

## HL-2.5K SCHEMATICS HIERARCHY TREE

UNIT NUMBER	SCHEMATIC NAME	DRAWING No.	PC-BORD No.	REMARKS
UNIT0	GENERAL WIRING	HL25KGN7.SCH		
UNIT1-1	CPU UNIT	HL25KCPU.SCH	PCS1677	
UNIT1-2	ANALOG UNIT ON CPU	HL25KCP1.SCH		
UNIT2	12VPS	HL25K12V.SCH	PCS1681	
UNIT3	AC SW AND DELAY	HL25KAC.SCH	PC1611DC	
UNIT4	WAKE-UP DC SUPPLY	HL25KSDC.SCH	PC1697	
UNIT5	DET AND T/R RELAY	HL25KTR.DCD	PC1398B	
UNIT6	POWER AMP	HL25KPA.SCH	PC1661	
UNIT7-1	EQUALIZER	HL25KEQ.SCH	PCS1680A	
UNIT7-2	BIAS CONTROL		PCS1680C	
UNIT7-3	INPUT TRANS AJUST		PCS1680B	
UNIT8	TEMP SENSOR	R5TOSTMP.SCH	PC1649	
UNIT9	LPF UNIT	HL25KLPF.DCD	PC1681	
UNIT10	FAN CONT ASSY	HL25KFAN.SCH	PCS1682	
UNIT11	FAN SPEED CONT	HL25FPWM.DCD		
UNIT12	FREQ SAMPLER	HL25KFCC.DCD		

# HL-2.5KFX

## Unit0 General Wiring

Bill of Materials:		April 27th, 2007		Revised:	April 27th, 2007	15:35:47	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	20	P1-7,P1-8,P2-2,P7-3,P7-4, P7-5,P7-7,P10-1,P10-3, P10-4,P10-5,P11-1,P11-2, P11-3,P1-15,P1-16,P1-17, P3-404,P4-101,PFT	EHR2	NYLON CONNECTOR	EHR-2	NICHIATSU	
2	6	P3-STB,P7-6,P8-1,P1-13, P1-14,P11-4	EHR3	NYLON CONNECTOR	EHR-3	NICHIATSU	
3	1	P2-1	EHR4	NYLON CONNECTOR	EHR-4	NICHIATSU	
4	1	P10-2	EHR6	NYLON CONNECTOR	EHR-6	NICHIATSU	
5	2	P1-1,P5-503	EHR7	NYLON CONNECTOR	EHR-7	NICHIATSU	
6	4	P1-3,P1-5,P-19,P2-6	EHR8	NYLON CONNECTOR	EHR-8	NICHIATSU	
7	5	P7-2,P1-10,P1-11,P1-12, P9-303	EHR10	NYLON CONNECTOR	EHR-10	NICHIATSU	
8	4	C2,C3,C4,C5	2H103	CERAMIC CAPACITOR	CK45F20103PYA	TDK	
9	1	C1	180V/18,000uF	ELECTROLYTIC CAPACITOR	SME-180LG18000	Nihon Chemical	
10	1	CN1	CONNECTOR DB15	CONNECTOR	DB-15-P	Omron	
11	1	CN2	DIN7	CONNECTOR		Hoshiden	
12	1	D1	400V30A	DIODE BRIDGE		Shindengen	
13	2	F1,F2	250V16A	FUSE	250V16A/3AG EQUIV	any	
14	1	FAN1	9G1248G102	COOLING FAN	9G1248G102	Sanyo	
15	1	H1	HEATSINK	HEATSINK	THP SPECIAL	THP	
16	1	H2	HEATCOPPER/SPREADER	HEAT-COPPER	THP SPECIAL	THP	
17	1	J1	LF250V20A	AC LINE FILTER	250V 20Amp	TDK	
18	2	J2,J3	(M-R)	COAX CONNECTOR	(M-R)/SO-239	AIMMET	
19	1	J4	RCA	RCA PIN-JACK		Hsiden	
20	1	J6	SMR3	CONNECTOR	SMP-3	NICHIATSU	
21	1	K1	A	COVER SWITCH	250V15A MICRO SW	OMRON	
22	1	LCD1	SC1602BSLB	LCD MODULE	SC1602BSLB	SUNLIKE	
23	1	M1	HL25Kpf	METER	HL-25K/Pf	THP	
24	1	M2	HL25KMULT	METER	HL-25K/MULTI	THP	
25	1	OH1	OHD5-100B	THERMAL SW	OHD5-100B	TOKIN	
26	1	P1	SMP3	CONNECTOR		NICHIATSU	
27	3	P5-RF,P12-F,P5-502	SMBP1.5	COAX CONNECTOR	SMB-P1.5D2V	Yuets Presision	
28	3	P7-J1,P7-J2,P7-J3	SMB1.5P	COAX CONNECTOR	SMB-P1.5D2V	Yuets Presision	
29	1	P1-2	EHR-6	CONNECTOR	EHR-6	NICHIATSU	
30	1	P1-4	XG4M30	CONNECTOR	XG4M30	Omron	
31	1	PT1	HL25K-PT	POWER TRANSFORMER	HL-2.5K-PT	THP/Union	
32	1	RL1	G4	RELAY	G4RL	OMRON	
33	1	RL2	CONTACT	CONTACTOR RELAY		Omron	
34	1	S1	DS850	SWITCH	DS850	Miyama	
35	2	S2,S3	SW	SWITCH	DS850	Miyama	
36	1	SR1	SHUNT60	CURRENT SHUNT RES	60mOHM	Kyouwa	
37	1	SW1	1RSW6	ROTALY SWITCH	6-CONTACT	Alps	
38	1	TB1	M4x10	TERMINAL BOARD	M4-10TERMINALS	Union Electric	
39	1	VR1	RV16_10kB	POTENTIO METER	RV16/10kOHM-B	Tokyo Cosmos	
40	2	ZNR1,ZNR2	ZNR	SURGE ABSORBER		MATSUSHITA	

