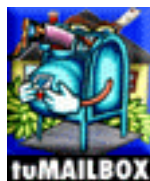


GUIDA PER GLI ADATTATORI VIDEO PER MACINTOSH



[Sergio Aletta \(aletta@mac.com\)](mailto:aletta@mac.com)

L'uscita video dei computer Macintosh, utilizza un sistema chiamato sense code per riconoscere il monitor collegato, sfruttando tre segnali identificati con ID0; ID1 e ID2. In origine, collegando o no a massa questi segnali si avevano a disposizione otto possibili combinazioni (2 elevato alla terza potenza) ed erano piu' che sufficienti per i monitor all'epoca in produzione. In seguito si rese necessario modificare il sistema di codifica, poichè nel frattempo erano nati nuovi monitor, perciò si adattò l'extended sense code, che utilizza sempre i gli stessi tre segnali, ma in aggiunta al semplice collagamento a massa, prevede la connessione tra di loro anche di eventuali diodi.

Per questo motivo, quando si deve collegare un monitor all'uscita video di un computer Apple Macintosh, bisogna tenere in considerazione anche la configurazione dei sense code. Nel caso quindi in cui bisogna utilizzare un diodo per simulare l'extended codes, è sufficiente un diodo di tipo 1N4148 o similari.

Di seguito sono illustrate le connessioni per la maggiorparte dei monitor in circolazione. Un caso a sé stante, è costituito da quei monitor che utilizzano il segnale del verde anche per il sincronismo (vecchi modelli di monitor prevalentemente di marca SuperMac). Per questi casi spesso è sufficiente utilizzare l'adattatore indicato per il modello SuperMac STD9751E.

Sperando di fare cosa gradita e soprattutto utile vi invito a contattarmi via e-mail se non siete riusciti a trovare le informazioni desiderate. Qualora invece questa guida vi sia stata d'aiuto, vi chiedo solo di comunicarmelo via e-mail a scopi statistici (e anche per un minimo di soddisfazione personale).

Sergio Aletta (aletta@mac.com)

Uscita video Mac ⇒ Monitor VGA - SVGA	5
Uscita video Mac ⇒ Monitor 640x480 (connettore mac)	6
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IBM PC ⇒ Monitor Mac (es. Multiscan 17, Applevision ecc. ecc.)	23
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Segnali video

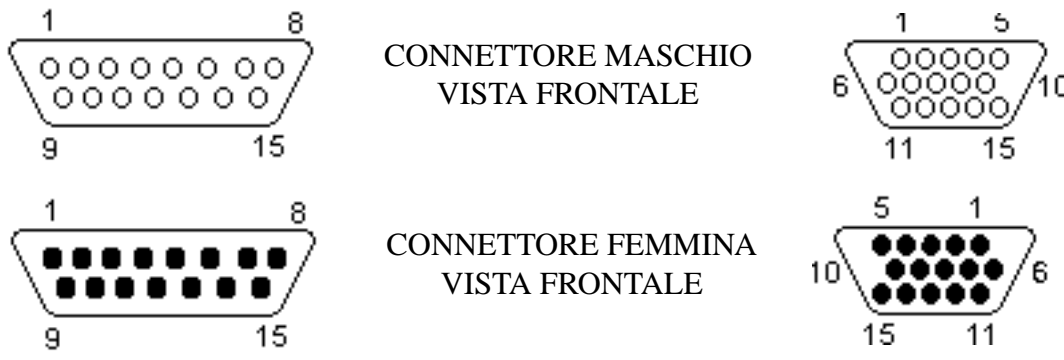
VGA (ConnettoreDB15 a 3 file)

Pin	Nome	Descrizione
1	RED	Red Video (75 ohm, 0.7 V p-p)
2	GREEN	Green Video (75 ohm, 0.7 V p-p)
3	BLUE	Blue Video (75 ohm, 0.7 V p-p)
4	ID2	Monitor ID Bit 2
5	GND	Ground
6	RGND	Red Ground
7	GGND	Green Ground
8	BGND	Blue Ground
9	KEY	Key (No pin)
10	SGND	Sync Ground
11	ID0	Monitor ID Bit 0
12	ID1 or SDA	Monitor ID Bit 1
13	HSYNC or CSYNC	Horizontal Sync (or Composite Sync)
14	VSYNC	Vertical Sync
15	ID3 or SCL	Monitor ID Bit 3

Uscita porta video Macintosh (DB15 a 2 file)

Pin	Nome	Descrizione
1	RGND	Red ground
2	RED	Red video
3	CSYNC	Composite sync
4	SENSE0	Monitor id bit 0
5	GREEN	Green video
6	GGND	Green ground
7	SENSE1	Monitor id bit 1
8	n.c.	No connection
9	BLUE	Blue video
10	SENSE 2	Monitor id bit 2
11	CVSYNCGND	Composite & vertical sync ground
12	VSYNC	Vertical sync
13	BGND	Blue ground
14	HSYNCGND	Horizontal sync ground
15	HSYNC	Horizontal sync

Macintosh ⇒ VGA & SUPER VGA



CONNETTORE MASCHIO
VISTA FRONTALE

CONNETTORE FEMMINA
VISTA FRONTALE

USCITA VIDEO MAC

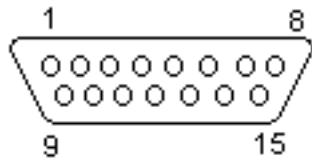
DB15 2 file

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2(RED)	_____	1(RED)
5(GREEN)	_____	2(GREEN)
6(GGND)	_____	7(GGND)
7-10(SENSE1)		
9(BLUE)	_____	3(BLUE)
12(VSYNC)	_____	14(VSYNC)
13(BGND)	_____	8(BGND)
14(HSYNCGND)	_____	10(HSYNCGND)
15(HSYNC)	_____	13(HSYNC)

