## **VIS 2.0 GAMEBOY DMG BOM**

This is a DIY project for electronic enthusiasts. For this reason, I am not responsible for any damage incurred while attempting this project or after completion of the project. You alone accept all risk since you are 100% liable for damage to yourself or your property.

D1	COMPONENT	DESCRIPTION	LCSC CODE	Mfr. Part #
D1	DA1, DA2, DA3, DA4	100mA Switching Diode		
D2	D1			
F1, F2	D2	100mA Switching Diode	C111695	\
Q1	F1, F2			\
Q2	Q1	30V 4.2A P channel mo		
Quartz Crystal   4.1943 MHz   (Aliexpress) or grab from the DMG PCB	Q2		C16052	FS8205A
The DMG PCB   CALL		4.1943 MHz		(Aliexpress) or grab from
The DMG PCB   SOP-28 SRAM   C1349771   AS6C6264-55SIN or grab from DMG/SDMG PCB   Grab from DMG PCB or from the DMG-07   Grab from the DMG-07   SOC Grab from the DMG-07   SOC Grab from the DMG-07   SOC Grab from the DMG PCB or from the DMG PCB	,			
DMG or SDMG CPU	Potentiometer	10k 5pin		
DMG or SDMG CPU	RAM x 2	SOP-28 SRAM	C1349771	o o
From the DMG-07	DMG or SDMG CPU			grab from DMG/SDMG
Slot cartdridge	Link port			
Spin conn	Power Switch	·	C2939338	the DMG PCB
DC Jack 3.5 mm x 1.35 mm         2.5x0.7mm 2A 24V         C381119         DC-002-2.0A-1.3           Flat connector         21 pin pitch 1.25mm         Made-in-china.com           R1, R2, R3, R4         220 Ω 100mW 0603         C107696         RC0603FR-07220RL           R7         180 kΩ 100mW 0603         C123419         RC0603FR-07180KL           R8         1 MΩ 100mW 0603         C105578         RC0603FR-074ML           R11         47 kΩ 100mW 0603         C105579         RC0603FR-0747KL           R50, R51         510 Ω 100mW 0603         C114670         RC0603FR-0747KL           R52, R54         20 kΩ 100mW 0603         C105575         RC0603FR-07510RL           R53, R56 (for 1 Watt speaker)         30 kΩ 100mW 0603         C100001         RC0603FR-0720KL           R53, R56 (for 1 Watt speaker)         25.5 kΩ 100mW 0603         C861257         RT0603BRD0725K5L           R53, R56 (for DMG normal speaker)         10 kΩ 100mW 0603         C24675         RC0603FR-0710KL           R70         732 kΩ 100mW 0603         C14675         RC0603FR-0710KL           R70         732 kΩ 100mW 0603         C22548         RC0603FR-0710KL           R81 (for 0.5A charging)         1 kΩ 100mW 0603         C22548         RC0603FR-071KL           R81 (for 0.5A charging) <td< td=""><td>Slot cartdridge</td><td>'</td><td></td><td>the DMG PCB</td></td<>	Slot cartdridge	'		the DMG PCB
Flat connector   21 pin pitch 1.25mm	5 pin conn	Ph 2.0	C10402	PH-5AW
R1, R2, R3, R4  R7  180 kΩ 100mW 0603  C123419  RC0603FR-07220RL  R7  180 kΩ 100mW 0603  C123419  RC0603FR-07180KL  R8  1 MΩ 100mW 0603  C105578  RC0603FR-071ML  R11  47 kΩ 100mW 0603  C105579  RC0603FR-074MKL  R50, R51  510 Ω 100mW 0603  C114670  RC0603FR-07510RL  R52, R54  20 kΩ 100mW 0603  C105575  RC0603FR-0720KL  R53, R56 (for 1 Watt speaker)  R53, R56 (for 1 Watt speaker,  less powerful but low noise  from speakers at max level)  R53, R56 (for DMG normal  speaker)  R53, R56 (for DMG normal  speaker)  R55, R71  100 kΩ 100mW 0603  C28220  RC0603FR-0710KL  R70  R72 kΩ 100mW 0603  C228042  RC0603FR-0710KL  R70  R80, R82, R83  1 kΩ 100mW 0603  C228042  RC0603FR-07732KL  R81 (for 0.5A charging)  2 kΩ 100mW 0603  C227483  AC0603FR-0771KL  R81 (for 0.9A charging)  1.21 kΩ 100mW 0603  C105588  RC0603FR-0710RL  R84  100 Ω 100mW 