SSTVCAM Stand-Alone Slow Scan TV Camera



SSTVCAM Features

- Send SSTV pictures without a PC
- Decode with PC and Sound Card using free software
- Stores up to 8 frames in permanent memory for later recall
- Manual or automatic timed operation
- Robot 36 & 72, Scottie 1 & 2 modes
- Interface to almost any radio
- Serial character generator for Scottie modes
- Runs on 5 to 15v DC
- Automatic white balance and exposure

Uses

- High-altitude balloons
- Storm Spotting
- Repeater sites
- "Webcam" over voice band radio

Technical Specifications

- Supply voltage: 5 to 15v DC
- Current draw: 3.5 mA idle, 18 mA transmitting, 75 mA capturing (~15 seconds per frame)
- Dimensions: 1.6"x1.3"x1.4" (40x33x36mm)
- Weight: 20 grams
- Optical specifications: 1/4" CMOS Sensor, 60° FOV, F/2.5

Hookup Information

The SSTVCAM interfaces through a 16-pin, 0.1" pitch header. At a minimum, power, ground, and audio out must be connected.

Pin

Pinouts



Pin	Function
PWR	Power input - 5 to 15 volts DC
GND3	Ground
RETR	Selects memory retrieve mode
MODE1	Selects SSTV format
PTT	Open collector push-to-talk output
RXD	Serial data input (LVTTL) - 3.3v max
SEL1	Selects memory slot or timer interval
GND2	Ground

GND Ground SEND Sends or stores a frame STOR Selects memory store mode MODE2 Selects SSTV format OUT Audio output Serial data output (LVTTL) TXD SEL2 Selects memory slot or timer interval SEL3 Selects memory slot or timer interval

The GND, RX, TX and 3.3v pads above the camera connector are provided for remote connection of the camera module. Cable length should be kept to not more than a few inches.



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Jumper Information

Three sets of jumper pads on the main board can be set by shorting the pads with solder.

Jumper	Function
HT	Selects handheld PTT mode
SJ1	Increases audio output level
SJ2	Increases audio output level

Operation

Pushbutton S1 is internally connected to the SEND input.

All of the digital inputs on the SSTVCAM are active low - grounding a pin sets it 'on'. The SSTV format to be used is selected by the MODE1 and MODE2 inputs, as shown.

If STOR and RETR are off, pressing button S1 or momentarily grounding the SEND line triggers an immediate transmission in the selected mode. If STOR is on, a frame will be saved to the memory slot selected by SEL1-SEL3. If RETR is on, a previously saved frame will be sent from the selected memory slot. If both STOR and RETR are on, the unit will operate in self-timed mode, sending frames automatically with a delay between each frame specified by SEL1-SEL3, as shown.

MODE1MODE2FormatOffOffRobot 36OnOffRobot 72OffOnScottie 2OnOnScottie 1

SEL1	SEL2	SEL3	Delay
Off	Off	Off	0 seconds
On	Off	Off	10 seconds
Off	On	Off	30 seconds
On	On	Off	60 seconds
Off	Off	On	120 seconds
On	Off	On	300 seconds
Off	On	On	600 seconds
On	On	On	1200 seconds

Character Generator

A 1-line character generator occupies the top of the frame in Scottie mode. By default, this line displays the SSTVCAM version and a frame sequence number. The contents of the line can be changed by sending serial data to the unit through the RXD line at 4800 baud with LVTTL (0 to 3.3v) signal levels. Sending a carriage return or linefeed moves the cursor to the start of the line.