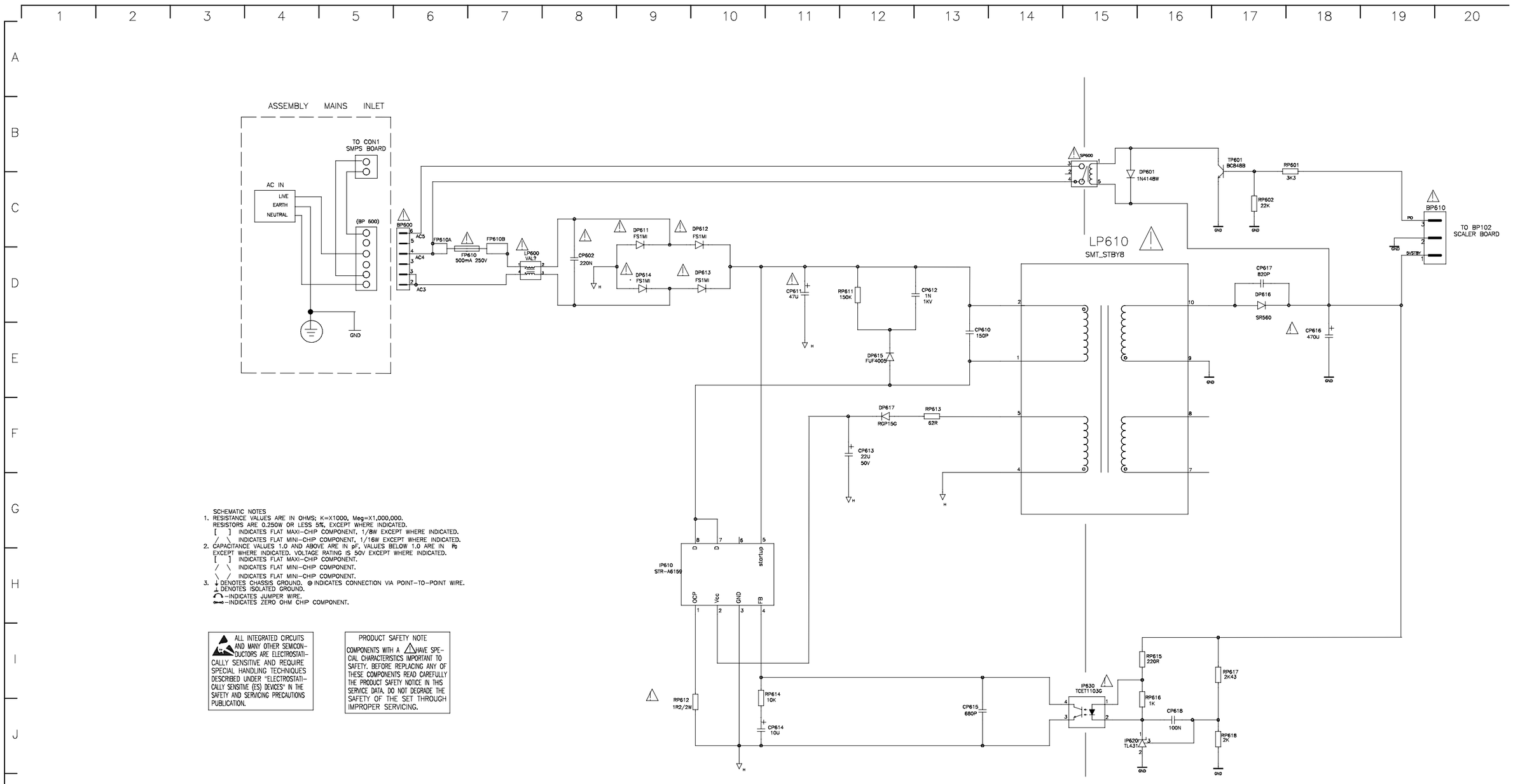
Page 9–22

SMPS BOARD – MAIN SMPS SCHEMATIC



Page 9-2

SMPS 1 WATT BOARD – SMPS 1 WATT SCHEMATIC



SCHEMATIC NOTES

1. RESISTANCE VALUES ARE IN OHMS; K=X1000, Meg=X1,000,000.
   RESISTORS ARE 0.250W OR LESS 5%, EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT, 1/8W EXCEPT WHERE INDICATED.
   / \ INDICATES FLAT MINI-CHIP COMPONENT, 1/16W EXCEPT WHERE INDICATED.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, VALUES BELOW 1.0 ARE IN Fo EXCEPT WHERE INDICATED. VOLTAGE RATING IS 50V EXCEPT WHERE INDICATED.
   [ ] INDICATES FLAT MAXI-CHIP COMPONENT.
   / \ INDICATES FLAT MINI-CHIP COMPONENT.
   \ / INDICATES FLAT MINI-CHIP COMPONENT.
3. ⏚ DENOTES CHASSIS GROUND. ⊙ INDICATES CONNECTION VIA POINT-TO-POINT WIRE.
   ⊥ DENOTES ISOLATED GROUND.
   —INDICATES JUMPER WIRE.
   —INDICATES ZERO OHM CHIP COMPONENT.

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATION.

PRODUCT SAFETY NOTE

COMPONENTS WITH A ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

1-17-2006 TO

Page 9–1

J26L637/J32L637
Alignments

Entering the Factory Service mode

Turn the instrument OFF. Then press the Vol - button on the remote and Vol - on the keypad simultaneously. Hold the buttons for approximately 10 seconds until the instrument turns ON. Using the remote if you want to select an item**,** press the Up (^) and Down (v) buttons**.** Adjust the setting value using the Left (<) and Right (>) key**.** Press the Clear button to return to the main menu after adjusting a value. Press the Clear button or select Go Back the menu to exit the Factory Service mode.

Video Menu

Cut Off/ White Point Alignments

The Cut Off alignment is used to define the color coordinates for low level luminance. The Whitepoint is used to define the color coordinates for bright luminance This alignment must be completed for the following standards.

Input	Video Standard
RCA	NTSC
YPrPb	SDTV (480i)
	HDTV (720p)
	HDTV (1080i)
VGA	VESA (DMT 1060p)
	HD Video (720p)
HDMI	HDTV (720p)
FAV (CVBS)	SDTV (480i)

1. Enter the Factory Service mode.
2. Select VIDEO from the menu, then enter the Cut Off sub menu.
3. Insert a grey test pattern with a 15 Nits luminance level using one of the above standards.
4. Set Cutoff B to the center if its range.
5. Using a Color TV Analyzer meaure the coordinates at the center of the screen. Adjust Cutoff R and Cutoff G for x = 0.282 +/- 0.01, y = 0.293 +/- 0.01
6. Insert a 50IRE grey test pattern.
7. Using a Color TV Analyzer measure the coordinates at the center of the screen. Adjust Whitepoint R and Whitepoint G for x = 0.282 +/- 0.01, y = 0.293 +/- 0.01.

NOTE: It may necessary to switch between the Cut Off and White Point Alignments in order to achieve the proper alignment.

8. Exit the Service Menu by press the Clear button on the remote.

Brightness Alignment

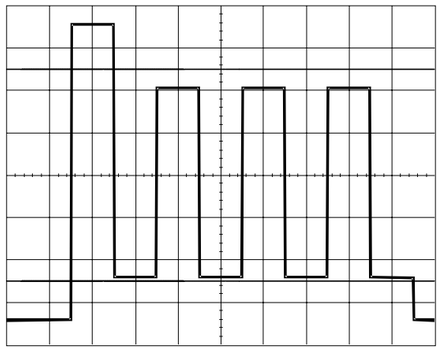
1. Enter the Factory Service mode.
2. Select VIDEO from the menu, then select Brightness.
3. Insert a pluge test pattern thru RF with a 2% setup background with a 0% and 4% bar.
4. Adjust the Brightness so that the 0% bar is invisible with the 4% bar visible.
5. Exit the Factory Mode by pressing Clear on the remote.

Scaling Color Adjustment

The Scaling Color alignment must be completed to the following standards.

Input	Video Standard
RCA	NTSC
YPrPb	SDTV (480i)
	HDTV (720p)
	HDTV (1080i)
VGA	VESA (DMT 1060p)
	HD Video (720p)

1. Enter the Factory Service mode.
2. Select VIDEO from the menu, then select Scaling Color.
3. Input a 75% Color Bar Test pattern.
4. Measure the output of the LVDS receiver and adjust so the levels are equal. (See Pattern below)

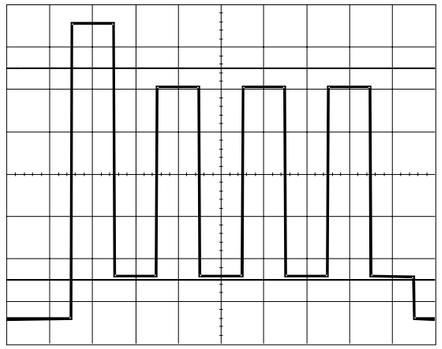


Scaling Tint Adjustment

The Scaling Tint alignment must be completed to the following standards.

Input	Video Standard
RCA	NTSC
YPrPb	SDTV (480i)
	HDTV (720p)
	HDTV (1080i)
VGA	VESA (DMT 1060p)
	HD Video (720p)

1. Enter the Factory Service mode.
2. Select VIDEO from the menu, then select Scaling Tint.
3. Input a Color Bar Test pattern.
4. Measure the output of the LVDS receiver and adjust so the levels are equal. (See Pattern below)



Peak White Adjustment

The Peak White alignment must be completed to the following standards.

Input	Video Standard
RCA	NTSC
YPrPb	SDTV (480i)
	HDTV (720p)
	HDTV (1080i)
VGA	VESA (DMT 1060p)
	HD Video (720p)
HDMI	HDTV (720p)
FAV (CVBS)	SDTV (480i)

1. Enter the Factory Service mode.
2. Select VIDEO from the menu, then select Peak White.
3. Input a test pattern with a 100% white centered pad on a dark background.
4. Using a Color TV Analyzer measure the luminance level (Y[nit]) of the white pad. Adjust with the Scaling Contrast the Light Output Level (PW Level) for 400 Nits + 20%/ - 15%.

Text Contrast/Preset For Vid Adjustment

The Text Contrast and Preset for Vid are preset at the factory. No alignment is necessary.

Audio/W218 1st Page/W218 2nd Page/SAA7117AE/

PW2300 Menus

These menus are preset at the factory. No alignment is necessary.

Defective Pixel Specification

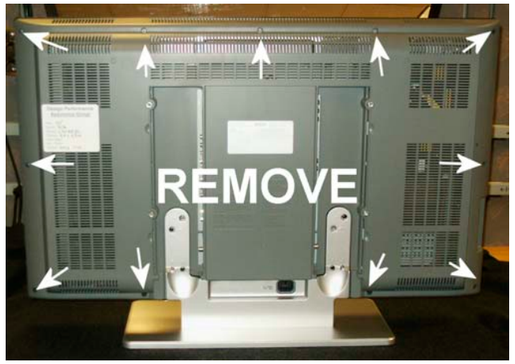
A pixel is defined as three elements or dots, one red, one blue, and one green. Thus one bright pixel is three bright adjacent dots. No bright pixels are allowed but 3 bright dots are allowed subject to the following:

The bright dots must be viewable on normal program material (not static test patterns) when viewed at a distance of five feet from a point perpendicular to the center of the screen at eye level. The panel is considered defective if the pixels are viewable and they are within ¼" of another bright dot.

