



SERVICE MANUAL

CORDLESS TELEPHONE

This Service Manual does not include IC BLOCK DIAGRAM, IC DESCRIPTION and "ADJUSTMENT". These items will be issued in the next Supplement.

aiwa

S/M Code No. 09-007-347-7N1



SPECIFICATIONS

OPERATING FREQUENCIES

	Base	Handset
Transmit Frequency	43-46MHz	43-49MHz
Receive Frequency	48-49MHz	43-46MHz

GENERAL

Pulse Mode Dialing Rate	10 PPS
Pause Entry Delay	Approximately 3 Seconds
Interdigital Pause	700 ms
Redial Memory Capacity	32 Digits
Power Requirements	
Base	115/230V AC, 50/60Hz
Handset	+12 V DC
Weight	3.6V DC (Nickel-Cadmium Battery)
Base	315 g (11 oz.)
Handset (Battery not included)	150 g (5.3 oz.)
Measurements	
Base	128 (W) x 46 (D) x 222(H) mm
(Antenna not included)	(5 ¹ / ₈ x 1 ³ / ₁₆ x 8 ³ / ₄ in.)
Antenna length	691.5 mm (27 ¹ / ₄ in.)
Handset	55 (W) x 44 (D) x 183 (H) mm
(Antenna not included)	(2 ¹ / ₄ x 1 ³ / ₄ x 7 ¹ / ₄ in.)
Antenna length	190 mm (7 ¹ / ₂ in.)
Battery Life (Handset)	Standby: 10 days
	Talk: 10 hours
Frequency	43/49 MHz
Modulation	FM
Security Code	65K Random

- Design and specifications are subject to change without notice.

ACCESSORIES LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください
If can't understand for Description please kindly refer to "REFERENCE NAME

REF.NO	PART NO.	KANRI NO.	DESCRIPTION
1	SA-PC5-910-100		INSTRUCTION BOOK (AHJ/LH/HR-E)
1	SA-PC5-910-200		INSTRUCTION BOOK (AHR-CH) <ALHB>
1	SA-PC5-910-300		INSTRUCTION BOOK (ALH, P-C137) <ALHB>
1	SA-PC5-910-400		INSTRUCTION BOOK (AHR-CH) <EXCEPT ALHB>
2	S0-112-220-000		APA EI41IEC 300MA/DO 115/230V<EXCEPT ALHB>
2	S0-212-090-000		APD-EI35 115/230VAC<ALHB>
3	S4-360-070-010		BATT, IN-CD 3.6V
4	S0-000-010-010		TELCORD-ST2USUS2.2UL TRANSPARE
5	S0-220-117-040		CONVERTOR 220V-117V

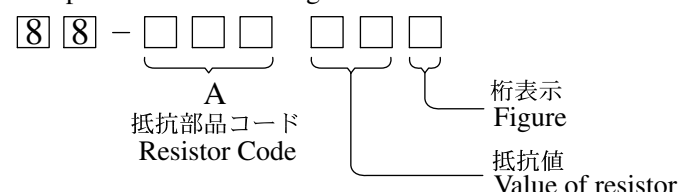
ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は"REFERENCE NAME LIST"を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC							
	S9-187-400-200	IC, TMP87C405M-1K46		L501	87-005-696-080		INDUCTOR 100UH
	S9-187-400-190	IC, TMP87C405M-1H35		L502	87-005-696-080		INDUCTOR 100UH
	S2-309-024-040	IC, LTV817C		L503	S0-100-140-020		COIL, 100UH
	88-PCD-605-010	IC, TB31224F		L504	S0-106-862-000		COIL, 68UH
	S8-474-200-0A0	IC, TC74VHC20FT/SN74LV20A(PW)		L505	S0-106-862-000		COIL, 68UH
TRANSISTOR							
	SA-038-800-250	C-TR, KTC3880Y		LED101	87-070-106-010		LED, SE3001DT RED
	87-026-699-080	C-TR, MMBT3906		LED103	87-070-106-010		LED, SE3001DT RED
	S3-146-319-525	TR, KTC3195Y		RY201	S0-807-000-000		REED RELAY 8V
	S8-901-400-030	TR, KTC9014C		SCR201	S3-910-900-010		VARISTOR 390V
	SA-039-040-000	C-TR, MMBT3904		SFR301	S1-040-851-030		SFR, 100K
	89-327-143-010	C-TR, 2SC2714Y		SW101	S1-210-611-030		SW, SLIDE 1P2T
	SA-039-060-010	C-TR, SST3906		SW102	S0-211-102-000		SW, TACT 4P 4.3MM
	89-318-154-010	TR, 2SC1815-BL		ΔT201	S1-919-020-000		AUDIO TRANSFORMER EI-19<ALHB>
				ΔT201	S2-424-010-000		PT, AUDIO EI-24<EXCEPT ALHB>
				X101	S6-004-000-000		CER, RESO 4MHZ CSA4.00MG
				X301	S6-102-402-000		X'TAL, 10.24MHZ
DIODE							
	82-135-799-010	DIODE, IN4148		HANDSET RF C.B			
	S0-100-511-200	ZENER, IN-5231B		C6	87-010-075-040		CAP, E 10-16V
	S0-401-810-000	C-DIODE, 1SS181		C12	87-010-075-040		CAP, E 10-16V
	S0-401-840-000	C-DIODE, 1SS184		C15	87-010-380-010		CAP, E 47-16V
	87-027-513-010	ZENER, IN5232B 5.6V1/2W		C16	87-010-072-070		CAP, E 2.2-50V
	87-017-781-080	RECTIFIER IN-4004		C19	87-010-545-010		ELECT CAP 0.22-50V
	S0-103-301-210	ZENER, IN-5257B 33V		C24	87-015-716-010		CAP, E 22-16V
	S0-100-621-250	ZENER, IN-5234B 6.2V		C30	87-010-072-070		CAP, E 2.2-50V
	87-A40-226-080	DIODE, SVC251SPA		C33	87-010-380-010		CAP, E 47-16V
	S0-240-010-000	RECTIFIER IN-4001B		C47	87-010-380-010		CAP, E 47-16V
				C58	87-015-716-010		CAP, E 22-16V
BASE C.B							
	BPF301	S3-DPX-250-050	DUPLEXER 43/49MHZ	C65	87-010-072-070		CAP, E 2.2-50V
	BPF302	S0-001-070-290	CER, FILTER L10.7MS2-A	DX2	S3-DPX-250-040		DUPLEXER 43/49MHZ
	BPF303	S0-004-550-060	CER, FILTER LTW33-455D	IFT1	S0-003-220-070		IFT, KL322N 7MM
	C105	87-010-380-010	CAP, E 47-16V	IFT2	S0-075-600-070		IFT, 7MM 455KHZ
	C201	S0-102-115-000	CAP, CER 0.001UF-500V<ALHB>	IFT3	S0-003-260-070		IFT, KL326F 7.7MM
	C201	87-012-397-080	CAP, CER 1000PF-2000V<EXCEPT ALHB>	IFT5	S0-002-720-070		IFT, 7.7MM 0.27UH
	C202	S0-102-115-000	CAP, CER 0.001UF-500V<ALHB>	J1	S1-300-231-500		CONN, 13P 1.5MM
	C202	87-012-397-080	CAP, CER 1000PF-2000V<EXCEPT ALHB>	L2	87-003-133-010		COIL, 0.22UH
	C203	S1-474-102-500	CAP, M 0.47-250V	L3	S0-104-782-010		COIL, 0.47UH
	C206	87-010-494-010	CAP, E 1-50V<ALHB>	L4	S0-102-782-010		COIL, 0.27UH
	C315	87-010-037-010	CAP, E 10-50V	L5	87-A50-375-010		INDUCTOR 1UH 2.3-3.4
	C317	87-010-035-010	CAP, E 2.2-50V	T1	S0-004-550-060		CER, FILTER LTW33-455D
	C330	87-010-035-010	CAP, E 2.2-50V	X1	S6-102-402-000		X'TAL, 10.24MHZ
	C331	87-010-037-010	CAP, E 10-50V	X2	S0-001-070-290		CER, FILTER L10.7MS2-A
	C334	87-010-035-010	CAP, E 2.2-50V	HANDSET FRONT C.B			
	C339	87-010-037-010	CAP, E 10-50V	BATT1	SB-2BE-HA0-200		HEADER JST 2PIN
	C361	87-010-037-010	CAP, E 10-50V	C2	87-010-075-040		CAP, E 10-16V
	C376	87-010-045-010	CAP, E 100-25V	C3	87-010-380-010		CAP, E 47-16V
	C377	87-010-037-010	CAP, E 10-50V	C5	87-010-075-040		CAP, E 10-16V
	C379	87-010-045-010	CAP, E 100-25V	C10	87-010-075-040		CAP, E 10-16V
	C501	87-010-387-080	CAP, E 470-25V	C14	87-010-077-070		CAP, E 33-10V
	C503	87-010-380-010	CAP, E 47-16V	L1	87-005-696-080		COIL, 100UH
	C505	87-010-037-010	CAP, E 10-50V	LED1	S0-321-610-010		C-LED, 3.2-1.6 (RED)
	C506	87-010-045-010	CAP, E 100-25V	LED2	87-070-106-010		LED, SE3001DT RED
	J201	S0-022-020-000	JACK, TEL MINI L/P 6P2C	P1	S0-301-500-020		DYNAMIC RECEIVER 28-7.5
	J501	S1-004-700-020	JACK, POWER DC470/MSC	P2	S0-301-500-020		DYNAMIC RECEIVER 28-7.5
	L101	S0-100-140-020	COIL, 100UH	X1	S6-004-000-000		CER, RESO 4MHZ CSA4.00MG
	L301	87-005-166-010	COIL, 1.2UH	ZENER DIODE C.B			
	L302	S0-103-982-010	COIL, 0.39UH				
	L303	S0-009-300-090	IFT, KY930RC 9MM				
	L304	S0-003-230-070	IFT, KL323N 7MM				
	L305	87-003-147-010	COIL, 22UH				
	L306	S0-002-810-070	IFT, KL281F 7.7MM				
	L307	S0-103-372-010	COIL, 3.3UH				
	L308	S0-003-220-070	IFT, KL322N 7MM				
	L309	S0-075-600-070	IFT, 7MM 455KHZ				
	L310	S0-106-862-000	COIL, 68UH				

