PREVIOUS CHECKED **ECR** DRAWN **APPROVED** CHANGE DETAILS 07213 NSD ISS:3.0 | ECR: 07213 MECHANICAL RELAYS CHANGED TO SSR's ON MAINS INPUT X24 BOARD ASSEMBLER TO WRITE DRAWING ISSUE IN THIS BOX IN PERMANENT MARKER R97 • YAG ON
R99 • YAG RESET
D26 □ C87 □ C86 VEET 029 R129 0 029 R129 R121 R122 0 R X25 EMME R71
C70
C61
R76 U27 ___R96 ¶å C43 R98 DGND? H1 R113 R42 _____ 25 ______ % MON 13 П R115 R115 R116
R127 R101 R100
R104 YAG
D27 READY C91 ___ ___ D28 R127 ___C80 R13 🔲 🖔 🗌 20 C4 · (L6) FIXATION R14 🔲 C95 \ X44 R5 L10 D17• C2 · ____R12 DIAG C32• ₽ □ □ C93 C108
T46
C106
D37
C38 © U21 R131 R133 U5 L11 C5 R17☐ ☐ T27 T28 **POST** 50 80 D35 U23 CONSOLE YAG/SLT NEO 3553145 ISSUE ēΠ F3 (-C94 **□.** L5 SERIAL NUMBER KEY X79 FB1 K2 2 % 0 0 F4 F2 XX = WEEK OF PRODUCTION +3V3 COM DGND5 YY = YEAR OF PRODUCTION R146 C48 C49 T C57 C56 U3 C41 X28 ZZ = SERIAL NUMBER (000-999, RESET EACH YEAR) R136 R111 R109 R103 C102 F1 LB1 þz LB2 C104 SOFTWARE VERSION NUMBERS C105 CHASSIS EARTH REFER TO 6553200 FOR DETAILS R33 R34 R35 U7 U7 U7 U7 R35 C28 R139 ☐ Q ☐ ☐ E PGND □C78 □R69 +15U LABEL ADDED AT PROGRAMMING LEVEL 8**4** X26 __K1 R64 H147 C107 H12V ____R28 **Q**17 COMMS RS485 DGND4 X45 **POST** R65
R73
R62
C65
C72
R80 C37 R91 R87 890 | Rest R56
R68
C67 R85 Q6 🖨 🗀 R07 RV1 ALTERNATIVE PART ___C68 D21 T45 PR149 MPM-05-12 IS (U11) □C73 R54 K3 CAN BE FITTED IF 7 | C76 | R93 | R83 | R83 | C66 | C69 | C70 | C7 R88 D14 **1** Q8**‡** BAC05S12DC (U12) 144 144 184 D16] DGND2 R58 UNAVAILABLE REMOVE PINS 2,3,7,8 R59 ON X43 (MINI FIT JR) R49 R55 R57 Q7 Q5 T31 U12 Notes: R53 DANGER HIGH VOLTAGE X42 R51 1. MASK MOUNTING HOLES BEFORE ∏ X43 K5 WAVE SOLDERING OF THROUGH L9 HOLE COMPONENTS M M \mathbb{H} C59 R48 X46 View from Top side TITLE DACCV ALL ASSEMBLED PCB'S SHALL BE MANUFACTURED lo. © Copyright Ellex - Lumibird Medical Group. This document contains

TO CLASS 2 OF IPC-A-610 (CURRENT ISSUE) AND BE HANDLED ACCORDING TO E.S.D. ASSOC. STANDARD ANSI/ESD-S-20.20 (CURRENT ISSUE)
UNLESS OTHERWISE STATED

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_	IIEX	CONSOLE, YAG/SLT, NEO					
SCALE	GRP No	DRG No.	ISS	SIZE	SHEET No		
1:1	35	53145	4.0	А3	1 of 4		

