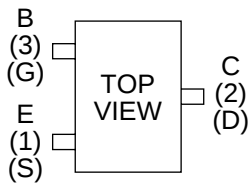


CHAPTER 5. SCHEMATIC DIAGRAM AND WIRING SIDE OF P.W.BOARD

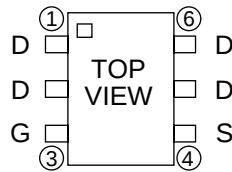
[1] Notes on schematic diagram

- Resistor:
To differentiate the units of resistors, the symbols K and M are used. The symbol K means 1000 ohm and the symbol M means 1000 kohm. The resistor without any symbol is an ohm resistor.
- Capacitor:
To indicate the unit of capacitor, the symbol is used.
The symbol P means pico-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression "capacitance/withstand voltage" is used.
(CH), (RH), (UJ): Temperature compensation
(ML): Mylar type
(S): Styrol type
(PP): Polypropylene type
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
- Schematic diagram and Wiring Side of P.W. Board for this model are subject to change for improvement without prior notice.
- Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

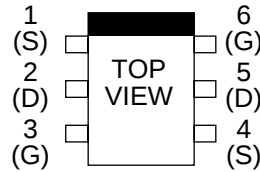
[2] Types of transistor and LED



2SA1955 A
2SA1989 SR
2SK3019
3LP02 M
RT1N144 U
RT1N234 U

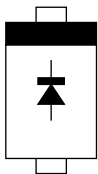


CPH6311



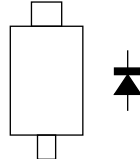
EMD6
EMD9
EMD12
EMG9
MCH6613
UM6K1

TOP VIEW



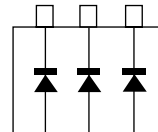
1SS388
RB160M30
RB521S30

TOP VIEW



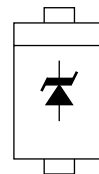
MA2ZD02

TOP VIEW



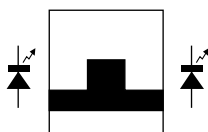
HN2S01FU

TOP VIEW



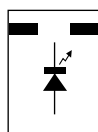
CRZ24
RSB6.8S

BOTTOM VIEW



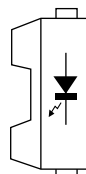
CL165UR

TOP VIEW



PY1103CF

TOP VIEW



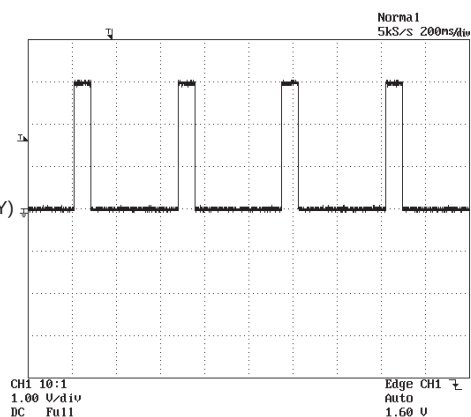
CW215TBS

[3] Waveforms of circuit

RF UNIT PLL_IC SERIAL COMMUNICATION

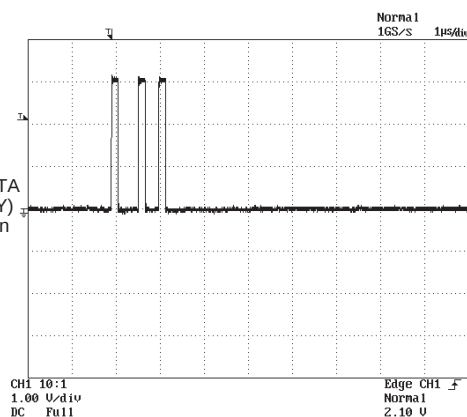
①

TCXOEN
(STAND-BY)
IC304 1Pin



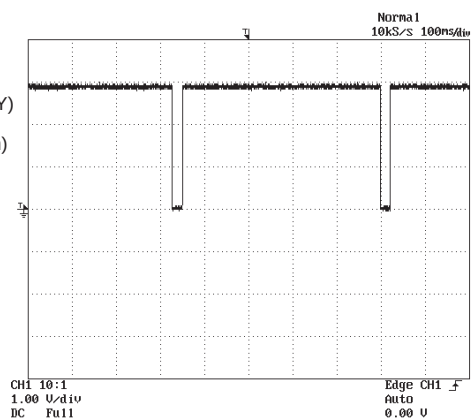
⑤

SYNTHDATA
(STAND-BY)
IC901 39Pin



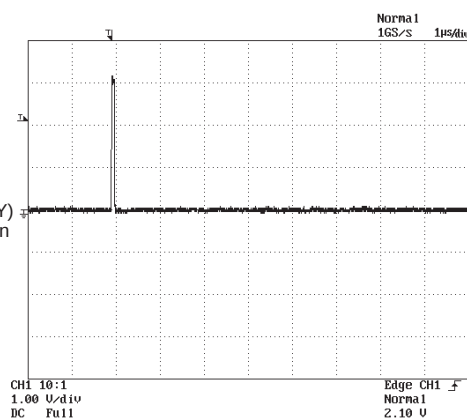
②

RFON_B
(STAND-BY)
R351
(Q304 5Pin)



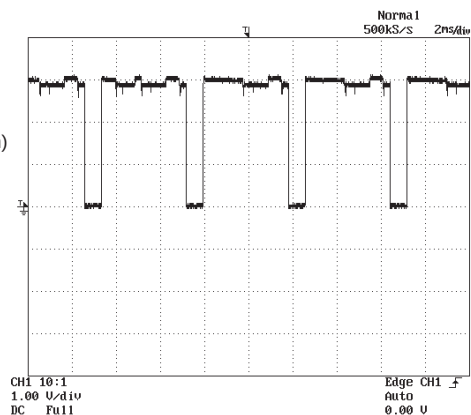
⑥

SYNTHEN
(STAND-BY)
IC901 35Pin



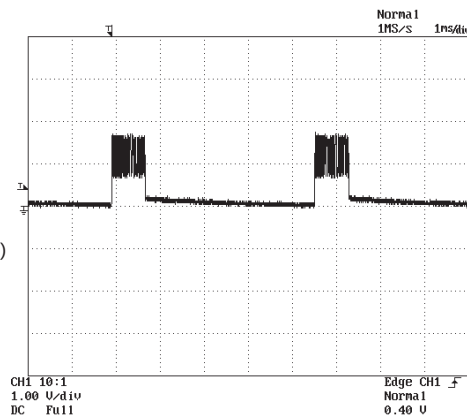
③

TXON_B
(Talking)
R352
(Q304 4Pin)



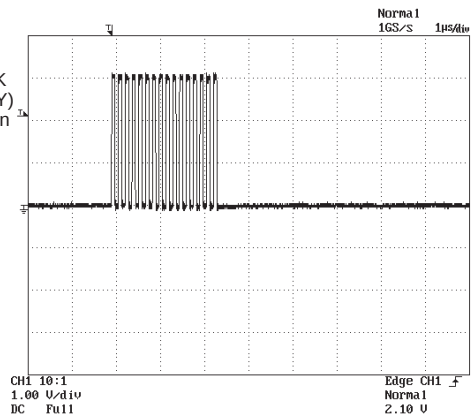
⑦

QTXN
(Talking)
C924
(R923 6Pin)



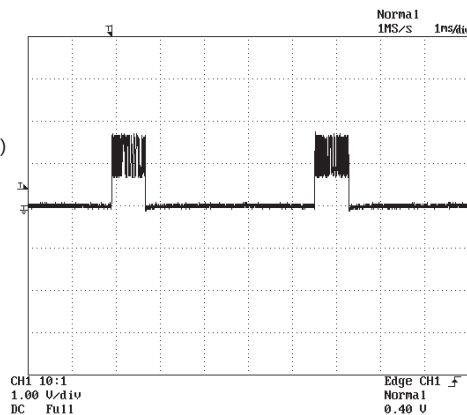
④

SYNTHCLK
(STAND-BY)
IC901 37Pin

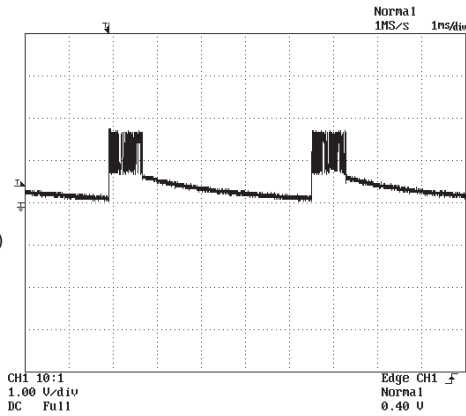


⑧

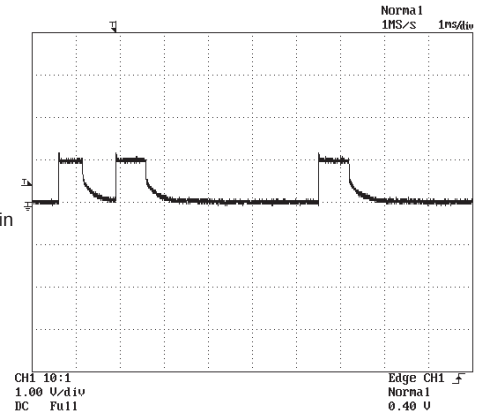
QTXP
(Talking)
C924
(R923 5Pin)



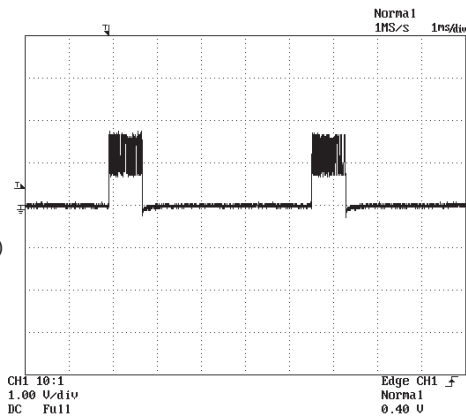
9
ITXN
(Talking)
C923
(R923 8Pin)



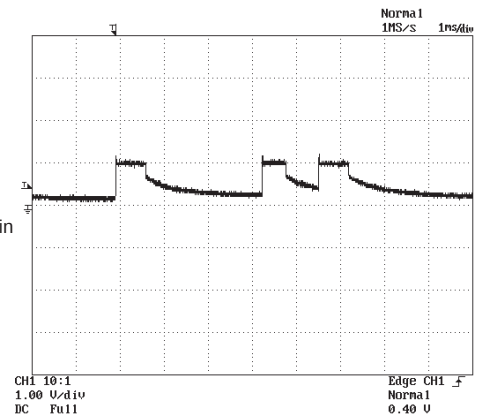
13
IRXN
(Talking)
IC901 27Pin



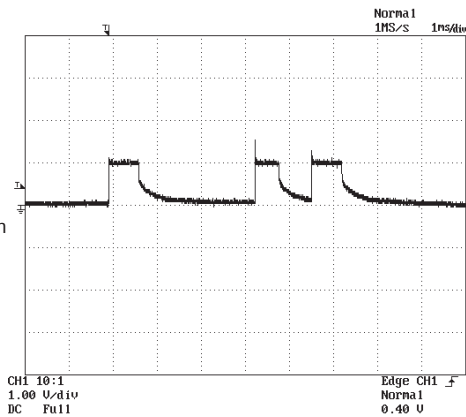
10
ITXP
(Talking)
C923
(R923 7Pin)



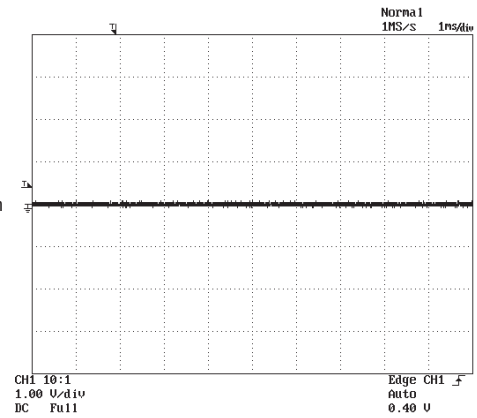
14
IRXP
(Talking)
IC901 26Pin



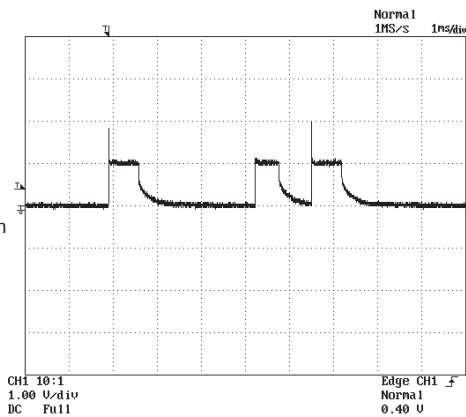
11
QRXN
(Talking)
IC901 24Pin



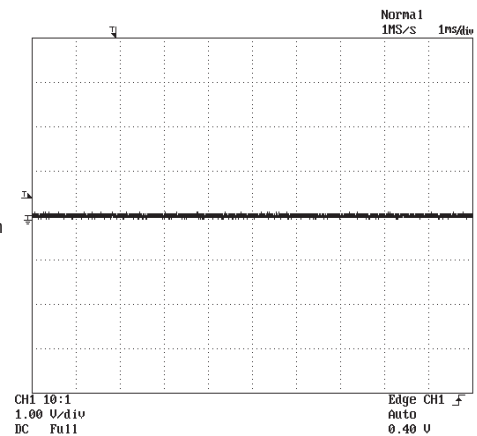
15
BS0(GSM)
(Talking)
IC993 1Pin



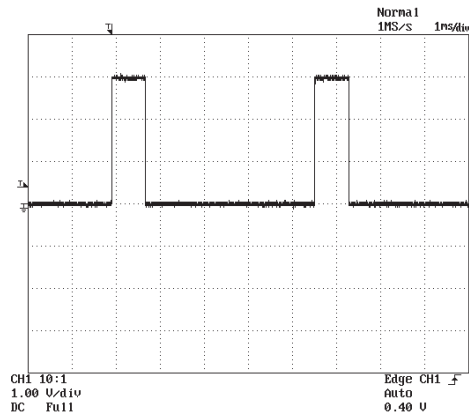
12
QRXP
(Talking)
IC901 25Pin



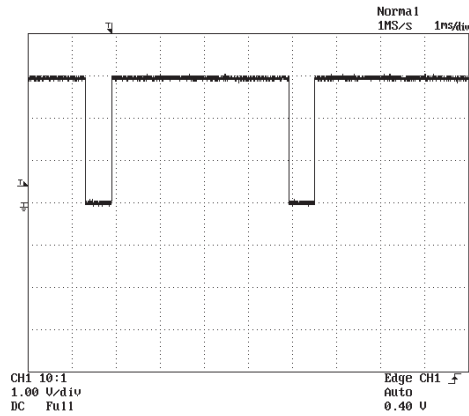
16
BS1(GSM)
(Talking)
IC993 2Pin



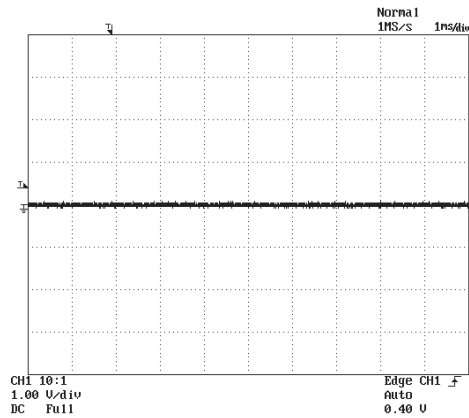
17
BS2(GSM)
(Talking)
IC992 1Pin



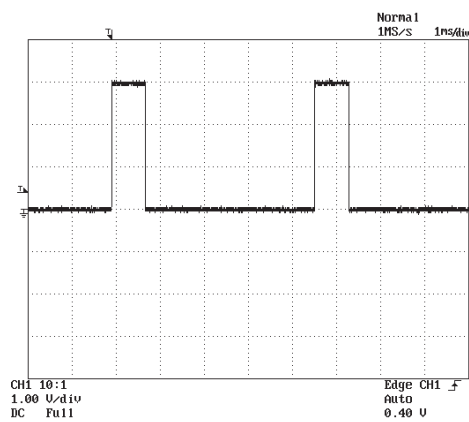
18
BS0(DCS)
(Talking)
IC993 1Pin



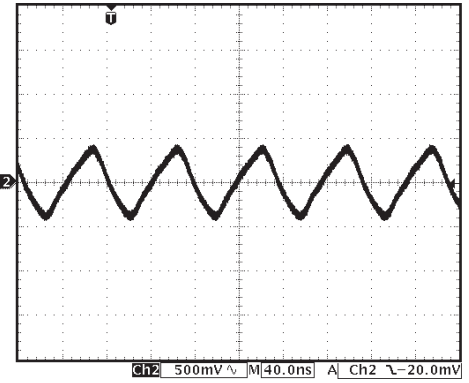
19
BS1(DCS)
(Talking)
IC993 2Pin



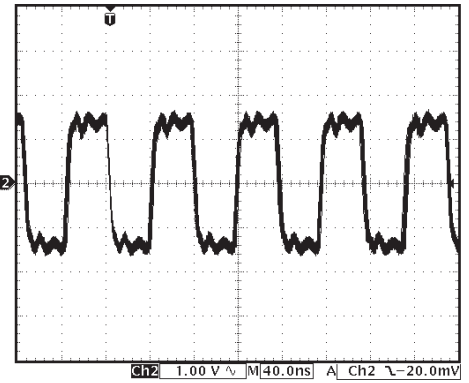
20
BS2(DCS)
(Talking)
IC992 1Pin



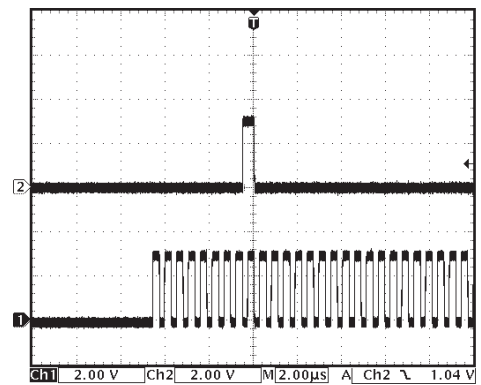
21
CLKIN
C109A
(IC104 116Pin)



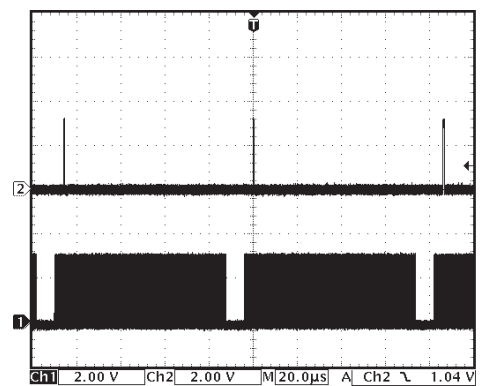
22
CLKOUT
R131
(IC104 43Pin)