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗 Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法/Dimensions (mm)			抵抗コード : A	
				外形/Form	L	W	t	Resistor Code : A
1/16W	1005	±5%	CJ		1.0	0.5	0.35	104
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



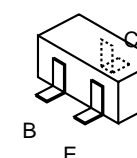
E C B
2SC1815



E B C
KTC9014

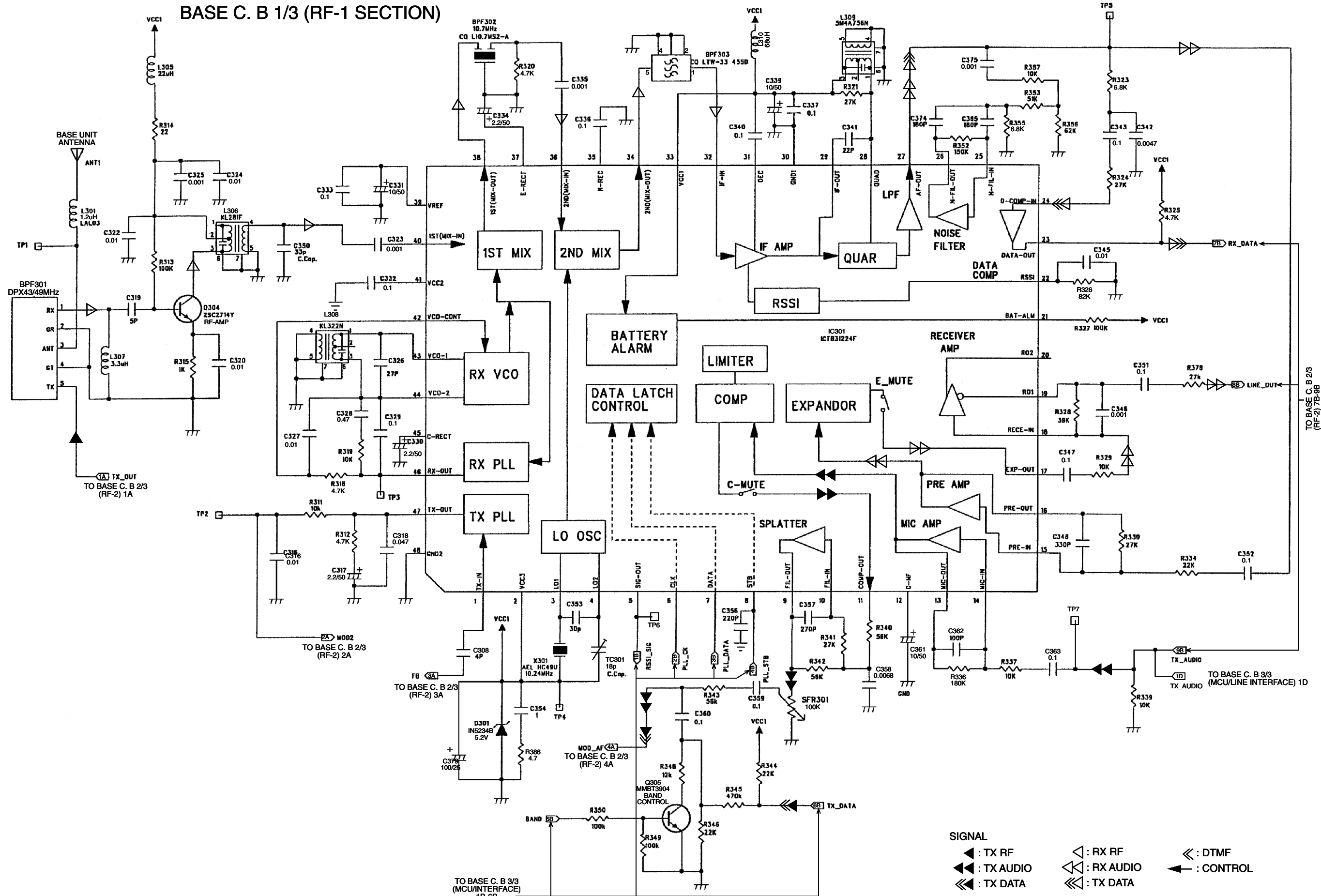


E C B
KTC3195



B E C
2SC2714
KTC3880
MMBT3904
MMBT3906
SST3906

BASE C. B 1/3 (RF-1 SECTION)



