

MedeaWiz® Sprite®

High Definition Video Player

User Manual

Firmware version 20200115

Manual version 3.00



Parts of this manual do not apply to earlier versions of firmware.

Find your Sprite's FW version in the on-screen Setup Menu.

Please go www.sirkom.com for other versions.

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Introduction

The MedeaWiz® Sprite® is a High Definition digital video repeater capable of HD 1080p HDMI output. It has a direct trigger input and a 2-way communications serial port. The Sprite® will play a video or audio file in a circular loop, repeating when power is applied. It will play a different video or audio file on a trigger input or serial command, and then return to the looping file.

The Sprite® has no black space when looping or changing files. It will hold the last frame of video until the first frame displays.

It is simple to set-up with an on-screen menu. No programming required. It has multiple operating mode options to fit many needs.

In the trigger input mode, you can use a pushbutton, other dry contact, or voltage level change, with your choice of a High or a Low transition trigger. You can also choose to allow an interrupt from a new trigger event, or to not allow an interrupt.

In the Serial Control Mode you can have a looping video and control up to 200 other videos to play on command. Once the commanded video ends, the looping video will play again until a new command is received.

The Hydra® accessory is available to use with the Sprite® It adds several modes of operation with multiple trigger inputs, DMX 512 control, and 8 sinking outputs to control lamps, relays and more.

The Sprite® is one of the most energy efficient “green” video repeaters available today. Using only 5 Volt DC power at an average of 400 mA, it takes only about 2 Watts to run.

FCC, CE and RoHS certified.

What's in the box



The Sprite® comes with

- 1) IR remote control
- 2) AC adaptor, universal 100 to 240 Volt AC input, regulated 5 Volt DC output
- 3) AV cable, 3.5mm 4 pole to RCA red, white and yellow
- 4) I/O plug, 3.5mm 4 pole to screw terminals



Sprite® Quick Start Guide

The MedeaWiz® Sprite® ships with the Video Output set to HDMI at 720p and the Control Mode set to “Trigger Low No Interrupt” to use a pushbutton trigger.

Most users can simply connect their HDMI monitor and install their SD memory card, with files named in the same way as the earlier model MedeaWiz players.

Example 1: You have one file that you need to run in a loop when power is turned on:

Name the file 000.xxx (where xxx is the proper file extension such as mpg, wmv, mp4, mt2s or etc.)

Example 2: You have a looping file and also want to use the Trigger with a push button:

Name the looping file 000.xxx as above. Then name the trigger file 001.xxx

Using the IR remote control, enter the on-screen menu by pressing the Setup key, and set the Control Mode to Trigger Low No Interrupt or Trigger Low with Interrupt.

Example 3: You have a looping file and also want to use the Serial Port control:

Name the looping file 000.xxx as above. Then name the other files 001.xxx, 002.xxx, 003.xxx and etc. in order.

Using the IR remote control, enter the on-screen menu by pressing the Setup key, and set the Control Mode to Serial Control, and set the Baud Rate to match your external controller.

For any Trigger or Serial Control Mode:

Set the Play Mode = Video Control Mode for video files, OR Audio Control Mode for audio files.

Always have a looping file named 000 if using any trigger input or serial control:

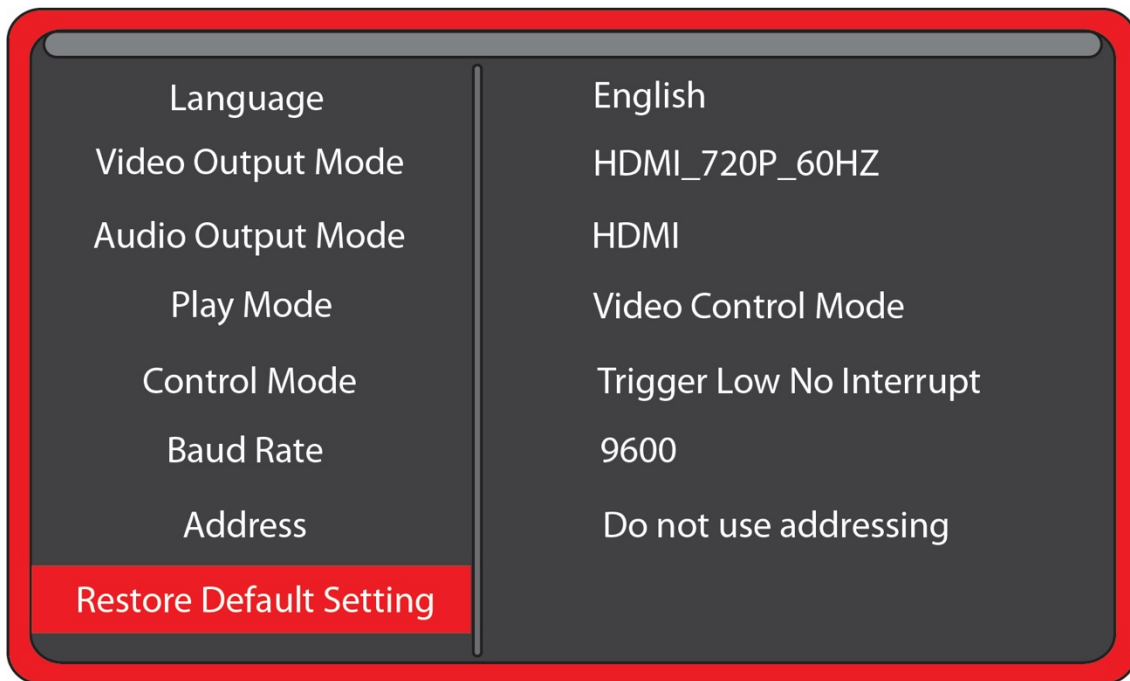
The 000 looping file can be a black video file if no video is wanted until a trigger or command. We suggest the looping file be at least 30 seconds long.

Make sure you are using ZEROS and not the letter O in the file name. Do not put the files in a folder. Only put media files on the SD card or USB drive.

On-Screen Menu for Setup

Press the “Setup” button on the remote control to enter the on-screen menu. Use the orange “Arrow” keys to navigate, the green “Enter” key to make a selection, and the yellow “Return” key to go back one level. Pressing the “Return” key twice will exit the menu and begin file play.

The Top Menu page will show your current settings

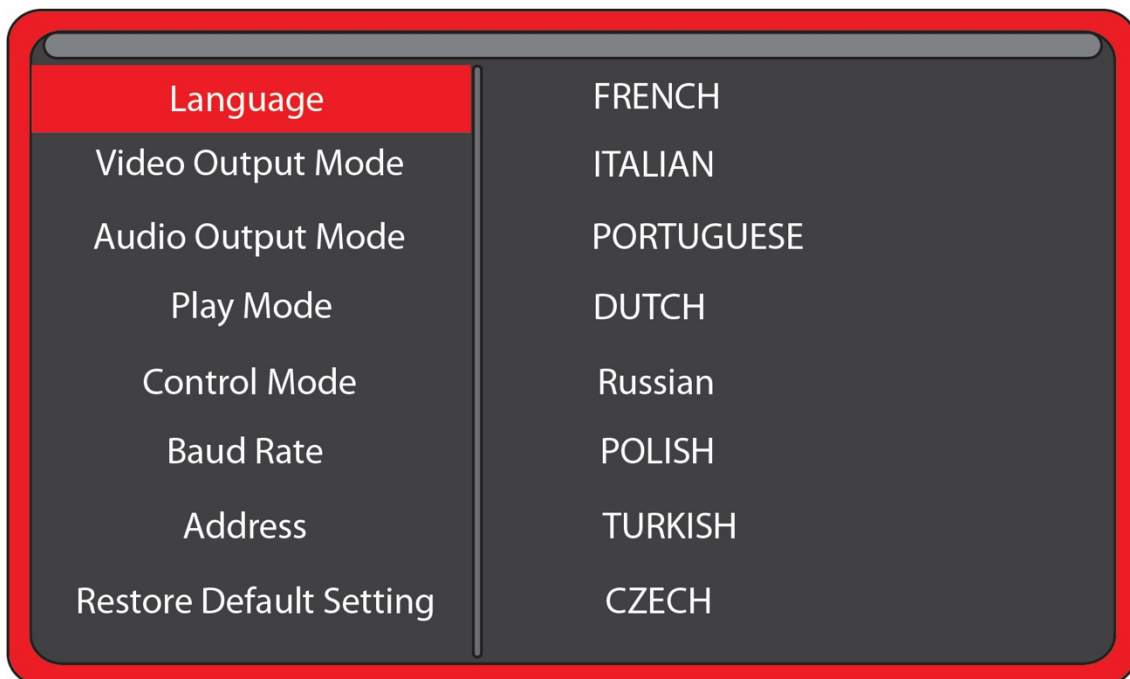
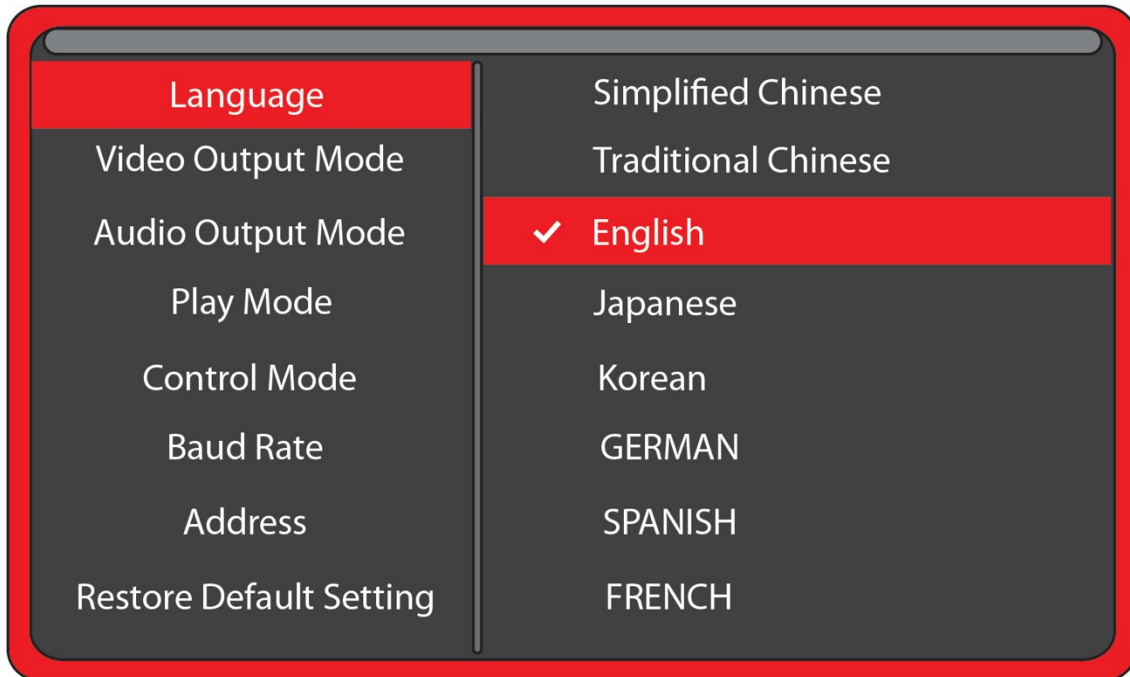