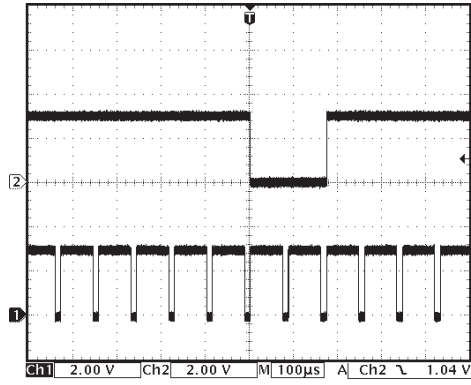
23
SPL
TP021



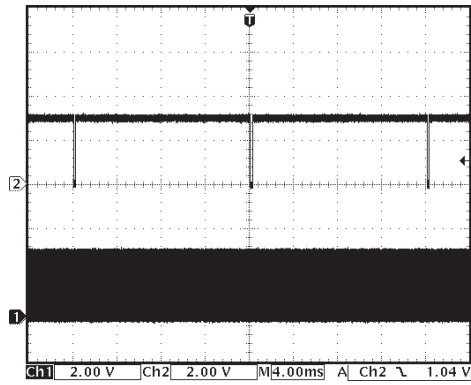
24
DCLK
TP018



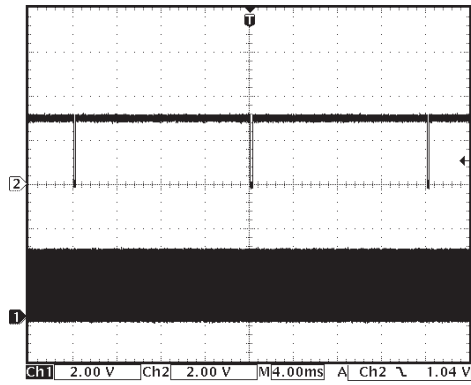
25
GSP
TP022



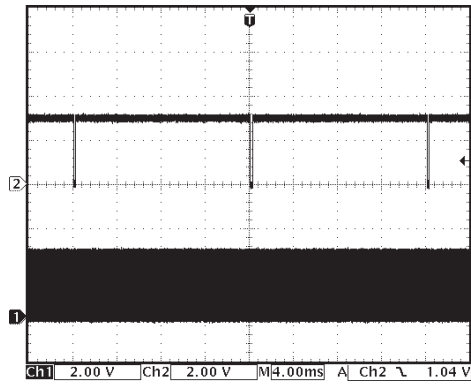
26
GCK
TP023



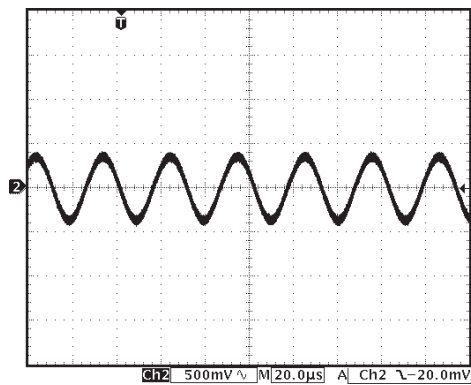
25
GSP
TP022



26
GCK
TP023



27
OSCIN
(32.768kHz)
X101 1Pin

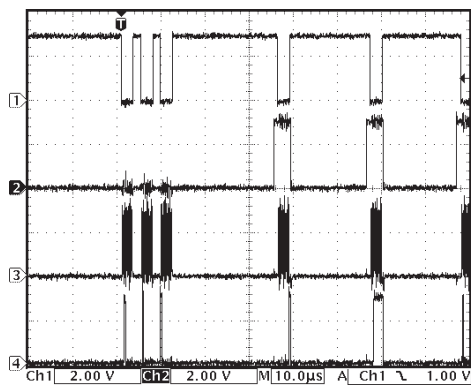


28
DISPEN
CN001 4Pin

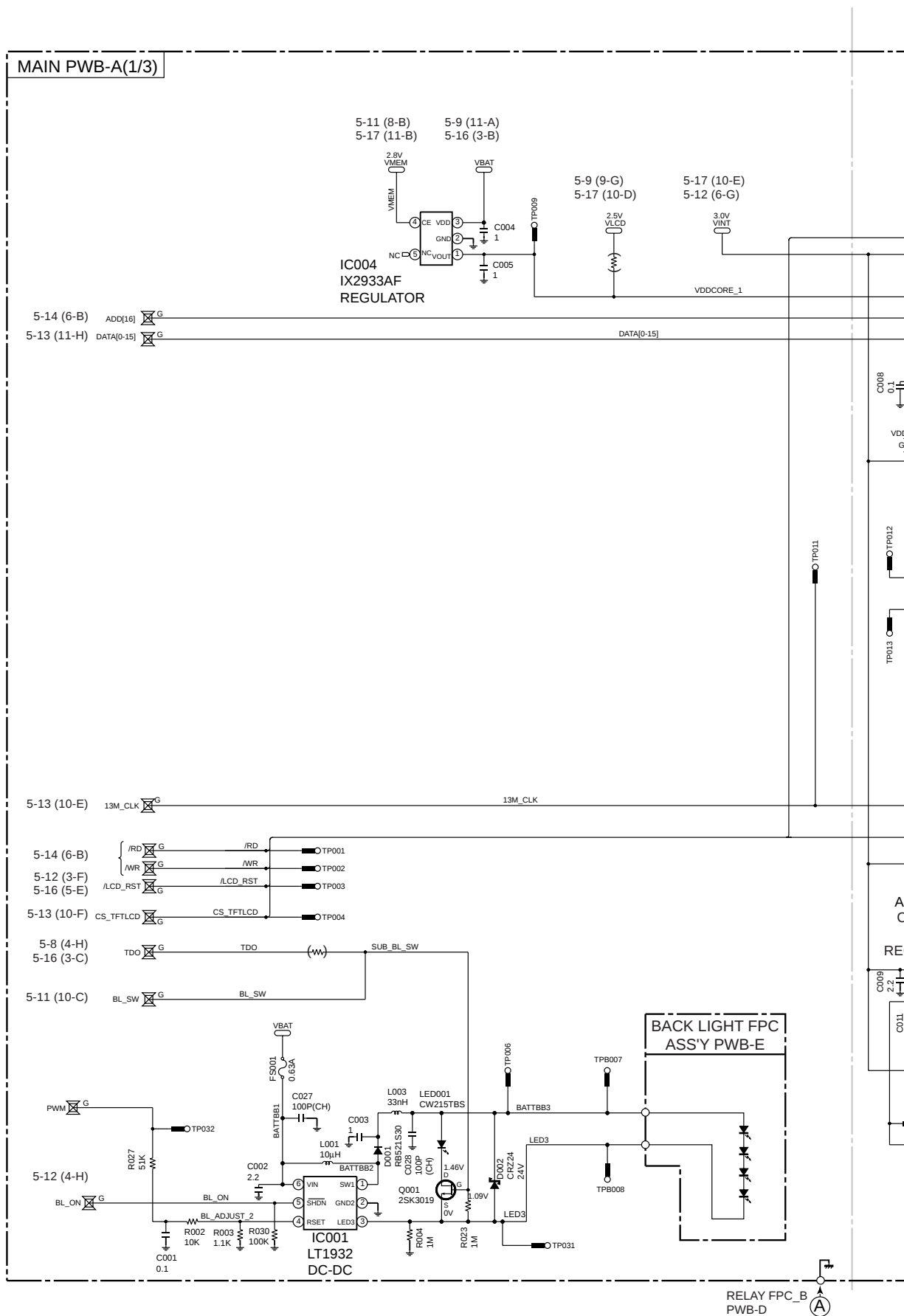
29
DISPAO
CN001 3Pin

30
DISPCLK
CN001 2Pin

31
DISPEN
CN001 4Pin

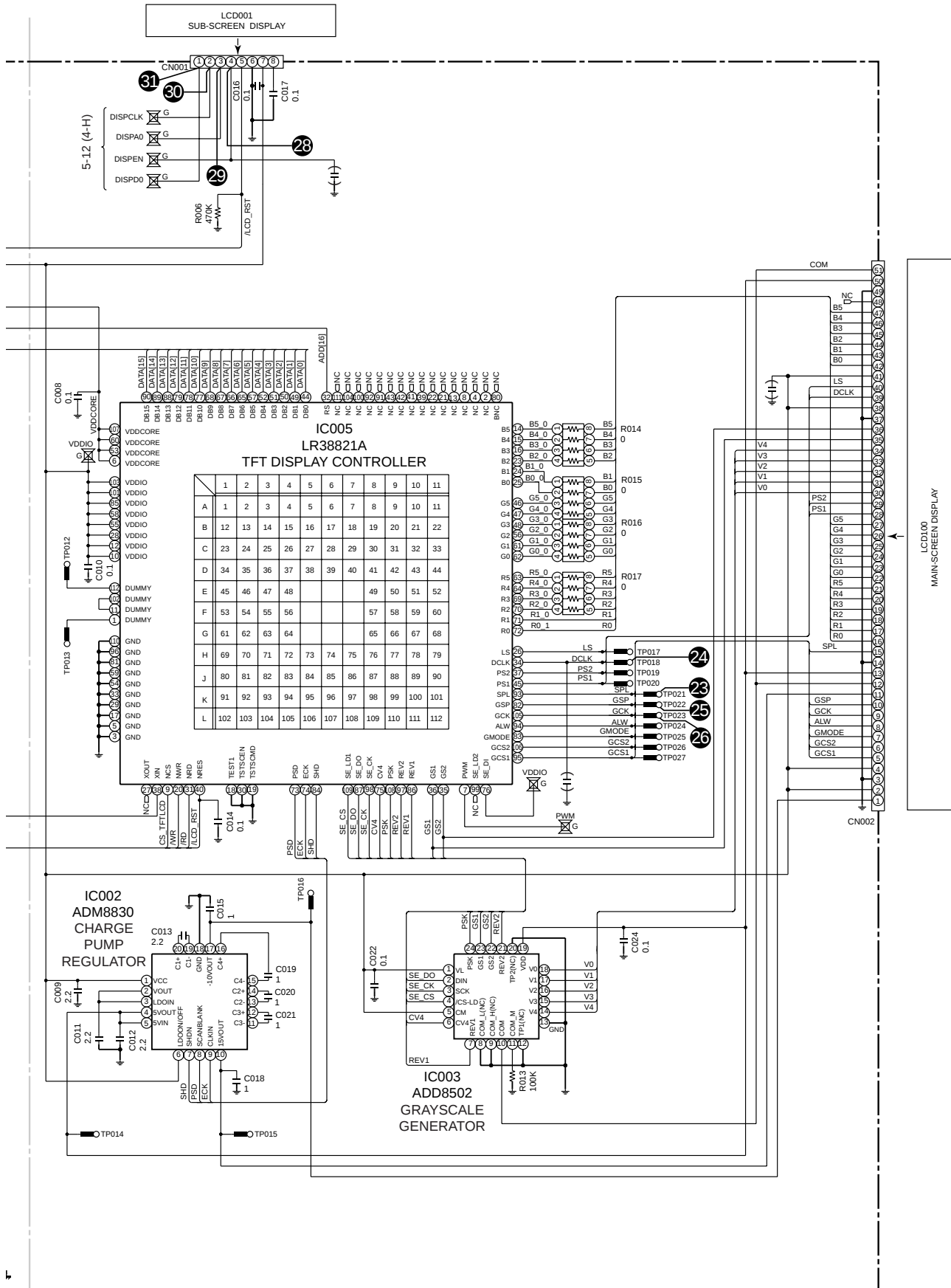


[4] Schematic diagram/wiring side of P.W.Board



• NOTES ON SCHEMATIC DIAGRAM can be found on page 5-1.

Figure 1 SCHEMATIC DIAGRAM (1/22)



() : Not Mount

The numbers 23 to 26 and 28 to 31 are waveform numbers shown in pages 5-4, 5-5.

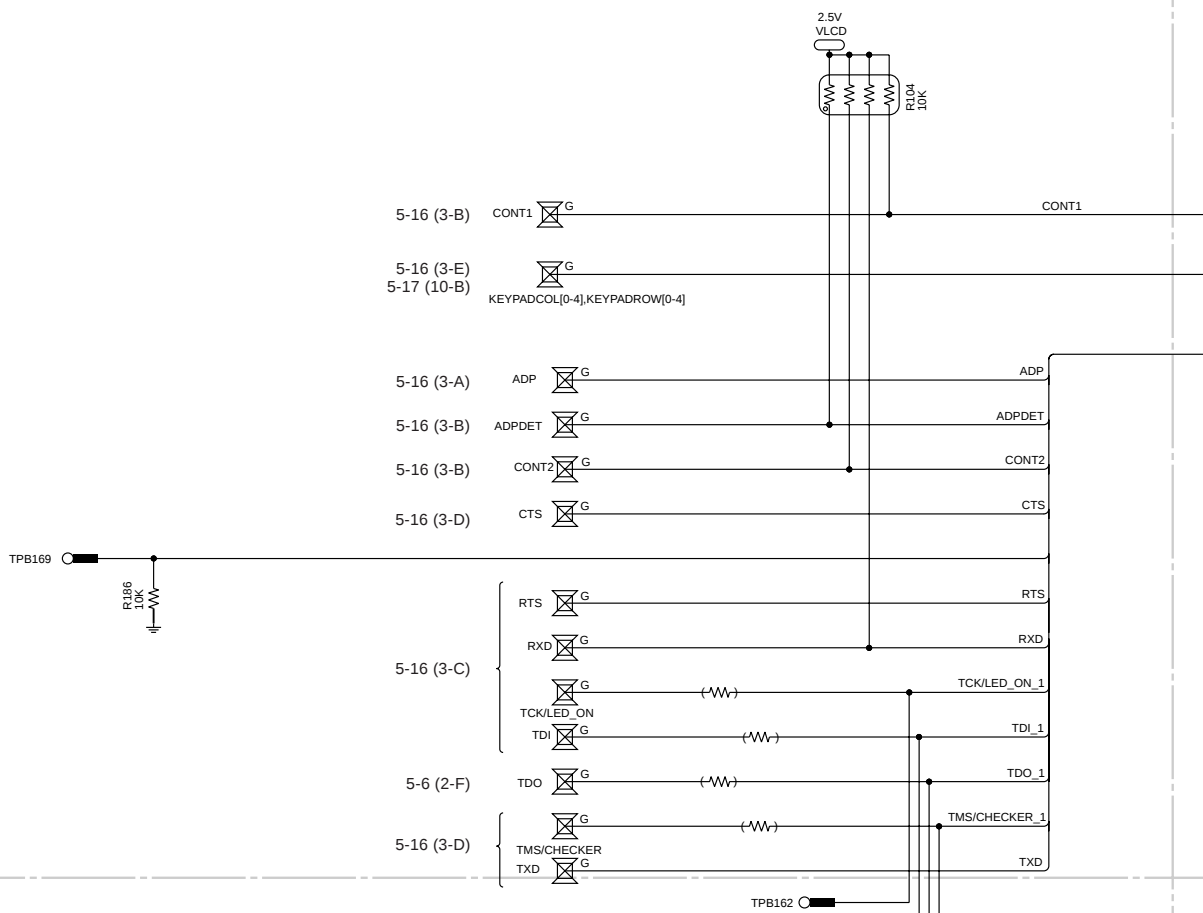
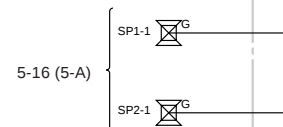
Figure 2 SCHEMATIC DIAGRAM (2/22)

MAIN PWB-A (2/3)

MAIN PWB-A(2/3)

- ▷ RECEPTION SIGNAL
 ► TRANSMISSION SIGNAL
 >> SPEAKER SIGNAL

3.0



• NOTES ON SCHEMATIC DIAGRAM can be found on page 5-1.

1

2

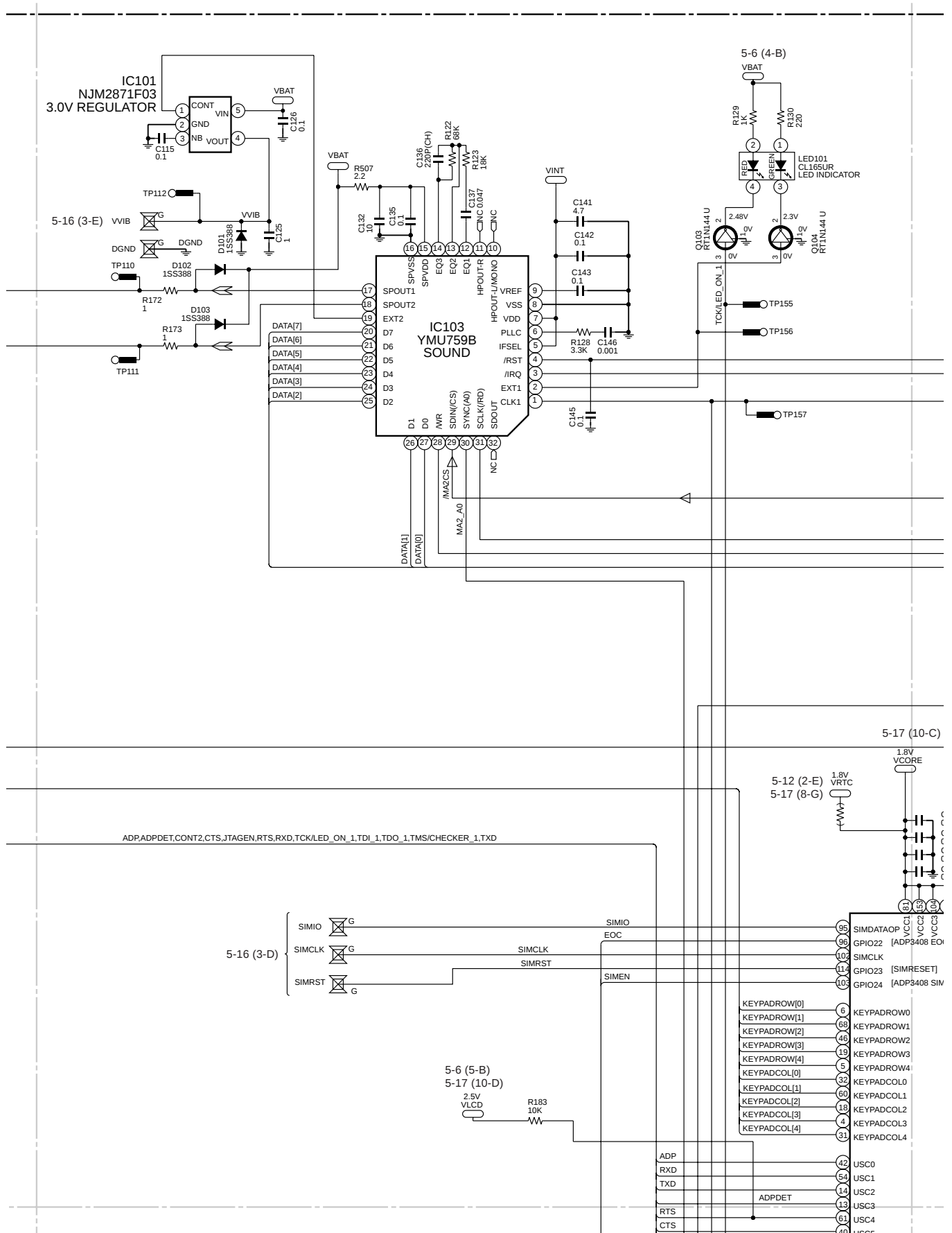
3

4

5

6

Figure 3 SCHEMATIC DIAGRAM (3/22)



• () : Not Mount

7	8	9	10	11	12
---	---	---	----	----	----

Figure 4 SCHEMATIC DIAGRAM (4/22)

