

Newsgroups: rec.games.video.arcade.collecting  
Subject: Tech: Wiring needed to use a Nec Multisync II for supergun use  
From: Indygo Lunaria  
Date: Wed, 26 Sep 2001 10:59:29 GMT

Hi everyone. A few days I posted asking if the composite signal could be used to drive horizontal and vertical syncs on a Nec Multisync II monitor I acquired. Turns out it doesn't seem to work. But, I found that you only need to connect the composite to the 'horizontal sync' pin for this monitor to work.

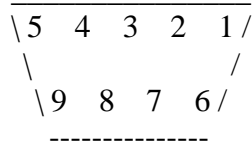
Multisync II stats of relevance to arcade video gaming:  
14" crt, 13" viewable.  
H Frequency : 15.5-35 Khz (15.5Khz is whats required for low-res JAMMA).  
V Frequency : 50-80 Hz

**Pin assignment of NEC Multisync II monitor:**

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<u>pin #</u>	<u>analog/digital RGB signal</u>
1	Red
2	Green
3	Blue
4	Horizontal Sync
5	Vertical Sync
6	Red Ground (return)
7	Green Ground (return)
8	Blue Ground (return)
9	Ground

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So if you were connecting a jamma to it, you would wire:

- Jamma Red to pin 1
- Jamma Green to pin 2
- Jamma Blue to pin 3
- Jamma Composite to pin 4 (no need to split into hsync+vsync)
- Jamma Video Ground to pin 9 (no need to ground each return color.)

The setup I put together for my supergun is I wired the JAMMA harness video outs to 4 RCA jacks, and then I took 1 prebuilt, shielded RCA cable, cut it in half, and then wired each of the centers to each color pin and the composite pin (9 pin din); I used the outer ground shield on the composite wire as the video ground. The end result is not pretty but works nicely.

The resulting image is pretty good and stable. And it saved me the hassle of building an additional composite splitter circuit.

I acquired this monitor from a place called Weird Stuff in Sunnyvale, CA for about 25\$, September 2001. The monitor was built circa 1989.

Hope you find this info useful.

Indygo

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**Monitors for an Arcade Test Bench**  
**Arcade Monitor Horizontal Frequency: =>15.5 Khz**

source: <http://www.monitorworld.com>

compiled by Tom McClintock

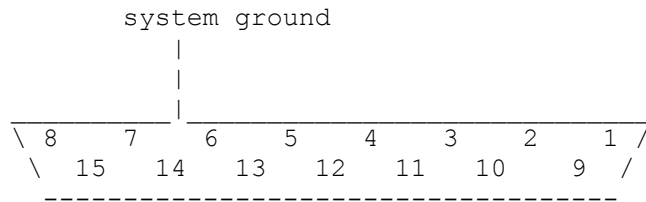
The following list of monitors was compiled using data available from Monitor World. There are no guarantees that the information below is correct or accurate, and any damage to you, your equipment or other property is not my fault or responsibility. Please use caution when using these monitors in a way not directed by the manufacturer!