PF	REVIOUS	ECR	CHANGE DETAILS	DRAWN	
ISS:3.0	ECR: 07213	07213	MECHANICAL RELAYS CHANGED TO SSR's ON MAINS INPUT	NSD	



Bill Of Materials

Description	Quantity	Designator	Manufacturer 1	Manufacturer Part Number 1
AMP, AUDIO, CLASS AB	1	U6	Texas Instruments	TPA6211A1DRBR
Audio Signaling/Alarm Devices	1	H1	Mallory Sonalert	MSS300R
CAP, 1nF 5%, 50V, NPO, 0805	3	C66, C68, C75	Yageo	CC0805JRNPO9BN102
CAP, 1uF 10%, 25V, X7R, 0805	3	C6, C47, C67	Yageo	CC0805KKX7R8BB105
CAP, 4n7 10%, 50V, X7R, 0805	3	C8, C9, C10	Yageo	CC0805KRX7R9BB472
CAP, 10pF 5%, 50V, NPO, 0805	1	C93	Yageo	CC0805JRNPO9BN100
CAP, 10uF 10%, 25V, TANT, B-CASE	2	C4, C32	Kyocera AVX	TAJB106K025RNJ
CAP, 10uF 10%, 25V, X5R, 0805	3	C45, C46, C87	Yageo	CC0805KKX5R8BB106
CAP, 22pF 5%, 50V, NPO, 0805	4	C13, C14, C83, C84	Yageo	CC0805JRNPO9BN220
CAP, 22pF 10%, 3000V, NPO, 1808	1	C60	TDK	C4520C0G3F220K110KA
CAP, 22u 10%, 25V, X5R, 1210	5	C42, C48, C49, C56, C57	KEMET	C1210C226K3PACTU
CAP, 33nF 3%, 1250V, TH	1	C59	Panasonic	ECW-H12333JV
CAP, 47pF 5%, 50V, NPO, 0805	1	C72	Yageo	CC0805JRNPO9BN470
CAP, 100nF 10%, 50V, 0805	33	C5, C15, C16, C17, C18, C19, C20, C21, C22, C24, C25, C26, C27, C28, C31, C34, C38, C43, C44, C58, C79, C80, C85, C86, C88, C89, C90, C91, C92, C106, C107, C108, C109	Murata	GRM21BR71H104KA01L
CAP, 100pF 10%, 50V, NPO, 0805	6	C29, C30, C65, C69, C81, C82	Yageo	CC0805JRNPO0BN101
CAP, 100uF, 25V, ELECT, SMT	5	C2, C37, C94, C104, C105	Panasonic	EEE-1EA101UP
CAP, 220nF 10%, 50V, X7R, 0805	15	C7, C11, C12, C61, C62, C63, C64, C70, C71, C73, C74, C76, C77, C78, C103	Yageo	CC0805KKX7R9BB224
CAP, 470uF, 16V, ELECT, SMT	1	C95	KEMET	EDH477M016A9MAA
CAP, 2200uF, 25V,ELECT, TH	1	C102	Rubycon	25ZLH2200MEFC12.5X30
COMPARATOR, QUAD, SOIC14	1	U26	TI National Semiconductor	LM339AMX/NOPB
CON, BLADE, 6.35mm x 0.8mm, PCB,	1	X26	AMP - TE CONNECTIVITY	62409-1
CON, HDR, 2W, 2.54mm, TH	1	JP1	Harwin	M20-9990246
CON, HDR, 8W, 3.96mm PITCH	1	X28	TE Connectivity	6404458
CONN, MTA156, 3W 2L, V	2	X46, X48	TE Connectivity	641937-1
DC JACK SOC, 2.5/5.5, R/A, TH	1	X78	CUI	PJ-102BH
Diode, 1000V, 1.5A, DO-214AC	4	D8, D9, D11, D12	Vishay Semiconductors	BYG21M-E3/TR
DIODE, 800V, 3A, SMC	1	D16	Vishay Semiconductors	RS3K-E3/57T
DIODE, ARRAY, COMMON ANODE, SOT23	1	D39	ON Semiconductor / Fairchild	BAT54C
DIODE, AVALANCHE, 1000V, 1.4A, SOD57	1	D10	Vishay	BYT52M-TR
DIODE, BZG03C68, Z, 68V, DO-214AC	1	D15	Vishay	BZG03C68-M3-08