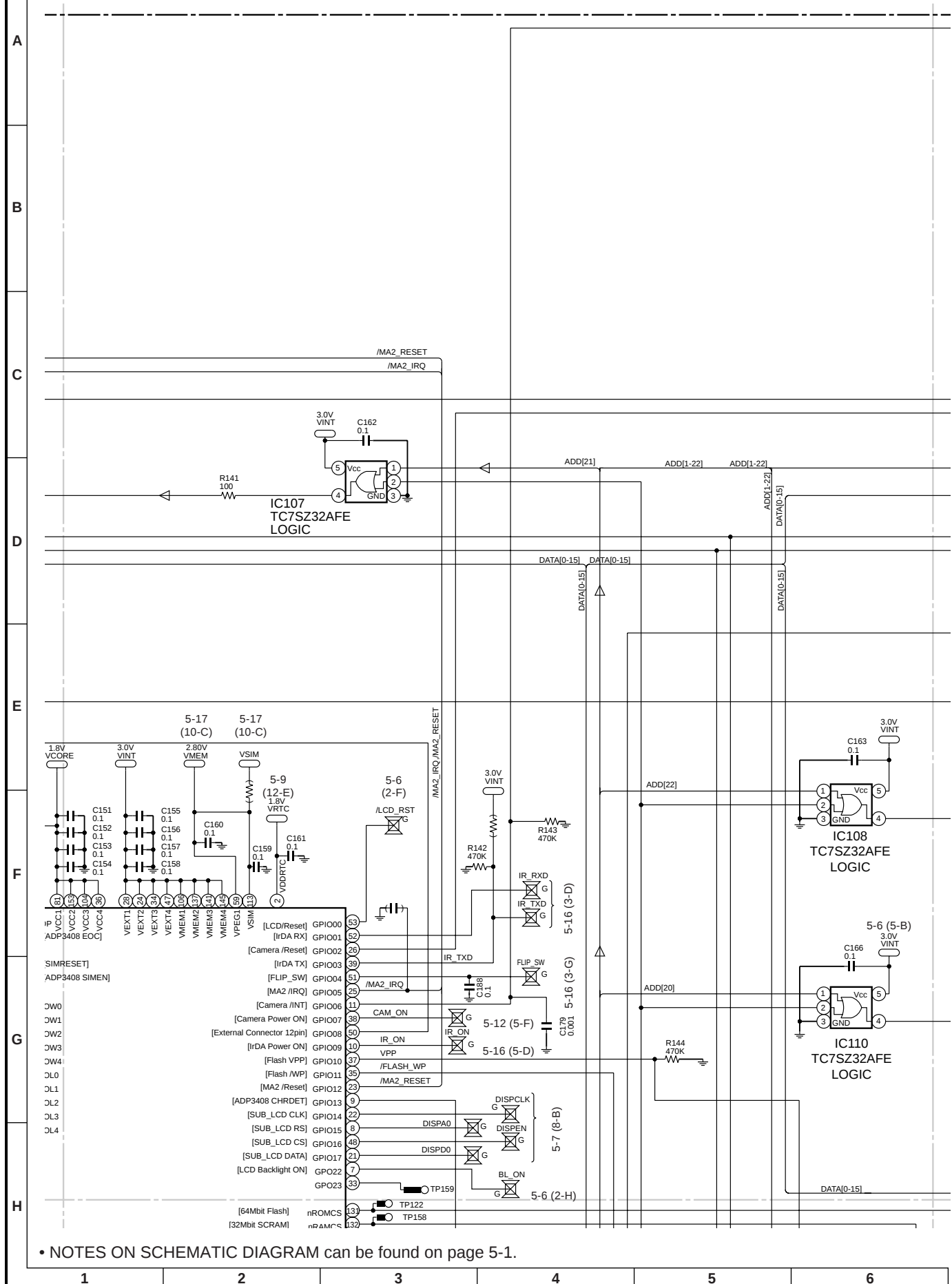


5 – 10



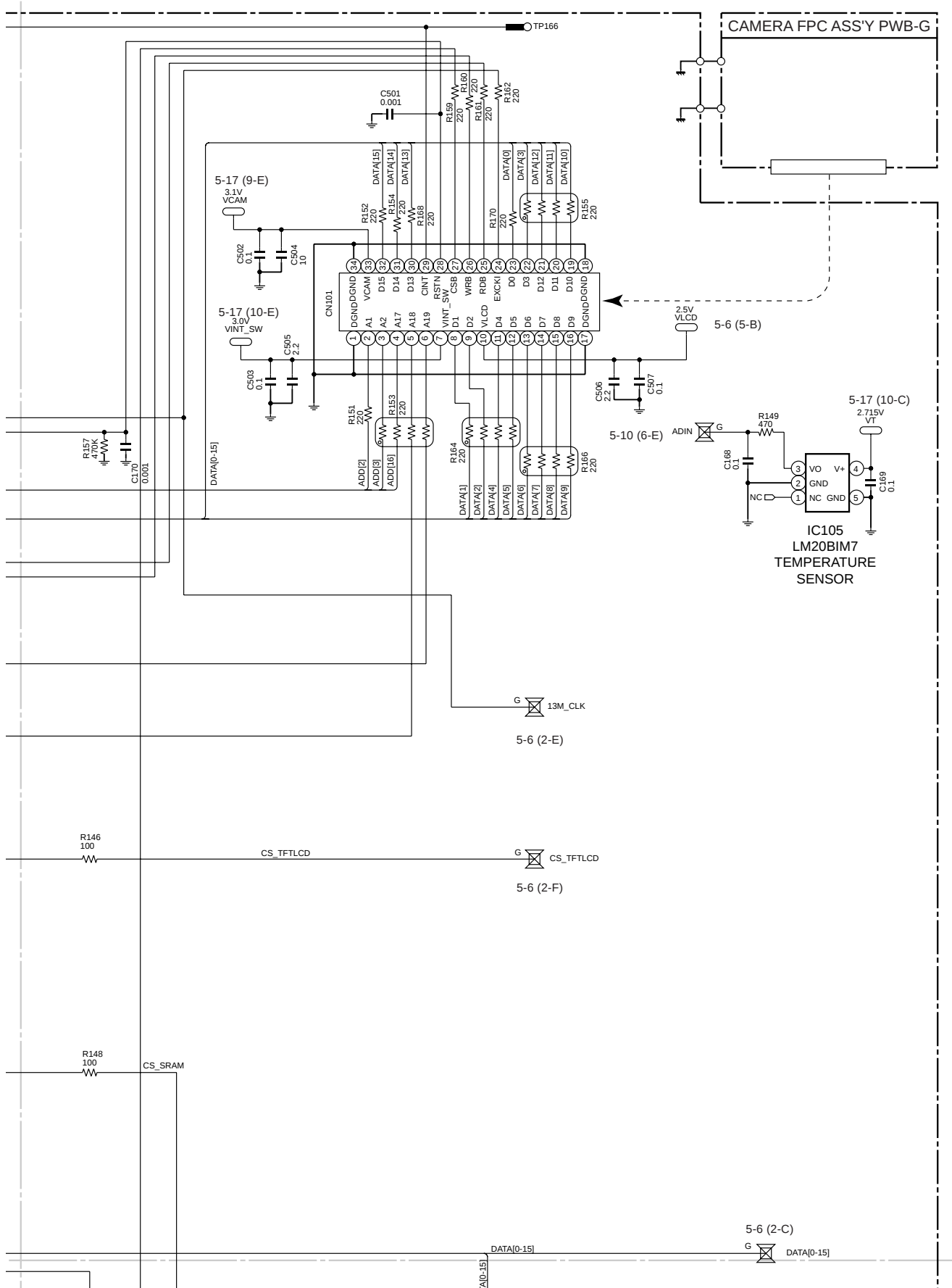
5-11

MAIN PWB-A (2/3)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 5-1.

Figure 7 SCHEMATIC DIAGRAM (7/22)



• () : Not Mount

7	8	9	10	11	12
---	---	---	----	----	----

Figure 8 SCHEMATIC DIAGRAM (8/22)

MAIN PWB-A (2/3)

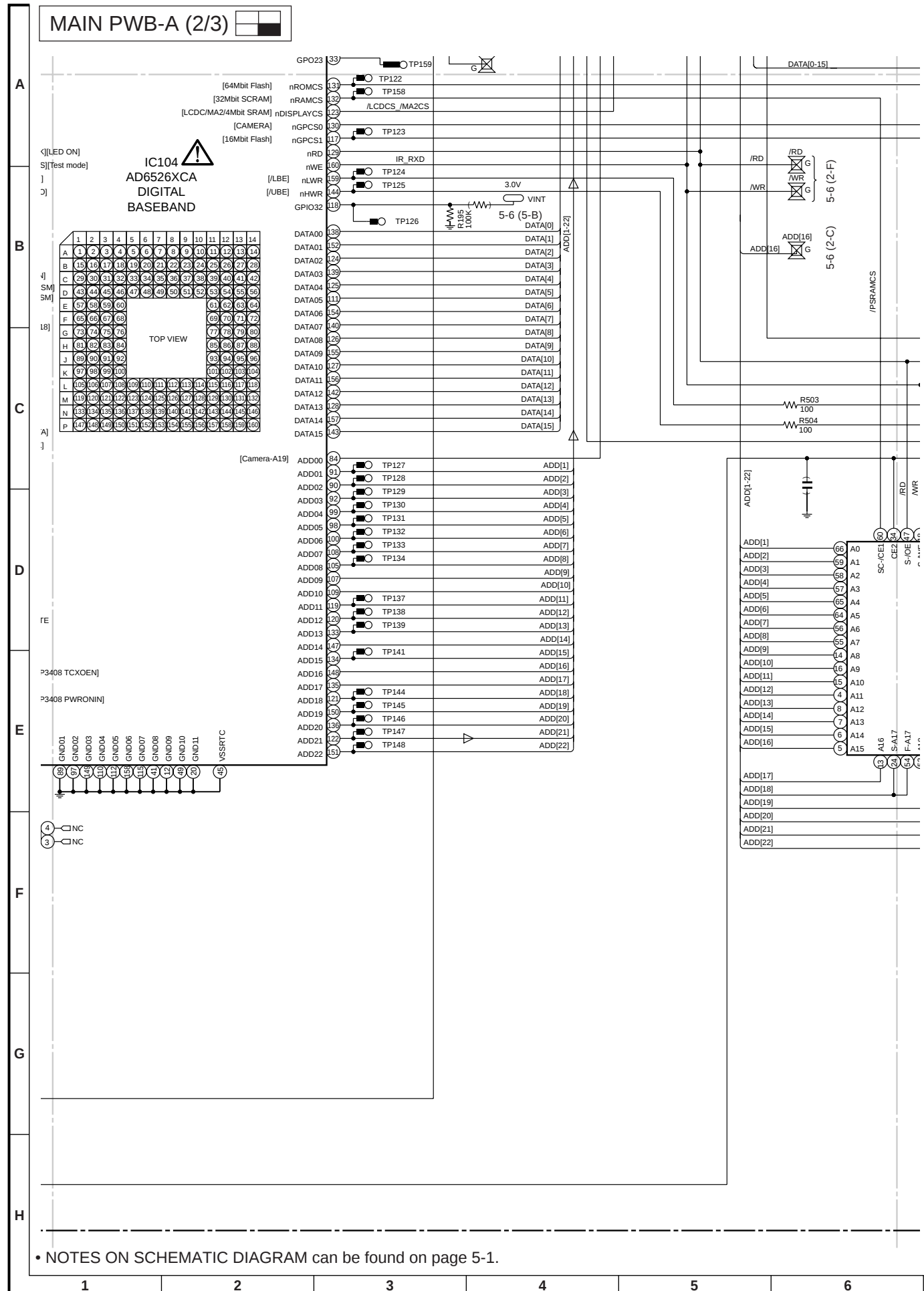
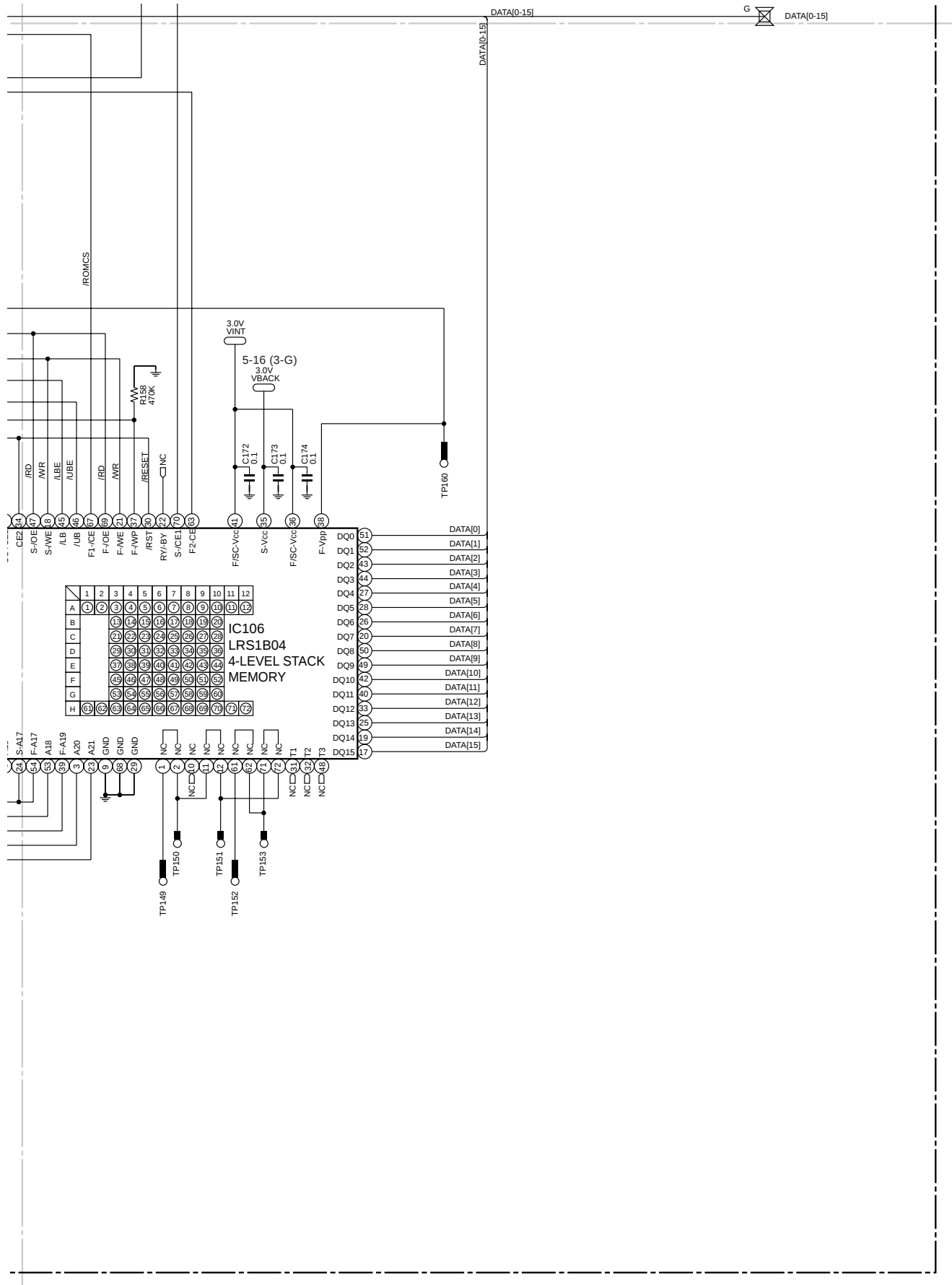


Figure 9 SCHEMATIC DIAGRAM (9/22)



• () : Not Mount

7	8	9	10	11	12
---	---	---	----	----	----

Figure 10 SCHEMATIC DIAGRAM (10/22)



5 - 16



5 - 17

MAIN PWB-A (FRONT SIDE)

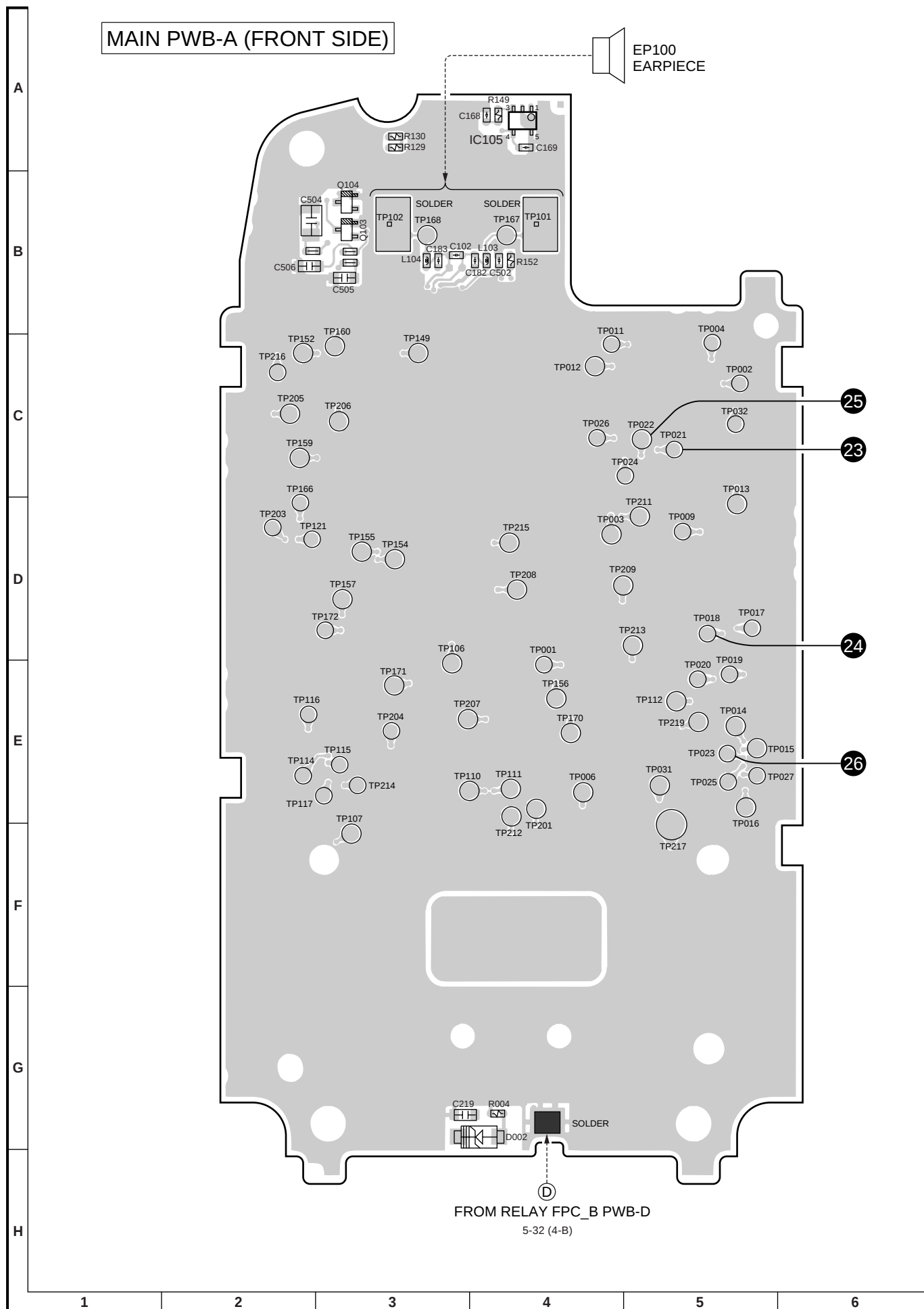
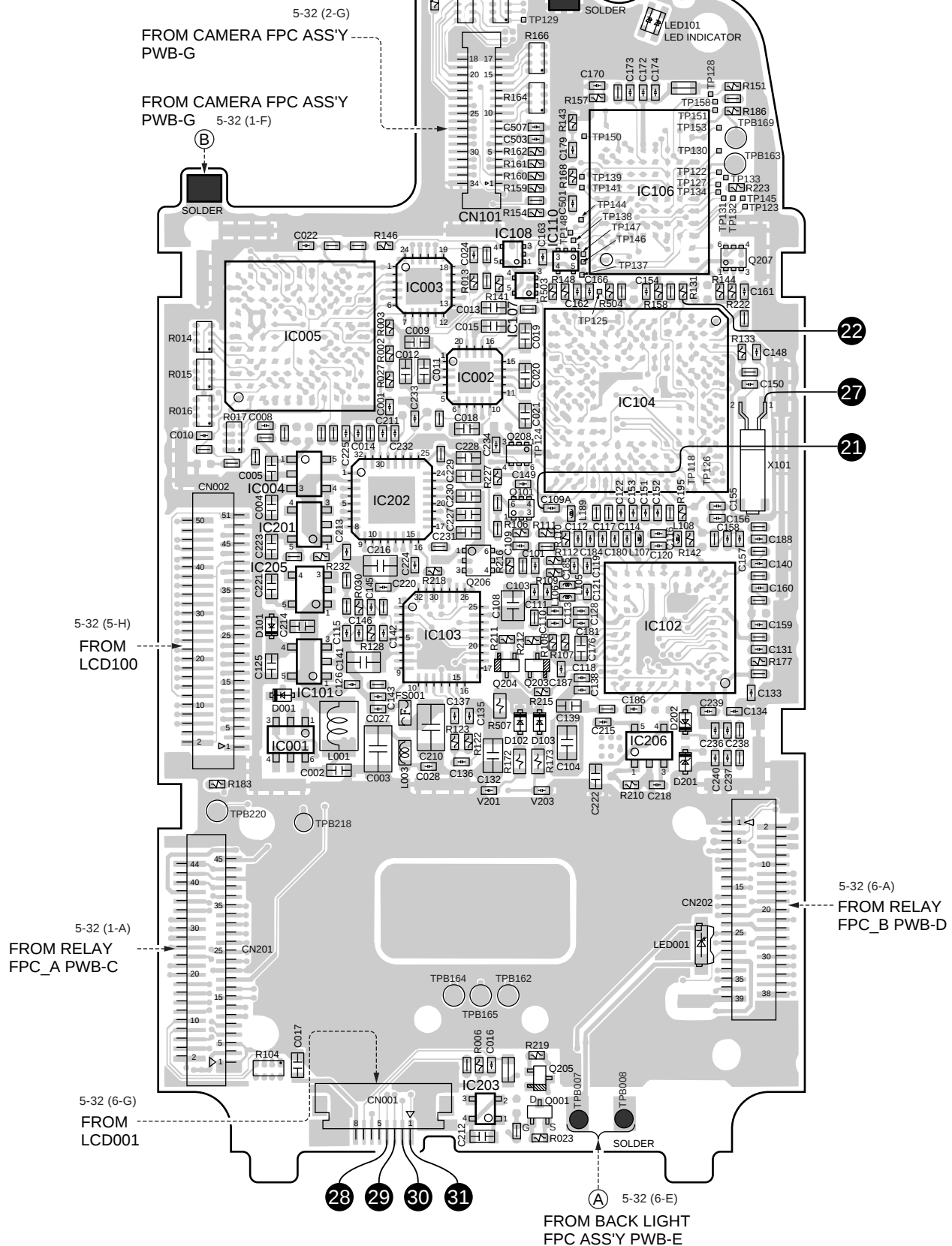
 EP100
EARPIECE


Figure 13 WIRING SIDE OF P.W.BOARD (1/5)

FROM CAMERA FPC ASS'Y
PWB-G 5-32 (2-F)



- The numbers 21 to 31 are waveform numbers shown in pages 5-4 ,5-5.

