■ PARTS LIST ■							
Model : HL-2500FX	<u>GENERAL</u>		Designer : J. Shim	nada	Revised : Ju	une 13, 2013	1 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
PS1,PS4,,,,,,	Switching Power Supply	ADA1000_48_R	ADA1000F-48-XTKHA	2	Cosel		Special Specification
P12,P13,P14,P15,P18,P19,,,	Crimping Terminal	2-3	2-3	6	Nichifu		
P1,,,,,,	Coax Plug	BNC_P	BNC_P	1	Toh-Conne		
P6,P7,P8,,,,,	Coax Plug	BNC_P55	BNC_P55	3	Toh-Conne		
P2,P3,P4,P5,P9,P10,P11,P16,P34	Coax Plug	SMB_P1.5	SMB_P1.5	9	Toh-Conne		
K1,,,,,,	Micro Switch	В	V-21-3CR6	1	Omron		
J6,,,,,,	Connector	VLR6	VLR6	1	Nichiatsu		
J4,J5,,,,,,	Connector	RCA_J	RCA_J	2	Marushin-Musen		
C2,C3,,,,,,	AC Capacitor	AC222	CS11-E2GA222MYGS	2	TDK		
C1,,,,,,	Fixed Film Dielectric Capacitors	QXP2G334	QXP2G334	1	Nichikon		
CT1,,,,,,,	Current Sensor	HAS200-S	HAS200-S	1	LEM Japan		
FAN1,,,,,,,	Cooling Fan	9GV1224P1H01(011)	9GV1224P1H01(011)	1	Sanyo Denki		
F1,F2,,,,,,	Fuse Holder	F-70	F-70	2	Sato		
F3,F4,,,,,,	Fuse Holder	250V20A(35SF20)	250V20A(35SF20)	2	Hinode Electric		
P23,P30,,,,,,	Connector	XG4M1031	XG4M1031	2	Omron		
P27,P29,P35,P36,P51,P58,,,,	Connector	XG4M1631	XG4M1631	6	Omron		
P24,P43,P44,P45,P46,P48,P54,P60, P63,P73,P76	Connector	EHR2	EHR2	11	Nichiatsu		
P62,P75,,,,,,	Connector	J42FSC-02V-KX	J42FSC-02V-KX	2	Nichiatsu		
P40,P41,,,,,,	Connector	XG4M2631	XG4M2631	2	Omron		
P61,,,,,,	Connector	EHR3	EHR3	1	Nichiatsu		
J8,,,,,,	Connector	SMP03V	SMP03V	1	Nichiatsu		
P65,P68,,,,,,	Connector	1-1123722-4	1-1123722-4	2	Taiko		
P25,P26,P32,P37,P38,P42,P49,P50, P59,,	Connector	EHR4	EHR4	9	Nichiatsu		
P56,,,,,,	Connector	MX4P	MX4P	1	Molex		
P28,P53,,,,,,	Connector	SMP04V	SMP04V	2	Nichiatsu		
J9,,,,	Connector	SMP404V	SMP404V	1	Nichiatsu		
P22,P52,,,,	Connector	SMR04V	SMR04V	2	Nichiatsu		
P66,P69,,,,	Connector	1-1123722-5	1-1123722-5	2	Nichiatsu		

■ PARTS LIST ■				_		
Model : HL-2500FX	<u>GENERAL</u>		Designer : J. Shim	ada Revised : Ju	ne 13, 2013	2 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity Manufacturer	Vendor	Remarks
P67,P70,,,,	Connector	EHR5	EHR5	2 Nichiatsu		
P64,P74,,,,	Connector	PHDR14VS	PHDR14VS	2 Nichiatsu		
P17,P20,P21,P31,P57,	Connector	EHR7	EHR7	5 Nichiatsu		
P33,P39,P47,P55,P71,P72	Connector	EHR8	EHR8	6 Nichiatsu		
PS2,,,,,	Switching Power Supply	LFA30-24	LFA30-24	1 Cosel		
PS3,,,,	Switching Power Supply	LFA50-12	LFA50-12	1 Cosel		
LF1,,,,,	Line Filter	SUP-J15G-E	SUP-J15G-E	1 Okaya Electric Industries		
L1,,,,,	Common Mode Choke Coil	L800	L800	1 THP		
R3,,,,	Metal Oxide Film Resistor	2W470k	2W470k	1 Takman		
R1,R2,,,,	Metal-Film Resistor	RN1k	RN1k	2 KOA		
M1,,,,,	Panel Meter	L1356HK-1/SK6032-45	L1356HK-1/SK6032-45	1 Shinwa		Same HL-2K
M2,,,,,	Panel Meter	L1356HK-2/SK6032-46	L1356HK-2/SK6032-46	1 Shinwa		Same HL-2K
DISP1,,,,,	LCD Module	L1356SC2402A	L1356SC2402A	1 Sunlike		
SW1,SW2,SW3,SW4,SW5	Rocker Switch	DS850	DS850	5 Miyama		
VR1,,,	Potentio Meter	RV16_10kB	RV16_10kB	1 Tokyo Cosmos		

■ PARTS LIST ■						
Model : HL-2500FX	METER UNIT	Used by two combining.	Designer : J.	Shimada Revised :	June 13, 2013	3 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity Manufacturer	Vendor	Remarks
C1	Multi Layer Ceramic Capacitor	RPE103	RPE103	1 Murata		
C2	Multi Layer Ceramic Capacitor	RPE104	RPE104	1 Murata		
JP1	Connector	S4B	S4B	1 Nichiatsu		
PCB1	PCB	PCS1790	PCS1790	1 Sanko Denki		
R1	Metal-Film Resistor	RN1/8W100	RN1/8W100	1 KOA		