SIGNAL

- ◀ : TX RF
- ◀◀ : TX AUDIO
- ◀◀◀ : TX DATA
- ◀ : RX RF
- ◀◀ : RX AUDIO
- ◀◀◀ : TX DATA
- ← : DTMF
- ← : CONTROL

VOLTAGE CHART-1

IC301 IC, TB31224F

Pin No.	DC Characteristic		Pin No.	DC Characteristic	
	STANDBY	TALK		STANDBY	TALK
1	4.93	4.93	25	0.68	0.64
2	4.93	4.93	26	0.71	0.78
3	4.88	4.88	27	0.71	0.55
4	4.58	4.58	28	4.97	4.95
5	4.93	0.11	29	4.07	4.05
6	0	0	30	0	0
7	0	0	31	4.58	4.57
8	0	0	32	4.58	4.57
9	1.50	1.47	33	4.97	4.95
10	1.48	1.46	34	3.64	3.60
11	1.48	1.47	35	1.37	0.10
12	1.48	1.47	36	0.95	0.95
13	1.48	1.48	37	1.22	0.64
14	1.48	1.48	38	3.54	3.59
15	1.48	1.48	39	1.48	1.48
16	1.48	1.48	40	1.00	1.03
17	1.48	1.48	41	2.07	2.07
18	1.25	1.25	42	2.48	2.48
19	1.25	1.24	43	4.97	4.95
20	1.25	1.25	44	4.97	4.95
21	0	0	45	0.65	0.90
22	0.49	1.58	46	2.48	2.49
23	2.48	2.83~4.93	47	4.95	1.87
24	0.67	0.67	48	0	0