Figure 14 WIRING SIDE OF P.W.BOARD (2/5)

KEY PWB-B (1/2)



A

B

C

D

E

F

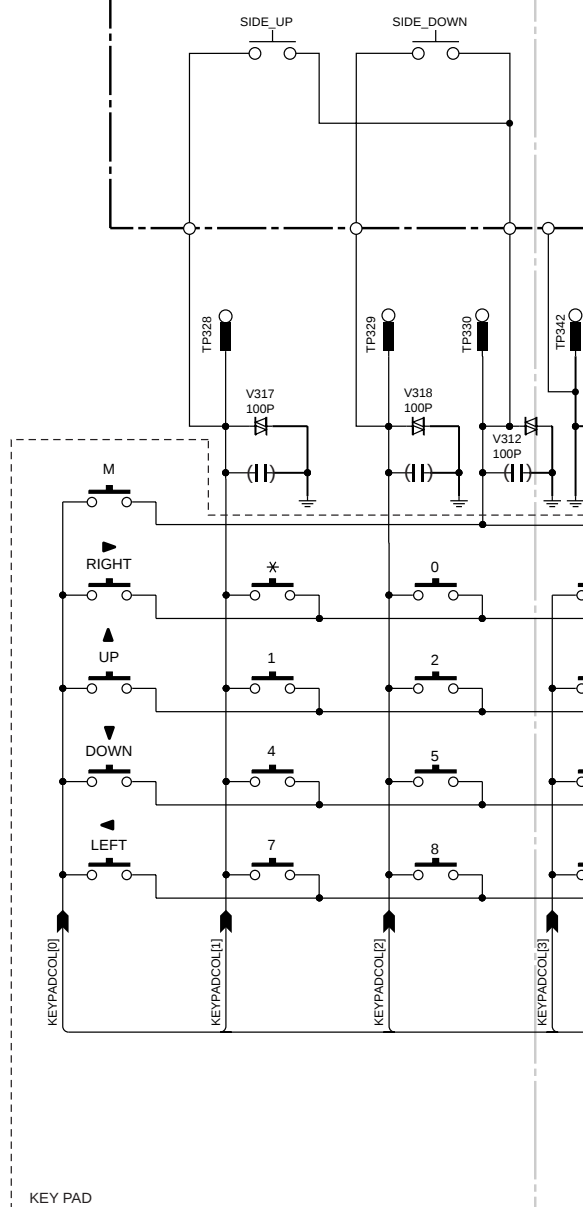
G

H

KEY PWB-B(1/2)

- ▷ RECEPTION SIGNAL
- ▶ TRANSMISSION SIGNAL
- SPEAKER SIGNAL

FLEXIBLE PWB, SIDE SWITCH PWB-H



KEY PAD

CN302
EXTERNAL
CONNECTOR5-27 (9-D)
VEXT_CN

TPB343

TP305

• NOTES ON SCHEMATIC DIAGRAM can be found on page 5-1.

1

2

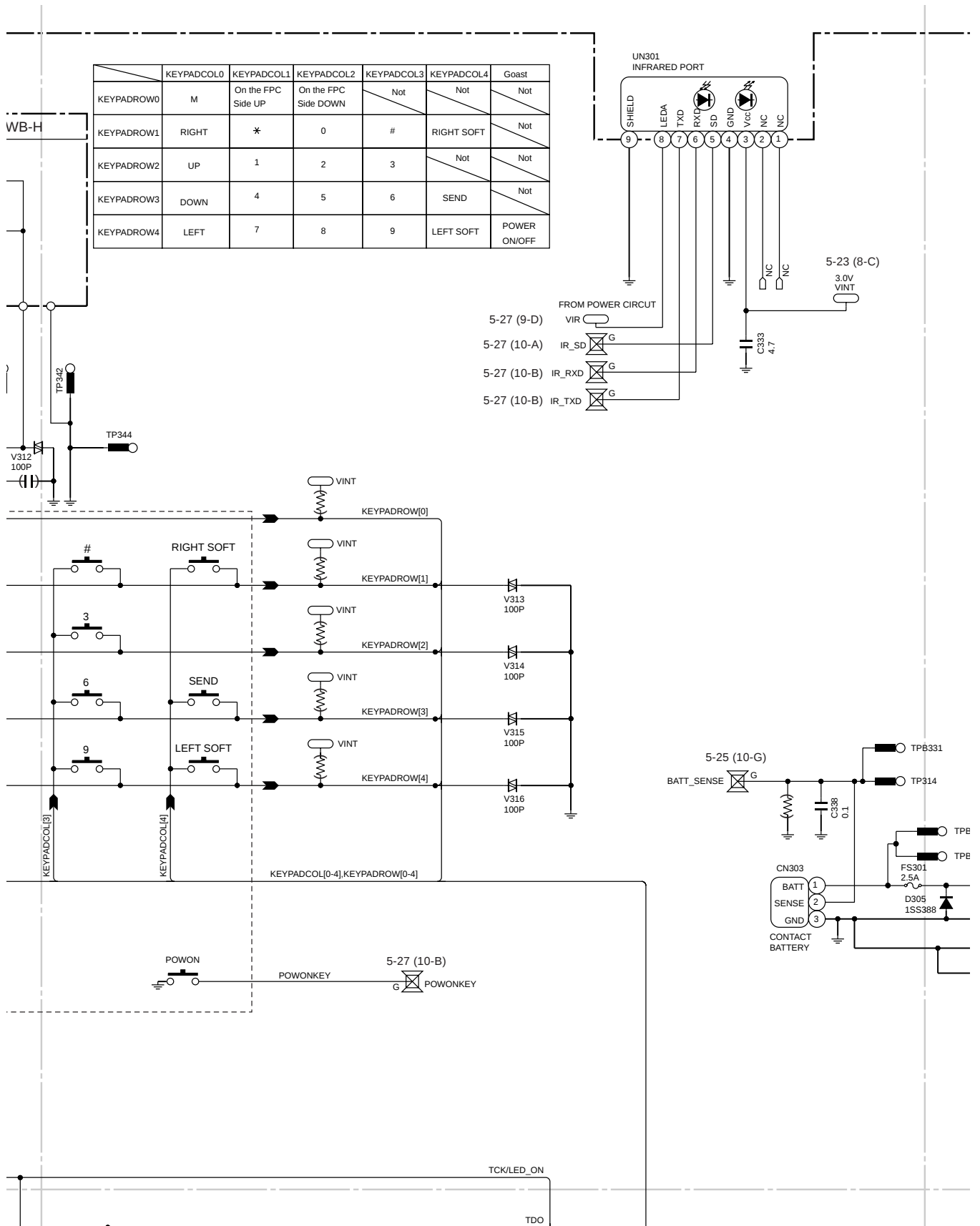
3

4

5

6

Figure 15 SCHEMATIC DIAGRAM (13/22)

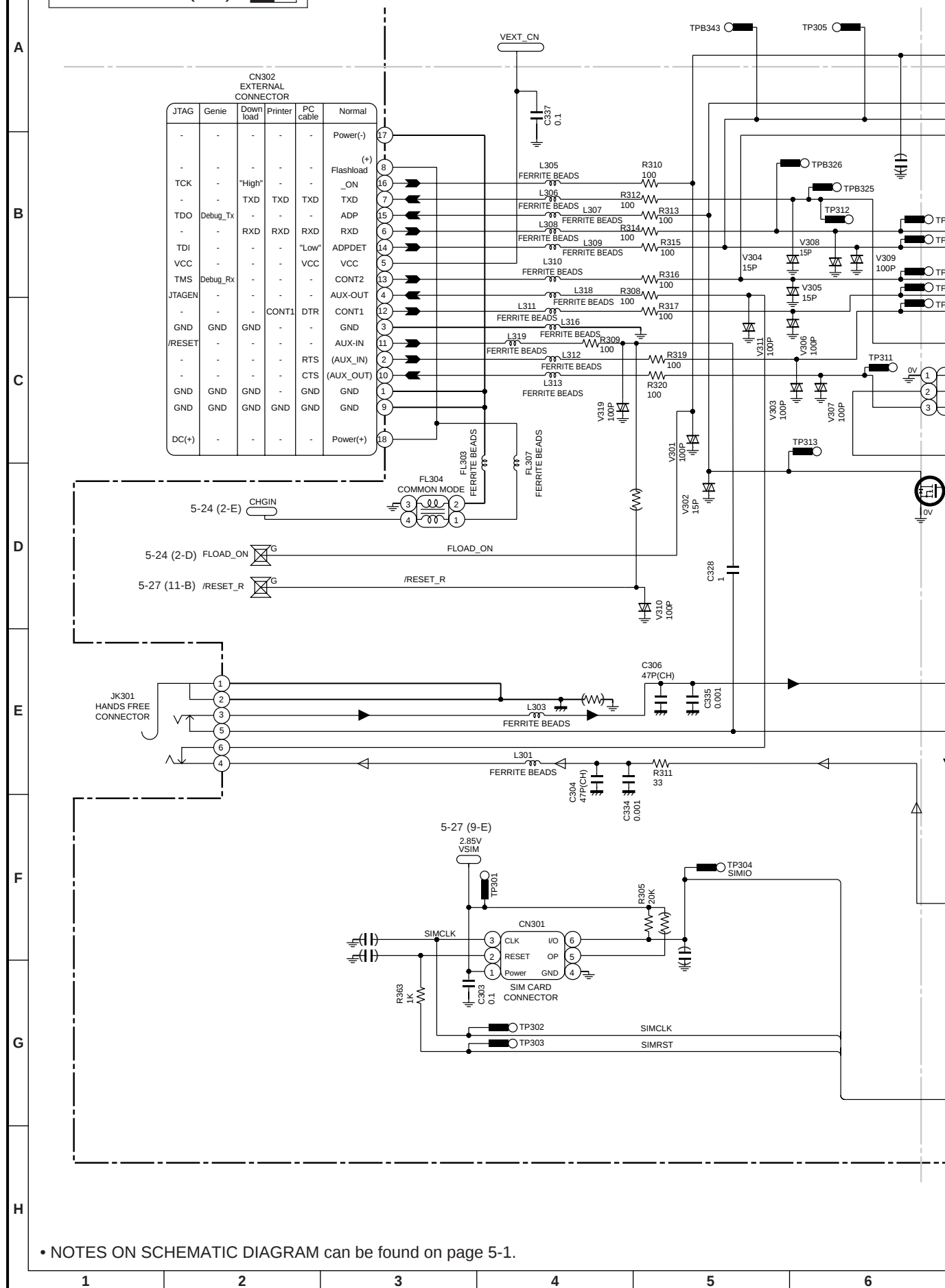


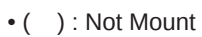
• () : Not Mount

7	8	9	10	11	12
---	---	---	----	----	----

Figure 16 SCHEMATIC DIAGRAM (14/22)

KEY PWB-B (1/2)





5 - 23

KEY PWB-B (1/2)

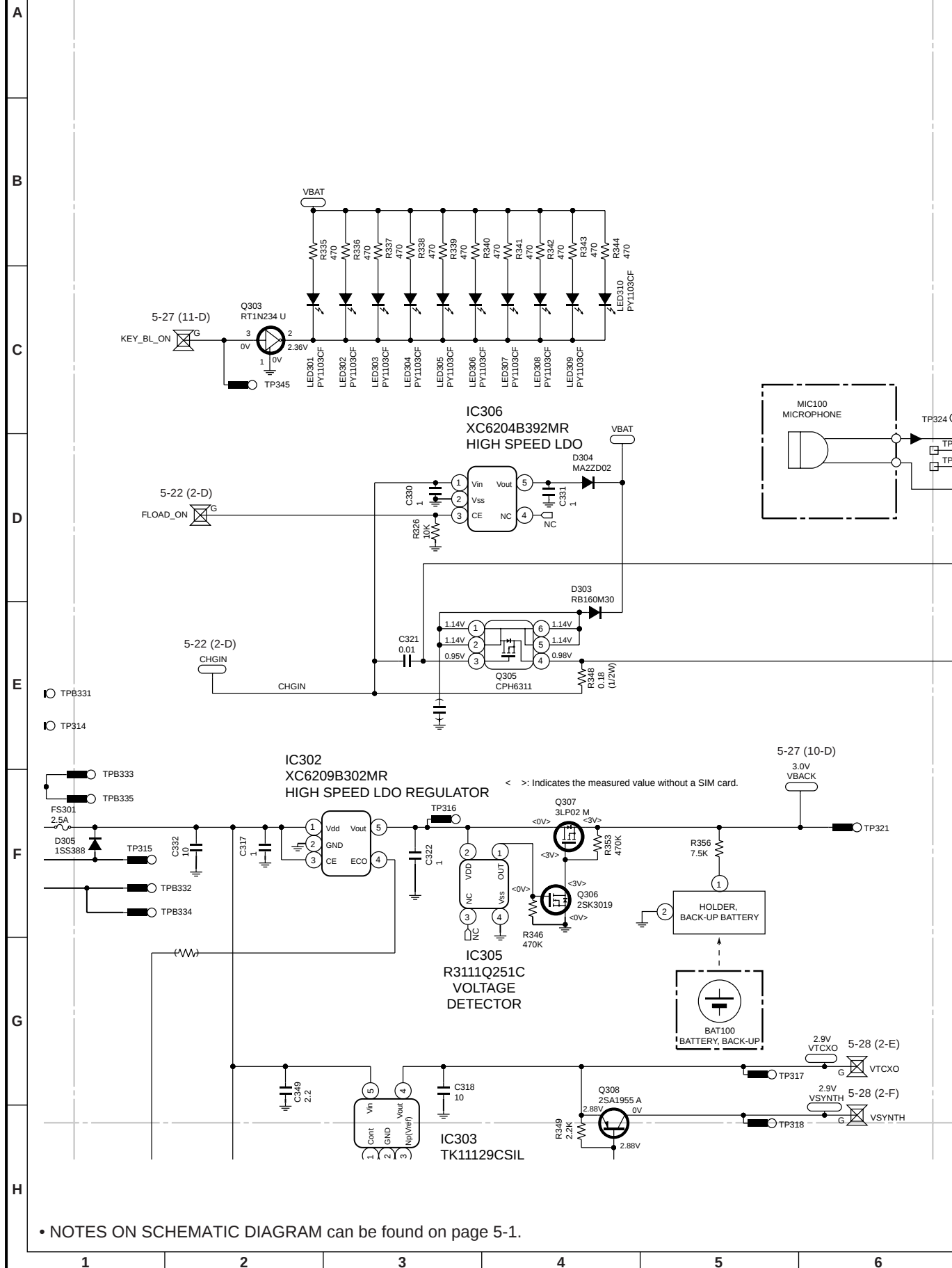
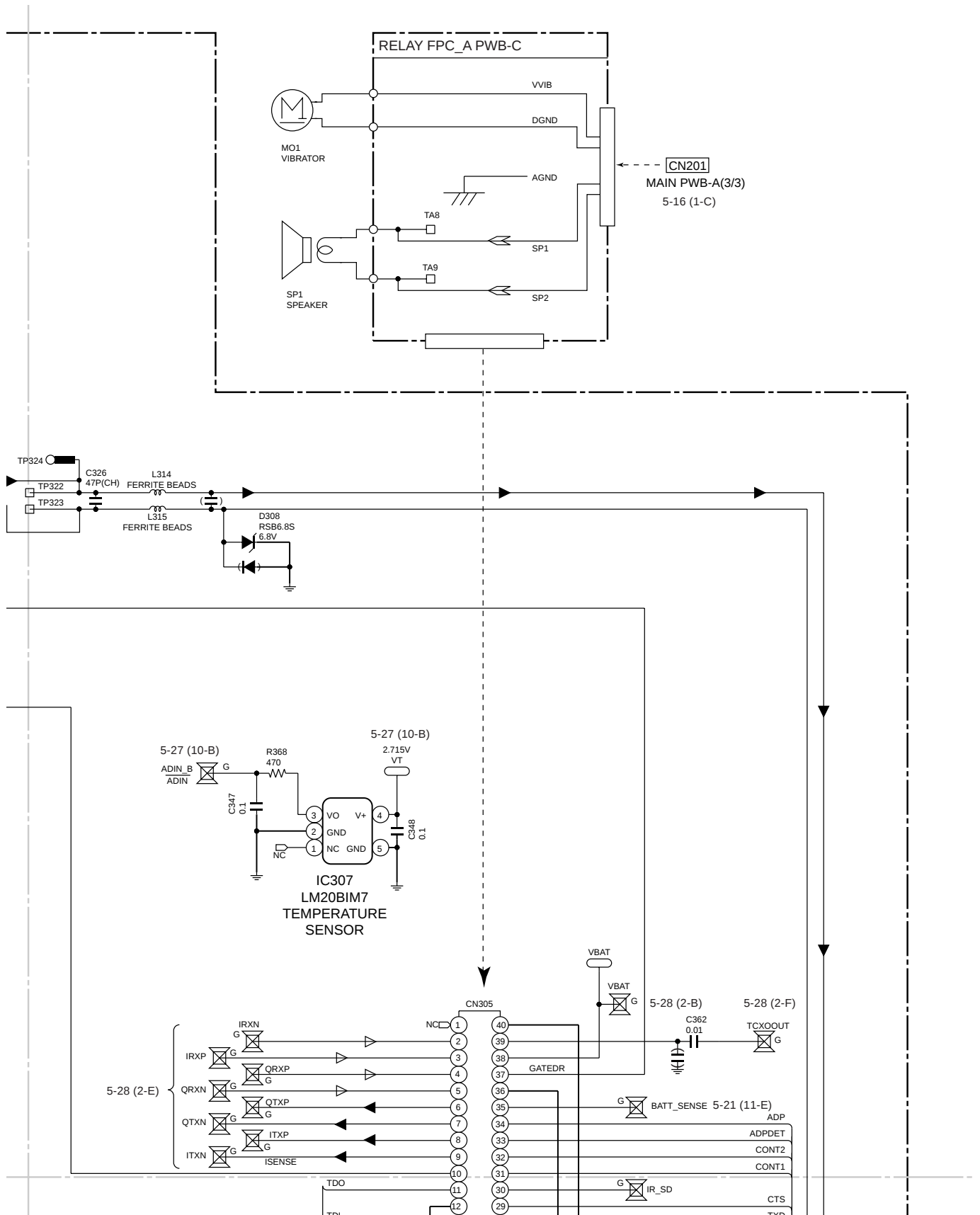


Figure 19 SCHEMATIC DIAGRAM (17/22)



• () : Not Mount

7	8	9	10	11	12
---	---	---	----	----	----

Figure 20 SCHEMATIC DIAGRAM (18/22)

KEY PWB-B (1/2)