**HL-2.5KFX**
**UNIT1-1 CPU UNIT**

Bill of Materials:		April 27th, 2007		Revised:	April 27th, 2007	15:34:33	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	1	R59	10	RESISTOR 10 1/4W	RD25S100	Tamaohm	
2	8	R51,R52,R53,R54,R55,R56, R57,R60	100	RESISTOR 100 1/4W	RD25S101	Tamaohm	
3	5	R64,R69,R70,R71,R73	220	RESISTOR 220 1/4W	RD25S221	Tamaohm	
4	3	R61,R62,R72	1k	RESISTOR 1k 1/4W	RD25S102	Tamaohm	
5	4	R63,R65,R66,R67	3.3k	RESISTOR 3.3k 1/4W	RD25S332	Tamaohm	
6	1	R68	10k	RESISTOR 10k 1/4W	RD25S103	Tamaohm	
7	3	D14,D15,D17	1N4007	DIODE	1N4007	RECTRON	
8	1	R58	1S2076	DIODE	1S2076	HITACHI	
9	1	VR10	10KBS	SEMI-FIXED RESISTOR	CT6S10KB	Copal	
10	6	JP6,JP7,JP8,JP15,JP16,JP17	B2B	NYLON CONNECTOR	B2B-EH	NICHIATSU	
11	2	JP13,JP14	B3B	NYLON CONNECTOR	B3B-EH	NICHIATSU	
12	2	JP5,JP9	B8B	NYLON CONNECTOR	B8B-EH	NICHIATSU	
13	3	JP10,JP11,JP12	B10B	NYLON CONNECTOR	B10B-EH	NICHIATSU	
14	2	C53,C54	CH10p	CERAMIC CAPACITOR	CC45CH1H100DYA	TDK	
15	1	C55	16V22u	ELECTROLYTIC CAPACITOR	KME16VB-22	Nihon Chemical	
16	1	C56	16V47u	ELECTROLYTIC CAPACITOR	KME16VB-47	Nihon Chemical	
17	1	C65	16V470u	ELECTROLYTIC CAPACITOR	KME16VB-470	Nihon Chemical	
18	1	C66	25V47u	ELECTROLYTIC CAPACITOR	KME25VB-47	Nihon Chemical	
19	1	C64	25V220u	ELECTROLYTIC CAPACITOR	KME25VB-220	Nihon Chemical	
20	1	C62	50V22u	ELECTROLYTIC CAPACITOR	KME50VB-22	Nihon Chemical	
21	1	C63	50V47u	ELECTROLYTIC CAPACITOR	KME50VB-47	Nihon Chemical	
22	7	C51,C52,C57,C58,C59,C60, C61	RPE105	CERAMIC CAPACITOR	RPE123E105Z50	Murata	
23	1	CA1	CGSD8X101M	ASSEMBLED-TYPE CAPACITOR	CGSD8X101M	Murata	
24	2	D10,D12	LD3	LED			
25	3	D11,D13,D16	L5x2	LED			
26	3	ISO1,ISO2,ISO3	G3VM351	OPTO ISOLATOR	G3VM351	OMRON	
27	1	ISO4	AQV205	OPTO ISOLATOR	AQV205	PANASONIC	
28	1	JP4	XG4C-30	CONNECTOR	XG4C-30	OMRON	
29	1	PCB1	PCS1677	PC BOARD	PCS1677	THP	
30	1	S5	SSSS210810	DIP SW	SSSS210810	ALPS	
31	1	SW2	SRBV181000	ROTARY SW	SRBV181000	ALPS	
32	2	U4,U5	NJU3754	PORT EXPANDER	NJU3754	JRC	
33	1	U6	PIC18F452	MICRO PROCESSOR	PIC18F452	MicroChip	
34	1	U7	DN8648	RELAY DRIVER	DN8648	MATSUSHITA	
35	1	U8	MAX232	LEVEL CONVERTOR	MAX232	Maxim	
36	1	Y1	20.0MHz	CRYSTAL	20.0MHz	any	