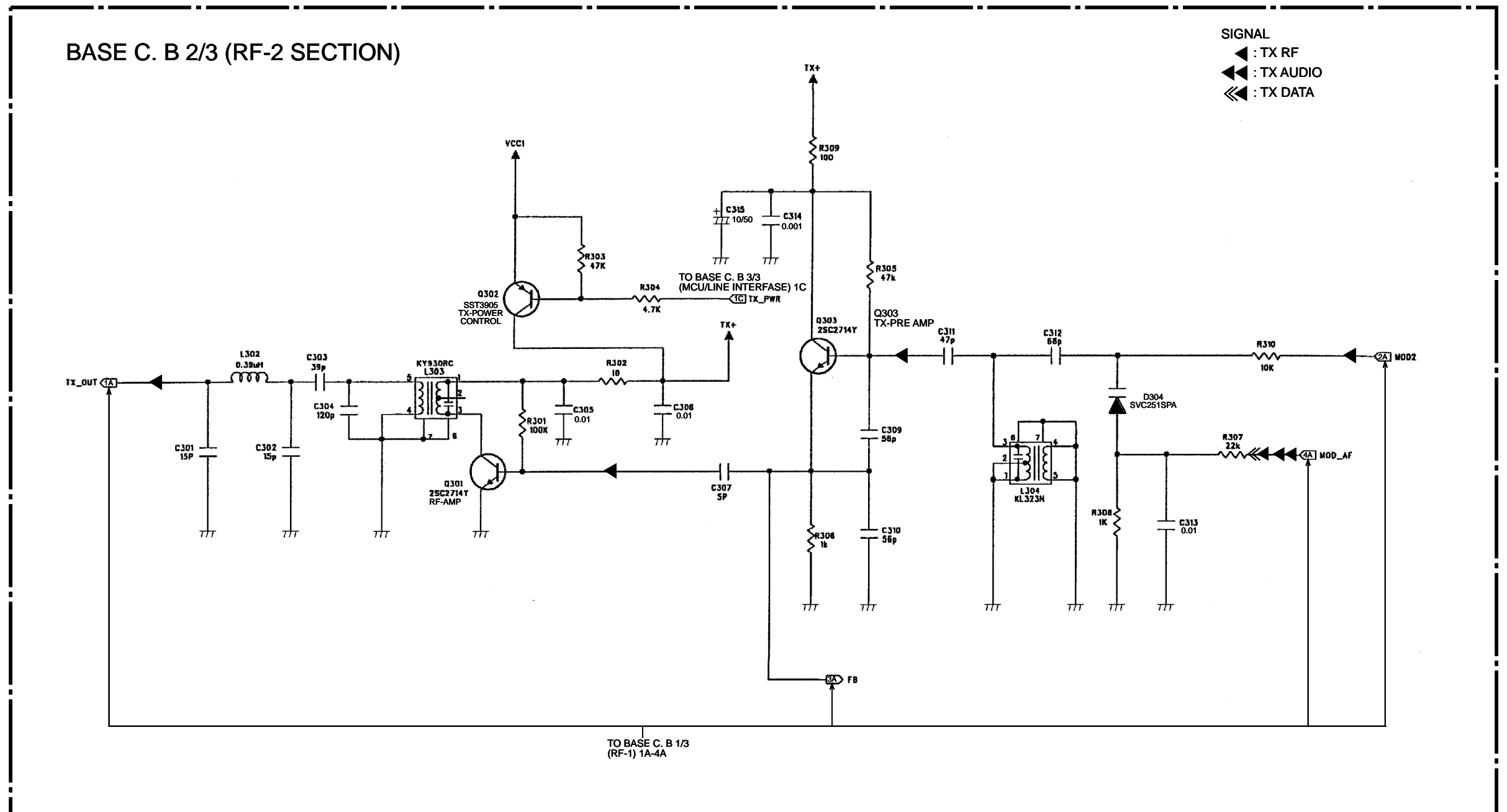
IC101 IC, TMP87C405M-1H35

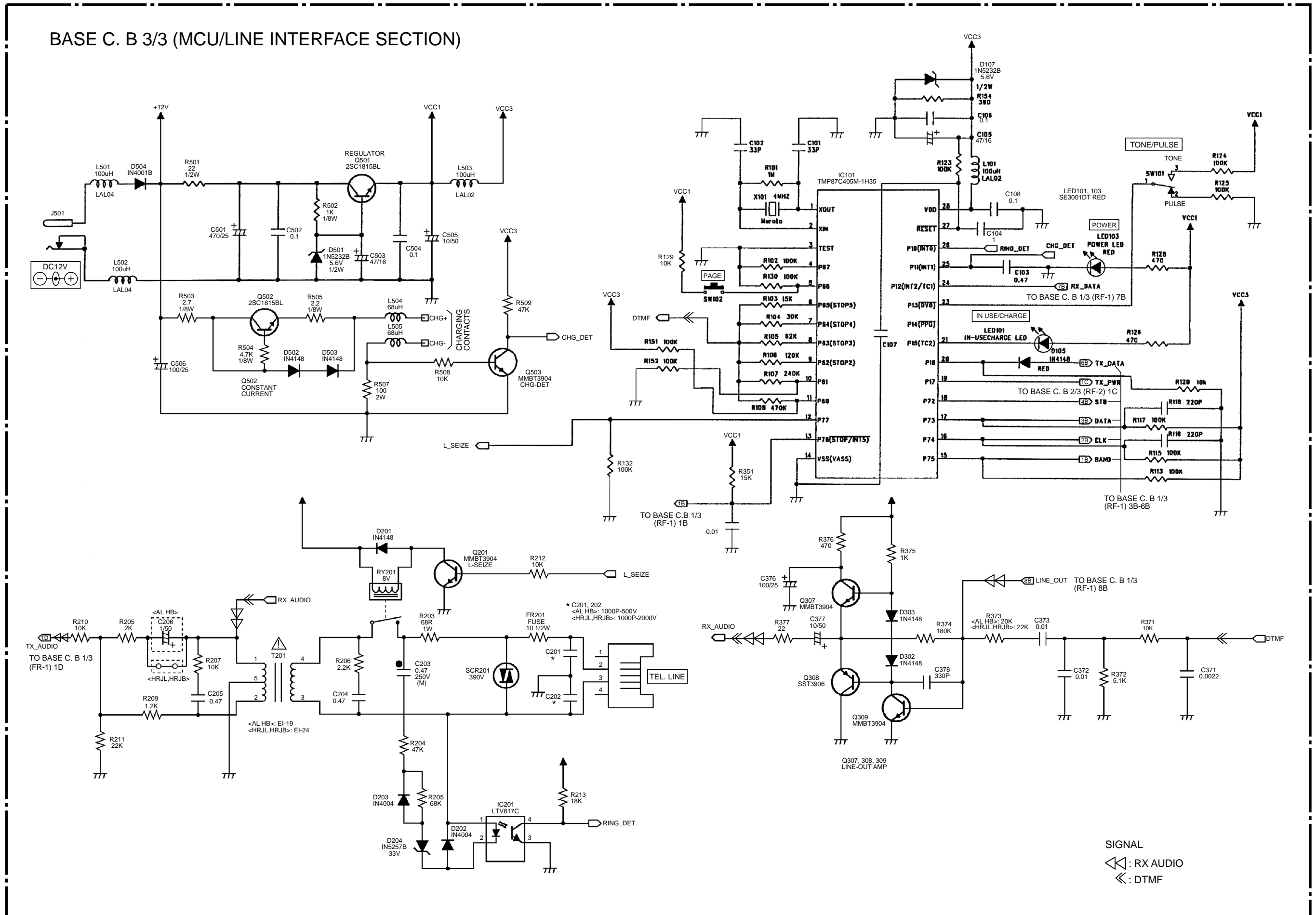
Pin No.	DC Characteristic		Pin No.	DC Characteristic	
	STANDBY	TALK		STANDBY	TALK
1	2.11	2.10	15	4.81	4.78
2	2.01	2.00	16	0.14	0
3	0	0	17	0.18	0
4	4.81	4.78	18	0	0
5	0	0	19	4.82	0
6	0	0	20	0	0
7	0	0	21	4.82	0.30
8	0	0	22	0	0
9	0	0	23	4.92	4.91
10	0	0	24	2.48	2.48
11	0	0	25	4.82	4.80
12	0.00	4.74	26	4.82	4.80
13	4.95	0.11	27	4.80	4.78
14	0	0	28	4.82	4.80

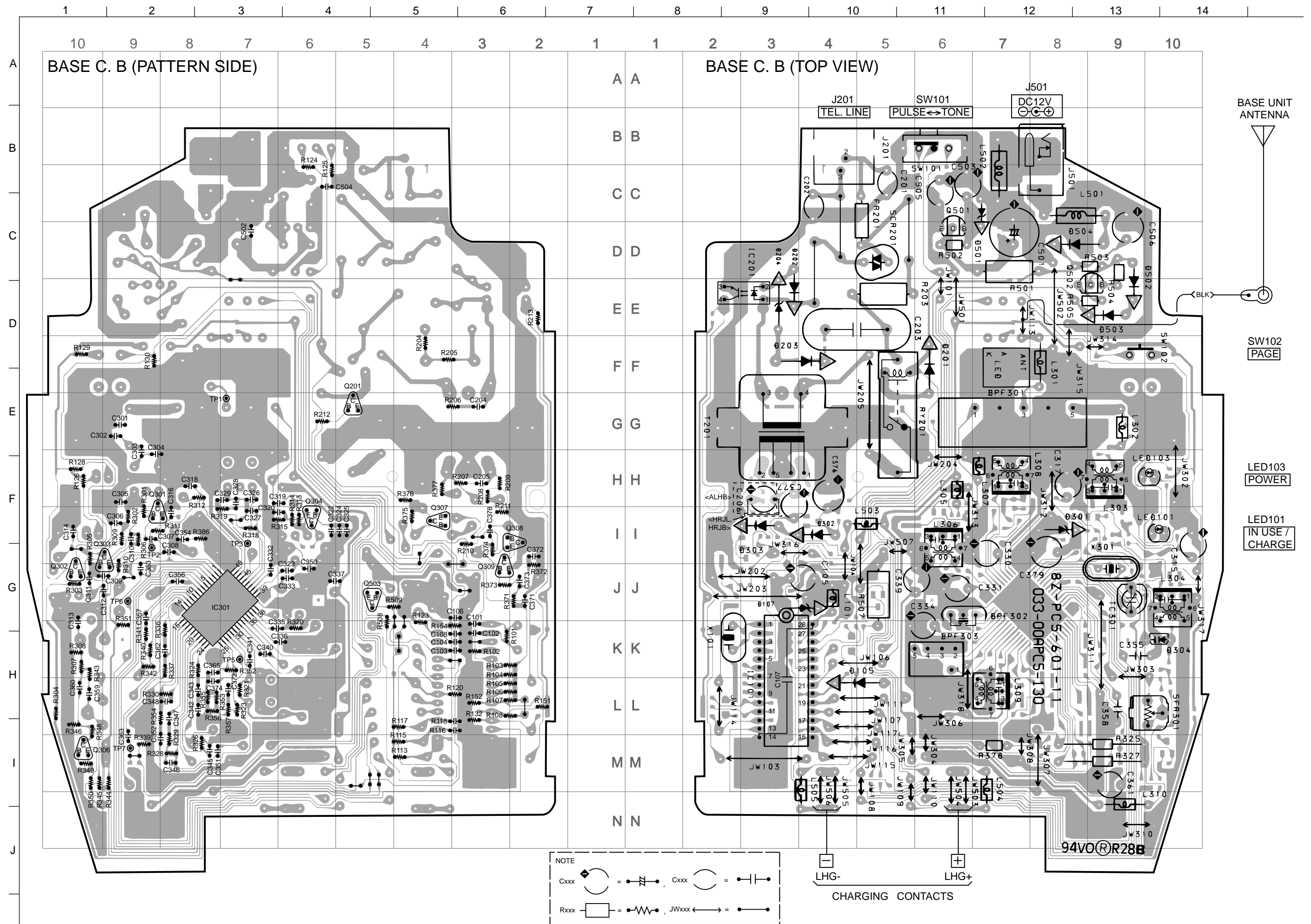
Pin No.	DC Characteristic	
	STANDBY	TALK
1	0.03	0.03
2	0	0
3	0	0
4	4.81	4.79