Note the above menu picture is showing the factory default settings for firmware 20200115.

Other manuals for different versions of FW may be found at www.medeawiz.com

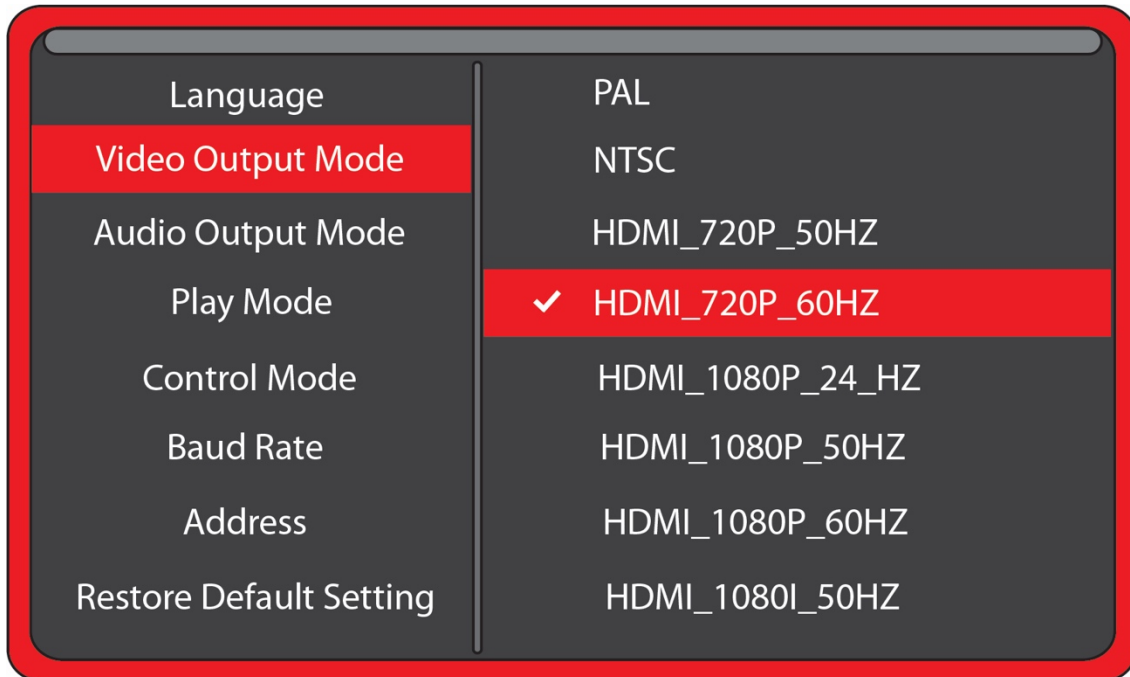
Menu Language

Select the language for the on-screen menu



Video Output Mode

Select the video output needed to match your monitor.



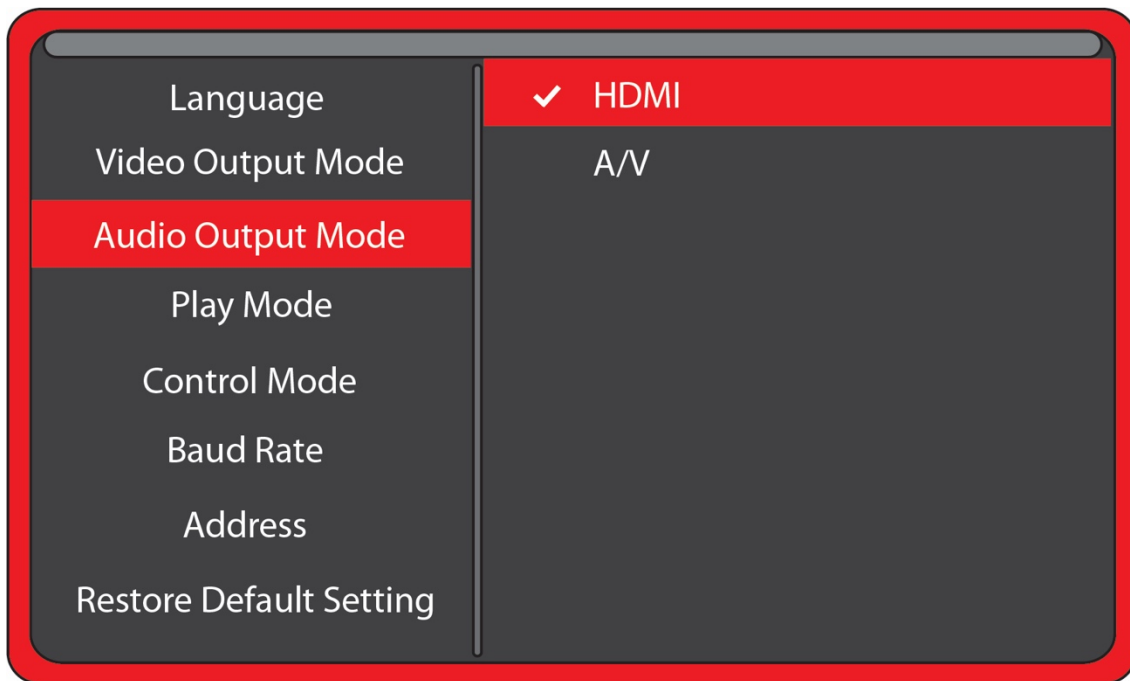
Select **NTSC** to use the Composite video output from the 3.5 mm yellow AV jack using the yellow RCA plug from the included AV cable.

Select **PAL** for Composite video output from the 3.5 mm yellow AV jack for some areas other than the Americas that use PAL video files and monitors.

The **HDMI** selections will route the video to the HDMI connector only.

Audio Output Mode

Select the audio output needed.