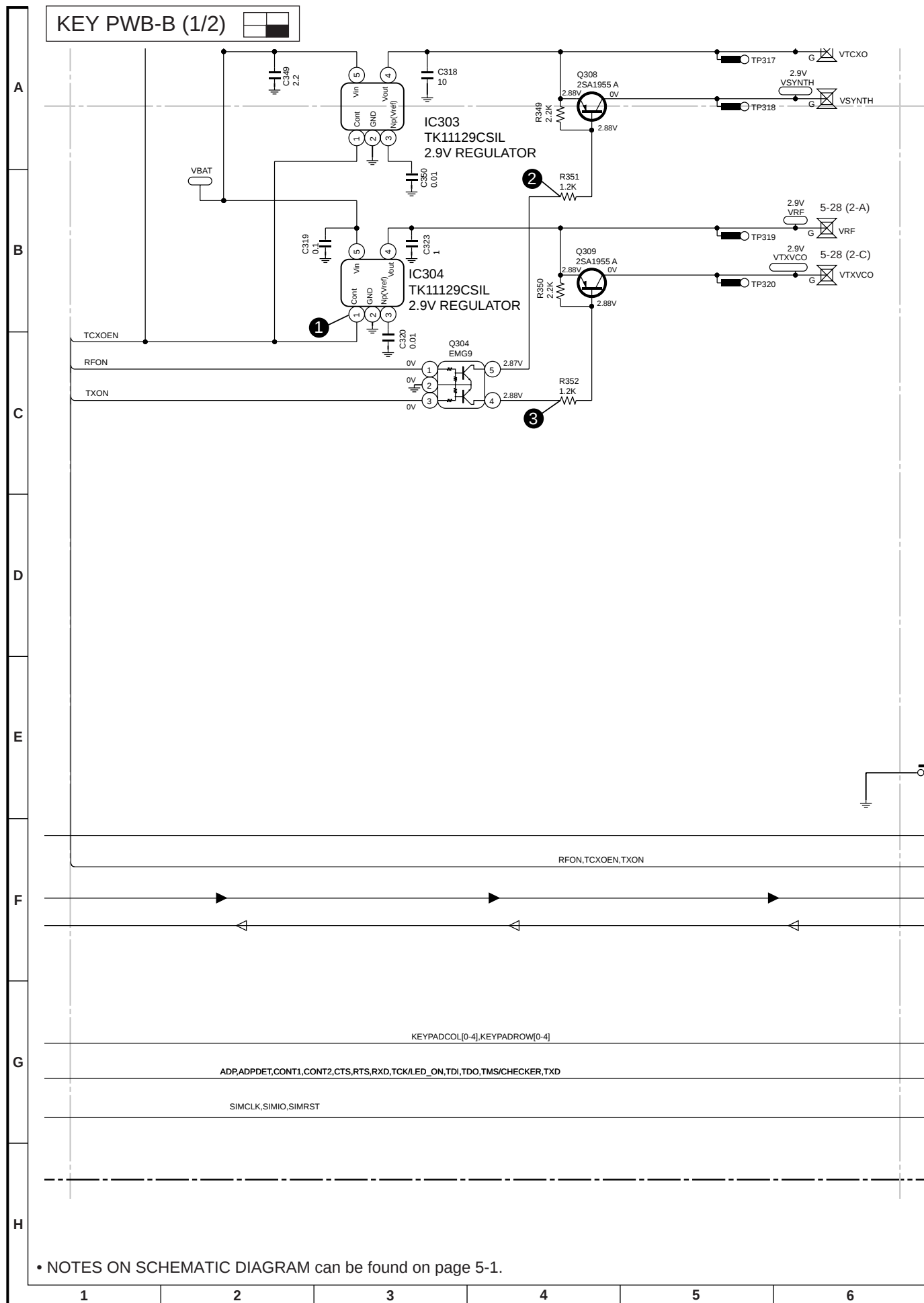
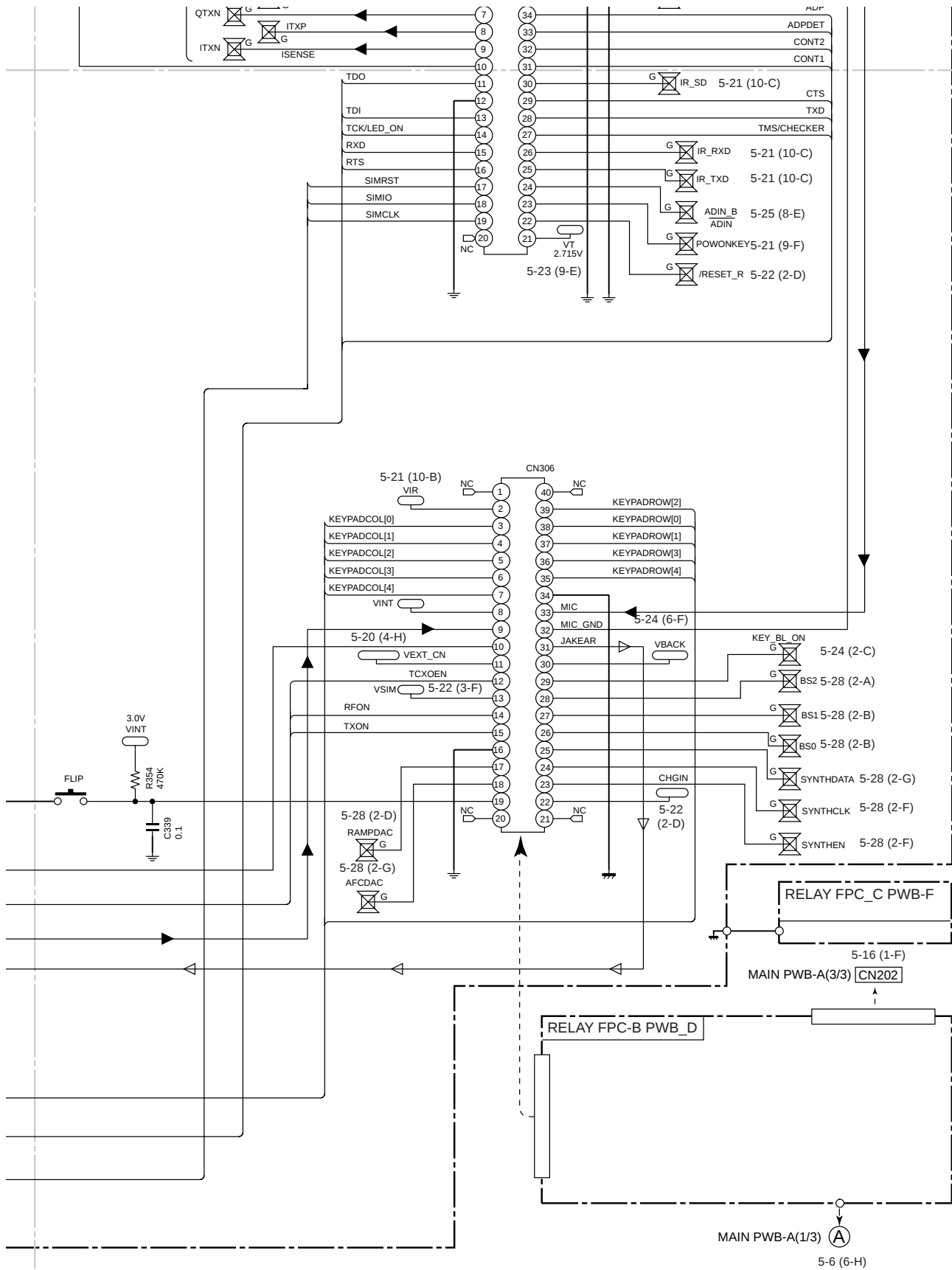


Figure 21 SCHEMATIC DIAGRAM (19/22)



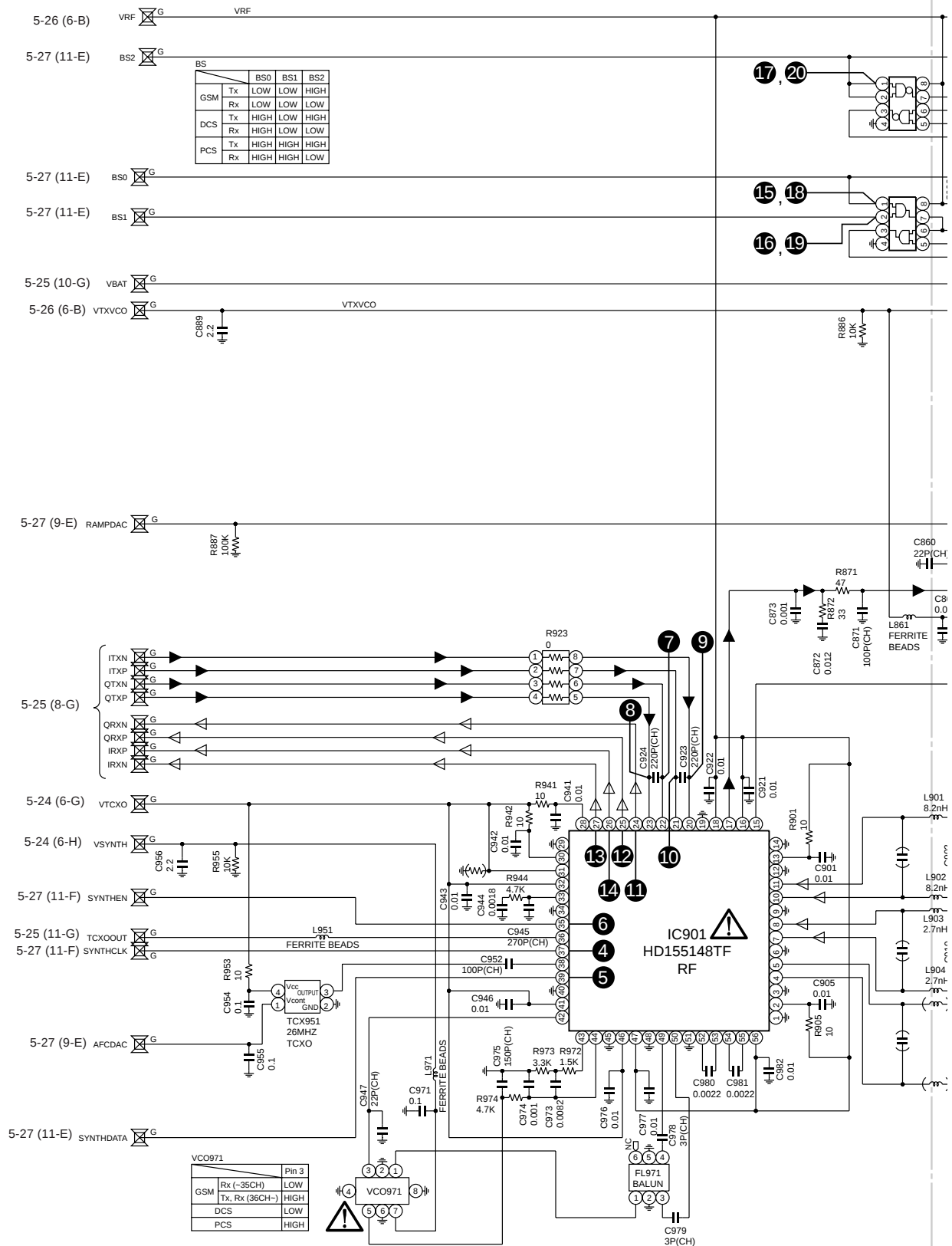
• The numbers ① to ③ are waveform numbers shown in page 5-2.

7	8	9	10	11	12
---	---	---	----	----	----

Figure 22 SCHEMATIC DIAGRAM (20/22)

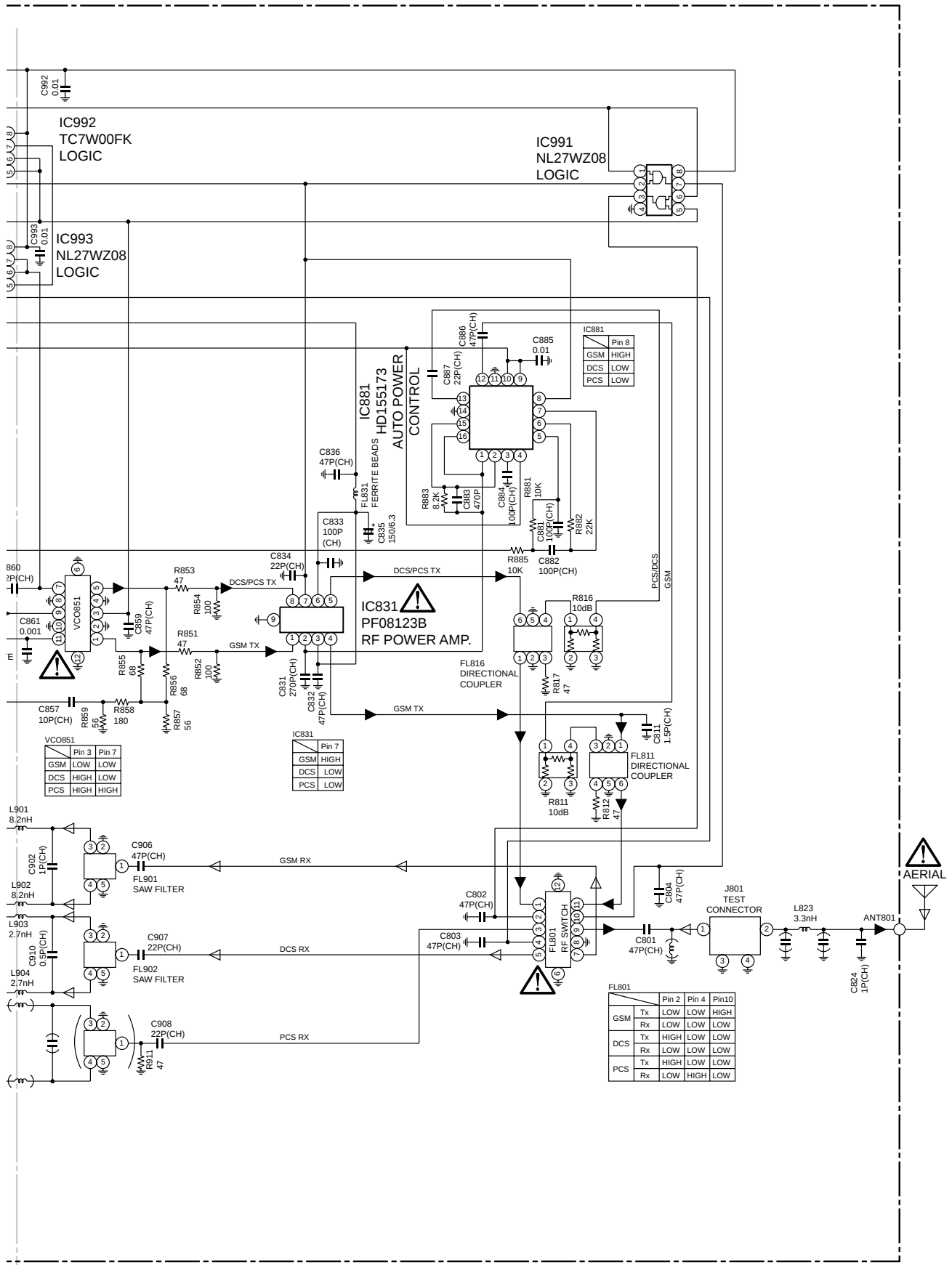
KEY PWB-B(2/2)

▷ RECEPTION SIGNAL ▶ TRANSMISSION SIGNAL



• NOTES ON SCHEMATIC DIAGRAM can be found on page 5-1.

Figure 23 SCHEMATIC DIAGRAM (21/22)



• () : Not Mount

• The numbers 4 to 20 are waveform numbers shown in pages 5-2 to 5-4.

7	8	9	10	11	12
---	---	---	----	----	----

Figure 24 SCHEMATIC DIAGRAM (22/22)

A
B
C
D
E
F
G
H



5 - 30

7	8	9	10	11	12
---	---	---	----	----	----

5 - 31

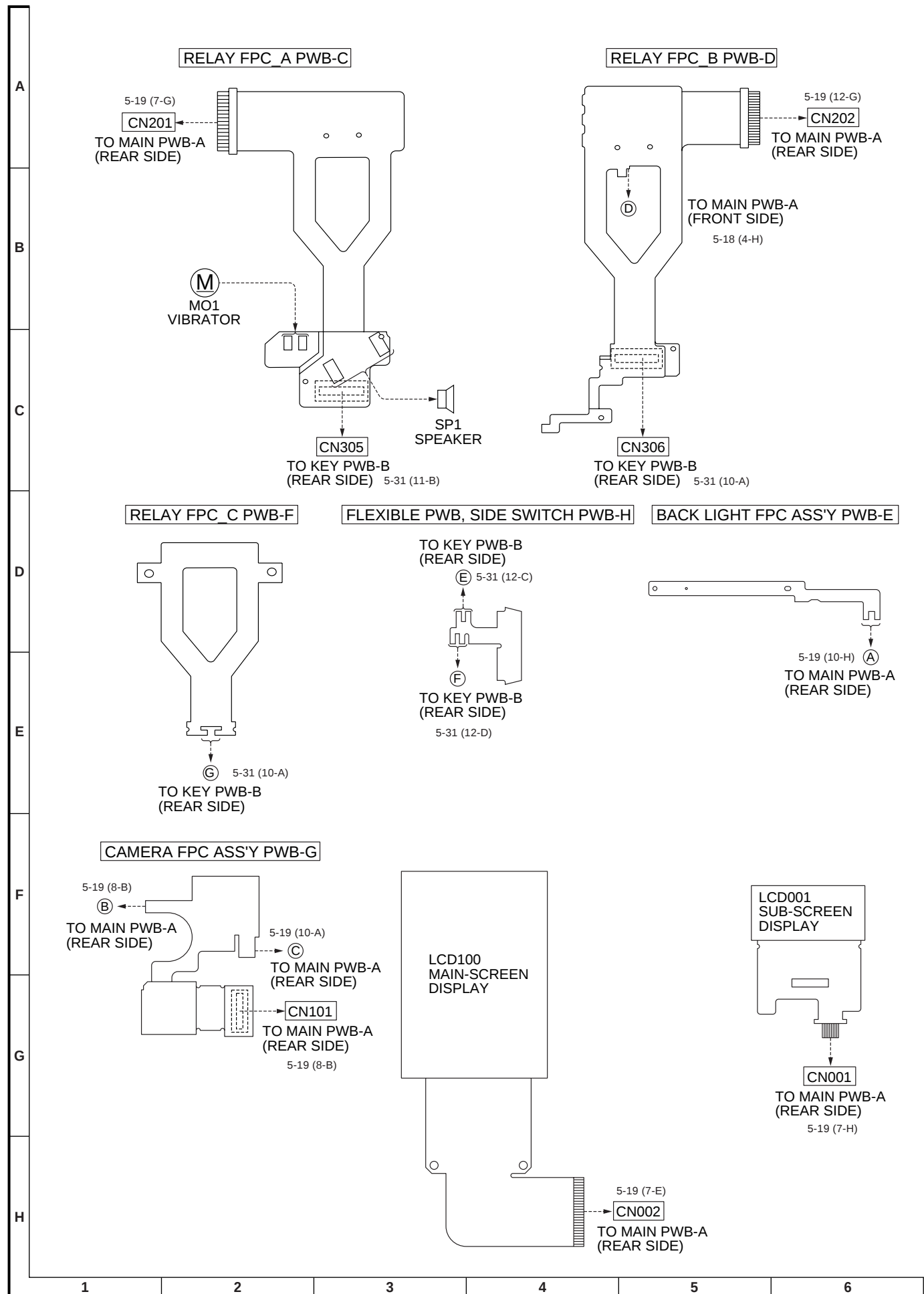


Figure 27 WIRING SIDE OF P.W.BOARD (5/5)

Conditions: SIM card inserted, power on, in stand-by mode (opened)

Measuring instrument: Digital multimeter

—: Indicates the measured value without a SIM card.