■ PARTS LIST ■						
Model : HL-2500FX	ATT UNIT		Designer : J. Shimada	Revised : Ju	une 13, 2013	4 / 20
Reference/Symbol	Parts	Type/Model	Description Quantity	Manufacturer	Vendor	Remarks
ATT1,,,,	Attenuator	100W3dB	100W3dB 1	Diconix(France)	Adforest	
Q1,,,,	MOSFET	2SK4021	2SK4021 1	Toshiba		
T1,,,,	RF Transformer	RiB16x32x16/D12A_	RiB16x32x16/D12A 1	THP		
JP1,,,,	Connector	B2B	B2B 1	Nichiatsu		
T2,,,,	RF Transformer	T37-43_BFR10t0.3	T37-43_BFR10t0.3	THP		
J1,J2,J3,J4	Coaxial Connector	SMB-P1.5	SMB-P1.5 4	Toh-Conne		
C7,,,,	Chemical Capacitor	2kV18p	2kV18p 1	TDK		
C3,C4,,,	Chemical Capacitor	2kV82p	2kV82p 2	TDK		
C1,,,,	Chemical Capacitor	2kV12pF		TDK		
C5,C6,C9,C10,C13	Chemical Capacitor	CC630V104	GRM43DR72J104 KW01L 5	Murata		
C12,,,,	Chemical Capacitor	RPE103		Murata		
C14,,,,	Chemical Capacitor	RPE_CH_222	RPE2C1H222 1	Murata		
COAX1,COAX2,COAX3,,	Coaxial Cable	DFS014(25)	DFS014(25) 3	Junkosha		
L3,,,	Carbon Resistor	00НМ	00HM 1	Takman		
L6,L7,L8,L9	Choke Coil	CB20_100uH	CB20_100uH 4	Shichinohe Tsushin		
L4,,,	Choke Coil	LC0089	LC0089 1	Shichinohe Tsushin		
C8,C11,,	Chemical Capacitor	100V47u	EKMG101ELL470 2	Nippon Chemi-Con		
C2,C15	Trimmer Capacitor	TZ03Z100F169	TZ03Z100F169 2	Murata		
D6,,,	Diode	1N4007	1N4007 1	Rectron		
D1,D2,,	PIN Diode	MA4P4006B	MA4P4006B 2	MA-COM		
F1,,,	Fuse	LM16	LM16 1	Daito Communication Apparatus		
JP2,,,	Connector	B4B	B4B 1	Nichiatsu		
L1,,,	Coil	T50-12_5t	T50-12_5t 1	THP		
L5,,,	Coil	T50-12-14t	T50-12-14t 1	THP		
L2,,,	Coil	T50-12-3t	T50-12-3t 1	THP		
FH1,,,	Fuse Holder	LM1H	LM1H 1	Daito Communication Apparatus		

■ PARTS LIST ■							
Model : HL-2500FX	ATT UNIT		Designer : J. Shima	ada	Revised : Jur	5 / 20	
Reference/Symbol	Parts	Type/Model	Description Qu	uantity	Manufacturer	Vendor	Remarks
PCB1,,,	PC Board	PCSO1894	PCSO1894	1	Sanko Denki/Orion		
R9,,,	Metal Oxide Film Resistor	1W4.7k		1	Takman		
R12,,,	Carbon Resistor	1k		1	Takman		
R1,R2,R3	Metal Oxide Film Resistor	2W18		3	Takman		
R13,,	Carbon Resistor	4.7k		1	Takman		
R8,,	Metal Oxide Film Resistor	5W2.2k		1	Takman		
R10,,	Metal Oxide Film Resistor	5W4.7k		1	Takman		
R5,R6,	Metal-Film Resistor	RN2W51	SN3DDCF51Ω	2	KOA		
R11,,	Power Resistor(High Power)	RNP10_39	RNP10_39	1	Nikkohm		
R4,,	Power Resistor(High Power)	RNP50UC_22ohm	RNP50UC_22ohm	1	Nikkohm		
R7,,	Power Resistor(High Power)	RNP50_120ohm	RNP50_120ohm	1	Nikkohm		
FC1,FC2,FC3	Ferrite Bead	HF70RH8x15x4	HF70RH8x15x4	3	TDK		
D3,D4,D5	Zener Diode	HZ33-2	HZ33-2	3	Renesas		

■ PARTS LIST ■							
Model : HL-2500FX	COMBINER UNIT		Designer : J. Sh	imada	Revised : Ju	une 13, 2013	6 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
TB1,TB2,TB3,TB4,TB5,TB6	Terminal Screw	Y103	Y103	6	Morimatsu		
T1,,,,	RF Transformer	RIB42x42x21_D12A	RIB42x42x21_D12A	1	THP		
K1,,,,,	Temperature Switch	OHD5R_70	OHD5R_70	1	TOKIN		
JP2,,,,,	Connector	B6BVL	B6BVL	1	Nichiatsu		
P1,,,,,	Connector	BNC_P55U	BNC_P55U	1	Toh-Conne		
C3,,,,,	Ceramic Capacitor	2kV12p	2kV12p	1	TDK		
C1,C2,C4,C5,,	Multi Layer Ceramic Capacitor	RPE103	RPE132R103K50	4	Murata		
C6,,,,,	Multi Layer Ceramic Capacitor	RPE104	RPE132R104K50	1	Murata		
C8,C10,C12,,,	Multi Layer Ceramic Capacitor	RPE105	RPE123E105Z50	3	Murata		
COAX2,COAX4,COAX6,,,	Coaxial Cable	DFS25ohm	DFS25ohm	3	Junkosha		
COAX1,COAX3,COAX5,,,	Coaxial Cable	DFS50ohm_43cm	DFS50ohm_43cm	3	Junkosha		
COAX7,,,,,	Coaxial Cable	RG18x250mm	RG18x250mm	1	Fujikura		
C7,C9,C11,,,	Chemical Capacitor	100V47u	EKMG101ELL470	3	Nippon Chemi-Con		
D1,,,,,	Diode	1N4002	1N4002	1	Rectron		
FB1,FB2,FB3,FB4,FB5,FB6	Ferrite Fuse	HF70RH8X15X4	HF70RH8X15X4	6	TDK		
F1,F2,F3,,,	Fuse	1197_20A_58V	1197_20A_58V	3	Fujix		
JP1,,,,,	Connector	B7B	B7B	1	Nichiatsu		
L1,,,,,	Coil	ID12_4t_PEW2	ID12_4t_PEW2	1	THP		
R5,R7,R9,,,	Carbon Resistor	1/2W4.7k	1/2W4.7k	3	Takman		
R6,R8,R10,,,	Metal Oxide Film Resistor	1W4.7k	1W4.7k	3	Takman		
R4,,,,,	Carbon Resistor	2.2k	2.2k	1	Takman		
R1,R2,R3,,,	Power Resistor(High Power)	RNP50UC18ohm	RNP50UC18ohm	3	Nikkohm		
K2,,,,,	Relay	G2RL_1b_DC12V	G2RL_1b_DC12V	1	Omron		
FH1,FH2,FH3,,,	Fuse Holder	FHA040-01	FHA040-01	3	Fujix		
FC2,FC4,FC6,,,	Ferrite Core	RIB10x20x15_D12A	RIB10x20x15_D12A	3	Tomita		
FC1,FC3,FC5,,,	Ferrite Core	TRB20x10x10_D12A	x(TRB20x10x10_D12A)	κ € 18	Tomita		