0603  C105588  RC0603FR-0710RL  R64  R70  R70  R70  R70  R80, R82, R83  R0603FR-0710KL  R81 (for 0.5A charging)  1.21 kΩ 100mW 0603  C227483  AC0603FR-071KL  R84  100 Ω 100mW 0603  C105588  RC0603FR-0710RL  R64  C10, C75, C82, C92, C93, C94  100 nF 50V 0603  C14663  C100042  C0603KRX7R9BB104  C11, C12, C13, C14, C15  10 μF 50V 0603  C162215  GRM188R71C105KE15D  C52, C53, C54, C55, C56, C72,  1 μF 16V 0603  C77044  GRM188R71C105KE15D  C73, C78, C95	DC Jack 3.5 mm x 1.35 mm	2.5x0.7mm 2A 24V	C381119	DC-002-2.0A-1.3
R7	Flat connector	21 pin pitch 1.25mm		Made-in-china.com
R8	R1, R2, R3, R4	220 Ω 100mW 0603	C107696	RC0603FR-07220RL
R11       47 kΩ 100mW 0603       C105579       RC0603FR-0747KL         R50, R51       510 Ω 100mW 0603       C114670       RC0603FR-07510RL         R52, R54       20 kΩ 100mW 0603       C105575       RC0603FR-0720KL         R53, R56 (for 1 Watt speaker)       30 kΩ 100mW 0603       C100001       RC0603FR-0730KL         R53, R56 (for 1 Watt speaker, less powerful but low noise from speakers at max level)       RT0603BRD0725K5L       RT0603BRD0725K5L         R53, R56 (for DMG normal speaker)       10 kΩ 100mW 0603       C98220       RC0603FR-0710KL         R55, R71       100 kΩ 100mW 0603       C14675       RC0603FR-0710KL         R70       732 kΩ 100mW 0603       C228042       AC0603FR-0710KL         Solder a feedforward capacitor for U3 in parallel to R70       100 pF (see C16)       RC0603FR-0713LL         R81 (for 0.5A charging)       2 kΩ 100mW 0603       C22548       RC0603FR-071KL         R81 (for 0.5A charging)       2 kΩ 100mW 0603       C705737       RT0603BRD071K21L         R84       100 Ω 100mW 0603       C10588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C14665       CC0603KRX7R9BB103         C16, C17, C18, C19       1	R7	180 kΩ 100mW 0603	C123419	RC0603FR-07180KL
R50, R51       510 Ω 100mW 0603       C114670       RC0603FR-07510RL         R52, R54       20 kΩ 100mW 0603       C105575       RC0603FR-0720KL         R53, R56 (for 1 Watt speaker)       30 kΩ 100mW 0603       C100001       RC0603FR-0730KL         R53, R56 (for 1 Watt speaker, less powerful but low noise from speakers at max level)       25.5 kΩ 100mW 0603       C861257       RT0603BRD0725K5L         R53, R56 (for DMG normal speaker)       10 kΩ 100mW 0603       C98220       RC0603FR-0710KL         R55, R71       100 kΩ 100mW 0603       C14675       RC0603FR-07100KL         R70       732 kΩ 100mW 0603       C228042       AC0603FR-07732KL         Solder a feedforward capacitor for U3 in parallel to R70       100 pF (see C16)       RC0603FR-071KL         R81 (for 0.5A charging)       2 kΩ 100mW 0603       C22548       RC0603FR-071KL         R81 (for 0.9A charging)       1.21 kΩ 100mW 0603       C227483       AC0603DR-072KL         R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C14665       CC0603KRX7R9BB101         C21, C22       27 pF 50V 0603       C16655       CC0603JRNPO9BN101         C27	R8	1 MΩ 100mW 0603	C105578	RC0603FR-071ML