# HL-2.5KFX

## Unit1-2 ANALOG UNIT ON CPU

Bill of Materials:		April 27th, 2007		Revised:	July 12th, 2006	15:34:19	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	1	R20	1k	RESISTOR 1k 1/4W	RD25S102	Tamaohm	
2	2	R25,R26	1/2W100	RESISTOR 100 1/2W	RD50S101	Tamaohm	
3	1	R40	1/2W1k	RESISTOR 1k 1/2W	RD50S102	Tamaohm	
4	3	D1,D2,D6	1S2076	DIODE	1S2076	HITACHI	
5	1	Q1	2SC1815	TRANSISTOR	2SC1815GR	TOSHIBA	
6	2	VR5,VR6	5kBS	SEMI-FIXED RESISTOR	CT6S5KB	Copal	
7	4	VR1,VR2,VR3,VR4	100kBS	SEMI-FIXED RESISTOR	CT6S100KB	Copal	
8	1	JP2	B6B	NYLON CONNECTOR	B6B-EH	NICHIATSU	
9	1	JP1	B7B	NYLON CONNECTOR	B7B-EH	NICHIATSU	
10	1	JP3	B8B	NYLON CONNECTOR	B8B-EH	NICHIATSU	
11	3	C5,C6,C7	RPE104	CERAMIC CAPACITOR 104	RPE132F104Z50	Murata	
12	3	C3,C4,C13	RPE103	CERAMIC CAPACITOR 103	RPE132F103Z50	Murata	
13	1	C8	RPE102	CERAMIC CAPACITOR 104	RPE132F102K50	Murata	
14	11	FIL1,FIL2,FIL3,FIL4,FIL5, FIL6,FIL7,FIL8,FIL9, FIL10,FIL11	ZJS	3 TERMINAL BEAD FILTER	ZJS5102-222	TDK	
15	1	U3	TL082	OPERATIONAL AMPLIFIER	TL082C	Texas Instruments	
16	2	D3,D5	05Z2.7	ZENER DIODE	05AZ2.7X	TOSHIBA	
17	4	C1,C2,C10,C11	RPE105	CERAMIC CAPACITOR	RPE123E105Z50	Murata	
18	1	R39	RN100	RESISTOR 1%100 1/4W	RN25S101	Tamaohm	
19	12	R3,R4,R5,R8,R9,R11,R16, R17,R21,R23,R33,R36	RN1k	RESISTOR 1%1k 1/4W	RN25S102	Tamaohm	
20	1	R37	RN3.3k	RESISTOR 1%3.3k 1/4W	RN25S332	Tamaohm	
21	1	R27	RN5.1k	RESISTOR 1%5.1k 1/4W	RN25S512	Tamaohm	
22	12	R1,R2,R6,R7,R12,R14,R18, R19,R30,R31,R32,R35	RN10k	RESISTOR 1%10k 1/4W	RN25S103	Tamaohm	
23	1	R34	RN33k	RESISTOR 1%33k 1/4W	RN25S333	Tamaohm	
24	2	R28,R29	RN47k	RESISTOR 1%47k 1/4W	RN25S473	Tamaohm	
25	3	R10,R13,R38	RN100k	RESISTOR 1%100k 1/4W	RN25S104	Tamaohm	
26	1	R15	RN220k	RESISTOR 1%220k 1/4W	RN25S224	Tamaohm	
27	2	R22,R24	RN1M	RESISTOR 1%1M 1/4W	RN25S105	Tamaohm	
28	2	C9,C12	RPE101	CERAMIC CAPACITOR	RPE131CH101		
29	2	D4,D7	LD3	LED			
30	3	S1,S2,S3	SSSS210810	SWITCH	SSSS210810	ALPS	
31	1	SW1	SRBV141400	ROTARY SWITCH	SRBV141400	ALPS	
32	2	U1,U2	LF347N	LF347N	LF347N	National Semi.	