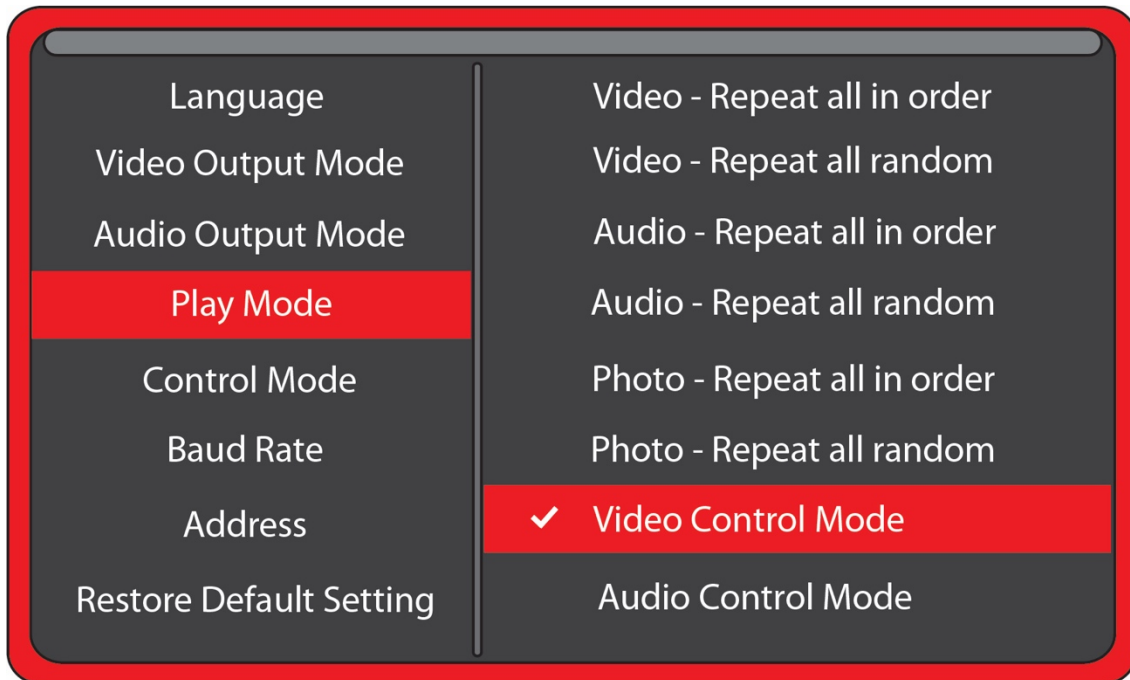
Select **HDMI** to route the audio through the HDMI cable to your monitor or amplifier with HDMI input.

Select **A/V** to route the audio to the 3.5mm 4 pole AV jack and use the red and white RCA plugs from the included AV cable.

The audio output will require an amplifier or amplified speakers. It can't directly drive speakers.

Play Mode

Select the play mode needed for your application



Selections with no external input control:

Video – Repeat all in order will play all video files in order in a circular loop.

Video – Repeat all random will play all video files randomly.

Audio – Repeat all in order will play all audio files in order in a circular loop.

Audio – Repeat all random will play all audio files randomly.

Photo – Repeat all in order will play all photo files in order in a circular loop.

Photo – Repeat all random will play all photo files randomly.

Selections with external input control:

Video Control Mode will loop the video file named 000 and accept a trigger or serial command to play other files.

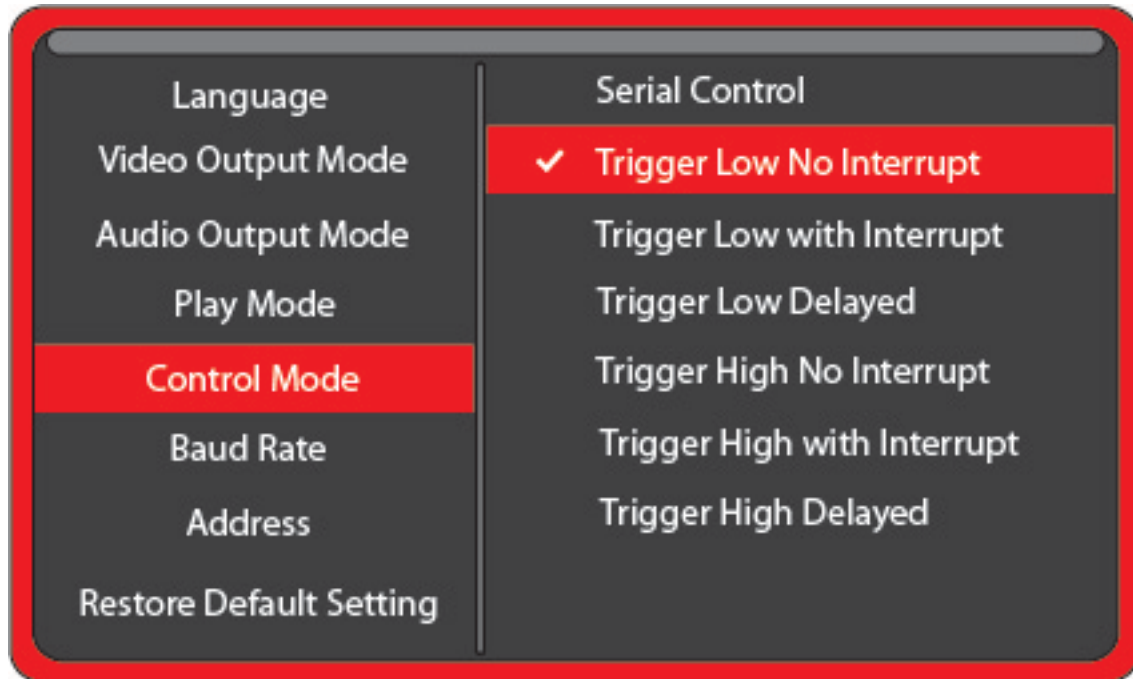
Audio Control Mode will loop the audio file named 000 and accept a trigger or serial command to play other files.

If you need to mix video and audio files, convert the audio files to video files and use the Video Control Mode.

Do not use JPEG / photo files in control modes. Please convert them to video files.

Control Mode

Select the external Control Mode for your application



Serial Control is to use a Hydra® input expander or external show control device or micro controller like a PIC, Atmel, Arduino, Raspberry Pi, or etc. using serial communications.

To use a pushbutton or other single trigger input to play file 001, select an option below:

Trigger Low No Interrupt When triggered, file 001 will play to the end with no interruption.

Trigger Low with Interrupt When triggered, file 001 will play and will re-start if re-triggered.

Trigger Low Delayed File 001 will begin play at the end of file 000, with no interruption.

Trigger High No Interrupt When triggered, file 001 will play to the end with no interruption.

Trigger High with Interrupt When triggered, file 001 will play and will re-start if re-triggered.

Trigger High Delayed File 001 will begin play at the end of file 000, with no interruption.

Trigger Low is applying Ground to the input. Trigger High is the inverse, removing Ground.

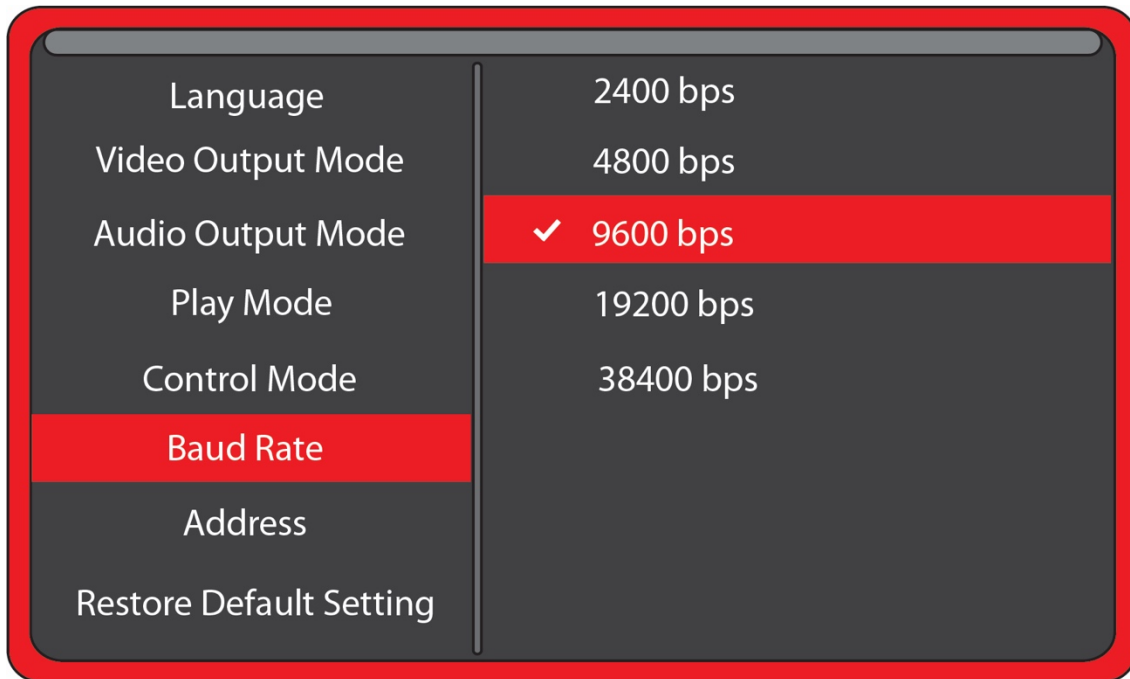
You must have at least 2 files. The loop file named 000 and a trigger file named 001

The loop file 000 will play continuously until a trigger is received, then the trigger file will play. After the trigger file 001 finishes, the loop file will play again until a new trigger occurs.

Baud Rate

Select the baud rate for the serial port.

Only applies if the setting Control Mode is set to Serial Control.



The baud rate is the speed of the serial communication and should match the settings on your external controller.