DIODE, MBRA140T3G, 1A, 40V, DO-214AC	1	D17	ON Semiconductor	MBRA140T3G
DIODE, MBRA14013G, 1A, 40V, DO-214AC DIODE, PAIR COMMON ANODE, SOT23	1	D24	ON Semiconductor	SBAW56LT1G
DIODE, REF, 2.5V 0.2%, SOT23	1	D29	Texas Instruments	LM4040BIM3-2.5/NOPB
DIODE, RS1A, 1A, 50V, DO-214AC	3	D30, D34, D36	Vishay Semiconductors	RS1A-E3/61T
DIODE, SCHOTTKY, 40V, 0.3A, SOD323	3	D28, D35, D37	STMicroelectronics	BAT54JFILM
DIODE, SINGLE, SOT23	5	D18, D20, D21, D22, D23	Nexperia	BAS16,215
DIODE, SINGLE, SO123 DIODE, Z, 7V5, 0.25W, SOT-23	1		ON Semiconductor	BZX84C7V5LT1G
, , , ,	1	D14		
DIODE, Z, 10V, 0.25W, SOT-23 DIODE, Z, 16V 5%, 0.5W	1	D19	ON Semiconductor ON Semiconductor	BZX84C10LT1G
	2	D13, D33		MMSZ16T1G
DTYPE, 9W, F, R/A, TH, UNC4-40	1	X24 X45	Amphenol ICC / FCI	D09S13A4UV00LF
DTYPE_25W_R/A_TH	7		Amphenol Commercial	L77SDB25SA4CH4F
FERRITE 600R, 0.5A 0805	1/	FB1, FB2, FB6, FB7, FB8, FB9, FB10	TE Connectivity Sigma	BMB2A0060LN2
FFC/FPC, 6-WAY, V, 1mm PITCH, SINGLE SIDED	3	X25, X38, X39	Molex	0528080671
FILTER, CM CHOKE, CNSW, 1206	1	L5	Wurth Electronics	744232090
FILTER, USB, RC(PI) 33 OHM/47PF SOT323-6L	1	U8 54 50 53 54 55	STMicroelectronics	USBUF01W6
FUSE, RESETABLE, 15V 1.5A, 2018	5	F1, F2, F3, F4, F5	Bourns	MF-SMDF150
HDR, 14W, 2.54mm, V, TH	1	J1	Amphenol ICC	77313-818-14LF
	11	X6	3M	30310-5002HB
HDR, BOX, 10W, 2.54mm, R/A, TH	!	1104		
IC CURR SENSE 1 CIRCUIT TSSOP16	1	U24	Texas Instruments	INA250A4PWR
IC CURR SENSE 1 CIRCUIT TSSOP16 IC DAC 12BIT SERIAL 3V 8SOIC	1	U18	Analog Devices	AD7390ARZ-REEL7
IC CURR SENSE 1 CIRCUIT TSSOP16 IC DAC 12BIT SERIAL 3V 8SOIC IC, COMPARATOR	1 1 1	U18 U23	Analog Devices Texas Instruments	AD7390ARZ-REEL7 TLV3701CDBVT
IC CURR SENSE 1 CIRCUIT TSSOP16 IC DAC 12BIT SERIAL 3V 8SOIC IC, COMPARATOR IC, COMPARATOR, DUAL, SOIC8	1 1 1 1	U18 U23 U27	Analog Devices Texas Instruments TI National Semiconductor	AD7390ARZ-REEL7 TLV3701CDBVT LM393M/NOPB
IC CURR SENSE 1 CIRCUIT TSSOP16 IC DAC 12BIT SERIAL 3V 8SOIC IC, COMPARATOR IC, COMPARATOR, DUAL, SOIC8 IC, REG, VAR, 1.5A	1 1 1 1 1 1 1	U18 U23 U27 U21	Analog Devices Texas Instruments TI National Semiconductor STMicroelectronics	AD7390ARZ-REEL7 TLV3701CDBVT LM393M/NOPB MC34063ACD-TR
IC CURR SENSE 1 CIRCUIT TSSOP16 IC DAC 12BIT SERIAL 3V 8SOIC IC, COMPARATOR IC, COMPARATOR, DUAL, SOIC8	1 1 1 1 1 1 1 1 1	U18 U23 U27	Analog Devices Texas Instruments TI National Semiconductor	AD7390ARZ-REEL7 TLV3701CDBVT LM393M/NOPB