HL-2.5KFX

**Unit2 12VPS**

Bill of Materials:		April 27th, 2007		Revised:	April 27th, 2007	15:33:51	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	2	D1,D2	1N4002	DIODE	1N4002	RECTRON	
2	2	F1,F2	FUSE2A	FUSE/HOLDER	LM20/LM1H	Daito Communication Apparatus	
3	4	JP2,JP3,JP4,JP5	B2B	NYLON CONNECTOR	B2B-EH	NICHIATSU	
4	1	JP1	B4B	NYLON CONNECTOR	B4B-EH	NICHIATSU	
5	1	JP6	B8B	NYLON CONNECTOR	B8B-EH	NICHIATSU	
6	1	C5	16V220u	ELECTROLYTIC CAPACITOR	KME16VB-220	Nihon Chemical	
7	2	C3,C7	25V100u	ELECTROLYTIC CAPACITOR	KME25VB-100	Nihon Chemical	
8	1	C4	25V470u	ELECTROLYTIC CAPACITOR	KME25VB-470	Nihon Chemical	
9	2	C1,C6	25V1000u	ELECTROLYTIC CAPACITOR	KME25VB-1000	Nihon Chemical	
10	1	C2	25V2200u	ELECTROLYTIC CAPACITOR	KME25VB-2200	Nihon Chemical	
11	1	U2	7805	3 TERMINAL REGULATOR	NJM7805A	JRC	
12	1	U1	7812	3 TERMINAL REGULATOR	NJM7812A	JRC	
13	1	U3	7912	3 TERMINAL REGULATOR	NJM7912A	JRC	
14	1	D3	W02	DIODE BRIDGE	W02	RECTRON	
15	2	H1,H2	HEATSINK	HEATSINK	SPECIAL	THP	
16	1	PCB1	PCS1681	PC BOARD	PCS1681	THP	
17	1	R1	3W	RESISTOR			

HL-2.5KFX

**Unit3 AC SW AND DELAY**

Bill of Materials:		April 27th, 2007		Revised:	July 20th, 2006	15:34:05	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	1	R401	10k	RESISTOR 10k 1/4W	RD25S103	Tamaohm	
2	1	RR1	2W470	RESISTOR 470 2W	RS2B471	Tamaohm	
3	1	D401	1S2076	DIODE	1S2076	HITACHI	
4	2	J401,J404	B2B	NYLON CONNECTOR	B2B-EH	NICHIATSU	
5	1	STBY	B3B	NYLON CONNECTOR	B3B-EH	NICHIATSU	
6	1	C402	50V100u	ELECTROLYTIC CAPACITOR	KME50VB-100	Nihon Chemical	
7	1	DB401	W06G	DIODE BRIDGE	W06G	Rectron	
8	1	PCB1	PC1611DC	PC BOARD	PC1611DC	Orion Science	
9	1	RF401	AQZ205D	PHOTO-MOS RELAY	AQZ205D	MATSUSHITA	
10	1	RJMP	0ohm				
11	1	RL401	G4F-1123T	POWER RELAY	G4F-1123T	Omron	
12	1	SSR401	G3NE-220T	SOLID-STATE RELAY	G3NE-220T	Omron	
13	2	THM401,THM402	10D2-14LD	POWER THERMISTOR	10D2-14LD	Ishizuka	
14	1	ZNR401	ERZV20D471	SURGE ABSORBER	ERZV20D471	MATSUSHITA	

HL-2.5KFX

***Unit4 WAKE-UP DC SUPPLY***

Bill of Materials:		April 27th, 2007		Revised:	April 27th, 2007	17:46:03	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	1	R103	10k	RESISTOR 10k 1/4W	RD25S103	Tamaohm	
2	2	R101,R102	2W47	RESISTOR 47 2W	RS2B470	Tamaohm	
3	2	C101,C102	FL2G105	FILM CAPACITOR	QXF2G105KTP	Nichicon	
4	1	J101	B2B	NYLON CONNECTOR	B2B-EH	NICHIATSU	
5	1	C103	50V220u	ELECTROLYTIC CAPACITOR	KME50VB-220	Nihon Chemical	
6	1	D101	1Z11	ZENER DIODE	1Z11	Renesace	
7	1	DB101	W06	DIODE BRIDGE	W06	RECTRON	
8	1	PCB1	PC1697	PC BOARD		Orion Science	