—: Unmeasurable

A

IC001	
PIN NO.	VOLTAGE
1	3.69V
2	0V
3	1.07V
4	0V
5	0V
6	3.68V

IC004	
PIN NO.	VOLTAGE
1	2.49V
2	0V
3	3.67V
4	2.78V
5	Not used

IC105	
PIN NO.	VOLTAGE
1	Not used
2	0V
3	1.5V
4	2.75V
5	0V

IC202	
PIN NO.	VOLTAGE
1	3.01V
2	3.67V
3	1.97V
4	3.67V
5	1.56V
6	0V
7	0.96V
8	2.79V
9	0.94V
10	0V
11	0V
12	0.96V
13	0V
14	3.01V
15	0V
16	2.79V
17	Not used
18	2.86V
19	3.68V
20	2.79V
21	1.8V
22	3.68V
23	2.45V
24	Not used
25	2.75V
26	Not used
27	0V
28	3.01V
29	1.8V
30	3.65V
31	1.84V
32	Not used

IC301	
PIN NO.	VOLTAGE
1	3.01V
2	0V
3	3.01V
4	0V
5	0V
6	3.01V
7	0V
8	3.01V

B

IC002	
PIN NO.	VOLTAGE
1	3V
2	5.64V
3	5.64V
4	5.64V
5	5.1V
6	3V
7	3V
8	3V
9	0V
10	15.3V
11	2.54V
12	12.75V
13	2.55V
14	7.66V
15	5.1V
16	5.09V
17	-10.2V
18	0V
19	0.07V
20	3.07V

IC101	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0V
5	3.68V

IC107	
PIN NO.	VOLTAGE
1	0V
2	3.01V
3	0V
4	3.01V
5	3.01V

C

IC103	
PIN NO.	VOLTAGE
1	1.37V
2	0V
3	3.01V
4	3V
5	3.01V
6	0V
7	3.01V
8	0V
9	0V
10	0.53V
11	0V
12	0V
13	0V
14	0V
15	3.67V
16	0V
17	0V
18	0V
19	0V
20	0.42V
21	0.42V
22	0.11V
23	0.46V
24	0.12V
25	0.43V
26	0.46V
27	0.46V
28	2.96V
29	3.01V
30	3.01V
31	2.79V
32	Not used

IC108	
PIN NO.	VOLTAGE
1	0V
2	3.01V
3	0V
4	3.01V
5	3.01V

IC302	
PIN NO.	VOLTAGE
1	3.7V
2	0V
3	3.7V
4	3.01V
5	3V

D

IC003	
PIN NO.	VOLTAGE
1	3V
2	—
3	—
4	—
5	—
6	—
7	1.5V
8	0V
9	0V
10	2.55V
11	0V
12	0V
13	0V
14	3.25V
15	3.23V
16	3.2V
17	3.18V
18	3.17V
19	5.11V
20	0V
21	1.5V
22	0.5V
23	0V
24	3V

IC110	
PIN NO.	VOLTAGE
1	2.76V
2	3.01V
3	0V
4	3.01V
5	3.01V

IC201	
PIN NO.	VOLTAGE
1	3.68V
2	0V
3	2.79V
4	Not used
5	2.51V

IC303	
PIN NO.	VOLTAGE
1	3.01V
2	0V
3	1.27V
4	2.88V
5	3.7V

E

IC304	
PIN NO.	VOLTAGE
1	3.01V
2	0V
3	1.27V
4	2.89V
5	3.7V

F

IC203	
PIN NO.	VOLTAGE
1	0V
2	3V
3	1.8V
4	3V

IC305	
PIN NO.	VOLTAGE
1	3V
2	3V
3	Not used
4	0V

G

IC205	
PIN NO.	VOLTAGE
1	3.67V
2	0V
3	2.79V
4	3.01V
5	3.01V

IC306	
PIN NO.	VOLTAGE
1	0.96V
2	0V
3	0V
4	Not used
5	0.2V

H

IC206	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0V
5	3.68V

IC307	
PIN NO.	VOLTAGE
1	Not used
2	0V
3	1.52V
4	2.75V
5	0V

• NOTES ON SCHEMATIC DIAGRAM can be found on page 5-1.

1 2 3 4 5 6

A

IC831	
PIN NO.	VOLTAGE
1	0V
2	0.19V
3	3.89V
4	0V
5	0V
6	3.89V
7	2.95V
8	0V
9	0V

B

IC901	
PIN NO.	VOLTAGE
1	0V
2	2.94V
3	0V
4	0V
5	0V
6	0V
7	0V
8	0V
9	0V

IC991	
PIN NO.	VOLTAGE
1	0V
2	0V
3	2.94V
4	0V
5	0V
6	0V
7	2.94V
8	2.94V

C

IC881	
PIN NO.	VOLTAGE
1	0.19V
2	0.24V
3	0.24V
4	1.3V
5	0.24V
6	0.24V
7	0.24V
8	2.95V
9	1.3V
10	1.3V
11	0V
12	1.23V
13	1.3V
14	0V
15	0.24V
16	0.19V

10	0.14V
11	0.14V
12	0V
13	2.94V
14	0V
15	0.41V
16	2.95V
17	0.21V
18	2.95V
19	0V
20	0.5V
21	0.5V
22	0.5V
23	0.5V
24	0.5V
25	0.5V
26	0.5V
27	0.5V
28	2.89V
29	0V
30	2.89V
31	2.89V
32	2.89V
33	1.57V
34	0V
35	0V
36	0V
37	0V
38	0V
39	0V
40	0V
41	2.9V
42	2.75V
43	0V
44	1.25V
45	0V
46	2.9V
47	2.95V
48	0V
49	0.73V
50	0.73V
51	0V
52	2.74V
53	2.74V
54	2.74V
55	2.74V
56	2.95V

IC992	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0V
5	2.94V
6	0V
7	0V
8	2.94V

D

IC993	
PIN NO.	VOLTAGE
1	0V
2	2.94V
3	0V
4	0V
5	0V
6	0V
7	0V
8	2.94V

E

F

G

H

• NOTES ON SCHEMATIC DIAGRAM can be found on page 5-1.

1

2

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6

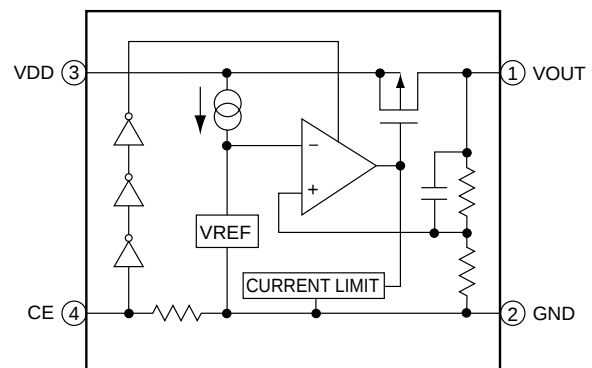
IC003 VHIADD8502+-1L (ADD8502): GRAYSCALE GENERATOR

Pin No.	Terminal name	Input/Output	Description of terminal
1	VL	—	Power supply (logic)
2	DIN	Input	Serial data
3	SCK	Input	Serial clock
4	CS-LD	Input	Load
5	CM	Input	Logic control
6	CV4	Input	Logic control V4
7	REV1	Input	Logic control 1
8	NC	—	Not used
9	NC	—	Not used
10	COM	Output	Common output
11	COM_M	Input	Common system Vref
12	NC	—	Not used
13	GND	—	Ground
14	V4	Output	V4 voltage
15	V3	Output	V3 voltage
16	V2	Output	V2 voltage
17	V1	Output	V1 voltage
18	V0	Output	V0 voltage
19	VDD	—	Power supply
20	NC	—	Not used
21	REV2	Input	Ref output select
22	GS2	Input	Power save select 2
23	GS1	Input	Power save select 1
24	PSK	Input	Power down

IC004 RH-IX2933AFZZL (IX2933AF): REGULATOR

Pin No.	Terminal name	Input/Output	Description of terminal
1	VOUT	Output	Output
2	GND	—	Ground
3	VDD	Input	Input
4	CE	Input	Chip enable
5*	NC	—	Not used

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.



IC005 (LR38821A): TFT DISPLAY CONTROLLER (1/3)

Pin No.	Terminal name	Input/Output	Description of terminal
1	Dummy4	Input/Output	Not used
2*	NC	—	Not used
3	GND	—	Ground
4*	NC	—	Not used
5	GND	—	Ground
6	VDD CORE	—	Power supply
7	PWM	Output	PWM output signal
8*	NC	—	Not used
9	NCS	Input	Device select signal
10	VDD IO	—	Power supply
11	Dummy3	—	Not used
12	VDD IO	—	Power supply
13*	NC	—	Not used
14	B5	Output	LCD panel B output signal
15	B4	Output	LCD panel B output signal
16	B3	Output	LCD panel B output signal
17	GND	—	Ground
18	TEST1	Input	Test terminal
19	TEST SCMD	Input	Test terminal
20	NWR	Input	Host write strobe signal
21*	NC	—	Not used
22*	NC	—	Not used
23	B2	Output	LCD panel B output signal
24	B1	Output	LCD panel B output signal
25	B0	Output	LCD panel B output signal
26	LS	Output	Data transmission signal
27*	XOUT	Output	Oscillating circuit output
28	VDD IO	—	Power supply
29	GND	—	Ground
30	TST SCEN	Input	Test terminal
31	NRD	Input	Host read strobe signal
32	RS	Input	Register select signal
33	GND	—	Ground
34	DCLK	Output	Data sampling clock (display clock)
35	GS2	Output	Gray scale switch signal
36	GS1	Output	Gray scale switch signal
37	PS2	Output	Power save signal (for source driver)
38	XIN	Input	Oscillating circuit input/external clock input signal
39*	NC	—	Not used
40	NRES	Input	Master reset
41*	NC	—	Not used
42*	NC	—	Not used
43*	NC	—	Not used
44	DB0	Input/Output	Data bus
45	PS1	Output	Power save signal (for source driver)
46	G5	Output	LCD panel G output signal
47	G4	Output	LCD panel G output signal
48	G3	Output	LCD panel G output signal
49	DB1	Input/Output	Data bus
50	DB2	Input/Output	Data bus
51	DB3	Input/Output	Data bus
52	DB4	Input/Output	Data bus
53	VDD CORE	—	Power supply
54	GND	—	Ground
55	VDD IO	—	Power supply
56	G2	Output	LCD panel G output signal

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

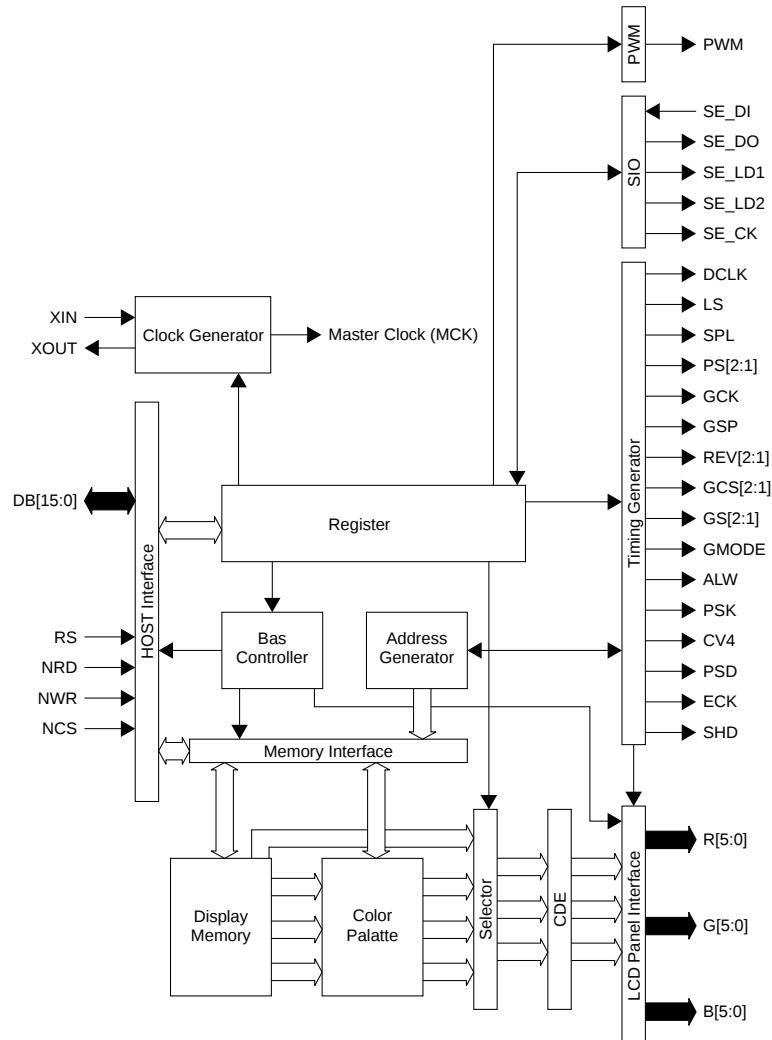
IC005 (LR38821A): TFT DISPLAY CONTROLLER (2/3)

Pin No.	Terminal name	Input/Output	Description of terminal
57	DB5	Input/Output	Data bus
58	VDD IO	—	Power supply
59	GND	—	Ground
60	VDD CORE	—	Power supply
61	G1	Output	LCD panel G output signal
62	G0	Output	LCD panel G output signal
63	R5	Output	LCD panel R output signal
64	R4	Output	LCD panel R output signal
65	DB6	Input/Output	Data bus
66	DB7	Input/Output	Data bus
67	DB8	Input/Output	Data bus
68	DB9	Input/Output	Data bus
69	R3	Output	LCD panel R output signal
70	R2	Output	LCD panel R output signal
71	R1	Output	LCD panel R output signal
72*	R0	Output	LCD panel R output signal
73*	PSD	Output	Power save signal (for power IC)
74	ECK	Output	Power save signal (for power IC)
75	CV4	Output	Power save signal (for gray scale IC)
76	SE_DI	Input	Data input for four-wire serial IF
77	DB10	Input/Output	Data bus
78	DB11	Input/Output	Data bus
79	DB12	Input/Output	Data bus
80*	BNC	Input	Synchronous/asynchronous bus switch signal
81	GND	—	Ground
82	GSP	Output	Gate start signal
83	GMODE	Output	Gate output switch signal
84	SHD	Output	Power IC ON/OFF control terminal
85	VDD IO	—	Power supply
86	REV1	Output	Polarity reverse control signal
87	SE_DO	Output	Data output for three-wire/four-wire serial IF
88	DB13	Input/Output	Data bus
89	DB14	Input/Output	Data bus
90	DB15	Input/Output	Data bus
91*	NC	—	Not used
92*	NC	—	Not used
93	SPL	Output	Sampling start signal
94	ALW	Output	Write all mode switch signal
95	GCS1	Output	Vertical scan start position setting signal
96	GND	—	Ground
97	REV2	Output	Polarity reverse control signal
98	SE_CK	Output	Control clock for three-wire/four-wire serial IF
99*	SE_LD2	Output	Load signal for four-wire serial IF
100*	NC	—	Not used
101	VDD IO	—	Power supply
102	Dummy2	—	Not used
103	VDD IO	—	Power supply
104*	NC	—	Not used
105	GCK	Output	Gate shift clock
106	GCS2	Output	Vertical scan start position setting signal
107	VDD CORE	—	Power supply
108	PSK	Output	Power save signal (for gray scale IC)
109	SE_LD1	Output	Load signal for three-wire serial IF
110	GND	—	Ground
111*	NC	—	Not used
112	Dummy1	—	Not used

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

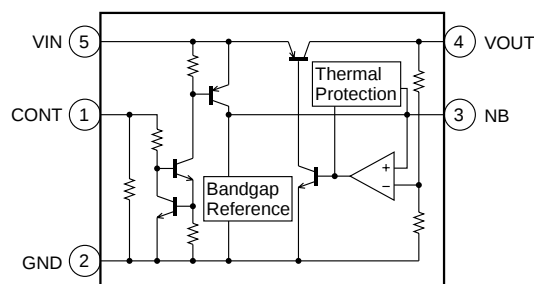
IC005 (LR38821A): TFT DISPLAY CONTROLLER (3/3)

112 Dummy 1	111 NC	110 GND	109 SE_LD 1	108 PSK	107 VDD CORE	106 GCS2	105 GCK	104 NC	103 VDD IO	102 Dummy 2	L
101 VDD IO	100 NC	99 SE_LD 2	98 SE_C K	97 REV2	96 GND	95 GCS1	94 ALW	93 SPL	92 NC	91 NC	K
90 DB15	89 DB14	88 DB13	87 SE_D O	86 REV1	85 VDD IO	84 SHD	83 GMODE	82 GSP	81 GND	80 BNC	J
79 DB12	78 DB11	77 DB10	76 SE_DI	75 CV4	74 ECK	73 PSD	72 R0	71 R1	70 R2	69 R3	H
68 DB9	67 DB8	66 DB7	65 DB6	BNC			64 R4	63 R5	62 G0	61 G1	G
60 VDD CORE	59 GND	58 VDD IO	57 DB5				56 G2	55 VDD IO	54 GND	53 VDD CORE	F
52 DB4	51 DB3	50 DB2	49 DB1				48 G3	47 G4	46 G5	45 PS1	E
44 DB0	43 NC	42 NC	41 NC	40 NRES	39 NC	38 XIN	37 PS2	36 GS1	35 GS2	34 DCLK	D
33 GND	32 RS	31 NRD	30 TST SCEN	29 GND	28 VDD IO	27 XOUT	26 LS	25 B0	24 B1	23 B2	C
22 NC	21 NC	20 NWR	19 TEST SCMD	18 TEST1	17 GND	16 B3	15 B4	14 B5	13 NC	12 VDD IO	B
11 Dummy 3	10 VDD IO	9 NCS	8 NC	7 PWM	6 VDD CORE	5 GND	4 NC	3 GND	2 NC	1 Dummy 4	A
11	10	9	8	7	6	5	4	3	2	1	



IC101 VHINJ287130-1L (NJM2871F03): 3.0 V REGULATOR

Pin No.	Terminal name	Input/Output	Description of terminal
1	CONT	Input	Control
2	GND	—	Ground
3	NB	—	Noise bypass
4	VOUT	Output	Output
5	VIN	Input	Input

**IC102 (AD6521ACA): ANALOG BASEBAND (1/2)**

Pin No.	Terminal name	Input/Output	Description of terminal
1	DVDD1	—	Digital core power supply (1.6V AVDD1/2).
2	DGND1	—	Digital ground.
3*	IDACREF	Output	Current DAC bias resistor connection, rset.
4	AUXADC4	Input	Auxiliary A/D converter input 4. (MVBAT)
5	AUXADC2	Input	Auxiliary A/D converter input 2. (Camera thermal sensor)
6	AUXADC1	Input	Auxiliary A/D converter input 1. (Jack detection)
7	REFOUT	Input/Output	Buffered reference output/external bias voltage input.
8	REFCAP	Output	Reference filter capacitor connection.
9	AVDD2	—	Auxiliary analog power supply (2.4V to 2.6V).
10	AFCDAC	Output	Automatic frequency control signal output.
11	TDO	Output	Test data output.
12	TDI	Input	Test data input.
13	AGND4	—	Analog substrate ground.
14*	IDACOUT	Output	Current DAC output for battery charging.
15	AUXADC3	Input	Auxiliary A/D converter Input 3. (Battery sense)
16	AUXADC5	Input	Auxiliary A/D converter Input 5. (Battery thermal sensor)
17	AUXADC6	Input	Auxiliary A/D converter Input 6.
18	AGND2	—	Auxiliary analog ground.
19*	NC (REFCAP2)	Output	Reserved for reference filter capacitor.
20	QRXN	Input	Differential analog input for quadrature receive signal.
21	TCK	Input	Test clock.
22	TMS	Input	Test mode select.
23	QTXN	Output	Differential analog output for quadrature transmit signal.
24	QRXP	Input	Differential analog input for quadrature receive signal.
25	VSDO	Output	Voiceband serial port data output.
26	VSFS	Output	Voiceband serial port input/output framing signal.
27	QTXP	Output	Differential analog output for quadrature transmit signal.
28	IRXN	Input	Differential analog input for in-phase receive signal.
29	VSDI	Input	Voiceband serial port data input.
30	BSOFS	Output	Baseband serial port output framing signal.
31	ITXN	Output	Differential analog output for in-phase transmit signal.
32	IRXP	Input	Differential analog input for in-phase receive signal.
33	BSDO	Output	Baseband serial port data output.
34	BSIFS	Output	Baseband serial port input framing signal.
35	ITXP	Output	Differential analog output for in-phase transmit signal.
36	AVDD1	—	Baseband Analog Power Supply (2.4V to 2.6V).
37	DVDD2	—	Digital Interface Power Supply (The greater of DVDD1 or DVDD3 or AVDD3-0.2V, to maximum 3.3V).
38	BSDI	Input	Baseband serial port data input.
39	AGND1	—	Baseband analog ground.
40	VINAUXN	Input	Differential voiceband auxiliary input.
41	ASDI	Input	Auxiliary serial port data input.
42	ASFS	Input	Auxiliary serial port input/output framing signal.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC102 (AD6521ACA): ANALOG BASEBAND (2/2)