NOTES:
ALL ASSEMBLED PCB'S SHALL BE MANUFACTURED
TO CLASS 2 OF IPC-A-610 (CURRENT ISSUE)
AND BE HANDLED ACCORDING TO E.S.D. ASSOC.
STANDARD ANSI/ESD-S-20.20 (CURRENT ISSUE)
UNLESS OTHERWISE STATED

	IIEX	TITLE PASSY CONSOLE, YAG/SLT, NEO Variant: NEO						
SCALE	GRP No	DRG No.	ISS	SIZE	SH			
1:1	35	53145	4.0	A3				

4.0

SHEET No.

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	PREVIOUS	ECR	CHANGE DETAILS	DRAWN	
1	ISS:3.0 ECR: 07213	07213	MECHANICAL RELAYS CHANGED TO SSR's ON MAINS INPUT	NSD	



Bill Of Materials

Description		Designator	Manufacturer 1	Manufacturer Part Number 1
IND, 10uH, 20%, 4.5A, SMT, 6.5mm x 6.5mm		L11	Vishay Dale	IHLP2525EZER100M01
IND, 10µH, 0.38A, 0603	4	L1, L2, L3, L4	Coilcraft	0603PS-103KLB
IND, 25uH 10%, Air core, TH	1	L9	Marque Magnetics	MM-32921N
IND, 100uH, 1A, 10x10, SMT	1	L10	TDK	SLF10145T-101M1R0-PF
IND, 220uH, 10%, 0.2A, 1813	1	L6	Wurth Electronics	7447669220
INV, CMOS, HEX, SOIC14	1	U14	Nexperia	HEF40106BT,653
Labeling Materials, 19.1mm x 6.4mm Self Adhesive		LB1	TE Connectivity	WP-191064-10-9
LED, G, R/A, 4mm x 4mm, SMT		D6	Kingbright	AA4040ZGS
LED, R, 60mcd, 0805		D7, D25, D26, D27, D32	Wurth Electronics	150080SS75000
MCU, ATMEGA8535L-8AUR, QFP44		U29	Microchip	ATMEGA8535L-8AUR
Mini Fit Jr, 10W, R/A, HDR, MOD PINS		X43	Molex	39-30-0100
MINI FIT Jr, 2W, R/A, TH		X44	Molex	0026013114
MPU, LPC1768FBD100,551, QFP100		U1	NXP Semiconductors	LPC1768FBD100,551
MUX, 2:1, 3 CHAN, CMOS, SOIC16		U17	Texas Instruments	CD74HC4053M96G3
NAND, 4000 CMOS, SOIC14		U15	ON Semiconductor	MC14093BDG
NAND, 4000 CIVIOS, SOIC 14	!	UIS	Analog Devices / Linear	IVIC 14093BDG
OPAMP, DUAL, 460uV Offset-Max, BIPolar, PDSO8		U19	Technology	LT2078CS8#PBF
OPTO, ISOLATOR, DUAL, TRANSISTOR O/P, SOIC08		U10, U25	Vishay Semiconductors	ILD207T
PSU, 5W, 12V, MODULAR, TH		U12	Murata	BAC05S12DC
REG, SWITCHING SOT23-6		U3	Diodes	AP62300TWU-7
RELAY, G6RN1, 8A, TH		K2	Omron	G6RN112DC
RELAY, SS, 5A, V, SIL, TH		K3, K5	Multicomp	MC002248
RES, 0R 1%, 0.125W, 0805	7	R12, R20, R31, R33, R38, R135, R140	Yageo	RC0805JR-070RL
RES, 0.04R 1%, 3W, 2512	1	R136	Bourns	CRA2512-FZ-R040ELF
RES, 0.05R 1%, 3W, 2512	1	R59	Bourns	CRA2512FZR050ELF