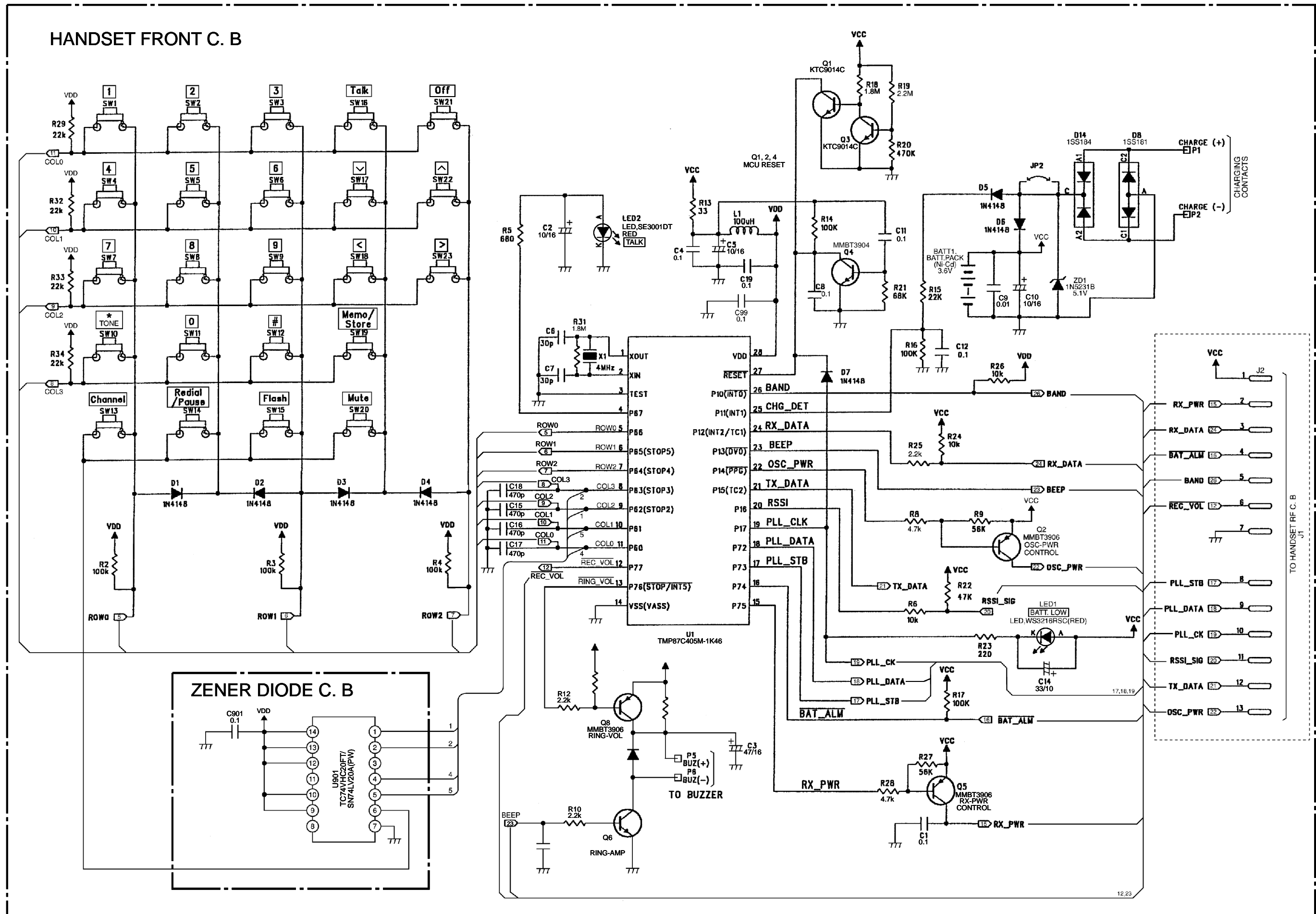
TRANSISTORS

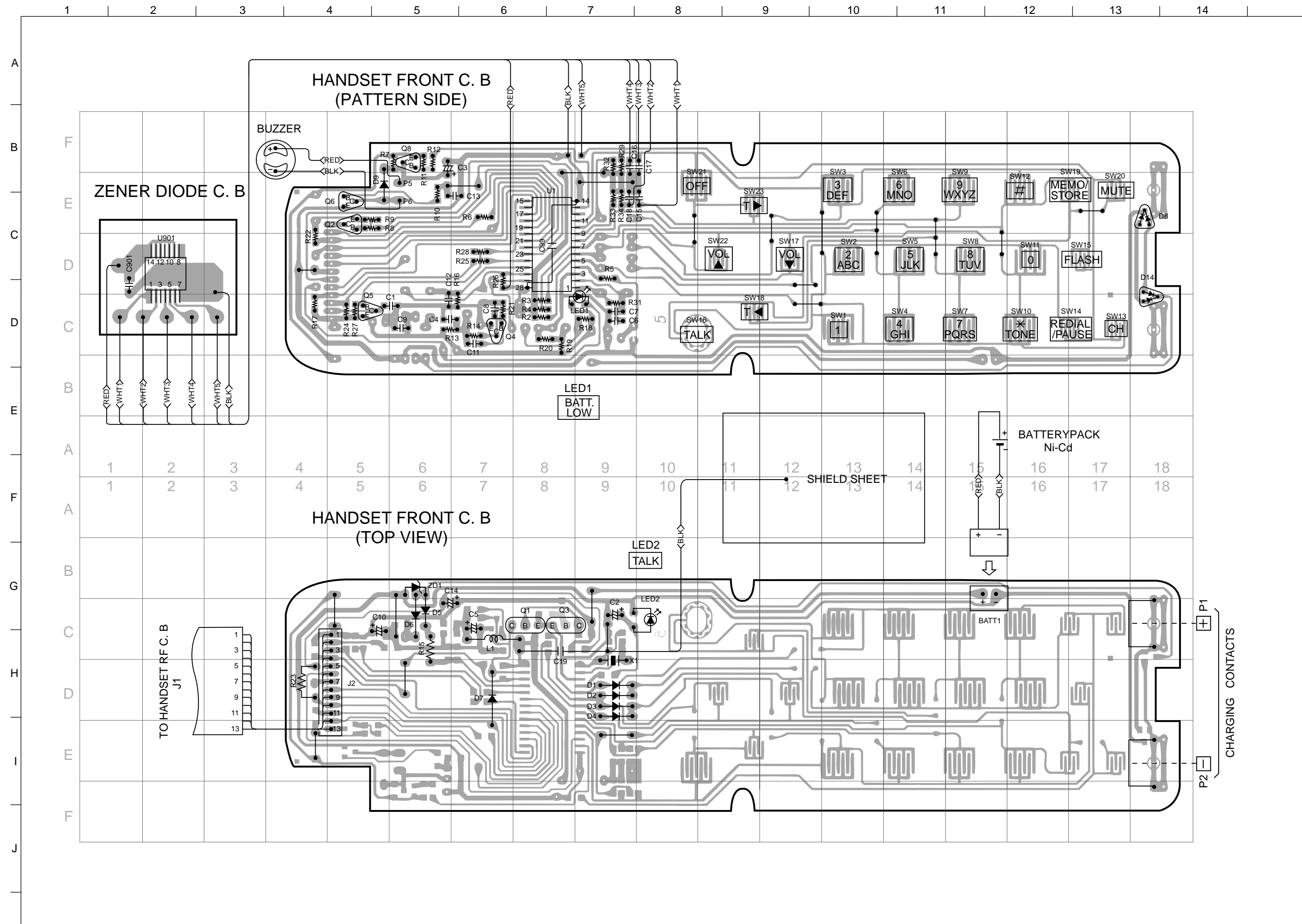
Location	Pin Name	STANDBY	TALK
Q201	C	14.50	0.15
	B	0	0.74
	E	0	0
Q301	C	0.22	4.85
	B	0.20	0.61
	E	0	0
Q302	C	0.30	4.90
	B	4.83	4.21
	E	4.97	4.95
Q303	C	0.30	4.64
	B	0.28	3.19
	E	0	2.72
Q304	C	4.91	4.89
	B	3.16	3.14
	E	2.46	2.45
Q306	C	0.04	0.04
	B	0.56	0.56
	E	0	0
Q307	C	10.98	10.22
	B	6.02	5.64
	E	5.35	4.97
Q308	C	0	0
	B	4.72	4.30
	E	5.40	4.97
Q309	C	4.73	4.36
	B	0.68	0.68
	E	0	0
Q501	C	13.46	11.95
	B	5.60	5.60
	E	4.96	4.95
Q502	C	14.60	13.30
	B	14.55	13.30
	E	14.01	12.95
Q503	C	4.80	4.79
	B	0	0
	E	0	0