Also, no more than eight dark dots, and no dark pixels will be accepted when viewed under the same conditions.

Back Cover Removal

1. Remove AC power from the instrument.
2. Lay the instrument on a flat surface. Care should be taken to not damage the front of the unit.
3. Remove doors covering the jack assemblies.
4. Remove Base Assembly. Remove 8 Phillips head screws (4 on each side).
5. Remove 12 Phillips head screws securing the cabinet back to the instrument.



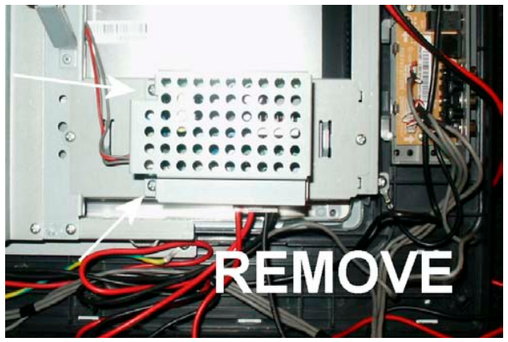
NOTE: The placement of the screws may vary depending on the cabinet size and style.

6. Carefully remove the back cabinet from the instrument.
7. The Base Assembly can now be placed back on the instrument to allow for easier servicing.

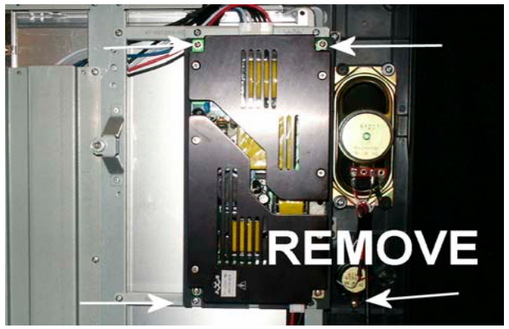
Circuit Board Removal

1. Remove Back Cover from the instrument (See Back Cover Removal). Remove AC Power from the instrument before replacing any circuit board

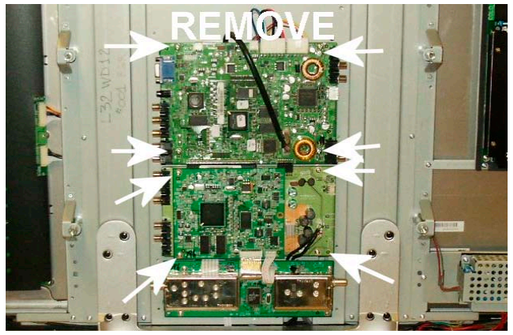
2. To replace the 1 Watt SMPS board, first remove 2 Phillips head screws securing the shield covering the circuit board. Then replace the board from 2 standoffs.

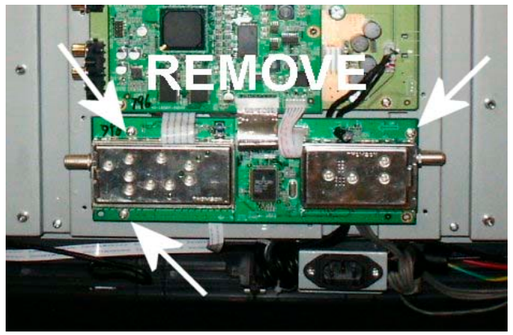


3. The Main SMPS can be removed 4 Phillips head screws.



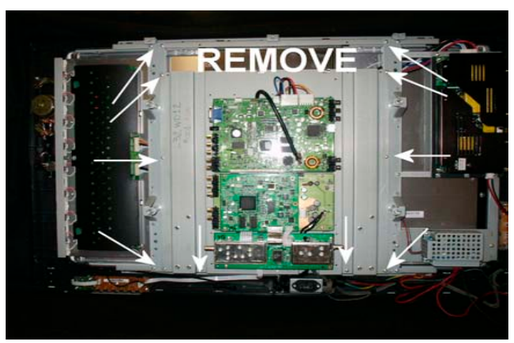
4. The FAV, FPA and IR boards can all be removed by removing 2 Phillips head screws on each board.
5. To replace the ADM1, QAM, AV or Scaler boards, first remove 4 Phillips head screws securing the shield assembly. Then remove the side rail by removing 2 Phillips head screws. The appropriate board may now be removed by removing the Phillips head screws securing the board to the instrument.



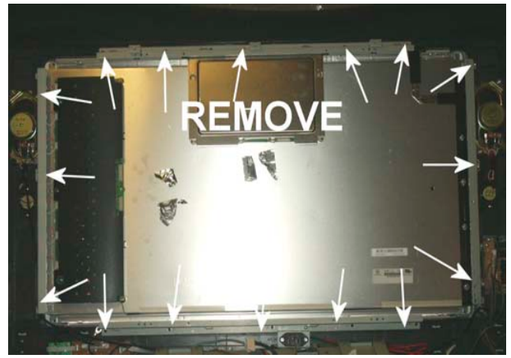


Panel Removal

1. Remove Back Cover from the instrument (See Back Cover Removal). Remove AC Power from the instrument before replacing panel.
2. Remove 8 Phillips head screws securing the chassis frame.

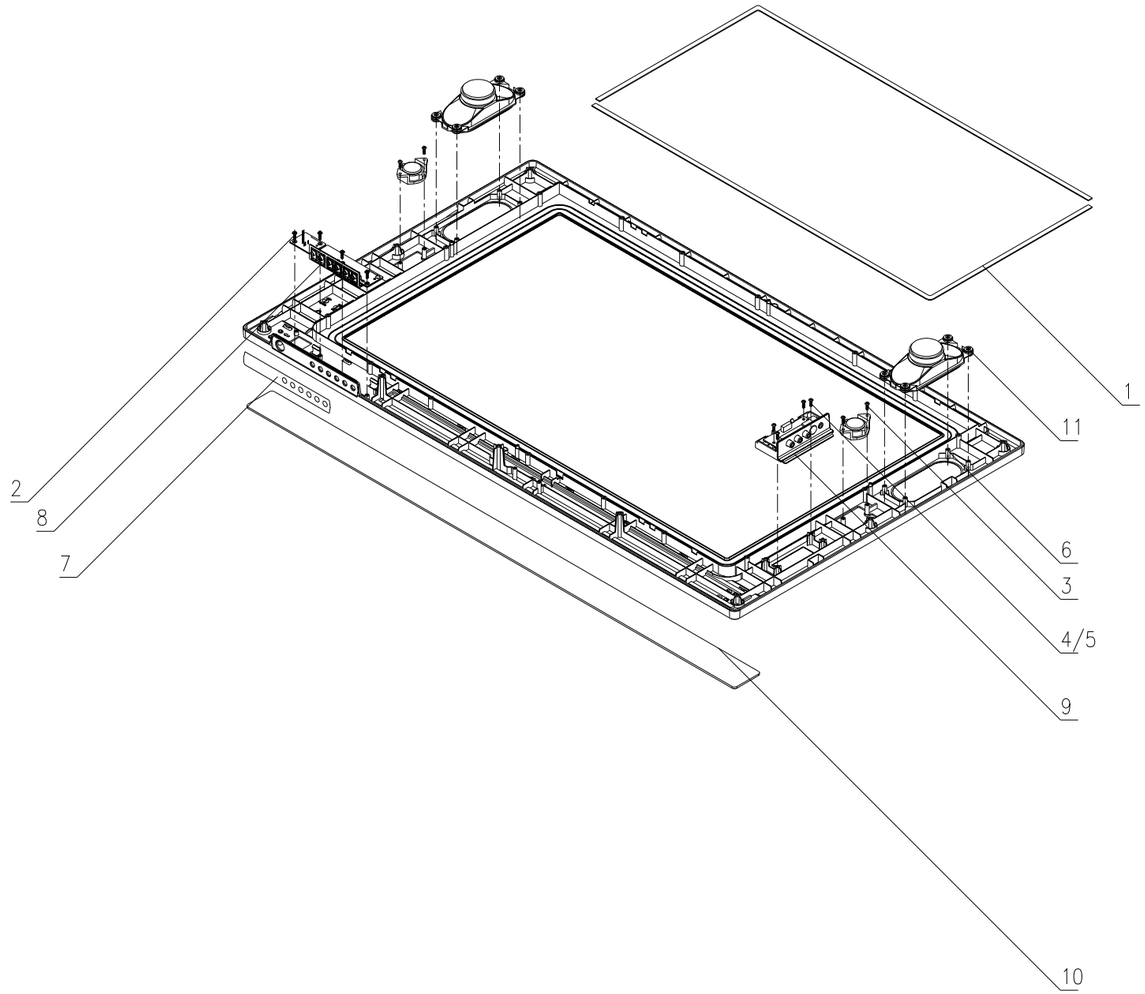


3. Carefully disconnect the cable to the panel assembly from the other circuit boards and remove the chassis frame for the instrument.
4. Remove 16 Phillips head screws securing the panel assembly to the front cabinet assembly. Carefully remove the panel from the instrument.



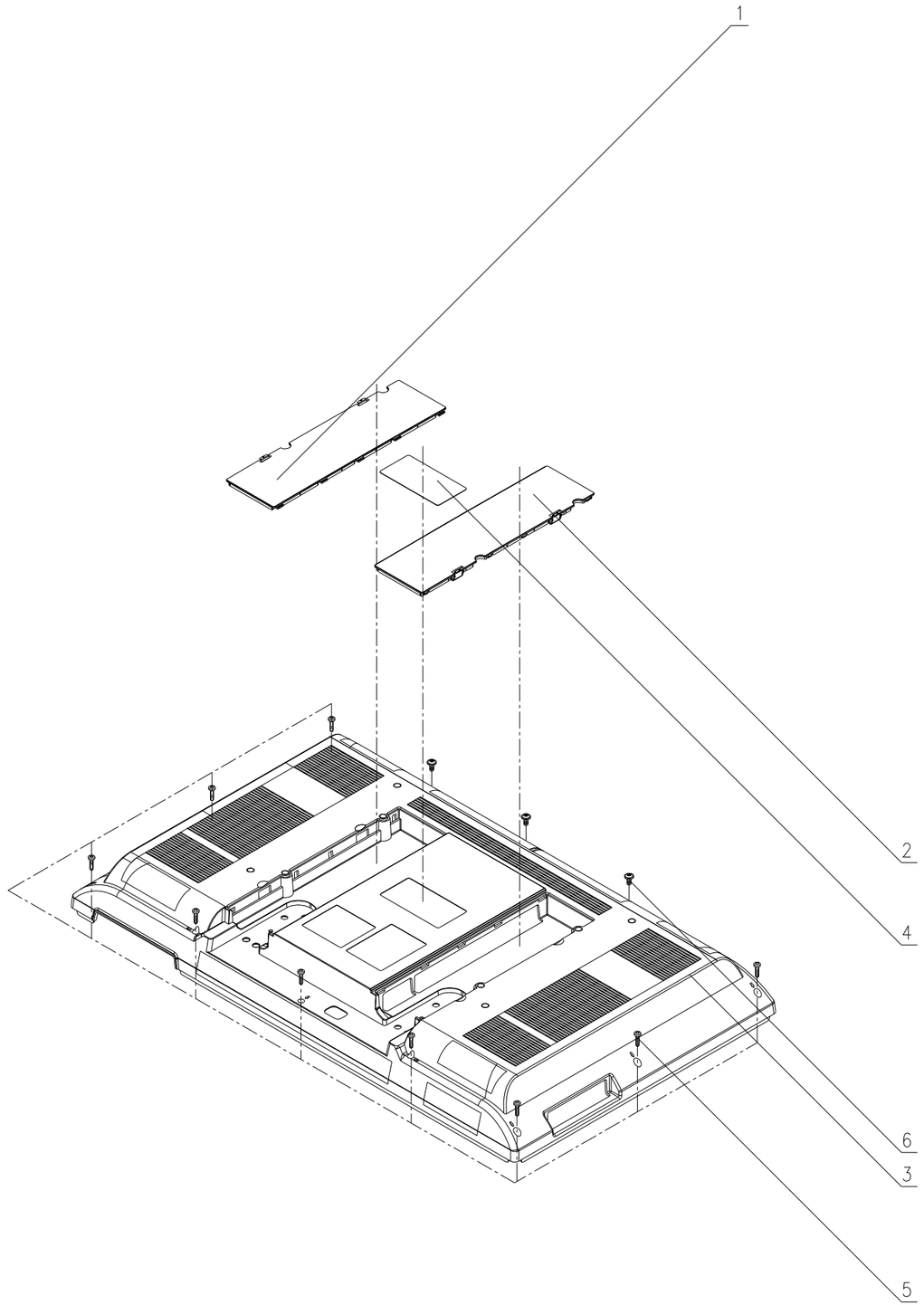
5. Replace the panel assembly. Care should be taken to not damage the repalcement panel.
6. Reassemble is reverse order. Lead dress is critical to ensure proper operation. (See Critical Lead Dress).