RES, 0.22R 5%, 1W, 2512	1	R131	TE Connectivity	RL73K3AR22J
RES, 1k1 1%, 0.125W, 0805		R134	Yageo	RC0805FR-071K1L
RES, 1k2 1%, 0.125W, 0805		R42, R94	Yageo	RC0805FR-071K2L
RES, 1k5 1%, 0.125W, 0805		R30, R34, R105, R110	Yageo	RC0805FR-071K5L
RES, 1k8 1%, 0.125W, 0805		R132	Yageo	RC0805FR-071K8L
RES, 1k 1%, 0.125W, 0805	21	R17, R22, R23, R24, R40, R97, R98, R99, R100, R108, R112, R114, R117, R118, R123, R124, R129, R130, R133, R138, R139	Yageo	RC0805FR-071KL
RES, 1M 1%, 0.125W, 0805		R126	Yageo	RC0805FR-071ML
RES, 1.21M 1%, 0.125W, 0805		R81	Yageo	RC0805FR-071M21L
RES, 2k2 5%, 5W, RADIAL, TH		R48, R51, R53	TE Connectivity	SQMR52K2J
RES, 2k 1%, 0.125W, 0805		R47, R141	Yageo	RC0805FR-072KL
RES, 2M2 5%, 0.5W, 3.7kW, AXIAL 15mm		R49, R55, R57	Vishay BCcomponents	HVR3700002204JA100
			<u> </u>	
RES, 2M7 1%, 0.125W, 0805		R69	Yageo	RC0805FR-072M7L
RES, 2.7k 1%, 0.125W, 0805		R87, R145	Yageo	RC0805FR-072K7L
RES, 4.7k 1%, 0.125W, 0805		R5, R16, R36, R96, R101, R142, R143	Yageo	RC0805FR-074K7L
RES, 5k6 1%, 0.125W, 0805		R54, R90, R92	Yageo	RC0805FR-075K6L
RES, 10k7 1%, 0.125W, 0805		R58	Yageo	RC0805FR-0710K7L
RES, 10k 1%, 0.125W, 0805	13/	R15, R26, R27, R28, R29, R35, R43, R50, R52, R65, R72, R75, R76, R77, R78, R80, R85, R88, R93, R102, R103, R104, R109, R115, R116, R121, R122, R147, R149, R153, R154, R155	Yageo	RC0805FR-0710KL
RES, 10M 1%, 0.125W, 0805	2	R61, R62	Yageo	RC0805FR-0710ML
RES, 10R 1%, 0.25W, 1206		R137	Yageo	RC1206FR-0710RL
RES, 12k4 1%, 0.125W, 0805		R74	Yageo	RC0805FR-0712K4L
RES, 12k7 1%, 0.125W, 0805		R120	Yageo	RC0805FR-0712K7L
RES, 15k 1%, 0.125W, 0805		R63, R68, R82	Yageo	RC0805FR-0715KL
RES, 20k 1%, 0.125W, 0805		R8, R21, R25, R39, R64	Yageo	RC0805FR-0720KL
RES, 22k 1%, 0.125W, 0805		R66	Yageo	RC0805FR-0725KL
RES, 33k2 1%, 0.125W, 0805		R41	Yageo	RC0805FR-0722KL RC0805FR-0733K2L
RES, 33k 1%, 0.125W, 0805		R67, R119		RC0805FR-0733KL
, ,			Yageo	
RES, 47k 1%, 0.125W, 0805		R44, R60, R95, R113, R150	Yageo	RC0805FR-0747KL
RES, 68R 1%, 0.125W, 0805		R89	Yageo	RC0805FR-0768RL
RES, 86k6 1%, 0.125W, 0805	1	R83	Yageo	RC0805FR-0786K6L

_	IIEX MIBIRD MEDICAL	TITLE PASSY CONSOLE, YAG/SLT, NEO					
SCALE	GRP No	DRG No.	ISS	SIZE	SHEET No.		
1:1	35	53145	4.0	А3	3 of 4		

