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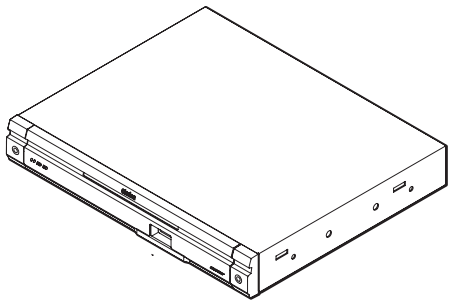
Service Manual



HDD Navigation System

Model ***NAX963HD***
(QY-5000E-A)

LF

This product is a lead free model.
Lead free solder is used in PWB stamped LF mark.
Please keep the following conditions when you repair.

1. Use lead free solder.
   * Koki's lead free solder S3X-55M 0.6mm
     (CLARION Parts No.642-0231-01)
   * Koki's lead free solder S3X-55M 1.0mm
     (CLARION Parts No.642-0231-02)
2. Use a nitrogen solder system.
3. Do not use "General solder" and "Lead free solder" together.

SPECIFICATIONS

Navigation System

GPS receiving frequency:
1575.42 MHz, C/A Code
Sensibility: -130 dBm or better
Number of GPS channels:
15 channels
Voice synthesis: ADPCM,
Sampling frequency;11.025 kHz
Power supply voltage: +14V
Ground: Negative
Current consumption: less than 3.0A
Dimensions(mm): 205(W)x29.5(H)x169(D)

GPS aerial

Mode: Microstrip flat aerial
Dimensions(mm): 30.4(W)x11.7(H)x35.5(D)
Impedance: 50 ohm

NOTES

About the hard disk drive

* Data saved to the hard disk drive may get lost in case of a breakdown, malfunction, or other trouble of this unit.

Importing Data via USB Port

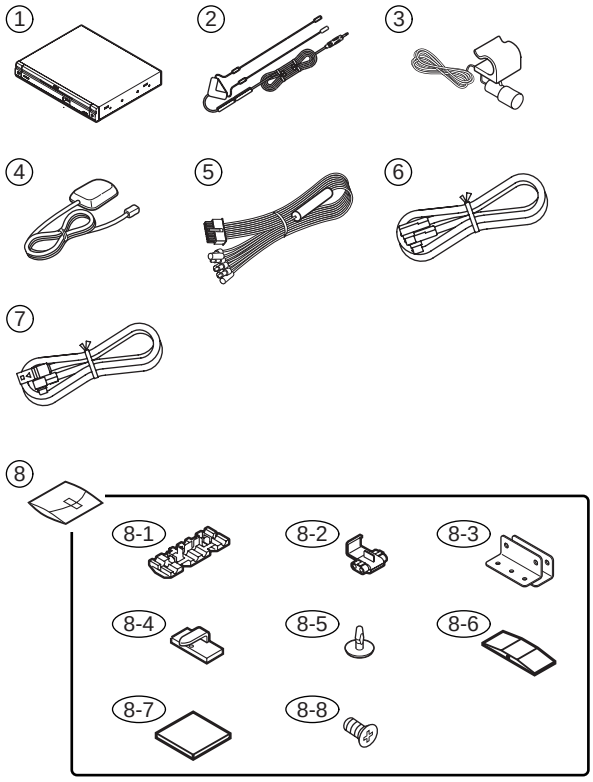
* Data may be broken when using USB memories sticks in the following situation: When disconnecting the USB memory stick or turning the power off during writing or reading data. When affected by static electricity or electric noises.
* Music files (MP3, WMA, etc.) stored in the USB memory stick cannot be played back.
  ("Data" : Including the stored locations and their data, route data, data stored in the Favourite & Frequent List, setting data set from the Setting menu, and data imported from the USB memory stick (Wallpapers, Safety Camera locations, etc.)

* The special equipment is necessary to replace IC103.
* We cannot supply PWB with component parts in principle. When a circuit on PWB has failure, please repair it by component parts base.
  Parts which are not mentioned in service manual are not supplied.
* Specifications and design are subject to change without notice for further improvement.

COMPONENTS

QY-5000E-A

1.	Main unit	----------	1
2.	RDS-TMC amtenna	ZCA-412-310	1
3.	Microphone for voice control	081-0034-00	1
4.	GPS antenna	096-0147-00	1
5.	Power supply lead	854-6451-50	1
	(5A Fuse	120-0050-00	1)
6.	RGB cable(2.5m)	855-2433-01	1
7.	CeNET cable(2.5m)	855-3421-90	1
8.	Accessory bag	----------	1
8-1.	Electro-tap(for speed sensor)	060-0018-00	2
8-2.	Electro-tap	060-0305-00	1
8-3.	Mounting bracket	300-7362-03	2
8-4.	Cord holder	321-1026-01	10
8-5.	Canoe clip	335-2515-00	4
8-6.	Waterproof rubber	345-7473-00	1
8-7.	Double-sided tape for fastening the antenna	347-6369-00	1
8-8.	Inatallation bolt(M4x6)	714-4006-8B	4



To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

1. Use specified parts.
   The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.
   The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.
2. Place the parts and wiring back in their original positions after replacement or re-wiring.
   For proper circuit construction, use of insulation tubes, bonding, gaps to PWB, etc, is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.
   If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.
3. Check for safety after repair.
   Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary ploblems around the repaired spots.
   If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
4. Caution in removal and making wiring connection to the parts for the automobile.
   Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
5. Cautions in soldering
   Please do not spread liquid flux in soldering.
   Please do not wash the soldering point after soldering.
6. Cautions in soldering for chip capacitors
   Please solder the chip capacitors after pre-heating for replacement because they are very weak to heat.
   Please do not heat the chip capacitors with a soldering iron directly.
7. Cautions in handling for chip parts.
   Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc).
   Please make an operation test after replacement.
8. Cautions in handling flexible PWB
   Before working with a soldering iron, make sure that the iron tip temperature is around 270℃. Take care not to apply the iron tip repeatedly(more than three times)to the same patterns. Also take care not to apply the tip with force.
9. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

TROUBLESHOOTING

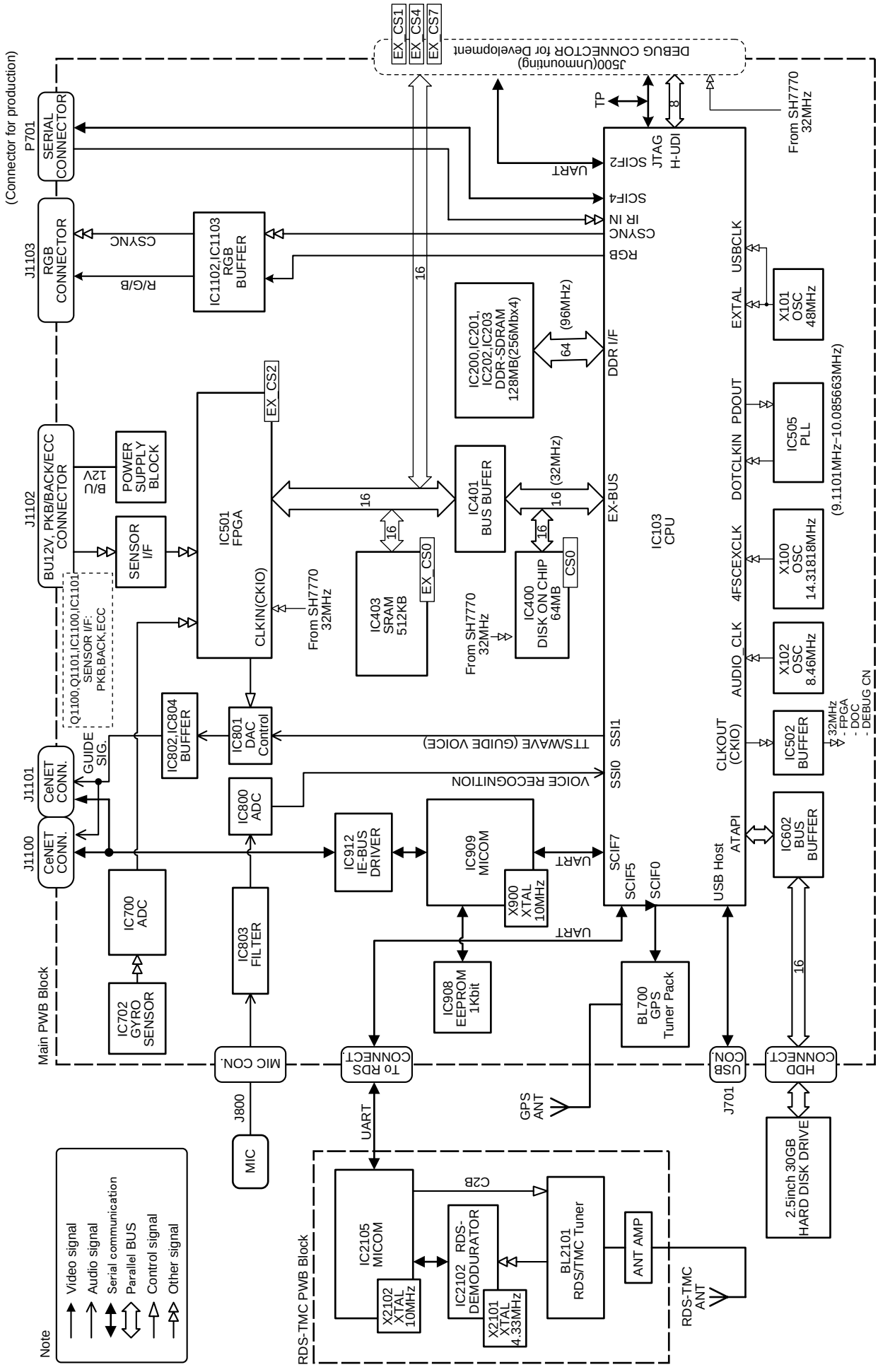
Problem	Check point	Remedy
Power indicator doesn't light. (The power supply doesn't enter).	Connection of power cable	Connect power cable properly.
	Connection of CeNET cable	Connect CeNET cable properly.
	Power supply circuit	Confirm the output voltage of the power properly. TP1000 HDD_5V TP1001 D_5V TP1003 D_3.3V TP1008 DDR_2.5V TP1004 VCC 1.22V
Screen is not displayed.	Connection of RGB cable	Connect RGB cable properly.
	Output of RGB signal	Confirm the output of RGB signal. TP1115 R TP1116 G TP1114 R
	Dot clock	Confirm the frequency of the dot clock. (TP534)
Map is not displayed.	HDD	Insert HDD, and put protecting.
The color of the screen is defective.	Output level of RGB signal	Confirm the output level of RGB signal. TP1115 R TP1116 G TP1114 R
Guide voice doesn't sound.	Volume level of guide voice	Adjust the volume properly.
	Clock and data input of DAC(IC801)	Confirm IC801. pin1(LRCK):11.025KHz pin18(MCLK):8.46MHz pin19(BCLK):705KHz pin20(DIN):Data input
	Output of DAC(IC801)	Confirm an analog aoudio signal output of pin12 of IC801.
	MUTE setting	Confirm collector voltage of Q803. 0V : MUTE-ON 3.3V : MUTE-OFF
		Confirm collector voltage of Q801. 0V : MUTE-ON 3.3V : MUTE-OFF
Voice recognition is defective.	Connection of microphone	Connect microphone properly.
	Input signal of ADC(IC800)	Confirm audio wave form of TP801(AD_IN).
	Clock and data output of ADC(IC800)	Confirm IC800. pin9(SDTO):Data output according to voice input. pin10(LRCK):11.025KHz pin11(MCLK):8.46MHz pin12(SCLK):705KHz
The car position doesn't move.	Connection of speed pulse	Connect speed pulse cable properly.
	Wave form of speed pulse	Confirm an output signal of TP1105(ECC).
	Gyro sensor	Measure pin1(VOUT) of Gyro(IC702) with the tester. Confirm the voltage. At geostationary: about 2.5V When sets are rotatedand: voltage moves.
GPS reception is defective.	Connection of GPS antenna	Connect GPS antenna properly.
	Connection of internal wiring	Connect internal wiring (ANT700,ANT701) properly.
RDS-TMC reception is defective.	Connection of antenna	Connect antenna properly.
	Setting position of window antenna	Change the installation position. Separate from the antenna of the vehicle. (especially, glass antenna)
	Noise source in car (PC,DC/AC converter)	Stop the equipment that generates the noise.
	Tuner Pack	Confirm the power supply voltage. TP2101 R_TU8V TP2113 TUNER3.2V
	RDS/TMC microcomputer	Confirm the oscillation of X2102(10MHz) and output power of TP2209 (BU5V).
The provider of RDS-TMC is not automatically selected.	Selection of "TMC Provider screen".	Select "Automatic".

ERROR MESSAGES

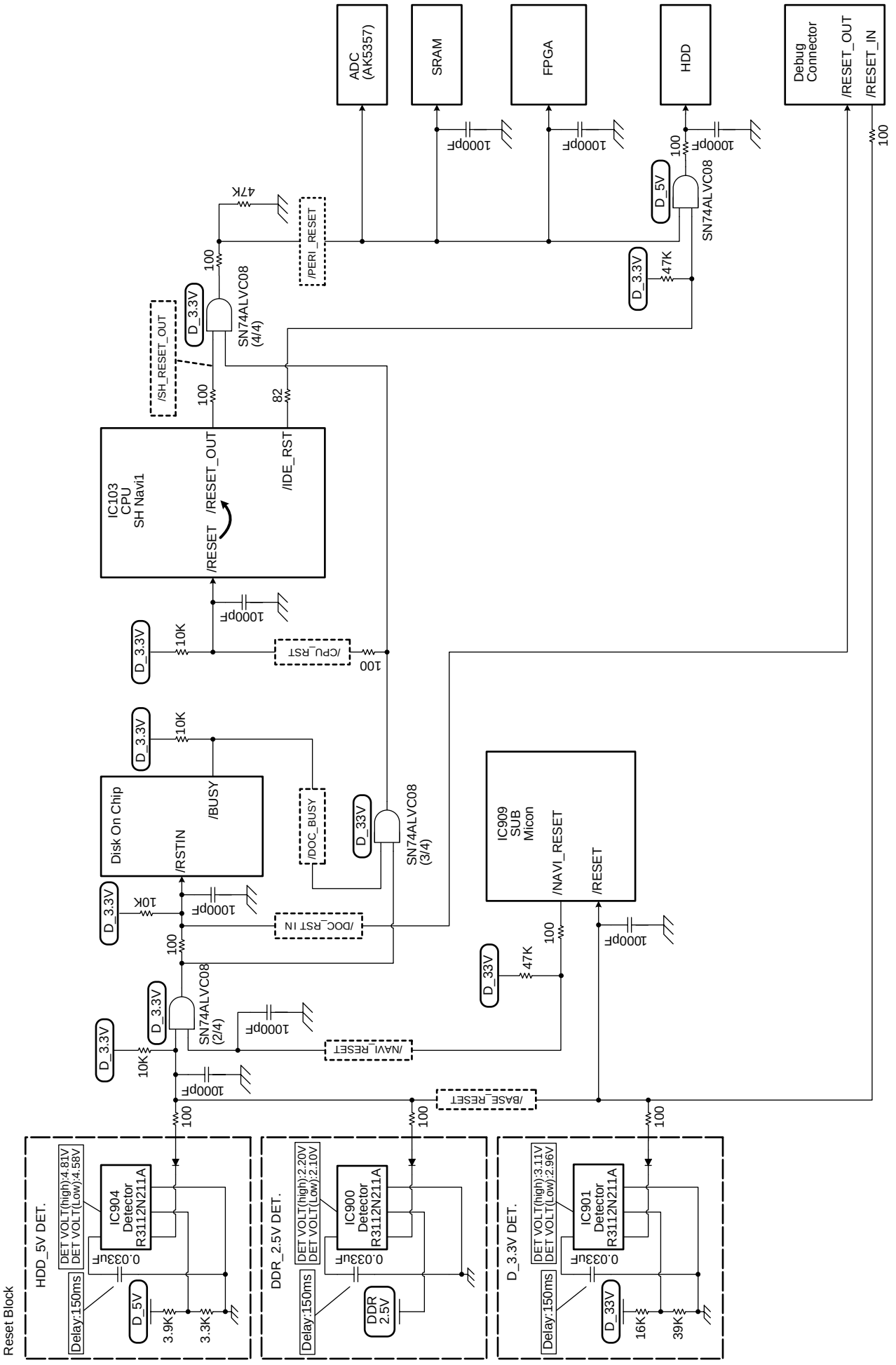
Error Message		Cause	Remedy
USB memory device	ACCESS ERROR The USB memory device cannot be accessed.	The USB memory is not connected correctly.	Connect the USB memory again.
		The USB memory is not recognised.	Connect another USB memory.
Hard Disk Drive	TEMP ERROR Cannot operate correctly due to high temperature. Please wait until temperature becomes normal again.	The HDD cannot be accessed because the temperature in the vehicle is extremely high	Please wait until the temperature becomes appropriate.
	TEMP ERROR Cannot operate correctly due to low temperature. Please wait until temperature becomes normal again.	The HDD cannot be accessed because the temperature in the vehicle is extremely low	Please wait until the temperature becomes appropriate.
	ACCESS ERROR Malfunction occured in the HDD. Please consult your nearest dealer.	The HDD cannot be accessed. The sectors or clusters of the HDD may be damaged.	

BLOCK DIAGRAM

Video/Audio/Control block

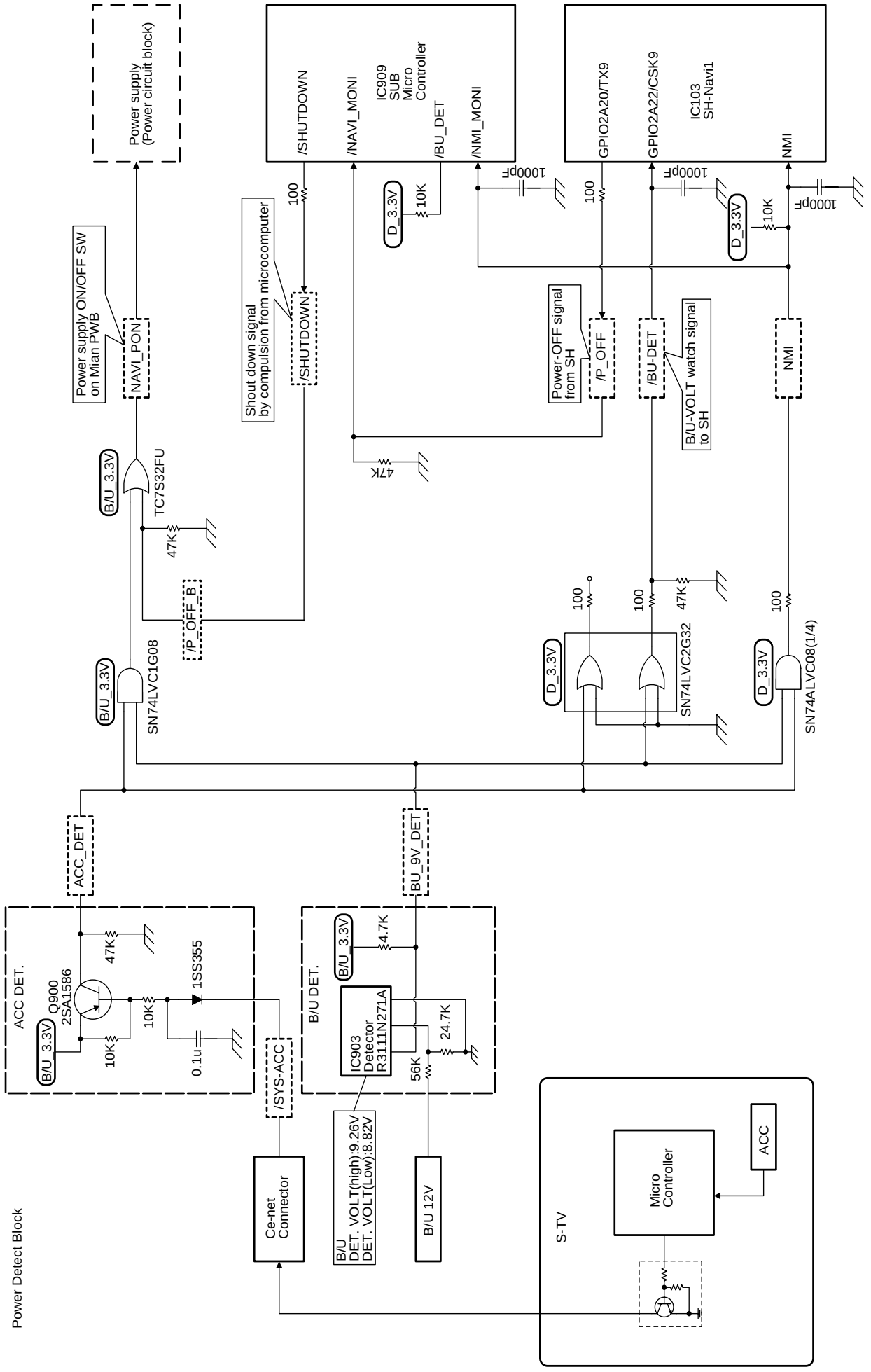


Reset block

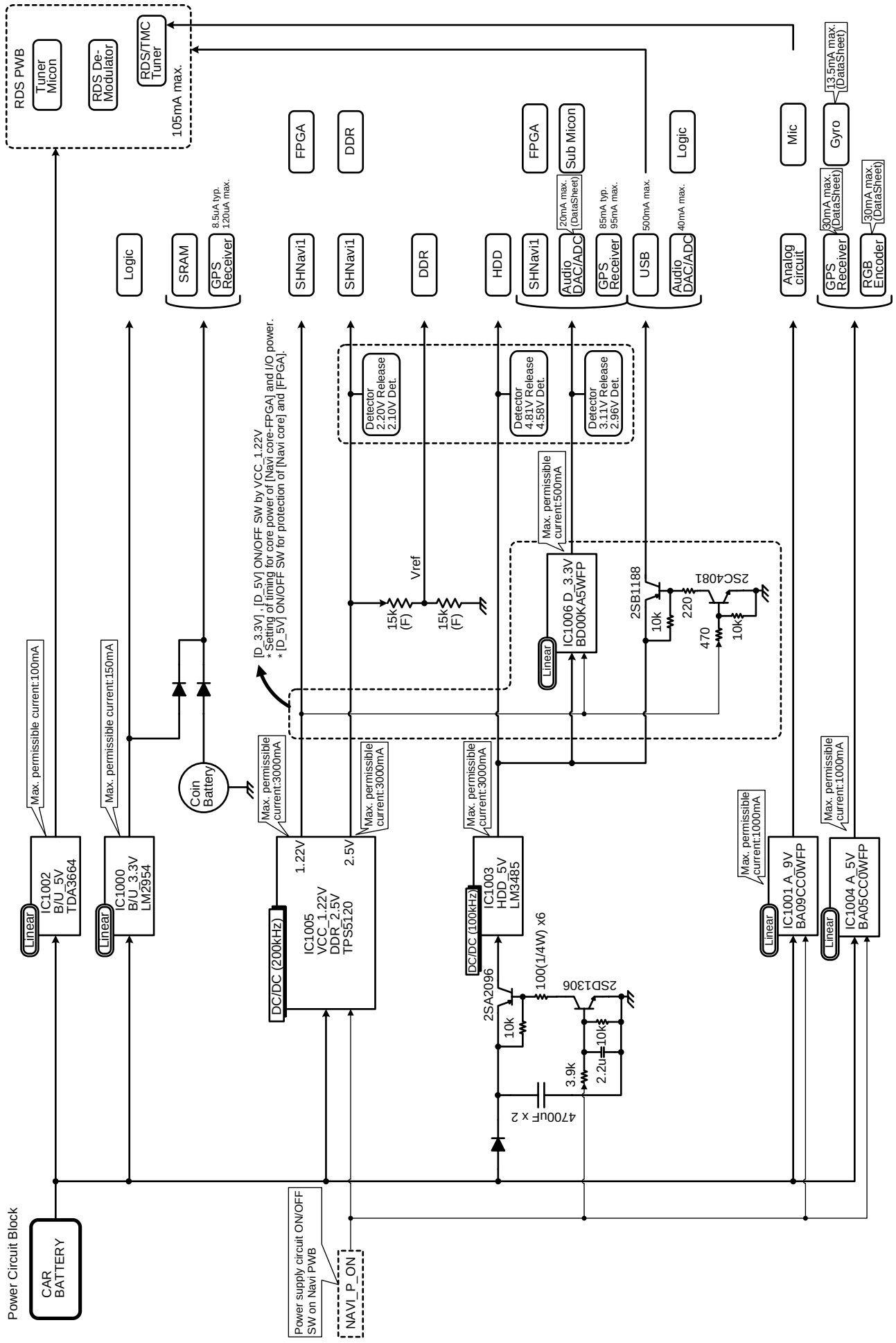


NAX963HD

Power detect block

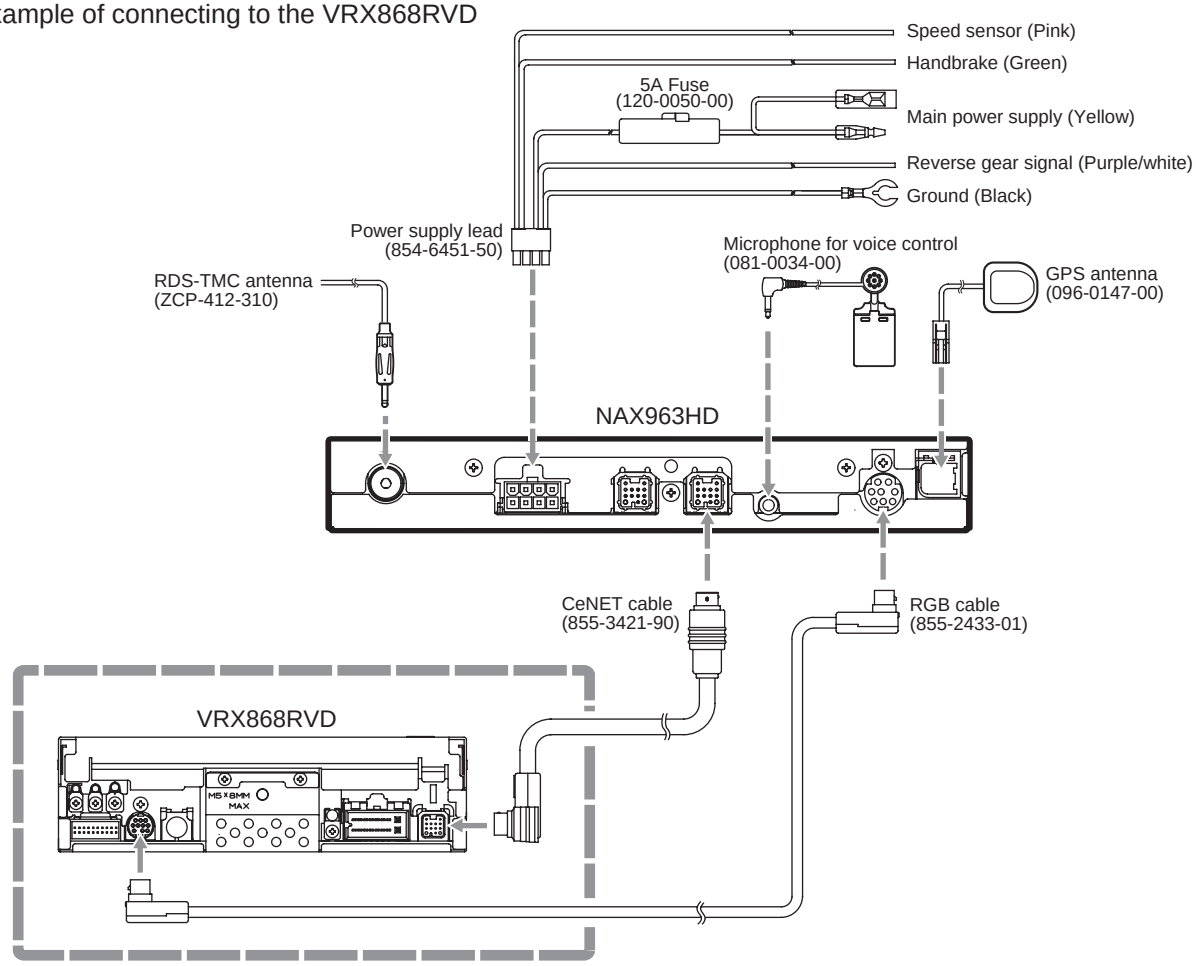


Power circuit block



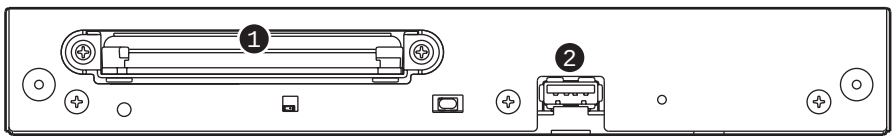
WIRE CONNECTION

Example of connecting to the VRX868RVD

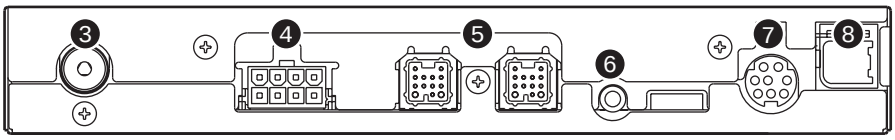


Connectors

Front view (inside of Escutcheon)

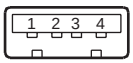


Rear view



1 HDD

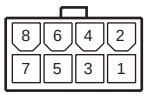
2 USB connector



1	5V
2	D-
3	D+
4	GND

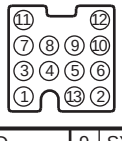
3 RDS-TMC antenna recept.