Exploded View - Front Cabinet

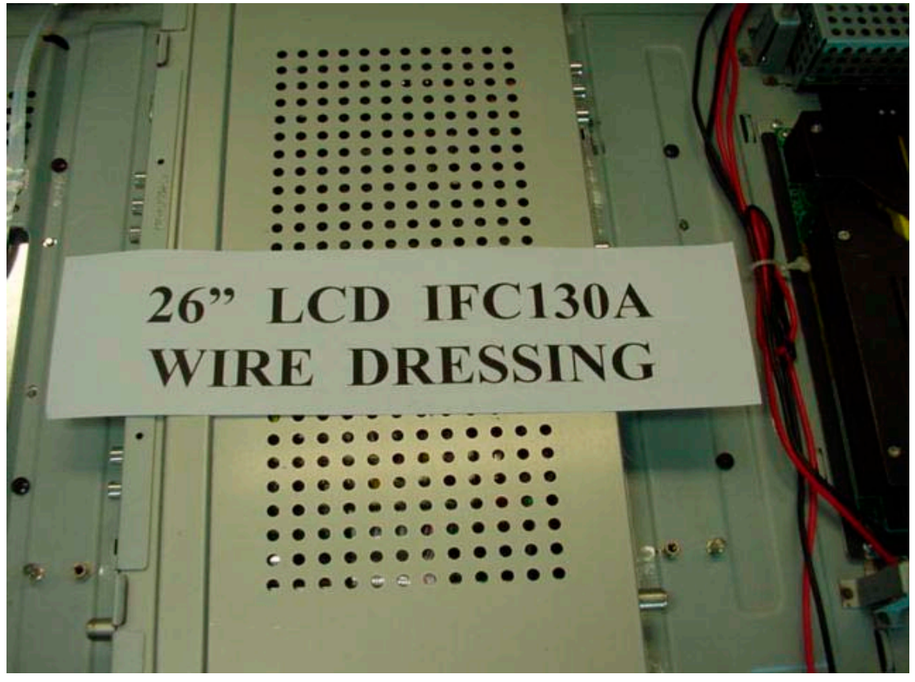


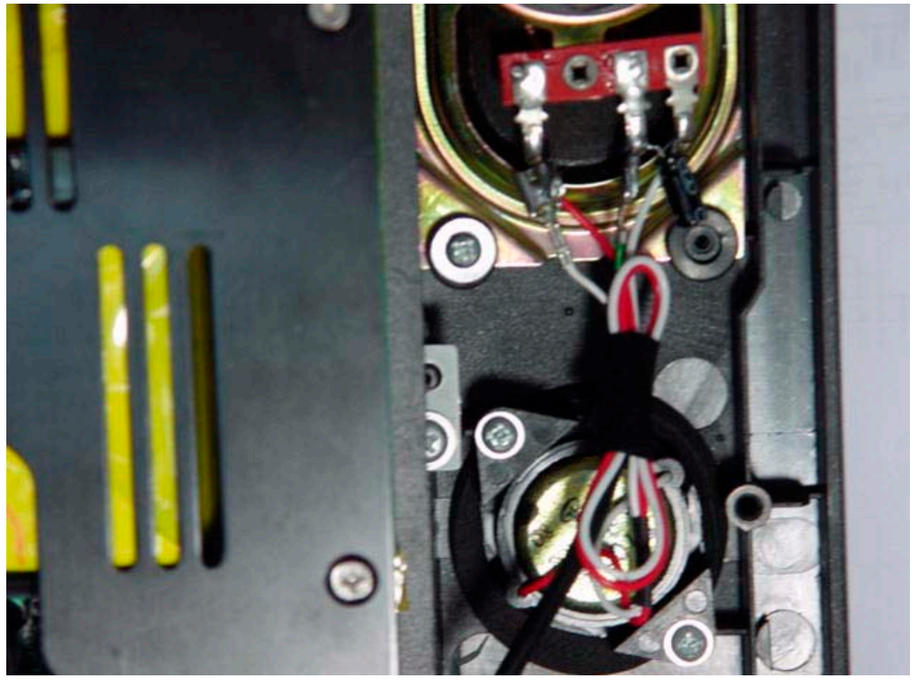
1	54-805890-0U0/1U0	海绵条	2/2	面壳+液晶屏
2	63-B30080-AB4	自攻螺钉B3X8AB	4	面壳+控制板
3	63-B30100-AB4	自攻螺钉B3X10AB	4	55-720250-0UA/42-G3508F-XX2
4	63-B30100-AB4	自攻螺钉B3X10AB	2	55-720250-0UA/62-718160-1HA
5	63-B30100-AB4	自攻螺钉B3X10AB	2	55-720250-0UA/62-718160-1HA
6	55-720250-0UN1E	前壳	1	
7	58-806020-0UI1A	按钮贴片	1	
8	56-707240-0HA4V	PUSHBOTTON	1	
9	56-718160-1HA1A	后AV支架	1	
10	57-720290-0HC1E	透明条	1	
11	63-S30100-AB4	自攻螺钉S3X10AB	4	面壳/低音喇叭
12	25-DFB229-M1X	电解电容 2.2 UF 50V +/-20% BP	2	中高音喇叭+极到高音喇叭-极之间
13	42-51216D-XX2	扬声器	2	
14	42-G3508F-XX2	球顶高音扬声器 8 OHM 8W	2	-极接2.2UF,+极接中高音喇叭-极
15	67-L80656-0N81A	RCA LOGO	1	FOR 面壳

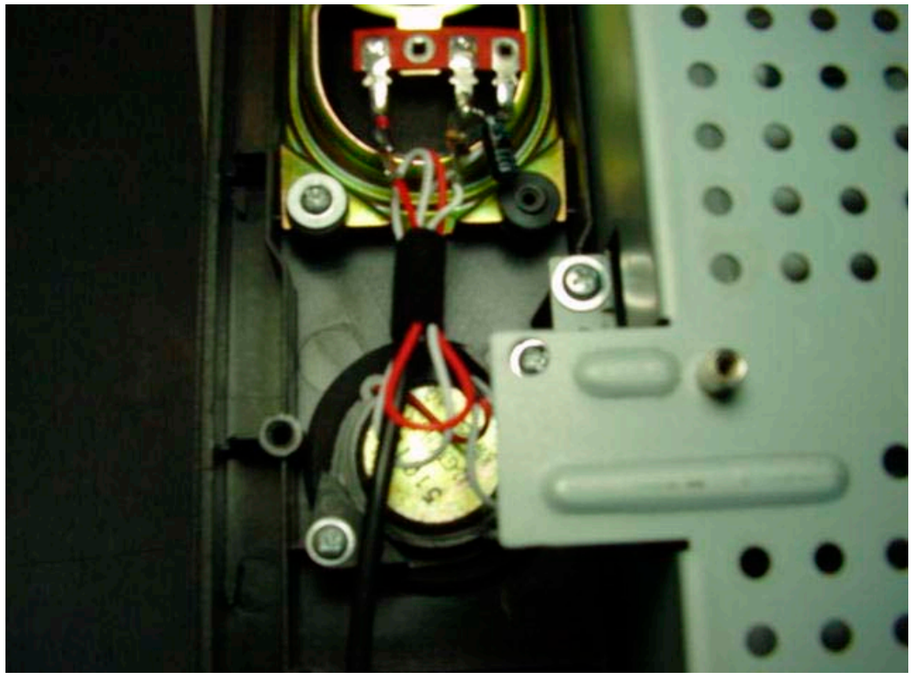
Exploded View - Rear Cabinet

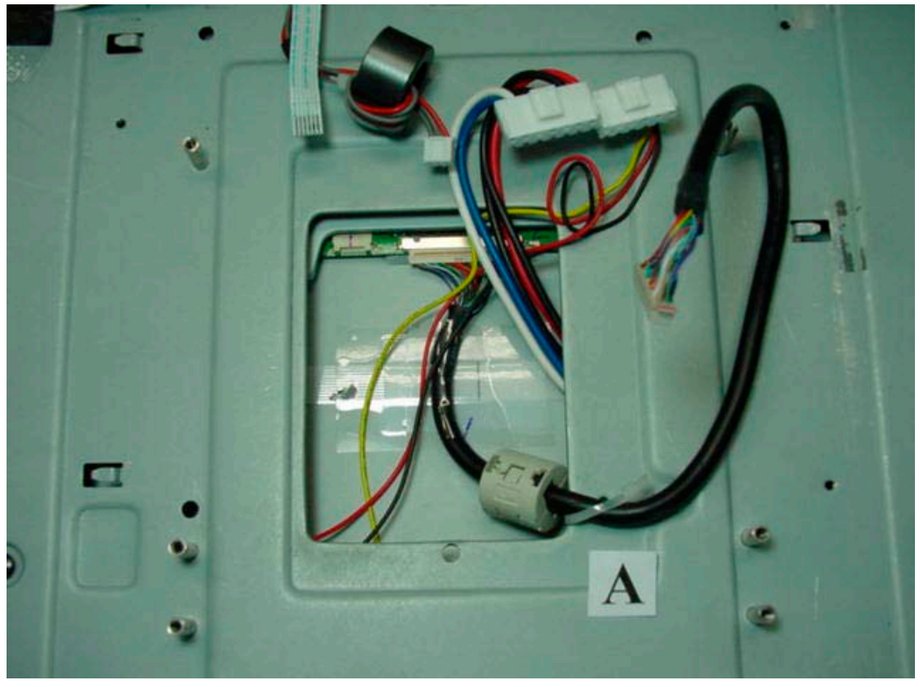


1	55-814360-0HN1A	端子盖板	1	
2	55-814360-1HN1A	端子盖板	1	
3	55-814290-0UN1A	后壳	1	
4	58-L32WMP-0UI1B	后警告胶片	1	
5	63-B40150-AB3	螺钉B4X15AB(BLACK)	9	面壳+控制板
6	64-B40080-103	机制螺钉M4X8	3	面壳+控制板