■ PARTS LIST ■						
Model : HL-2500FX	COMBINER UNIT		Designer : J. Shimada	Revised : J	une 13, 2013	7 / 20
Reference/Symbol	Parts	Type/Model	Description Quantity	Manufacturer	Vendor	Remarks
U1,,,,,	Photo Cupler	TLP521	TLP521 1	Toshiba		
D2,D3,D4	LED	TPL-230BTB	TPL-230BTB(Green)	Sanyo/Stanley		
PCB1	PCB	PCSO1897	PCSO1897 1	Sanko Denki/Orion		

■ PARTS LIST ■							
Model : HL-2500FX	<u>CPU UNIT</u>		Designer : J. Sh	imada	Revised : June	e 13, 2013	8 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
Q1,Q2,Q3,Q4,,,,,,	Transistor	2SC1959	2SC1959	4	Toshiba		
U9,,,,,,	Logic IC	74HC14A	74HC14A	1	TI		
U15,,,,,,	3-Terminal Regulator	7805	NJM7805	1	New JRC		
J1,,,,,,,	Connector	SMB-RPC	SMB-RPC	1	Toh-Conne		
C33,,,,,,	Ceramic Capacitor	CH10p	CH10p	1	Maruwa		
C34,,,,,,	Ceramic Capacitor	CH27p	CH27p	1	Maruwa		
C37,,,,,,	Fixed Film Dielectric Capacitors	FL103	ECQV1H103JL	1	Panasonic		
C46,,,,,,	Fixed Film Dielectric Capacitors	FL104	ECQV1H104JL	1	Panasonic		
C43,C57,C62,C69,C77,C86,C94,,,,,,,,,,	Fixed Film Dielectric Capacitors	FL105	ECQV1H105JL	7	Panasonic		
C45,,,,,,	Fixed Film Dielectric Capacitors	FL224	ECQV1H224JL	1	Panasonic		
C44,,,,,,	Fixed Film Dielectric Capacitors	FL474	ECQV1H474JL	1	Panasonic		
C12,C13,C14,C15,C16,C17,C18,C19	Multi Layer Ceramic Capacitor	RPE101	RPE2CH101J	8	Murata		
C8,C9,C10,C11,C54,C55,C56,C58,C 59,C61,C63,C67,C68,C70,C71,C73, C80,C85,C91	Multi Layer Ceramic Capacitor	RPE102	RPE132R102K50	19	Murata		
C27,C28,C40,C41,C49,C50,C60,C72,C76,C93,,,,,,	Multi Layer Ceramic Capacitor	RPE103	RPE132R103K50	10	Murata		
C42,C47,C48,C51,,,,,	Multi Layer Ceramic Capacitor	RPE104	RPE132R105K50	4	Murata		
C2,C3,C4,C5,C6,C24,C25,C26,C38, C64,C65,C74,C75,C78,C79,C81,C82	Multi Layer Ceramic Capacitor	RPE105	RPE123E105Z50	17	Murata		
C83,C84,,,,,,	Multi Layer Ceramic Capacitor	RPE222	RPE132R222K50	2	Murata		
C31,C36,,,,,,	Multi Layer Ceramic Capacitor	RPE561	RPE2CH561J	2	Murata		
C39,,,,,,	Chemical Capacitor	25V22u	EKMG250ELL220	1	Nippon Chemi-Con		
C21,C22,C35,C52,,,,,,	Chemical Capacitor	25V47u	EKMG250ELL470	4	Nippon Chemi-Con		
C89,,,,,,	Chemical Capacitor	50V100u	EKMG500ELL101	1	Nippon Chemi-Con		
C1,C7,C20,C23,C29,C30,C53,C66,C 87,C88,C92,,,,,,	Chemical Capacitor	50V10u	EKMG500ELL100	11	Nippon Chemi-Con		
C90,,,,,,	Chemical Capacitor	50V220u	EKMG500ELL221	1	Nippon Chemi-Con		
C32,,,,,,	Trimmer Capacitor	TZ03_47p	TZ0Z500F169B00	1	Murata		