4 Power supply connector



1	N.C.
2	PARKING BRAKE
3	N.C.
4	SPEED SENSOR
5	GROUND
6	REVERSE SIG.
7	BATTERY (+)
8	N.C.

5 CeNET connector



1	GND	9	SYS ACC
2	SYS B/U	10	BUS(-)
3	L-CH(+)	11	L-CH(-)
4	EXT(+)	12	ILLUMI.
5	EXT(-)	13	N.C.
6	GUS(+)		
7	R-CH(+)		
8	R-CH(-)		

6 Mic.jack

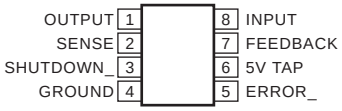
7 RGB connector

1	B
2	C-SYNC
3	R
4	N.C.
5	N.C.
6	G
7	N.C.
8	N.C.

8 GPS antenna recept.

EXPLANATION OF IC

051-3304-90 LP2954IMX Voltage Regulator



Terminal Description

pin 1: Power out : O : DC power voltage output.

pin 2: Sense : IN : The voltage regulator may be pin-strapped for 5V operation using its internal resistive divider by tying the Output and Sense pins together.

pin 3: Shut Down_ : IN : A logic-level signal will shut off the regulator output when a "LOW" (<1.2V) is applied to the Shutdown input.

pin 4: Ground : - : Ground.

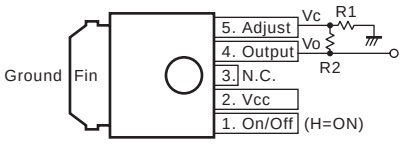
pin 5: Error_ : O : Error flag output.

pin 6: 5V-TAP : IN : The voltage regulator may be pin-strapped for 5V operation using its internal resistive divider by tying the Feedback pin and 5V-Tap pins together.

pin 7: Feed back : IN : Feed back voltage input.

pin 8: INPUT : IN : Positive power supply input.

051-3356-90 BD00KA5WFP
Positive Voltage Regurator(Adjustable)



051-3377-90 LM3485MM Hysteretic PFET Buck Controller

General Description

The LM3485 is a high efficiency PFET switching regulator controller that can be used to quickly and easily develop a small, low cost, switching buck regulator for a wide range of applications.

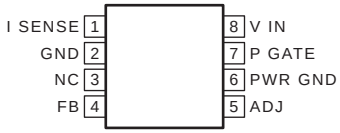
The hysteretic control architecture provides for simple design without any control loop stability concerns using a wide variety of external components.

The PFET architecture also allows for low component count as well as ultra-low dropout, 100% duty cycle operation.

Another benefit is high efficiency operation at light loads without an increase in output ripple.

Current limit protection is provided by measuring the voltage across the PFET's RDS(ON), thus eliminating the need for a sense resistor.

The cycle-by-cycle current limit can be adjusted with a single resistor, ensuring safe operation over a range of output currents.



Terminal Description

pin 1: I SENSE : The current sense input pin. This pin should be connected to Drain node of the external PFET.

pin 2: GND : Signal ground.

pin 3: NC : No connection.

pin 4: FB : The feedback input. Connect the FB to a resistor voltage divider between the output and GND for an adjustable output voltage.

pin 5: ADJ : Current limit threshold adjustment. It connects to an internal 5.5uA current source. A resistor is connected between this pin and the input Power Supply. The voltage across this resistor is compared with the VDS of the external PFET to determine if an over-current condition has occurred.

pin 6: PWR GND : Power ground.

pin 7: P GATE : Gate Drive output for the external PFET. PGATE swings between VIN and VIN-5V.

pin 8: V IN : Power supply input pin.

051-3380-90 TPS5120DBTRG4
Dual output, Two-phase synchronous buck DC/DC controller

Terminal Description

pin 1: INV 1 : IN : Inverting input of CH 1 error amplifier, skip comparator, and OVP1/UVP1 comparator.

pin 2: FB 1 : O : Feedback output of CH 1 error amplifier.

pin 3: SOFT START 1 : I/O : Soft start pin for CH1.

pin 4: PWM/SKIP : IN : PWM/SKIP mode select pin.

pin 5: CT : I/O : External capacitor from CT to GND for adjusting the triangle oscillator.

pin 6: 5V STBY : IN : 5V linear regulator output.

pin 7: GND : - : Control ground.

pin 8: REF : O : 0.85V reference voltage output.

pin 9: STBY 1 : IN : Standby control for CH1.

pin 10: STBY 2 : IN : Standby control for CH2.

pin 11: FLT : I/O : Fault latch timer pin.

pin 12: POWER GOOD : O : Power good open-drain output.

pin 13: SOFT START 2 : I/O : Soft start pin for CH2.

pin 14: FB 2 : O : Feedback output of CH 2 error amplifier.

pin 15: INV 2 : IN : Inverting input of CH 2 error amplifier, skip comparator, and OVP2/UVP2 comparator.

pin 16: LH 2 : I/O : Bootstrap capacitor connection for CH2 high-side gate drive.

pin 17: OUT 2u : O : Gate drive output for CH2 high-side switching FETs.

pin 18: LL 2 : I/O : Bootstrap this pin for CH2 high-side gate driving return and output current protection. Connect this pin to the junction of the high-side FETs for a floating drive configuration.

pin 19: OUT 2d : O : Gate drive output for CH2 low side gate drive.

pin 20: OUT GND 2 : - : Ground for CH1 FET drivers.

pin 21: REG 5V IN : IN : External 5V input.

pin 22: Vref 5 : O : 5V internal regulator output.

pin 23: TRIP 2 : IN : External resistor connection for CH2 output current control.

pin 24: VCC : - : Supply voltage input.

pin 25: TRIP 1 : IN : External resistor connection for CH1 output current control.

pin 26: OUT GND 1 : - : Ground for CH1 FET drivers.

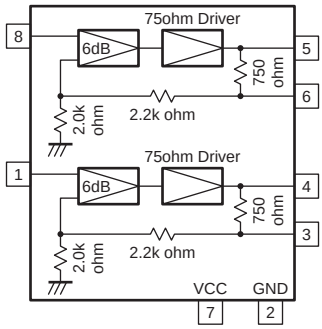
pin 27: OUT 1d : O : Gate drive output for CH1 low side gate drive.

pin 28: LL 1 : I/O : Bootstrap this pin for CH1 high-side gate driving return and output current protection. Connect this pin to the junction of the high-side FETs for a floating drive configuration.

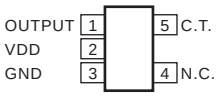
pin 29: OUT 1u : O : Gate drive output for CH1 high-side switching FETs.

pin 30: LH 1 : I/O : Bootstrap capacitor connection for CH1 high-side gate drive.

051-5344-90 NJM2267V-TE2 Dual Video Driver



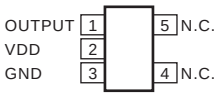
051-5408-38 R3112N211A-TR-FA
Voltage Drop Detector 2.1V



Terminal description

pin 1: OUTPUT	: N channel open drain output. This terminal will output L, if the voltage of VDD becomes lower than the setting voltage.
pin 2: VDD	: Positive supply voltage.
pin 3: GND	: Ground.
pin 4: N.C.	: Not in use.
pin 5: C.T.	: Delay time capacitor connection.

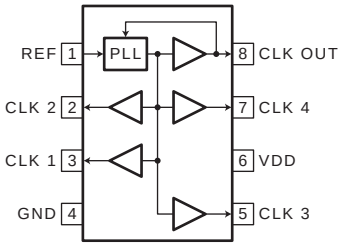
051-5418-28 R3111N271A-TR-FA
Precision Voltage Down Detector 2.7V



Terminal description

pin 1: OUTPUT	: N channel open drain output. This terminal will output L, if the voltage of VDD becomes lower than the setting voltage.
pin 2: VDD	: Positive supply voltage, negative logic input.
pin 3: GND	: Ground.
pin 4: NC	: Not in use.
pin 5: NC	: Not in use.

051-6650-90 NB2305AT1HDR2G 3.3V Zero Delay Clock Buffer



Terminal Description

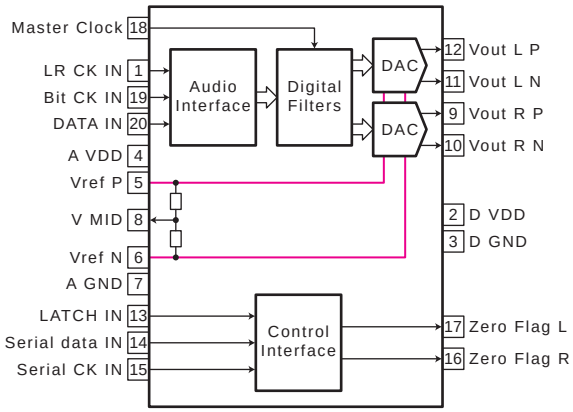
pin 1: REF	: Input reference frequency, 5 V tolerant input.
pin 2: CLK 2	: Buffered clock output.
pin 3: CLK 1	: Buffered clock output.
pin 4: GND	: Ground.
pin 5: CLK 3	: Buffered clock output.
pin 6: VDD	: 3.3 V supply.
pin 7: CLK 4	: Buffered clock output.
pin 8: CLK OUT	: Buffered clock output, internal feedback on this pin.

051-6718-90 AK5357VT-E2 96kHz 24Bit ADC

Terminal Description

pin 1: A IN R	: IN : R channel audio signal input.
pin 2: A IN L	: IN : L channel audio signal input.
pin 3: CK S 1	: IN : Clock Mode select.
pin 4: V COMMON	: O : Common voltage output = A VDD/2
pin 5: A GND	: - : Analog ground.
pin 6: A VDD	: - : Positive voltage supply for analog section.
pin 7: D VDD	: - : Positive voltage supply for digital section.
pin 8: D GND	: - : Digital ground.
pin 9: SDO	: O : Audio Serial data output.
pin 10: LR CK I/O	: I/O : Output channel clock. L output in Master Mode at Power-down mode.
pin 11: MASTER CLK	: IN : Master clock input.
pin 12: S CLK	: I/O : Audio Serial data clock input. L output in Master Mode at Power-down mode.
pin 13: PDN	: IN : Power down & reset signal input. L = Power-down mode.
pin 14: DIF	: IN : Audio interface format. H = 24bit I2S compatible L = 24bit MSB justified
pin 15: CK S 2	: IN : Clock Mode select.
pin 16: CK S 0	: IN : Clock Mode select.

051-6731-90 WM8718SEDS/R
24 bit Differential Stereo DAC with Volume control



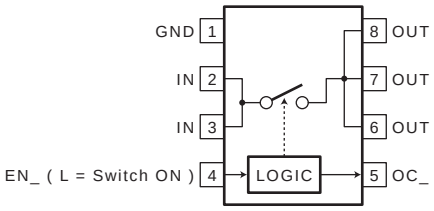
051-6834-00 XC3S50-4VQG100I-0985 FPGA

Terminal Description

pin 1: A20	: Address input.
pin 2: A19	: Address input.
pin 3: GND	: Ground.
pin 4: A18	: Address input.
pin 5: A5	: Address input.
pin 6: VCCO	: 3.3V power supply for IC.
pin 7: VCCAUX	: 2.5V power supply for AUX.
pin 8: A4	: Address input.
pin 9: A3	: Address input.
pin 10: GND	: Ground.
pin 11: A2	: Address input.
pin 12: A1	: Address input.

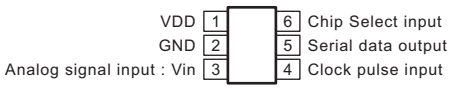
pin 13: D15 : Data input/output.
pin 14: D14 : Data input/output.
pin 15: D13 : Data input/output.
pin 16: D12 : Data input/output.
pin 17: D11 : Data input/output.
pin 18: VCCINT : 1.2V power supply for Core.
pin 19: VCCO : 3.3V power supply for IC.
pin 20: GND : Ground.
pin 21: D10 : Data input/output.
pin 22: D9 : Data input/output.
pin 23: D8 : Data input/output.
pin 24: M1 : Configuration mode setting.
pin 25: M0 : Configuration mode setting.
pin 26: M2 : Configuration mode setting.
pin 27: CS_B : For Configuration.
pin 28: RDWR_B : Read/Write signal input.
pin 29: GND : Ground.
pin 30: D7 : Data input/output.
pin 31: VCCO : 3.3V power supply for IC.
pin 32: D6 : Data input/output.
pin 33: VCCAUX : 2.5V power supply for AUX.
pin 34: D5 : Data input/output.
pin 35: D4 : Data input/output.
pin 36: NC : Not in use.
pin 37: NC : Not in use.
pin 38: N_SH_RDY : Ready signal output for CPU.
pin 39: CKIO : Clock input.
pin 40: NC : Not in use.
pin 41: GND : Ground.
pin 42: INIT_B : For Configuration.
pin 43: D3 : Data input/output.
pin 44: D2 : Data input/output.
pin 45: VCCINT : 1.2V power supply for Core.
pin 46: VCCO : 3.3V power supply for IC.
pin 47: D1 : Data input/output.
pin 48: D0 : Data input/output.
pin 49: N_WE1 : Write enable input.
pin 50: N_WE0 : Write enable input.
pin 51: DONE : High output after configuration.
pin 52: CCLK : Configuration clock input.
pin 53: N_RD : Read signal input.
pin 54: N_CS_FPGA : Chip select input.
pin 55: NC : Not in use.
pin 56: GND : Ground.
pin 57: VCCO : 3.3V power supply for IC.
pin 58: VCCAUX : 2.5V power supply for AUX.
pin 59: NC : Not in use.
pin 60: NC : Not in use.
pin 61: NC : Not in use.
pin 62: N_EIRQ1 : Interrupt signal output for CPU.
pin 63: NC : Not in use.
pin 64: NC : Not in use.
pin 65: VOL_DATA : Data output to Audio-ADC.
pin 66: GND : Ground.
pin 67: VOL_CLK : Clock output to Audio-ADC.
pin 68: VOL_CS : Chip select output to Audio-ADC.
pin 69: VCCINT : 1.2V power supply for Core.
pin 70: VCCO : 3.3V power supply for IC.
pin 71: EXTCONT : EXT-AUDIO ON/OFF signal for CeNET.
pin 72: N_MUTE : Audio mute.
pin 73: GND : Ground.
pin 74: N_ILL : Illumination detect.
pin 75: NC : Not in use.
pin 76: TDO : For JTAG.
pin 77: TCK : For JTAG.
pin 78: TMS : For JTAG.
pin 79: GYRO_DATA : Data input from GYRO-ADC.
pin 80: ADC_CLK : Clock output to GYRO-ADC.
pin 81: ADC_CS : Chip select output to GYRO-ADC.
pin 82: GND : Ground.
pin 83: VCCO : 3.3V power supply for IC.
pin 84: VCCAUX : 2.5V power supply for AUX.
pin 85: PKB : Parking signal input.
pin 86: N_BACK : Back signal input.
pin 87: NC : Not in use.
pin 88: NC : Not in use.
pin 89: NC : Not in use.
pin 90: N_RESETI : Reset input.
pin 91: SPEED_IN : Speed pulse input.
pin 92: NC : Not in use.
pin 93: VCCINT : 1.2V power supply for Core.
pin 94: VCCO : 3.3V power supply for IC.
pin 95: GND : Ground.
pin 96: A22 : Address input.
pin 97: A21 : Address input.
pin 98: HSWAP_EN : For Configuration.
pin 99: PROG_B : For Configuration.
pin100: TDI : For JTAG.

051-6921-90 TPS2041BDGNR
SINGLE, CURRENT-LIMITED, POWER-DISTRIBUTION SWITCH



OC_ (pin 5): Overcurrent and overtemperature false reporting, active-low, open-drain output.

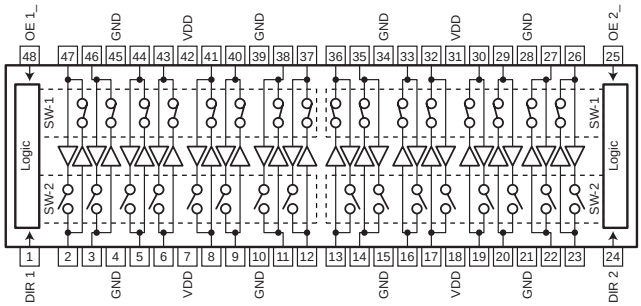
051-6923-08 ADCS7476AIMF 1 M SPS 12 bit ADC



051-7289-90 MC74HC4046ADT PLL

Terminal Description
pin 1: PC P OUT : Phase Comparator Pulse Output
pin 2: PC 1 OUT : Phase Comparator 1 Output
pin 3: COMP IN : Comparator Input
pin 4: VCO OUT : VCO Output
pin 5: INH : Inhibit Input
pin 6: C 1 A : Capacitor C1 Connection A
pin 7: C 1 B : Capacitor C1 Connection B
pin 8: GND : Ground (0 V) VSS
pin 9: VCO IN : VCO Input
pin 10: DEM OUT : Demodulator Output
pin 11: R 1 : Resistor R1 Connection
pin 12: R 2 : Resistor R2 Connection
pin 13: PC 2 OUT : Phase Comparator 2 Output
pin 14: SIG IN : Signal Input
pin 15: PC 3 OUT : Phase Comparator 3 Output
pin 16: VCC : Positive Supply Voltage

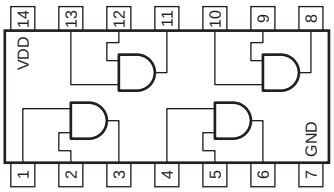
051-7503-78 SN74LVCHR16245AGR 8 x 2 Bus Transceiver



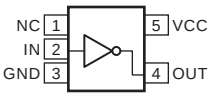
Truth Table

OE_	DIR	SW 1	SW 2
L	L	ON	OFF
L	H	OFF	ON
H	L	OFF	OFF
H	H	OFF	OFF

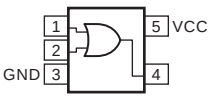
051-7505-08 SN74LV08APWR Quad 2-input AND Gate
051-7505-18 SN74ALVC08PWR Quad 2-input AND Gate



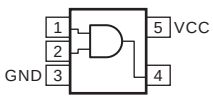
051-7520-08 SN74LVC1G04DCKR Single Inverter



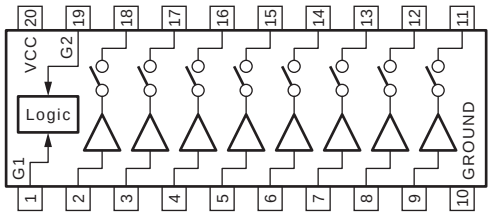
051-7522-08 SN74LVC1G32DCKR Single 2-inputs OR Gate



051-7524-08 SN74LVC1G08DCK Single 2-inputs AND GATE



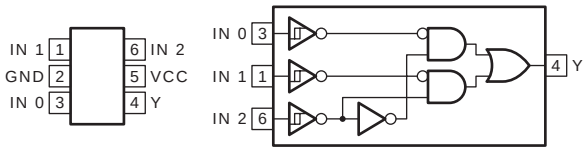
051-7529-90 SN74LVC541APW Octal Bus Buffer



Truth Table

Switch	G 1 (pin 1)	G 2 (pin 19)
OFF	H	H
OFF	H	L
OFF	L	H
ON	L	L

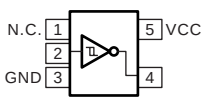
051-7534-90 SN74LVC1G97DCKR
Configurable Multiple-function Gate



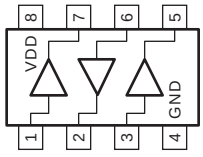
Truth Table

Y	IN 2	IN 1	IN 0
L	L	L	L
L	L	L	H
H	L	H	L
H	L	H	H
L	H	L	L
H	H	L	H
L	H	H	L
H	H	H	H

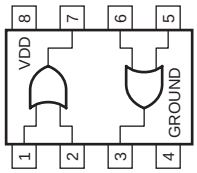
051-7537-90 SN74LVC1G14DCKR
Single Schmitt-Trigger Inverter Gate



051-7539-90 SN74LVC3G34DCTR Triple Buffers



051-7540-90 SN74LVC2G32DCTR Dual 2-input OR Gate



051-9125-60 BS616LV4013EI-70 4 M bit SRAM

Terminal Description

pin 1:	A 4	:IN:	Address signal input.
pin 2:	A 3	:IN:	Address signal input.
pin 3:	A 2	:IN:	Address signal input.
pin 4:	A 1	:IN:	Address signal input.
pin 5:	A 0	:IN:	Address signal input.
pin 6:	CE_	:IN:	Chip enable signal input.
pin 7:	DQ 0	:I/O:	The data input / output.
pin 8:	DQ 1	:I/O:	The data input / output.
pin 9:	DQ 2	:I/O:	The data input / output.
pin 10:	DQ 3	:I/O:	The data input / output.
pin 11:	VCC	: - :	Positive supply voltage.
pin 12:	GND	: - :	Ground.
pin 13:	DQ 4	:I/O:	The data input / output.
pin 14:	DQ 5	:I/O:	The data input / output.
pin 15:	DQ 6	:I/O:	The data input / output.
pin 16:	DQ 7	:I/O:	The data input / output.
pin 17:	WE_	:IN:	Write enable signal input.
pin 18:	A 17	:IN:	Address signal input.
pin 19:	A 16	:IN:	Address signal input.
pin 20:	A 15	:IN:	Address signal input.
pin 21:	A 14	:IN:	Address signal input.
pin 22:	A 13	:IN:	Address signal input.
pin 23:	A 12	:IN:	Address signal input.
pin 24:	A 11	:IN:	Address signal input.
pin 25:	A 10	:IN:	Address signal input.
pin 26:	A 9	:IN:	Address signal input.
pin 27:	A 8	:IN:	Address signal input.
pin 28:	NU	: - :	Not in use.
pin 29:	DQ 8	:I/O:	The data input / output.
pin 30:	DQ 9	:I/O:	The data input / output.
pin 31:	DQ 10	:I/O:	The data input / output.
pin 32:	DQ 11	:I/O:	The data input / output.
pin 33:	VCC	: - :	Positive supply voltage.
pin 34:	GND	: - :	Ground.
pin 35:	DQ 12	:I/O:	The data input / output.
pin 36:	DQ 13	:I/O:	The data input / output.
pin 37:	DQ 14	:I/O:	The data input / output.
pin 38:	DQ 15	:I/O:	The data input / output.
pin 39:	LB_	:IN:	Upper byte control signal input.
pin 40:	UB_	:IN:	Lower byte control signal input.
pin 41:	OE_	:IN:	Output enable signal input.
pin 42:	A 7	:IN:	Address signal input.
pin 43:	A 6	:IN:	Address signal input.
pin 44:	A 5	:IN:	Address signal input.

Truth Table

CE_ in (pin 6)	WE_ in (pin 17)	OE_ in (pin 41)	LB_ in (pin 39)	UB_ in (pin 40)	DQ 0 to DQ 7	DQ 8 to DQ 15
H	X	X	X	X	high Z	high Z
L	H	H	X	X	high Z	high Z
L	H	L	L	L	output	output
L	H	L	H	L	high Z	output
L	H	L	L	H	output	high Z
L	L	X	L	L	input	input
L	L	X	H	L	X	input
L	L	X	L	H	input	X

051-9333-30 MT46V16M16P-6T-IT
256M bit DDR SDRAM (16M words x 16 bits)

Terminal Description

pin 1:	VDD	: - :	Positive voltage supply.
pin 2:	DQ 0	:I/O:	Data signal input/output.
pin 3:	VDD Q	: - :	Positive power supply for the data I/O ports.
pin 4:	DQ 1	:I/O:	Data signal input/output.
pin 5:	DQ 2	:I/O:	Data signal input/output.
pin 6:	VSS Q	: - :	Ground terminal for the data I/O ports.
pin 7:	DQ 3	:I/O:	Data signal input/output.
pin 8:	DQ 4	:I/O:	Data signal input/output.
pin 9:	VDD Q	: - :	Positive power supply for the data I/O ports.
pin 10:	DQ 5	:I/O:	Data signal input/output.
pin 11:	DQ 6	:I/O:	Data signal input/output.
pin 12:	VSS Q	: - :	Ground terminal for the data I/O ports.
pin 13:	DQ 7	:I/O:	Data signal input/output.
pin 14:	NU	: - :	Not in use.
pin 15:	VDD Q	: - :	Positive power supply for the data I/O ports.
pin 16:	Lower DQ S	:I/O:	Read data strobe output / Write data strobe input.
pin 17:	NU	: - :	Not in use.
pin 18:	VDD	: - :	Positive voltage supply.
pin 19:	NU	: - :	Not in use.
pin 20:	Lower DM	:IN:	When this pin is High, the data input are masked.
pin 21:	WE	:IN:	Write enable signal input.
pin 22:	CAS	:IN:	Column address strobe input.
pin 23:	RAS	:IN:	Row address strobe input.
pin 24:	CS IN	:IN:	The chip select command input.
pin 25:	NU	: - :	Not in use.
pin 26:	BA 0	:IN:	Bank address input.
pin 27:	BA 1	:IN:	Bank address input.
pin 28:	A10(AP)	:IN:	Address signal input.
pin 29:	A 0	:IN:	Address signal input.
pin 30:	A 1	:IN:	Address signal input.
pin 31:	A 2	:IN:	Address signal input.
pin 32:	A 3	:IN:	Address signal input.
pin 33:	VDD	: - :	Positive voltage supply.
pin 34:	VSS	: - :	Negative voltage supply.
pin 35:	A 4	:IN:	Address signal input.
pin 36:	A 5	:IN:	Address signal input.
pin 37:	A 6	:IN:	Address signal input.
pin 38:	A 7	:IN:	Address signal input.
pin 39:	A 8	:IN:	Address signal input.
pin 40:	A 9	:IN:	Address signal input.
pin 41:	A 11	:IN:	Address signal input.
pin 42:	A 12	:IN:	Address signal input.
pin 43:	NU	: - :	Not in use.
pin 44:	CKE	:IN:	Clock enable signal input.
pin 45:	CK	:IN:	Master clock input.
pin 46:	/CK	:IN:	Master clock input.
pin 47:	Upper DM	:IN:	When this pin is High, the data input are

masked.

pin 48: VSS : - : Negative voltage supply.
pin 49: Vref : - : Reference voltage.
pin 50: NU : - : Not in use.
pin 51: Upper DQ S :I/O: Read data strobe output / Write data strobe input.
pin 52: VSS Q : - : Ground terminal for the data I/O ports.
pin 53: NU : - : Not in use.
pin 54: DQ 8 :I/O: Data signal input/output.
pin 55: VDD Q : - : Positive power supply for the data I/O ports.
pin 56: DQ 9 :I/O: Data signal input/output.
pin 57: DQ 10 :I/O: Data signal input/output.
pin 58: VSS Q : - : Ground terminal for the data I/O ports.
pin 59: DQ 11 :I/O: Data signal input/output.
pin 60: DQ 12 :I/O: Data signal input/output.
pin 61: VDD Q : - : Positive power supply for the data I/O ports.
pin 62: DQ 13 :I/O: Data signal input/output.
pin 63: DQ 14 :I/O: Data signal input/output.
pin 64: VSS Q : - : Ground terminal for the data I/O ports.
pin 65: DQ 15 :I/O: Data signal input/output.
pin 66: VSS : - : Negative voltage supply.