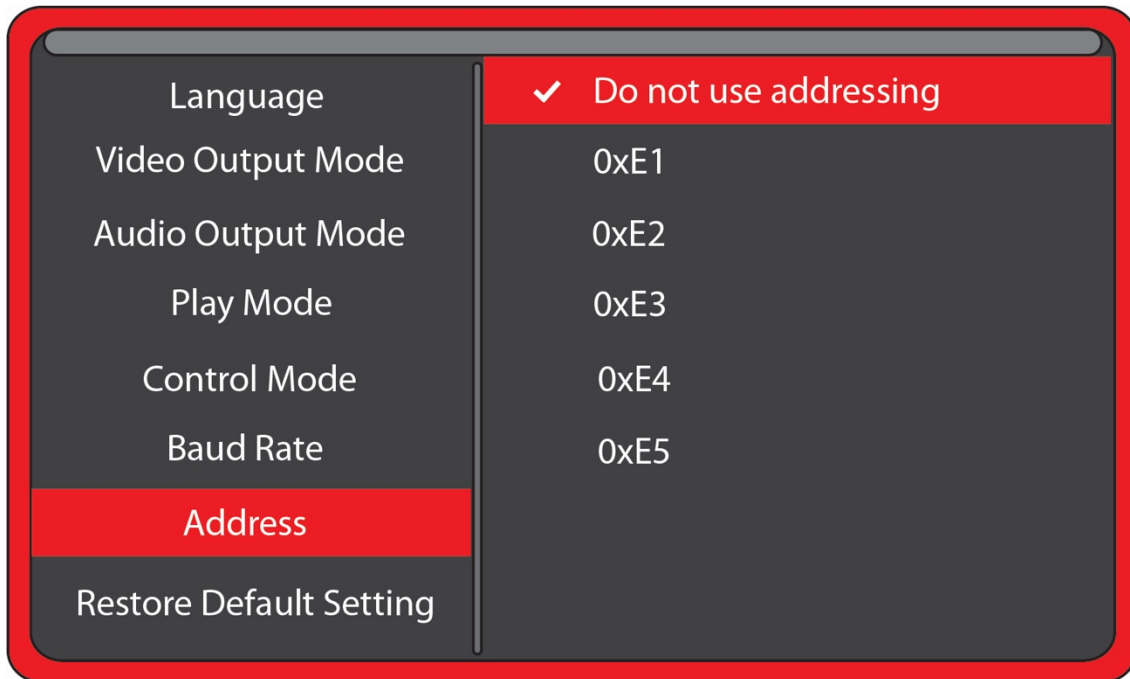
The default is 9600 bps.

The Hydra® input expander accessory is programmed to work with the Sprite at 9600 baud.

Address Mode

Select an address, if desired, for serial communications.

Only applies if the setting Control Mode is set to Serial Control.



Do not use addressing

If you are using a single Sprite® on the serial communications line, or using a Hydra® input expander, in most cases you should choose the Do not use addressing option.

Address set to 0xE1, 0xE2, 0xE3, 0xE4, 0xE5

If the Sprite® is set to an Address, then the Sprite® will only follow commands preceded by the correct address.

The Host can transmit commands to many Sprites on the same serial line.

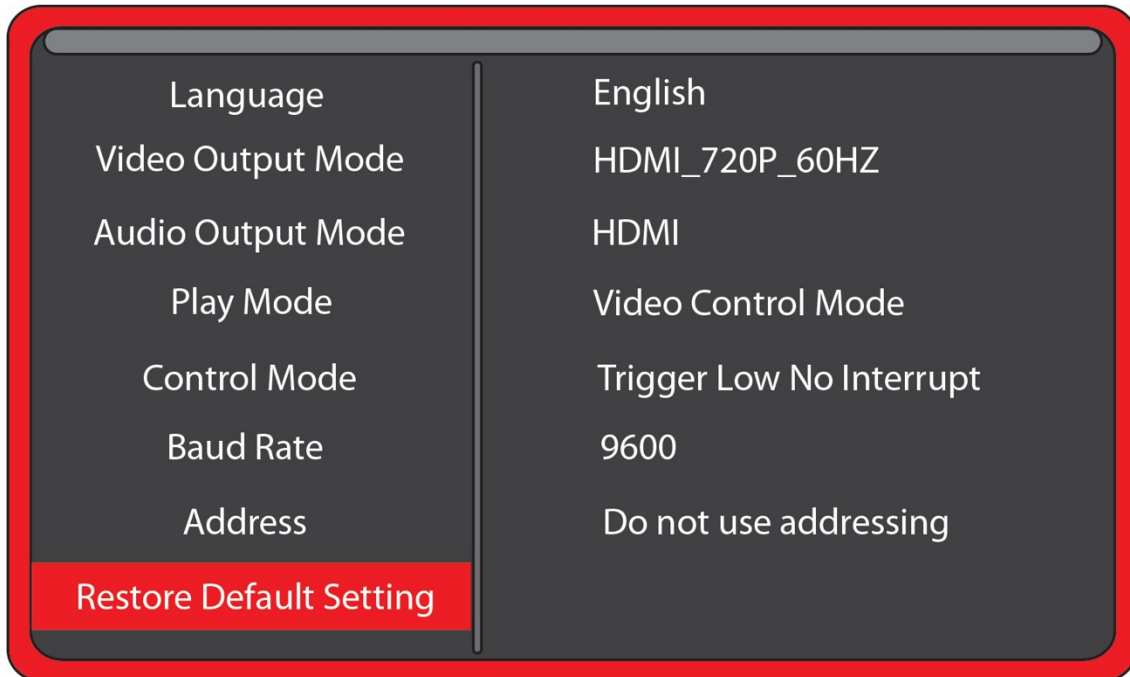
This requires a 2 byte transmission, Address, Command. i.e. 0xE1,0x03 will play the file named 003 on any player with an address that is set to 0xE1.

You can only use 1 Sprite® for the feedback to the Host to avoid data collisions.

You should only connect the RX inputs and Grounds of multiple Sprites together.

Restore Default Settings

Reset the Sprite® back to the factory settings



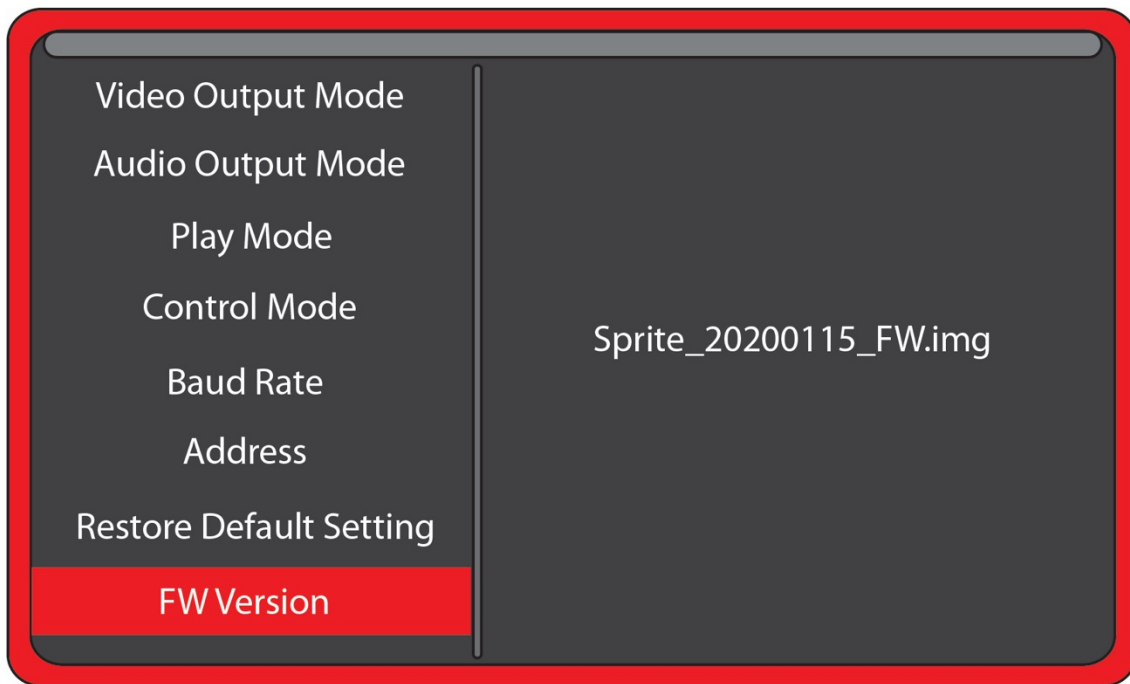
Select Restore Default Setting and press the green Enter key on the remote control. Then when the pop-up window appears, select “Yes” and press “Enter” to reset the Sprite® to the factory settings.

You can reset the Sprite® to factory defaults without viewing the monitor by these steps:

- 1) Remove the power plug for 10 seconds and then restore power
- 2) Wait 10 seconds or longer for start-up to complete
- 3) Press the Setup key on the remote control
- 4) Press the down arrow key 7 times
- 5) Press Enter 2 times

Firmware Version

Displays the currently installed firmware version



We may provide other versions of the firmware in the future.
Check at www.sirkom.com for updates.

Firmware Revisions History

Video quality is equal for all versions. Each new revision has only added control features.

There is no need to update unless you require a new control feature.