■ PARTS LIST ■							
Model : HL-2500FX	<u>CPU UNIT</u>		Designer : J. Sh	imada	Revised : June	13, 2013	9 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
D1,D5,D6,D10,,,,,,	Diode	1S2076A	1S2076A	4	Renesas		
D16,D17,D20,,,,,,	Diode	DNJ10	DNJ10	3	Shidengen		
SW2,,,,,,	DIP Switch	DSS103	DSS103	1	Omron		
SW4,,,,,,	DIP Switch	DSS104	DSS104	1	Omron		
SW3,,,,	DIP Switch	DSS105	DSS105	1	Omron		
U5,,,,	Timer IC	TLC555(CMOS)	TLC555(CMOS)	1	Texas		
U7,,,,	Comparator	LM393N	LM393N	1	National Semiconductor		
JP7,,,,	Connector	B10B	B10B	1	Nichiastu		
JP8,,,,	Connector	XG4C1032	XG4C1032	1	Omron		
U8,,,,	RF Amplifier	ERA5	ERA5		Mini-Circuits		
FH1,FH2,,,	Fuse Holder	LM1H	LM1H	2	Daito Communication Apparatus		
F2,,,,	Fuse	LM20	LM20	1	Daito Communication Apparatus		
F1,,,,	Fuse	LM32	LM32	1	Daito Communication Apparatus		
JP11,,,,	Connector	B10B	B10B	1	Nichiastu		
JP16,,,,	Connector	XG4C1631	XG4C1631	1	Omron		
JP1,JP3,,,	Connector	XG4C1632	XG4C1632	2	Omron		
JP5,JP6,JP9,JP10,JP18	Connector	B2B	B2B	5	Nichiastu		
JP2,,,,	Connector	XG4C2632	XG4C2632	1	Omron		
JP4,JP14,JP19,JP20,	Connector	B4B	B4B	4	Nichiastu		
JP15,,,,	Connector	B6B	B6B	1	Nichiastu		
JP12,,,,,,	Connector	B7B	B7B	1	Nichiastu		
JP13,JP17,JP21,,,,,,	Connector	B8B	B8B	3	Nichiastu		
D2,,D11,	LED	SLP455B-51	SLP455B-51	2	Sanyo		Orange
D4,D8,D12,,,,,,,	LED	TPL-930B-TB	TPL-930B-TB	3	Sanyo		Red
D3	LED	SLP-155B-50	SLP-155B-50	1	Sanyo		Red
D7,D14	LED	PG5351KY	PG5351KY	2	Stanley		Green
D19	LED	L-314LBD-T1-DPE	10 L-314LBD-T1-DPE1	1 1	PARA China		Blue

■ PARTS LIST ■							
Model : HL-2500FX	<u>CPU UNIT</u>		Designer : J. S	Shimada	Revised : June	13, 2013	10 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
D13	LED	UC3803X	UC3803X	1	Stanley		Pure Green
U2,,,,,,	Interface IC	MAX232	MAX232C	1	Maxim		
U1,U3,,,,,,,	Port Extended IC	NJU3754	NJU3754	2	New JRC		
U11,U12,U14,,,,,,,	Operational Amplifier	LF347N	LF347N	3	National Semiconductor		
PCB1,,,,,,,	PCB	PCSO1899	PCSO1899	1	Sanko Denki/Orion		
OPT1,OPT2,OPT3,OPT4,OPT5,OP T6,OPT7,OPT9,OPT10,,,,	Photo MOS Relay	G3VM351	G3VM351	9	Omron		
OPT8,,,,,,,,,	Photo MOS Relay	G3VM61A1	G3VM61A1	1	Omron		
U13,,,,,,,	Micro Processor	PIC12F683	PIC12F683	1	Microchip		
U4,,,,,,,	Micro Processor	18F8722-I/PT	18F8722-I/PT	1	Microchip		
R76,,,,,,	Carbon Resistor	1.5k		1	Takman		
R80,R81,,,,,,,	Carbon Resistor	1/2W33		2	Takman		
R1,R2,R3,R4,R5,R6,R7,R8,R9,R10,R 11,R12,R102	Carbon Resistor	100		13	Takman		
R27,R32,,,,,,	Metal-Film Resistor	10M		2	KOA		
R17,R19,R23,R46,,,,,,	Carbon Resistor	10k		4	Takman		
R13,,,,,,	Metal Oxide Film Resistor	1W22		1	KOA		
R25,R57,R64,R66,R74,R79,R92,R94, R105,R115,R126,R135,,,,,	Carbon Resistor	1k		12	Takman		
R53,R56,R58,,,,,,	Carbon Resistor	2.2k		3	Takman		
R14,R22,R36,R43,R51,R60,R67,R77, R84,R88,R103,R113,,,,,	Carbon Resistor	220		12	Takman		
R47,,,,,,	Metal Oxide Film Resistor	2W120		1	KOA		
R16,R21,R24,R28,R29,R30,R31,R35, R42,R44,R50,R59,R73,R107,R109,R 110,R111	Carbon Resistor	3.3k		17	Takman		
R55,,,,,,	Carbon Resistor	3.9k		1	Takman		
R61,R116,,,,,,	Carbon Resistor	330		2	Takman		
R108,,,,,,,	Carbon Resistor	33k		1	Takman		

■ PARTS LIST ■							
Model : HL-2500FX	<u>CPU UNIT</u>		Designer : J. Sh	nimada	Revised : June	13, 2013	11 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
R48,R49,R54,R62,,,,,,	Carbon Resistor	4.7k		4	Takman		
R39,,,,,,	Carbon Resistor	47k		1	Takman		
R132,,,,,,	Metal Oxide Film Resistor	5W15		1	KOA		
R120,,,,,,	Metal-Film Resistor	RN1/2W82k		1	KOA		
R129,,	Metal-Film Resistor	RN100		1	KOA		
R20,R119,R128,R133,,,,,,	Metal-Film Resistor	RN100k		4	KOA		
R33,R34,R37,R40,R41,R65,R68,R78, R83,R90,R93,R96,R97,R104,R114,R 118,R125,R127,R134,R136,R137,R1 41	Metal-Film Resistor	RN10k		22	КОА		
R69,R82,,,,,	Metal-Film Resistor	RN1M		2	KOA		
R85,R99,R123,,,,,,,	Metal-Film Resistor	RN1k		11	КОА		
R71,R86,R89,R100,R121,R124,R130, R139,,	Metal-Film Resistor	RN2.2k		8	КОА		
R91,R98,R106,,,,,,	Metal-Film Resistor	RN33k		3	KOA		
R52,,,,,,	Metal-Film Resistor	RN39		1	KOA		
R72,R87,R95,R101,R122,R131,R140,	Metal-Film Resistor	RN4.7k		7	коа		
R117,R138,,,,,,,,	Metal-Film Resistor	RN47k		2	KOA		
R112,,,,,,	Metal-Film Resistor	RN5.1k		1	KOA		
SW8,,,,,,,	Rotary Switch	SRBV141400	SRBV141400	1	Alps		
SW1,,,,,,,	Rotary Switch	SRBV181000	SRBV181000	1	Alps		
HS1,,,,,,	Heat Sink	SINK		1	LSI-Cooler		
SOCKET1,,,,,,,,,,,,	IC Socket	SOCKET_DIP8	SOCKET_DIP8	1	KEL		
SQ1,SQ2,SQ3,,,,,,	IC Socket	SOCKET_DIP_14	SOCKET_DIP_14	3	KEL		
SQ4,,,,,,	IC Socket	SOCKET_DIP_8	SOCKET_DIP_8	1	KEL		
SW5,SW6,SW7,,,,,,,,,,,	Slide Switch	SS-12SDH2	SS-12SDH2	3	Alps		
SW9,,	Slide Switch	SS-12SDP2	SS-12SDP2	1	Alps		
U6,,	Reset IC	TCM809JVLB713	TCM809JVLB713	1	Microchip		