IC103 R8A77700ADA01BGV
RISC Microcomputer for QY5000EA

Terminal Description

pin 1: VSSQ25 : DDR ground
pin 2: VCCQ25 : DDR 2.5V power supply
pin 3: DSA[6] : DDR-SDRAM address output
pin 4: DSA[4] : DDR-SDRAM address output
pin 5: DSA[2] : DDR-SDRAM address output
pin 6: DSA[0] : DDR-SDRAM address output
pin 7: DSRAS# : DDR-SDRAM row address select output
pin 8: DSCAS# : DDR-SDRAM column address select output
pin 9: DSDQ[36] : DDR-SDRAM data input/output
pin 10: DSDM[4] : DDR-SDRAM data select output
pin 11: DSDQ[39] : DDR-SDRAM data input/output
pin 12: DSDQ[45] : DDR-SDRAM data input/output
pin 13: DSDM[5] : DDR-SDRAM data select output
pin 14: DSDQ[46] : DDR-SDRAM data input/output
pin 15: DSDQ[52] : DDR-SDRAM data input/output
pin 16: DSDM[6] : DDR-SDRAM data select output
pin 17: DSDQ[55] : DDR-SDRAM data input/output
pin 18: DSDQ[61] : DDR-SDRAM data input/output
pin 19: DSDM[7] : DDR-SDRAM data select output
pin 20: DSDQ[63] : DDR-SDRAM data input/output
pin 21: TX0/MD [2] : In the reset operation, this port is CPU setting input. At usually operation, this port is serial data output to GPS receiver.
pin 22: TX1/MD [3] : In the reset operation, this port is CPU setting input. At usually operation, this port is not in use.
pin 23: TX3/IrDA-TX/MD[5] : In the reset operation, this port is CPU setting input. At usually operation, this port is not in use.
pin 24: TX5/HSPI0_CLK : Serial data output to RDS microcomputer.
pin 25: NU : Not in use.
pin 26: NU : Not in use.
pin 27: NU : Not in use.
pin 28: NU : Not in use.
pin 29: VSSDLL : DLL ground
pin 30: VDDPLL1 : PLL 1.25V power supply
pin 31: VSSPLL1 : PLL ground
pin 32: VCCQ25 : DDR 2.5V power supply
pin 33: VSSQ25 : DDR ground
pin 34: VCCQ25 : DDR 2.5V power supply
pin 35: DSA[7] : DDR-SDRAM address output
pin 36: DSA[3] : DDR-SDRAM address output
pin 37: DSA[1] : DDR-SDRAM address output
pin 38: DSBA[0] : DDR-SDRAM bank address output
pin 39: /DSWE : DDR-SDRAM write enable.
pin 40: DSDQ[32] : DDR-SDRAM data input/output
pin 41: DSDQS[4] : DDR-SDRAM data input/output
pin 42: DSDQ[35] : DDR-SDRAM data input/output
pin 43: DSDQ[41] : DDR-SDRAM data input/output
pin 44: DSDQS[5] : DDR-SDRAM data strobe input/output
pin 45: DSDQ[42] : DDR-SDRAM data input/output
pin 46: DSDQ[48] : DDR-SDRAM data input/output
pin 47: DSDQS[6] : DDR-SDRAM data strobe input/output
pin 48: DSDQ[51] : DDR-SDRAM data input/output
pin 49: DSDQ[57] : DDR-SDRAM data input/output
pin 50: DSDQS[7] : DDR-SDRAM data strobe input/output
pin 51: DSDQ[59] : DDR-SDRAM data input/output
pin 52: RX0 : GPS serial data input
pin 53: NU : Not in use.
pin 54: NU : Not in use.
pin 55: RX5/HSPI0_CS# : Serial data input from RDS microcomputer.
pin 56: NU : Not in use.
pin 57: NU : Not in use.
pin 58: NU : Not in use.
pin 59: TX6/MD[10] : In the reset operation, this port is CPU setting input. At usually operation, this port is not in use.
pin 60: VDDDLL : DLL 1.25V power supply
pin 61: VDDPLL2 : PLL 1.25V power supply
pin 62: VSSPLL2 : PLL ground
pin 63: VCCQ25 : DDR 2.5V power supply
pin 64: VCCQ25 : DDR 2.5V power supply
pin 65: VSSQ25 : DDR ground
pin 66: VCCQ25 : DDR 2.5V power supply
pin 67: DSA[5] : DDR-SDRAM address output
pin 68: DSBA[1] : DDR-SDRAM bank address output
pin 69: VSSQ25 : DDR ground
pin 70: NU : Not in use.
pin 71: DSDQ[37] : DDR-SDRAM data input/output
pin 72: DSDQ[38] : DDR-SDRAM data input/output
pin 73: DSDQ[44] : DDR-SDRAM data input/output
pin 74: VCCQ25 : DDR 2.5V power supply
pin 75: VSSQ25 : DDR ground
pin 76: DSDQ[47] : DDR-SDRAM data input/output
pin 77: DSDQ[53] : DDR-SDRAM data input/output
pin 78: DSDQ[54] : DDR-SDRAM data input/output
pin 79: DSDQ[60] : DDR-SDRAM data input/output
pin 80: VCCQ25 : DDR 2.5V power supply
pin 81: DSDQ[62] : DDR-SDRAM data input/output
pin 82: NU : Not in use.
pin 83: VSSQ25 : DDR ground
pin 84: TX2/MD[4] : In the reset operation, this port is CPU setting input. At usually operation, this port is serial data output.
pin 85: TX4/HSPI0_TX : Serial data output
pin 86: TX7/HSPI1_TX : Serial data output to sub-microcomputer

pin 87: NU : Not in use.
pin 88: TX9/GPIO_2A20 : Used as GPIO. /P_OFF
pin 89: NU : Not in use.
pin 90: VSSQ : I/O power ground
pin 91: VCCQ : I/O 3.3V power supply
pin 92: VCCQ : I/O 3.3V power supply
pin 93: EXTAL : External clock input (48MHz)
pin 94: DSCK# : DDR-SDRAM clock output (inverted)
pin 95: DSCAP : DDR-SDRAM controller CAP
pin 96: VCCQ25 : DDR 2.5V power supply
pin 97: VSSQ25 : DDR ground
pin 98: VCCQ25 : DDR 2.5V power supply
pin 99: DSA[10] : DDR-SDRAM address output
pin100: VSSQ25 : DDR ground
pin101: DSCS# : DDR-SDRAM area space selection
pin102: DSDQ[33] : DDR-SDRAM data input/output
pin103: DSDQ[34] : DDR-SDRAM data input/output
pin104: DSDQ[40] : DDR-SDRAM data input/output
pin105: VCCQ25 : DDR 2.5V power supply
pin106: VSSQ25 : DDR ground
pin107: DSDQ[43] : DDR-SDRAM data input/output
pin108: DSDQ[49] : DDR-SDRAM data input/output
pin109: DSDQ[50] : DDR-SDRAM data input/output
pin110: DSDQ[56] : DDR-SDRAM data input/output
pin111: VCCQ25 : DDR 2.5V power supply
pin112: DSDQ[58] : DDR-SDRAM data input/output
pin113: NU : Not in use.
pin114: VSSQ25 : DDR ground
pin115: RX2 : Serial data input
pin116: RX4/HSPI0_RX : Serial data input
pin117: RX7/HSPI1_RX : Serial data input from sub-microcomputer
pin118: NU : Not in use.
pin119: RX9/GPIO_2A21 : Used as GPIO. /BU_DET
pin120: VSSQ : I/O power ground
pin121: VCCQ : I/O 3.3V power supply
pin122: VSSQ : I/O power ground
pin123: VSSQ : I/O power ground
pin124: XTAL : CPU crystal connection
pin125: DSCK : DDR-SDRAM clock output
pin126: NU : Not in use.
pin127: VCCQ25 : DDR 2.5V power supply
pin128: VCCQ25 : DDR 2.5V power supply
pin129: VSSQ25 : DDR ground
pin130: VCCQ25 : DDR 2.5V power supply
pin131: VSSQ25 : DDR ground
pin132: VCCQ25 : DDR 2.5V power supply
pin133: VSSQ25 : DDR ground
pin134: VDD : Core 1.25V power supply
pin135: VSS : Core power ground
pin136: VCCQ25 : DDR 2.5V power supply
pin137: VSSQ25 : DDR ground
pin138: VCCQ25 : DDR 2.5V power supply
pin139: VSSQ25 : DDR ground
pin140: VDD : Core 1.25V power supply
pin141: VSS : Core power ground
pin142: VCCQ25 : DDR 2.5V power supply
pin143: VSSQ25 : DDR ground
pin144: VDD : Core 1.25V power supply
pin145: VSSQ25 : DDR ground
pin146: VSS : Core power ground
pin147: VSSQ : I/O power ground
pin148: VCCQ : I/O 3.3V power supply
pin149: VCCQ : I/O 3.3V power supply
pin150: VSSQ : I/O power ground
pin151: VCCQ : I/O 3.3V power supply
pin152: VSSQ : I/O power ground
pin153: TRST# : H-UDI reset input
pin154: NU : Not in use.
pin155: NU : Not in use.
pin156: DSA[11] : DDR-SDRAM address output
pin157: DSA[12] : DDR-SDRAM address output
pin158: DSA[8] : DDR-SDRAM address output
pin159: DSA[9] : DDR-SDRAM address output
pin160: VCCQ25 : DDR 2.5V power supply
pin161: VSSQ : I/O power ground
pin162: TMS : H-UDI mode input
pin163: TDI : H-UDI data input
pin164: TDO : H-UDI data output
pin165: TCK : H-UDI clock input
pin166: DSCKE : DDR-SDRAM clock output enable
pin167: NU : Not in use.
pin168: DSA[13] : DDR-SDRAM address output
pin169: VSSQ25 : DDR ground
pin170: VSSQ25 : DDR ground
pin171: VCCQ : I/O 3.3V power supply
pin172: NU : Not in use.
pin173: NU : Not in use.
pin174: NU : Not in use.
pin175: NU : Not in use.
pin176: DSDQ[30] : DDR-SDRAM data input/output
pin177: DSDQ[26] : DDR-SDRAM data input/output
pin178: DSDQ[31] : DDR-SDRAM data input/output
pin179: DSDQ[27] : DDR-SDRAM data input/output
pin180: VDD : Core 1.25V power supply
pin181: VSS : Core power ground
pin182: NU : Not in use.
pin182: NU : Not in use.
pin184: ASEBRK# : Emulator input/output (brake, acknowledge)
pin185: NU : Not in use.
pin186: DSDQ[29] : DDR-SDRAM data input/output
pin187: DSDQ[25] : DDR-SDRAM data input/output
pin188: DSDM[3] : DDR-SDRAM data select output
pin189: DSDQS[3] : DDR-SDRAM data input/output
pin190: VSS : Core power ground
pin191: VDD : Core 1.25V power supply
pin192: NU : Not in use.
pin193: NU : Not in use.
pin194: NU : Not in use.
pin195: NU : Not in use.
pin196: DSDQ[23] : DDR-SDRAM data input/output
pin197: DSDQ[19] : DDR-SDRAM data input/output
pin198: DSDQ[28] : DDR-SDRAM data input/output
pin199: DSDQ[24] : DDR-SDRAM data input/output
pin200: VCCQ25 : DDR 2.5V power supply
pin201: VSS : Core power ground
pin202: NU : Not in use.
pin203: NU : Not in use.
pin204: NU : Not in use.
pin205: NU : Not in use.
pin206: DSDM[2] : DDR-SDRAM data select output

pin207: DSDQS[2] : DDR-SDRAM data strobe input/output
pin208: DSDQ[22] : DDR-SDRAM data input/output
pin209: DSDQ[18] : DDR-SDRAM data input/output
pin210: VSSQ25 : DDR ground
pin211: VDD : Core 1.25V power supply
pin212: NU : Not in use.
pin213: NU : Not in use.
pin214: NU : Not in use.
pin215: NU : Not in use.
pin216: DSDQ[20] : DDR-SDRAM data input/output
pin217: DSDQ[16] : DDR-SDRAM data input/output
pin218: DSDQ[21] : DDR-SDRAM data input/output
pin219: DSDQ[17] : DDR-SDRAM data input/output
pin220: VDD : Core 1.25V power supply
pin221: VSSQ : I/O power ground
pin222: SPDIF_IN : Extended GPIO data latch output
pin223: SPDIF_OUT : FPGA PROG_B output
pin224: NU : Not in use.
pin225: NU : Not in use.
pin226: DSDQ[14] : DDR-SDRAM data input/output
pin227: DSDQ[10] : DDR-SDRAM data input/output
pin228: DSDQ[15] : DDR-SDRAM data input/output
pin229: DSDQ[11] : DDR-SDRAM data input/output
pin230: VSS : Core power ground
pin231: VCCQ : I/O 3.3V power supply
pin232: SSI_SDATA **1** : Data output to DAC for guide signal
pin233: SSI_SDATA0 : The data input from ADC for microphone
pin234: NU : Not in use.
pin235: AUDIO_CLK : Audio clock input for SSI module (8.46MHz)
pin236: DSDM[1] : DDR-SDRAM data select output
pin237: DSDQS[1] : DDR-SDRAM data strobe input/output
pin238: VSSQ25 : DDR ground
pin239: VSSQ25 : DDR ground
pin240: VSSQ25 : DDR ground
pin241: VSS : Core power ground
pin242: SSI_WS0 : LR clock input
pin243: SSI_SCK0 : Serial bit clock input
pin244: SSI_WS1/HAC_RES# : LR clock input
pin245: SSI_SCK1 : Serial bit clock input
pin246: DSDQ[12] : DDR-SDRAM data input/output
pin247: DSDQ[8] : DDR-SDRAM data input/output
pin248: DSDQ[13] : DDR-SDRAM data input/output
pin249: DSDQ[9] : DDR-SDRAM data input/output
pin250: VSSQ25 : DDR ground
pin251: VSS : Core power ground
pin252: NU : Not in use.
pin253: NU : Not in use.
pin254: NU : Not in use.
pin255: NU : Not in use.
pin256: DSDQ[6] : DDR-SDRAM data input/output
pin257: DSDQ[2] : DDR-SDRAM data input/output
pin258: DSDQ[7] : DDR-SDRAM data input/output
pin259: DSDQ[3] : DDR-SDRAM data input/output
pin260: VCCQ25 : DDR 2.5V power supply
pin261: VSSQ : I/O power ground
pin262: IDED[7] : IDE data input/output
pin263: IDED[8] : IDE data input/output
pin264: IDERST# : IDE reset output
pin265: DIRECTION : IDE bus buffer direction control output
pin266: DSDQ[5] : DDR-SDRAM data input/output
pin267: DSDQ[1] : DDR-SDRAM data input/output
pin268: DSDM[0] : DDR-SDRAM data select output
pin269: DSDQS[0] : DDR-SDRAM data strobe input/output
pin270: VSSQ25 : DDR ground
pin271: VCCQ : I/O 3.3V power supply
pin272: IDED[5] : IDE data input/output
pin273: IDED[10] : IDE data input/output
pin274: IDED[6] : IDE data input/output
pin275: IDED[9] : IDE data input/output
pin276: DSDQ[4] : DDR-SDRAM data input/output
pin277: DSDQ[0] : DDR-SDRAM data input/output
pin278: VCCQ25 : DDR 2.5V power supply
pin279: VCCQ25 : DDR 2.5V power supply
pin280: VCCQ25 : DDR 2.5V power supply
pin281: VDD : Core 1.25V power supply
pin282: IDED[3] : IDE data input/output
pin283: IDED[12] : IDE data input/output
pin284: IDED[4] : IDE data input/output
pin285: IDED[11] : IDE data input/output
pin286: DSVREF : DDR-SDRAM reference voltage input
pin287: VSS : Core power ground
pin288: VSS : Core power ground
pin289: VSS : Core power ground
pin290: VSS : Core power ground
pin291: VSS : Core power ground
pin292: IDED[1] : IDE data input/output
pin293: IDED[14] : IDE data input/output
pin294: IDED[2] : IDE data input/output
pin295: IDED[13] : IDE data input/output
pin296: VDD : Core 1.25V power supply
pin297: VDD : Core 1.25V power supply
pin298: VDD : Core 1.25V power supply
pin299: VDD : Core 1.25V power supply
pin300: VDD : Core 1.25V power supply
pin301: VCCQ : I/O 3.3V power supply
pin302: IDEIOWR# : IDE disk write output
pin303: IODREQ : IDE-DMA request input
pin304: IDED[0] : IDE data input/output
pin305: IDED[15] : IDE data input/output
pin306: NU : Not in use.
pin307: NU : Not in use.
pin308: VSS : Core power ground
pin309: VSS : Core power ground
pin310: VSS : Core power ground
pin311: VSSQ : I/O power ground
pin312: IDEINT : IDE interrupt request input
pin313: IODACK# : IDE-DMA acknowledge output
pin314: IDEIORDY : IDE ready input
pin315: IDEIORD# : IDE disk resd output
pin316: NMI# : NMI
pin317: IRQ#[4]/EX_CS#[6] : Interrupt input
pin318: IRQ#[5]/EX_CS#[7] : Chip select output
pin319: IRQ#[1]/EX_WAIT[1] : Interrupt input
pin320: VDD : Core 1.25V power supply
pin321: VDD : Core 1.25V power supply
pin322: IDECS#[0] : IDE chip select output
pin323: IDEA[2] : IDE address output
pin324: IDEA[0] : IDE address output
pin325: IDEA[1] : IDE address output

pin326: NU : Not in use.
pin327: IRQ#[0] : Interrupt input
pin328: NU : Not in use.
pin329: NU : Not in use.
pin330: VSSQ : I/O power ground
pin331: VSS : Core power ground
pin332: NU : Not in use.
pin333: NU : Not in use.
pin334: NU : Not in use.
pin335: IDECS#[1] : IDE chip select output
pin336: NU : Not in use.
pin337: NU : Not in use.
pin338: NU : Not in use.
pin339: NU : Not in use.
pin340: VCCQ : I/O 3.3V power supply
pin341: VDD : Core 1.25V power supply
pin342: GPIO-3-A27 : LED1 control signal output to sub-micro-computer
pin343: GPIO-3-A28 : LED2 control signal output to sub-micro-computer
pin344: IRREC : Remote control input
pin346: NU : Not in use.
pin347: NU : Not in use.
pin348: NU : Not in use.
pin349: NU : Not in use.
pin350: VSSQ : I/O power ground
pin351: VSS : Core power ground
pin352: VSSRTC : RTC ground
pin353: NU : Not in use.
pin354: RESOUT# : Reset output
pin355: RESET# : Reset input
pin355: RESET# : Reset input
pin356: NU : Not in use.
pin357: NU : Not in use.
pin358: NU : Not in use.
pin359: NU : Not in use.
pin360: VCCQ : I/O 3.3V power supply
pin361: VCCQ : I/O 3.3V power supply
pin362: NU : Not in use.
pin363: NU : Not in use.
pin364: NU : Not in use.
pin365: NU : Not in use.
pin366: NU : Not in use.
pin367: NU : Not in use.
pin368: EX_CS#[4]/EXCPU_IRQ# : Chip select output
pin369: VCCQ : I/O 3.3V power supply
pin370: VSSQ : I/O power ground
pin371: VCCQ : I/O 3.3V power supply
pin372: VSSQ : I/O power ground
pin373: VCCQ : I/O 3.3V power supply
pin374: VSSQ : I/O power ground
pin375: VCCQ : I/O 3.3V power supply
pin376: VSS : Core power ground
pin377: VDD : Core 1.25V power supply
pin378: VSSQ : I/O power ground
pin379: VCCQ : I/O 3.3V power supply
pin380: VSSQ : I/O power ground
pin381: VCCQ : I/O 3.3V power supply
pin382: VSS : Core power ground
pin383: VDD : Core 1.25V power supply
pin384: VSSQ : I/O power ground
pin385: VCCQ : I/O 3.3V power supply
pin386: VSSQ : I/O power ground
pin387: VCCQ : I/O 3.3V power supply
pin388: VSS : Core power ground
pin389: VDD : Core 1.25V power supply
pin390: VSSQ : I/O power ground
pin391: VCCQ : I/O 3.3V power supply
pin392: VSSQ : I/O power ground
pin393: VCCQ : I/O 3.3V power supply
pin394: VCCRTC : RTC power supply 3.3V
pin395: NU : Not in use.
pin396: NU : Not in use.
pin397: WE#[2] : EXBUS write enable output
pin398: WE#[3] : EXBUS write enable output
pin399: VCCQ : I/O 3.3V power supply
pin400: VSSQ : I/O power ground
pin401: VCCQ : I/O 3.3V power supply
pin402: D[4] : EXBUS data input/output
pin403: D[0] : EXBUS data input/output
pin404: WE#[1] : EXBUS write enable output
pin405: EX_CS#[1] : EXBUS extended area chip select output
pin406: RD/WR# : EXBUS read/write
pin407: NU : Not in use.
pin408: NU : Not in use.
pin409: NU : Not in use.
pin410: A[3] : EXBUS Address output.
pin411: A[7] : EXBUS Address output.
pin412: A[8] : EXBUS Address output.
pin413: A[15] : EXBUS Address output.
pin414: A[19] : EXBUS Address output.
pin415: A[23] : EXBUS Address output.
pin416: NU : Not in use.
pin417: VSSQ : I/O power ground
pin418: VCCQ : I/O 3.3V power supply
pin419: NU : Not in use.
pin420: NU : Not in use.
pin421: GPIO-3-A25 : PLL 4fsc/K output
pin422: VSSA : Analog ground
pin423: CBU : DAC capacitor connection
pin424: VSSQ : I/O power ground
pin425: VCCQ : I/O 3.3V power supply
pin426: NU : Not in use.
pin427: VSSA : Analog ground
pin428: RD# : EXBUS read output
pin429: NU : Not in use.
pin430: VSSQ : I/O power ground
pin431: D[11] : EXBUS data input/output
pin432: D[8] : EXBUS data input/output
pin433: D[5] : EXBUS data input/output
pin434: D[1] : EXBUS data input/output
pin435: WE#[0] : EXBUS write enable output
pin436: EX_CS#[0] : EXBUS extended area chip select output
pin437: EX_WAIT[0]/EXCPU_RDY# : EXBUS extended area external weight signal input
pin438: NU : Not in use.
pin439: NU : Not in use.
pin440: NU : Not in use.
pin441: A[2] : EXBUS Address output.
pin442: A[6] : EXBUS Address output.

pin443: A[9] : EXBUS Address output.
pin444: A[14] : EXBUS Address output.
pin445: A[18] : EXBUS Address output.
pin446: A[22] : EXBUS Address output.
pin447: NU : Not in use.
pin448: OVC : USB over current detection
pin449: NU : Not in use.
pin450: DISP/CSYNC#/DE : CSYNC signal output
pin451: NU : Not in use.
pin452: GPIO-3-A26 : PLL Dclk/N output
pin453: NU : Not in use.
pin454: REXT : DAC external reference
pin455: VCCA : Analog 3.3V power supply
pin456: VSSQ : I/O power ground
pin457: NU : Not in use.
pin458: NU : Not in use.
pin459: VSSQ : I/O power ground
pin460: VSSQ : I/O power ground
pin461: D[14] : EXBUS data input/output
pin462: D[12] : EXBUS data input/output
pin463: D[9] : EXBUS data input/output
pin464: D[6] : EXBUS data input/output
pin465: D[2] : EXBUS data input/output
pin466: NU : Not in use.
pin467: NU : Not in use.
pin468: NU : Not in use.
pin469: NU : Not in use.
pin470: NU : Not in use.
pin471: NU : Not in use.
pin472: A[1] : EXBUS Address output.
pin473: A[5] : EXBUS Address output.
pin474: A[11] : EXBUS Address output.
pin475: A[13] : EXBUS Address output.
pin476: A[17] : EXBUS Address output.
pin477: A[21] : EXBUS Address output.
pin478: A[25] : EXBUS Address output.
pin479: PENC : USB power enable output
pin480: HP : USB port D+
pin481: NU : Not in use.
pin482: NU : Not in use.
pin483: VSSQ : I/O power ground
pin484: NC3 / 4fscEXCLK : 4fsc clock (14.31818MHz)
pin485: AG : Video signal Green output
pin486: VSSA : Analog ground
pin487: NU : Not in use.
pin488: VSSQ : I/O power ground
pin489: VCCA : Analog 3.3V power supply
pin490: VCCQ : I/O 3.3V power supply
pin491: VCCQ : I/O 3.3V power supply
pin492: D[15] : EXBUS data input/output
pin493: D[13] : EXBUS data input/output
pin494: D[10] : EXBUS data input/output
pin495: D[7] : EXBUS data input/output
pin496: D[3] : EXBUS data input/output
pin497: EX_CS#[2]/EXCPU_CS#[0]
: Chip select output
pin498: CS#[0] : Chip select output
pin499: CLK **O U T** : CKIO output (32MHz)
pin500: NU : Not in use.
pin501: NU : Not in use.
pin502: NU : Not in use.
pin503: A[0] : Not in use.
pin504: A[4] : EXBUS Address output.
pin505: A[10] : EXBUS Address output.
pin506: A[12] : EXBUS Address output.
pin507: A[16] : EXBUS Address output.
pin508: A[20] : EXBUS Address output.
pin509: A[24] : EXBUS Address output.
pin510: USBCLK : USB clock input (48MHz)
pin511: HM : USB port D-
pin512: NU : Not in use.
pin513: DOTCLKIN : Dot clock input
pin514: NU : Not in use.
pin515: NU : Not in use.
pin516: AR : Video signal Red output
pin517: AB : Video signal Blue output
pin518: NU : Not in use.
pin519: VSSQ : I/O power ground
pin520: VCCA : Analog 3.3V power supply

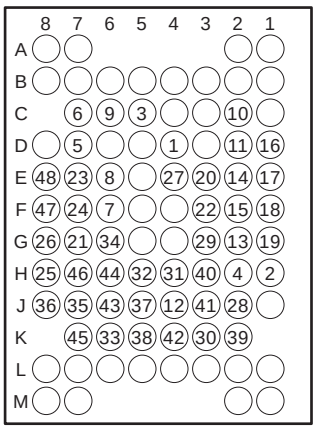
052-1325-00 M30621MCA-FX2GP RDS-TMC

Terminal Description
pin 1: NU : - : Not in use.
pin 2: NU : - : Not in use.
pin 3: NU : - : Not in use.
pin 4: NU : - : Not in use.
pin 5: RDS CLK : IN : RDS clock pulse input.
pin 6: NU : - : Not in use.
pin 7: NU : - : Not in use.
pin 8: NU : - : Not in use.
pin 9: RESET : IN : Reset signal input.
pin 10: X out : O : Crystal connection.
pin 11: VSS : - : Negative voltage supply.
pin 12: X in : IN : Crystal connection.
pin 13: VCC : - : Positive voltage supply.
pin 14: NU : - : Not in use.
pin 15: ACC DET : IN : ACC detection signal input.
pin 16: NU : - : Not in use.
pin 17: B/U DET : IN : Backup voltage ON signal input.
pin 18: NU : - : Not in use.
pin 19: NU : - : Not in use.
pin 20: NU : - : Not in use.
pin 21: NU : - : Not in use.
pin 22: SH RX : IN : Serial data input from SH.
pin 23: SH TX : O : Serial data output to SH.
pin 24: NU : - : Not in use.
pin 25: NU : - : Not in use.
pin 26: NU : - : Not in use.
pin 27: NU : - : Not in use.
pin 28: NU : - : Not in use.
pin 29: NU : - : Not in use.
pin 30: NU : - : Not in use.
pin 31: NU : - : Not in use.
pin 32: SYS ON : O : System ON signal output.
pin 33: NU : - : Not in use.
pin 34: NU : - : Not in use.
pin 35: NU : - : Not in use.
pin 36: NU : - : Not in use.
pin 37: NU : - : Not in use.
pin 38: NU : - : Not in use.
pin 39: NU : - : Not in use.
pin 40: NU : - : Not in use.
pin 41: NU : - : Not in use.
pin 42: NU : - : Not in use.

pin 43: RDS DATA	: IN	: RDS serial data input.
pin 44: NU	: -	: Not in use.
pin 45: NU	: -	: Not in use.
pin 46: NU	: -	: Not in use.
pin 47: SD	: IN	: Station detection signal input.
pin 48: PLL CE	: O	: The chip enable signal output to the PLL IC.
pin 49: PLL DI	: IN	: Serial data input from the PLL IC.
pin 50: PLL CLK	: O	: The clock pulse output to the PLL IC.
pin 51: PLL DO	: O	: Serial data output to the PLL IC.
pin 52: NU	: -	: Not in use.
pin 53: NU	: -	: Not in use.
pin 54: NU	: -	: Not in use.
pin 55: NU	: -	: Not in use.
pin 56: NU	: -	: Not in use.
pin 57: NU	: -	: Not in use.
pin 58: NU	: -	: Not in use.
pin 59: NU	: -	: Not in use.
pin 60: NU	: -	: Not in use.
pin 61: NU	: -	: Not in use.
pin 62: NU	: -	: Not in use.
pin 63: NU	: -	: Not in use.
pin 64: NU	: -	: Not in use.
pin 65: NU	: -	: Not in use.
pin 66: NU	: -	: Not in use.
pin 67: NU	: -	: Not in use.
pin 68: NOISE	: IN	: The noise level for RDS.
pin 69: Noise Clear	: O	: Noise clear signal output.
pin 70: NU	: -	: Not in use.
pin 71: NU	: -	: Not in use.
pin 72: NU	: -	: Not in use.
pin 73: NU	: -	: Not in use.
pin 74: S METER	: IN	: The input terminal of internal A/D converter to monitor the radio field strength.
pin 75: A VSS	: -	: Negative voltage supply for analog section.
pin 76: NU	: -	: Not in use.
pin 77: Vref	: -	: Reference voltage.
pin 78: A VCC	: -	: Positive voltage supply for the internal analog section.
pin 79: NU	: -	: Not in use.
pin 80: NU	: -	: Not in use.