Version 20200115

Added delayed trigger modes and play all files randomly modes

Slowed the reporting feedback in the Serial Control Mode

Version 20181102

Fixed bug in Audio Control Mode from last version

Version 20180704

Added multi-drop addressing and serial commands

The Audio Control Mode has a bug in any trigger mode.

Version 20161229

Added setup and control serial commands

If you desire to use an older version of firmware, you may load the older version.

Firmware Upgrade

How to upgrade the Sprite® firmware

We may release upgraded firmware in the future. Please check www.sirkom.com for updates.

- 1) Copy the new .img firmware file to a USB drive or SD card. Use an empty USB drive or SD card, or one with your video files on it. Do not use one that contains items not intended for the Sprite®.
- 2) Unplug the power to the Sprite®. Insert the USB drive or SD card into the Sprite®. Plug in the power. Wait 10 seconds or more for the start-up to complete.
- 3) Using the IR remote control, press the blue File key.
- 4) Select the drive holding the files by using the orange Arrow keys and green Enter key. Navigate to the .img firmware file.
- 5) Select the .img firmware file and press the green Enter key.
- 6) Select “Yes” and the press the green Enter key.

The power LED will go off. After a while the power LED will come on and the Sprite® will begin playing a video file, if present.

This process will take a few minutes. Be patient.

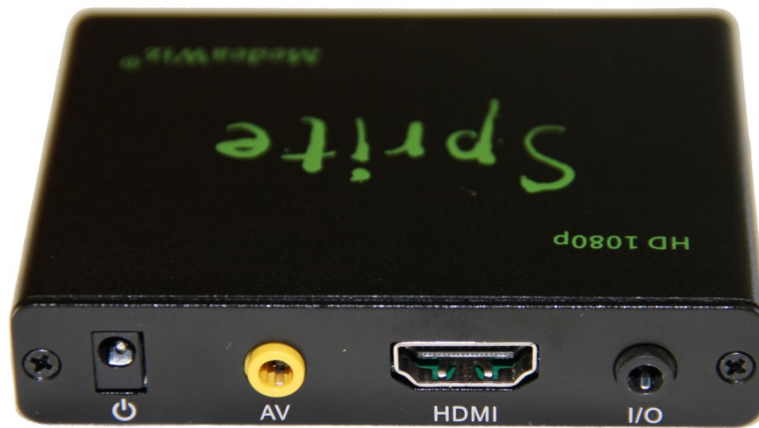
We recommend that you leave your video files on the USB drive or SD card. In this case the Sprite® will begin playing a file, confirming the update is completed.

Do not remove power or remove the USB drive or SD card until the update is completed. Interrupting the process may result in a non-functional player. It is highly recommended to use a UPS battery-backup power supply.

You may use either a SD memory card or a USB drive to update the firmware.

If you desire to use an older version of firmware, you may load the older version.

Wiring Connections Rear Panel

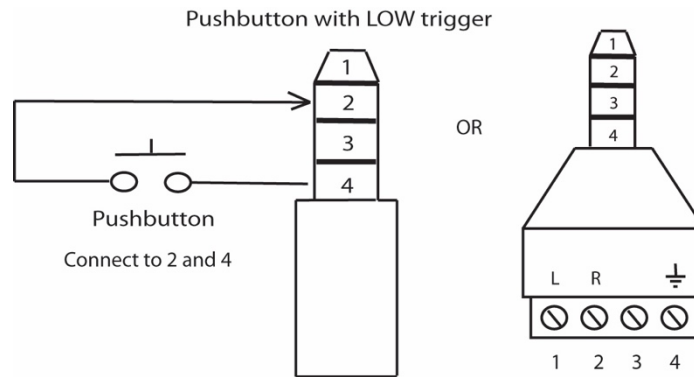


Left to right

- 1) Power input. Regulated 5 Volts DC only. Center positive.
- 2) AV output. Composite video, stereo audio left and right
- 3) HDMI High Definition video with audio
- 4) Control Input / Output. Pushbutton / Trigger / Motion / Serial input and serial output

External Control - Wiring a Pushbutton to the I/O Port

Using a pushbutton or other dry contacts



The Control Mode should be set to Trigger Low No Interrupt or Trigger Low with Interrupt.

The screw terminal adaptor shown above on the right is included with the Sprite®. Note that the numbers near the screws match to the numbers on the plug at the left, which is used in examples later in this manual.

You can trigger multiple Sprites from one pushbutton. Wire as above to all Sprites' RX (2) and Ground (4). Do not wire the power (1) or TX (3) pins together between multiple units.

You can also use the included A/V cable in the I/O port. Use the red RCA to connect to your pushbutton or contacts. We suggest you cover the unused RCA plugs with electrical tape to avoid shorting the power supply and burning the internal fuse.



If you get a cable elsewhere, check to see that the wiring is the same. We have seen some cables where the red, yellow and white RCA are wired to different poles on the 3.5mm plug.

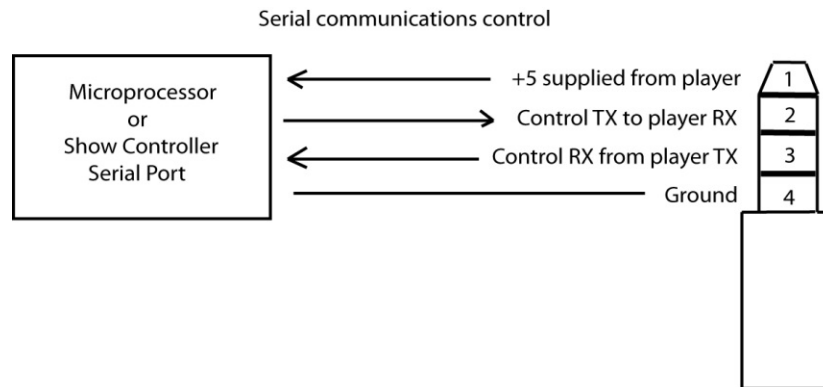
External Control - Wiring for Serial Communications to the I/O Port

The Sprite® can be controlled by a Show Control or micro controller like a Basic Stamp, PIC, Atmel, Arduino, Raspberry Pi, or etc. using serial communications at 3.3V or 5V levels.

Note that RS232 levels from a PC or PLC serial port will require a level translator like the MAX3232 series. Do not allow negative voltage below ground to be applied to the Sprite®.

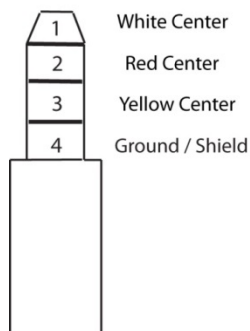
The Sprite® can supply 5V DC at up to 100 mA to power your micro controller.

Alternately, you can power the Sprite® from your controller. You must have a 5 volt DC regulated supply at 500mA. Use 26 AWG wire or larger. The supplied A/V cable is not suitable. Do not use the Sprite’s included power supply together with an external power supply.



You can also use the included AV cable in the I/O port. Use the red RCA to send commands to the Sprite®, the yellow RCA for the Sprite® to report back to your control, and the white RCA for 5V power from the Sprite®. We suggest you cover the unused RCA plugs with electrical tape to avoid shorting the power supply and burning the internal fuse.

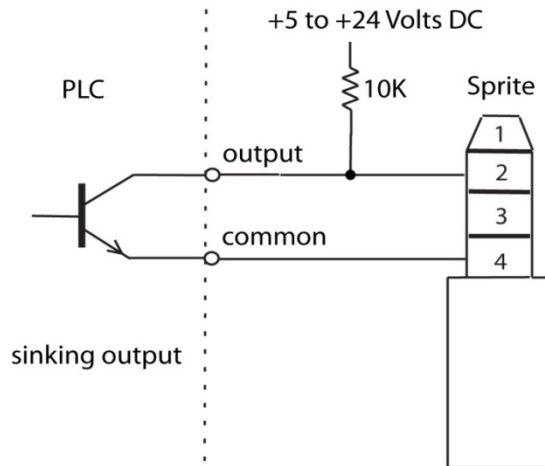
3.5mm RCA Phono Cable



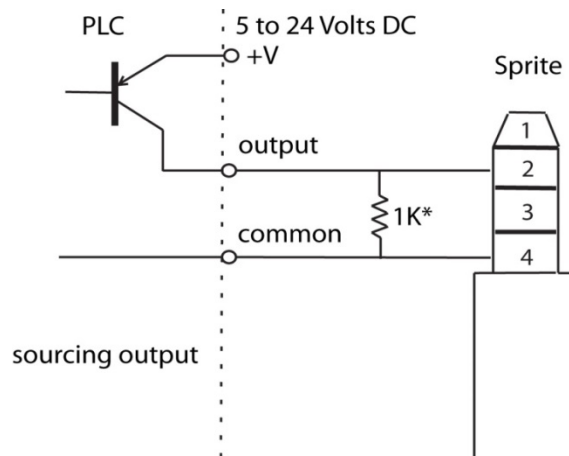
If you get a cable elsewhere, check to see that the wiring is the same. We have seen some cables where the red, yellow and white RCA are wired to different poles on the 3.5mm plug.