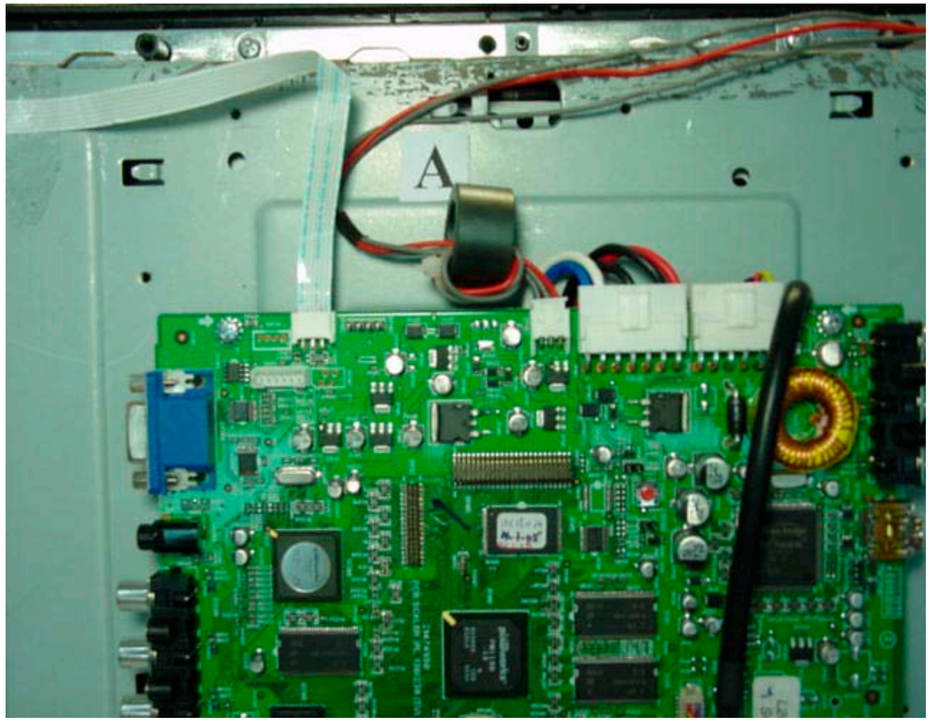


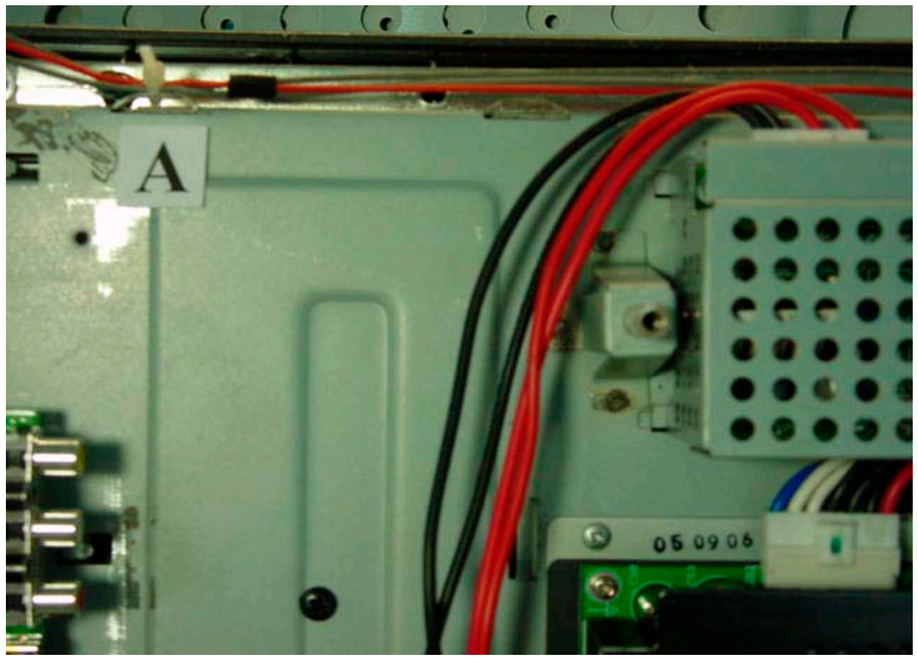


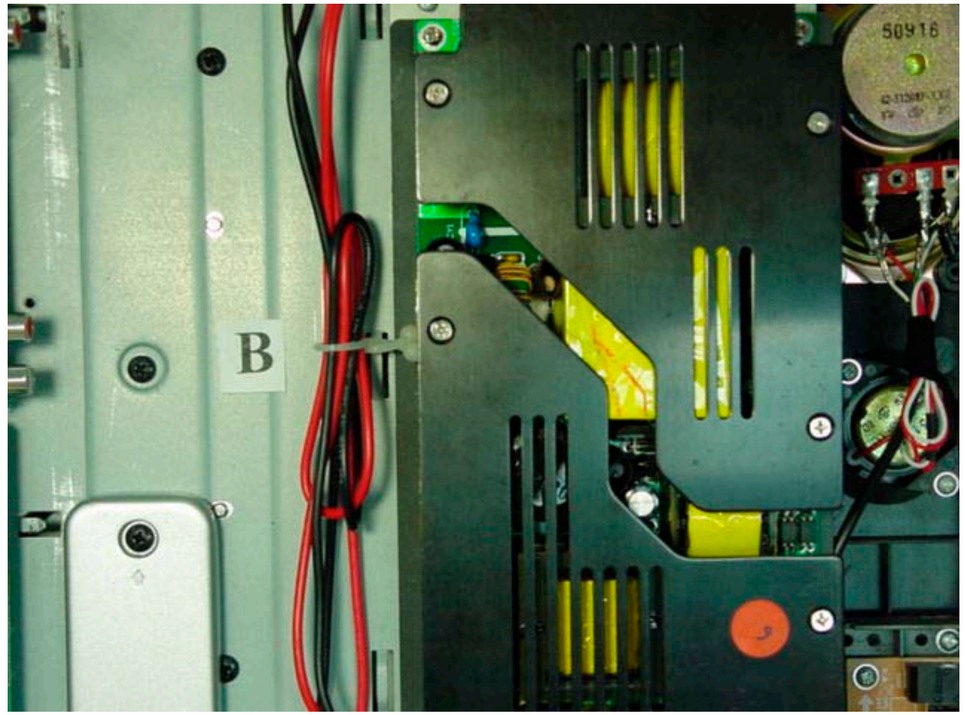


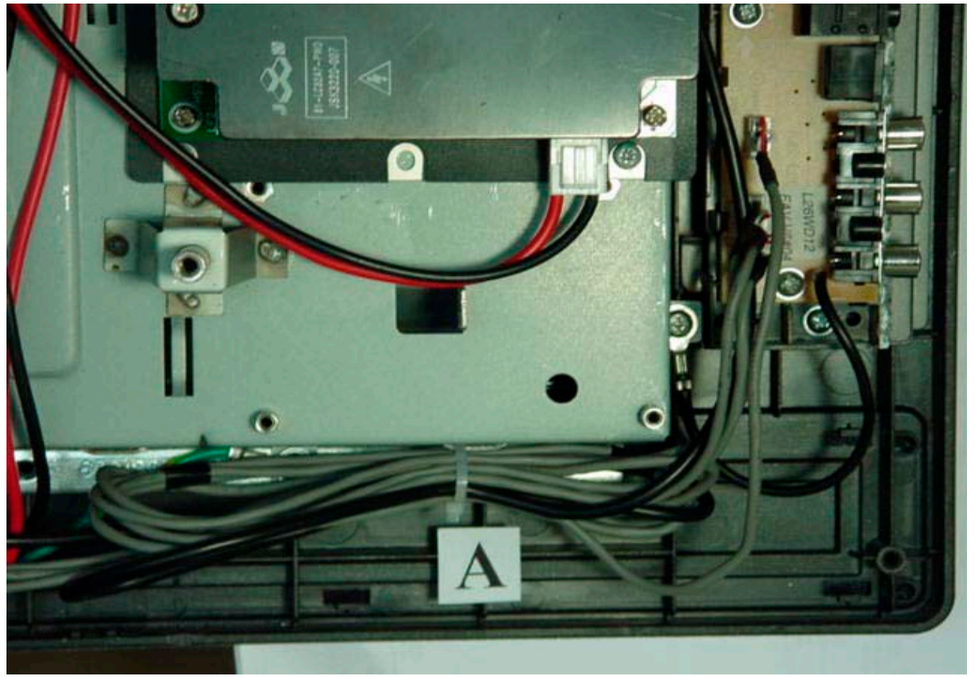


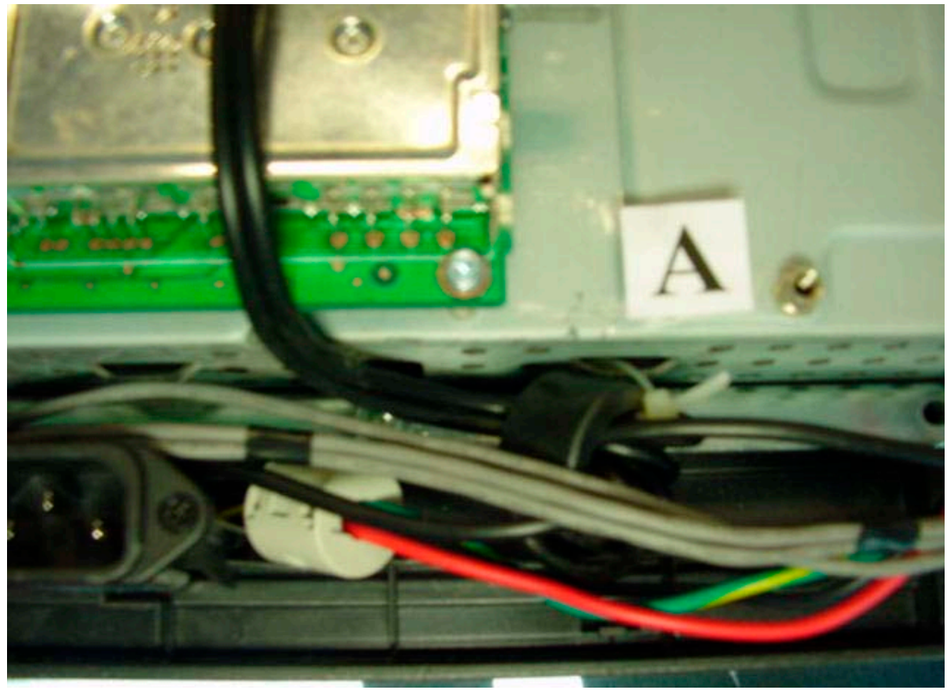
Page 4 - 1

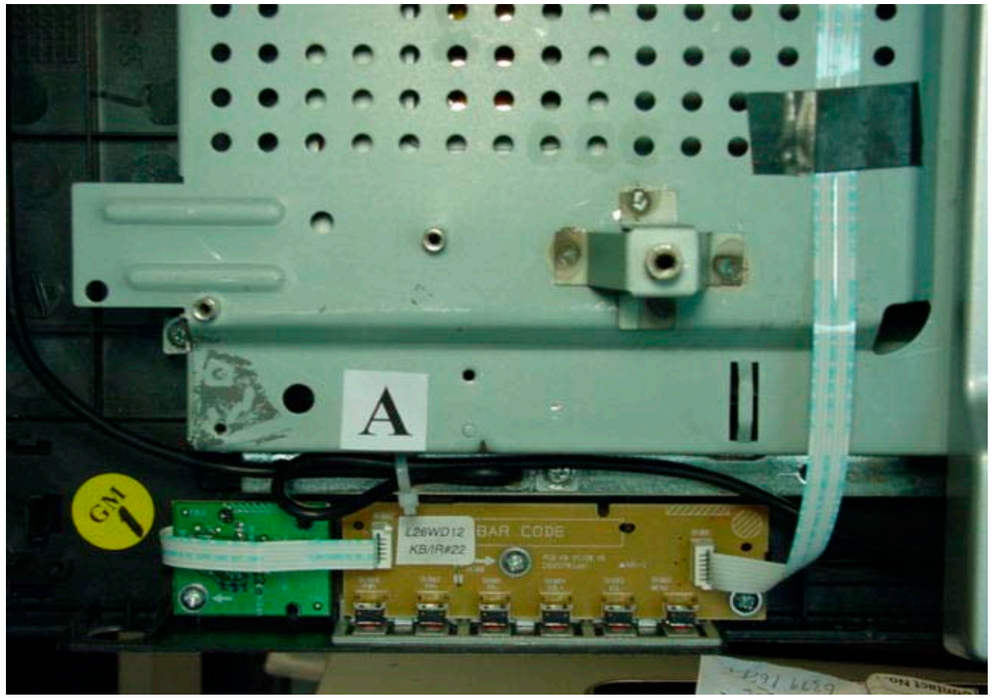

A

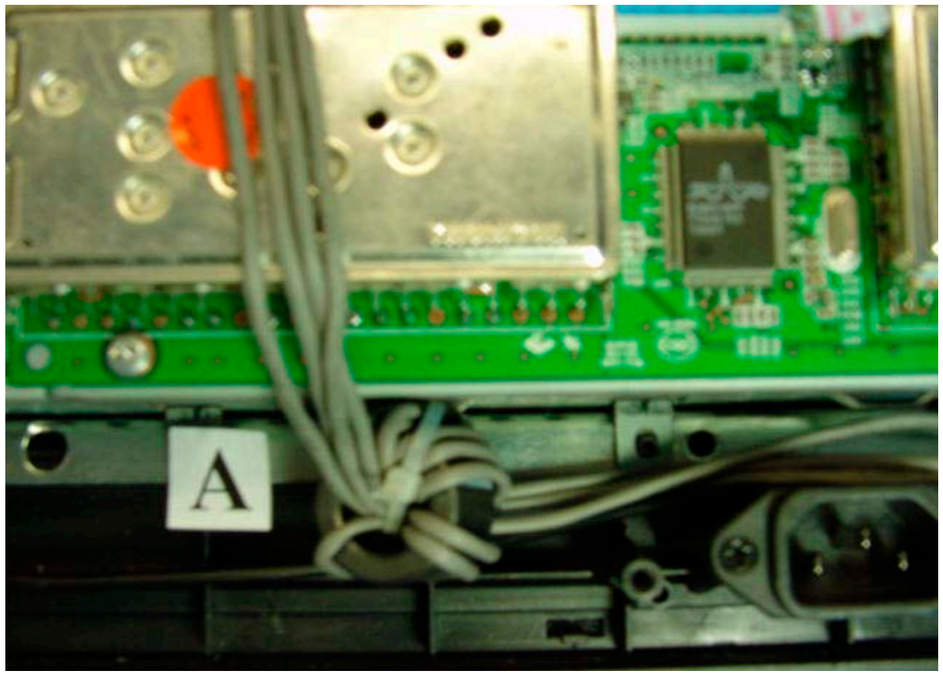

A
05 09 06

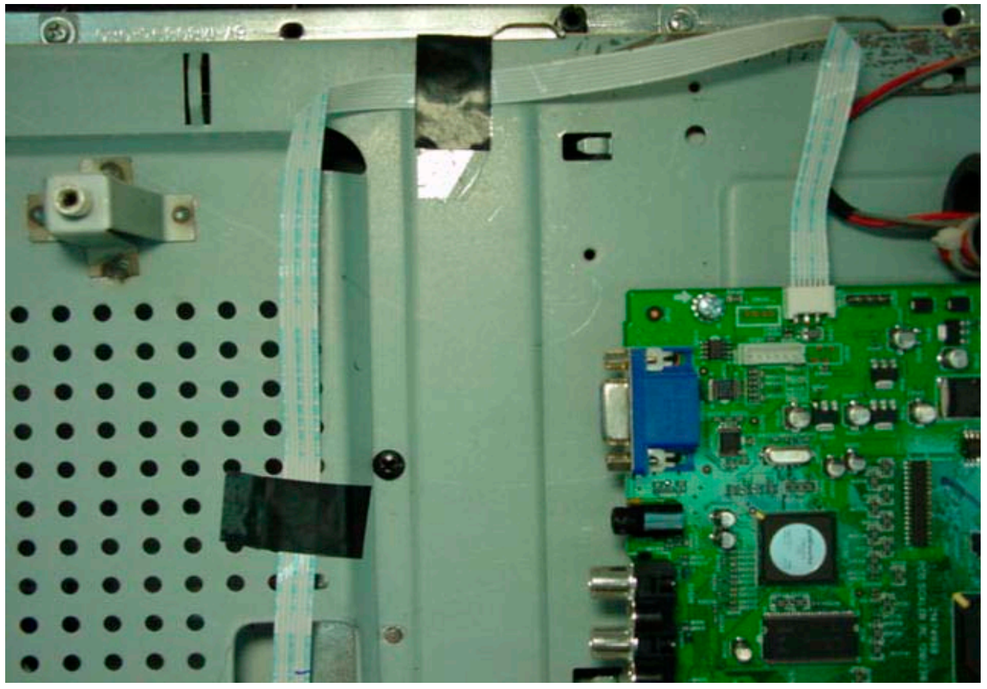

B
50916


A

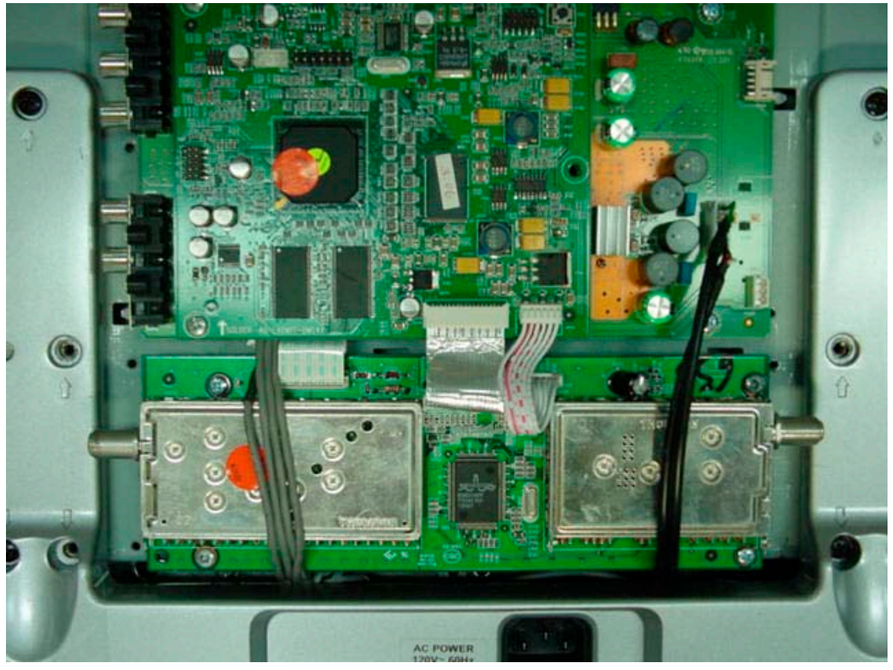








Page 4 - 3



Page 4 - 4

J26L637/J32L637
VOLTAGE CHARTS

ADM1 BOARD

BI101		BI102		J701	
PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	0.0	1	3.2	1	0.0
2	3.2	2	0.0	2	0.0
3	0.0	3	4.9	3	0.0
4	0.0	4	0.0	4	3.2
5	0.0	5	1.7	5	3.2
6	3.2	6	0.0	6	0.0
7	0.0			7	0.0
8	3.3			8	4.1
9	0.0			9	2.4
10	3.3			10	0.0
11	1.2			11	0.0
12	0.0			12	0.0
13	0.0			13	1.9
14	0.0			14	0.0
15	0.0			15	6.1
16	0.45				
17	0.0				
18	1.5				

AV BOARD

BA300		BH101		BP100		BS002		BX100							
PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	0.0	1	0.0	1	23.9	1	11.9	1	3.2	26	0.0	51	0.0	76	0.0
2	0.0	2	0.0	2	23.9	2	11.9	2	3.2	27	0.0	52	0.0	77	0.0
3	0.0	3	0.0	3	0.0	3	0.0	3	2.6	28	0.0	53	0.0	78	0.0