052-3580-00 MD4832-d512-V3Q18-X-P
DiskOnChip G3 64MB (512Mb)

Ball Diagrams



Top View

Terminal Description

No.	B-No	I/O	Signal	Description
1	D4	IN	RSTIN#	Reset.
2	H1	IN	CE#	Chip enable.
3	C5	IN	WE#	Write enable.
4	H2	IN	OE#	Output enable.
5	D7	IN	A12	Address.
6	C7	IN	A11	Address.
7	F6	IN	A10	Address.
8	E6	IN	A9	Address.
9	C6	IN	A8	Address.
10	C2	IN	A7	Address.
11	D2	IN	A6	Address.
12	J4	-	VCC	Core power supply.
13	G2	-	VSS	Ground.
14	E2	IN	A5	Address.
15	F2	IN	A4	Address.
16	D1	IN	A3	Address.
17	E1	IN	A2	Address.
18	F1	IN	A1	Address.
19	G1	IN	A0	Address.
20	E3	-	RSRVD	Reserved.
21	G7	IN	DMARQ#	DMA request.
22	F3	IN	IF_CFG	Interface configuration. High=16bit.
23	E7	IN	LOCK#	Lock set.
24	F7	IN	ID0	Identification number.
25	H8	-	RSRVD	Reserved.
26	G8	IN	ID1	Identification number.
27	E4	O	BUSY#	Busy.
28	J2	I/O	D0	Data.
29	G3	I/O	D1	Data.
30	K3	I/O	D2	Data.
31	H4	I/O	D3	Data.
32	H5	I/O	D4	Data.
33	K6	I/O	D5	Data.
34	G6	I/O	D6	Data.
35	J7	I/O	D7	Data.
36	J8	-	VSS	Ground.
37	J5	-	VCCQ	I/O power supply.
38	K5	IN	CLK	Clock.
39	K2	I/O	D8	Data.
40	H3	I/O	D9	Data.
41	J3	I/O	D10	Data.
42	K4	I/O	D11	Data.
43	J6	I/O	D12	Data.
44	H6	I/O	D13	Data.
45	K7	I/O	D14	Data.
46	H7	I/O	D15	Data.
47	F8	O	IRQ#	Interrupt request.
48	E8	-	RSRVD	Reserved.

052-7086-00 M30620MCP-D16GP Sub-microcomputer

Terminal Description

pin 1: NU	: -	: Not in use.
pin 2: NU	: -	: Not in use.
pin 3: NU	: -	: Not in use.
pin 4: NU	: -	: Not in use.
pin 5: NU	: -	: Not in use.
pin 6: BYTE	: IN	: The data length selection(8bit/16bit).
pin 7: CN VSS	: IN	: L = Normal, H = Flash memory rewrite.
pin 8: SHUT DOWN	: O	: Shut down signal output.
pin 9: NAVI RESET	: O	: Reset signal output.
pin 10: RESET	: IN	: Reset signal input.
pin 11: X out	: O	: Crystal connection.
pin 12: VSS	: -	: Negative voltage supply.
pin 13: X in	: IN	: Crystal connection.
pin 14: VCC	: -	: Positive voltage supply.
pin 15: NU	: -	: Not in use.
pin 16: NAVI MONI	: IN	: L = SH7770 is stop.

pin 17: NMI MONI : IN : H = ACC ON.
pin 18: BU DET : IN : Backup detection signal input.
pin 19: BUS WATCH : IN : IE-Bus watching signal input.
pin 20: NU : - : Not in use.
pin 21: NU : - : Not in use.
pin 22: NU : - : Not in use.
pin 23: NU : - : Not in use.
pin 24: NU : - : Not in use.
pin 25: NU : - : Not in use.
pin 26: NU : - : Not in use.
pin 27: Ce-NET RX : IN : The serial data input from Ce-NET.
pin 28: Ce-NET TX : O : The serial data output to Ce-NET.
pin 29: FL TX : O : The serial data output for the flash memory.
pin 30: FL RX : IN : The serial data input for the flash memory.
pin 31: FLASH CK : IN : The clock pulse input for the flash memory.
pin 32: NU : - : Not in use.
pin 33: SH TX : O : Serial data output to SH.
pin 34: SH RX : IN : Serial data input from SH.
pin 35: NU : - : Not in use.
pin 36: NU : - : Not in use.
pin 37: NU : - : Not in use.
pin 38: NU : - : Not in use.
pin 39: FLASH EPM : IN : For flash memory.
pin 40: NU : - : Not in use.
pin 41: NU : - : Not in use.
pin 42: NU : - : Not in use.
pin 43: NU : - : Not in use.
pin 44: FLASH CE : IN : The chip enable signal input for the flash memory.
pin 45: NU : - : Not in use.
pin 46: NU : - : Not in use.
pin 47: NU : - : Not in use.
pin 48: NU : - : Not in use.
pin 49: NU : - : Not in use.
pin 50: NU : - : Not in use.
pin 51: NU : - : Not in use.
pin 52: NU : - : Not in use.
pin 53: LED 2 : IN : LED control input. Refer Table 1.
pin 54: LED 1 : IN : LED control input. Refer Table 1.
pin 55: TEST BOOT 2 : O : TEST BOOT output. Refer Tble 2.
pin 56: TEST BOOT 1 : O : TEST BOOT output. Refer Tble 2.
pin 57: NU : - : Not in use.
pin 58: LED ON : O : LED control output. Refer Table 1.
pin 59: NU : - : Not in use.
pin 60: VCC : - : Positive voltage supply.
pin 61: NU : - : Not in use.
pin 62: VSS : - : Negative voltage supply.
pin 63: NU : - : Not in use.
pin 64: NU : - : Not in use.
pin 65: NU : - : Not in use.
pin 66: EEP DI : IN : The serial data input from the EEP-ROM.
pin 67: EEP DO : O : The serial data output to the EEP-ROM.
pin 68: EEP CLK : O : The clock pulse output to the EEP-ROM.
pin 69: EEP CE : O : The chip enable signal output to the EEP-ROM.
pin 70: NU : - : Not in use.
pin 71: MODE 1 : IN : Mode select input. Refer Table 2.
pin 72: MODE 0 : IN : Mode select input. Refer Table 2.
pin 73: NU : - : Not in use.
pin 74: NU : - : Not in use.
pin 75: NU : - : Not in use.
pin 76: NU : - : Not in use.
pin 77: NU : - : Not in use.
pin 78: NU : - : Not in use.
pin 79: NU : - : Not in use.
pin 80: NU : - : Not in use.
pin 81: NU : - : Not in use.
pin 82: NU : - : Not in use.
pin 83: NU : - : Not in use.
pin 84: NU : - : Not in use.
pin 85: NU : - : Not in use.
pin 86: NU : - : Not in use.
pin 87: NU : - : Not in use.
pin 88: NU : - : Not in use.
pin 89: NU : - : Not in use.
pin 90: NU : - : Not in use.
pin 91: NU : - : Not in use.
pin 92: NU : - : Not in use.
pin 93: NU : - : Not in use.
pin 94: A VSS : - : Negative voltage supply for analog section.
pin 95: NU : - : Not in use.
pin 96: Vref : - : Reference voltage.
pin 97: A VCC : - : Positive voltage supply for the internal analog section.
pin 98: NU : - : Not in use.
pin 99: NU : - : Not in use.
pin100: NU : - : Not in use.

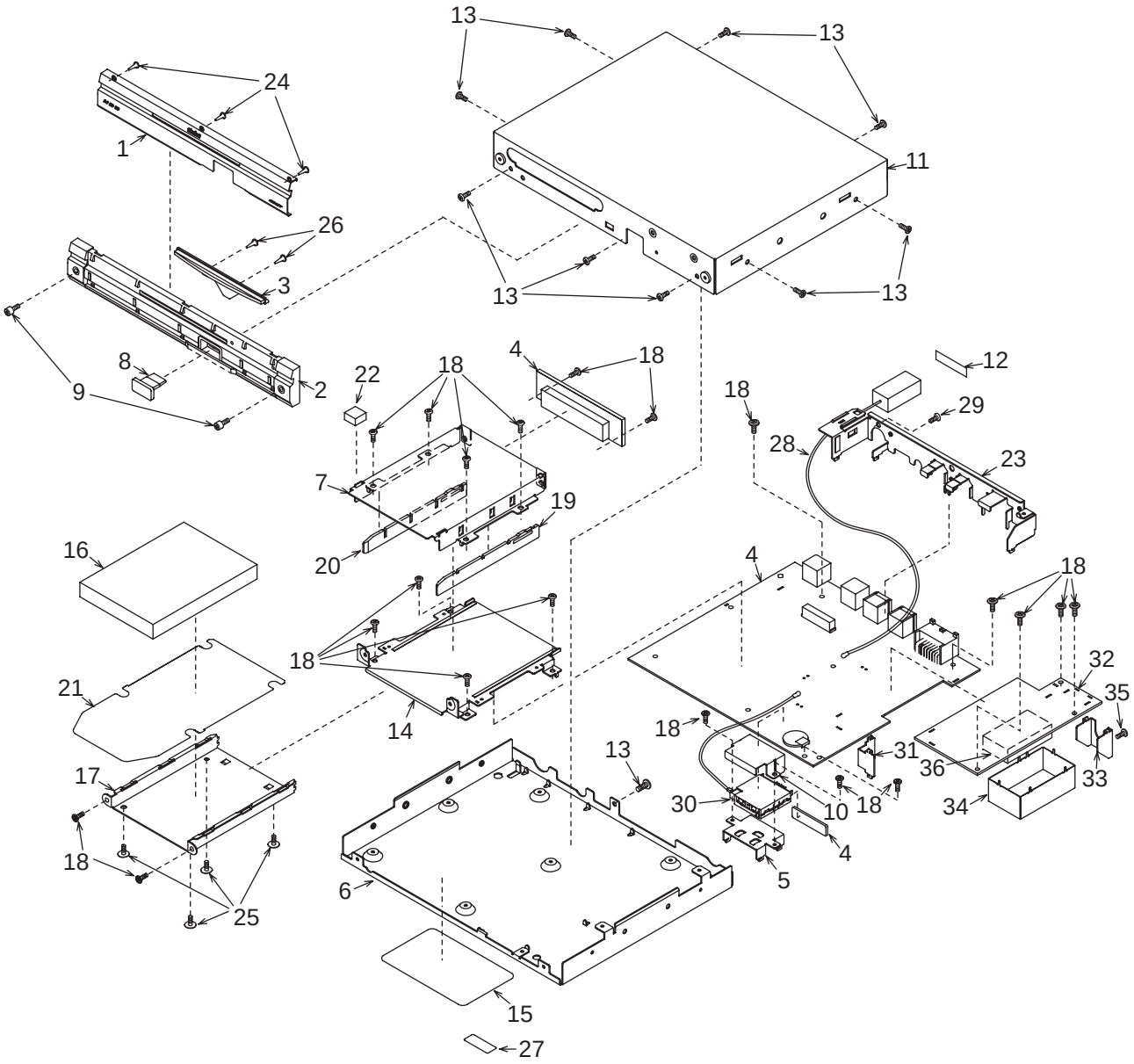
Table 1. LED control

LED ON out (pin 58)	LED 2 (pin 53)	LED 1 (pin 54)
H	H	H
4 Hz	H	L
1 Hz	L	H
L	L	L

Table 2. Boot control

Boot mode	MODE 1 (pin 71)	MODE 0 (pin 72)	Tst Boot 2 (pin 55)	Tst Boot 1 (pin 56)
Recovery	L-in	H-in	H-out	L-out
USB	H-in	L-in	L-out	H-out

EXPLODED VIEW/PARTS LIST



NO.	PART NO.	DESCRIPTION	Q'TY
1	372-3232-00	ALUMI FACE	1
2	370-6928-00	ESCUTCHEON	1
3	335-7799-00	ILLUMI	1
4	----------	MAIN PWB	1
5	331-4188-00	GPS-PLATE	1
6	311-1922-00	LOWER CASE	1
7	331-4192-00	HDD-HOLDER	1
8	335-7798-00	USB-CVR	1
9	780-2607-00	SCREW(M2.6x7)	2
10	331-4189-00	GPS-HOLDER	1
11	310-1830-00	UPPER CASE	1
12	347-7964-00	INSULATOR	1
13	780-2604-03	SCREW(M2.6x4)	10
14	331-4191-00	HDD-PLATE	1
15	286-6796-00	SETPLATE	1
16	----------	HARD DISC DRIVE(30GB)	1
17	331-3660-01	HDD BRKT	1
18	716-0878-50	SCREW(M2.6x5)	20

NO.	PART NO.	DESCRIPTION	Q'TY
19	335-7016-00	HDD GUIDE-R	1
20	335-7017-00	HDD GUIDE-L	1
21	347-7963-00	HDD PULL SHEET	1
22	345-8524-01	CUSION	1
23	331-4186-00	C-PLATE	1
24	716-3490-50	SCREW(M1.7x3)	3
25	716-3503-50	SCREW(M3x4)	4
26	716-0872-52	PAD SCREW(M1.7x5)	2
27	290-0103-00	COA LABEL	1
28	092-2206-01	ANT-RECEPT	1
29	714-3006-8B	MACHINE SCREW(M3x6)	1
30	060-8059-00	GPS-RECEIVER	1
31	331-4190-00	J-PLATE	1
32	----------	RDS-TMC PWB	1
33	331-4187-00	ANTENA-HOLDER	1
34	331-4317-00	RDS-SHIELD	1
35	714-2605-8B	MACHINE SCREW(M2.6x5)	1
36	880-1431D	RDS-TMC-TUNER	1

ELECTRICAL PARTS LIST

Main PWB(B1) section

REF No.	PART No.	DESCRIPTION
ANT700	075-0380-01	JACK
ANT701	075-0380-01	JACK
BAT1000	088-0034-11	CR2032-HE4
BL700	060-8059-00	GPS-RECEIVER
C100	042-0423-20	10V 10uF
C101	046-1042-78	0.1uF
C102	046-1042-78	0.1uF
C103	046-1042-78	0.1uF
C104	178-1052-78	1uF
C105	046-1042-78	0.1uF
C106	042-1726-90	6.3V 100uF
C107	178-1052-78	1uF
C108	042-1726-90	6.3V 100uF
C109	042-1726-90	6.3V 100uF
C110	178-1052-78	1uF
C111	178-1052-78	1uF
C112	042-0423-20	10V 10uF
C113	046-1042-78	0.1uF
C114	046-1042-78	0.1uF
C115	046-1042-78	0.1uF
C116	046-1042-78	0.1uF
C117	166-1011-50	100pF CH
C118	046-1042-78	0.1uF
C119	046-1042-78	0.1uF
C120	166-1011-50	100pF CH
C121	046-1042-78	0.1uF
C122	042-1726-90	6.3V 100uF
C123	178-1052-78	1uF
C124	046-1042-78	0.1uF
C125	046-1042-78	0.1uF
C126	046-1042-78	0.1uF
C127	046-1042-78	0.1uF
C128	046-1042-78	0.1uF
C129	046-1042-78	0.1uF
C130	046-1042-78	0.1uF
C131	046-1042-78	0.1uF
C132	046-1042-78	0.1uF
C133	046-1042-78	0.1uF
C134	046-1042-78	0.1uF
C135	166-1011-50	100pF CH
C136	168-1022-55	1000pF K
C137	046-1042-78	0.1uF
C138	046-1042-78	0.1uF
C139	046-1042-78	0.1uF
C140	046-1042-78	0.1uF
C141	046-1042-78	0.1uF
C142	166-1011-50	100pF CH
C143	046-1042-78	0.1uF
C144	046-1042-78	0.1uF
C145	046-1042-78	0.1uF
C146	166-1011-50	100pF CH
C147	166-1011-50	100pF CH
C148	046-1042-78	0.1uF
C149	046-1042-78	0.1uF
C150	046-1042-78	0.1uF
C151	166-2201-50	22pF CH
C152	046-1042-78	0.1uF
C153	046-1042-78	0.1uF
C154	042-0423-20	10V 10uF
C155	046-1042-78	0.1uF
C156	046-1042-78	0.1uF
C157	046-1042-78	0.1uF
C158	046-1042-78	0.1uF
C159	046-1042-78	0.1uF
C160	166-1011-50	100pF CH
C161	046-1042-78	0.1uF
C162	046-1042-78	0.1uF
C163	046-1042-78	0.1uF
C164	046-1042-78	0.1uF
C165	046-1042-78	0.1uF
C166	166-1011-50	100pF CH
C167	046-1042-78	0.1uF
C168	046-1042-78	0.1uF
C169	046-1042-78	0.1uF
C170	046-1042-78	0.1uF
C171	046-1042-78	0.1uF
C172	046-1042-78	0.1uF
C173	046-1042-78	0.1uF
C174	046-1042-78	0.1uF
C175	046-1042-78	0.1uF
C176	046-1042-78	0.1uF
C177	046-1042-78	0.1uF
C178	046-1042-78	0.1uF
C179	046-1042-78	0.1uF
C180	046-1042-78	0.1uF
C181	046-1042-78	0.1uF
C182	046-1042-78	0.1uF
C183	046-1042-78	0.1uF
C184	166-1011-50	100pF CH
C185	166-1011-50	100pF CH
C186	166-1011-50	100pF CH
C187	042-0423-20	10V 10uF
C188	168-1022-55	1000pF K
C189	168-1045-56	0.1uF Z
C200	178-1052-78	1uF
C201	042-0423-20	10V 10uF
C202	042-0423-20	10V 10uF
C203	046-1042-78	0.1uF
C204	166-1011-50	100pF CH
C205	046-1042-78	0.1uF
C206	166-1011-50	100pF CH
C207	046-1042-78	0.1uF
C208	166-1011-50	100pF CH
C209	046-1042-78	0.1uF
C210	166-1011-50	100pF CH
C211	166-1011-50	100pF CH
C212	046-1042-78	0.1uF
C213	166-1011-50	100pF CH
C214	046-1042-78	0.1uF
C215	046-1042-78	0.1uF
C216	166-1011-50	100pF CH
C217	046-1042-78	0.1uF
C218	166-1011-50	100pF CH
C219	166-1011-50	100pF CH
C220	046-1042-78	0.1uF
C221	166-1011-50	100pF CH
C222	046-1042-78	0.1uF
C223	046-1042-78	0.1uF
C224	166-1011-50	100pF CH
C225	046-1042-78	0.1uF
C226	166-1011-50	100pF CH
C227	046-1042-78	0.1uF
C228	046-1042-78	0.1uF
C229	046-1042-78	0.1uF
C230	166-1011-50	100pF CH
C231	046-1042-78	0.1uF
C232	166-1011-50	100pF CH
C233	046-1042-78	0.1uF
C234	046-1042-78	0.1uF
C235	046-1042-78	0.1uF
C236	166-1011-50	100pF CH
C237	046-1042-78	0.1uF
C238	166-1011-50	100pF CH
C239	042-0423-20	10V 10uF
C240	042-0423-20	10V 10uF
C241	046-1042-78	0.1uF
C242	166-1011-50	100pF CH
C243	046-1042-78	0.1uF
C244	166-1011-50	100pF CH
C245	046-1042-78	0.1uF
C246	166-1011-50	100pF CH
C247	046-1042-78	0.1uF
C248	166-1011-50	100pF CH
C249	166-1011-50	100pF CH
C250	046-1042-78	0.1uF
C251	166-1011-50	100pF CH
C252	046-1042-78	0.1uF
C253	046-1042-78	0.1uF
C254	166-1011-50	100pF CH
C255	046-1042-78	0.1uF
C256	166-1011-50	100pF CH
C257	166-1011-50	100pF CH
C258	046-1042-78	0.1uF
C259	166-1011-50	100pF CH
C260	046-1042-78	0.1uF
C261	046-1042-78	0.1uF
C262	166-1011-50	100pF CH
C263	046-1042-78	0.1uF
C264	166-1011-50	100pF CH
C265	046-1042-78	0.1uF
C266	046-1042-78	0.1uF
C267	046-1042-78	0.1uF
C268	166-1011-50	100pF CH
C269	046-1042-78	0.1uF
C270	166-1011-50	100pF CH
C271	046-1042-78	0.1uF
C272	046-1042-78	0.1uF
C273	046-1042-78	0.1uF
C274	166-1011-50	100pF CH
C275	046-1042-78	0.1uF
C276	166-1011-50	100pF CH
C277	042-1726-90	6.3V 100uF
C278	046-1042-78	0.1uF
C400	042-0423-20	10V 10uF
C401	046-1042-78	0.1uF
C402	168-6832-78	0.068uF K
C403	168-6832-78	0.068uF K
C404	042-0423-20	10V 10uF
C405	168-4745-79	0.47uF Z
C406	166-1011-50	100pF CH
C407	046-1042-78	0.1uF
C408	046-1042-78	0.1uF
C409	046-1042-78	0.1uF
C410	046-1042-78	0.1uF
C411	046-1042-78	0.1uF
C412	042-0423-20	10V 10uF
C413	168-4745-79	0.47uF Z
C414	166-1011-50	100pF CH
C415	046-1042-78	0.1uF
C416	046-1042-78	0.1uF
C417	046-1042-78	0.1uF
C419	046-1042-78	0.1uF
C420	166-1011-50	100pF CH
C421	166-1011-50	100pF CH
C422	166-1011-50	100pF CH
C423	166-1011-50	100pF CH
C424	166-1011-50	100pF CH
C425	166-1011-50	100pF CH
C426	168-1022-55	1000pF K
C427	166-1011-50	100pF CH
C428	166-1011-50	100pF CH
C429	168-1022-55	1000pF K
C502	046-1042-78	0.1uF
C503	046-1042-78	0.1uF

REF No.	PART No.	DESCRIPTION
C504	046-1042-78	0.1uF
C505	046-1042-78	0.1uF
C506	046-1042-78	0.1uF
C507	046-1042-78	0.1uF
C508	046-1042-78	0.1uF
C509	046-1042-78	0.1uF
C510	046-1042-78	0.1uF
C511	046-1042-78	0.1uF
C512	046-1042-78	0.1uF
C513	046-1042-78	0.1uF
C514	046-1042-78	0.1uF
C515	046-1042-78	0.1uF
C516	046-1042-78	0.1uF
C517	046-1042-78	0.1uF
C518	046-1042-78	0.1uF
C520	042-0573-50	6.3V 47uF TAN
C521	046-1042-78	0.1uF
C522	042-0416-57	10V 47uF M TAN
C523	046-1042-78	0.1uF
C525	042-0416-57	10V 47uF M TAN
C526	046-1042-78	0.1uF
C527	166-4701-50	47pF CH
C528	046-1042-78	0.1uF
C529	168-1022-55	1000pF K
C531	166-1011-50	100pF CH
C532	166-1011-50	100pF CH
C533	166-1011-50	100pF CH
C534	166-1011-50	100pF CH
C535	166-1011-50	100pF CH
C536	166-1011-50	100pF CH
C537	166-1011-50	100pF CH
C538	166-1011-50	100pF CH
C539	166-1011-50	100pF CH
C540	166-1011-50	100pF CH
C541	166-1011-50	100pF CH
C542	166-1011-50	100pF CH
C543	166-1011-50	100pF CH
C544	166-1011-50	100pF CH
C545	166-1011-50	100pF CH
C546	166-1011-50	100pF CH
C547	166-1011-50	100pF CH
C548	166-1011-50	100pF CH
C549	166-1011-50	100pF CH
C550	166-1011-50	100pF CH
C551	166-1011-50	100pF CH
C552	166-1011-50	100pF CH
C553	166-1011-50	100pF CH
C554	042-0423-97	16V 10uF
C555	168-1045-56	0.1uF Z
C556	166-3901-50	39pF CH
C557	168-1042-78	16V 0.1uF
C558	046-1042-78	0.1uF
C559	046-1042-78	0.1uF
C560	046-1042-78	0.1uF
C561	168-2232-55	0.022uF K
C600	168-1045-56	0.1uF Z
C601	168-1045-56	0.1uF Z
C602	046-1042-78	0.1uF
C603	046-1042-78	0.1uF
C604	042-0423-20	10V 10uF
C605	046-1042-78	0.1uF
C606	046-1042-78	0.1uF
C607	042-0403-55	16V 33uF
C608	168-1045-56	0.1uF Z
C609	168-1045-56	0.1uF Z
C610	042-0403-55	16V 33uF
C611	168-1022-55	1000pF K
C700	168-1045-56	0.1uF Z
C701	168-4745-79	0.47uF Z