PLC Output Interfacing

The Sprite® can be controlled from a Programmable Logic Controller using “dry contacts” like a push button, or a voltage output.



The sinking output above is the preferred method if dry contacts are not available.



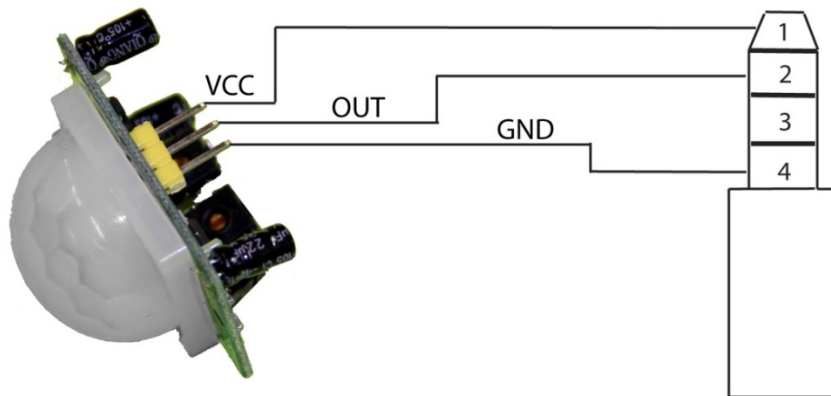
The Sprite® has an internal 10K pullup so the Sourcing output requires a low resistance from Output to Common to pull the Sprite’s internal voltage down to a “LOW”. The 1K* shown is an example and can vary depending on the +V voltage. Consider the Watt rating of the resistor.

Do not allow a negative voltage to be applied to the Sprite®. Do not share PLC outputs with relays, motors or solenoids /valves. These devices can produce negative voltage spikes. Keep them on separate isolated outputs away from the Sprite®.

Motion Sensor Wiring

There are many possibilities to add a motion sensor to the Sprite®.

Small PIR motion sensors are available that use 5 Volt power and have a TTL voltage output. These can be powered directly from the Sprite's I/O port. Set the Sprite's Control Mode to "Trigger High No Interrupt"

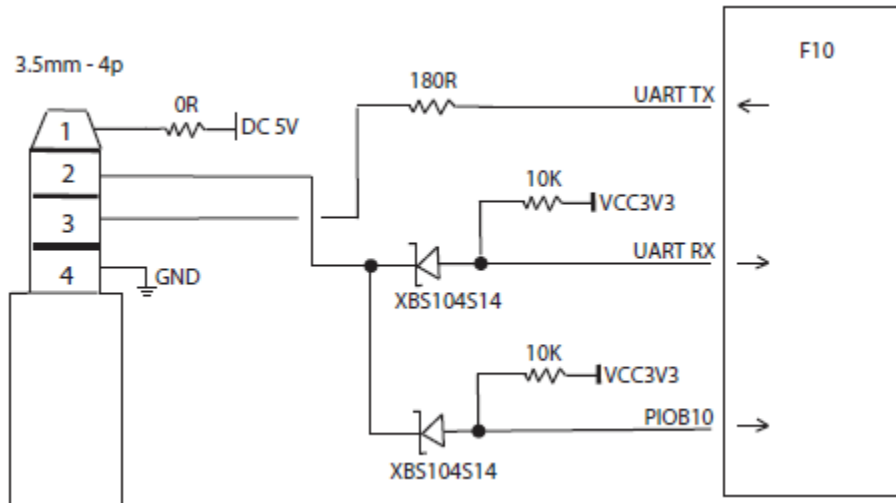


Wiring a 5 Volt motion sensor



We offer the MSA-B Stealth motion sensor for a plug-and-play solution.

Schematic of I/O on the Sprite circuit board



The Sprite is designed to work with 3 to 5 Volt TTL level serial data.

Do not allow negative voltage to be applied to the inputs.

A negative voltage applied at the input / output will damage the Sprite and void the warranty.

Many serial devices including computers, PLC controls, building lighting controls like AMX and Crestron and etc. have standard RS232 that will drive the output up to negative 12 volts.

You must use a level convertor with these standard RS232 devices. The MAX3232 or similar will convert them to the 5 Volt TTL levels for the Sprite.

Micro controllers such as a Basic Stamp, PIC, Atmel or etc. are using serial communications at 3.3V or 5V levels. These can be directly connected to the Sprite.

Pre-made controller boards like the Arduino and Raspberry Pi may have both TTL level at output pins and also standard RS232 levels on a port designed to connect to a computer. Don't connect the RS232 port without a level translator. Direct connection to the processor pins is fine.

Using the Hydra® interface with the Sprite®

The Hydra® input / output expander adds more trigger inputs *and* outputs to the Sprite®

The Hydra® was designed specifically for the Sprite® and is Plug-and-Play

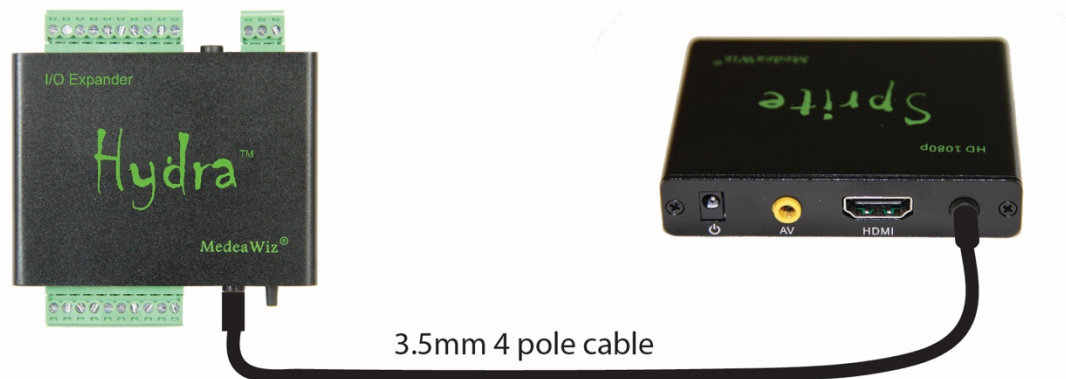
Set the Sprite:

Control Mode to Serial Control

Baud Rate to 9600

Wire your pushbuttons to the Hydra screw terminals.

Plug the Hydra® into the Sprite® with the included cable.



Hydra® Features:

- 9 trigger inputs and 8 sinking outputs
- 5 x 5 matrix input to play up to 25 files
- 3 x 4 keypad input to play up to 99 files
- DMX 512 control to play up to 200 files and control 8 outputs
- Motion sensor input
- Control 2 Sprites in some modes
- Random file triggers
- Incremented file triggers
- Queued file triggers
- Set alternate looping files paired with alternate trigger files
- Multiple User-selectable modes of operation
- Re-programmable for custom needs
- Inputs can be buttons, 3 to 24 Volts DC, open collector / open drain transistor
- FCC, CE and RoHS certified

For the complete Hydra® manual, go to www.sirkom.com

Serial Port Control from your Show Controller or Micro-processor

For simple file playing, the serial codes are the same as the codes for the earlier MedeaWiz® models. You must have a file named 000. Name others 001, 002, etc. Set the Play Mode to Video Control Mode for video files, or Audio Control Mode for audio files. Set the Control Mode to Serial Control. Set the Baud Rate to match your external controller.

The serial communications is on the 3.5mm 4 pole jack at 2400, 4800, 9600, 19200 or 38400, 8N1 at 3.3 to 5 Volt TTL levels. The factory default is 9600 baud.

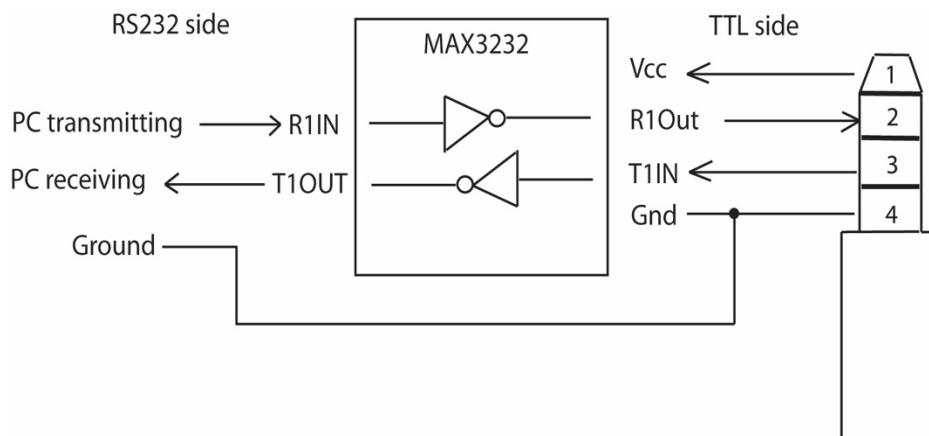
Send one byte, Decimal 1 (Binary 0000 0001, Hex 01) to play file 001.xxx. Send Decimal 2 (Binary 0000 0010, Hex 02) to play file 002.xxx and etc. Do not send any other bytes such as a line-feed or a carriage return. Send only one byte. Make sure your program is sending the NUMERICAL value, not the character (CHAR) value. Many programs default to sending the character unless you specify otherwise. The number 1 sent as a CHAR is actually Decimal 49 and will play file 049.xxx if available.