		4	3.2	4	23.9	4	0.0	4	2.7	29	0.0	54	0.0	79	0.0
		5	3.2	5	0.0	5	11.9	5	3.2	30	3.2	55	0.0	80	0.0
		6	0.0	6	0.0	6	11.9	6	3.2	31	0.0	56	0.0		
		7	0.0	7	11.8			7	0.0	32	0.0	57	1.1		
		8	4.1	8	11.8			8	0.0	33	0.0	58	0.0		
		9	2.4	9	11.8			9	0.0	34	0.0	59	0.0		
		10	0.0	10	0.0			10	0.0	35	0.0	60	0.0		
		11	0.0	11	0.0			11	0.0	36	0.0	61	0.0		
		12	0.0	12	0.0			12	0.0	37	0.0	62	0.0		
		13	1.9	13	6.2			13	0.0	38	0.0	63	0.0		
		14	0.0	14	11.8			14	0.0	39	0.0	64	0.0		
		15	6.1					15	0.0	40	0.0	65	0.0		
								16	0.0	41	0.37	66	0.0		
								17	0.0	42	0.0	67	0.0		
								18	3.2	43	0.0	68	0.0		
								19	0.0	44	0.0	69	0.0		
								20	3.2	45	0.0	70	0.0		
								21	0.0	46	0.0	71	0.0		
								22	0.0	47	0.06	72	0.0		
								23	0.0	48	0.0	73	0.0		
								24	0.0	49	0.0	74	0.0		
								25	0.0	50	0.0	75	0.0		

AV BOARD (CONTINUED)

BX103		BX600		BX601	
PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	0.0	1	3.2	1	0.0
2	0.0	2	3.2	2	0.0
3	0.0	3	0.0	3	0.0
4	0.0	4	3.2	4	0.0
5	0.0	5	0.0	5	0.0
6	0.0	6	0.0	6	0.0
7	0.0	7	0.0	7	0.0
8	0.0	8	11.7	8	0.0
9	0.0	9	11.7	9	0.0
		10	0.0	10	0.0