REF No.	PART No.	DESCRIPTION
C702	042-0423-97	16V 10uF
C703	168-1045-56	0.1uF Z
C704	168-1045-56	0.1uF Z
C705	168-1045-56	0.1uF Z
C706	163-1063-35	16V 10uF
C707	168-1045-56	0.1uF Z
C708	168-1045-56	0.1uF Z
C709	168-1032-55	0.01uF K
C710	168-1032-55	0.01uF K
C711	163-1063-35	16V 10uF
C712	168-1032-55	0.01uF K
C713	168-1032-55	0.01uF K
C715	168-1045-56	0.1uF Z
C716	168-1045-56	0.1uF Z
C717	046-1042-78	0.1uF
C718	042-0638-50	16V 68uF
C719	168-1032-55	0.01uF K
C720	166-2701-50	27pF CH
C721	166-2701-50	27pF CH
C722	166-1011-50	100pF CH
C723	166-1011-50	100pF CH
C724	163-1063-35	16V 10uF
C726	168-1022-55	1000pF K
C727	166-1011-50	100pF CH
C729	042-0638-50	16V 68uF
C800	043-0548-50	2.2uF
C801	046-1042-78	0.1uF
C802	046-1042-78	0.1uF
C803	042-0423-97	16V 10uF
C805	046-1042-78	0.1uF
C806	046-1042-78	0.1uF
C807	046-1042-78	0.1uF
C808	042-0423-20	10V 10uF
C809	042-0423-97	16V 10uF
C810	043-0548-50	2.2uF
C811	042-0423-97	16V 10uF
C812	168-4745-79	0.47uF Z
C813	046-1042-78	0.1uF
C815	163-1063-35	16V 10uF
C816	168-2222-55	2200pF K
C817	168-1045-56	0.1uF Z
C818	168-1032-55	0.01uF K
C819	042-0423-97	16V 10uF
C820	168-2212-55	220pF K
C821	043-0548-50	2.2uF
C823	168-6822-55	6800pF K
C824	046-1042-78	0.1uF
C825	166-1211-50	120pF CH
C826	043-0548-50	2.2uF
C827	168-1042-78	16V 0.1uF
C828	168-1042-78	16V 0.1uF
C829	166-1011-50	100pF CH
C830	168-1042-78	16V 0.1uF
C831	166-1011-50	100pF CH
C832	168-1045-56	0.1uF Z
C833	046-1042-78	0.1uF
C834	163-1063-35	16V 10uF
C835	163-1063-35	16V 10uF
C836	163-1063-35	16V 10uF
C837	168-1032-55	0.01uF K
C838	166-1011-50	100pF CH
C839	163-1063-35	16V 10uF
C840	163-1063-35	16V 10uF
C841	168-2212-55	220pF K
C842	168-2212-55	220pF K
C843	168-2212-55	220pF K
C900	168-1032-55	0.01uF K
C901	046-1042-78	0.1uF
C902	168-3332-78	0.033uF K

REF No.	PART No.	DESCRIPTION
C903	168-1032-55	0.01uF K
C904	046-1042-78	0.1uF
C905	046-1042-78	0.1uF
C906	168-3332-78	0.033uF K
C907	168-1032-55	0.01uF K
C908	046-1042-78	0.1uF
C909	168-1032-55	0.01uF K
C910	046-1042-78	0.1uF
C911	046-1042-78	0.1uF
C912	168-3332-78	0.033uF K
C914	046-1042-78	0.1uF
C915	168-1045-56	0.1uF Z
C916	046-1042-78	0.1uF
C917	168-1045-56	0.1uF Z
C918	163-1073-15	6.3V 100uF
C919	168-1045-56	0.1uF Z
C920	168-1045-56	0.1uF Z
C921	046-1042-78	0.1uF
C922	168-1022-55	1000pF K
C924	046-1042-78	0.1uF
C926	168-1032-55	0.01uF K
C927	168-1032-55	0.01uF K
C928	168-1022-55	1000pF K
C929	168-1022-55	1000pF K
C931	168-1022-55	1000pF K
C932	168-1022-55	1000pF K
C1000	163-1063-35	16V 10uF
C1001	168-1045-56	0.1uF Z
C1002	163-1063-35	16V 10uF
C1004	168-1022-55	1000pF K
C1005	042-0423-20	10V 10uF
C1006	168-1045-56	0.1uF Z
C1007	168-1045-56	0.1uF Z
C1008	166-1211-50	120pF CH
C1010	163-1073-35	16V 100uF
C1011	168-1045-56	0.1uF Z
C1012	042-0403-55	16V 33uF
C1013	163-1063-35	16V 10uF
C1015	168-1045-56	0.1uF Z
C1016	163-1063-35	16V 10uF
C1017	168-1032-55	0.01uF K
C1018	168-1045-56	0.1uF Z
C1020	168-1022-55	1000pF K
C1021	166-1211-50	120pF CH
C1023	163-1073-35	16V 100uF
C1024	168-3322-55	3300pF K
C1025	168-3322-55	3300pF K
C1026	168-6812-55	680pF K
C1027	168-1032-55	0.01uF K
C1028	166-6801-50	68pF CH
C1029	168-1045-56	0.1uF Z
C1030	168-1045-56	0.1uF Z
C1031	168-1032-55	0.01uF K
C1032	168-6812-55	680pF K
C1033	168-3922-55	3900pF K
C1034	168-2222-55	2200pF K
C1035	168-1222-55	1200pF K
C1036	042-1726-90	6.3V 100uF
C1037	043-0548-50	2.2uF
C1038	046-1042-78	0.1uF
C1039	168-1045-56	0.1uF Z
C1040	046-1042-78	0.1uF
C1041	168-1045-56	0.1uF Z
C1042	168-1045-56	0.1uF Z
C1043	168-1045-56	0.1uF Z
C1045	166-1211-50	120pF CH
C1048	042-1726-90	6.3V 100uF
C1049	042-1726-90	6.3V 100uF
C1050	043-0548-50	2.2uF

REF No.	PART No.	DESCRIPTION
C1051	043-0548-50	2.2uF
C1056	189-4783-31	16V 4700uF
C1059	189-4783-31	16V 4700uF
C1061	043-0566-90	50V 2.2uF K
C1062	168-1022-55	1000pF K
C1063	043-0566-90	50V 2.2uF K
C1064	043-0566-90	50V 2.2uF K
C1065	178-1052-78	1uF
C1066	168-1045-56	0.1uF Z
C1067	043-0576-90	50V 10uF
C1068	043-0576-90	50V 10uF
C1069	043-0576-90	50V 10uF
C1070	043-0576-90	50V 10uF
C1071	042-1726-90	6.3V 100uF
C1072	178-1052-78	1uF
C1073	043-0548-50	2.2uF
C1074	042-0423-97	16V 10uF
C1075	163-1073-35	16V 100uF
C1100	168-1045-56	0.1uF Z
C1101	189-1083-41	25V 1000uF
C1102	043-0540-00	6.3V 10uF
C1103	043-0540-00	6.3V 10uF
C1104	043-0540-00	6.3V 10uF
C1105	046-1042-78	0.1uF
C1106	046-1042-78	0.1uF
C1107	042-1726-90	6.3V 100uF
C1108	046-1042-78	0.1uF
C1109	046-1042-78	0.1uF
C1110	168-1045-56	0.1uF Z
C1111	042-3373-15	6.3V 330uF
C1112	042-3373-15	6.3V 330uF
C1113	042-3373-15	6.3V 330uF
C1114	046-1042-78	0.1uF
C1115	046-1042-78	0.1uF
C1116	046-1042-78	0.1uF
C1117	163-1073-15	6.3V 100uF
C1118	043-0540-00	6.3V 10uF
C1200	168-2212-55	220pF K
C1202	168-2212-55	220pF K
C1203	168-1045-56	0.1uF Z
C1204	168-1045-56	0.1uF Z
CCT100	050-0140-57	1/32W 10k ohm x4J
CCT101	050-0140-57	1/32W 10k ohm x4J
CCT102	050-0140-57	1/32W 10k ohm x4J
CCT104	050-0140-51	1/32W 22 ohm x4J
CCT105	050-0140-51	1/32W 22 ohm x4J
CCT106	050-0140-51	1/32W 22 ohm x4J
CCT107	050-0140-51	1/32W 22 ohm x4J
CCT108	050-0140-51	1/32W 22 ohm x4J
CCT109	050-0140-51	1/32W 22 ohm x4J
CCT110	050-0140-51	1/32W 22 ohm x4J
CCT111	050-0140-51	1/32W 22 ohm x4J
CCT112	050-0140-51	1/32W 22 ohm x4J
CCT113	050-0140-51	1/32W 22 ohm x4J
CCT114	050-0140-57	1/32W 10k ohm x4J
CCT115	050-0140-57	1/32W 10k ohm x4J
CCT116	050-0140-71	1/32W 82 ohm x4J
CCT117	050-0140-71	1/32W 82 ohm x4J
CCT118	050-0140-57	1/32W 10k ohm x4J
CCT119	050-0140-56	1/32W 4.7k ohm x4J
CCT120	050-0140-56	1/32W 4.7k ohm x4J
CCT121	050-0140-53	1/32W 0 ohm x4J
CCT300	050-0140-66	1/32W 47 ohm x4J
CCT301	050-0140-66	1/32W 47 ohm x4J
CCT302	050-0140-66	1/32W 47 ohm x4J
CCT303	050-0140-66	1/32W 47 ohm x4J
CCT304	050-0140-66	1/32W 47 ohm x4J
CCT305	050-0140-66	1/32W 47 ohm x4J
CCT306	050-0140-66	1/32W 47 ohm x4J

REF No.	PART No.	DESCRIPTION
CCT307	050-0140-66	1/32W 47 ohm x4J
CCT308	050-0140-66	1/32W 47 ohm x4J
CCT309	050-0140-66	1/32W 47 ohm x4J
CCT310	050-0140-66	1/32W 47 ohm x4J
CCT311	050-0140-66	1/32W 47 ohm x4J
CCT312	050-0140-66	1/32W 47 ohm x4J
CCT313	050-0140-66	1/32W 47 ohm x4J
CCT314	050-0140-66	1/32W 47 ohm x4J
CCT315	050-0140-66	1/32W 47 ohm x4J
CCT332	050-0140-51	1/32W 22 ohm x4J
CCT333	050-0140-51	1/32W 22 ohm x4J
CCT334	050-0140-51	1/32W 22 ohm x4J
CCT335	050-0140-51	1/32W 22 ohm x4J
CCT336	050-0140-51	1/32W 22 ohm x4J
CCT501	050-0140-71	1/32W 82 ohm x4J
CCT700	050-0140-69	1/32W 56 ohm x4J
CCT701	050-0140-69	1/32W 56 ohm x4J
CCT703	050-0140-57	1/32W 10k ohm x4J
CCT800	050-0140-59	1/32W 33 ohm x4J
CCT801	050-0140-59	1/32W 33 ohm x4J
D600	001-7078-90	NSCW505T
D701	001-0529-32	MA8056-M
D702	001-9207-50	EZJZSV171AA
D703	001-0529-32	MA8056-M
D704	001-0529-32	MA8056-M
D705	001-0529-32	MA8056-M
D706	001-0529-32	MA8056-M
D800	001-0529-27	MA8047H
D801	001-1305-90	DAN217U-T106
D802	001-1305-90	DAN217U-T106
D900	001-0517-90	1SS355
D901	001-0529-46	MA8091-L
D903	001-7038-91	CL-221FG-C
D905	001-2630-90	1SS420-TPL3,F
D906	001-2630-90	1SS420-TPL3,F
D907	001-2630-90	1SS420-TPL3,F
D1000	001-2629-90	D1FM3-5063
D1001	001-2630-90	1SS420-TPL3,F
D1002	001-2630-90	1SS420-TPL3,F
D1003	001-2630-90	1SS420-TPL3,F
D1004	001-2629-90	D1FM3-5063
D1005	001-2630-90	1SS420-TPL3,F
D1006	001-2630-90	1SS420-TPL3,F
D1007	001-2629-90	D1FM3-5063
D1008	001-2629-90	D1FM3-5063
D1100	001-4311-00	ST70-27F-7072
D1101	001-1305-90	DAN217U-T106
D1102	001-1305-90	DAN217U-T106
FIL1103	060-3114-52	LFA20-2A1
FIL1104	060-3114-52	LFA20-2A1
FIL1105	060-3114-52	LFA20-2A1
FIL1106	060-3116-53	CDC510JB1H 221ST
IC100	051-7222-48	SN74AHC1G08 DCKR
IC101	051-7522-08	SN74LVC1G32 DCKR
IC102	051-7522-08	SN74LVC1G32 DCKR
IC103	----------	R8A77700ADA 01BGV
IC105	051-7522-08	SN74LVC1G32 DCKR
IC106	051-7272-08	TC7SZ125F
IC107	051-7526-08	SN74LVC1G126 DCKR
IC200	051-9333-30	MT46V16M16P-6T IT
IC201	051-9333-30	MT46V16M16P-6T IT

REF No.	PART No.	DESCRIPTION
IC202	051-9333-30	MT46V16M16P-6T IT
IC203	051-9333-30	MT46V16M16P-6T IT
IC400	052-3580-00	MD4832-d512-V3Q18-X-P
IC401	051-7503-78	SN74LVCHR 16245AGR
IC402	051-7520-08	SN74LVC1G 04DCKR
IC403	051-9125-70	R1LV0416CSB-7LI
IC404	051-7534-90	SN74LVC1G97 DCKR
IC405	051-7505-18	SN74ALVC08PWR
IC501	051-6834-00	XC3S50-4VQG100I-0985
IC502	051-6650-90	NB2305AI1HDR2G
IC504	051-7522-08	SN74LVC1G32 DCKR
IC505	051-7289-90	MC74HC4046ADT
IC506	051-7524-08	SN74LVC1G08 DCKR
IC507	051-7243-48	SN74AHCT1G08 DCKR
IC508	051-7243-48	SN74AHCT1G08 DCKR
IC600	051-7243-48	SN74AHCT1G08 DCKR
IC601	051-7539-90	SN74LVC3G34 DCTR
IC602	051-7503-78	SN74LVCHR 16245AGR
IC700	051-6923-08	ADCS7476AIMF
IC701	051-7222-48	SN74AHC1G08 DCKR
IC702	948-0683-02	GYRO-SENSOR
IC704	051-6921-90	TPS2041BDGNR
IC705	051-7529-90	SN74LVC541APW
IC707	051-7539-90	SN74LVC3G34 DCTR
IC800	051-6718-90	AK5357VT-E2
IC801	051-6731-90	WM8718SEDS/R
IC802	051-3054-90	HA17558ATEL
IC803	051-3053-90	NJM2058V
IC804	051-3054-90	HA17558ATEL
IC805	051-7255-38	TC7W66FU-TE12L
IC900	051-5408-38	R3112N211A-TR-FA
IC901	051-5408-38	R3112N211A-TR-FA
IC902	051-7222-48	SN74AHC1G08 DCKR
IC903	051-5418-28	R3111N271A-TR-FA
IC904	051-5408-38	R3112N211A-TR-FA
IC905	051-7202-58	SN74AHC1G32 DCKR
IC907	051-7540-90	SN74LVC2G32 DCTR
IC908	051-9400-29	BR93L46F-W
IC909	052-7086-00	M30620MCP-D16GP
IC910	051-7505-08	SN74LV08APWR
IC911	051-7222-48	SN74AHC1G08 DCKR
IC912	051-6600-58	HA12187FP
IC1000	051-3304-90	LP2954IMX
IC1001	051-3337-90	BA09CC0WFP
IC1002	051-3298-90	TDA3664/N1
IC1003	051-3377-90	LM3485MM
IC1004	051-3342-90	BA05CC0WFP-004EL

REF No.	PART No.	DESCRIPTION
IC1005	051-3380-90	TPS5120DBTRG4
IC1006	051-3356-90	BDOOKA5WFP
IC1100	051-3402-90	NJM2406F
IC1101	051-7537-90	SN74LVC1G14 DCKR
IC1102	051-5344-90	NJM2267V-TE2
IC1103	051-5344-90	NJM2267V-TE2
IC1200	051-7243-48	SN74AHCT1G08 DCKR
IC1201	051-7222-48	SN74AHC1G08 zDCKR
J701	074-1311-00	USB
J702	074-0881-07	7P
J800	075-0339-00	MINI JACK
J1100	074-1194-00	13P CE-NET
J1101	074-1194-00	13P CE-NET
J1102	074-1125-08	8P
J1103	074-1231-08	8P MIN
J1200	076-0713-00	50P
J1201	074-3019-60	10P SOCKET
L100	010-3105-58	120 ohm/100MHz
L101	010-3104-53	220 ohm/100MHz
L102	010-3104-53	220 ohm/100MHz
L103	010-3104-53	220 ohm/100MHz
L104	010-3104-54	600 ohm/100MHz
L105	010-3104-54	600 ohm/100MHz
L106	010-3104-54	600 ohm/100MHz
L107	010-3105-58	120 ohm/100MHz
L108	010-3104-54	600 ohm/100MHz
L200	010-3104-53	220 ohm/100MHz
L400	010-3104-54	600 ohm/100MHz
L401	010-3104-54	600 ohm/100MHz
L402	010-3104-54	600 ohm/100MHz
L502	010-3104-54	600 ohm/100MHz
L509	010-3104-53	220 ohm/100MHz
L510	010-3104-53	220 ohm/100MHz
L511	010-3104-53	220 ohm/100MHz
L512	010-3104-54	600 ohm/100MHz
L600	010-3104-54	600 ohm/100MHz
L601	010-3104-53	220 ohm/100MHz
L602	010-3104-53	220 ohm/100MHz
L700	010-3104-54	600 ohm/100MHz
L701	010-3104-54	600 ohm/100MHz
L702	010-3104-54	600 ohm/100MHz
L703	010-3104-53	220 ohm/100MHz
L704	010-3040-90	PLP3216S55/SLZT1
L705	010-3104-54	600 ohm/100MHz
L706	010-3105-58	120 ohm/100MHz
L707	010-3105-58	120 ohm/100MHz
L708	010-3104-54	600 ohm/100MHz
L709	010-3105-58	120 ohm/100MHz
L710	010-3104-54	600 ohm/100MHz
L801	010-3104-54	600 ohm/100MHz
L802	010-3104-54	600 ohm/100MHz
L804	010-3104-54	600 ohm/100MHz
L805	010-3104-54	600 ohm/100MHz
L807	010-3105-62	1k ohm/100MHz
L808	010-3105-62	1k ohm/100MHz
L900	010-3104-54	600 ohm/100MHz
L901	010-3104-54	600 ohm/100MHz
L1000	010-3104-54	600 ohm/100MHz
L1001	010-3104-50	30 ohm/100MHz
L1002	010-3104-50	30 ohm/100MHz
L1003	010-3500-92	10uH
L1004	010-3104-54	600 ohm/100MHz
L1005	010-3500-92	10uH
L1006	010-3500-92	10uH
L1007	010-3104-54	600 ohm/100MHz
L1008	010-3104-53	220 ohm/100MHz

REF No.	PART No.	DESCRIPTION
L1009	010-3104-54	600 ohm/100MHz
L1010	010-3105-58	120 ohm/100MHz
L1011	010-3105-58	120 ohm/100MHz
L1100	010-3105-58	120 ohm/100MHz
L1101	010-3104-54	600 ohm/100MHz
L1102	010-3104-54	600 ohm/100MHz
L1104	010-3105-62	1k ohm/100MHz
L1105	010-3105-62	1k ohm/100MHz
L1106	010-3105-62	1k ohm/100MHz
L1107	010-3105-62	1k ohm/100MHz
L1108	010-3104-54	600 ohm/100MHz
L1109	010-3104-54	600 ohm/100MHz
L1110	010-3104-54	600 ohm/100MHz
L1200	010-3105-58	120 ohm/100MHz
L1201	010-3105-58	120 ohm/100MHz
L1202	010-3104-54	600 ohm/100MHz
L1203	010-3104-54	600 ohm/100MHz
L1204	010-3104-54	600 ohm/100MHz
L1205	010-3105-62	1k ohm/100MHz
L1206	010-3105-62	1k ohm/100MHz
L1207	010-3104-54	600 ohm/100MHz
P600	074-1323-00	9828S-50Y
P701	076-0526-07	7P PLUG
P702	076-0353-07	7P
P1200	074-1322-00	50P
Q700	125-2027-91	DTC114EUA
Q800	125-0021-91	DTA114EUA
Q801	192-4116-00	2SC4116
Q802	193-1306-00	2SD1306
Q803	125-2027-91	DTC114EUA
Q900	190-1586-00	2SA1586 O,Y,G
Q902	125-2027-91	DTC114EUA
Q903	125-2027-91	DTC114EUA
Q904	125-2027-91	DTC114EUA
Q1000	193-1306-00	2SD1306
Q1001	190-2096-00	2SA2096
Q1002	125-7006-90	RSS075P03 TB
Q1003	125-0021-91	DTA114EUA
Q1004	125-8017-90	SP8K4-TB
Q1005	125-8017-90	SP8K4-TB
Q1009	192-4116-00	2SC4116
Q1010	131-1188-50	2SB1188PQR
Q1011	192-4116-00	2SC4116
Q1100	125-0021-97	DTA113ZU
Q1101	192-4116-00	2SC4116
Q1102	192-4116-00	2SC4116
R100	119-1021-15	1/10W 1k ohm
R101	119-1001-15	1/10W 10 ohm
R102	119-1031-15	1/10W 10k ohm
R103	119-3301-15	1/10W 33 ohm
R104	119-1031-15	1/10W 10k ohm
R107	119-1011-15	1/10W 100 ohm
R108	119-3301-15	1/10W 33 ohm
R110	119-1031-15	1/10W 10k ohm
R114	119-1031-15	1/10W 10k ohm
R115	119-1031-15	1/10W 10k ohm
R116	119-1031-15	1/10W 10k ohm
R118	119-1031-15	1/10W 10k ohm
R119	119-1001-15	1/10W 10 ohm
R120	119-3301-15	1/10W 33 ohm
R121	119-2201-15	1/10W 22 ohm
R122	119-1001-15	1/10W 10 ohm
R123	119-3301-15	1/10W 33 ohm
R124	032-0140-83	1/10W 150 ohm F
R125	119-3301-15	1/10W 33 ohm
R126	119-3301-15	1/10W 33 ohm
R127	119-2211-15	1/10W 220 ohm
R128	032-0140-83	1/10W 150 ohm F
R129	032-0140-83	1/10W 150 ohm F

REF No.	PART No.	DESCRIPTION
R130	119-1011-15	1/10W 100 ohm
R131	032-0140-57	1/10W 5.6k ohm F
R132	119-1031-15	1/10W 10k ohm
R133	119-1031-15	1/10W 10k ohm
R134	119-1031-15	1/10W 10k ohm
R135	119-1031-15	1/10W 10k ohm
R136	032-0140-68	1/10W 680 ohm F
R137	119-2201-15	1/10W 22 ohm
R139	119-0000-05	1/10W 0 ohm JW
R140	119-4731-15	1/10W 47k ohm
R141	119-4731-15	1/10W 47k ohm
R142	119-2221-15	1/10W 2.2k ohm
R143	119-2221-15	1/10W 2.2k ohm
R144	119-3301-15	1/10W 33 ohm
R146	119-4731-15	1/10W 47k ohm
R147	119-1031-15	1/10W 10k ohm
R148	119-1031-15	1/10W 10k ohm
R150	119-3301-15	1/10W 33 ohm
R151	119-1031-15	1/10W 10k ohm
R152	119-1031-15	1/10W 10k ohm
R153	119-1031-15	1/10W 10k ohm
R154	119-3301-15	1/10W 33 ohm
R156	119-8201-15	1/10W 82 ohm
R157	119-1011-15	1/10W 100 ohm
R158	119-1021-15	1/10W 1k ohm
R160	119-4731-15	1/10W 47k ohm
R161	119-1011-15	1/10W 100 ohm
R162	119-1031-15	1/10W 10k ohm
R163	119-4721-15	1/10W 4.7k ohm
R164	119-4721-15	1/10W 4.7k ohm
R165	119-4721-15	1/10W 4.7k ohm
R166	119-1031-15	1/10W 10k ohm
R167	119-1031-15	1/10W 10k ohm
R168	119-1031-15	1/10W 10k ohm
R169	119-1031-15	1/10W 10k ohm
R170	119-8201-15	1/10W 82 ohm
R171	119-8201-15	1/10W 82 ohm
R172	119-8201-15	1/10W 82 ohm
R173	119-1031-15	1/10W 10k ohm
R174	119-1031-15	1/10W 10k ohm
R175	119-1031-15	1/10W 10k ohm
R176	119-1031-15	1/10W 10k ohm
R177	119-1011-15	1/10W 100 ohm
R178	119-1031-15	1/10W 10k ohm
R179	119-1041-15	1/10W 100k ohm
R181	032-0140-51	1/10W 15k ohm F
R182	032-0140-51	1/10W 15k ohm F
R183	119-1031-15	1/10W 10k ohm
R184	119-1031-15	1/10W 10k ohm
R185	119-1031-15	1/10W 10k ohm
R300	119-0000-05	1/10W 0 ohm JW
R301	119-0000-05	1/10W 0 ohm JW
R302	119-1511-15	1/10W 150 ohm
R303	119-2201-15	1/10W 22 ohm
R305	119-4701-15	1/10W 47 ohm
R306	119-4701-15	1/10W 47 ohm
R307	119-4701-15	1/10W 47 ohm
R308	119-4701-15	1/10W 47 ohm
R309	119-4701-15	1/10W 47 ohm
R310	119-4701-15	1/10W 47 ohm
R311	119-4701-15	1/10W 47 ohm
R312	119-4701-15	1/10W 47 ohm
R313	119-4701-15	1/10W 47 ohm
R314	119-4701-15	1/10W 47 ohm
R315	119-4701-15	1/10W 47 ohm
R316	119-4701-15	1/10W 47 ohm
R317	119-4701-15	1/10W 47 ohm
R318	119-4701-15	1/10W 47 ohm
R319	119-4701-15	1/10W 47 ohm

REF No.	PART No.	DESCRIPTION
R320	119-4701-15	1/10W 47 ohm
R400	119-1031-15	1/10W 10k ohm
R401	119-1031-15	1/10W 10k ohm
R402	119-1031-15	1/10W 10k ohm
R403	119-1031-15	1/10W 10k ohm
R404	119-0000-05	1/10W 0 ohm JW
R405	119-0000-05	1/10W 0 ohm JW
R406	119-8201-15	1/10W 82 ohm
R407	119-0000-05	1/10W 0 ohm JW
R408	119-0000-05	1/10W 0 ohm JW
R409	119-1031-15	1/10W 10k ohm
R410	119-0000-05	1/10W 0 ohm JW
R415	119-3301-15	1/10W 33 ohm
R416	119-3301-15	1/10W 33 ohm
R417	119-3301-15	1/10W 33 ohm
R418	119-3301-15	1/10W 33 ohm
R500	119-3311-15	1/10W 330 ohm
R501	119-3301-15	1/10W 33 ohm
R502	119-1011-15	1/10W 100 ohm
R503	119-4721-15	1/10W 4.7k ohm
R504	119-2211-15	1/10W 220 ohm
R505	119-1211-15	1/10W 120 ohm
R506	119-1801-15	1/10W 18 ohm
R507	119-2211-15	1/10W 220 ohm
R508	119-5601-15	1/10W 56 ohm
R512	119-0000-05	1/10W 0 ohm JW
R514	032-0140-89	1/10W 47k ohm F
R515	032-0140-50	1/10W 10k ohm F
R516	119-1041-15	1/10W 100k ohm
R517	032-0140-22	1/10W 68k ohm F
R518	032-0140-04	1/10W 8.2k ohm F
R519	119-1511-15	1/10W 150 ohm
R520	119-3301-15	1/10W 33 ohm
R521	119-1511-15	1/10W 150 ohm
R522	119-1511-15	1/10W 150 ohm
R524	119-0000-05	1/10W 0 ohm JW
R600	119-2201-15	1/10W 22 ohm
R601	119-4731-15	1/10W 47k ohm
R602	119-2201-15	1/10W 22 ohm
R603	119-2201-15	1/10W 22 ohm
R604	119-1011-15	1/10W 100 ohm
R605	119-0000-05	1/10W 0 ohm JW
R607	119-5621-15	1/10W 5.6k ohm
R608	119-1021-15	1/10W 1k ohm
R609	119-8201-15	1/10W 82 ohm
R610	119-8201-15	1/10W 82 ohm
R611	119-8201-15	1/10W 82 ohm
R612	119-1031-15	1/10W 10k ohm
R613	119-0000-05	1/10W 0 ohm JW
R614	119-1511-15	1/10W 150 ohm
R700	119-1531-15	1/10W 15k ohm
R701	119-1031-15	1/10W 10k ohm
R702	119-1041-15	1/10W 100k ohm
R703	119-1031-15	1/10W 10k ohm
R704	119-2201-15	1/10W 22 ohm
R705	119-2201-15	1/10W 22 ohm
R706	119-1031-15	1/10W 10k ohm
R711	119-0000-05	1/10W 0 ohm JW
R712	119-2701-15	1/10W 27 ohm
R713	119-2701-15	1/10W 27 ohm
R715	119-1021-15	1/10W 1k ohm
R716	119-1021-15	1/10W 1k ohm
R717	119-1531-15	1/10W 15k ohm
R718	119-1531-15	1/10W 15k ohm
R719	119-1031-15	1/10W 10k ohm
R722	119-1031-15	1/10W 10k ohm
R723	119-0000-05	1/10W 0 ohm JW
R724	119-0000-05	1/10W 0 ohm JW
R727	119-1041-15	1/10W 100k ohm