HL-2.5KFX

**Unit5 DET AND T/R RELAY**

Bill of Materials:		April 27th, 2007		Revised:	April 27th, 2007	15:34:45	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	1	P501,,,,	SMB-P	COAX PLUG	SMB-P	Yuetsu Precision	
2	4	J501,J502,J504,J505,	BNC	COAX CONNECTOR	BNC-RPC	Yuetsu Precision	
3	3	C503,C507,C510,,	CH15p	CERAMIC CAP	500V 15pF	Taiyo-Yuden	
4	3	C506,C508,C511,,	CM240p	CHIP MICA CAP	UC232H240p	Soshin	
5	3	C501,C504,C509,,	RPE103	CERAMIC CAPACITOR	RPE132F103	Murata	
6	3	TC501,TC502,TC503,,	TC6p	TRIM CAP	TRIMMER 6pF		
7	5	D501,D502-1,D502-2,D503-1,D	1SS286	DIODE	1SS286	Renesas	
8	1	J503,,,,	B7B	CONNECTOR	B7B-EH	NICHIATSU	
9	3	RFC501,RFC502,RFC503,,	470u	INDUCTOR	LAL04 471	Taiyo-Yuden	
10	1	PCB501,,,,	PC1398B	PC BOARD	PC1398B	Orion science	
11	4	R501,R502,R503,R501A1,	1/2W22	RESISTOR	RD1/2B220	Ship Electron	
12	1	R501A2,,,,		RESISTOR	RD1/2B270	Ship Electron	
13	2	T501,T502,,	RFCT	RF TRANS	THP	THP	
14	2	K501,K502	G6C	RELAY	G6C-1A1B DC12V	Omron	



HL-2.5KFX

**Unit6 POWER AMP**

Bill of Materials:		April 27th, 2007		Revised:	July 20th, 2006	15:36:07	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	2	R14,R22	1/2W1	RESISTOR 1 1/2W	RD50S1R0	Tamaohm	
2	2	R13,R21	1/2W47	RESISTOR 47 1/2W	RD50S470	Tamaohm	
3	2	C17,C20	RPE104	CERAMIC CAPACITOR 104	RPE132F104Z50	Murata	
4	18	C22,C23,C24,C25,C26,C27, C29,C30,C31,C32,C33,C34, C36,C37,C38,C39,C40,C41	CC104	CHIP CERAMIC CAPACITOR	VJ2220Y104MXE	Vitramon	
5	2	R11,R12	RN1k	RESISTOR 1%1k 1/4W	RN25S102	Tamaohm	
6	1	C1	1000p	DIP MICA CONDENSER	500V1000pF		
7	1	C2	910p	DIP MICA CONDENSER	500V910pF		
8	4	C3,C4,C5,C6	ATC103	CHIP CERAMIC CAPACITOR	ATC103		
9	2	C7,C8	1kV103	CERAMIC CAPACITOR	1kV103		
10	6	C9,C10,C11,C12,C13,C14	ATC473	CHIP CERAMIC CAPACITOR	ATC473		
11	1	C15	CAP				
12	4	C16,C21,C28,C35	FL225	FILM CAPACITOR	160V2.2u		
13	2	C18,C19	BT102	BUTTON CAP	50V1000pF		
14	2	D1,D2	150V	ZENER DIODE	150V1500J		
15	2	FB1-FB5,FB6-FB10	HF70B	FERRITE	HF-70B		
16	2	L2,L3	4A/1.5t	INDUCTOR	RIB14x8x8/4A/1.5t		
17	1	PCB1	PC1661	PC BOARD	PC1661		
18	2	Q1,Q2	ARF1500	POWER MOS FET	ARF-1500	MICRO-SEMI	
19	2	R9,R10	1W3.9	RESISTOR	RS1B3R9J		
20	2	R15,R23	10W470	RESISTOR	RNP10C471		
21	8	R17,R18,R19,R20,R24,R25, R26,R27	5W20	RESISTOR	RS5B200J		
22	2	R30,R31	3W5.1	RESISTOR	RS3B5R1J		
23	1	T1	5:01	RF TRANS			
24	1	T2	1:05:05	RF TRANS			
25	2	T3,T4	25ohmCOAX3.5t	COAX CABLE	25ohmCOAX3.5t		
26	1	T5	50ohmCOAX2t	COAX CABLE	50ohmCOAX2t		
27	1	TC1	ARCO466	TRIM CAP	ARCO466		
28	1	TC3	TC				