■ PARTS LIST ■							
Model : HL-2500FX	<u>CPU UNIT</u>		Designer : J. Sl	himada	Revised : Jun	e 13, 2013	12 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
U10,,	Relay Driver IC	TD62083AP	TD62083AP	1	Toshiba		
TP1,,	Check Point Terminal	LC-3-S	LC-3-S	1	Mac-Eight		
VR5,,	Semi Fixed Resistor	CT6EP100Ω	CT6EP100Ω	1	Copal		
VR1,,	Semi Fixed Resistor	CT6EP10k	CT6EP10k	1	Copal		
VR2,VR3,VR4	Semi Fixed Resistor	CT6EX10kB	CT6EX10kB	3	Copal		
VR13,,	Semi Fixed Resistor	TM7EX100k	TM7EX100k	1	Copal		
VR7,VR9,VR10	Semi Fixed Resistor	TM7EX100kB	TM7EX100kB	3	Copal		
VR11,VR14,	Semi Fixed Resistor	TM7EX10kB	TM7EX10kB	2	Copal		
VR12,,	Semi Fixed Resistor	TM7EX20kB	TM7EX20kB	1	Copal		
VR6,VR8,	Semi Fixed Resistor	TM7EX5kB	TM7EX5kB	2	Copal		
X1,,	Quartz Unit	20.000MHz	20.000MHz	1		Akizuki	
D18,,	Zener Diode	05Z2.7	05Z2.7	1	Toshiba		
D9,D14	Zener Diode	05Z6.2	05Z6.2	2	Toshiba		
FIL1,FIL2,FIL3,FIL4,FIL5	ZJS	ZJSR5101-222-01	ZJSR5101-222-01	5	TDK		
ZNR1,,,,	ZNR	ERZV10D270	ERZV10D270	1	Panasonic		

Model HL-2500FX	<u>DETECTOR UNIT</u>	R UNIT Designer : J. Shimada		himada Revised : Ju	Revised : June 13, 2013		
Reference/Symbol	Parts	Type/Model	Description	Quantity Manufacturer	Vendor	Remarks	
J1,J3,,,,	Connector	BNC_RPC	BNC_RPC	2 Toh-Conne			
J2,J4,J5,,,	Connector	SO-239	SO-239	3 AIMMET			
J6,,,,	Connector	SMB-RPC	SMB-RPC	1 Toh-Conne			
C14,C15,C16,C17,C18,C19	Chip Ceramic Capacitor	1GRM43R2C2A472J	1GRM43R2C2A472	6 Murata			
C1,C5,C8,,,	Ceramic Capacitor	500VCH10p	500VCH10p	3 Maruwa			
C4,C12,C13,,,	Multi Layer Ceramic Capacitor	RPE222	RPE222	3 Murata			
C3,C7,C10,,,	Chip Mica Capacitor	UC553A270p	UC553A270p	3 Soshin Electric			
C2,C6,C9,,,	Trimmer Capacitor	TZ03_7p	TZ03_7p	3 Murata			
C11,,,,,	Trimmer Capacitor	TZ03_20p	TZ03_20p	1 Murata			
D1,D2,D3,,,	Diode	1N5711	1N5711	3 Stmicro			
JP1,,,,,	Connector	B7B	B7B	1 Nichiatsu			
L4,L5,,,,	Correction Coil	1t	1t	2 THP			
L1,L2,L3,,,	Inductor	LAL04NA470uH	LAL04NA470uH	3 Taiyo Yuden			
R3,,	Carbon Resistor	1/2W33	1/2W33	1 Takman			
R1,R2,	Metal-Film Resistor	RN1/2W22	RN1/2W22	2 KOA			
R4,R5,	Metal-Film Resistor	RN1W22	RN1W22	2 KOA			
Т1,Т2,	RF Transformer	T50-61#	T50-61#0.3 × 30t	2 Micro Metal			
K1,K2,K3	Relay	DK1A1B-12	DK1A1B-12	3 Panasonic			
PCB1	PC Board		PCSO1898	1 Sanko-Denki/Orion			