R52, R54       20 kΩ 100mW 0603       C105575       RC0603FR-0720KL         R53, R56 (for 1 Watt speaker)       30 kΩ 100mW 0603       C100001       RC0603FR-0730KL         R53, R56 (for 1 Watt speaker, less powerful but low noise from speakers at max level)       25.5 kΩ 100mW 0603       C861257       RT0603BRD0725K5L         R53, R56 (for DMG normal speaker)       10 kΩ 100mW 0603       C98220       RC0603FR-0710KL         R55, R71       100 kΩ 100mW 0603       C14675       RC0603FR-07100KL         R70       732 kΩ 100mW 0603       C228042       AC0603FR-07732KL         Solder a feedforward capacitor for U3 in parallel to R70       100 pF (see C16)       RC0603FR-071KL         R81 (for 0.5A charging)       2 kΩ 100mW 0603       C22548       RC0603FR-071KL         R82 (for 0.9A charging)       1.21 kΩ 100mW 0603       C227483       AC0603DR-072KL         R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C14665       CC0603JRNPO9BN101         C37, C74, C81       10 μF 10V 0603       C437460       GCM188R71C105KE15D <t< td=""><td>R11</td><td>47 kΩ 100mW 0603</td><td>C105579</td><td>RC0603FR-0747KL</td></t<>	R11	47 kΩ 100mW 0603	C105579	RC0603FR-0747KL
R53, R56 (for 1 Watt speaker)       30 kΩ 100mW 0603       C100001       RC0603FR-0730KL         R53, R56 (for 1 Watt speaker, less powerful but low noise from speakers at max level)       25.5 kΩ 100mW 0603       C861257       RT0603BRD0725K5L         R53, R56 (for DMG normal speaker)       10 kΩ 100mW 0603       C98220       RC0603FR-0710KL         R55, R71       100 kΩ 100mW 0603       C14675       RC0603FR-07100KL         R70       732 kΩ 100mW 0603       C228042       AC0603FR-07732KL         Solder a feedforward capacitor for U3 in parallel to R70       100 pF (see C16)       RE81 (for 0.5A charging)       2 kΩ 100mW 0603       C22548       RC0603FR-071KL         R81 (for 0.9A charging)       2 kΩ 100mW 0603       C227483       AC0603DR-072KL         R84 (for 0.9A charging)       1.21 kΩ 100mW 0603       C705737       RT0603BRD071K21L         R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C14665       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C1665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM188FC1A106KE69D         C50, C51       39	R50, R51	510 Ω 100mW 0603	C114670	RC0603FR-07510RL
R53, R56 (for 1 Watt speaker, less powerful but low noise from speakers at max level)       25.5 kΩ 100mW 0603       C861257       RT0603BRD0725K5L         R53, R56 (for DMG normal speaker)       10 kΩ 100mW 0603       C98220       RC0603FR-0710KL         R55, R71       100 kΩ 100mW 0603       C14675       RC0603FR-07100KL         R70       732 kΩ 100mW 0603       C228042       AC0603FR-07732KL         Solder a feedforward capacitor for U3 in parallel to R70       100 pF (see C16)       RC0603FR-071KL         R80, R82, R83       1 kΩ 100mW 0603       C22548       RC0603FR-071KL         R81 (for 0.5A charging)       2 kΩ 100mW 0603       C227483       AC0603DR-072KL         R81 (for 0.9A charging)       1.21 kΩ 100mW 0603       C705737       RT0603BRD071K21L         R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C14665       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM188FC11206KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C	R52, R54		C105575	RC0603FR-0720KL
less powerful but low noise from speakers at max level)       10 kΩ 100mW 0603       C98220       RC0603FR-0710KL         R53, R56 (for DMG normal speaker)       100 kΩ 100mW 0603       C14675       RC0603FR-07100KL         R70       732 kΩ 100mW 0603       C228042       AC0603FR-07732KL         Solder a feedforward capacitor for U3 in parallel to R70       100 pF (see C16)       R80, R82, R83       RC0603FR-071KL         R81 (for 0.5A charging)       2 kΩ 100mW 0603       C227483       AC0603DR-072KL         R81 (for 0.9A charging)       1.21 kΩ 100mW 0603       C705737       RT0603BRD071K21L         R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C14665       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNP09BN101         C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C73, C78, C95       C77049       GRM188R71C105KE15D	· · · · · · · · · · · · · · · · · · ·	30 kΩ 100mW 0603	C100001	RC0603FR-0730KL
