Visible Signals

Dual Distrib

DIY Video Synthesizer module for eurorack

Manual V0.2b

Dual Distrib is a two-channel video distribution amplifier for the eurorack video modular format, with three independent outputs for each input. Inputs and outputs are fully compatible with industry standard 75 ohm video signals, and outputs are fully isolated each with its own independent op-amp for maximum reliability and signal stability.

Suggested Build Order

RESISTORS

	Part	Value		Part	Value
☐	R3	1K	☐	R2	499R
☐	R4	1K	☐	R12	499R
☐	R5	1K	☐	R1	75R
☐	R8	1K	☐	R6	75R
☐	R9	1K	☐	R7	75R
☐	R13	1K	☐	R10	75R
☐	R14	1K	☐	R11	75R
☐	R15	1K	☐	R16	75R
☐	R18	1K	☐	R17	75R
☐	R19	1K	☐	R20	75R

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		Part	Value
☐	U1	LM6172	☐	U3	LM6172
☐	U2	LM6172	☐	U4	LM6172

MLCC CAPACITORS

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

	Part	Value		Part	Value
☐	C3	100n	☐	C7	100n
☐	C4	100n	☐	C8	100n
☐	C5	100n	☐	C9	100n
☐	C6	100n	☐	C10	100n

SOCKETS

	Part	Value		Part	Value
☐	J1	RCJ-044	☐	J5	RCJ-044
☐	J2	RCJ-044	☐	J6	RCJ-044
☐	J3	RCJ-044	☐	J7	RCJ-044
☐	J4	RCJ-044	☐	J8	RCJ-044

HEADERS

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

	Part	Value
☐	JP1	Pin Header 2x5

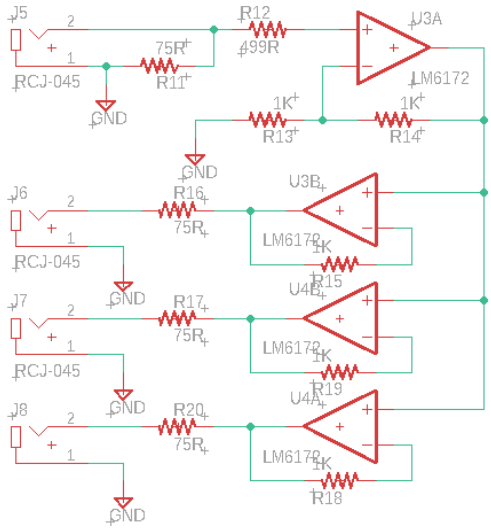
ELECTROLYTIC CAPACITORS

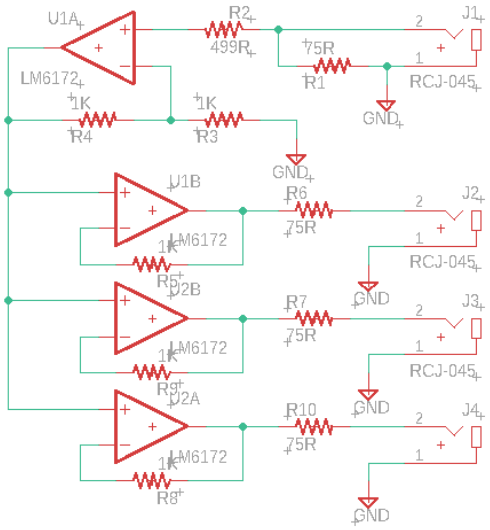
Make sure the long legs go in the hole marked with a '+'.

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

Circuit Details

The circuit for the Dual Distrib is about as straightforward as it can be – just a bunch of non-inverting op amps.





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
Angle Bracket	Mounting	3	Mouser	534-621		
Screw	Mounting	3	McMaster-Carr	90272A106		4-40 Thread, ¼" length
Capacitor	100n	8	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	4	Mouser	926-LM6172IN/NOPB	*	
PCB	Dual Distrib PCB set	1	Visible Signals	DDST		
Panel	Dual Distrib PCB set	1	Visible Signals	DDST		
Pin Header	Pin Header 5x2	1	Mouser	710-61201021621	*	Shrouded
Resistor	1K	10	Mouser	603-MFR-25FBF52-1K	*	
Resistor	499R	2	Mouser	594-5063JD499R0F	*	
Resistor	75R	8	Mouser	603-MFR-25FTE52-75R	*	
RCA Socket	RCJ-044	8	Mouser	490-RCJ-044		Choose your own colours :)