The Sprite® will report back to the Host controller. Each command received is echoed back to the Host. Around once per second, a single Hex byte is sent representing the file number currently playing. When the end of a file is reached, a single Hex byte 0xEE is sent. If required, a faster feedback report of around 10 / second is available in past FW 20181102.

The Sprite® can supply 5 Volts DC on the I/O port for your micro-controller at up to 100 mA. A short on this supply may result in the internal fuse burning and will void the warranty.

Note that true RS232 levels from computers, some PLC's and some other devices use negative voltages and will require a level translator like the MAX3232 series. Do not allow negative voltage below ground to be applied to the Sprite®. This will void the warranty.

Level translator example to convert real RS232 to TTL level



The MAX3232 can be powered from the Sprite®. Connect all Grounds together.

Serial Port Control Multi-Drop Addressing Wiring

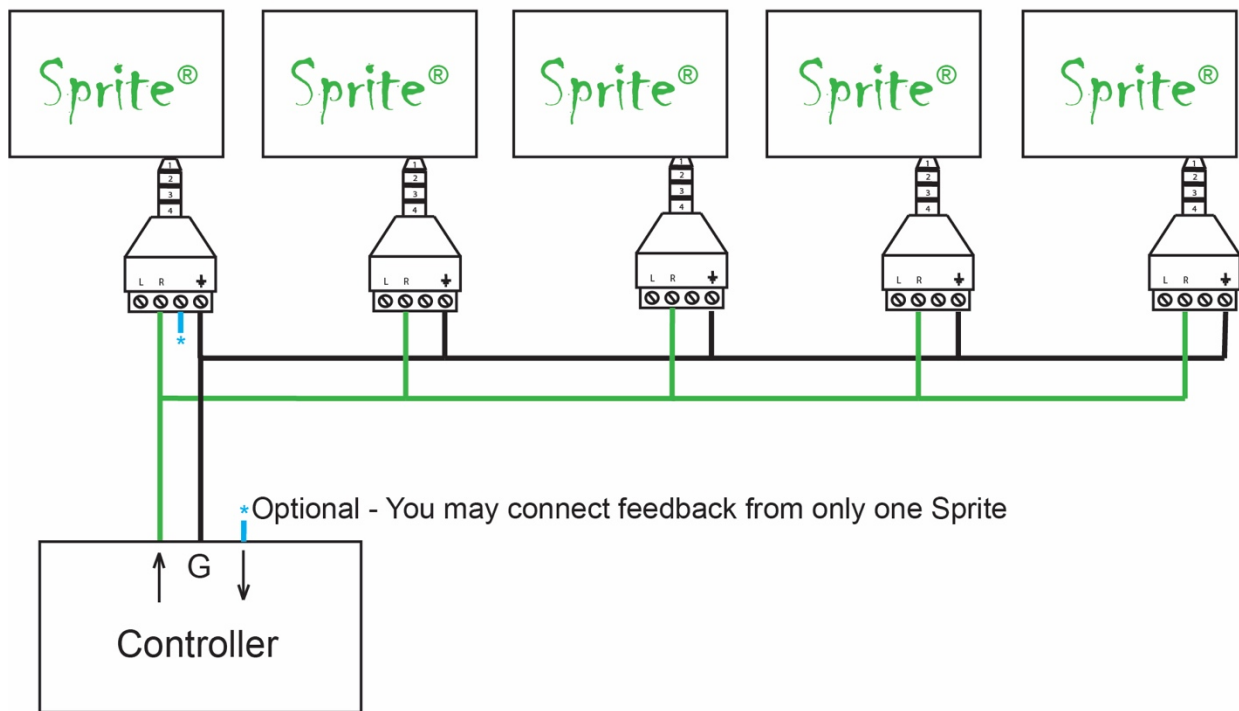
Multiple Sprites may be connected to a single serial control bus.

You can use one serial output from your controller to control multiple Sprites.

Connect all of the Grounds together and connect all of the RX Inputs together, and to your controller's TX output.

Set an address on each Sprite® and it will only respond to commands from your controller preceded by that same address. More than one Sprite can have the same address if you want them to respond the same commands.

Multi-Drop Bus Connections using Address Mode



Limitations on the number of Sprites on the bus include length of wire, type of wire and baud rate. Low capacitance wire and lower baud rates will allow longer distances and / or more Sprites on the bus.

Serial Port Control Commands

For firmware version 20180704 or later

Code	Definition	Remarks
0x00	Play file 000.xxx	Play files 000.xxx up to
0x01	Play file 001.xxx	file 200.xxx by sending a
\\	\\	single byte
0xC8	Play file 200.xxx	
0xC9		
0xCA		
0xCB	Request number of files	Report the total number of files on the SD card
0xCC		
0xCD		
0xCE		
0xCF		
0xD0	Pal	Set video output to PAL
0xD1	NTSC	Set video output to NTSC
0xD2		
0xD3		
0xD4		
0xD5		
0xD6	HDMI 720p_50	Set video output to 720p_50
0xD7	HDMI 720p_60	Set video output to 720p_60
0xD8	HDMI 1080p_24	Set video output to 1080p_24
0xD9	HDMI 1080p_50	Set video output to 1080p_50
0xDA	HDMI 1080p_60	Set video output to 1080p_60
0xDB	HDMI 1080i_50	Set video output to 1080i_50
0xDC	HDMI 1080i_60	Set video output to 1080i_60
0xDD		
0xDE		
0xDF		
0xE0		

0xE1	Address E1	Multi-Drop, 2 bytes: address, command
0xE2	Address E2	Multi-Drop, 2 bytes: address, command
0xE3	Address E3	Multi-Drop, 2 bytes: address, command
0xE4	Address E4	Multi-Drop, 2 bytes: address, command
0xE5	Address E5	Multi-Drop, 2 bytes: address, command
0xE6		
0xE7	Full Volume	Set the volume to maximum
0xE8	Mute KEY	Mute the audio -do not toggle - Mute only
0xE9	VOLUME Up	Volume Increase, first will un-Mute
0xEA	VOLUME Down	Volume Decrease first will un-Mute
0xEB	Audio to 3.5mm	Output the audio to 3.5mm AV port
0xEC	Audio to HDMI	Output the audio to HDMI
0xED		
0xEE		
0xEF	Play	Use after Pause, FF or FB commands
0xF0	PAUSE	Pause only – No toggle - Use Play
0xF1	FB	Fast Rewind -cancel by Play or Pause command
0xF2	FF	Fast Forward -cancel by Play or Pause command
0xF3	PREVIOUS	Back to Previous file
0xF4	NEXT	Go to Next file
0xF5		
0xF6		
0xF7		
0xF8		
0xF9		
0xFA		
0xFB		
0xFC	Select Loop File	2 bytes, 0XFC followed by file # to loop new file #
0xFD		
0xFE		
0xFF		

Further explanation of some serial commands

0xCB Request the total number of files on the SD card. The Sprite® will send a feedback byte telling the number of files on the SD card. The Sprite® feedback will be CB,CB,xx where xx is the number of files in Hexadecimal.

0xD0 to 0xDF Sets the Video Output Mode to the desired rate

0xE1 to 0xE5 Address numbers for the Sprite®. If the Sprite® is set to an Address in the Setup Menu, then the Sprite® will only follow commands preceded by the correct address. The Host can transmit commands to many Sprites on the same serial line. You can only use 1 Sprite® for feedback to the Host to avoid data collisions.

0xE8 Mute the audio (mute only – does not toggle on / off)

0xE9 Increase volume one step each for command received. If the Sprite® was Mute, the first 0xE9 command will cancel Mute and return to the previous volume level.

0xEA Decrease volume one step each command. If the Sprite® was Mute, the first 0xE9 command will cancel Mute and return to the previous volume level.

0xEB Route the audio to the 3.5mm port only

0xEC Route the audio to the HDMI port only

0xEF Play / Resume play after a Pause (does not toggle PLAY / PAUSE)

A Play command will Cancel FF>>or FB<< in progress

0xF0 Pause (does not toggle PLAY / PAUSE) (must send 0xEF PLAY command to resume)

A Pause command will Cancel FF>> or FB<< in progress

0xFC Select Loop Command can make any valid file on the SD or USB the looping file.

Valid file numbers are 0x00 up to 0xC8 (files named 000 up to 200)

Send 2 bytes, 0xFC,0xFF where FF is the new file number to loop. This file will be the looping file until a new 0xFC command is received or a power cycle. After a power cycle, the default file 0x00 (the file named 000) will be the looping file.

It can also be combined with an address as 3 bytes when the Sprite® is set to an Address.

For example 0xE3,0xFC,0x05 will instruct any Sprite® with address set to E3 to loop the file named 005.

IR Remote Control

We use a generic remote control that is used for various models of video repeaters and DVD players. Not all buttons / functions will respond, and some are only valid in certain modes. Most of our Customers will only use the remote for initial setup of the Sprite®. This is an IR control, and needs to be pointed directly at the front of the Sprite®. The Sprite® may respond to some other device's IR remote in unwanted ways.