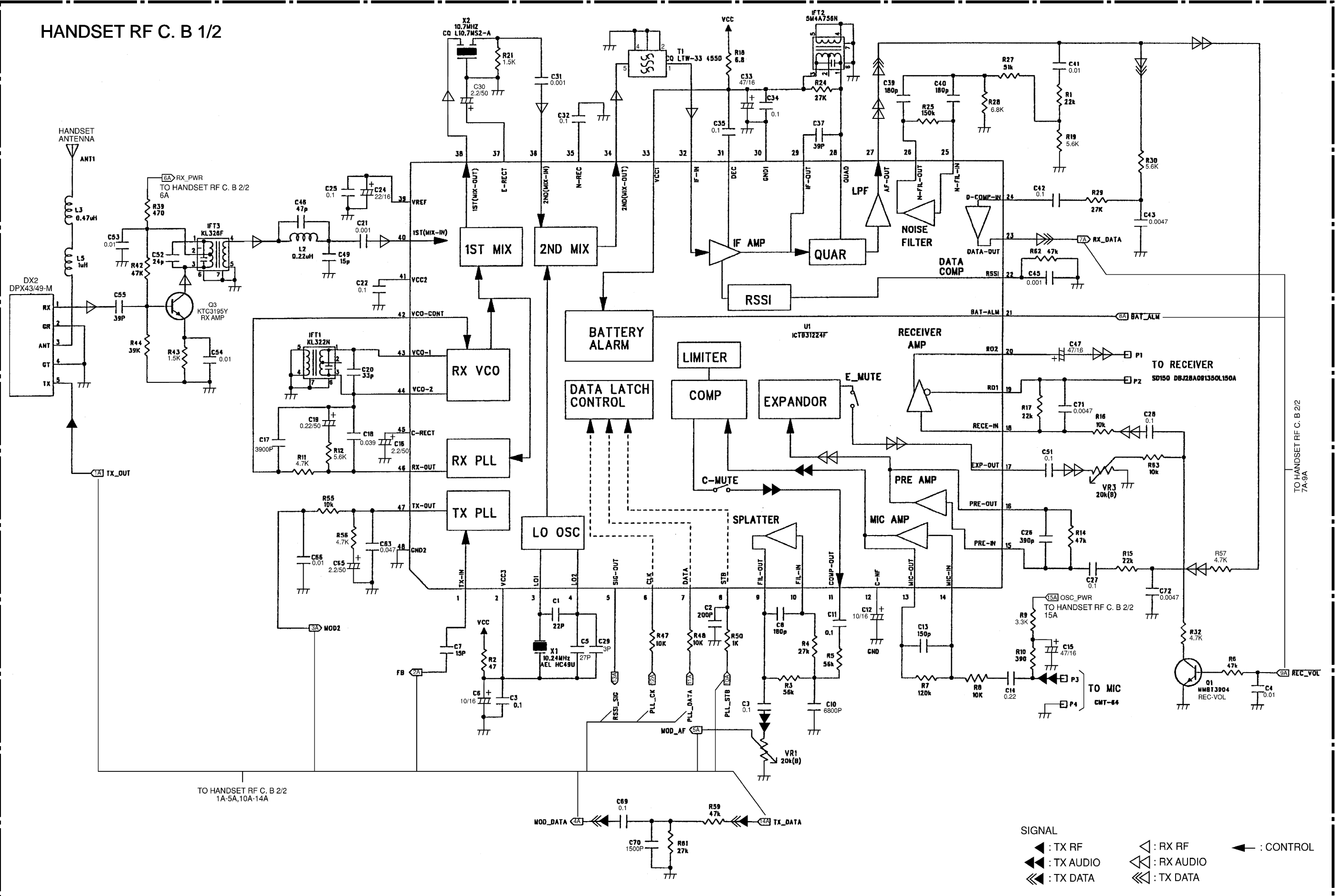








HANDSET RF C. B 1/2



SIGNAL
 ◀ : TX RF ◀ : RX RF
 ◀◀ : TX AUDIO ◀◀ : RX AUDIO
 ◀◀◀ : TX DATA ◀◀◀ : RX DATA
 ← : CONTROL

VOLTAGE CHART-2

U1 IC, TB31224F

Pin No.	DC Characteristic		Pin No.	DC Characteristic	
	STANDBY	TALK		STANDBY	TALK
1	3.80	3.62	25	0	0.43
2	3.80	3.62	26	0	1.65
3	0	3.56	27	0	0.85
4	0	3.21	28	3.82	3.67
5	3.79	0	29	3.24	2.79
6	3.77	0.60	30	0	0
7	0	0	31	0	3.30
8	0	0	32	3.80	3.30
9	0	1.42	33	3.82	3.82
10	0	1.41	34	2.86	2.86
11	0.93	1.39	35	0	0
12	0.90	1.46	36	0	0.94
13	0.99	1.49	37	0.34	0.68
14	1.01	1.49	38	2.84	2.48
15	0	1.45	39	0.40	1.46
16	0	1.45	40	0	1.01
17	0	1.46	41	0.3~1.6	2.09
18	0	1.23	42	0.7~2.3	2.26
19	0	1.23	43	3.80	3.66
20	0	1.23	44	3.82	3.66
21	0	0	45	0.16	0.65
22	0	0.16	46	0.7~2.2	2.26
23	3.81	1.5~3.7	47	1.20	1.69
24	0	0.67	48	0	0

U1 IC, TMP87C405M-1K46

Pin No.	DC Characteristic		Pin No.	DC Characteristic	
	STANDBY	TALK		STANDBY	TALK
1	1.59	1.51	15	3.79	0.04
2	1.47	1.39	16	0	0
3	0	0	17	0	0
4	0	3.28	18	0	0
5	3.74	3.57	19	3.78	3.59
6	3.74	3.57	20	3.80	0.00
7	3.74	3.57	21	3.78	3.59
8	3.78	3.23	22	3.79	0
9	3.78	3.23	23	0	0
10	3.78	3.24	24	3.81	1.6~3.3
11	0	1.25	25	0	0
12	0	0	26	2.79	3.57
13	3.81	3.60	27	3.76	3.58
14	0	0	28	3.80	3.81