PARTS LIST			Desimon I Chi	d-	Davis ad v lo	12 2012	14 / 00
Model : HL-2500FX	<u>DISTRIBUTION UNIT</u>		Designer : J. Shimada		Revised : June 13, 2013		14 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
C1,C2,C5,C6	AC Condenser	AC222	CS11-E2GA222MYGS	4	TDK		
C3,C4,,	Fixed Film Dielectric Capacitors	QXP2G334	QXP2G334	2	Nichicon		
C7,C8,C12,C13	Multi Layer Ceramic Capacitor	RPE103	RPE132R103K50	4	Murata		
C9,C10,C11,	Multi Layer Ceramic Capacitor	RPE104	RPE132R104K50	3	Murata		
D1,D2,D3,D4	Diode	1N4002	1N4002	4	RECTRON		
JP6,,,	Connector	XG4C1631	XG4C1631	1	Omron		
JP7,,,	Connector	B2B	B2B	1	Nichiatsu		
JP1,JP2,,	Connector	SC02B-J42SK-GHXR	SC02B-J42SK-GHXR	2	Nichiatsu		
JP4,JP5,,	Connector	B5B	B5B	2	Nichiatsu		
JP3,,,	Connector	B7B	B7B	1	Nichiatsu		
JP8,JP9,,	Connector	B8B	B8B	2	Nichiatsu		
L1,,,	Filter Coil	L800	L800	1	THP		
PCB1,,,	PCB	PCSO1901	PCSO1901	1	Sanko Denki/Orion		
R5,,,	Carbon Resistor	0ohm	0ohm	1	Takman		
R1,R2,,	Carbon Resistor	1/2W4.7	1/2W4.7	2	Takman		
R3,R4,,	Metal-Film Resistor	RN4.7k	RN4.7k	2	KOA		
K1,K2,,	Relay	G4A-1A-PEDC24V	G4A-1A-PEDC24V	2	Omron		
K3,K3C,,	Relay	DSP2a_DC12V	DSP2a_DC12V	2	Panasonic		
K4,K5,,	Relay	DS2_DC12V	DS2_DC12V	2	Panasonic		
SK1,,,	Relay Socket	DSP_SOCKET	DSP_SOCKET	1	Panasonic		
VR1,VR2,VR3,VR4	Semi Fixed Resistor	TM7EX1kB	TM7EX1kB	4	Copal		
ZNR1,,,	ZNR	ERZV20D471	ERZV20D471	1	Panasonic		

■ PARTS LIST ■							
Model : HL-2500FX	FILTER UNIT		Designer : J. Shim	ada	Revised : June 13, 2013		15 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
J1,J2,,,	Connector	BNC-RPC	BNC-RPC	2	Toh-Conne		
C6,,,,	Chip Ceramic Capacitor	ATC1000p	ATC800C1000p	1	ATC		ATC-100C
C21,C29,C30,,	Chip Ceramic Capacitor	ATC100p	ATC800C100p	3	ATC		
C22,C28,,,	Chip Ceramic Capacitor	ATC120p	ATC800C120p	2	ATC		
C23,,,,	Chip Ceramic Capacitor	ATC150p	ATC800C150p	1	ATC		
C104,,,,	Chip Ceramic Capacitor	ATC15p	ATC800C15p	1	ATC		
C11,C20,C26,,	Chip Ceramic Capacitor	ATC180p	ATC800C180p	3	ATC		
C4,C14,,,	Chip Ceramic Capacitor	ATC270p	ATC800C270p	2	ATC		
C10,,,,	Chip Ceramic Capacitor	ATC330p	ATC800C330p	1	ATC		
C41,,,,	Chip Ceramic Capacitor	ATC33p	ATC800C33p	1	ATC		
C17,,,,	Chip Ceramic Capacitor	ATC390p	ATC800C390p	1	ATC		
C12,C91,,,	Chip Ceramic Capacitor	ATC470p	ATC800C470p	2	ATC		
C25,C35,C36,C39,C42,C103	Chip Ceramic Capacitor	ATC47p	ATC800C47p	6	ATC		
C34,,,,,,	Chip Ceramic Capacitor	ATC68p	ATC800C68p	1	ATC		
C33,,,,,,	Chip Ceramic Capacitor	ATC82p	ATC800C82p	1	ATC		
C44,C45,C46,C47,C48,C49,C50,C51, C52,C53,C54,C55,C56,C57,C58,C59, C60,C61,C62,C63,C64,C65,C66,C67, C68,C69,C70,C71,C72,C73,C74,C75	Chip Ceramic Capacitor	CC472	GRM		Murata		
C2,C3,C5,,,,,	Fixed Film Dielectric Capacitors	FL102J2000	FHCD202V102J	3	Nippon Chemi- Con		
C76,C77,C78,C79,C80,C81,C82,C83,	Multi Layer Ceramic Capacitor	RPE103	RPER11H103K2M1A01A	8	Murata		
C1,C8,C9,C90,	Ceramic Capacitor	TDK100p	TDK100p	4	TDK		
C37,C43,C99,	Ceramic Capacitor	TDK10p	TDK10p	3	TDK		
C32,C38,C97,C101,	Ceramic Capacitor	TDK12p	TDK12p	4	TDK		
C31,C98,	Ceramic Capacitor	TDK15p	TDK15p	2	TDK		
C16,C18,C19,C95,,,,,,	Ceramic Capacitor	TDK22p	TDK22p	4	TDK		