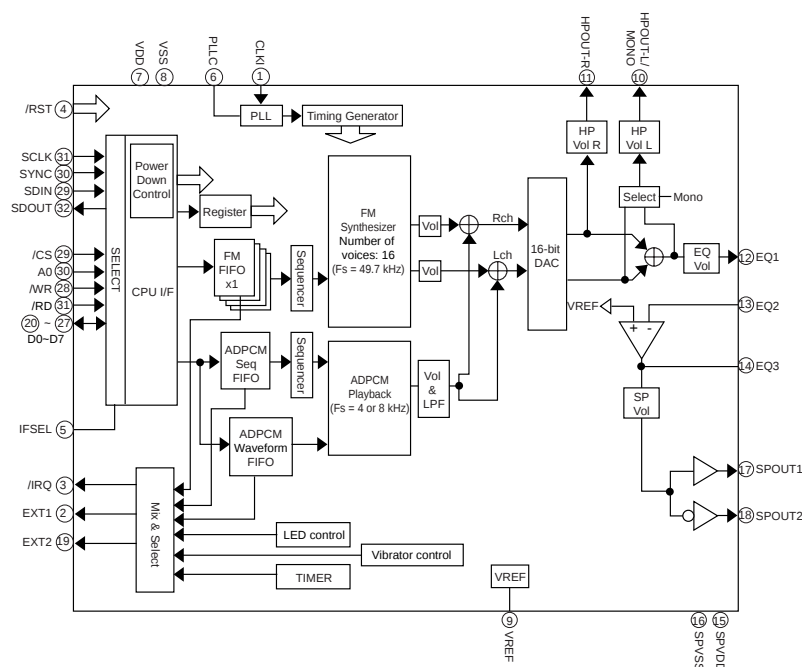
Pin No.	Terminal name	Input/Output	Description of terminal
43	RAMPDAC	Output	Power ramping control signal output.
44	VINAUXP	Input	Differential voiceband auxiliary input. (Jack mic audio input)
45	ASDO	Output	Auxiliary serial port data output.
46	MCLK	Input	Master clock input.
47	ARSM	Input	Advance baseband receive state machine.
48	RXON	Input	Baseband receive section power-on input.
49	DGND3	–	Digital ground.
50*	BUZZER	Output	Buzzer output.
51	AGND3	–	Voiceband analog ground.
52	AVDD3	–	Voiceband analog power supply (2.4 V to 2.7 V).
53*	NC (MICCAP)	Output	Reserved for microphone.
54	VINNORP	Input	Differential voiceband normal input. (Mic audio input)
55	RESET	Input	Active low reset signal input.
56	MCLKEN	Output	Master clock enable.
57	ATSM	Input	Advance baseband transmit state machine.
58	TXON	Input	Baseband transmit section power-on input.
59	DVDD3	–	Digital core power supply (1.6 V to AVDD1/2).
60	VOUTAUXN	Output	Differential voiceband auxiliary output.
61	VOUTNORN	Output	Differential voiceband normal output. (Earpiece audio output)
62	VOUTNORP	Output	Differential voiceband normal output. (Earpiece audio output)
63	VOUTAUXP	Output	Differential voiceband auxiliary output. (Jack Earpiece audio output)
64	VINNORN	Input	Differential voiceband normal input.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC103 VHIYMU759B+-1L (YMU759B): SOUND

Pin No.	Terminal name	Input/Output	Description of terminal
1	CLKI	Input	Clock input terminal (2 – 20 MHz)
2	EXT1	Output	External control terminal 1
3	/IRQ	Output	Interrupt output terminal
4	/RST	Input	Hardware reset input terminal
5	IFSEL	Input	CPU I/F select; L: serial I/F, H: parallel I/F
6	PLLC	—	Built-in PLL capacitor terminal
7	VDD	—	Power supply
8	VSS	—	Ground
9	VREF	—	Analog reference voltage terminal
10*	HPOUT-L/MONO	Output	Headphone output Lch
11*	HPOUT-R	Output	Headphone output Rch
12	EQ1	—	Equalizer terminal 1
13	EQ2	—	Equalizer terminal 2
14	EQ3	—	Equalizer terminal 3
15	SPVDD	—	Analog power supply for speaker amplifier (Typ + 3.6 V)
16	SPVSS	—	Analog ground for speaker amplifier
17	SPOUT1	Output	Speaker terminal 1
18	SPOUT2	Output	Speaker terminal 2
19	EXT2	Output	External control terminal 2
20	D7	Input/Output	Parallel I/F data bus 7
21	D6	Input/Output	Parallel I/F data bus 6
22	D5	Input/Output	Parallel I/F data bus 5
23	D4	Input/Output	Parallel I/F data bus 4 (Not connected when IFSEL terminal at L)
24	D3	Input/Output	Parallel I/F data bus 3 (Not connected when IFSEL terminal at L)
25	D2	Input/Output	Parallel I/F data bus 2 (Not connected when IFSEL terminal at L)
26	D1	Input/Output	Parallel I/F data bus 1 (Not connected when IFSEL terminal at L)
27	D0	Input/Output	Parallel I/F data bus 0 (Not connected when IFSEL terminal at L)
28	/WR	Input	Parallel I/F write pulse (Not connected when IFSEL terminal at L)
29	SDIN (/CS)	Input	IFSEL terminal = L serial I/F data input IFSEL terminal = H parallel I/F chip select input
30	SYNC (A0)	Input	IFSEL terminal = L serial I/F data read signal FSEL terminal = H parallel I/F address signal
31	SCLK (/RD)	Input	IFSEL terminal = L serial I/F bit clock input IFSEL terminal = H parallel I/F read pulse
32*	SDOUT	Output	Serial I/F data output (external pull-up resistor required)

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.



IC104 (AD6526XCA): DIGITAL BASEBAND (1/3)

Pin No.	Terminal Name	Signal Name	Input/Output	Function
1	A1	GPO05	Output	ARMSM
2	A2	VDDRTC	—	RTC power supply 1.8 V
3	A3	OSCIN	Input	32.768 kHz crystal input - inverted (GND if no crystal)
4	A4	KEYPADCOL3	Output	Key matrix (COL3)
5	A5	KEYPADROW4	Input	Key matrix (ROW4)
6	A6	KEYPADROW0	Input	Key matrix (ROW0)
7	A7	GPO22	Output	Back light control
8	A8	GPIO15	Output	Sub-screen display RAM select
9	A9	GPIO13	Input	Charge detect
10	A10	GPIO09	Output	IrDA power ON
11	A11	GPIO06	Input	Camera INT
12	A12	GND09	—	Ground (7 periphery and 4 core)
13	A13	USC3	Input	USC pin (ADP detect)
14	A14	USC2	Output	USC pin (TXD)
15	B1	GPO00	Output	Receiver on RxOn
16	B2	PWRON	Output	Power on/off control
17	B3	OSCAUT	Output	32.768 kHz oscillator output and feedback to crystal
18	B4	KEYPADCOL2	Output	Key matrix (COL2)
19	B5	KEYPADROW3	Input	Key matrix (ROW3)
20	B6	GND11	—	Ground (7 periphery and 4 core)
21	B7	GPIO17	Output	Sub-screen display data output
22	B8	GPIO14	Output	Sub-screen display serial clock
23	B9	GPIO12	Output	Reset (sound)
24	B10	VEXT2	—	External device power supply 3 V
25	B11	GPIO05	Input	IRQ (sound)
26	B12	GPIO02	Output	Camera reset
27	B13	USC6	Input	USC pin (CONT2)
28	B14	VEXT1	—	External device power supply 3 V
29	C1	GPO06	Output	ATSM
30	C2	GPO01	Output	Tx on
31	C3	KEYPADCOL4	Output	Key matrix (COL4)
32	C4	KEYPADCOL0	Output	Key matrix (COL0)
33*	C5	GPO23	Input/Output	(Not used)
34	C6	VEXT3	—	External device power supply 3 V
35	C7	GPIO11	Output	Flash memory write protect
36	C8	VCC4	—	Core power supply voltage 1.8 V
37	C9	GPIO10	Output	Flash memory Vpp
38	C10	GPIO07	Output	Camera power on
39	C11	GPIO03	Output	IrDA TXD
40	C12	USC5	Output	USC pin (CTS)
41	C13	GND08	—	Ground (7 periphery and 4 core)
42	C14	USC0	Input	USC pin (ADP)
43	D1	CLKOUT	Output	13 MHz clock output
44	D2	CLKOUTGATE	Input	Hardware CLKOUT on/off Switching
45	D3	VSSRTC	—	RTC power supply return (Ground)
46	D4	KEYPADROW2	Input	Key matrix (ROW2)
47	D5	VEXT4	—	External device power supply 3 V
48	D6	GPIO16	Output	Sub-screen display chip select
49	D7	GND10	—	Ground (7 periphery and 4 core)
50	D8	GPIO08	Input	(CONT1)
51	D9	GPIO04	Input	Flip SW detection
52	D10	GPIO01	Input	IrDA RXD
53	D11	GPIO00	Output	Screen display reset
54	D12	USC1	Input	USC pin (RXD)
55	D13	GPO20	Output	Serial data (RF)
56	D14	GPO19	Output	A0 (sound)

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC104 (AD6526XCA): DIGITAL BASEBAND (2/3)

Pin No.	Terminal Name	Signal Name	Input/Output	Function
57	E1	GPO24	Output	Reset output analog baseband RESET
58	E2	ASDI	Input	Auxiliary serial port data input
59	E3	VPEG1	–	AD6521 interface power supply 2.8 V
60	E4	KEYPADCOL1	Output	Key matrix (COL1)
61	E11	USC4	Output	USC pin out (RTS)
62	E12	GPO18	Output	Enable (RF)
63	E13	GPO16	Output	GSM SEL (BS0)
64	E14	GPO11	Output	Back light SW
65	F1	ASDO	Output	Auxiliary serial port data output
66	F2	ASFS	Output	Auxiliary serial port framing signal
67	F3	BSDO	Output	Baseband serial port data output
68	F4	KEYPADROW1	Input	Key matrix (ROW1)
69	F11	GPO21	Output	Serial clock (RF)
70*	F12	GPO10	Output	(Not used)
71	F13	GPO08	Output	Camera A18
72	F14	GPO07	Output	Charge enable
73	G1	BSIFS	Output	Baseband serial port input framing signal
74	G2	BSDI	Input	Baseband serial port data input
75	G3	VSDI	Input	Voiceband serial port data input
76	G4	BSOFS	Output	Baseband serial port output framing signal
77	G11	GPO17	Output	DCS SEL (BS1)
78	G12	GPO03	Output	Audio bias control
79	G13	GPO02	Output	PCS SEL (BS2)
80	G14	CLKON	Output	Oscillator power control signal (on/off)
81	H1	VCC1	–	Core power supply voltage 1.8 V
82	H2	VSFS	Output	Voiceband serial port framing signal
83	H3	VSDO	Output	Voiceband serial port data output
84	H4	ADD00	Output	Processor address bus
85	H11	GPO09	Output	RF enable
86	H12	GPO04	Output	Key back light control
87	H13	GPIO19	Input	JTAG test mode select (TMS)
88	H14	GPIO18	Output	JTAG test clock (TCK)
89	J1	GND01	–	Ground (7 periphery and 4 core)
90	J2	ADD02	Output	Processor address bus
91	J3	ADD01	Output	Processor address bus
92	J4	ADD03	Output	Processor address bus
93	J11	GPIO21	Output	JTAG test data output (TDO)
94	J12	GPIO20	Input	JTAG test data input (TDI)
95	J13	SIMDATAOP	Input/Output	SIM data output/input
96	J14	GPIO22	Input	End of charge
97	K1	GND02	–	Ground (7 periphery and 4 core)
98	K2	ADD05	Output	Processor address bus
99	K3	ADD04	Output	Processor address bus
100	K4	ADD06	Output	Processor address bus
101	K11	JTAGEN	Input	JTAG enable
102	K12	SIMCLK	Output	SIM clock
103	K13	GPIO24	Output	SIM supply enable
104	K14	VCC3	–	Core power supply voltage 1.8 V
105	L1	ADD08	Output	Processor address bus
106	L2	VMEM1	–	Memory power supply 3 V
107	L3	ADD09	Output	Processor address bus
108	L4	ADD07	Output	Processor address bus
109	L5	ADD10	Output	Processor address bus
110	L6	GND04	–	Ground (7 periphery and 4 core)
111	L7	DATA05	Input/Output	Processor data bus
112	L8	GND05	–	Ground (7 periphery and 4 core)

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC104 (AD6526XCA): DIGITAL BASEBAND (3/3)

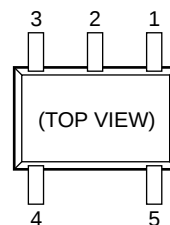
Pin No.	Terminal Name	Signal Name	Input/Output	Function
113	L9	VSIM	–	SIM power supply 2.8 V
114	L10	GPIO23	Output	SIM reset
115	L11	GND07	–	Ground (7 periphery and 4 core)
116	L12	CLKIN	Input	13 MHz system clock input (Auto Detect)
117	L13	nGPCS1	Output	16M bit flash chip select
118*	L14	GPIO32	Input	(Not used)
119	M1	ADD11	Output	Processor address bus
120	M2	ADD12	Output	Processor address bus
121	M3	ADD18	Output	Processor address bus
122	M4	ADD21	Output	Processor address bus
123	M5	nDISPLAYCS	Input/Output	4 M bit SRAM/sound/screen display controller chip select
124	M6	DATA02	Input/Output	Processor data bus
125	M7	DATA04	Input/Output	Processor data bus
126	M8	DATA08	Input/Output	Processor data bus
127	M9	DATA10	Input/Output	Processor data bus
128	M10	DATA13	Input/Output	Processor data bus
129	M11	nRD	Input/Output	Processor read strobe
130	M12	nGPCS0	Output	Camera chip select
131	M13	nROMCS	Output	64 M bit flash chip select
132	M14	nRAMCS	Output	16 M bit PSRAM chip select
133	N1	ADD13	Output	Processor address bus
134	N2	ADD15	Output	Processor address bus
135	N3	ADD17	Output	Processor address bus
136	N4	ADD20	Output	Processor address bus
137	N5	VMEM2	–	Memory power supply 3 V
138	N6	DATA00	Input/Output	Processor data bus
139	N7	DATA03	Input/Output	Processor data bus
140	N8	DATA07	Input/Output	Processor data bus
141	N9	VMEM3	–	Memory power supply 3 V
142	N10	DATA12	Input/Output	Processor data bus
143	N11	DATA15	Input/Output	Processor data bus
144	N12	nHWR	Output	Processor high write strobe
145	N13	VMEM4	–	Memory power supply 3 V
146	N14	nRESET	Input	System reset input
147	P1	ADD14	Output	Processor address bus
148	P2	ADD16	Output	Processor address bus
149	P3	GND03	–	Ground (7 periphery and 4 core)
150	P4	ADD19	Output	Processor address bus
151	P5	ADD22	Output	Processor address bus
152	P6	DATA01	Input/Output	Processor data bus
153	P7	VCC2	–	Core power supply voltage 1.8 V
154	P8	DATA06	Input/Output	Processor data bus
155	P9	DATA09	Input/Output	Processor data bus
156	P10	DATA11	Input/Output	Processor data bus
157	P11	DATA14	Input/Output	Processor data bus
158	P12	GND06	–	Ground (7 periphery and 4 core)
159	P13	nLWR	Output	Processor low write strobe
160	P14	nWE	Output	Processor write strobe (nWR)

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

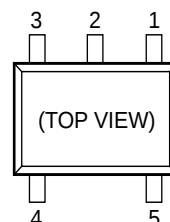
IC105, IC307 VHILM20BIM7-1L (LM20BIM7): TEMPERATURE SENSOR

Pin No.	Terminal name	Input/Output	Description of terminal
1*	NC	—	Not used
2	GND	—	Ground
3	VO	Output	Output
4	V+	Input	Input
5	GND	—	Ground

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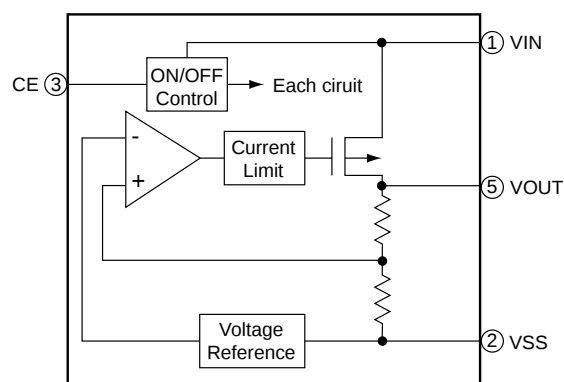
**IC107, IC108, IC110 VHITC7SZ32A-1L (TC7SZ32AFE): LOGIC**

Pin No.	Terminal name	Input/Output	Description of terminal
1	A	Input	Input
2	B	Input	Input
3	GND	—	Ground
4	Y	Output	Output
5	VCC	—	Power supply

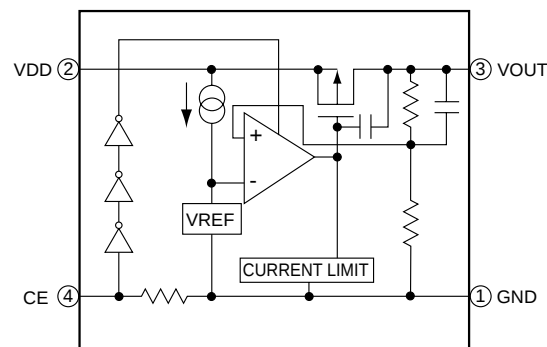
**IC201 VHIXC620925-1L (XC6209B252MR): HIGH SPEED LDO REGULATOR****IC306 VHIXC620439-1L (XC6204B392MR): HIGH SPEED LDO REGULATOR**

Pin No.	Terminal name	Input/Output	Description of terminal
1	VIN	Input	Input
2	VSS	—	Ground
3	CE	Input	Chip enable
4*	NC	—	Not used
5	VOUT	Output	Output

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

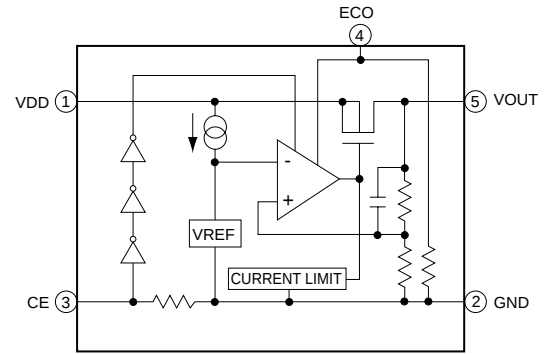
**IC203 VHIRQ5RW18B-1L (RQ5RW18B): 1.8 V REGULATOR**

Pin No.	Terminal name	Input/Output	Description of terminal
1	GND	—	Ground
2	VDD	—	Power supply
3	VOUT	Output	Output
4	CE	Input	Chip enable



IC205 VHIR116030B-1L (R1160N301B): REGULATOR

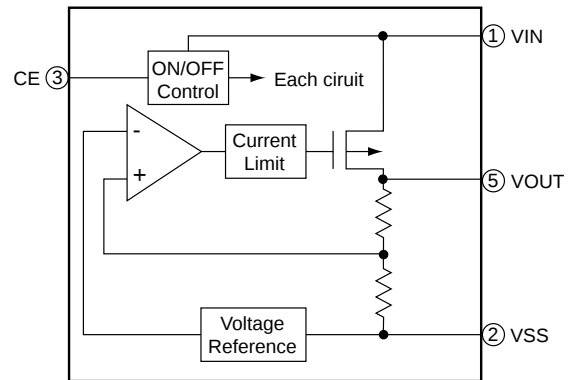
Pin No.	Terminal name	Input/Output	Description of terminal
1	VDD	Input	Input
2	GND	—	Ground
3	CE	Input	Chip enable
4	ECO	Input	High speed/low consumption selector switch
5	VOUT	Output	Output



IC302 VHIXC620930-1L (XC6209B302MR): HIGH SPEED LDO REGULATOR

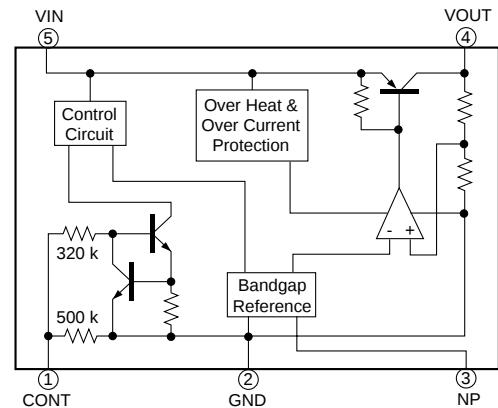
Pin No.	Terminal name	Input/Output	Description of terminal
1	VIN	Input	Input
2	VSS	—	Ground
3	CE	Input	ON/OFF Control
4*	NC	—	Not used
5	VOUT	Output	Output

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.