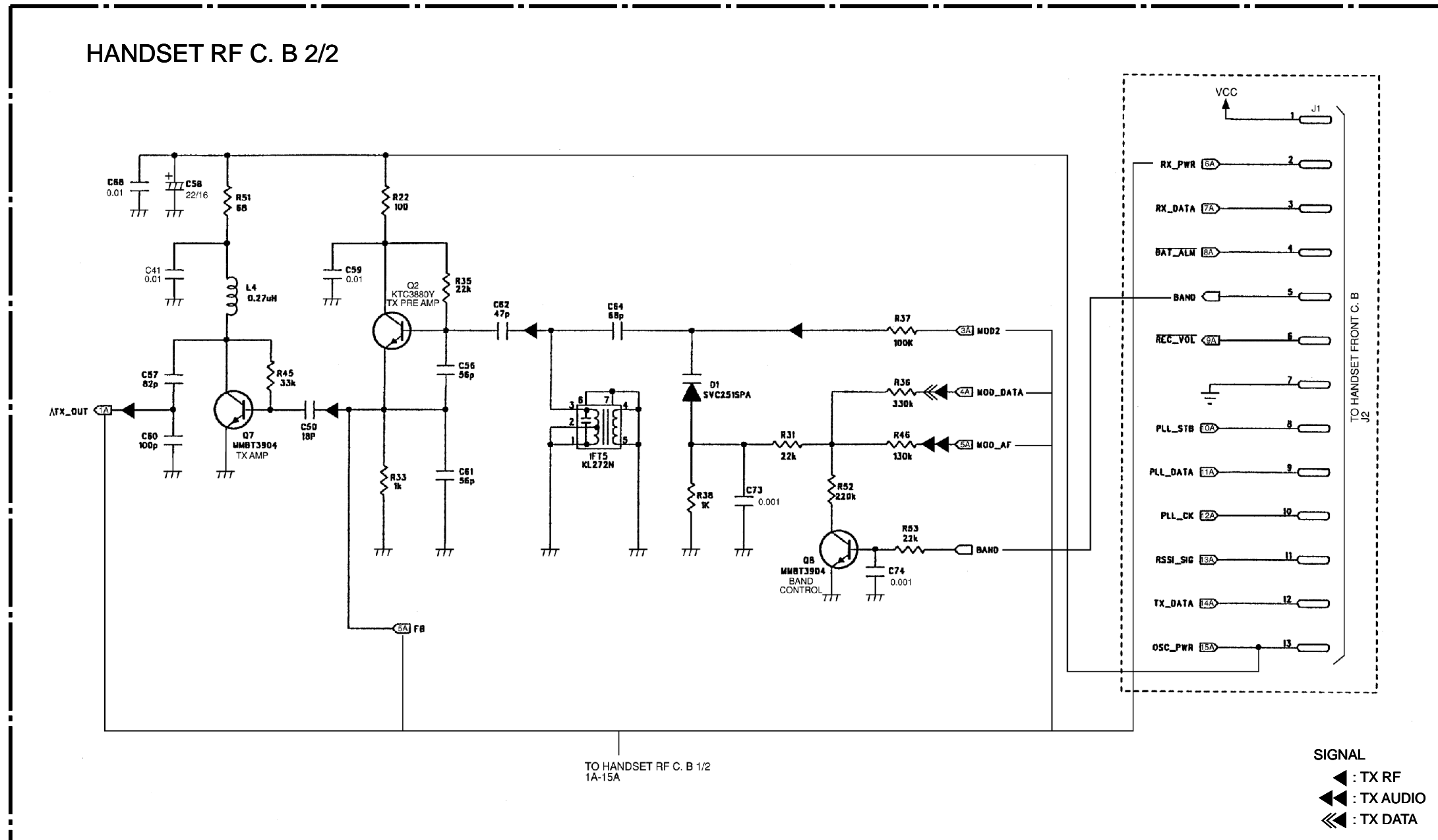
Pin No.	DC Characteristic		Pin No.	DC Characteristic	
	STANDBY	TALK		STANDBY	TALK
1	3.79	3.23	8	0	0
2	3.79	3.23	9	3.79	3.60
3	0	0.51	10	0	3.60
4	0	1.23	11	3.79	0
5	3.79	3.23	12	3.79	3.60
6	3.79	3.30	13	3.79	3.60
7	0	0	14	3.79	3.60

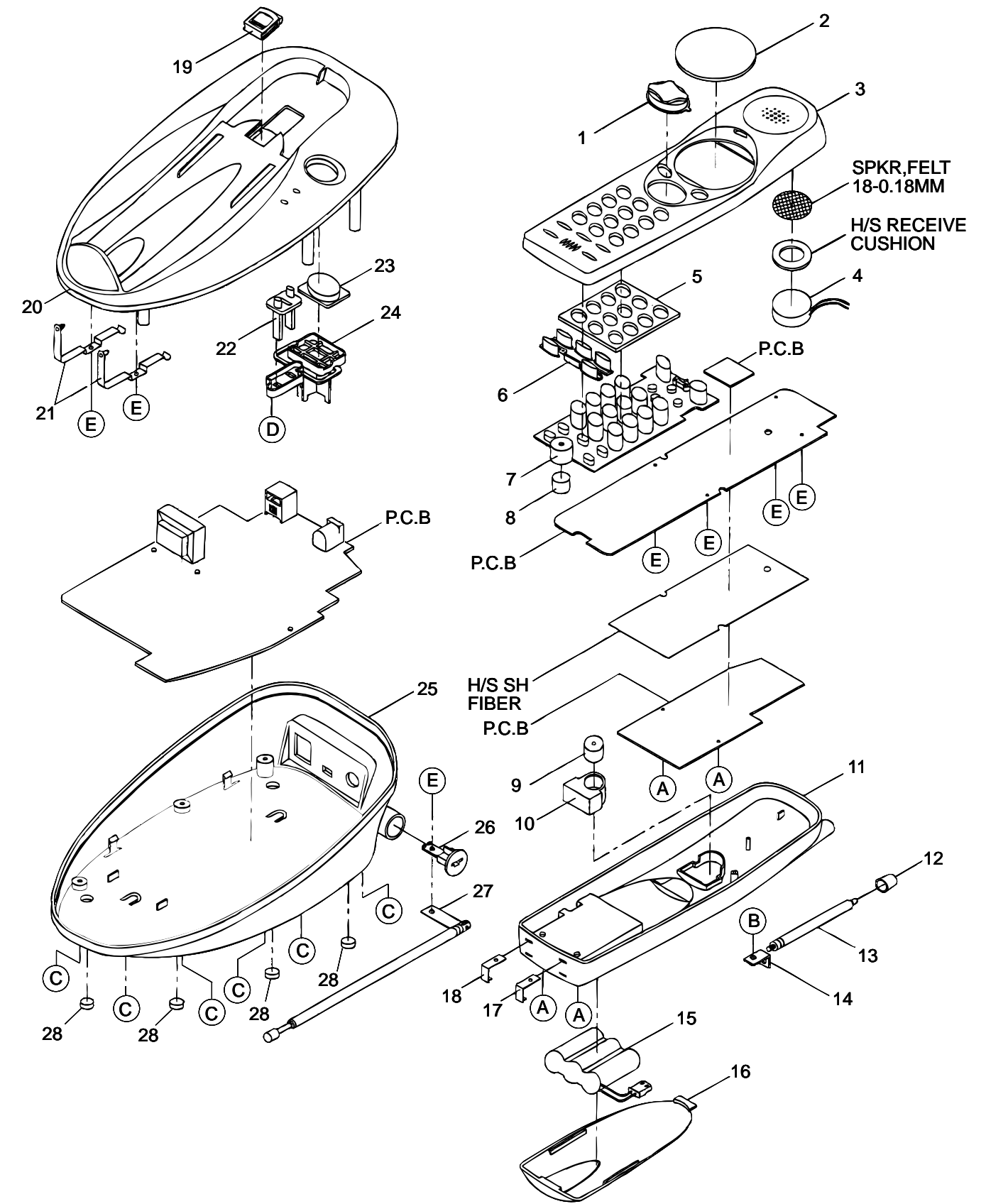
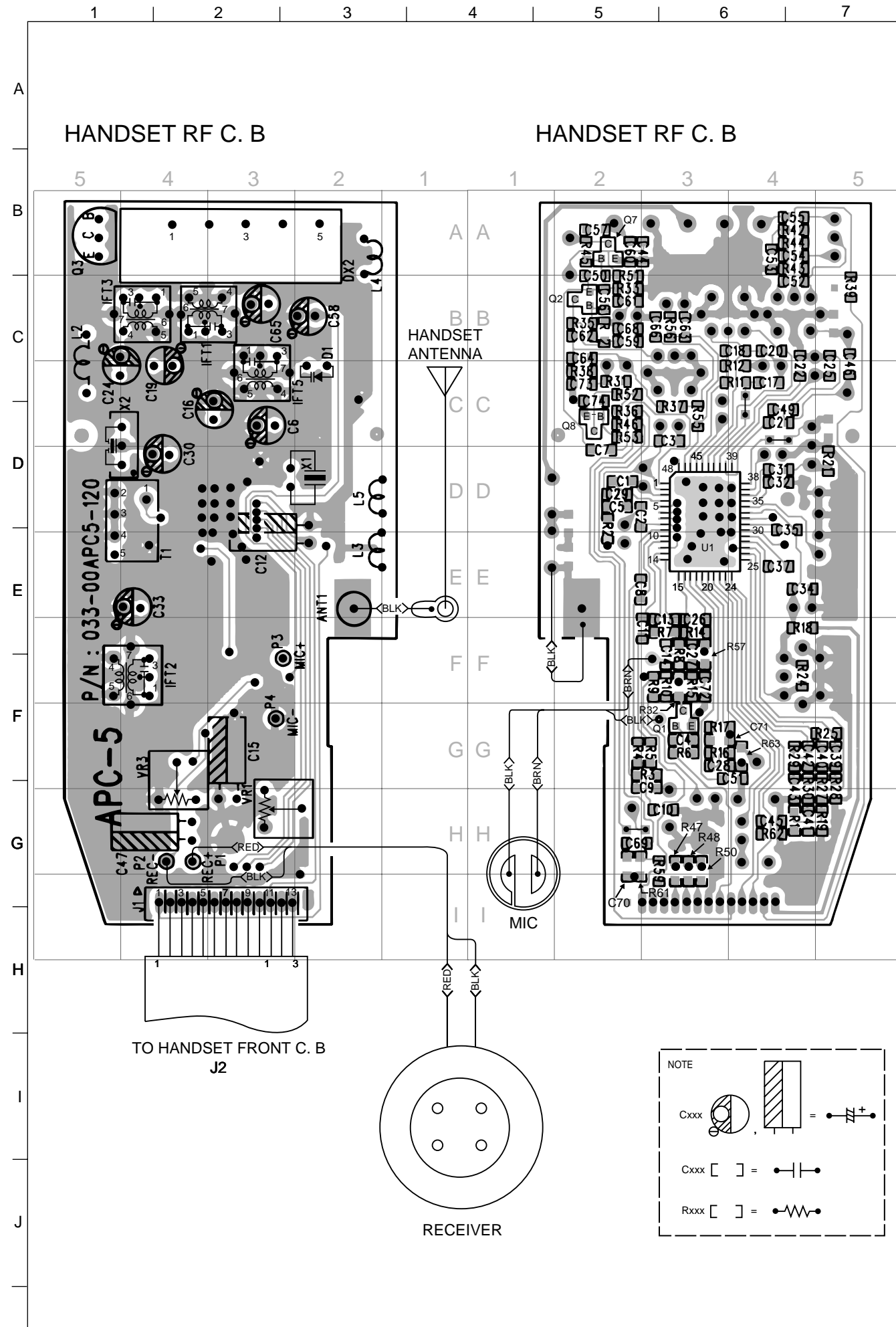
TRANSISTORS (HANDSET RF)