# HL-2.5KFX

## Unit7 EQUALIZER

Bill of Materials:		April 27th, 2007		Revised:	July 19th, 2006	15:34:45	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	1	R16		RESISTOR 1 1/4W	RD25S1R0	Tamaohm	
2	3	R17,R18,R19	2.2k	RESISTOR 2.2k 1/4W	RD25S222	Tamaohm	
3	1	R15	1W82	RESISTOR 82 1W	RS1B820	Tamaohm	
4	2	D1,D2	1N4007	DIODE	1N4007	Rectron	
5	2	VR1,VR2	500B	SEMI-FIXED RESISTOR	CT6P500B	Copal	
6	1	VR3	10kB	SEMI-FIXED RESISTOR	CT6P10KB	Copal	
7	5	JP1,JP3,JP4,JP5,JP7	B2B	NYLON CONNECTOR	B2B-EH	NICHIATSU	
8	1	JP6	B3B	NYLON CONNECTOR	B3B-EH	NICHIATSU	
9	1	JP2	B10B	NYLON CONNECTOR	B10B-EH	NICHIATSU	
10	7	K1,K2,K3,K4,K5,K6,K7	DS2	RELAY DS2DC12V	AG202344	MATSUSHITA	
11	16	C1,C2,C3,C4,C5,C6,C7,C22, C23,C24,C25,C26,C27,C28, C29,C40	RPE104	CERAMIC CAPACITOR 104	RPE132F104Z50	Murata	
12	2	C31,C32	RPE103	CERAMIC CAPACITOR 103	RPE132F103Z50	Murata	
13	4	C33,C36,C38,C39	RPE102	CERAMIC CAPACITOR 104	RPE132F102K50	Murata	
14	3	J1,J2,J3	SMB-R				
15	3	C34,C35,C37	1H10u	ELECTROLYTIC CAPACITOR	KME50VB-10	Nihon Chemical	
16	1	U2	TL431	VOLTAGE REGULATOR IC	TL431C	Texas Instruments	
17	1	U1	78L09	3 TERMINAL REGULATOR	NJM78L09A	JRC	
18	4	L3,L4,L5,L6	LA100u	AXIAL LEAD INDUCTOR	LAL03NA101K	Ceraken	
19	1	ATT1	16-3298	ATTENUATOR	100W3dB		
20	2	C8,C9	DM1600p	DIP MICA CONDENSER	500V1600pF		
21	2	C10,C11	DM820	DIP MICA CONDENSER	500V820pF		
22	2	C12,C13	DM430p	DIP MICA CONDENSER	500V430pF		
23	8	C14,C15,C16,C17,C18,C19, C20,C21	DM	DIP MICA CONDENSER	<i>Depends on adjustment</i>		
24	2	C41,C42	DM222	DIP MICA CONDENSER			
25	1	D3	LED	LED			
26	1	F1	LM1H	MICRO FUSE			
27	1	ISO1	AH210	OPTO ISOLATOR	AH210		
28	2	K8,K9	DS1	RELAY	DS1-DC12V		
29	2	L1,L2	LA0.22u	MICRO INDUCTOR	LAL03NAR22K		
30	2	L7,L8	T50-1_18t	INDUCTOR	T50-1_18t		

Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
31	4	L9,L10,L11,L12	T50-2	INDUCTOR	<i>Depends on adjustment</i>		
32	8	L13,L14,L15,L16,L17,L18, L19,L20	T50-6	INDUCTOR	<i>Depends on adjustment</i>		
33	1	PCB1	PCS1680A	PC BOARD	PCS1680A		
34	1	PCB2	PCS1680B	PC BOARD	PCS1680B		
35	1	PCB3	PCS1680C	PC BOARD	PCS1680C		
36	14	R1,R2,R3,R4,R5,R6,R7,R8 ,R9,R10,R11,R12,R13,R14	3W50	RESISTOR 50 3W	RS3B500J		
37	1	RT1	158-402-83007	THERMISTOR	158-402-83007		
38	1	T1	T50-43_BFR10t0.3	RF TRANS.	T50-43_BFR10t0.3		

HL-2.5KFX

**Unit8 TEMP SENSOR**

Bill of Materials:		April 27th, 2007		Revised:	May 26th, 2005	15:36:42	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	1	R1	2k	RESISTOR 2k 1/4W	RD25S202	Tamaohm	
2	1	JP1	B3B	NYLON CONNECTOR	B3B-EH	NICHIATSU	
3	1	C1	RPE104	CERAMIC CAPACITOR 104	RPE132F104Z50	Murata	
4	1	IC1	LM35	TEMP SENSOR IC	LM35	NS	
5	1	PCB1	PC1649	PC BOARD	PC1649		