DIGITAL & ANALOG QAM BOARD

BM101		BM404				BP101		BV101	
PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	3.2	1	0.0	11	0.0	1	3.2	1	0.0
2	3.2	2	3.2	12	1.2	2	0.0	2	0.0
3	0.0	3	0.0	13	0.0	3	4.9	3	0.0
4	3.2	4	0.0	14	0.0	4	0.0	4	0.0
5	0.0	5	0.0	15	0.0	5	1.7	5	0.0
6	0.0	6	3.2	16	0.45	6	0.0	6	0.0
7	0.0	7	0.0	17	0.0			7	0.0
8	11.7	8	3.3	18	1.5			8	0.0
9	11.7	9	0.0					9	0.0
10	0.0	10	3.3					10	0.0

FRONT AV BOARD

BQ002		BV500	
PIN #	DC VOLTS	PIN #	DC VOLTS
1	0.0	1	0.0
2	0.0	2	0.0
3	0.0	3	0.0
		4	0.0
		5	0.0
		6	0.0
		7	0.0
		8	0.0
		9	0.0

DSCI BOARD

PY102		PY104		PY106		PY202	
PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	0.0	1	0.0	1	3.2	1	0.0
2	3.3	2	NC	2	3.2	2	0.0
3	5.2	3	NC	3	0.0		
		4	12.2	4	3.2		

KEY BOARD

BK001		BK001 PIN 6		BK002 RUN		BK002 OFF		BK003	
PIN #	DC VOLTS	FUNCTION	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	6.2	POWER	2.1	1	0.0	1	0.0	1	0.0
2	0.0	CH +	0.7	2	4.3	2	4.3	2	3.2
3	0.0	CH -	0.35	3	5.1	3	5.1	3	5.2
4	3.3	VOL +	1.4	4	2.2	4	0.0		
5	5.2	VOL -	1.1	5	0.59	5	1.8		
6	2.4	MENU	1.7						

IR BOARD

BK002 RUN		BK002 OFF	
PIN #	DC VOLTS	PIN #	DC VOLTS
1	0.0	1	0.0
2	3.3	2	3.0
3	5.1	3	5.1
4	6.2	4	0.0
5	2.0	5	0.0

J26L637/J32L637
VOLTAGE CHARTS
LCD PANEL

CN1		CN2		CN3			
PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	23.9	1	23.9	1	0.0	26	0.0
2	23.9	2	23.9	2	1.2	27	0.01
3	23.9	3	23.9	3	1.1	28	0.04
4	23.9	4	23.9	4	1.2	29	5.1
5	23.9	5	0.03	5	1.1	30	5.1
6	0.0	6	0.0	6	1.1	31	5.1
7	0.0	7	0.0	7	1.2	32	5.1
8	0.0	8	0.0	8	0.0	33	5.1
9	0.0	9	3.2	9	0.0	34	5.1
10	0.0	10	2.7	10	1.1	35	0.0
		11	0.0	11	1.2	36	0.0
		12	3.2	12	1.2	37	0.0
				13	1.1	38	3.1
				14	0.0	39	0.0
				15	0.0	40	0.0
				16	0.04		
				17	0.01		
				18	0.04		
				19	0.01		
				20	0.04		
				21	0.01		
				22	0.0		
				23	0.0		
				24	0.04		
				25	0.01		

SCALER BOARD

BP100		BP101		BP102		BP103		BR100							
PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	23.9	1	0.0	1	5.3	1	3.1	1	3.2	26	0.0	51	0.0	76	0.0
2	23.9	2	3.2	2	0.0	2	23.9	2	3.2	27	0.0	52	0.0	77	0.0
3	0.0	3	0.0	3	3.1	3	0.0	3	2.6	28	0.0	53	0.0	78	0.0
4	23.9	4	0.0			4	0.0	4	2.7	29	0.0	54	0.0	79	0.0
5	0.0	5	3.2			5	0.0	5	3.2	30	3.2	55	0.0	80	0.0
6	0.0	6	3.2			6	0.0	6	3.2	31	0.0	56	0.0		
7	11.8					7	11.9	7	0.0	32	0.0	57	1.1		
8	11.8							8	0.0	33	0.0	58	0.0		
9	11.8							9	0.0	34	0.0	59	0.0		
10	0.0							10	0.0	35	0.0	60	0.0		
11	0.0							11	0.0	36	0.0	61	0.0		
12	0.0							12	0.0	37	0.0	62	0.0		
13	6.2							13	0.0	38	0.0	63	0.0		
14	11.8							14	0.0	39	0.0	64	0.0		
								15	0.0	40	0.0	65	0.0		
								16	0.0	41	0.37	66	0.0		
								17	0.0	42	0.0	67	0.0		
								18	3.2	43	0.0	68	0.0		
								19	0.0	44	0.0	69	0.0		
								20	3.2	45	0.0	70	0.0		
								21	0.0	46	0.0	71	0.0		
								22	0.0	47	0.06	72	0.0		
								23	0.0	48	0.0	73	0.0		
								24	0.0	49	0.0	74	0.0		
								25	0.0	50	0.0	75	0.0		

VOLTAGE CHARTS

SCALER BOARD (CONTINUED)

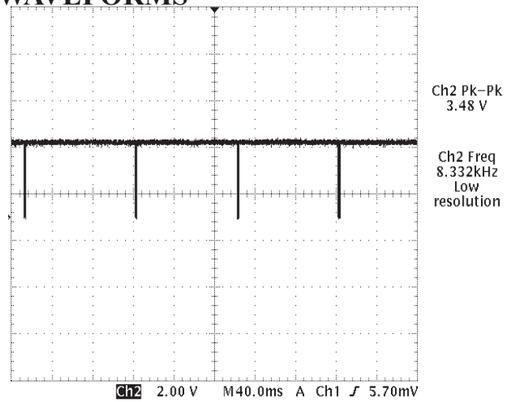
BR102				BR106		BR106 PIN 6		BR108		BR110	
PIN #	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS	FUNCTION	DC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	0.0	26	0.0	1	6.2	POWER	2.1	1	3.2	1	NC
2	1.2	27	0.01	2	3.2	CH +	0.7	2	3.2	2	NC
3	1.1	28	0.04	3	0.0	CH -	0.35	3	0.0	3	NC
4	1.2	29	5.1	4	4.3	VOL +	1.4	4	3.2	4	NC
5	1.1	30	5.1	5	5.2	VOL -	1.1			5	3.2
6	1.1	31	5.1	6	2.4	MENU	1.7			6	NC
7	1.2	32	5.1								
8	0.0	33	5.1								
9	0.0	34	5.1								
10	1.1	35	0.0								
11	1.2	36	0.0								
12	1.2	37	0.0								
13	1.1	38	3.1								
14	0.0	39	0.0								
15	0.0	40	0.0								
16	0.04										
17	0.01										
18	0.04										
19	0.01										
20	0.04										
21	0.01										
22	0.0										
23	0.0										
24	0.04										
25	0.01										

SMPS BOARD

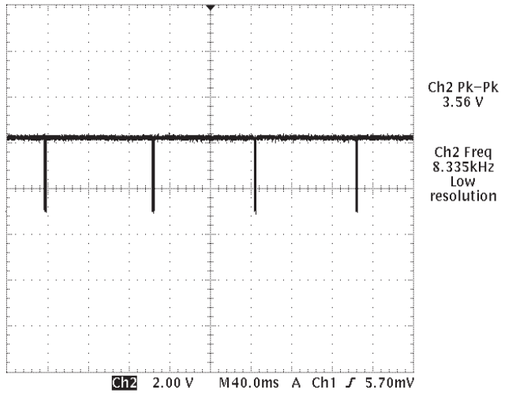
CON1 (ACROSS PINS)		CON2		CON3	
PIN #	AC VOLTS	PIN #	DC VOLTS	PIN #	DC VOLTS
1	121.0	1	0.0	1	11.9
2	121.0	2	NC	2	0.0
		3	NC	3	0.0
		4	12.2	4	0.0
				5	23.9
				6	23.9
				7	3.2

SMPS 1W BOARD

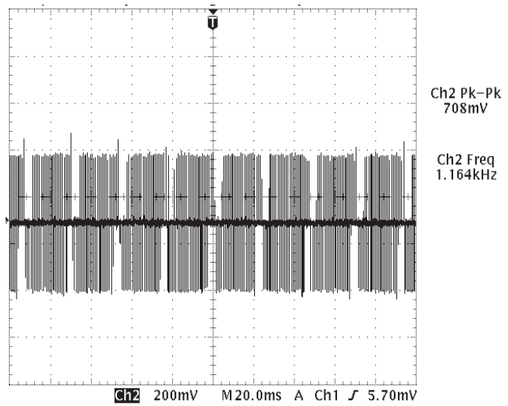
BP600 USE PIN 1/2 AS REF		BP610	
PIN #	AC VOLTS	PIN #	DC VOLTS
1	121.0	1	5.3
2	121.0	2	0.0
3	0.0	3	3.1
4	121.0		
5	0.0		
6	121.0		



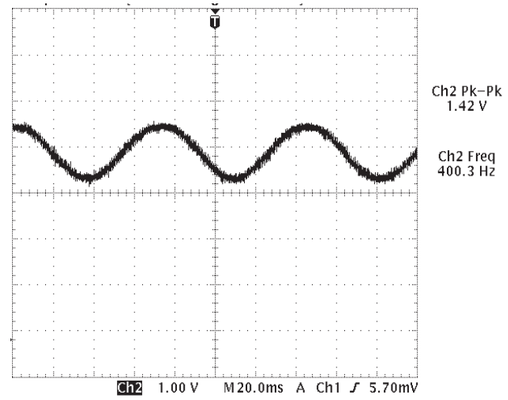
BM101 Pin 1 - QAM Board
BX600 Pin 1 - AV Board



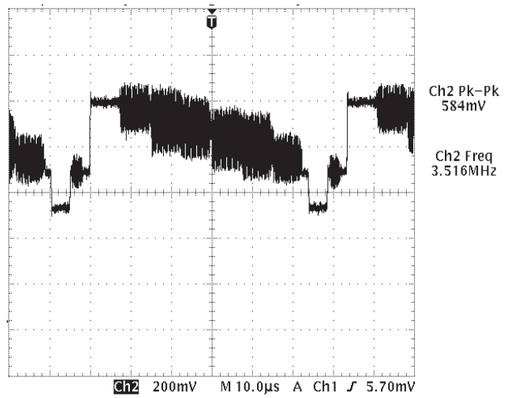
BM101 Pin 2 - QAM Board
BX600 Pin 2 - AV Board



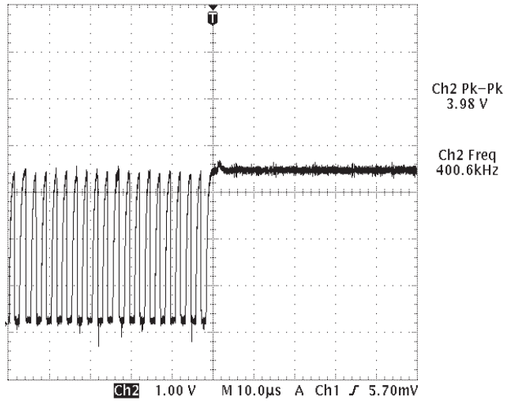
BV101 Pin 1 - QAM Board
BX601 Pin 1 - AV Board