REF No.	PART No.	DESCRIPTION
R812	119-3311-15	1/10W 330 ohm
R813	119-4721-15	1/10W 4.7k ohm
R814	119-2221-15	1/10W 2.2k ohm
R815	119-1031-15	1/10W 10k ohm
R816	119-1531-15	1/10W 15k ohm
R817	119-0000-05	1/10W 0 ohm JW
R818	119-1021-15	1/10W 1k ohm
R819	119-3311-15	1/10W 330 ohm
R820	119-4711-15	1/10W 470 ohm
R821	119-1031-15	1/10W 10k ohm
R822	119-1031-15	1/10W 10k ohm
R823	119-1041-15	1/10W 100k ohm
R824	119-4721-15	1/10W 4.7k ohm
R825	119-8221-15	1/10W 8.2k ohm
R826	119-2231-15	1/10W 22k ohm
R827	119-8221-15	1/10W 8.2k ohm
R828	119-2731-15	1/10W 27k ohm
R829	119-4731-15	1/10W 47k ohm
R830	119-1031-15	1/10W 10k ohm
R831	119-1031-15	1/10W 10k ohm
R832	119-5631-15	1/10W 56k ohm
R833	119-3921-15	1/10W 3.9k ohm
R834	119-1031-15	1/10W 10k ohm
R835	119-1031-15	1/10W 10k ohm
R836	119-3311-15	1/10W 330 ohm
R837	119-3311-15	1/10W 330 ohm
R838	119-1041-15	1/10W 100k ohm
R839	119-1041-15	1/10W 100k ohm
R840	119-1011-15	1/10W 100 ohm
R841	119-1821-15	1/10W 1.8k ohm
R842	119-5611-15	1/10W 560 ohm
R843	119-5611-15	1/10W 560 ohm
R844	119-1041-15	1/10W 100k ohm
R845	119-1041-15	1/10W 100k ohm
R849	119-2231-15	1/10W 22k ohm
R850	119-4721-15	1/10W 4.7k ohm
R900	119-1031-15	1/10W 10k ohm
R901	119-1031-15	1/10W 10k ohm
R902	119-4731-15	1/10W 47k ohm
R903	032-0140-99	1/10W 39k ohm F
R904	032-0140-00	1/10W 56k ohm F
R905	032-0140-54	1/10W 22k ohm F
R906	032-0140-79	1/10W 2.7k ohm F
R907	032-0140-69	1/10W 16k ohm F
R908	119-4721-15	1/10W 4.7k ohm
R909	119-1011-15	1/10W 100 ohm
R910	119-1011-15	1/10W 100 ohm
R911	119-1011-15	1/10W 100 ohm
R912	119-1011-15	1/10W 100 ohm
R913	032-0140-67	1/10W 3.3k ohm F
R914	119-4731-15	1/10W 47k ohm
R915	032-0140-81	1/10W 3.9k ohm F
R916	119-1031-15	1/10W 10k ohm
R918	119-4731-15	1/10W 47k ohm
R920	119-1031-15	1/10W 10k ohm
R921	119-1211-15	1/10W 120 ohm
R922	119-1031-15	1/10W 10k ohm
R924	119-1011-15	1/10W 100 ohm
R926	119-4731-15	1/10W 47k ohm
R927	119-1031-15	1/10W 10k ohm
R928	119-4731-15	1/10W 47k ohm
R929	119-1011-15	1/10W 100 ohm
R930	119-1011-15	1/10W 100 ohm
R931	119-3321-15	1/10W 3.3k ohm
R939	119-1011-15	1/10W 100 ohm
R940	119-4731-15	1/10W 47k ohm
R941	119-1011-15	1/10W 100 ohm
R942	119-1011-15	1/10W 100 ohm
R943	119-1011-15	1/10W 100 ohm

REF No.	PART No.	DESCRIPTION
R944	119-1011-15	1/10W 100 ohm
R945	119-4731-15	1/10W 47k ohm
R948	119-4731-15	1/10W 47k ohm
R949	119-4731-15	1/10W 47k ohm
R950	119-0000-05	1/10W 0 ohm JW
R951	119-1021-15	1/10W 1k ohm
R952	119-1021-15	1/10W 1k ohm
R953	119-1031-15	1/10W 10k ohm
R955	119-1031-15	1/10W 10k ohm
R1000	119-1031-15	1/10W 10k ohm
R1004	119-1031-15	1/10W 10k ohm
R1005	119-3921-15	1/10W 3.9k ohm
R1006	032-0140-03	1/10W 220k ohm F
R1007	032-0140-88	1/10W 100k ohm F
R1008	032-0140-63	1/10W 27k ohm F
R1009	119-1021-15	1/10W 1k ohm
R1010	119-2241-15	1/10W 220k ohm
R1011	119-2201-15	1/10W 22 ohm
R1012	119-0000-05	1/10W 0 ohm JW
R1013	032-0140-51	1/10W 15k ohm F
R1014	032-0140-05	1/10W 82k ohm F
R1015	032-0140-67	1/10W 3.3k ohm F
R1016	119-0000-05	1/10W 0 ohm JW
R1017	119-1031-15	1/10W 10k ohm
R1018	119-3321-15	1/10W 3.3k ohm
R1019	119-0000-05	1/10W 0 ohm JW
R1020	119-0000-05	1/10W 0 ohm JW
R1021	032-0140-52	1/10W 33k ohm F
R1022	032-0140-52	1/10W 33k ohm F
R1023	032-0140-05	1/10W 82k ohm F
R1024	032-0140-63	1/10W 27k ohm F
R1025	119-0000-05	1/10W 0 ohm JW
R1026	032-0140-62	1/10W 1k ohm F
R1027	032-0140-79	1/10W 2.7k ohm F
R1028	032-0140-79	1/10W 2.7k ohm F
R1029	032-0140-62	1/10W 1k ohm F
R1030	119-0000-05	1/10W 0 ohm JW
R1031	119-0000-05	1/10W 0 ohm JW
R1032	119-0000-05	1/10W 0 ohm JW
R1033	119-0000-05	1/10W 0 ohm JW
R1034	119-9121-15	1/10W 9.1k ohm
R1035	119-7521-15	1/10W 7.5k ohm
R1036	119-1031-15	1/10W 10k ohm
R1040	119-0000-05	1/10W 0 ohm JW
R1044	116-1011-15	1/4W 100 ohm
R1045	116-1011-15	1/4W 100 ohm
R1046	116-1011-15	1/4W 100 ohm
R1047	116-1011-15	1/4W 100 ohm
R1048	116-1011-15	1/4W 100 ohm
R1049	116-1011-15	1/4W 100 ohm
R1050	119-4721-15	1/10W 4.7k ohm
R1051	119-1031-15	1/10W 10k ohm
R1052	119-1031-15	1/10W 10k ohm
R1053	119-2211-15	1/10W 220 ohm
R1054	119-1021-15	1/10W 1k ohm
R1055	119-1031-15	1/10W 10k ohm
R1056	032-0140-94	1/10W 30k ohm F
R1057	032-0140-88	1/10W 100k ohm F
R1058	032-0140-93	1/10W 2k ohm F
R1100	117-2211-15	1/8W 220 ohm
R1101	117-2211-15	1/8W 220 ohm
R1102	119-3331-15	1/10W 33k ohm
R1103	119-1031-15	1/10W 10k ohm
R1104	119-1031-15	1/10W 10k ohm
R1105	119-1021-15	1/10W 1k ohm
R1106	119-5641-15	1/10W 560k ohm
R1108	119-4721-15	1/10W 4.7k ohm
R1109	119-1011-15	1/10W 100 ohm
R1110	116-3321-15	1/4W 3.3k ohm

REF No.	PART No.	DESCRIPTION
R1111	032-0106-79	1/10W 75 ohm D
R1112	032-0106-79	1/10W 75 ohm D
R1113	032-0106-79	1/10W 75 ohm D
R1114	119-1231-15	1/10W 12k ohm
R1115	119-2231-15	1/10W 22k ohm
R1116	117-2231-15	1/8W 22k ohm
R1117	119-3321-15	1/10W 3.3k ohm
R1118	119-4731-15	1/10W 47k ohm
R1119	117-2231-15	1/8W 22k ohm
R1120	119-3321-15	1/10W 3.3k ohm
R1121	119-4731-15	1/10W 47k ohm
R1122	119-1041-15	1/10W 100k ohm
R1123	119-1041-15	1/10W 100k ohm

REF No.	PART No.	DESCRIPTION
R1124	119-1041-15	1/10W 100k ohm
R1126	119-1051-15	1/10W 1M ohm
R1127	119-1051-15	1/10W 1M ohm
R1128	119-1051-15	1/10W 1M ohm
R1132	032-0140-62	1/10W 1k ohm F
R1133	032-0140-83	1/10W 150 ohm F
R1134	032-0140-83	1/10W 150 ohm F
R1135	119-1051-15	1/10W 1M ohm
R1136	119-1041-15	1/10W 100k ohm
R1137	032-0106-79	1/10W 75 ohm D
R1138	119-1531-15	1/10W 15k ohm
R1202	119-1031-15	1/10W 10k ohm
S900	013-6102-00	SKHLLF

REF No.	PART No.	DESCRIPTION
S901	013-6312-50	SKRP-ABE-010
T1100	009-0621-07	CHOKE 1.4mH
TM1000	073-0766-90	TERMINAL
TM1004	073-0766-90	TERMINAL
TM1013	073-0766-90	TERMINAL
TM1014	073-0766-90	TERMINAL
X100	061-4531-90	14.31818MHz
X101	061-4539-90	48MHz 2725T
X102	061-4538-90	8.46MHz
X900	060-1533-90	CSTCE10M0G52-RO
PWB	039-2935-00	PWB(WITHOUT COMPONENTS)

RDS-TMC PWB(B2) section

REF No.	PART No.	DESCRIPTION
ANT2301	092-0612-22	ANTENNA RECEPT
BL2101	880-1431D	RDS-TMC-TUNER
C2101	168-2232-55	0.022uF K
C2103	168-1042-78	16V 0.1uF
C2104	166-5611-50	560pF CH
C2105	166-1011-50	100pF CH
C2106	166-1011-50	100pF CH
C2107	163-4763-15	6.3V 47uF
C2110	166-1011-50	100pF CH
C2111	168-1042-78	16V 0.1uF
C2112	168-1032-55	0.01uF K
C2113	168-1032-55	0.01uF K
C2114	168-1042-78	16V 0.1uF
C2115	168-1032-55	0.01uF K
C2116	166-8211-50	820pF
C2117	166-4701-50	47pF CH
C2118	166-3311-50	330pF CH
C2119	166-6811-50	680pF
C2120	043-0548-50	2.2uF
C2122	168-1042-78	16V 0.1uF
C2123	166-5601-50	56pF CH
C2124	168-1042-78	16V 0.1uF
C2125	166-1011-50	100pF CH
C2126	168-1022-55	1000pF K
C2127	163-1073-35	16V 100uF
C2128	042-0423-97	16V 10uF
C2129	168-1042-78	16V 0.1uF
C2130	168-1032-55	0.01uF K
C2131	042-0423-97	16V 10uF
C2132	168-1042-78	16V 0.1uF
C2133	163-1063-35	16V 10uF
C2134	163-4763-15	6.3V 47uF
C2135	168-2232-55	0.022uF K
C2136	168-1042-78	16V 0.1uF
C2137	166-1011-50	100pF CH
C2138	168-1032-55	0.01uF K
C2139	168-1042-78	16V 0.1uF
C2141	168-1022-55	1000pF K
C2142	168-1042-78	16V 0.1uF
C2143	166-1011-50	100pF CH
C2144	168-1032-55	0.01uF K
C2145	166-1011-50	100pF CH
C2146	168-1032-55	0.01uF K
C2201	168-1042-78	16V 0.1uF
C2202	168-1042-78	16V 0.1uF
C2301	166-1221-50	1200pF CH
C2302	166-2201-50	22pF CH
C2303	168-3932-78	0.039uF K
C2304	166-1221-50	1200pF CH

REF No.	PART No.	DESCRIPTION
C2305	166-8097-50	8pF C CH
C2306	166-2201-50	22pF CH
C2307	166-2201-50	22pF CH
C2308	166-2701-50	27pF CH
C2309	166-4701-50	47pF CH
C2310	168-1022-55	1000pF K
C2313	168-1042-78	16V 0.1uF
C2314	168-4735-56	0.047uF Z
C2315	166-4096-50	4pF CH
C2316	168-4735-56	0.047uF Z
C2317	168-4735-56	0.047uF Z
C2318	168-1042-78	16V 0.1uF
C2319	166-1011-50	100pF CH
C2320	166-2211-50	220pF CH
CCT2101	050-0140-54	1/32W 1k ohm x4J
D2101	001-2412-90	RR264M-400
D2102	001-0517-90	1SS355
D2103	001-0517-90	1SS355
D2104	001-0529-16	MA8033-L
D2301	001-0530-90	1SS271
D2302	001-0517-90	1SS355
D2303	001-0594-90	HVM187S
IC2101	051-3054-90	HA17558ATEL
IC2102	051-4607-90	SAA6581T
IC2104	051-5436-38	BD5233G-TR
IC2105	052-1325-00	M30621MCA-FX2GP
L2101	010-3105-62	1k ohm/100MHz
L2102	010-3105-62	1k ohm/100MHz
L2103	010-3105-62	1k ohm/100MHz
L2104	010-3105-62	1k ohm/100MHz
L2105	010-3105-62	1k ohm/100MHz
L2201	010-3105-58	120 ohm/100MHz
L2202	010-3104-54	600 ohm/100MHz
L2203	010-3105-58	120 ohm/100MHz
L2205	010-3105-62	1k ohm/100MHz
L2206	010-3104-54	600 ohm/100MHz
L2207	010-3105-62	1k ohm/100MHz
L2301	010-3105-62	1k ohm/100MHz
L2302	010-2198-84	0.68uH
L2303	010-8037-00	0.315uH
L2304	010-2198-65	0.1uH
L2305	010-2198-65	0.1uH
L2306	010-2198-62	0.27u**H**
L2307	010-2198-50	0.15uH
L2308	010-3406-29	0.018uH
P2201	076-3019-10	10P PLUG
Q2101	125-2027-91	DTC114EUA
Q2102	125-9015-94	RN4904
Q2201	190-1298-00	2SA1298

REF No.	PART No.	DESCRIPTION
Q2202	190-1576-00	2SA1576A
Q2203	125-2027-91	DTC114EUA
Q2204	125-2038-92	RN1902
Q2301	190-1162-00	2SA1162
Q2302	193-1306-00	2SD1306
Q2303	192-2223-13	2SC2223-T1B
Q2304	192-2223-13	2SC2223-T1B
Q2305	193-1306-00	2SD1306
Q2306	126-0222-90	3SK222 V221,22
R2101	119-2201-15	1/10W 22 ohm
R2102	119-4701-15	1/10W 47 ohm
R2103	119-6831-15	1/10W 68k ohm
R2104	119-2721-15	1/10W 2.7k ohm
R2105	119-1041-15	1/10W 100k ohm
R2106	119-3331-15	1/10W 33k ohm
R2108	119-1031-15	1/10W 10k ohm
R2109	119-1021-15	1/10W 1k ohm
R2111	119-1231-15	1/10W 12k ohm
R2112	119-0000-05	1/10W 0 ohm JW
R2114	119-3321-15	1/10W 3.3k ohm
R2115	119-1021-15	1/10W 1k ohm
R2116	119-1021-15	1/10W 1k ohm
R2117	119-4731-15	1/10W 47k ohm
R2122	119-1021-15	1/10W 1k ohm
R2127	119-1021-15	1/10W 1k ohm
R2130	119-2231-15	1/10W 22k ohm
R2131	119-1011-15	1/10W 100 ohm
R2132	119-1011-15	1/10W 100 ohm
R2133	119-1011-15	1/10W 100 ohm
R2134	119-1041-15	1/10W 100k ohm
R2135	119-1031-15	1/10W 10k ohm
R2136	119-1021-15	1/10W 1k ohm
R2138	119-1021-15	1/10W 1k ohm
R2139	119-4731-15	1/10W 47k ohm
R2140	119-4731-15	1/10W 47k ohm
R2141	119-4731-15	1/10W 47k ohm
R2142	119-4731-15	1/10W 47k ohm
R2143	119-0000-05	1/10W 0 ohm JW
R2144	119-1231-15	1/10W 12k ohm
R2145	119-1021-15	1/10W 1k ohm
R2201	119-1031-15	1/10W 10k ohm
R2203	119-1021-15	1/10W 1k ohm
R2204	119-1031-15	1/10W 10k ohm
R2205	119-1021-15	1/10W 1k ohm
R2301	119-4711-15	1/10W 470 ohm
R2302	119-2221-15	1/10W 2.2k ohm
R2303	119-3941-15	1/10W 390k ohm
R2304	119-1021-15	1/10W 1k ohm
R2305	119-2721-15	1/10W 2.7k ohm

REF No.	PART No.	DESCRIPTION
R2306	119-5631-15	1/10W 56k ohm
R2307	119-5631-15	1/10W 56k ohm
R2308	119-4731-15	1/10W 47k ohm
R2309	119-3921-15	1/10W 3.9k ohm
R2310	119-3331-15	1/10W 33k ohm
R2311	119-4721-15	1/10W 4.7k ohm
R2312	119-1811-15	1/10W 180 ohm

REF No.	PART No.	DESCRIPTION
R2313	119-0000-05	1/10W 0 ohm JW
R2314	119-3311-15	1/10W 330 ohm
R2315	119-4731-15	1/10W 47k ohm
R2316	119-1511-15	1/10W 150 ohm
R2317	119-3321-15	1/10W 3.3k ohm
SUP2301	060-0122-20	DSP-141N-S00B
VR2104	012-4997-59	47k ohm VR

REF No.	PART No.	DESCRIPTION
X2101	061-3013-00	4.33MHz
X2102	060-1533-90	CSTCE10M0G52-RO
PWB	039-2936-00	PWB(WITHOUT COMPONENTS)

CIRCUIT DIAGRAM

Main PWB(B1) section 1/12

[Navi microcomputer]

2/12	DDR_VREF, NMI, LED2, LED1, /SH_RESET_OUT, /CPU_RESET
9/12	
7/12	REMOCON
5/12	PDOUT1, /FPGA_RDY, /EXT_RDY, PDOUT2
11/12	RGB
7/12	SH_USB
4/12 5/12 (1/12)	SH_CONT
5/12	CKIO, DCLKIN, D3.3V_B
4/12 5/12 (1/12)	SH_CONT
4/12 5/12	EXA_25:0
4/12	EXD_15:0
10/12	D3.3V, D1.22V, DDR2.5V
11/12	D_GND
3/12	DSA_13:0, DSDQ_63:0, DDR_IF
7/12	SH-GPS, GPS-SH, SEISAN-SH, SH-SEISAN
9/12	MICOM-SH, SH-MICOM
12/12	RDS-SH, SH-RDS

TP1009 DDR_VREF 1.25V

IC100 SN74AHC1G08DCKR — REMOCON — 5V Tolerant

IC101 SN74LVC1G32DCKR — H:WAIT / L:RDY

IC102 SN74LVC1G32DCKR

IC103 R8A77700ADA01BGV — SH NAVI-1

BGA520 TOP_VIEW — A1=1PIN, A2=2PIN, AL30=519PIN, AL31=520PIN

/CS0	DOC
/CS1	RESERVE(PC CARD)
/EX_CS0	SRAM
/EX_CS1	ETHERNET
/EX_CS2	FPGA
/EX_CS3	RESERVE(DSP)
/EX_CS4	RESCUE DOC
/EX_CS5	(impossible to use)
/EX_CS6	(impossible to use)
/EX_CS7	CF CARD

*/CS0 and /EXCS4:possible to swap.

/IRQ0	ETHERNET
/IRQ1	FPGA
/IRQ2	RESERVE
/IRQ3	RESERVE
/IRQ4	CF CARD
/IRQ5	RESERVE

3.3V	Power supply for I/O	VCCQ	D_3.3V
1.22V	CPU core power	VDD	VCC_1.22V
2.5V	DDR I/O power	VCCQ25	DDR_2.5

SSI0	Voice recognition
SSI1	TTS/WAVE
SSI2&3	N.U

		0	1
MD2	Clock Mode	EXTAL	XTAL
MD3	CSO BUS Width	16bit	32bit
MD4			
MD5	endian	Big	Little
MD10	Processor Mode	Single	Multi

SCIF0	GPS
SCIF1	RESERVE
SCIF2	DEBUG
SCIF3	RESERVE
SCIF4	For production
SCIF5	RDS-TMC microcomputer
SCIF6	RESERVE
SCIF7	Sub microcomputer
SCIF8	RESERVE
SCIF9	GPIO

IDE_CONT 6/12, IDED_15:0

SSI 8/12, D3.3V 10/12

MCLK_DAC, MCLK_ADC 8/12

8.46MHZ 3.3VP-P — Audio Master Clock

705KHZ SSI_BCK0 3.3VP-P

11.015625KHZ SSI_LRCK0 3.3VP-P

LAT_WR 5/12, LAT_RD 7/12

DDR2.5V 10/12

DSCK, /DSCK 3/12

/BU_DET, /P_OFF, /PERI_RESET 9/12

32MHZ 3.3VP-P

9.5979MHZ 3.3VP-P

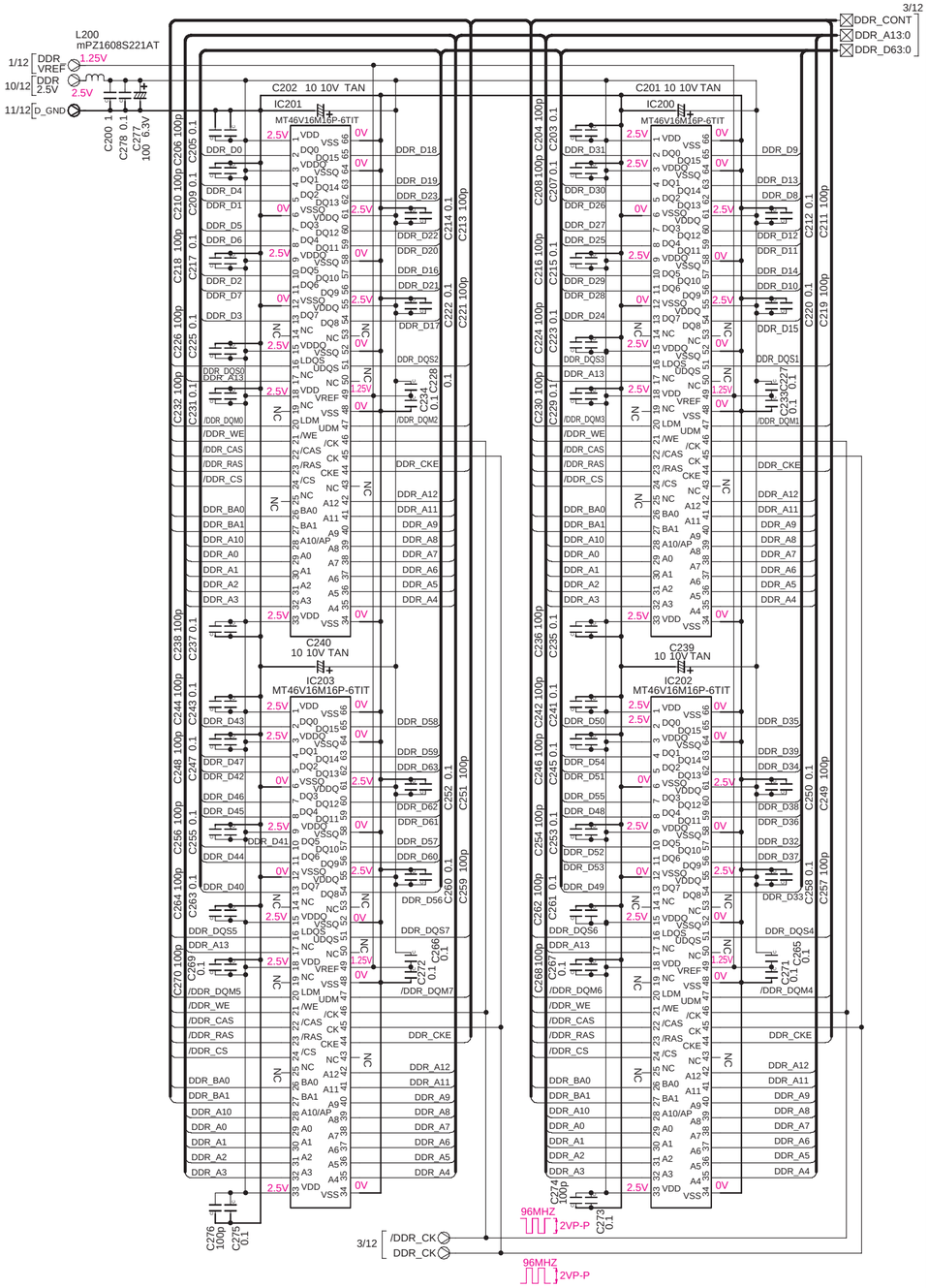
14.31818MHz 3.3VP-P

48MHZ 3.3VP-P

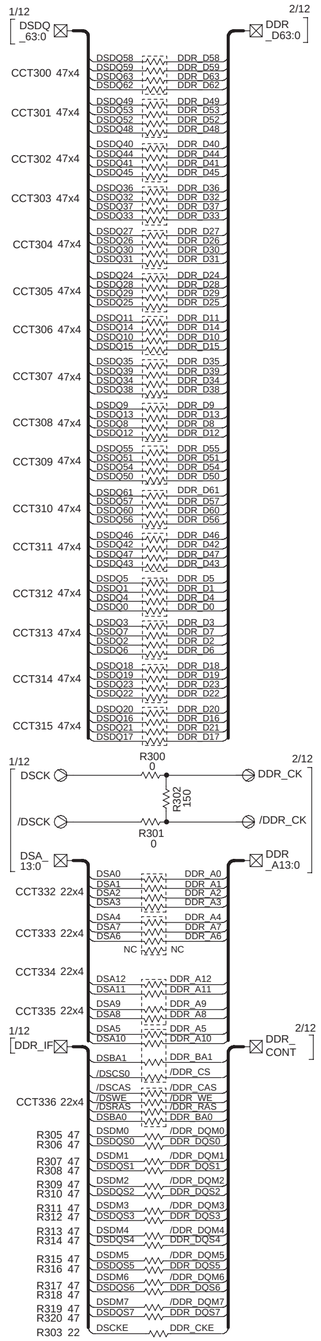
MAIN CLOCK/USB CLOCK

/PERI_RESET

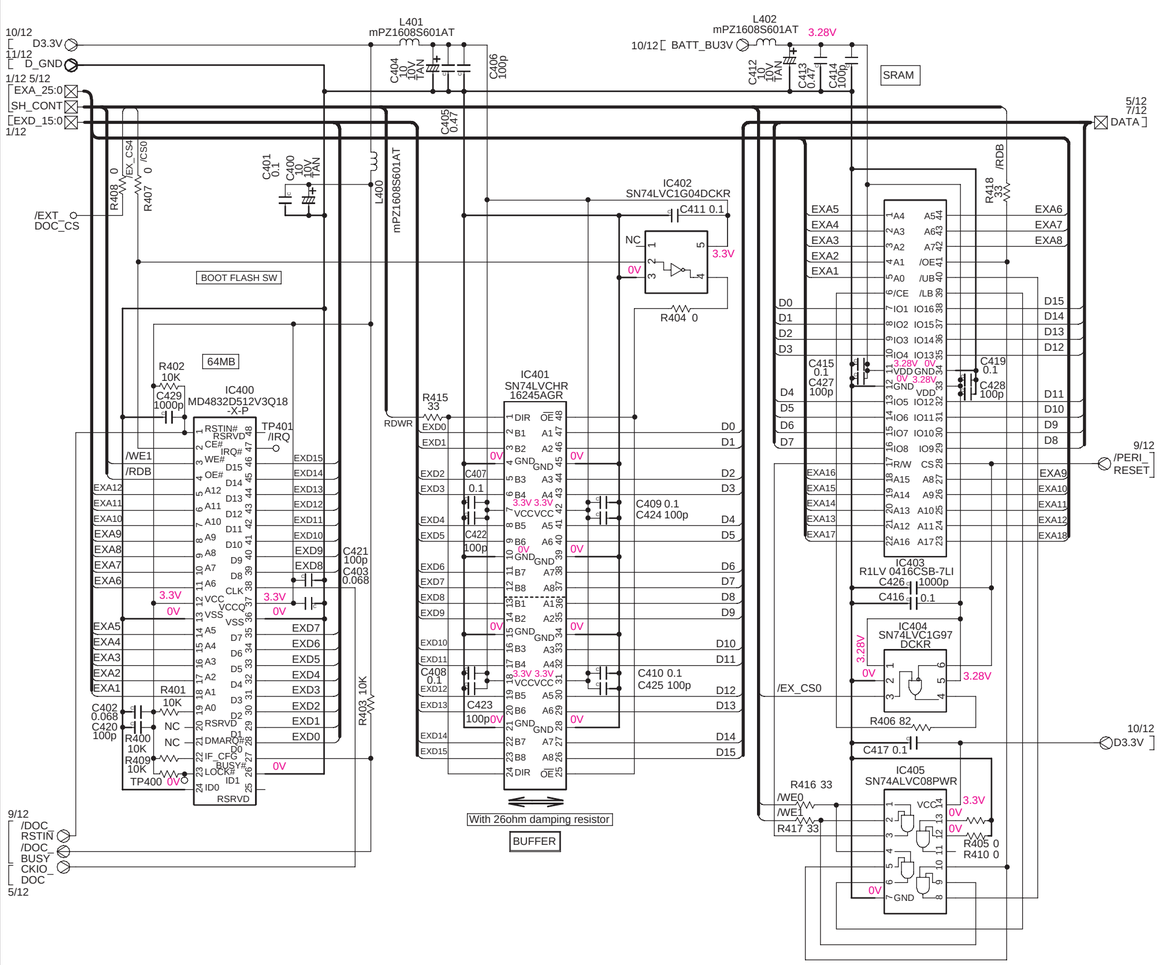
Main PWB(B1) section 2/12
[DDR SDRAM]