Location	Pin Name	STANDBY	TALK
Q1	C	0	0
	B	0	0
	E	0	0
Q2	C	0.35	3.71
	B	0.31	3.28
	E	0	3.58
Q3	C	0	3.65
	B	0	1.50
	E	0	0.86
Q7	C	0.32	3.13
	B	0.30	0.72
	E	0	0
Q8	C	0	0
	B	0.61	0.61
	E	0	0

TRANSISTORS (HANDSET FRONT)

Location	Pin Name	STANDBY	TALK
Q1	C	4.02	3.86
	B	0.02	0.02
	E	0	0
Q2	C	0.34	3.86
	B	4.08	3.21
	E	4.06	3.97
Q3	C	0.02	0.02
	B	0.48	0.48
	E	0	0
Q4	C	3.99	3.81
	B	0	0
	E	0	0
Q5	C	0	3.98
	B	4.05	3.30
	E	4.08	4.06
Q6	C	4.05	4.05
	B	0	0
	E	0	0
Q8	C	4.08	4.06
	B	4.08	3.84
	E	4.08	4.06





MECHANICAL MAIN PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST"

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	SZ-PC5-270-020		BTN, SEARCH
2	SZ-PC5-280-200		WINDOW LCD<ALHB, AHRJB>
2	SZ-PC5-280-300		WINDOW LCD<AHRJLT>
3	SZ-PC5-210-200		CAB, FRONT<ALHB, AHRJB>
3	SZ-PC5-210-300		CAB, FRONT<AHRJLT>
4	S0-301-500-020		DYNAMIC RECEIVER 28-7.5
5	SA-PC5-220-010		H/S KEYPAD HOLDER<AHRJLT>
5	SA-PC5-220-000		H/S KEYPAD HOLDER<ALHB, AHRJB>
6	SZ-PC5-260-020		KEY, FUNCTION
7	SA-PC5-030-100		RUBBER KEYPAD
8	S1-291-000-640		MIC CONDENSER CMT64
9	S3-120-100-000		BUZZER DB111GPN
10	SZ-PC5-390-000		H/S BUZZER HOLDER
11	SZ-PC5-220-020		CAB, REAR<AHRJLT>
11	SZ-PC5-220-010		CAB, REAR<ALHB, AHRJB>
12	SZ-PC5-300-010		CAP, ANT<ALHB, AHRJB>
12	SZ-PC5-300-020		CAP, ANTENNA<AHRJLT>
13	S0-106-610-000		ANT, ROD TELESCOPIC
14	SZ-PC5-470-000		H/S ANT HOLDER
15	S4-360-070-010		BATT, IN-CD 3.6V
16	SZ-PC5-230-200		DOOR BATT<ALHB, AHRJB>
16	SZ-PC5-230-300		DOOR, BATT<AHRJLT>
17	SA-PC5-410-000		H/S CONTACT PLATE (R)
18	SA-PC5-400-000		H/S CONTACT PLATE (L)
19	SZ-PC5-080-010		KNOB, HANGER<ALHB, AHRJB>
19	SZ-PC5-080-020		KNOB, HANGER<AHRJLT>
20	SZ-PC5-010-300		BASE TOP<AHRJLT>
20	SZ-PC5-010-200		BASE TOP<ALHB, AHRJB>
21	SZ-PC5-410-000		CHARGE TERMINAL PLATE
22	SZ-PC5-040-000		LENS, LED
23	SZ-PC5-030-100		PAGE KEY-B/U
24	SZ-PC5-320-000		PAGE HOLDER
25	SZ-PC5-020-020		BASE BOTTOM<AHRJLT>
25	SZ-PC5-020-010		BASE BOTTOM<ALHB, AHRJB>
26	SA-PC5-050-010		COVER ANT BASE<AHRJLT>
26	SA-PC5-050-000		COVER ANT BASE<ALHB, AHRJB>
27	S0-199-120-000		ANT, RD-0695-144L7S07I
28	S0-251-520-000		RUBBER FOOT
A	87-751-074-410		SCREW, ST 2.6-8
B	87-342-036-210		SCREW, ST2-8
C	87-741-096-410		SCREW, ST3-10MM
D	87-352-095-010		SCREW, ST3-8
E	87-254-034-410		SCREW, T2-5 (BLK)

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink



アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)

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