■ PARTS LIST ■						
Model : HL-2500FX	FILTER UNIT		Designer : J. Sh	himada Revised : Ju	ine 13, 2013	16 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity Manufacturer	Vendor	Remarks
C92,C93,	Ceramic Capacitor	TDK33p	TDK33p	2 TDK		
C13,C15,C94,C96,	Ceramic Capacitor	TDK47p	TDK47p	4 TDK		
C100,C102,,,,,,	Ceramic Capacitor	TDK5p	TDK5p	2 TDK		
JP1,,,,,,	CONN 5x2	XG4C-1032	XG4C-1032	1 OMRON		
D1,D2,D3,D4,D5,D6,D7,D8,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Diode	1N4002	1N4002	8 RECTRON		
JP2,,,,,,	Connector	B10B	B10B	1 Nichiatsu		
L13,,,,,,,,	Coil	AR-D10-10t	AR-D10-10t	1 Shichinohe Tsushin		
_15,L16,,,,,,	Coil	AR-D10-5t	AR-D10-5t	2 Shichinohe Tsushin		
_14,,,,,,,,,	Coil	AR-D10-8t	AR-D10-8t	1 Shichinohe Tsushin		
_12,,,,,,,,,	Coil	AR-D12-8t	AR-D12-8t	1 Shichinohe Tsushin		
_11,,,,,,,,,	Coil	AR-D12-9t	AR-D12-9t	Shichinohe Tsushin		
_3,,,,,,,	Coil	T130-2-13t	T130-2-13t	1 Shichinohe Tsushin		
_1,,,,,,,,	Coil	T130-2-14t	T130-2-14t	1 Shichinohe Tsushin		
_5,,,,,,,	Coil	T130-2-7t	T130-2-7t	Shichinohe 1 Tsushin		
_7,L9,,,,,,,	Coil	T130-6-7t	T130-6-7t	2 Shichinohe Tsushin		
_4,,,,,,,	Coil	T157-2-11t	T157-2-11t	Shichinohe Tsushin		
_2,,,,,,	Coil	T157-2-16t	T157-2-16t	Shichinohe Tsushin		
_6,,,,,,,	Coil	T157-2-8t	T157-2-8t	Shichinohe 1 Tsushin		
_8,,,,,,,	Coil	T157-6-8t	T157-6-8t	Shichinohe Tsushin		
_10,,,,,,	Coil	T157-6-6t	T157-6-6t	1 Shichinohe Tsushin		
PCB1,,,,,,,,,,	PCB	PCSO1897	PCSO1897	Sanko- Denki/ORION		
RL1,RL2,RL3,RL4,RL5,RL6,RL7,RL8, RL9,RL10,RL11,RL12,RL13,RL14,RL 15,RL16	RL1C	G2RL-1-DC12V	G2RL-1-DC12V	16 OMRON		

Model: HL-2500FX	HIGH-VOLTAGE UNIT		Designer : J. Shimada	Revised : June 13, 2013		17 / 20
Reference/Symbol	Parts	Type/Model	Description Quantity	Manufacturer	Vendor	Remarks
U1,,,	3-Terminal Regulator	79L12	79L12 1	New JRC		
C1,,,	Fixed Film Dielectric Capacitors	ECQE1475KF	ECQE1475KF 1	Panasonic		
C3,,,	Chemical Capacitor	200V22u	EKMG201ELL220 1	Nippon Chemi-Con		
C5,,,	Chemical Capacitor	25V22u	EKMG250ELL220 1	Nippon Chemi-Con		
C2,C4,,	Chemical Capacitor	50V100u	EKMG500ELL101 2	Nippon Chemi-Con		
C6,,,	Chemical Capacitor	50V2.2u	EKMG500ELL2R2 1	Nippon Chemi-Con		
D7,,,	Diode	1N5711	1N5711 1	ST Micro		
D8,,,	Diode	1S2076	1S2076A 1	Renesas		
D1,D2,D3,D5	Diode	UF4007	UF4007 4	RECTRON		
JP3,JP4,,	Connector	B2B	B2B 2	Nichiatsu		
JP5,,,	Connector	ВЗВ	B3B 1	Nichiatsu		
JP1,,,	Connector	B4B	B4B 1	Nichiatsu		
JP2,,,	Connector	B8B	B8B 1	Nichiatsu		
D6,	LED	TPL230B-TB	TPL230B-TB 1	Sanyo		
D4,	LED	TPL430B-TB	TPL430B-TB 1	Sanyo		
D9,	LED	TPL930B-TB	TPL930B-TB 1	Sanyo		
PCB1,	PCB	PCSO1917	PCSO1917 1	Sanko- Denki/ORION		
R5,R6	Carbon Resistor	1/2W1k	1/2W1k 2	Takman		
R1,	Metal Oxide Film Resistor	1W22	1W22 1	Takman		
₹3,	Metal Oxide Film Resistor	1W47k	1W47k 1	Takman		
R4,	Carbon Resistor	2.2k	2.2k 1	Takman		
R2,	Metal Oxide Film Resistor	2W1k	2W1k 1	Takman		

Model : HL-2500FX	INTERFACE UNIT		Designer : J. Shimada		Revised : Ju	une 13, 2013	18 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity	Manufacturer	Vendor	Remarks
C3	Multi Layer Ceramic Capacitor	RPE103	RPE103	1 M	urata		
C5,C6	Multi Layer Ceramic Capacitor	RPE105	RPE105	2 M	urata		
C1	Chemical Capacitor	25V100u	25V100u	1 N	ippon Chemi-Con		
C2	Chemical Capacitor	25V47u	25V47u	1 N	ippon Chemi-Con		
C4	Chemical Capacitor	50V4.7u	50V4.7u	1 N	ippon Chemi-Con		
J2	D-SUB15	17LE-13090-27(D3CB)F	17LE-13090-27(D3CB)F/	1 D	DK		
J3	D-SUB9	17LE-13090-27(D3CB)F	17LE-13090-27(D3CB)F/	1 D	DK		
J1	DIN 7 Pins	TCS4470-0140577	TCS4470-0140577	1 H	oshiden		
FB1	EX35	EXCELSA35	EXCELSA35	1 P	anasonic		
U1	USB Interface	FT232RL	FT232RL	1 F	TDI		
JP1	Connector	XG4C2631	XG4C2631	1 0	mron		
D1	LED	SLP-178B(R)	SLP-178B(R)	1 S	anyo		
D2	LED	SLP-278B(G)	SLP-278B(G)	1 S	anyo		
PCB1	PCB	PCSO1900	PCSO1900	1 0	mron		
R1,R2	Carbon Resistor	330	330	2 T	akman		
SW1	BND Switch	RD1-112R-R15	RD1-112R-R15	1 N	ihon Kaiheiki		
J4	USB Mini-B	C-02235	C-02235	1		Akizuki	
F1	Fuse	LM10	LM10		aito Communication		
FH1	Fuse Holder	LM1H	LM1H	1 Da	aito Communication oparatus		
D3	Zener Diode	1Z6.2	1Z6.2		enesas		
D4	Diode	SR140	SR140	1 R	ECTRON		

