

## DIN32 Parts List (in recommended order of assembly)

1	S1	16-pin DIP socket (Jameco 112221)
5	S2-S6	20-pin DIP sockets (Jameco 112248)
1	RN1	2.2K $\Omega$ 7-element SIP resistor network (Digi-Key 770-81-R2.2K)
4	RN2-RN5	2.2K $\Omega$ 9-element SIP resistor networks (Jameco 97893)
1	SW1	6-segment DIP switch (Digi-Key CT2066)
2	H1,H2	12-pin Waldom side entry connectors (Mouser 538-09-52-3121)
1	H3	32-pin Waldom right angle header (make from 24-pin right angle header Mouser 538-26-48-1242 – see text)
6	C1-C6	.1 $\mu$ F, 50V monolithic capacitors (JDR .1UF-MONO)
2	C7,C8	2.2 $\mu$ F, 16V tantalum capacitors (Jameco 94001)
1	U1	74LS138 3-to-8 decoder (Jameco 46607)
1	U2	74HCT688 8-bit Magnitude comparator (Jameco 45129)
4	U3-U6	74LS540 octal inverting buffer/drivers (Jameco 47861)

Fixed resistor and most popular alternate capacitors for different levels of filtering (see text)

32	R1-R32	100 $\Omega$ resistors [brown-black-brown]
32	C9-C40	.1 $\mu$ F, 35V tantalum capacitors (Jameco 33486)
32	C9-C40	.1 $\mu$ F, 50V monolithic capacitors (JDR .1UF-MONO)
32	C9-C40	1 $\mu$ F, 35V tantalum capacitors (Jameco 33662)
32	C9-C40	10 $\mu$ F, 16V tantalum capacitors (Jameco 94060)
32	C9-C40	22 $\mu$ F, 16V radial lead electrolytic capacitors (Digi-Key P6224)
32	C9-C40	47 $\mu$ F, 16V radial lead electrolytic capacitors (Digi-Key P6226)
32	C9-C40	100 $\mu$ F, 16V radial lead electrolytic capacitors (Digi-Key P6227)

Note: Lead spacing for capacitors should be between .079" (2mm) and .1" (2.5mm)

		Mating connector for cable
4	—	8-pin Waldom terminal housings (Mouser 538-09-50-3081)
32	—	Crimp terminals (Mouser 538-08-50-0106 for wire sizes 18-20 or 538-08-50-0108 for wire sizes 22-26)

Author's recommendations for suppliers given in parentheses above with part numbers where applicable. Equivalent parts may be substituted.

### General Information:

Assembly follows the same basic steps as the DIN card covered in the Second Edition Build Your Own Universal Computer Interface book and in the C/MRI User's Manual except that the parts legend is printed directly on the card making the assembly easier. If you have assembled a DIN card, assembling the DIN32 should be a snap. If you have never assembled a DIN card, I recommend you review the DIN card's instructions before assembling the DIN32 card.

### Information notes on DIN32 card assembly:

1. Make sure that all the IC sockets and the ICs are installed with the correct pin 1 orientation. The pin 1 holes also have the square pad for easy identification.
2. The SIP resistor network RN1 has a designated pin 1 orientation denoted by either a dot or a bar printed on the part. The designated pin 1 must be installed in the hole marked with a one as well as having the square pad.

3. The SIP resistor networks RN2-RN5 have a designated pin 1 orientation denoted by either a dot or a bar printed on the part. The designated pin 1 must be installed in the hole marked with a one as well as having the square pad.
4. When installing DIP switch, SW1, use your VOM to make certain that the switch is installed so its contacts are closed when thrown toward C7. This may well make the switch read like it is upside down, but this position is absolutely critical to setting correct card addresses.
5. Install the 12-contact side entry connectors (H1, H2) by first hooking their nylon retaining fingers over the edge of the card, then feeding the metal contact pins through the card holes. Make sure all 12 pins of each connector pass through the hole. Hold the connector shell tightly against the card as you solder.
6. The right angle header specified for H3 is made from 24-pin right angle headers. Simply cut and snap off the required sections from standard 24-pin headers to create the needed 32-pin header.
7. Installing the H3 header, make sure you have the plastic part of the connector pushed firmly against the card before soldering. Solder only a pin or two of each section. Check to make sure that the complete plastic base is snugly pressed firmly against the card. If not, reheat the connections to reseal the connector. Once you are certain that the total 32-pins are firmly seated, then solder the remaining pins.
8. Capacitors C1-C6 are not polarity sensitive. Simply insert, solder and trim.
9. Capacitors C7, C8 are polarity sensitivity. The longer lead needs to be installed into the + holes. The + holes also have the square pad for easy identification.
10. Typically, input line filtering isn't required so I generally recommend that you do not install resistors R1-R32 and capacitors C9-C40. To learn about input line filtering see the corresponding section on the DIN card in either the Second Edition Build Your Own Universal Computer Interface book or the C/MRI User's Manual.