HL-2.5KFX

**Unit9 LPF UNIT**

Bill of Materials:		April 27th, 2007		Revised:	April 27th, 2007		
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	2	J301,J302,,,,	BNC	COAX CONNECTOR	BNC-RPC		
2	1	C340,,,,,	10p	CERAMIC CAPACITOR	2kV 10pF	PANASONIC	
3	6	C335,C342,C343,C348,C351,C352	12p	CERAMIC CAPACITOR	2kV 12pF	PANASONIC	
4	2	C306,C307,,,,	16p	CERAMIC CAPACITOR	2kV 16pF	PANASONIC	
5	1	C313,,,,,	22p	CERAMIC CAPACITOR	2kV 22pF	PANASONIC	
6	2	C336,C337,,,,	33p	CERAMIC CAPACITOR	2kV 33pF	PANASONIC	
7	1	C334,,,,,	47p	CERAMIC CAPACITOR	2kV 47pF	PANASONIC	
8	2	C326,C327,,,,	8p	CERAMIC CAPACITOR	2kV 8pF	PANASONIC	
9	2	C338,C350,,,,	ATC100p	CHIP CERAMIC CAPACITOR	ATC100C101	ATC	
10	2	C349,C353,,,,	ATC47p	CHIP CERAMIC CAPACITOR	ATC100C470	ATC	
11	2	C301,C303,,,,	CM1000p	CHIP MICA CAPACITOR	UC55 1000p	SOSIN	
12	2	C316,C320,,,,	CM100p	CHIP MICA CAPACITOR	UC55 100p	SOSIN	
13	8	C302,C318,C321,C322,C323,C341,C344,C345,,	CM150p	CHIP MICA CAPACITOR	UC55 150p	SOSIN	
14	1	C317,,,,,	CM180p	CHIP MICA CAPACITOR	UC55 180p	SOSIN	
15	5	C305,C308,C309,C310,C311,,,,	CM200p	CHIP MICA CAPACITOR	UC55 200p	SOSIN	
16	2	C314,C315,,,,,	CM390p	CHIP MICA CAPACITOR	UC55 390p	SOSIN	
17	1	C333,,,,,	CM51P	CHIP MICA CAPACITOR	UC55 51P	SOSIN	
18	10	C319,C324,C325,C328,C329,C330,C331,C332,C339,C347	CM51p	CHIP MICA CAPACITOR	UC55 51p	SOSIN	
19	1	C346,,,,,	CM68p	CHIP MICA CAPACITOR	UC55 68p	SOSIN	
20	1	C312,,,,,	CM75p	CHIP MICA CAPACITOR	UC55 75p	SOSIN	
21	1	C304,,,,,	CM820p	CHIP MICA CAPACITOR	UC55 820p	SOSIN	
22	8	C101,C102,C103,C104,C105,C106,C107,C108,,	RPE103	CERAMIC CAPACITOR	RPE132F103		
23	1	J304,,,,,	XG4A-1032	CONNECTOR	XG4A-1032	OMRON	
24	8	D101,D102,D103,D104,D105,D106,D107,D108,,	1N4002	DIODE	1N4002	RECTRON	
25	1	J303,,,,,	B10B	CONNECTOR	B10B-EH	NICHIATSU	
26	1	L314,,,,,	0.5u	INDUCTOR	0.5u	THP	
27	2	L304,L313,,,,,	0.7u	INDUCTOR	0.7u	THP	
28	1	L308,,,,,	0.85u	INDUCTOR	0.85u	THP	

Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
29	1	L303,,,,,,,,,,,,,,,,,,,,,	0.8u	INDUCTOR	0.8u	THP	
30	1	L307,,,,,,,,,,,,,,,,,,,,,	1.15u	INDUCTOR	1.15u	THP	
31	1	L306,,,,,,,,,,,,,,,,,,,,,	1.7u	INDUCTOR	1.7u	THP	
32	1	L305,,,,,,,,,,,,,,,,,,,,,	2.3u	INDUCTOR	2.3u	THP	
33	1	L302,,,,,,,,,,,,,,,,,,,,,	3.1u	INDUCTOR	3.1u	THP	
34	1	L301,,,,,,,,,,,,,,,,,,,,,	4.7u	INDUCTOR	4.7u	THP	
35	2	L309,L311,,,,,,,,,,,,,,,,,,,,,	AR10t	INDUCTOR	AR10t	THP	
36	1	L312,,,,,,,,,,,,,,,,,,,,,	AR19t	INDUCTOR	AR19t	THP	
37	2	L315,L316,,,,,,,,,,,,,,,,,,,,,	AR8t	INDUCTOR	AR8t	THP	
38	1	L310,,,,,,,,,,,,,,,,,,,,,	AR9t	INDUCTOR	AR9t	THP	
39	1	PCB301,,,,,,,,,,,,,,,,,,,,,	PC1681	PC BOARD	PC1681		
40	18	K307,K313,K315,RL301,RL302, RL303,RL304,RL305,RL306, RL308,RL309,RL310,RL311, RL312,RL313,RL314,RL315, RL316	RL1c	RELAY	G2R-1CE DC12V	OMRON	