You can use the blue FILE button along with orange Arrows and green ENTER keys to manually view or play files for testing.

Using the remote to manually play a file may take the Sprite out of automatic play modes. Remove power or go into and exit the Setup Menu to resume automatic modes.



Power Supply

The Sprite® is one of the most energy efficient “green” video repeaters available today. Using only 5 Volt DC power at an average of 400 mA, it takes only about 2 Watts to run.

The Sprite® requires a regulated 5 Volt DC power supply, which is included. The power connection takes a barrel plug with 1.35mm ID and 3.5mm OD, center Positive.

Use of a wrong power supply will void the warranty.

The Sprite® can supply 5 Volts DC on the I/O port for your micro-controller at up to 100 mA. A short on this supply may result in the internal fuse burning and will void the warranty.

Alternately, you can power the Sprite® from your controller. You must have a 5 Volt DC regulated supply with 500 mA available. Use 26 AWG wire or larger. The supplied AV cable is not suitable. Do not use the Sprite’s included power supply together with an external power supply.

Multiple Sprites can be powered from a single regulated 5 Volt supply that has ample current capacity.

Supported Video Formats

	MedeaWiz® DV-S1 Sprite®
Specification	
CPU	F10
Card Reader	SD / MMC up to 32GB
USB Host	1x USB2.0 ; supports external hard disk up to 2TB
Audio	Mp3(all max bitrate:320kbps) wma(standard/pro max bitrate:384kbps) Ogg(Q1-Q10 500kbs) flac(lever0-8 max bitrate:1.60mbps) APE(max bitrate: 950kbps) AAC(max bitrate 448kbps) AC3 (AC3 only 640kbps) DTS(Dts only 3.84Mbps)
Video	WMV(VC-1,WMV7, WMV8 max bitrate: 40Mbps) VOB(MPG2 max bitrate: 45Mbps) PMP(Xvid, H.264 max bitrate:50Mbps) RM/RMVB(RV8/9 max bitrate:30Mbps) MPG(Mpeg1,Mpeg2 max bitrate:45Mbps) M2TS(Mpeg2 H.264 max bitrate:40Mbps) FLV(H.263,H.264 max bitrate:50Mbps) AVI(Xvid, H.264 max bitrate:50Mbps) TS/TP(Mpeg2,H.264,VC-1 max bitrate:40Mbps) MP4/M4V(Xvid,H.264 max bitrate: 50Mbps) MOV(Xvid, H.264 max bitrate: 50Mbps) MKV(Mpeg2,RMVB,WMV9,Xvid,H.264 max bitrate: 50Mbps)
Picture	JPG/JPEG.BMP,PNG,GIF
Subtitle	SSA/ASS/ACSII/SUB/UTF8

Most SD cards are formatted FAT32 and will allow up to a 4GB file size. You may re-format to exFAT to use larger files on an 8, 16 or 32GB SD card. Maximum size SD supported is 32GB.

Trouble FAQ

My video has a glitch or green area when looping or triggered

This often happens if your video bit rate is too low. We suggest a bit rate of 20,000Kbps (20Mbps) or higher. Do not compress the files. Let the bit rate be high at the normal setting. Refer to the chart on page 31 for maximum bit rates for the CODEC used.

The file's pixel size should be 1920 x 1080 for the 1080p or 1080i settings, and 1280 x 720 for the 720 settings. It is helpful to have all of the files made in the same format and encoding.

You can also try another Video Output Mode setting, 720p 50, 720p 60, 1080p 24 and etc., in the Setup Menu. Often this will solve the issue without altering your files.

You may need to alter your files with video editing software. These settings work well:

- CODEC = H.264
- Pixel size = 1920 x 1080
- Frame rate = 60 fps
- Bit rate = 20,000Kbps (20Mbps)
- Set the Sprite® Video Output Mode to 1080p_60HZ

There are numerous video editing software programs available. We use Power Director from www.cyberlink.com It does a good job and is not expensive.

My File will not play or not trigger

Do not use folders. Put files directly on the root of the SD or USB.

Try to play the file using the remote control. Press the blue File button, and then navigate to the file using the green Enter key and the orange Arrow keys. Select the file and press the Enter key.

If the file plays, it may not be named properly or the Sprite® is not in the correct Control Mode. If using video files, the Sprite® must have the Play Mode set to Video or Video Control Mode. If using audio files, set to the Audio or Audio Control Mode. Control Modes require at least 2 files. The looping file must be named 000 and the trigger file named 001.

If the file will not play by using the remote control, then it may be corrupt or made with parameters not supported by the Sprite®. Make sure the pixel size is a "television" size, 1920 x 1080, 1280 x 720, 720 x 480 or 640 x 480 etc. Videos made for websites at odd pixel sizes will play on your PC but not on the Sprite®. Refer to the chart on page 31 for maximum bit rates and CODEC's supported. Some other pixel sizes will play with various results. Some people are using 1024 x 768 for projectors.

The Sprite® will not play 4K video files. Files with pixel sizes of 3840 x 2160 or 4096 x 2160 are 4K. Please convert the files down to 1920 x 1080 sizes using video editing software.

No video output on my monitor

If you do not see any video or Setup Menu displayed: Verify the blue power LED is on. Try pressing the HDMI or AV keys on the remote to switch the outputs. Verify the monitor is set to the input used. Verify the monitor and HDMI cable are good by swapping or trying another device on the input.

My Sprite® feels warm to the touch

The Sprite's aluminum housing is designed to be part of the heat management system. The internal microprocessor has a solid copper heatsink that transfers heat to the outside air through the housing.

While it is normal for the Sprite® to feel warm, if the ambient temperature is well over 100F (40C), extra heat management may be desired. Simply placing the Sprite® flat on a metal surface can reduce the temperature. A clean, unpainted aluminum plate, at least 12 x 12 inches (30 x 30 CM) works well.

Should I use an SD card or USB drive to hold the video files?

While files will play from the USB port from a USB drive, some HD video may not play well from some USB drives. For high bit rate files we recommend using the SD port with an SD card of sufficient speed to match your video file's bit rate. For some HD video files a Class 4 may be ok, while others may need a faster Class 6 or Class 10. Test your video.

I accidentally changed the language and now I can't read the Setup Menu

You can reset the Sprite® to factory defaults without viewing the monitor by these steps:

- 1) Remove the power plug for 10 seconds and then restore power
- 2) Wait 10 seconds or longer for start-up to finish
- 3) Press the Setup key on the remote control
- 4) Press the down arrow key 7 times
- 5) Press the Enter key 2 times

Do I have to name the files with those numbers or can I use names?

The Sprite® searches for the 000 to use as the looping file, and searches for 001 to use as the trigger. However, you can name them this way:

000.myfilename.xxx

001.someeverylongnamefile.xxx

Do not use spaces, underscores or other special characters. Use 32 or less characters including the 2 periods. We explain the operation using only numbers to keep it simple.

We suggest you use numbers only to test your files as a starting point, then add the longer names if you want them.

Can I synchronize 2 or more Sprites to play together?

The Sprite® has no way to Genlock or synchronize with any external device or another Sprite at frame accuracy. You can start trigger files on 2 or more Sprites with a single pushbutton or serial control. However there are very slight differences in the internal oscillator components that allow sprites to run at slightly different frame rates.

Depending on your application and video files, the frame rate difference may be acceptable and unnoticed, or may not be acceptable. The longer the video in time, the more out of step the players will become until the next trigger. You should use the same encoding parameters, CODEC, pixel size, frame rate, bit rate and etc. for all files for best results.

If you want, you can get better results by comparing a few Sprites to get a better match, or altering the video on the “fast” Sprite. Adding a few duplicate frames in the video file at regular intervals will “slow-down” the progression of the scene to better match the slower Sprite.

How short or long can my files be?

For all video and audio files:

Any file under approximately 3 to 5 seconds may be a problem. If they are too short, there may be unwanted results in some control modes.

The 000 loop / ambient file should in most cases be longer. A longer loop file will allow your SD card to last longer. A short file looping continuously reads a small area on the SD card. A long file stored across more bytes of the SD results in less reads per byte over time. All SD and USB have a MTBF rated average number of reads. This number is very large, but in an application that runs all day, every day, this will add up.

Most users will never have an issue with a file that is too long. The time limit for the length of any file depends on the file encoding and bits used per second. Lower bitrates, lower frame rates and reduced pixel size can increase the time allowed. The file size is normally limited to 4 GB. Larger files may be stored on the SD card if it is formatted to exFAT.

The maximum SD card size for the Sprite is 32 GB.

The USB port will support up to a 2TB USB hard drive at USB2 speed.

Support

We do our very best to answer your calls and emails in a timely manner. We generally return calls and emails within 2 hours or less during business hours. We do monitor emails in the evenings and weekends and will try to respond outside of business hours.

Please read the entire manual. If we have a good manual then we will get fewer calls. Let us know where we can improve to help others in the future.

If you are still having trouble, or need technical support for some other application, please email or call us. We are here to help when you need it.

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