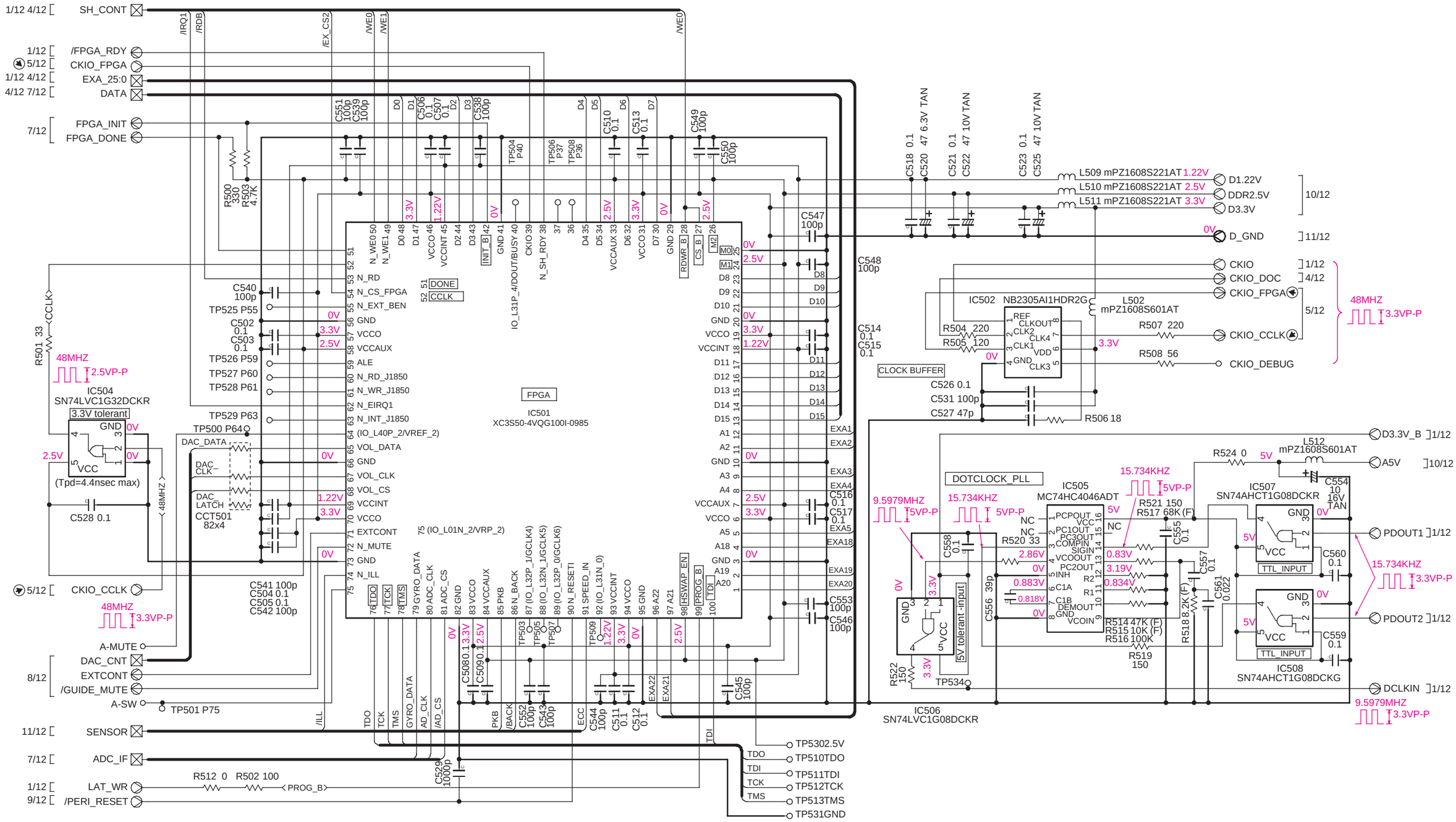
Main PWB(B1) section 3/12
[RS block]



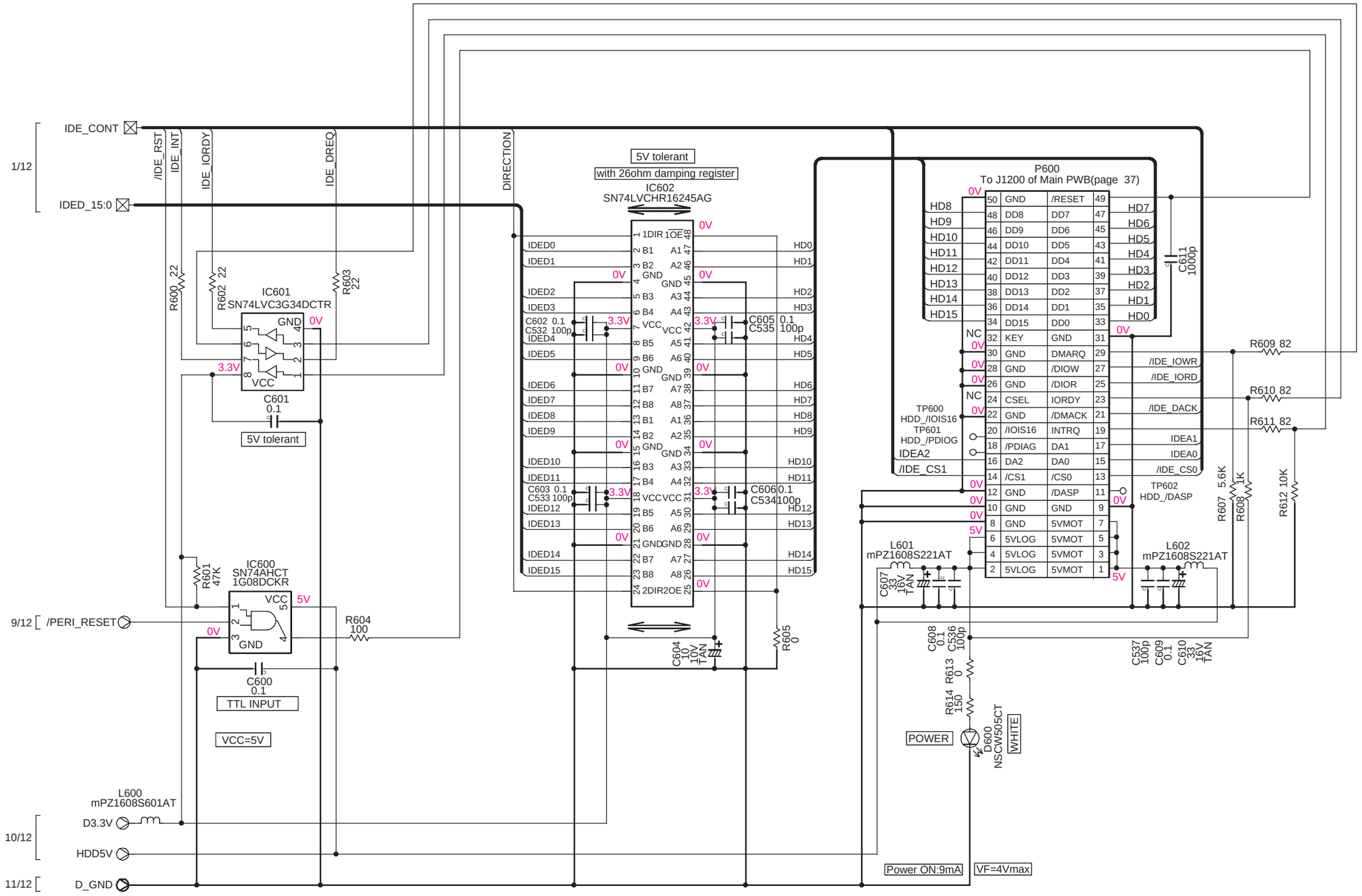
Main PWB(B1) section 4/12
[DOC / SRAM block]



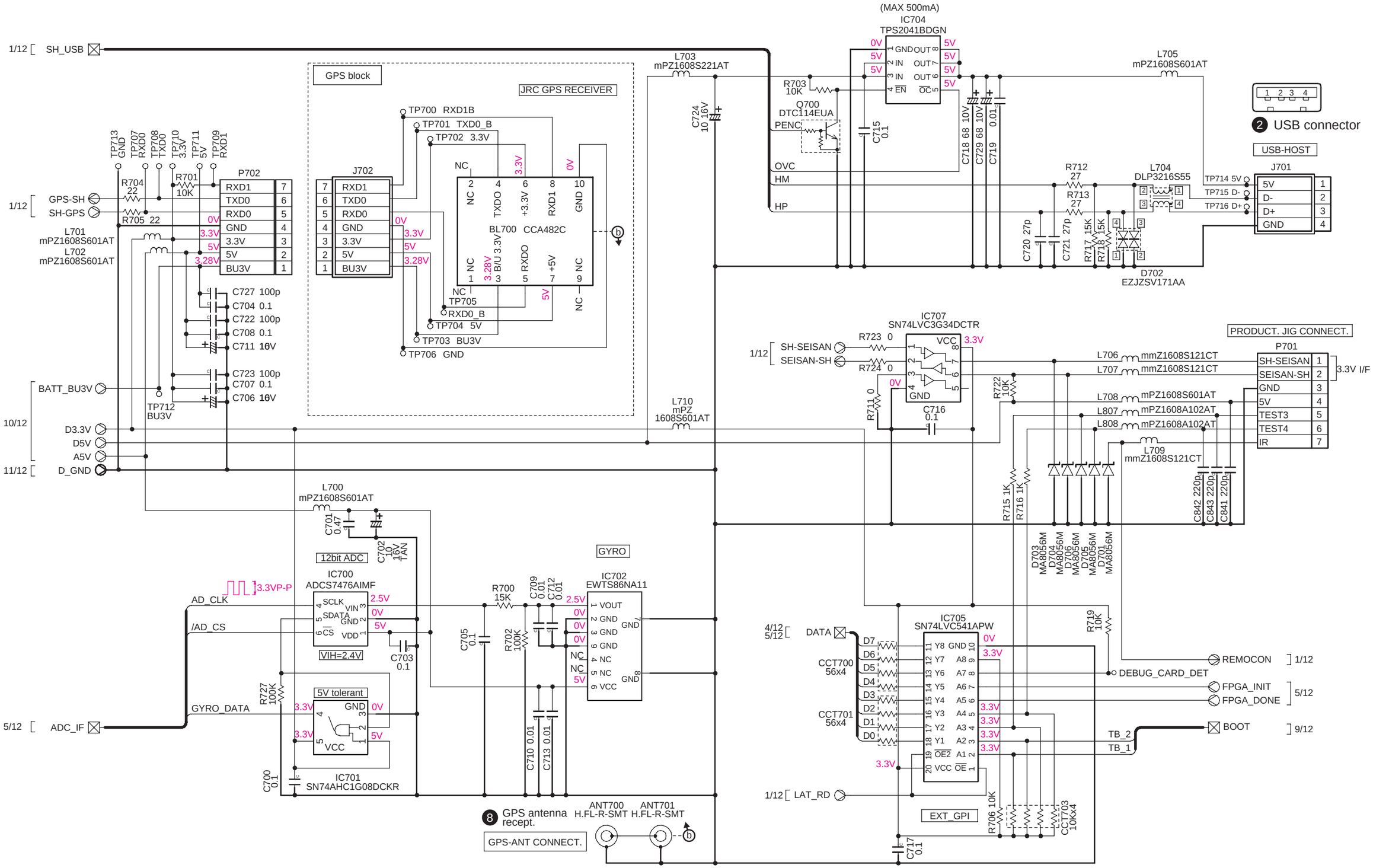
Main PWB(B1) section 5/12
[FPGA]



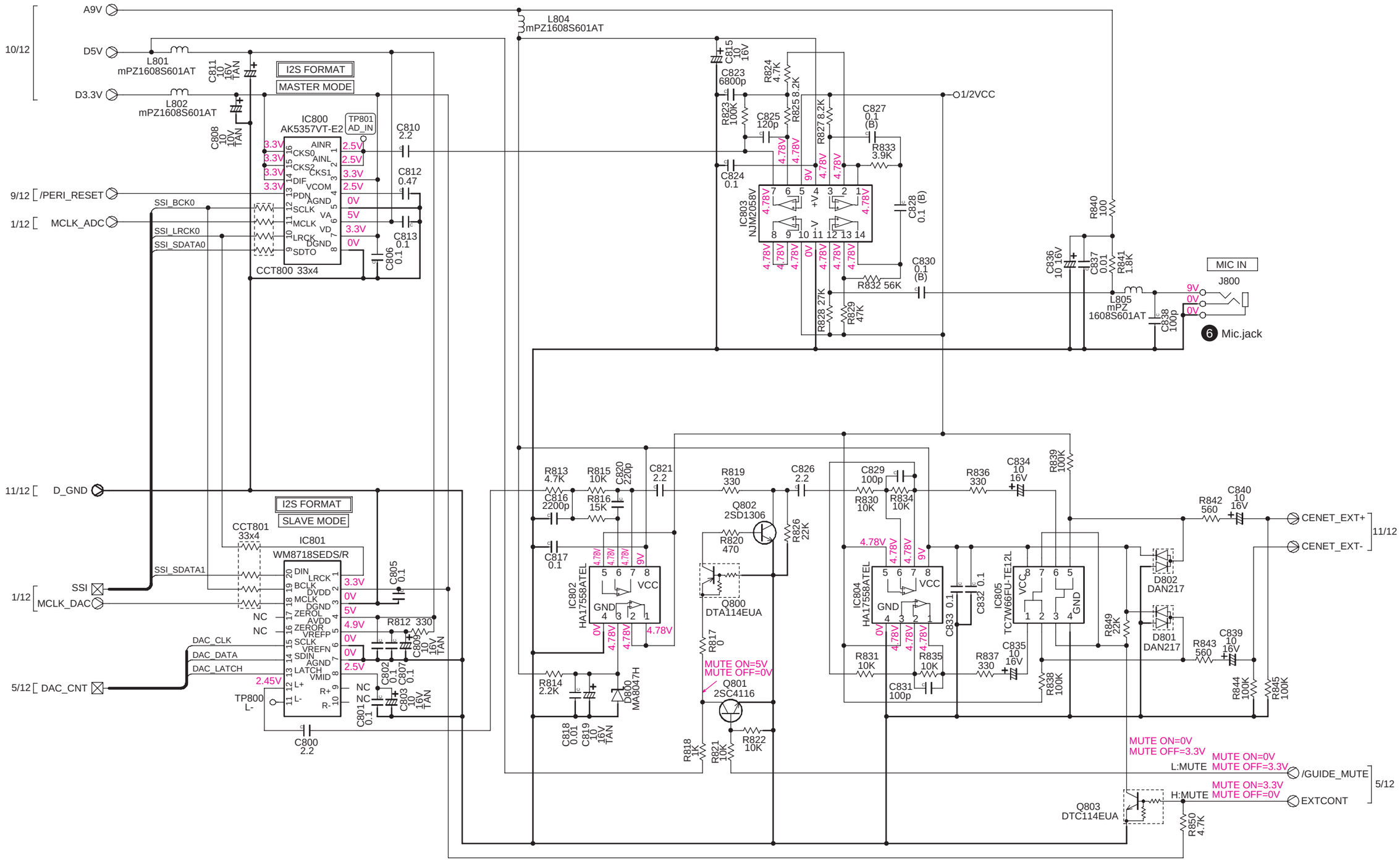
Main PWB(B1) section 6/13
[ATAPJ]



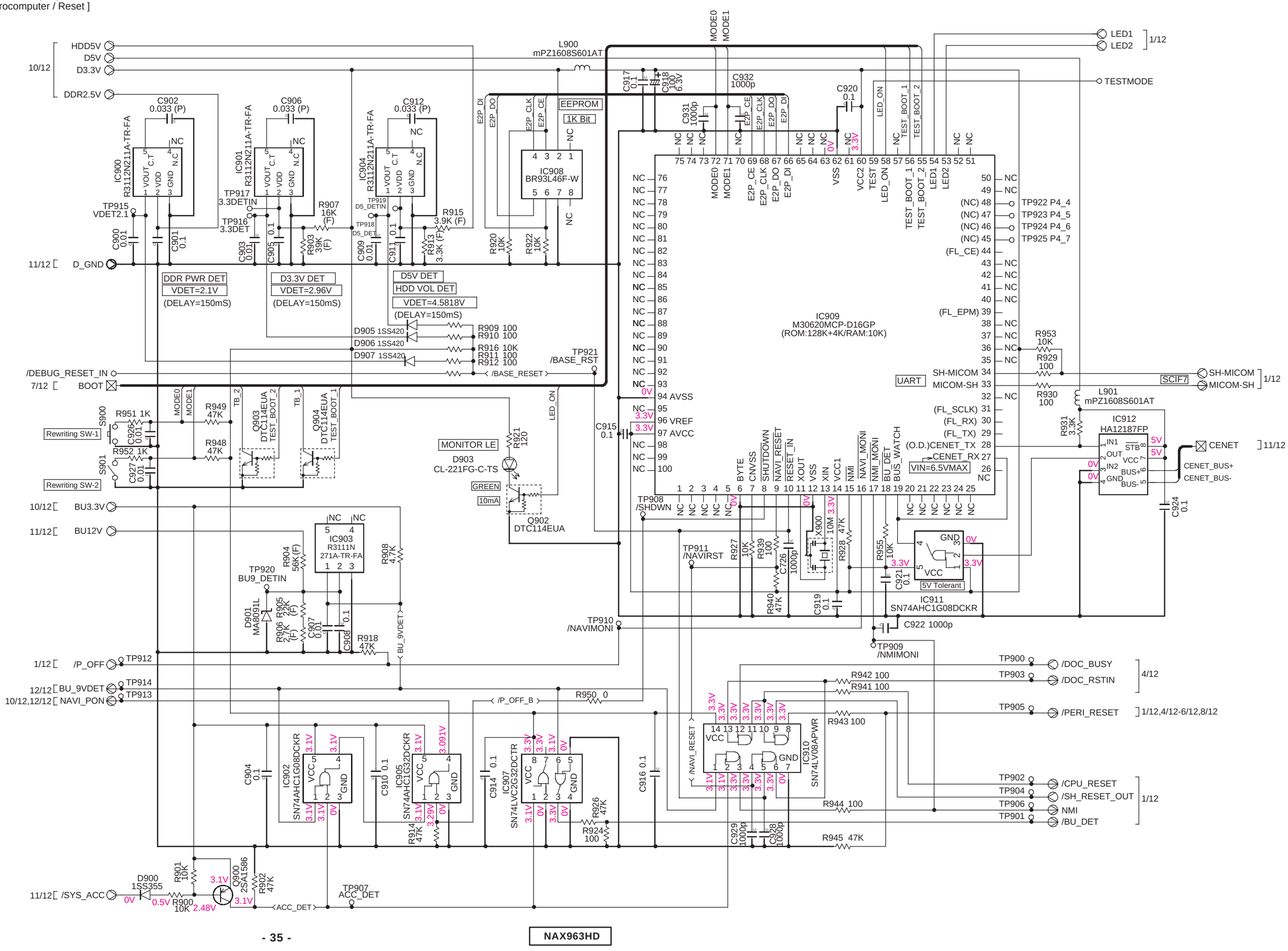
Main PWB(B1) section 7/12
[GPS / GYO/USB]



Main PWB(B1) section 8/13
[Guide]

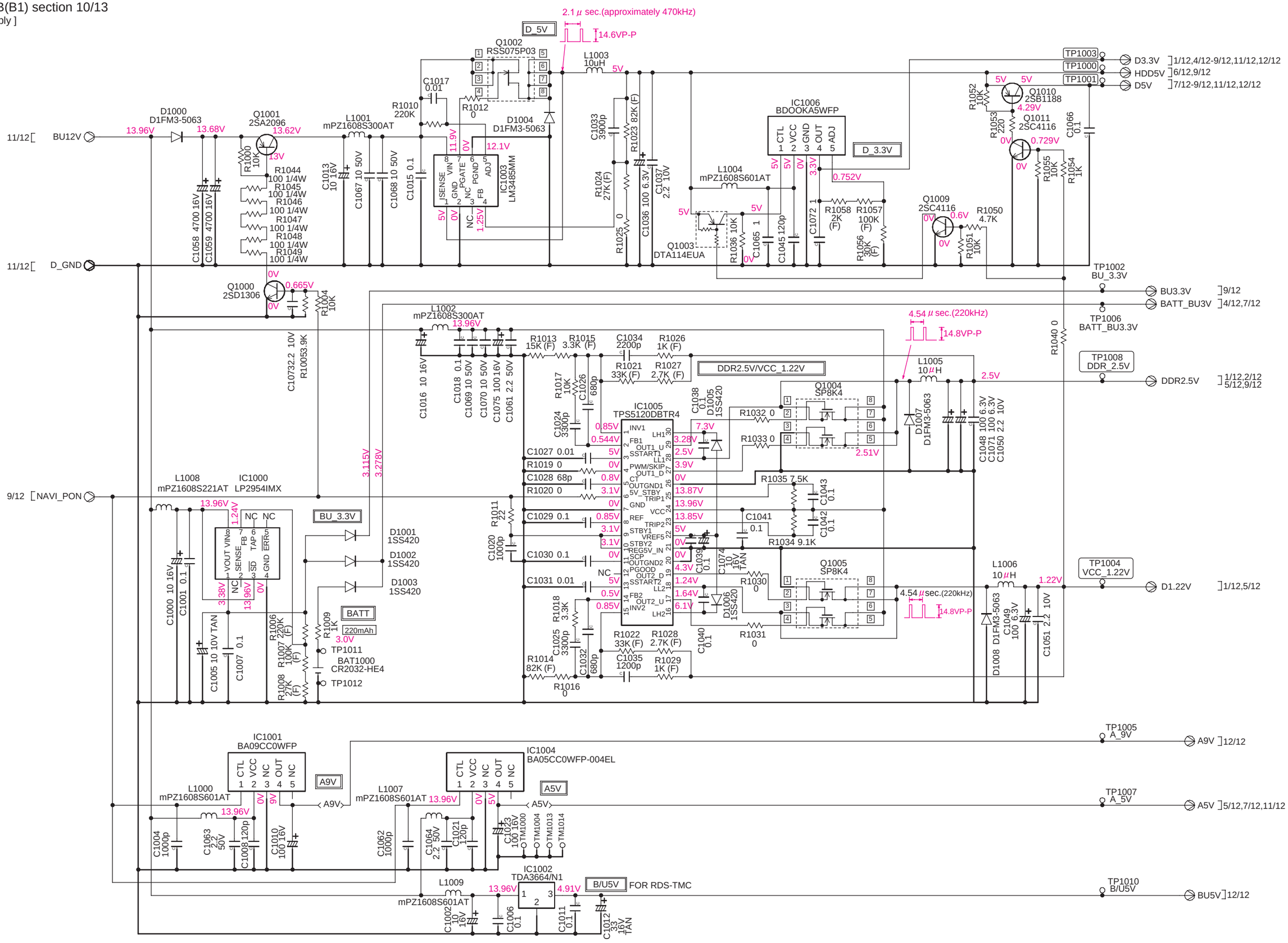


Main PWB(B1) section 9/12
[Microcomputer / Reset]



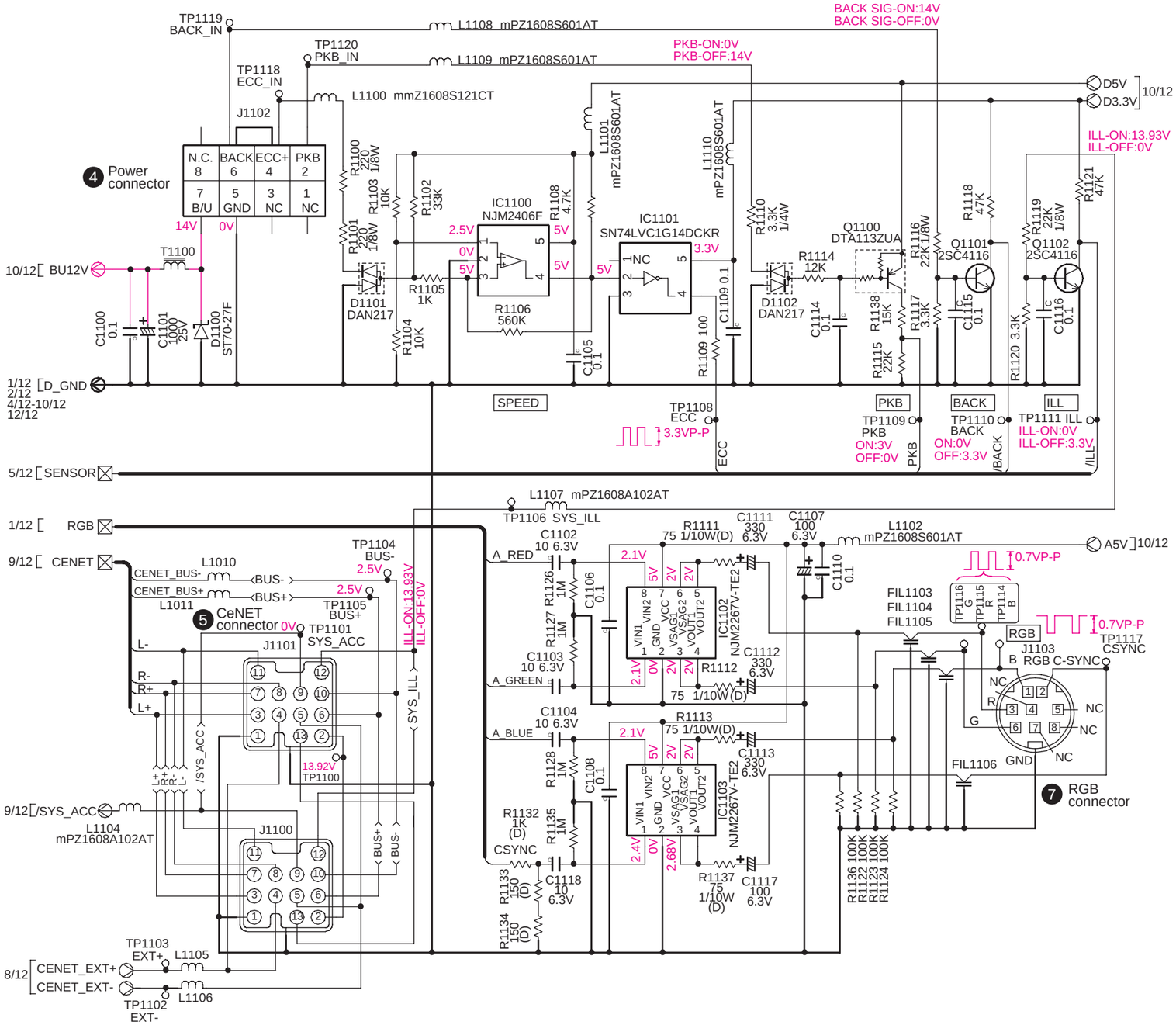
Main PWB(B1) section 10/13

[Power supply]