HL-2.5KFX

**Unit10 FAN CONT ASSY**

Bill of Materials:		April 27th, 2007		Revised:	April 27th, 2007	15:35:12	
Item	Quantity	Reference/Symbol	Part	部品情報 Description	型番 Part Type	メーカー Manufacturer	Remarks
1	1	R9	1k	RESISTOR 1k 1/4W	RD25S102	Tamaohm	
2	1	R2	4.7k	RESISTOR 4.7k 1/4W	RD25S472	Tamaohm	
3	1	R6	1W100	RESISTOR 100 1W	RS1B101	Tamaohm	
4	3	R3,R7,R8	1W10k	RESISTOR 10k 1W	RS1B103	Tamaohm	
5	1	R1	5S47	RESISTOR 47 5W	RGB5L47	Tamaohm	
6	1	C6	FL2G104	FILM CAPACITOR	QXF2G104KTP	Nichicon	
7	1	Q1	2SK1170	MOSFET	2SK1170	Renesas	
8	4	FH1,FH2,FH3,FH4	PCFUSE	PCB FUSE HOLDER	FC310P	コ-ル	
9	4	JP1,JP3,JP4,JP5	B2B	NYLON CONNECTOR	B2B-EH	NICHIATSU	
10	1	JP2	B6B	NYLON CONNECTOR	B6B-EH	NICHIATSU	
11	1	FB1	EX35	FERRITE BEAD	EXCELSA35	MATSUSHITA	
12	3	C3,C8,C9	RPE104	CERAMIC CAPACITOR 104	RPE132F104Z50	Murata	
13	2	C1,C2	2H103	CERAMIC CAPACITOR	CK45F20103PYA	TDK	
14	1	C5	25V470u	ELECTROLYTIC CAPACITOR	KME25VB-470	Nihon Chemical	
15	1	C4	50V220u	ELECTROLYTIC CAPACITOR	KME50VB-220	Nihon Chemical	
16	4	TM1,TM2,TM3,TM4	Y101	MAIN BOARD SCREW TERMINAL 3mm	Y101ネジツキ	Morimatsu	
17	1	R5	RN2.2k	RESISTOR 1%2.2k 1/4W	RN25S222	Tamaohm	
18	1	C7	FL104	FILM CAPACITOR	ECQB1H104	MATSUSHITA	
19	1	D1	1Z12	ZENER DIODE	1Z12		
20	1	D2	1Zxx	ZENER DIODE	DEPEND ON SPEC		
21	3	D3,D4,D5	1Z24	ZENER DIODE	1Z24		
22	2	F1,F2	FUSE	FUSE	250V 16A		
23	1	ISO1	TLP521	OPTO ISOLATOR	TLP521		
24	1	PCB1	PC1682	PC BOARD	PC1682	THP	
25	1	R4	RN86k	RESISTOR 1%86k 1/4W	RN25S863		
26	1	VRR5	3T2kB	TRIM RESISTOR	3 TURN 2kOHM B		
27	1	ZNR1	ERZ20K271	SURGE ABSORBER	ERZ20K271		

HL-2.5KFX

**Unit11 FAN SPEED CONT**

Bill of Materials:		April 27th, 2007		Revised:	April 27th, 2007		
Item	Quantity	Reference/Symbol	Part	部品情報	型番	メーカー	Remarks
				Description	Part Type	Manufacturer	
1	1	Q2,,	2SC1815	TRANSISTOR	2SC1815		
2	1	Q1,,	2SK1949	TRANSISTOR	2SK1949		
3	1	U1,,	78L05	REGULATOR	78L05		
4	1	C3,,	RPE105	CERAMIC CAPACITOR	RPE132F103		
5	2	C1,C2,	25V1u	ELECTROLYTIC CAPACITOR	KME25VB1u		
6	1	U2,,	PIC12F683	MICRO PROCESSOR	PIC12F683		
7	3	JP1,JP2,JP3	B2B	CONNECTOR	B2B-EH		
8	1	JP4,,	B3B	CONNECTOR	B3B-EH		
9	1	D3,,	GREEN	LED	GREEN		
10	1	D2,,	RED	LED	RED		
11	1	D1,,	YELLOW	LED	YELLOW		
12	1	ISO1,,	AQY410	OPTO ISOLATOR	AQY410		
13	2	R4,R5,	2.2k	RESISTOR	RD25S222		
14	1	R6,,	470	RESISTOR	RD25S471		
15	3	R1,R2,R3	620	RESISTOR	RD25S621		



HL-2.5KFX

***Unit12 FREQ SAMPLER***

Bill of Materials:		April 27th, 2007		Revised:	April 27th, 2007	15:34:45	
Item	Quantity	Reference/Symbol	Part	部品情報	型番	メーカー	Remarks
				Description	Part Type	Manufacturer	
1	1	U1	74HC14	LOGIC IC	74HC14		
2	1	J1	SMB-RPC	COAX CONNECTOR	SMB-RPC		
3	2	C2,C3	RPE103	CERAMIC CAPACITOR	RPE132F103		
4	2	C1,C4	RPE104	CERAMIC CAPACITOR	RPE132F104		
5	2	D1,D2	1S2076	DIODE	1S2076		
6	1	U2	ERA5	RF AMP	ERA5		
7	1	J1	B2B	CONNECTOR	B2B-EH		
8	1	R1	3W120	RESISTOR	RS3B121J		
9	2	R2,R3	4.7k	RESISTOR	RD25S472		
10	1	VR1	100B	TRIM POT	VR 100 OHM B		