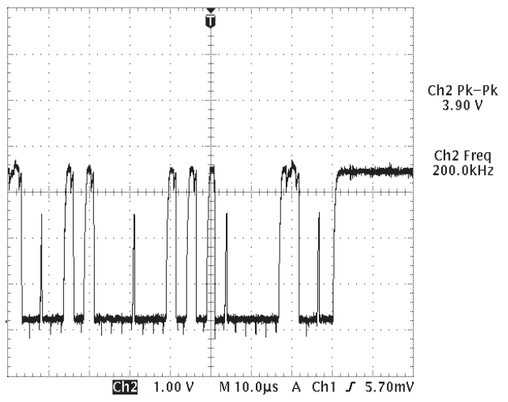
J701 Pin 9 - ADM1 Board
BH101 Pin 9 - AV Board



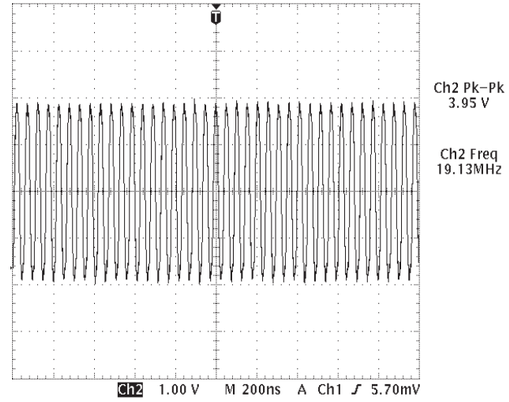
J701 Pin 14 - ADM1 Board
BH101 Pin 14 - AV Board



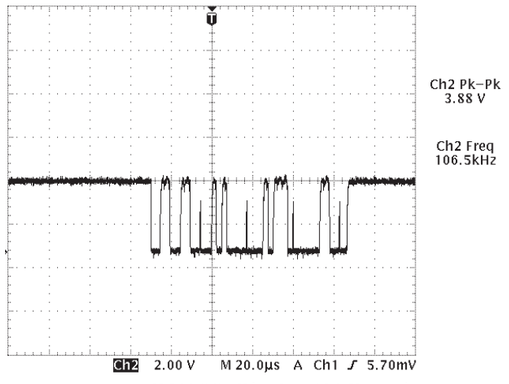
J701 Pin 4 - ADM1 Board
BH101 Pin 4 - AV Board



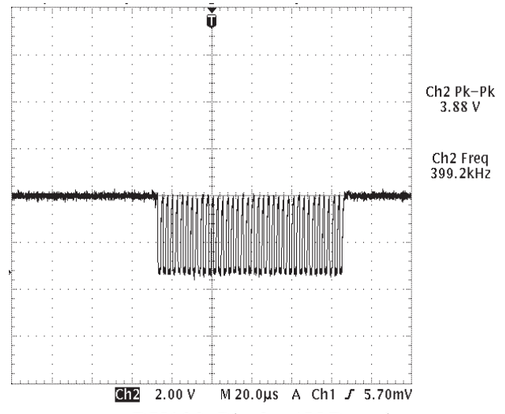
J701 Pin 5 - ADM1 Board
BH101 Pin 5 - AV Board



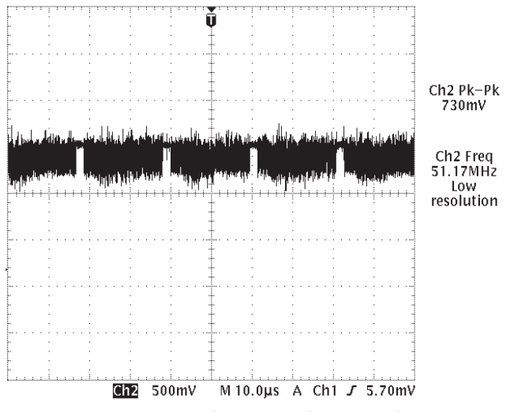
BM404 Pin 16 - QAM Board
BI101 Pin 16- ADM1 Board



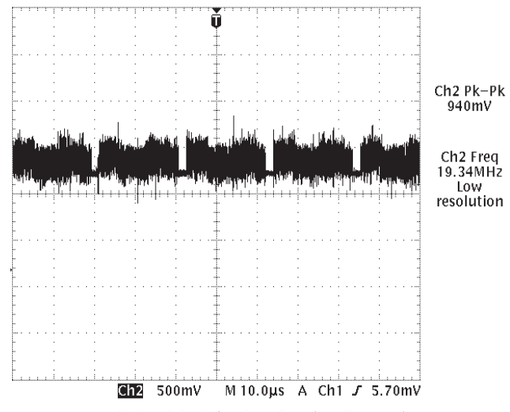
BX100 Pin 1 - AV Board
BR100 Pin 1 - Scaler Board



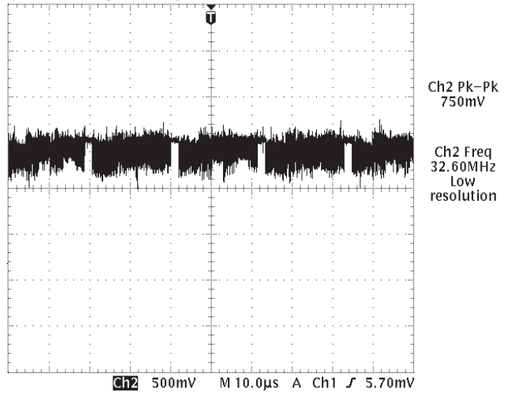
BX100 Pin 2 - AV Board
BR100 Pin 2 - Scaler Board



