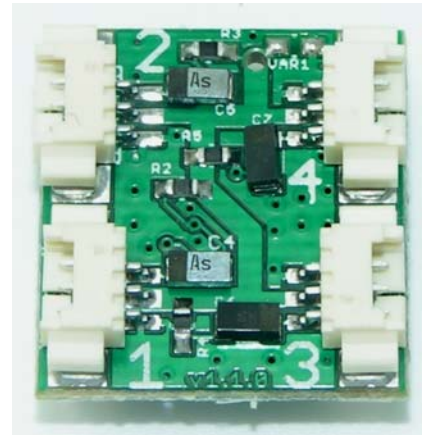


Video Multiplexer



FEATURES

- 4 Input Channels
- **Small Size:** 0.791" x 0.739" x 0.35"
- **Light Weight:** 2.8g
- 2 Line Binary Channel Selection
- Micro Molex Connectors Allow Quick Assembly
- Solid State Switch
- Support of Any 0V-5V Analog Signal (NTSC, PAL, etc.)

APPLICATION

- UAV Video System
- Gimbal and Fixed Camera Systems
- EO, IR, and Other Analog Imagers

DESCRIPTION

The VMv1.1 is a 4 to 1 video multiplexer (video mux). It was designed to allow use of up to 4 cameras and one video transmitter onboard small UAVs. With a weight less than 2.8g and size less than 1.5in square, the VMv1.1 is ideal for small UAV applications.

Two select lines (A,B) provide a simple binary interface for channel selection. Power pass through allows connected cameras to draw from the supply of the VMv1.1 and for a single cable interface between each camera and the VMv1.1.

➤ Kestrel and Virtual Cockpit are trademarks of Procerus Technologies.

TYPICAL APPLICATION

Figure 1 demonstrates how the VMv1.1 is used in a UAV video system. This system contains the VMv1.1, gimbaled EO and IR cameras, a video transmitter, a voltage regulator (SRv1.1), and the Kestrel Autopilot.

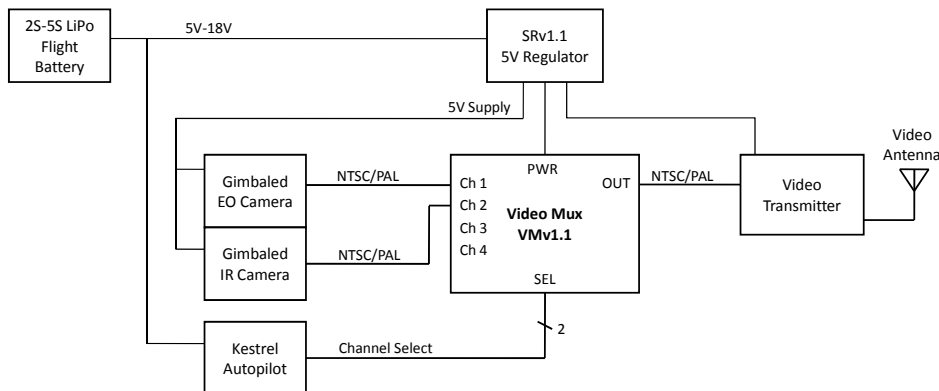


Figure 1 - Typical Use of the VMv1.1.

ABSOLUTE MAXIMUM RATINGS

Operating Temperature Range.....	-40°C to 85°C
Storage Temperature Range.....	-40°C to 125°C
DC Input Voltage.....	-0.5 to 7.0V
DC Video Output Current.....	120mA
Video Power Dissipation.....	0.5W
Humidity.....	5% to 95%, no condensing

Stresses above those listed under the Absolute Maximum Ratings may cause permanent damage to this device. This is a stress rating only; functional operation of this device at these or any other conditions above those indicated in the operational section of this specification are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

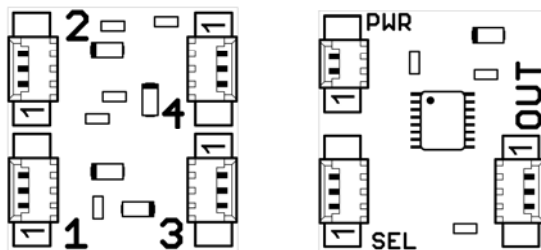
Parameter	Conditions	Min	Typ	Max	Units
Input Supply Voltage		Vout	5	5.5	V
Channel Select LOGIC Levels					
Input LOW Voltage		-0.5		0.8	V
Input HIGH Voltage		2.0			V
Analog Signal Range (Vanalog).		0		2.0	V

PHYSICAL CHARACTERISTICS

Parameter	Conditions	Typ	Units
Dimensions		1.13" x 0.64" x 0.35"	Inches
Weight		2.8	Grams

PORT DESCRIPTIONS

This section describes the associated input and output connection points on the video mux. The following figure shows the top and bottom silk screen with port labels of the video mux.



1-4 / Out: The four video input ports and the video output port have the following pin assignments.

Pin	Assignment
1	GND
2	5V Supply Out
3	Video In

Table 1 - 1-4 & Out Port

PWR: The power port is used to connect the supply ground and 5V power for the video mux 5V supply. Any device that

connects to ports **1-4** or **OUT** (such as cameras or a video transmitter) can draw power from this 5V supply.

Pin	Assignment
1	GND
2	5V Supply In

Table 2- PWR Port

SEL: The Select Port uses two lines (select "A" and "B") for binary selection of the input port. The selected input port is connected to the output port. The pin assignments and logic table are listed below.

Pin	Assignment	A	B	Selected Channel
1	GND	0	0	1
2	Select A	1	0	2
3	Select B	0	1	3
		1	1	4

Table 3 - SEL Port & Selected Video Channel Logic

For video mux v1.0, select lines "A" and "B" must be driven as floating lines can randomly switch logic state. Video mux v1.1 have select line pull-down resistors so that select lines default to "0" and can be left unconnected.

RELATED PARTS

Part Number	Manufacturer	Description	Comments
MOLEX3POS-L12	Procerus Technologies	3 PIN 1.25MM 12" WIRE PIGTAIL CONNECTOR	3 pin pigtails for video or channel select connection
MOLEX2POS-L12	Procerus Technologies	2 PIN 1.25MM 12" WIRE PIGTAIL CONNECTOR	2 pin pigtails for power connection
PEC36SAAN	Sullins	CONN HEADER .100 SINGL STR 36POS	
50058-8000	Molex/Walden	CONN TERM FEMALE 28-32AWG TIN	Crimp Terminal (Used For Hand Crimping)
51021-0200	Molex/Walden	CONN HOUSING 2POS 1.25MM	2 Pin Connector Housing (Used For Hand Crimping)
53261-0271	Molex/Walden	CONN HEADER 2POS 1.25MM R/A SMD	2 Pin Header