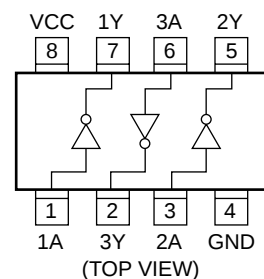
IC206 VHITK11131C-1R (TK11131C): REGULATOR

Pin No.	Terminal name	Input/Output	Description of terminal
1	CONT	Input	Control
2	GND	—	Ground
3	NP	—	Capacitor
4	VOUT	Output	Output
5	VIN	Input	Input



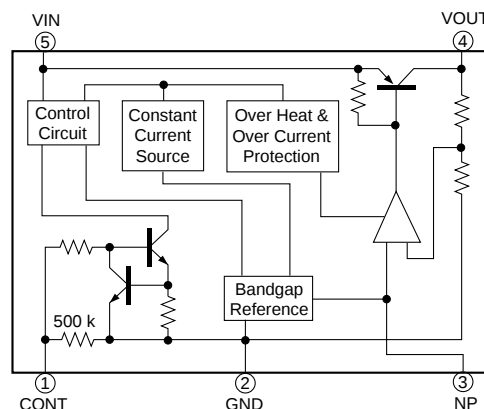
IC301 VHITC7WH04K-1R (TC7WH04FK): LOGIC

Pin No.	Terminal name	Input/Output	Description of terminal
1	1A	Input	Input 1
2	3Y	Output	Output 3
3	2A	Input	Input 2
4	GND	—	Ground
5	2Y	Output	Output 2
6	3A	Input	Input 3
7	1Y	Output	Output 1
8	VCC	—	Power supply



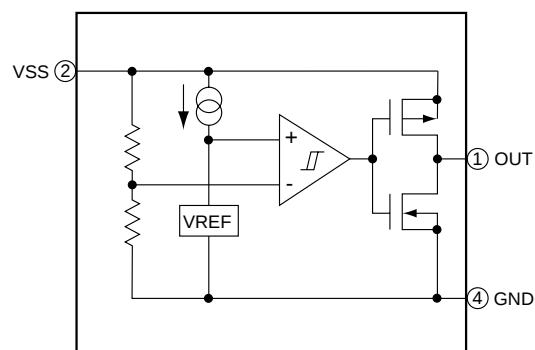
IC303, IC304 VHITK11129C-1R (TK11129CSIL): 2.9 V REGULATOR

Pin No.	Terminal name	Input/Output	Description of terminal
1	CONT	Input	Control
2	GND	—	Ground
3	NP	—	Capacitor
4	VOUT	Output	Output
5	VIN	Input	Input

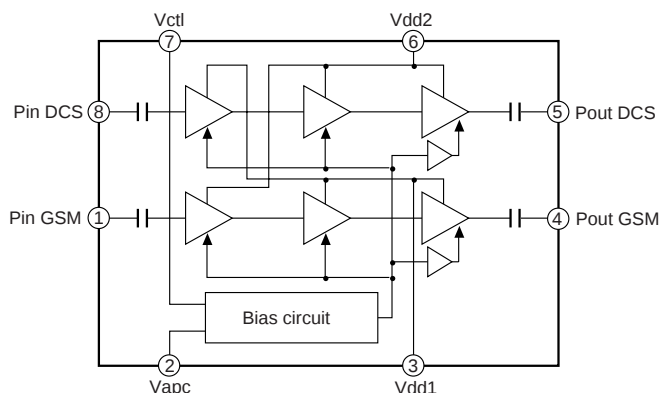
**IC305 VHIR3111Q25-1L (R3111Q251C): VOLTAGE DETECTOR**

Pin No.	Terminal name	Input/Output	Description of terminal
1	OUT	Output	Output
2	VDD	—	Power supply
3*	NC	—	Not used
4	VSS	—	Ground

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

**IC831 VHIPF08123B-1L (PF08123B): RF POWER AMP.**

Pin No.	Terminal name	Input/Output	Description of terminal
1	Pin GSM	Input	Input power from TXVCO (GSM)
2	Vapc	Input	Power control voltage from APCIC
3	Vdd1	—	Power supply
4	Pout GSM	Output	Output power (GSM)
5	Pout DCS	Output	Output power (DCS)
6	Vdd2	—	Power supply
7	Vctl	Input	Band select switch
8	Pin DCS	Input	Input power from TXVCO (DCS)
9	GND	—	Ground



IC881 VHIHD155173-1L (HD155173): AUTO POWER CONTROL

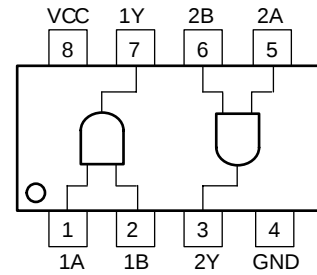
Pin No.	Terminal name	Input/Output	Description of terminal
1	VAPC1	Output	APC voltage output terminal (GSM900)
2	IN1(-)	Input	Output amp negative terminal (GSM900)
3	IN(+)	Input	Output amp positive terminal
4	VCC1	Input	Power supply
5	DACin	Input	DAC voltage input terminal
6	AMPIB	Input	DAC amp input terminal
7	AMPO	Output	DAC amp output terminal
8	Mode SW	Input	Mode switch
9	VCC2	Input	Power supply
10	PS	Input	Power save switch
11	GND2	–	Ground
12	RFin1	Input	GSM900 signal input terminal
13	RFin2	Input	DCS/PCS signal input terminal
14	GND1	–	Ground
15	IN2(-)	Input	Output amp negative terminal (DCS/PCS)
16	VAPC2	Output	APC voltage output terminal (DCS/PCS)

IC901 VHIHD155148-1L (HD155148TF): RF

Pin No.	Terminal name	Input/Output	Description of terminal
1	GNDLNA	–	Ground for LNA bias
2	VCCLNA	Input	VCC for LNA transistor and LNA bias
3	GNDDUM,GNDPCS	–	Ground for emitter of LNA transistor (PCS)
4	PCSLNAI	Input	Positive input for LNA transistor (PCS)
5	PCSLNAIB	Input	Negative input for LNA transistor (PCS)
6	GNDPCSB,GNDDCS	–	Ground for emitter of LNA transistor (PCS,DCS)
7	DCSLNAI	Input	Positive input for LNA transistor (DCS)
8	DCSLNAIB	Input	Negative input for LNA transistor (DCS)
9	GNDDCSB,GNDDGSM	–	Ground for emitter of LNA transistor (DCS,GSM)
10	GSMLNAI	Input	Positive input for LNA transistor (GSM)
11	GSMLNAIB	Input	Negative input for LNA transistor (GSM)
12	GNDGSMB,GNDDUM	–	Ground for emitter of LNA transistor (GSM)
13	VCCLNA	Input	VCC for LNA transistor and LNA bias
14	GNDOPLL	–	Ground for OPLL
15	VCOIN	Input	TXVCO signal input
16	VCCOPLL	Input	VCC for OPLL and phase comparator
17	PLLOUT	Output	Current output to control and modulate TXVCO
18	VCCIQ/ADDAC	Input	VCC for IQ modulator and offset canceling AD/DAC
19	GNDIQ/ADDAC	–	Ground for IQ modulator and offset canceling AD/DAC
20	IINB	Input	Negative input of I signal for modulator
21	IIN	Input	Positive input of I signal for modulator
22	QINB	Input	Negative input of Q signal for modulator
23	QIN	Input	Positive input of Q signal for modulator
24	QOUTB	Output	Negative output of Q channel
25	QOUT	Output	Positive output of Q channel
26	IOUTB	Output	Negative output of I channel
27	IOUT	Output	Positive output of I channel
28	VCCIFVCO	Input	VCC for IFVCO and IFVCO buffer and divider
29	GNDIFVCO	–	Ground for IFVCO buffer and divider
30	VCCOSC	Input	VCC for IFVCO
31	TCXOCONT	–	TCXOOUT frequency (GND: 26 MHz/VCC: 13 MHz)
32	VCCIFSYN	Input	VCC for IF synthesizer and TCXOOUT buffer (13 MHz/26 MHz)
33	CPIFSYN	Output	Charge pump output of IF synthesizer
34	GNDIFSYN	–	Ground for IF synthesizer and TCXOOUT buffer (13 MHz/26 MHz)
35	LE	Input	Load enable for serial data
36	TCXOOUT	Output	TCXO output for base band
37	CLK	Input	Clock for serial data
38	TCXOIN	Input	TCXO input for IF and RF synthesizer
39	SDATA	Input	Serial data
40	GNDRFSYN	–	Ground for RF synthesizer and TCXO input buffer (26 MHz)
41	VCCRFSYN	Input	VCC for RF synthesizer and TCXO input buffer (26 MHz)
42	BANDSW	Output	Band select or frequency select switch for RFVCO
43	FLOCK	Output	Fast lock control for RF synthesizer
44	CPRFSYN	Output	Charge pump output of RF synthesizer
45	GNDBB	–	Ground for base band
46	VCCBB	Input	VCC for base band
47	VCCRFLO	Input	VCC for RF local buffer and divider
48	GNDRFLO	–	Ground for RF local buffer and divider
49	RFLOINB	Input	Negative input for RF local
50	RFLOINB	Input	Positive input for RF local
51	GNDMIX	–	Ground for direct conversion mixer
52	CAPQB	Output	Capacitor for Q channel LPF (Negative output)
53	CAPQ	Output	Capacitor for Q channel LPF (Positive output)
54	CAPIB	Output	Capacitor for I channel LPF (Negative output)
55	CAP I	Output	Capacitor for I channel LPF (Positive output)
56	VCCMIX	Input	VCC for direct conversion mixer

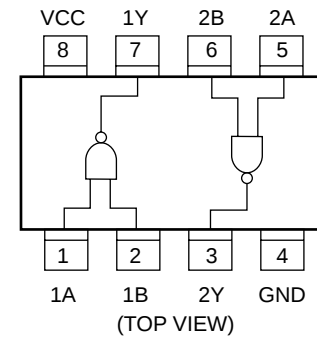
IC991, IC993 VHINL27WZ08-1R (NL27WZ08): LOGIC

Pin No.	Terminal name	Input/Output	Description of terminal
1	1A	Input	Input 1
2	1B	Input	Input 1
3	2Y	Output	Output 2
4	GND	–	Ground
5	2A	Input	Input 2
6	2B	Input	Input 2
7	1Y	Output	Output 1
8	VCC	–	Power supply



IC992 VHITC7W00FK-1R (TC7W00FK): LOGIC

Pin No.	Terminal name	Input/Output	Description of terminal
1	1A	Input	Input 1
2	1B	Input	Input 1
3	2Y	Output	Output 2
4	GND	–	Ground
5	2A	Input	Input 2
6	2B	Input	Input 2
7	1Y	Output	Output 1
8	VCC	–	Power supply



— MEMO —

SHARP PARTS GUIDE

DIGITAL MOBILE PHONE

MODEL GX13

(INTERNAL MODEL NAME: TQ-GX13)

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. No.3. 3. PART NO. 4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

Explanation of capacitors/resistors parts codes

Capacitors

VCC Ceramic type
 VCK Ceramic type
 VCT Semiconductor type
 VC •• MF Cylindrical type (without lead wire)
 VC •• MN Cylindrical type (without lead wire)
 VC •• TV Square type (without lead wire)
 VC •• TQ Square type (without lead wire)
 VC •• CY Square type (without lead wire)
 VC •• CZ Square type (without lead wire)
 VC J .. The 13th character represents capacity difference.
 ("J" $\pm 5\%$, "K" $\pm 10\%$, "M" $\pm 20\%$, "N" $\pm 30\%$,
 "C" ± 0.25 pF, "D" ± 0.5 pF, "Z" $+80-20\%$.)

If there are no indications for the electrolytic capacitors, error is $\pm 20\%$.

Resistors

VRD Carbon-film type
 VRS Carbon-film type
 VRN Metal-film type
 VR •• MF Cylindrical type (without lead wire)
 VR •• MN Cylindrical type (without lead wire)
 VR •• TV Square type (without lead wire)
 VR •• TQ Square type (without lead wire)
 VR •• CY Square type (without lead wire)
 VR •• CZ Square type (without lead wire)
 VR J .. The 13th character represents error.
 ("J" $\pm 5\%$, "F" $\pm 1\%$, "D" $\pm 0.5\%$.)

If there are no indications for other parts, the resistors are $\pm 5\%$ carbon-film type.

NOTE:

Parts marked with "⚠" are important for maintaining the safety of the set.

Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

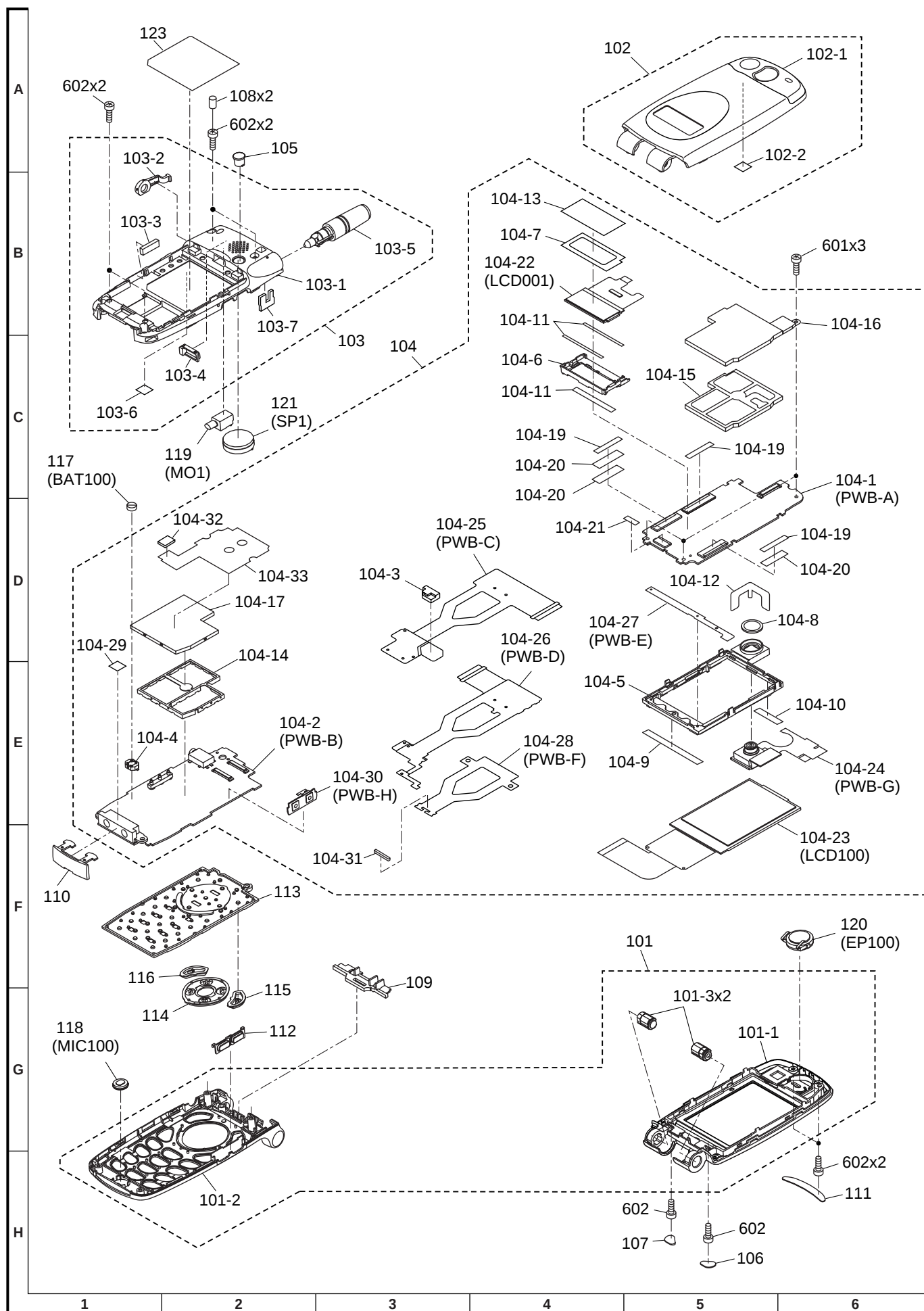
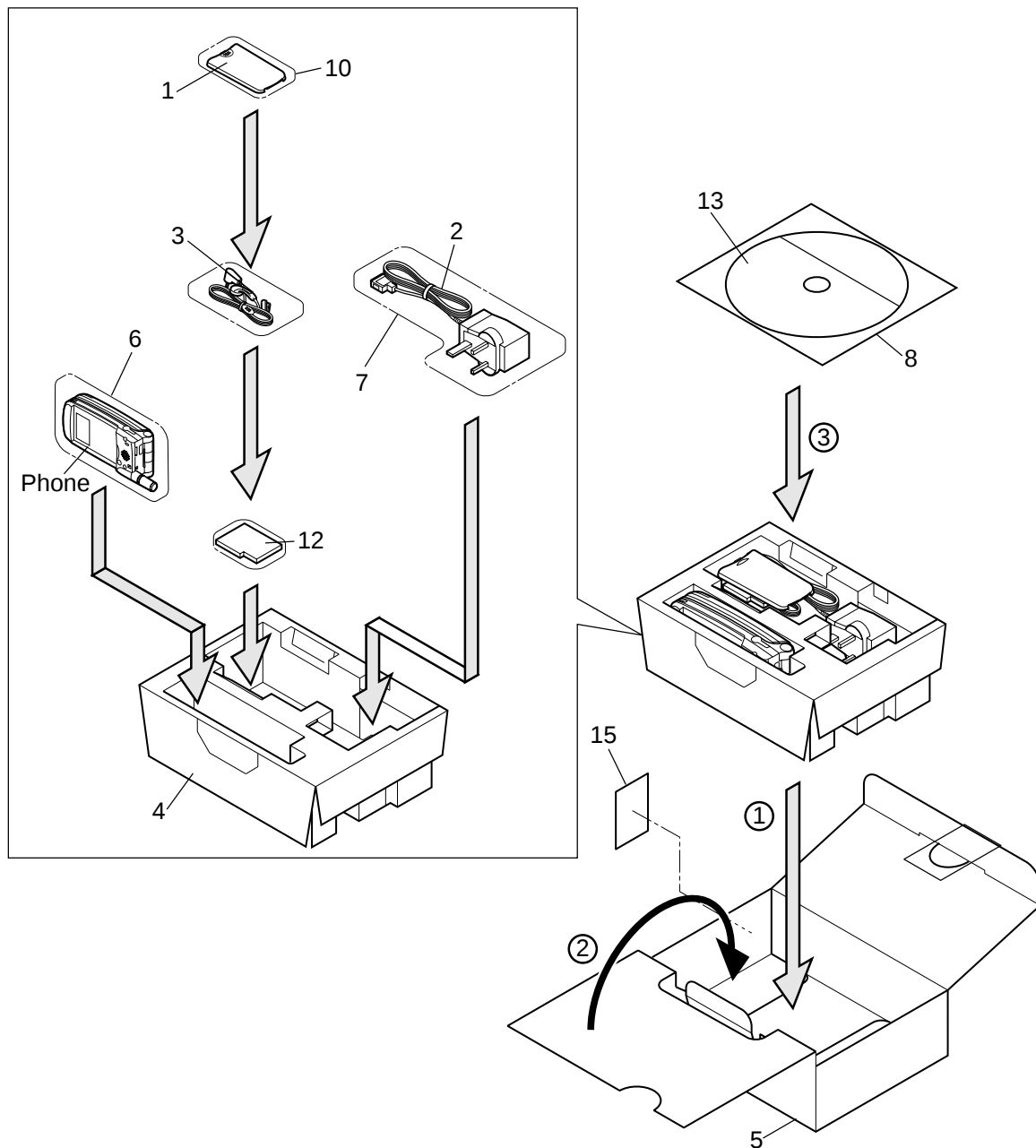


Figure 1 CABINET EXPLODED VIEW

Packing method

- | | | | |
|--------------------|------------------------|---------------------|---------------------------------|
| 1. GFTAB1396AFSA | Cover, Battery | 7. SPAKP1252AFZZ | Polyethylene Bag, AC Charger |
| △ 2. RADPT7203AF01 | AC Charger | 8. SSAKA0233AFZZ | Polyethylene Bag, CD-ROM |
| 3. RUNTZ0817AFZZ | Hands free | 10. SSAKH0329AFZZ | Polyethylene Bag, Battery Cover |
| 4. SPAKA2802AFZZ | Packing Add | △ 12. UBATI0130AF01 | Rechargeable Li-ion battery |
| 5. SPAKC7675AFZZ | Packing Case | 13. UDSKA0021AF01 | CD-ROM |
| 6. SPAKP1284AFZZ | Polyethylene Bag, Unit | 15. TSPC-4152AFZZ | Label, Case |



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