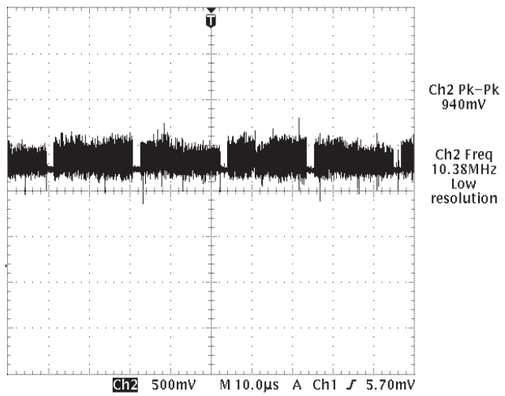
BR102 Pin 2 - Scaler Board



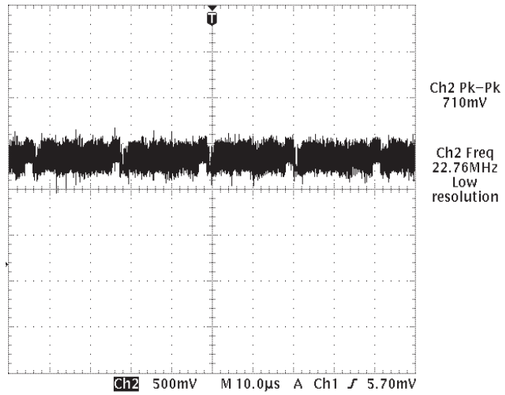
BR102 Pin 3 - Scaler Board



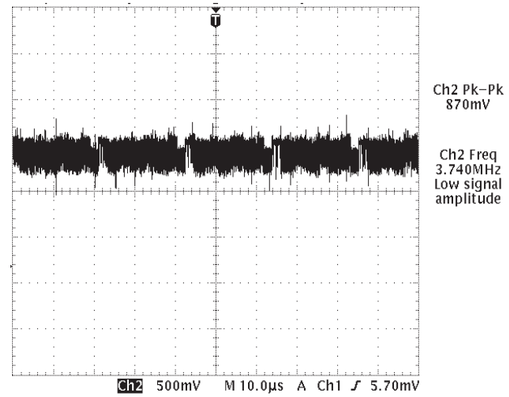
BR102 Pin 4 - Scaler Board



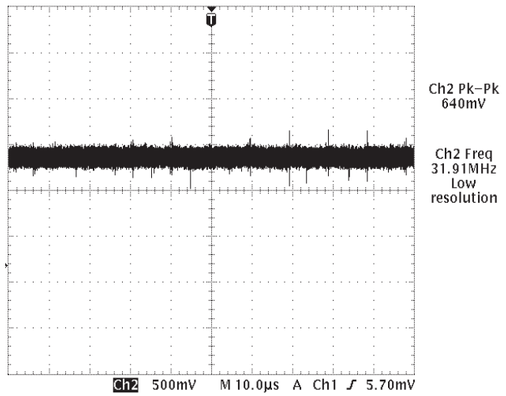
BR102 Pin 5 - Scaler Board



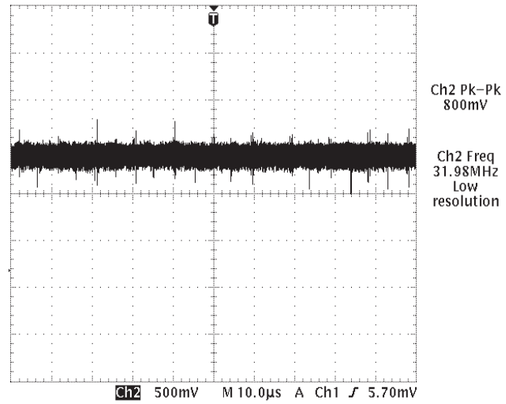
BR102 Pin 6 - Scaler Board



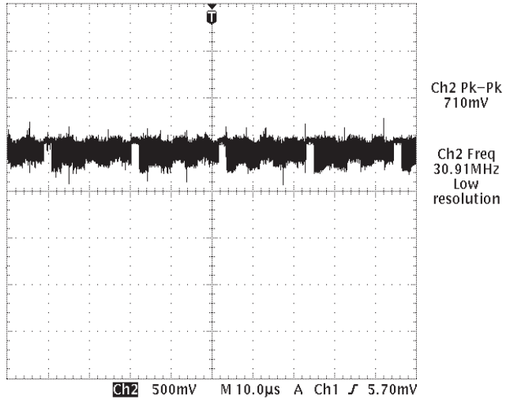
BR102 Pin 7 - Scaler Board



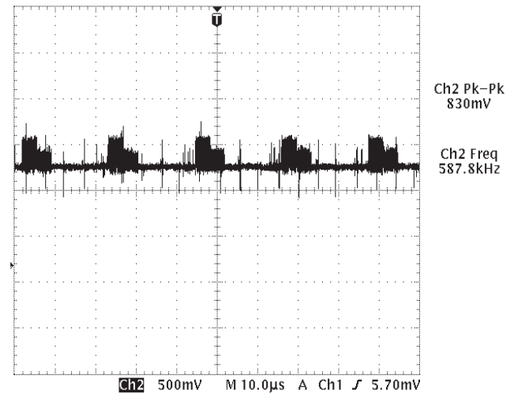
BR102 Pin 10 - Scaler Board



BR102 Pin 11 - Scaler Board

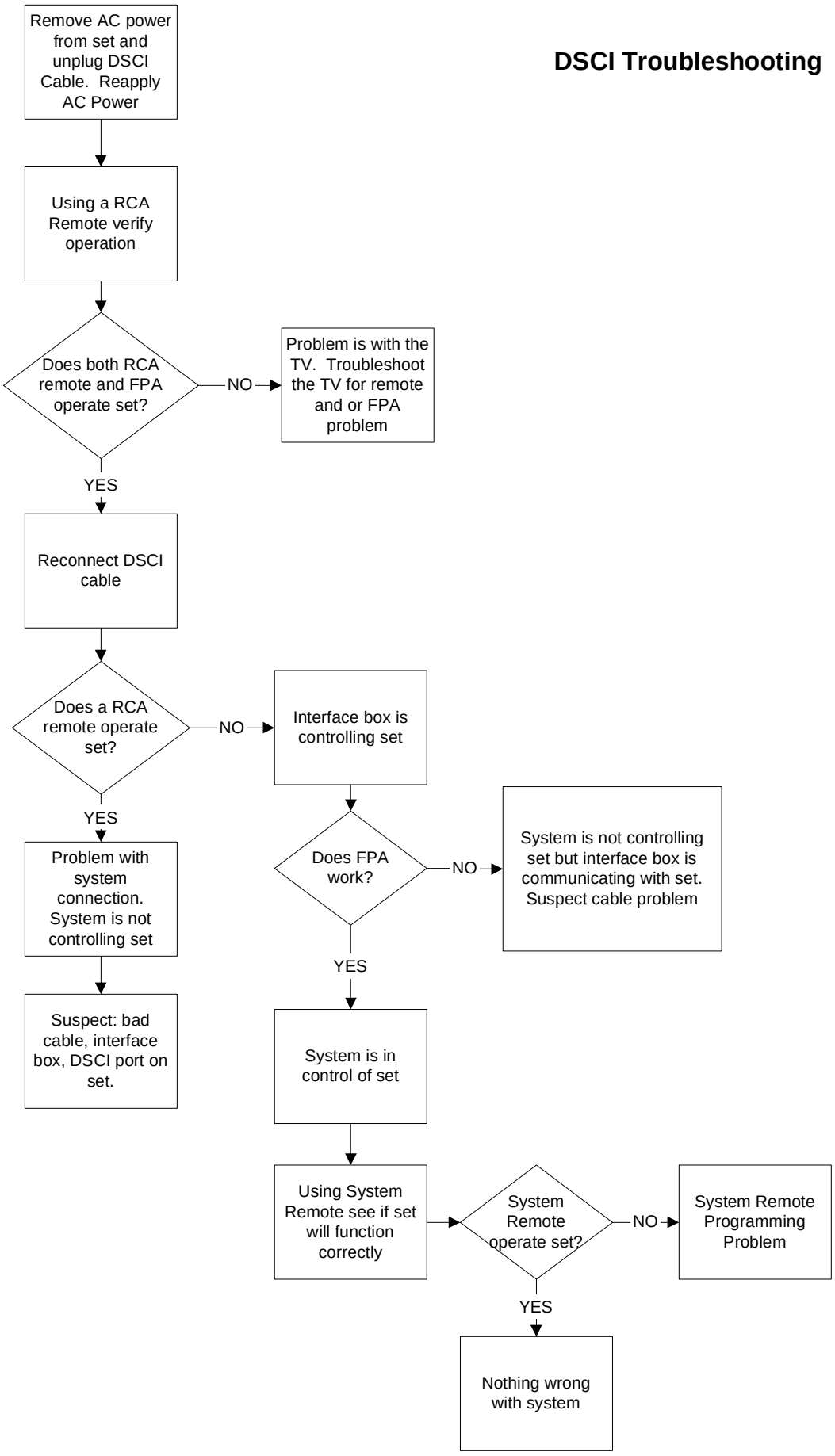


BR102 Pin 12 - Scaler Board

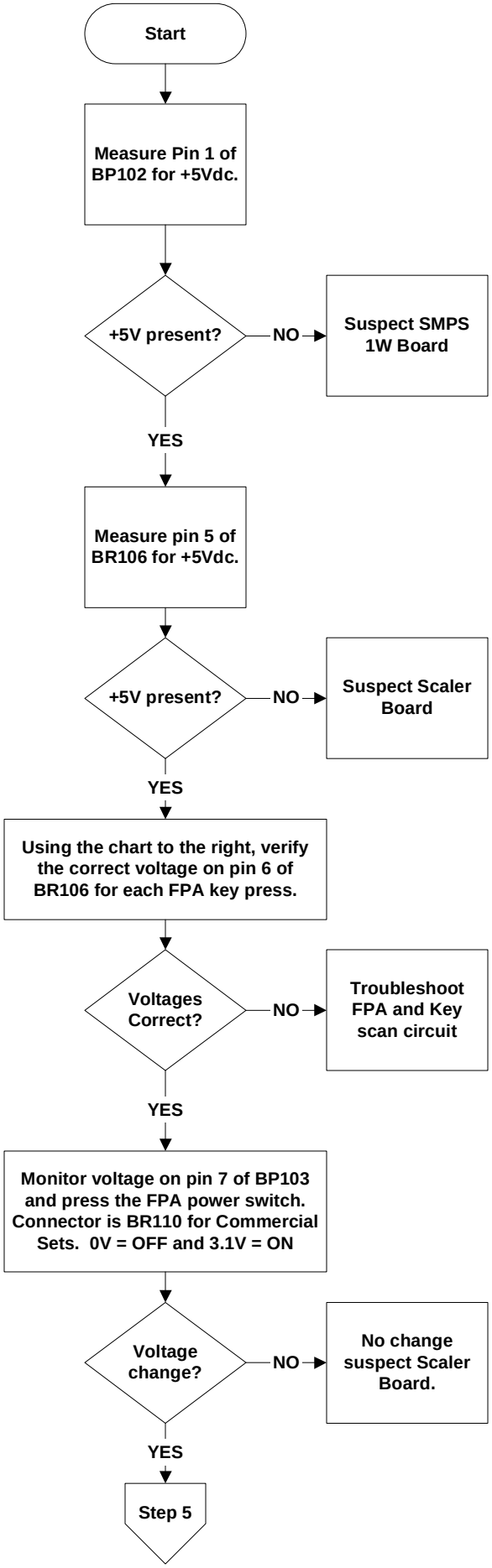


BR102 Pin 13 - Scaler Board

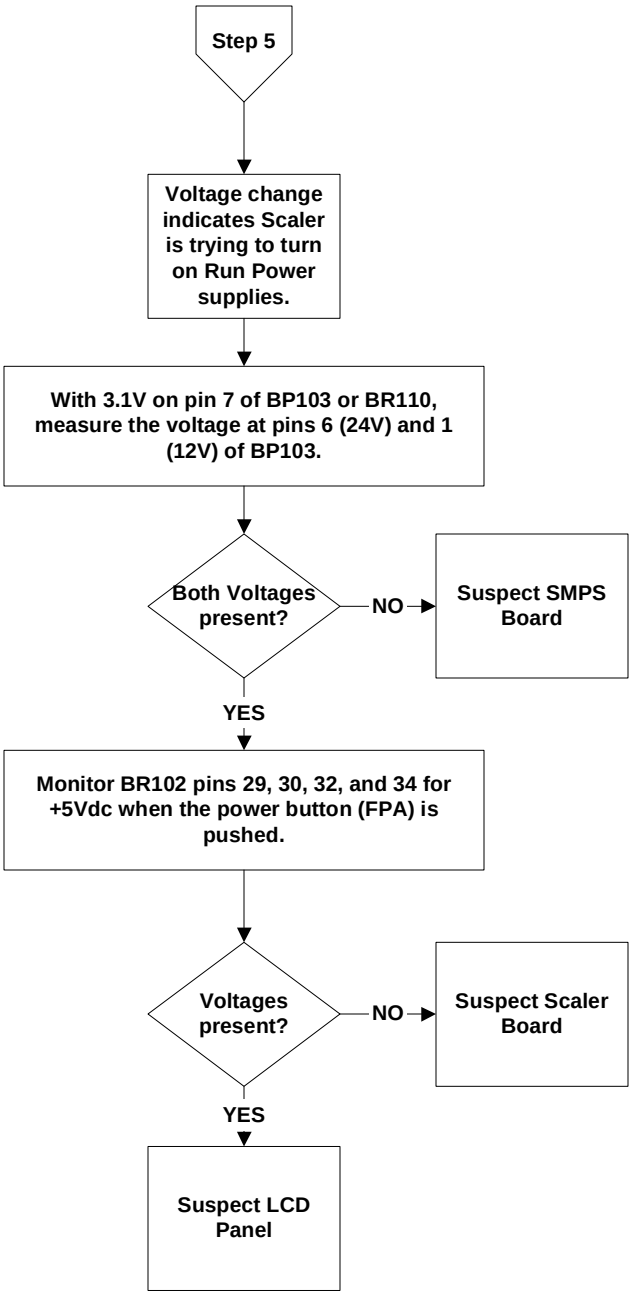
DSCI Troubleshooting



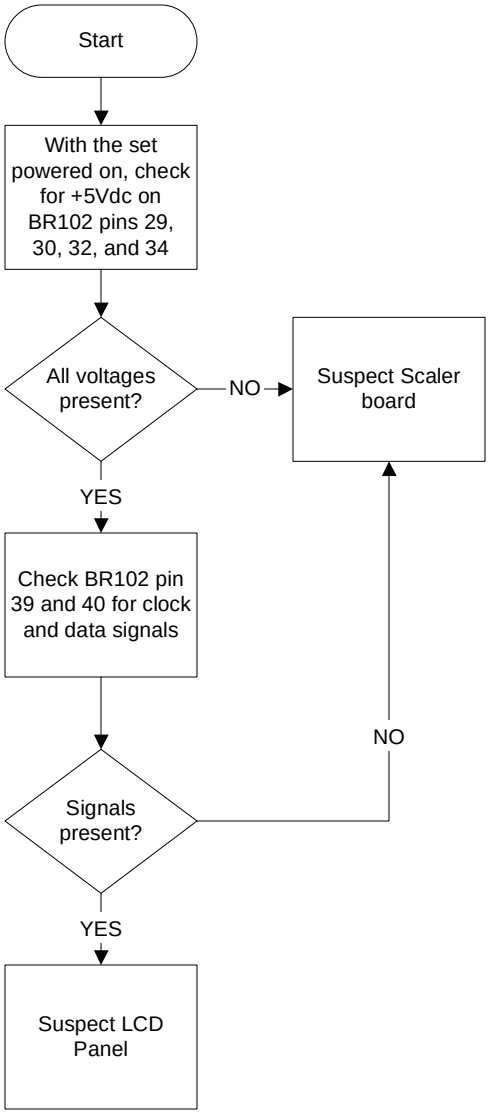
Dead Set Troubleshooting



BR106 Pin 6	
Function	**DC Voltage**
Power	2.1
Channel +	0.7
Channel -	0.35
Volume +	1.4
Volume -	1.1
Menu	1.7
No Key Press	2.4


Step 5
Voltage change indicates Scaler is trying to turn on Run Power supplies.
With 3.1V on pin 7 of BP103 or BR110, measure the voltage at pins 6 (24V) and 1 (12V) of BP103.
Both Voltages present?
NO
Suspect SMPS Board
YES
Monitor BR102 pins 29, 30, 32, and 34 for +5Vdc when the power button (FPA) is pushed.
Voltages present?
NO
Suspect Scaler Board
YES
Suspect LCD Panel

Back light OK
Sound OK
NO Video



ATSC Tuner not working all other inputs and NTSC tuner work