speaker)       R55, R71       100 kΩ 100mW 0603       C14675       RC0603FR-07100KL         R70       732 kΩ 100mW 0603       C228042       AC0603FR-07732KL         Solder a feedforward capacitor for U3 in parallel to R70       100 pF (see C16)       R80, R82, R83       R K0603FR-071KL         R81 (for 0.5A charging)       2 kΩ 100mW 0603       C22548       RC0603FR-071KL         R81 (for 0.9A charging)       1.21 kΩ 100mW 0603       C705737       RT0603BRD071K21L         R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C100042       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C53, C54, C55, C56, C72, C73, C78, C95       1 uF 16V 0603       C77049       GRM188R71C105KE15D	R53, R56 (for 1 Watt speaker, less powerful but low noise from speakers at max level)	25.5 kΩ 100mW 0603	C861257	RT0603BRD0725K5L
R70       732 kΩ 100mW 0603       C228042       AC0603FR-07732KL         Solder a feedforward capacitor for U3 in parallel to R70       100 pF (see C16)       R80, R82, R83       RC0603FR-071KL         R81 (for 0.5A charging)       2 kΩ 100mW 0603       C22548       RC0603FR-071KL         R81 (for 0.9A charging)       1.21 kΩ 100mW 0603       C705737       RT0603BRD071K21L         R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C100042       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C53, C54, C55, C56, C72, C73, C78, C95       1 uF 16V 0603       C77049       GRM188R71C105KE15D	R53, R56 (for DMG normal speaker)	10 kΩ 100mW 0603	C98220	RC0603FR-0710KL
Solder a feedforward capacitor for U3 in parallel to R70         100 pF (see C16)         R80, R82, R83         1 kΩ 100mW 0603         C22548         RC0603FR-071KL           R81 (for 0.5A charging)         2 kΩ 100mW 0603         C227483         AC0603DR-072KL           R81 (for 0.9A charging)         1.21 kΩ 100mW 0603         C705737         RT0603BRD071K21L           R84         100 Ω 100mW 0603         C105588         RC0603FR-07100RL           C10, C75, C82, C92, C93, C94         100 nF 50V 0603         C14663         CC0603KRX7R9BB104           C11, C12, C13, C14, C15         10 nF 50V 0603         C100042         CC0603KRX7R9BB103           C16, C17, C18, C19         100 pF 50V 0603         C14665         CC0603JRNPO9BN101           C21, C22         27 pF 50V 0603         C162215         GRM1885C1H270FA01D           C37, C74, C81         10 μF 10V 0603         C77044         GRM188R61A106KE69D           C50, C51         390 nF 16V 0603         C437460         GCM188R71C394KA55D           C52, C53, C54, C55, C56, C72, C73, C78, C95         1 uF 16V 0603         C77049         GRM188R71C105KE15D	R55, R71	100 kΩ 100mW 0603	C14675	RC0603FR-07100KL