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Model : HL-2500FX	PA UNIT		Designer : J. Shim	ada Revised : Ju	ne 13, 2013	19 / 20
Reference/Symbol	Parts	Type/Model	Description	Quantity Manufacturer	Vendor	Remarks
Q1,,,,,,	Transistor	2SC1959Y	2SC1959Y	1 Toshiba		
U1,,,,,,	3-Terminal Regulator	78L08	78L08	1 New JRC		
P1,P2,P3,P4,P5,P6,,,,,,	Crimp Type Terminal	2-3	2-3	6 Nichiatsu		
TB1,TB2,TB3,,,,,,	Screw Terminal	Y103	Y103	3 Morimatsu		
K1,,,,,,	Temperature Switch	OHD7R80B	OHD7R80B	1 TOKIN		
J1,J2,J3,,,,,,	Connector	SMB-RPC	SMB-RPC	3 Toh-Conne		
C11,C20,C31,C40,C51,C60,,,,,,,,,,,,,,,,,,,,,,,,	Ceramic Capacitor	CK45B3AD103KYANB	CK45B3AD103KYANB	6 TDK		
C14,C15,C17,C18,C22,C23,C24,C25,C26,C27,C28,C29,C34,C35,C37,C38,C42,C43,C44,C45,C46,C47,C48,C49,C54,C55,C57,C58,C62,C63,C64,C65,C66,C67,C68,C69	Chip Ceramic Capacitor	CC630V104	GRM43DR72J104KW01L	36 Murata		
C16,C36,C56,,,,,,	Dip Mica Capacitor	UC342H3300J	UC342H3300J	3 Soshin		
C30,C50,C70,,,,,,	Fixed Film Dielectric Capacitors	ECQE1225KF	ECQE1225KF	3 Panasonic		
C3,C5,C6,C7,C8,C10,	Multi Layer Ceramic Capacitor	RPE103	RPE132R103K50	6 Murata		
C9,C12,C13,C19,C21,C32,C33,C39,C41,C52,C53,C59,C61,	Multi Layer Ceramic Capacitor	RPE104	RPE132R104K50	13 Murata		
C1,C2,,,,,,	Chemical Capacitor	25V10u	EKMG250ELL100	2 Nippon Chemi-Con		
C4,,,,,	Chemical Capacitor	50V4.7u	EKMG500ELL4R7	1 Nippon Chemi-Con		
D1,D2,D4,D5,D7,D8	Diode	1S2076A	1S2076A	6 Renesas		
FB1,,,,,	Ferrite Bead	EX35	ECSELSA35	1 Panasonic		
FB2,FB3,FB4,FB5,FB6,FB7	Ferrite Bead	HF70RH8X15X4	HF70RH8X15X4	6 TDK		
JP1,,,,	Connector	XG4C1631	XG4C1631	1 Omron		
JP3,,,,	Connector	B4B	B4B	1 Nichiatsu		
JP2,,,,,	Connector	B7B	B7B	1 Nichiatsu		
LED1,,,,,	LED	TPL230B-TB	TPL230B-TB	1 Sanyo		
U3,,,,	IC	LM35DT	LM35DT	1 National Semiconductor		
Q2,Q3,Q4,Q5,Q6,Q7	MOSFET	THP2933	THP2933	Semiconductor 6 ST Micro or Micro Semi		
PCB1,,,,	РСВ	PCSO1896	PCSO1896	1 Sanko-Denki/Orion		

Model : HL-2500FX	PA UNIT		Designer : J. Shin	nada	Revised : June	13 2013	20 / 20
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Reference/Symbol	Parts	Type/Model	Description	Quantity Manu	ufacturer	Vendor	Remarks
R6,,,,	Carbon Resistor	0		1 Takman			
R15,R17,R30,R32,R45,R47	Carbon Resistor	1/2W2.2k		6 Takman			
R8,,,,,	Carbon Resistor	1k		1 Takman			
R4,,,,,	Carbon Resistor	2.2		1 Takman			
R2,R5,R7,,,	Carbon Resistor	2.2k		3 Takman			
R12,R20,R27,R35,R42,R50,,,,,	Metal Oxide Film Resistor	2W47		6 Takman			
R1,,,,,,,	Metal Oxide Film Resistor	2W82		1 Takman			
R3,,,,,,	Carbon Resistor	2k		1 Takman			
R16,R31,R46,,,,,,,	Metal Oxide Film Resistor	5W220		3 Takman			
R9,R10,R22,R23,R24,R25,R37,R38,R 39,R40,R52,R53	Metal Oxide Film Resistor	5W24		12 Takman			
R11,R21,R26,R36,R41,R51,,,,,	Metal Oxide Film Resistor	5W470		6 Takman			
R13,R14,R18,R19,R28,R29,R33,R34, R43,R44,R48,R49	Chip Resistor	MCR1W1	MCR1W1	12 Nikkohm	1		
Т3,Т6,Т9,,,,,,,	RF Transformer	RIB21x42x40_D12A_1:2	RIB21x42x40_D12A_1:2	3 THP/To	mita		
RT1,,,,,,,,	Thermistor	158-402-83007	158-402-83007	1 Kindai−d	lenshi		
U2,,,,,,	Shunt Regulator	TL431	TL431	1 TI			
TP1,TP2,TP3,TP4,TP5,TP6,TP7,,,,,	Check Terminal	LC-3-G	LC-3-G	7 Mac-Eig	ht		
T1,T4,T7,,,,,,,	RF Transformer	RIB10x20x15_D12A_3:1	RIB10x20x15_D12A_3:1	3 THP			
T2,T5,T8,,,,,,,	RF Transformer	RIB10x20x15_D12A1:3:3	RIB10x20x15_D12A1:3:3	3 THP			
VR2,VR3,VR4,VR5,VR6,VR7,,,,,	Semi Fixed Resistor	CT6EP2kB	CT6EP2kB	6 Copal			
VR1,,,,,,,	Semi Fixed Resistor	TM7EP10kB	TM7EP10kB	1 Copal			
D3,D6,D9,,,,,,,	Zener Diode	1.5KE150A	1.5KE150A	3 Stmicro			