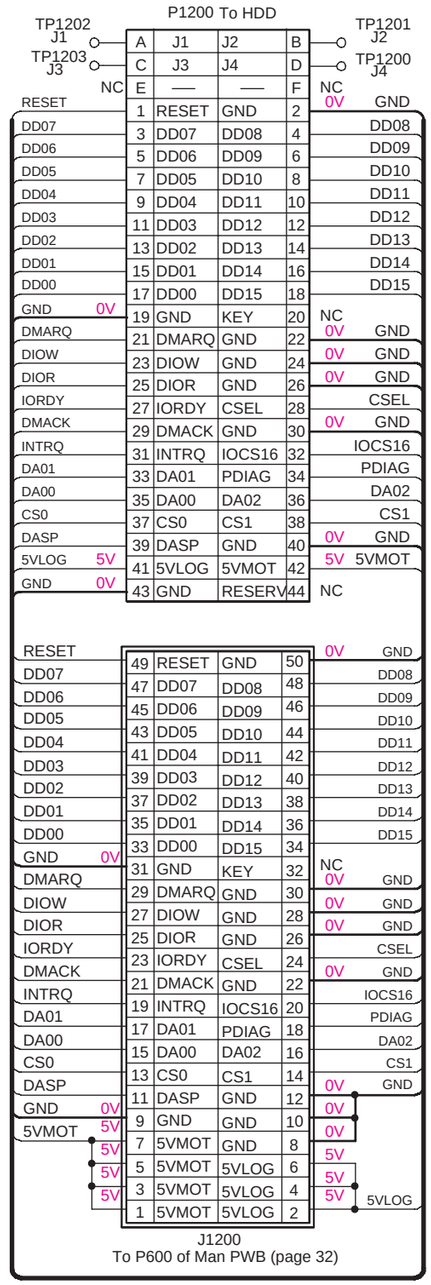
Main PWB(B1) section 11/12

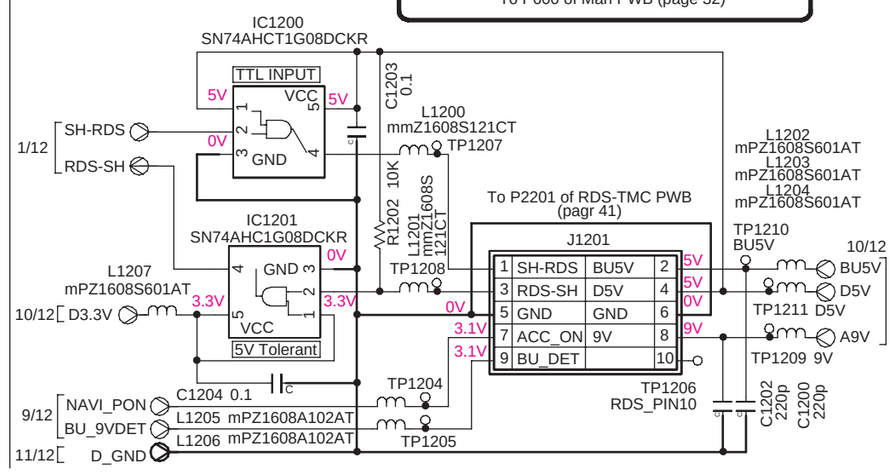
[CeNET,RGB,Power connect.]



Main PWB(B1) section 12/12

[HDD/RDS-TMC connect.]

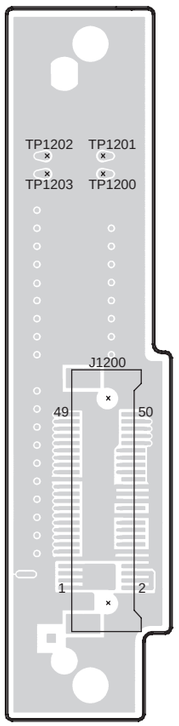




PRINTED WIRING BOARD

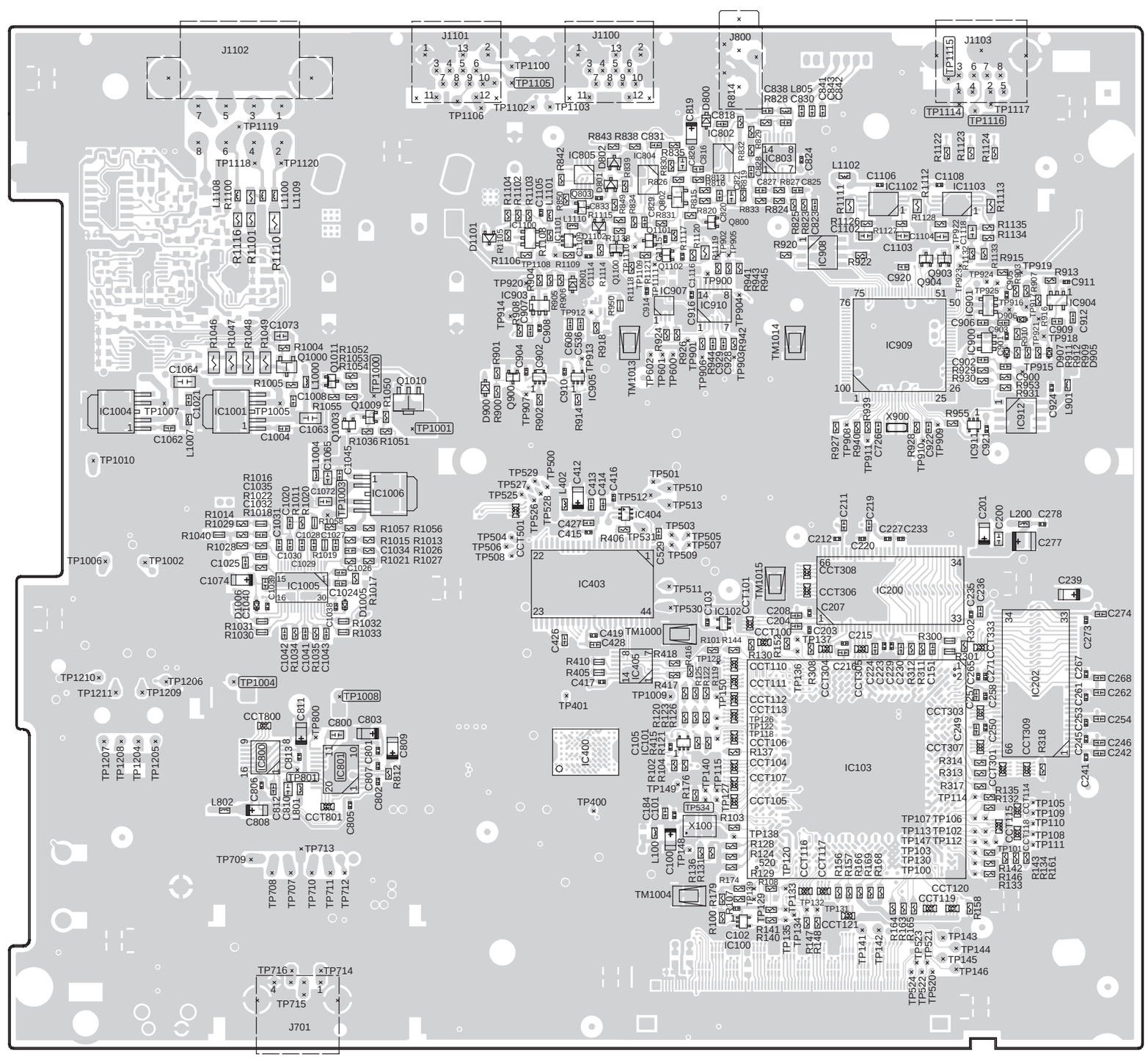
Main PWB(B1) section 1/2

Caution:
COMPONENT SIDE: Parts on the component side seen from the component side are indicated.
SOLDER SIDE: Parts on the solder side seen from the solder side are indicated.



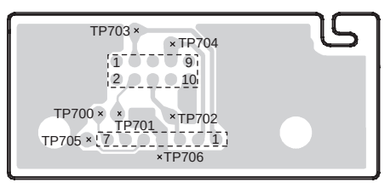
Main PWB -HDD- (B1)

SOLDER SIDE



Main PWB (B1)

SOLDER SIDE



Main PWB -GPS- (B1)

SOLDER SIDE

Main PWB(B1) section 2/2

7 RGB connector

1	B
2	C-SYNC
3	R
4	N.C.
5	N.C.
6	G
7	N.C.
8	N.C.

8 GPS antenna recept.

6 Mic.jack

5 CeNET connector

1	GND	9	SYS ACC
2	SYS B/U	10	BUS(-)
3	L-CH(+)	11	L-CH(-)
4	EXT(+)	12	ILLUMI.
5	EXT(-)	13	N.C.
6	GUS(+)		
7	R-CH(+)		
8	R-CH(-)		

4 Power supply connector

1	N.C.
2	PARKING BRAKE
3	N.C.
4	SPEED SENSOR
5	GND
6	REVERSE SIG.
7	B/U
8	N.C.

CHECK POINT (cf. page3)

Q: Q801, Q1001, Q1002, Q1004, Q1005, ANT701, ANT700, Q700, Q902

IC: IC707, IC700, IC702, IC701, IC601, IC600, IC1003, IC602, IC504, IC1002, IC1000, IC501, IC201, IC203, IC1200, IC502, IC1201, IC401, IC705, IC106, IC107, IC505, IC402, IC506, IC507, IC508, IC105, IC704

HDD

Main PWB -HDD- (B1)
COMPONENT SIDE

To P2201 of RDS-TMC PWB (page 42)

Main PWB -GPS- (B1)
COMPONENT SIDE

Main PWB (B1)
COMPONENT SIDE

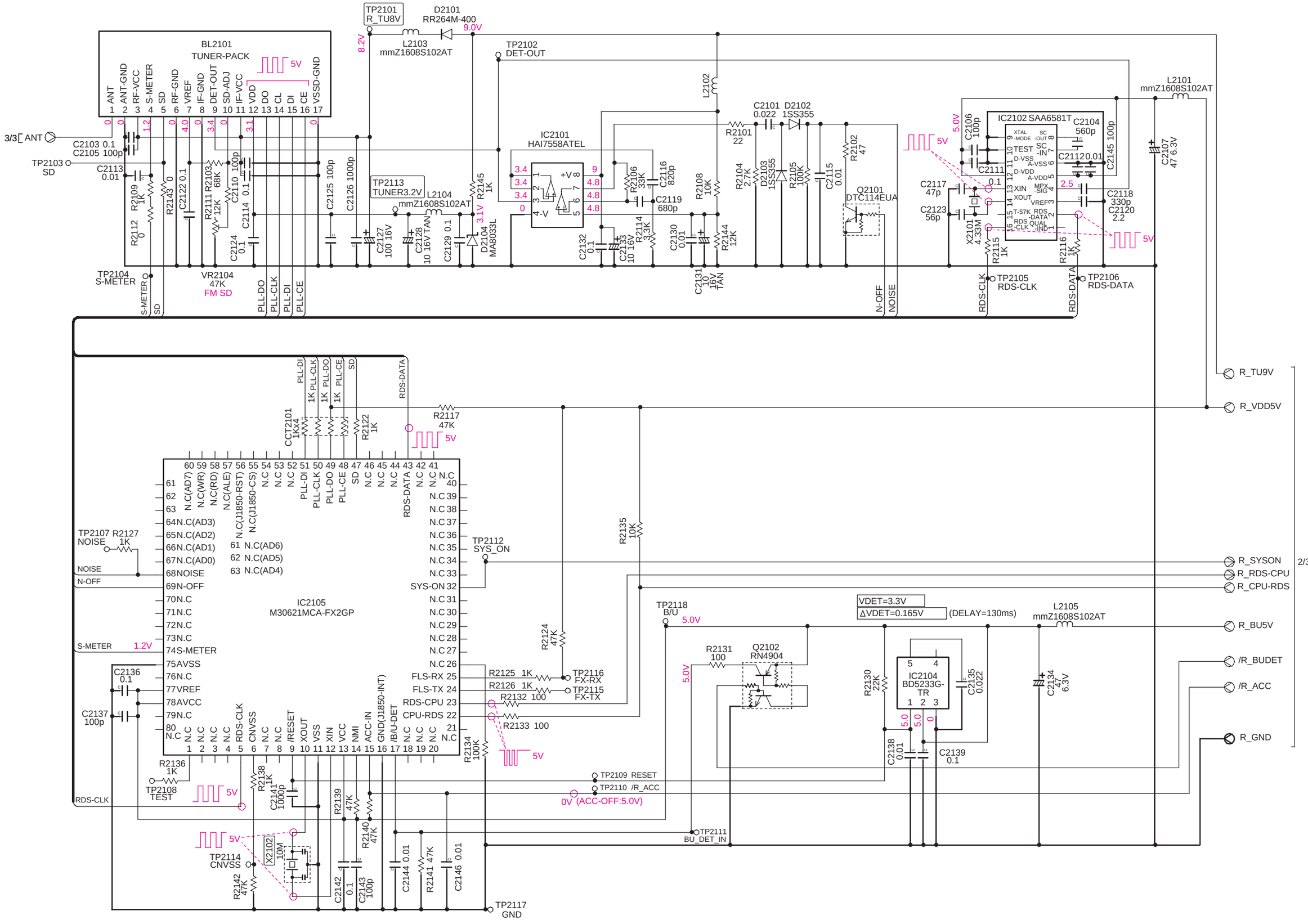
2 USB connector

1	5V
2	D-
3	D+
4	GND

CIRCUIT DIAGRAM

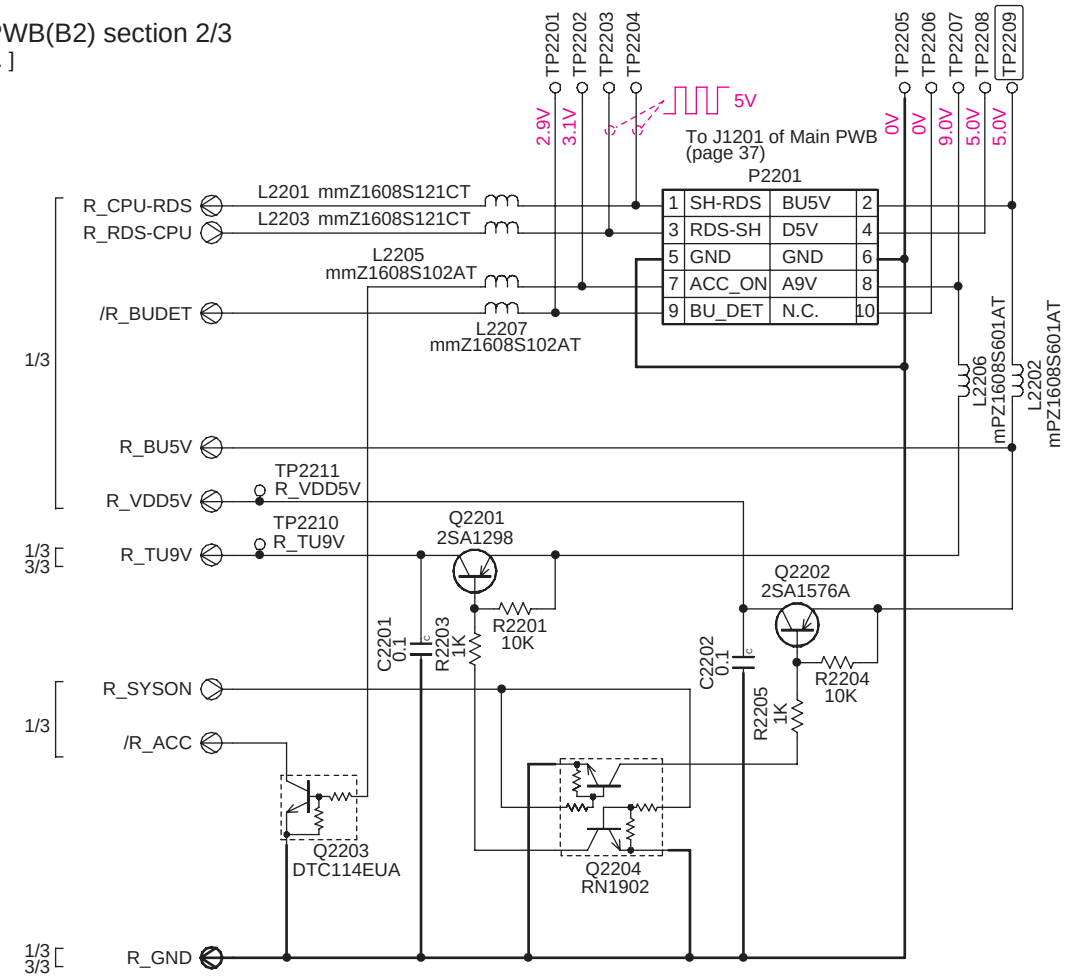
RDS-TMC PWB(B2) section 1/3

[RDS-TMC tuner]



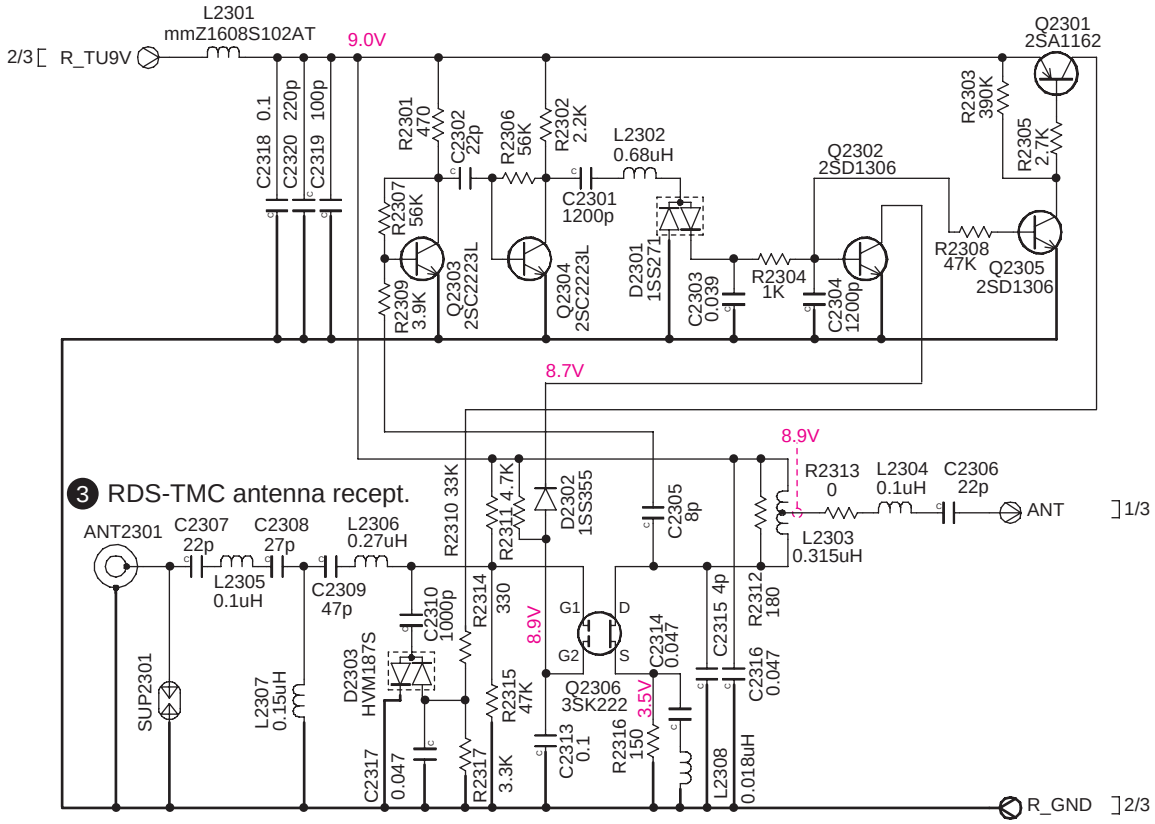
RDS-TMC PWB(B2) section 2/3

[NAVI connect.]



RDS-TMC PWB(B2) section 3/3

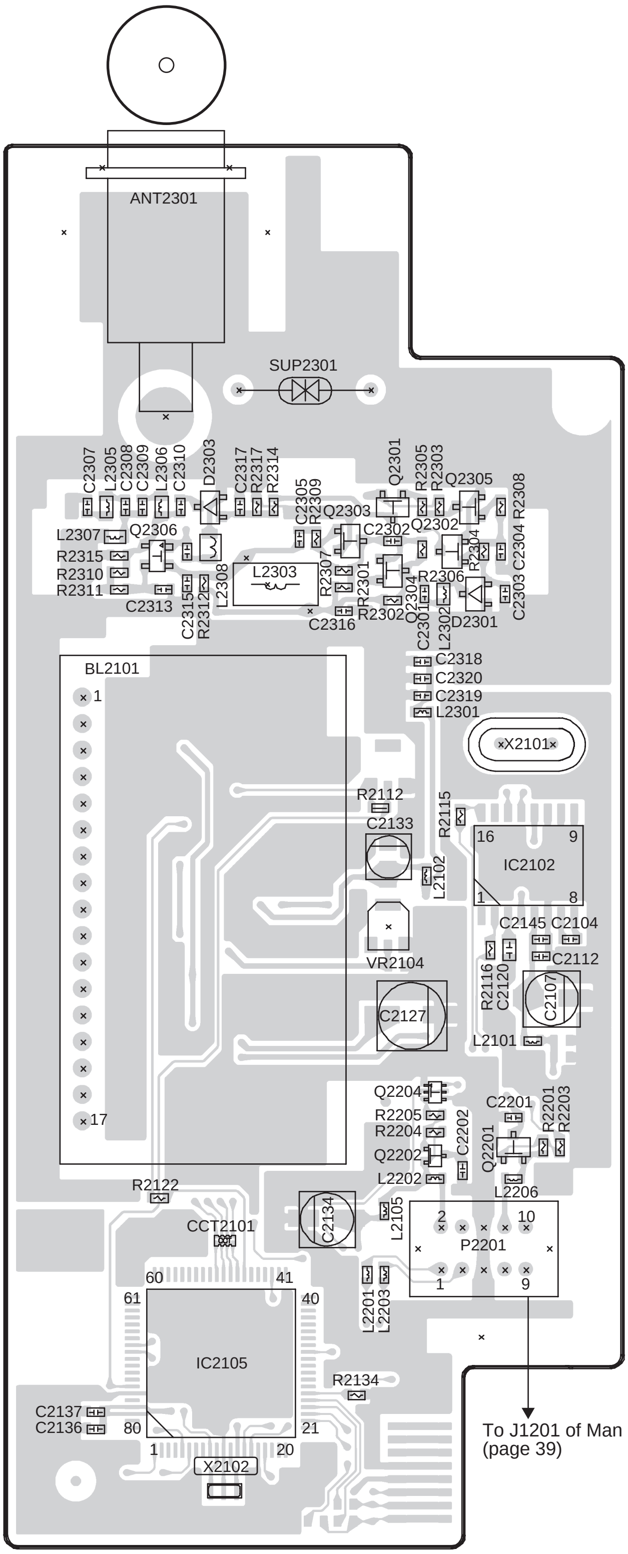
[ANT-Amp]



PRINTED WIRING BOARD

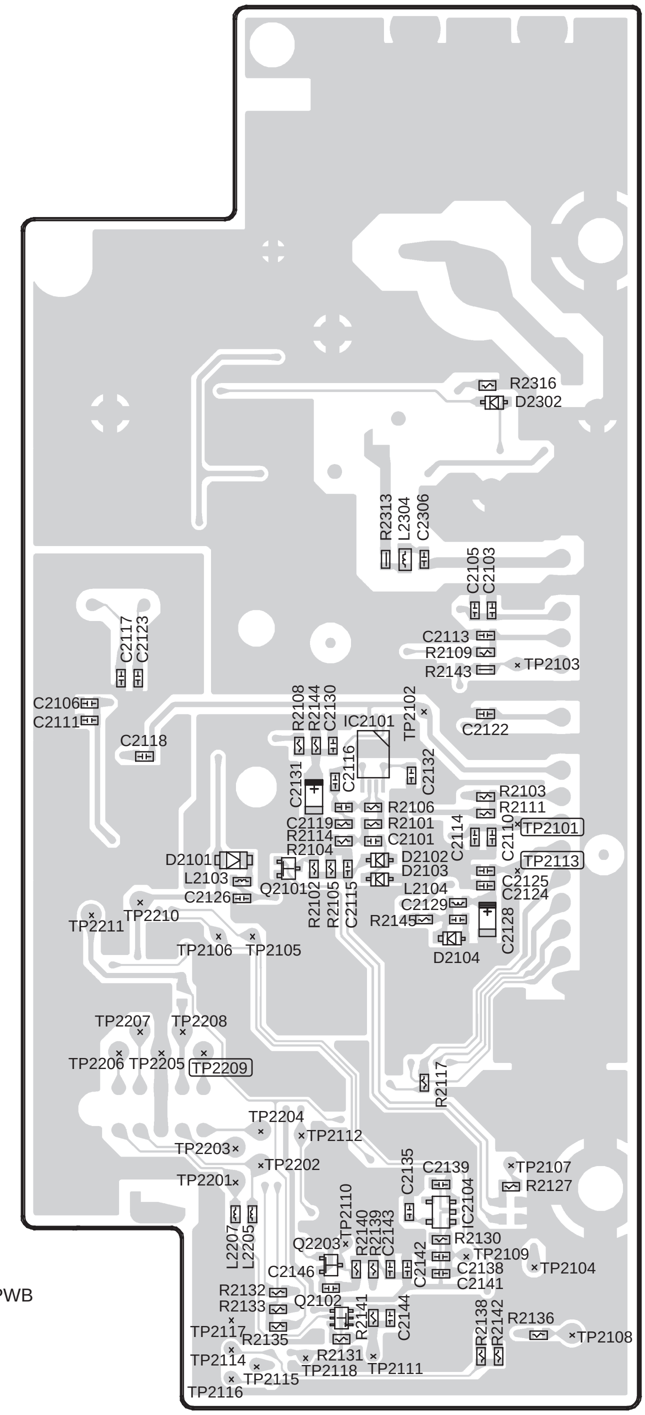
RDS-TMC PWB(B2) section

❸ RDS-TMC antenna recept.



RDS-TMC PWB (B2)

COMPONENT SIDE



RDS-TMC PWB (B2)

SOLDER SIDE

IC	IC2105	IC2102	IC2101 IC2104
Q	Q2306	Q2202 Q2203 Q2301 Q2302 Q2201 Q2204 Q2304 Q2305	Q2101 Q2102 Q2303

CHECK POINT (cf. page3) X2102 TP2209 TP2101 TP2113