for U3 in parallel to R70100 pF (see C16)R80, R82, R83 $1 \text{ k}\Omega$ 100mW 0603C22548RC0603FR-071KLR81 (for 0.5A charging) $2 \text{ k}\Omega$ 100mW 0603C227483AC0603DR-072KLR81 (for 0.9A charging) $1.21 \text{ k}\Omega$ 100mW 0603C705737RT0603BRD071K21LR84 $100 \Omega$ 100mW 0603C105588RC0603FR-07100RLC10, C75, C82, C92, C93, C94 $100 \text{ nF}$ 50V 0603C14663CC0603KRX7R9BB104C11, C12, C13, C14, C15 $10 \text{ nF}$ 50V 0603C100042CC0603KRX7R9BB103C16, C17, C18, C19 $100 \text{ pF}$ 50V 0603C14665CC0603JRNPO9BN101C21, C22 $27 \text{ pF}$ 50V 0603C162215GRM1885C1H270FA01DC37, C74, C81 $10 \text{ μF}$ 10V 0603C77044GRM188R61A106KE69DC50, C51 $390 \text{ nF}$ 16V 0603C437460GCM188R71C394KA55DC52, C53, C54, C55, C56, C72, C73, C78, C95C77049GRM188R71C105KE15D	R70	732 kΩ 100mW 0603	C228042	AC0603FR-07732KL
R80, R82, R831 kΩ 100mW 0603C22548RC0603FR-071KLR81 (for 0.5A charging)2 kΩ 100mW 0603C227483AC0603DR-072KLR81 (for 0.9A charging)1.21 kΩ 100mW 0603C705737RT0603BRD071K21LR84100 Ω 100mW 0603C105588RC0603FR-07100RLC10, C75, C82, C92, C93, C94100 nF 50V 0603C14663CC0603KRX7R9BB104C11, C12, C13, C14, C1510 nF 50V 0603C100042CC0603KRX7R9BB103C16, C17, C18, C19100 pF 50V 0603C14665CC0603JRNPO9BN101C21, C2227 pF 50V 0603C162215GRM1885C1H270FA01DC37, C74, C8110 μF 10V 0603C77044GRM188R61A106KE69DC50, C51390 nF 16V 0603C437460GCM188R71C394KA55DC52, C53, C54, C55, C56, C72, C73, C78, C951 μF 16V 0603C77049GRM188R71C105KE15D	Solder a feedforward capacitor			
R81 (for 0.5A charging)       2 kΩ 100mW 0603       C227483       AC0603DR-072KL         R81 (for 0.9A charging)       1.21 kΩ 100mW 0603       C705737       RT0603BRD071K21L         R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C100042       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C53, C54, C55, C56, C72, C73, C78, C95       1 uF 16V 0603       C77049       GRM188R71C105KE15D	for U3 in parallel to R70	100 pF (see C16)		
R81 (for 0.9A charging)       1.21 kΩ 100mW 0603       C705737       RT0603BRD071K21L         R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C100042       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C53, C54, C55, C56, C72,       1 uF 16V 0603       C77049       GRM188R71C105KE15D         C73, C78, C95       C77049       GRM188R71C105KE15D	R80, R82, R83	1 kΩ 100mW 0603	C22548	RC0603FR-071KL
R84       100 Ω 100mW 0603       C105588       RC0603FR-07100RL         C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C100042       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C53, C54, C55, C56, C72,       1 uF 16V 0603       C77049       GRM188R71C105KE15D         C73, C78, C95       GRM188R71C105KE15D	R81 (for 0.5A charging)		C227483	AC0603DR-072KL
C10, C75, C82, C92, C93, C94       100 nF 50V 0603       C14663       CC0603KRX7R9BB104         C11, C12, C13, C14, C15       10 nF 50V 0603       C100042       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C53, C54, C55, C56, C72,       1 uF 16V 0603       C77049       GRM188R71C105KE15D         C73, C78, C95       C77049       GRM188R71C105KE15D	R81 (for 0.9A charging)	1.21 kΩ 100mW 0603	C705737	RT0603BRD071K21L
C11, C12, C13, C14, C15       10 nF 50V 0603       C100042       CC0603KRX7R9BB103         C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C53, C54, C55, C56, C72,       1 μF 16V 0603       C77049       GRM188R71C105KE15D         C73, C78, C95       C77049       GRM188R71C105KE15D	R84	100 Ω 100mW 0603	C105588	RC0603FR-07100RL
C16, C17, C18, C19       100 pF 50V 0603       C14665       CC0603JRNPO9BN101         C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C53, C54, C55, C56, C72, C73, C78, C95       1 uF 16V 0603       C77049       GRM188R71C105KE15D	C10, C75, C82, C92, C93, C94			CC0603KRX7R9BB104
