

CTR2-Mini Antenna Switch Controller Bill-of-Material

The boards I supply will have SMT components pre-installed - these items are marked with *** included on PCB** in the notes below
They are listed in the CTR2-Mini Main Board BOM list below in case you want to build your own board

Links to Mouser BOMs provide an easy way to order the components you need to build CTR2-Mini

NOTE: The PCB for this project can be ordered from my blog at <https://ctr2.lynovation.com/ctr2-mini-order-form>

Mouser CTR2-Mini ASC BOM

Click this link to order the components and Wio Terminal to build the Main board

ID	Quant	Desc	Manufacturer	Part #	Mouser #	Notes
	1	Wio Terminal	Seeed Studio	102991299	713-102991299	
A1-A4, B1-B4	8	DPDT latching 5 VDC relay	Kemet	EC2-EC5TNU		
C2-C17, C19, C21, C22, C25	19	10nF, 25v, SMT 0603 capacitor		0603YD103KAT2A	581-0603YD103KAT2A	* included on PCB
C1, C20, C23, C24, C26	4	100nF, 25v, SMT 0603 capacitor		TMK107BJ104MA-T	963-TMK107BJ104MA-T	* included on PCB
C18	1	10uF, 25v, SMT 0603 capacitor		GRT188R61E106ME13D	81-GRT188R61E106ME3D	* included on PCB
D1-D8	8	Bi-color LED - red & green	Kingbright	WP937EYW	604-WP937EYW	
D1,D2	2	SS1040_R1_00001 Schottky SMT Diode, SOT-123 pack:	PanJit	SS1040_R1_00001	241-SS1040_R1_00001	* included on PCB
IC1	1	4 to 16 demultiplexer	Texas Instruments	CD4514BM	595-CD4514BM96	* included on PCB
iC2, IC3	2	ULN2803A Line Driver	Texas Instruments	ULN2803ADWR	595-ULN2803ADWR	* included on PCB
JP1, PJ2, JP5	4	3-pin .1" header	Generic	eBay		
JP4	1	2-pin .1" header	Generic	eBay		
J1	1	8-pin single row .1" header				
J2, J4	2	16-pin IDC socket	3M	N2516-5002RB	517-N2516-5002RB	Primary board requires two when using an expansion board
J3	1	4-pole 3.5mm phone jack - for remote encoder	Kycon	STX-35331-4N-TR	806-STX-35331-4N-TR	Needed when using a remote mounted encoder
J5	1	DB9 Female	TE	2311765-1	571-2311765-1	
J6	1	2.1mm x 5.5mm coaxial power jack	Wurth Elektronik	694106301002	710-694106301002	
R1, R12-R18	7	1.2K, SMT 0603 resistor	Rohm	SFR03EZPJ102		* included on PCB
R2-R11	10	10K, SMT 0603 resistor	Rohm	SFR03EZPF1002		* included on PCB
R19	1	2.2K, SMT 0603 resistor	Rohm	SDR03EZPJ222		* included on PCB
R20	1	4.3K, SMT 0603 resistor				
R21	1	7.5K, SMT 0603 resistor	Rohm	SDR03EZPJ222	755-SDR03EZPJ222	* included on PCB
R22	1	12K, SMT 0603 resistor				
R23	1	12K, SMT 0603 resistor				
R24	1	1K, SMT 0603 resistor				
RV1-RV8	8	MOV - 30 VAC - 5mm	TDK	B72205S0300K101	871-B72205S0300K101	
Ext Switch	1	SPST rocker switch Encoder, 20mm shaft w/switch knurled shaft - 24 detents	Carling Technologies	651121-BB-EN	691-651121-BB-EN	External power switch for acrylic enclosure
Encoder	1		Bourns	PEC11R-4220K-S0024	652-PEC11R-4220K-S24	Included in CTR2-Mini Mouser BOM above
Knob	1	1.3" knob for encoder	Apem	420093B14	642-420093B14	Included in ASC Enclosure kit - The Grayhill 11K5013-KMNB is a better knob but costs 2x more

Optional Function Keypad

Push buttons 4 SPST momentary push button switch

These switches and DuPont jumpers are included in the ASC enclosure kit

CTR2-Mini ASC GPIO Interconnect Bill-of-Material

ID	Quant	Desc	Manufacturer	Part #	Mouser #	Notes
J1	1	16-pin IDC socket	3M	N2516-5002RB	517-N2516-5002RB	
J2	1	Dual row .1" 40-pin header	Gravitech	20Mx2-254mm	992-20Mx2-254mm	
Ribbon Connectors	2	16-pin ribbon cable connector	3M	89116-0103	517-89116-0103	To make jumper cable
Ribbon cable	8"	16-conductor ribbon cable	3M	3365/16-CUT-LENGTH	517-3365/16FT	To make jumper cable

NOTE: Make two ribbon cables if using the expansion board for 2x8 switches