Visible Signals

Video Mult

DIY Video Synthesizer module for eurorack

Manual V0.4b

Video Mult is a dual-channel video-rate buffered multiple module for eurorack modular systems, with three outputs per channel.

All Visible Signals manuals include a version number, which corresponds to the version number printed on the PCBs, plus a revision letter. Please make sure the manual you use has the same version number as your PCBs! Contact info@visiblesignals.net if you can't find the right manual.

Suggested Build Order

RESISTORS

Part	Value		Part	Value
☐ R1	100K		☐ R7	499R
☐ R9	100K		☐ R10	499R
☐ R5	1K		☐ R11	499R
☐ R8	1K		☐ R12	499R
☐ R2	499R		☐ R13	499R
☐ R4	499R		☐ R3	75R
☐ R6	499R			

DIODES & FERRITES

Make sure the diodes are in the right way.

Part	Value		Part	Value
☐ D1	1N400x		☐ L1	Ferrite bead
☐ D2	1N400x		☐ L2	Ferrite bead

SEMICONDUCTORS

Make sure the IC is in the right way, with the notch (or the left side relative to the writing on top of the chip) lined up with the silkscreen.

Part	Value
☐ U1	LM6172

MLCC CAPACITORS

All unlabelled capacitors on the PCB silkscreen are 100nF MLCC types.

Part	Value		Part	Value
☐ C3	100n		☐ C4	100n

SOCKETS

Make sure the sockets fit into the front panel as you solder them.

Part	Value		Part	Value
☐ IN_A	PJ302M		☐ OUT_A3	PJ302M
☐ IN_B	PJ302M		☐ OUT_B1	PJ302M
☐ OUT_A1	PJ302M		☐ OUT_B2	PJ302M
☐ OUT_A2	PJ302M		☐ OUT_B3	PJ302M

HEADERS

Make sure the shroud notch faces the rear of the board.

Part	Value
☐ JP1	Pin Header 2x5

ELECTROLYTIC CAPACITORS

Make sure the long legs go in the hole marked with a '+'.

Part	Value		Part	Value
☐ C1	10uF		☐ C2	10uF

Circuit Details

Video Mult uses a single dual op-amp chip; just one non-inverting op-amp per channel!

In the normalled connection from channel A to channel B a resistor is used to protect the U1A output from an accident short when plugging a cable into the B input. Any low impedance resistor is fine; 75 ohms was only chosen because it is a common low resistance value, not for any video impedance or other reason.
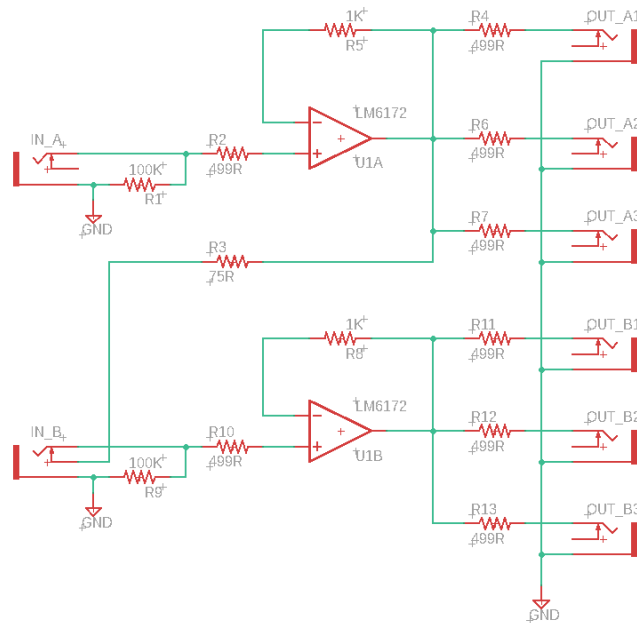
Bill of Materials

Parts marked with an asterisk are frequently used in Visible Signals modules, so consider stocking up if there's a quantity discount available.

Type	Value/Description	Qty	Vendor	Part Number	*	Notes
Capacitor	100n	2	Mouser	594-K104K15X7RF53K2	*	
Diode	1N400x	2	Mouser	750-1N4001-G	*	Any part like 1N4001, 1N4004, etc is fine
Electro Capacitor	10uF	2	Mouser	80-ESL106M050AC3AA	*	
Ferrite bead	Ferrite bead	2	Mouser	623-2743001111	*	
IC	LM6172	1	Mouser	926-LM6172IN/NOPB	*	
PCB	Video Mult PCB set	1	Visible Signals	MULT		
Panel	Video Mult PCB set	1	Visible Signals	MULT		
Pin Header	Pin Header 2x5	1	Mouser	710-61201021621	*	Shrouded
Resistor	100K	2	Mouser	603-MFR-25FBF52-100K	*	
Resistor	1K	2	Mouser	603-MFR-25FBF52-1K	*	
Resistor	499R	8	Mouser	603-MFR-25FBF52-499R	*	
Resistor	75R	1	Mouser	603-MFR-25FTE52-75R	*	
Socket	PJ302M	8	Thonk	PJ302M	*	