C21, C22       27 pF 50V 0603       C162215       GRM1885C1H270FA01D         C37, C74, C81       10 μF 10V 0603       C77044       GRM188R61A106KE69D         C50, C51       390 nF 16V 0603       C437460       GCM188R71C394KA55D         C52, C53, C54, C55, C56, C72, C73, C78, C95       1 uF 16V 0603       C77049       GRM188R71C105KE15D	C11, C12, C13, C14, C15			CC0603KRX7R9BB103
C37, C74, C81 10 μF 10V 0603 C77044 GRM188R61A106KE69D C50, C51 390 nF 16V 0603 C437460 GCM188R71C394KA55D C52, C53, C54, C55, C56, C72, 1 μF 16V 0603 C77049 GRM188R71C105KE15D C73, C78, C95	C16, C17, C18, C19	· '		CC0603JRNPO9BN101
C50, C51 390 nF 16V 0603 C437460 GCM188R71C394KA55D C52, C53, C54, C55, C56, C72, 1 uF 16V 0603 C77049 GRM188R71C105KE15D C73, C78, C95	C21, C22	27 pF 50V 0603	C162215	GRM1885C1H270FA01D
C52, C53, C54, C55, C56, C72, 1 uF 16V 0603 C77049 GRM188R71C105KE15D C73, C78, C95	C37, C74, C81	10 μF 10V 0603	C77044	GRM188R61A106KE69D
C73, C78, C95	C50, C51	390 nF 16V 0603	C437460	GCM188R71C394KA55D
C70, C71 100 μF 6.3V D=5mm C336192 EEE0JA101WR	C52, C53, C54, C55, C56, C72, C73, C78, C95	1 uF 16V 0603	C77049	GRM188R71C105KE15D
	C70, C71	100 μF 6.3V D=5mm	C336192	EEE0JA101WR

C76, C77	22 uF 10V 0603	C84419	GRM188R61A226ME15D
U1	SOT23-6 Battery	C18164398	DW01A
U2	TP4056	C16581	TP4056-42-ESOP8
U3	boost converter SOT-563	C919459	TPS61023DRLR
U4	LDO 5v ultra-low noise	C2864504	TPS7A2050PDBVR
U5	3.3v LD0 SOT23-5	C892187	NCP161ASN330T1G
U5 alternative not tested	3.3v LD0 SOT23-5	C3021095	TPNCP161ASN330T1G
U6	Audio Amp VSSOP-10 Amps	C2872995	LM4853MM/NOPB
L1	7A 1uH Power Inductor	C285722	MHCI06018-1R0M-R8A
	(solder a 100pF capacitor in		
	parallel to R70 to improve		
	loop stability of U3 boost)		
L2	200mA 5.6uH ±5% 1210	C295106	NLV32T-5R6J-EF
	Power Induct		
LED GREEN	25mA 0603	C965805	XL-1608SYGC-06
LED RED	20mA 0603	C125099	LTST-C191KRKT
L1, L2, L3	420mA 33uH 1210	C2047418	BRL3225T330K
Audio Jack		C397344	PJ-3655-SMT
R1, R2	1 kΩ 125mW 0805	C95781	RC0805FR-071KL
C1, C2, C3	100 μF 6.3V 4mm SMD	C401761	EEEFTOJ101AR
Audio speaker	1w 8Ω	0.000.00	(Retrosix)
2 pin conn	Ph 2.0	C16965	PH-2AW
5 pin conn	Ph 2.0	C10402	PH-5AW
Wheel IPS	Contrast wheel	C2925423	SIQ-02FVS3
CHIP NH245	NH245	C27643	SN74LVC8T245PWR
D1, D2, D3, D4	Dual Common Cathode	C2903788	BAT54 o BAT54C
RR2, RR3, RR4	620 Ω 100mW 0603	C137695	RC0603FR-07620RL
RB2, RG2, RB3, RG3, RB4, RG4	470 Ω 100mW 0603	C114669	RC0603FR-07470RL
RB1, RG1	1 kΩ 100mW 0603	C22548	RC0603FR-071KL
RR1	1.21 kΩ 100mW 0603	C705737	RT0603BRD071K21L
C1, C2	120 nF 16V 0603	C384792	0603B124K160CT
CL1, CL2, CL3, CL4	1 uF 16V 0603	C77049	GRM188R71C105KE15D
18 pin connector	FFC/FCP pitch 0.5mm	C283125	THD0510-18CL-GF
Tactile switches x 6	7mm 0.6mm Round Button	C125046	SKRRABE010
ractile switches X 0	7.11111 O.OIIIIII NOUIIG BULLOII	C97437	SKRRAAE010
RGB LEDs x 4	Reverse mounting LED	C2802677	E6CC1205RGBC3UDA
Flat connector	21 pin pitch 1.25mm	02002077	Made-in-china.com
LED buttons switches x 3	300mA SPDT	C109335	SSSS811101
PCB Welding Terminal x 4	PCB Welding Terminal	C481440	TS30000
Mounting resistors x 9	0 Ω 250mW 1206	C17888	1206W4F0000T5E
	0 12 230111VV 1200	C17000	1200004F000013L
	Ph 2 0 housing	C10409	DH 3V
2 pin conn	Ph 2.0 housing	C10408	PH-2Y
5 pin conn	Ph 2.0 housing	C10411	PH-5Y

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