Size	Make	Model	MaxRes	HScan	DP	VRef
10	Sony	CPD-9000	640x240	15.75 Khz	0.25	50/60 Hz
13	Aydin Controls	SP 1499	1280x1024	15-40 Khz	0.31	40-90 Hz
13	NEC	Multisync 3DS	800x600 56Hz	15.8-38 Khz	0.28	50-90 Hz
13	Sony	CPD-1303	800x600	15.75-35.5 Khz	0.37	50-100 Hz
13	Sony	CPD-1402E	640x480 60Hz	15-34 Khz	0.25	50-100 Hz
13	Sony	CPD-1302	800x600 60Hz	15-34 Khz	0.25	50-100 Hz
13	Sony	CPD-1302A	800x600 60Hz	15-36 Khz	0.25	50-100 Hz
14	AOC	CM314	800x600	15-35 Khz	0.31	50-80 Hz
14	Commodore	1950 (AOC CM314)	Up to 800x600	15-35 Khz	0.31	50-80 Hz
14	Darius	TSM-1431	800x600	15.75-39 Khz		50-90 Hz
14	IDEK / liyama	MF-5014	800x600	15.5-37 Khz		50-90 Hz
14	Magnavox	CM1352	640x200	15.7 Khz	0.42	47-62 Hz
14	Mitsubishi	Diamond Scan 14 (AUM-1381A)	800x600 60Hz	15.6-36 Khz	0.31	45-90 Hz
14	Mitsubishi	FA-3415	800x600	15.7-35.5 Khz	0.28	45-80 Hz
14	Nanao	FlexScan 8060S	640x480	15-35 Khz		na
14	Nanao	FlexScan 9060S	800x600	15.5-38.5 Khz	0.28	50-90 Hz
14	NEC	MultiSync II	800x600 56Hz	15.5-35 Khz	0.31	50-80 Hz
14	Panasonic	PanaSync C-1391	1024x768	15.5-36 Khz	0.31	40-80 Hz
14	Princeton Graphics	1400 (Ultra 1400)-A	Multisync	15-36.5 Khz		45-120 Hz
14	Relisys	RE-5155	800x600	15.5-35 Khz		na
14	Sony	GVM-1310	800x600 60Hz	15-36 Khz	0.25	50-100 Hz
14	Sony	PVM-1354Q	640x200	15.734 Khz	0.25	59.97 Hz
14	Sony	PVM-1351Q	640x200	15.734 Khz	0.37	59.97 Hz
14	Sony	GVM-1311Q	800x600 60Hz	15-36 Khz	0.25	50-100 Hz
14	Sony	PVM-1390	640x200	15.734 Khz	0.37	59.97 Hz
14	Taxan	Supervision 770+LR	640x480 60Hz	15-35 KHz	0.31	50-90 Hz
14	Taxan	Supervision 770+	640x480 60Hz	15-35 KHz	0.31	50-90 Hz
14	Taxan	Supervision 775	640x480 60Hz	15-38 KHz	0.28	50-90 Hz
14	Wen	JM143E	800x600	15.75/30-37 Khz	0.68	48-90 Hz
15	Electrohome	C15 Series 15	1024x768	15-50 Khz	0.28	45-90 Hz
15	IDEK / liyama	MF-5015	800x600	15.5-37 Khz		50-90 Hz
15	IDEK / liyama	MF-5015A	800x600 60Hz	15.5-38.5 Khz	0.31	50-90 Hz
15	Princeton Graphics	Multiview II	640x870	15-70 Khz	NA	75 Hz
17	Image Systems	M17L-T	1600x1280	15-65/48-108 Khz	NA	55-90 Hz
19	Barco	CD-351	1024x768	15.5-23.5 Khz	0.32	50-60; 72-80 Hz
19	Conrac	7250	1280x1024	15.73-37 Khz	0.31	na
19	Microvitec	1019	800x600	15-36 Khz		40-100 Hz

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A2M6014 Pinout \  
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AppleColor RGB Color Monitor  
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- 1 - GND (Red)
- 2 - Red Video
- 3 - Composite Sync
- 4 -
- 5 - Green Video
- 6 - GND (Green)
- 7 -
- 8 -
- 9 - Blue Video
- 10 -
- 11 -
- 12 -
- 13 - GND (Blue)
- 14 -
- 15 -



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Notes \  
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1. Tie all the GNDs together and run to a GND. The others run straight to the PCB.
2. If you have trouble getting the monitor to sync, try running a 47ohm resistor from sync to ground on your adaptor.
3. Run the color leads through 220uf capacitors, or else you get SILLY color bleed on many games.
4. Cracked solder joints on the flyback were a chronic problem on the //gs monitor.

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Thanks \  
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Mike Haaland, Mark C. Spaeth, Jon Davis, Dave France, Michael Bahr

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