PREVIO	OUS	ECR	CHANGE DETAILS	DRAWN	
ISS:3.0 ECR:	: 07213	07213	MECHANICAL RELAYS CHANGED TO SSR's ON MAINS INPUT	NSD	



Bill Of Materials

Description	Quantity	Designator Designator	Manufacturer 1	Manufacturer Part Number 1
RES, 47k 1%, 0.125W, 0805		R44, R60, R95, R113, R150	Yageo	RC0805FR-0747KL
RES, 68R 1%, 0.125W, 0805	1	R89	Yageo	RC0805FR-0768RL
RES, 86k6 1%, 0.125W, 0805	1	R83	Yageo	RC0805FR-0786K6L
RES, 100k 1%, 0.125W, 0805	7	R13, R14, R18, R70, R91, R127, R128	Yageo	RC0805FR-07100KL
RES, 100R 1%, 0.125W, 0805	3	R79, R144, R148	Yageo	RC0805FR-07100RL
RES, 120R 1%, 0.125W, 0805	4	R106, R107, R111, R151	Yageo	RC0805FR-07120RL
RES, 150R 1%, 0.125W, 0805		R125	Yageo	RC0805FR-07150RL
RES, 180k 1%, 0.125W, 0805	1	R71	Yageo	RC0805FR-07180KL
RES, 220k 1%, 0.125W, 0805	1	R86	Yageo	RC0805FR-07220KL
RES, 240R 1%, 0.125W, 0805	1	R46	Yageo	RC0805FR-07240RL
RES, 280k 1%, 0.125W, 0805	1	R84	Yageo	RC0805FR-07280KL
RES, 470k 1%, 0.125W, 0805	1	R73	Yageo	RC0805FR-07470KL
RES, 470R 1%, 0.125W, 0805	1	R45	Yageo	RC0805FR-07470RL
RES, 750R 1%, 0.125W, 0805	1	R56	Yageo	RC0805FR-07750RL
RES, 820R 1%, 0.125W, 0805	1	R146	Yageo	RC0805FR-07820RL
RES, VAR, 10k, 0.25W, 6.35mm, V, SMT	1	RV1	Bourns	3269W-1-103LF
RLY, DPDT, 1A, 12V, TH	1	K4	KEMET	UA2-12NU
RLY, SPDT, 12VDC, 5A TH	1	K1	TE Connectivity	PE014-012
SUPERVISOR, 1CH, SOIC8	1	U5	STMicroelectronics	STM706SM6F
TERM BLK, 2W, 45DEG, 5mm PITCH	2	X41, X42	WAGO	236-402
TRANS, FET, N, 100V, SOT23	1	Q8	MCC	BSS123K-TP
TRANS, FET, N-CHAN, 1200V, 0.6A, TO263	1	Q7	IXYS	IXTA06N120P
TRANS, N FET, 60V, 21A, PQFN5X6	1	Q5	International Rectifier	IRFH5006TRPBF
TRANS, PNP, 50V, 0.5A SOT23	8	Q2, Q4, Q9, Q11, Q13, Q14, Q16, Q17	NXP Semiconductors	BCX17,235
TRANS, PNP, PRE-BIAS, 10k/10k, SOT23	1	Q1	ON Semiconductor	MMUN2111LT1G
TRANSCEIVER, RS485, SINGLE, SOIC8	ļ ·	U7, U16	Analog Devices	ADM3485EARZ
Transistor, 0.5A, 45V CEO, NPN, SOT-23	5	Q3, Q6, Q10, Q12, Q15	ON Semiconductor	BC817-25LT3G
TVS, 3.3V, 350W, Bidirectional, SOD323		D4, D5, D31, D40, D41	Bourns	CDSOD323-T03C
USB, B, R/A, TH		X79	CUI	UJ2-BH-BL1-TH
Varistor, 350VDC, 71J, TH	1	RV2	TDK EPCOS	B72214S0271K101
XFRMR, 1:20, Step Up, RM10	1	L8	Marque Magnetics	MM-32895N
XTAL, 3.6864MHz, HC49/4H	1	Y3	IQD	LFXTAL020921BULK
XTAL, 3.0004M12, 11043/411 XTAL, 12MHz, 3.5mmX2.5mm, ECX-32, SMT	1	Y1	ECS International	ECS-120-10-33-AGM-TR
ATAL, TZIVITIZ, O.OHIITIAZ.OHIITI, EGA-02, OWIT	1		LOS IIIterriational	EC3-120-10-33-AGIVI-11X

		TITLE	PASSY		
e	llex	CONSOLE, YAG/SLT, NEO			
	MIBIRD MEDICAL	Variant: NEO			
SCALE	GRP No	DRG No.	ISS	SIZE	SHEET No
1:1	35	53145	4.0	A3	4 of 4