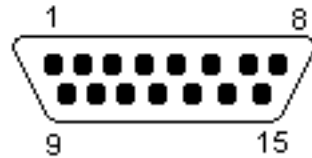
CONNETTORE MONITOR (VGA)

DB15 3 file

Macintosh ⇒ Monitor 640 x 480



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE

USCITA VIDEO MAC

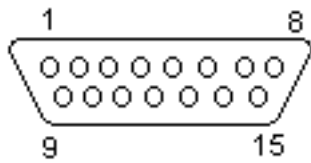
DB15 2 file

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2(RED)	_____	2(RED)
3(CSYNC)	_____	3(CSYNC)
4-11(SENSE 0)		
5(GREEN)	_____	5(GREEN)
6(GGND)	_____	6(GGND)
9(BLUE)	_____	9(BLUE)
11(CVSYNCGND)	_____	11(CVSYNCGND)
12(VSYNC)	_____	12(VSYNC)
13(BGND)	_____	13(BGND)
14(HSYNCGND)	_____	14(HSYNCGND)
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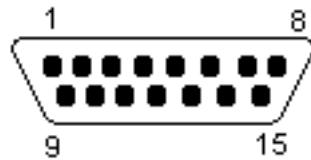
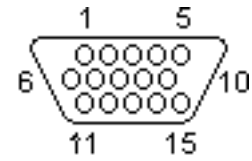
CONNETTORE MONITOR

DB15 2 file

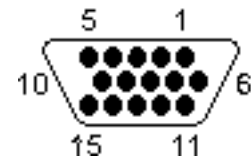
Macintosh ⇒ Monitor 640 x 480



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE



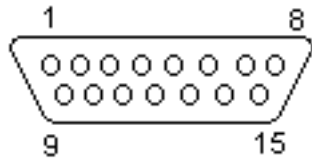
USCITA VIDEO MAC

DB15 2 file

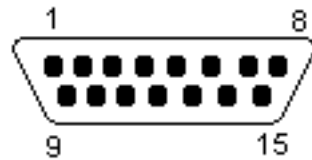
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2(RED)	_____	1(RED)
4-11(SENSE 0)		
5(GREEN)	_____	2(GREEN)
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9(BLUE)	_____	3(BLUE)
12(VSYNC)	_____	14(VSYNC)
13(BGND)	_____	8(BGND)
14(HSYNCGND)	_____	10(HSYNCGND)
15(HSYNC)	_____	13(HSYNC)

CONNETTORE MONITOR (VGA)

DB15 3 file



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE

USCITA VIDEO MAC

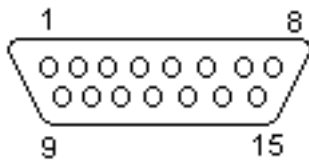
DB15 2 file

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2(RED) _____	2(RED)
3(CSYNC) _____	3(CSYNC)
4-10(SENSE 0-2)	
5(GREEN) _____	5(GREEN)
6(GGND) _____	6(GGND)
9(BLUE) _____	9(BLUE)
11(CVSYNCGND) _____	11(CVSYNCGND)
12(VSYNC) _____	12(VSYNC)
13(BGND) _____	13(BGND)
14(HSYNCGND) _____	14(HSYNCGND)
15(HSYNC) _____	15(HSYNC)

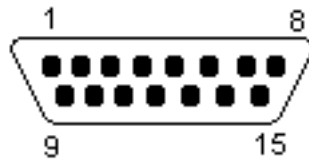
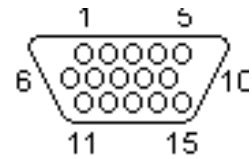
CONNETTORE MONITOR

DB15 2 file

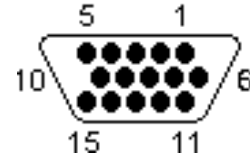
Macintosh ⇒ Monitor 832 x 624



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE



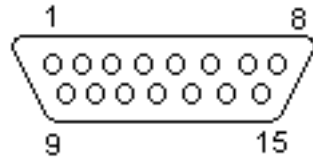
USCITA VIDEO MAC

CONNETTORE MONITOR (VGA)

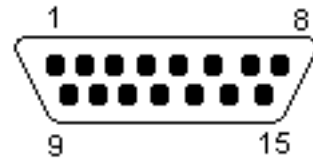
DB15 2 file

DB15 3 file

1(RGND) _____	6(RGND)
2(RED) _____	1(RED)
4-10(SENSE 0-2)	
5(GREEN) _____	2(GREEN)
6(GGND) _____	7(GGND)
9(BLUE) _____	3(BLUE)
12(VSYNC) _____	14(VSYNC)
13(BGND) _____	8(BGND)
14(HSYNCGND) _____	10(HSYNCGND)
15(HSYNC) _____	13(HSYNC)



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE

USCITA VIDEO MAC

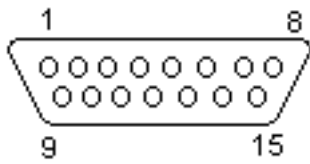
DB15 2 file

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2(RED)	_____	2(RED)
3(CSYNC)	_____	3(CSYNC)
4-7(SENSE 0-1)		
5(GREEN)	_____	5(GREEN)
6(GGND)	_____	6(GGND)
9(BLUE)	_____	9(BLUE)
11(CVSYNCGND)	_____	11(CVSYNCGND)
12(VSYNC)	_____	12(VSYNC)
13(BGND)	_____	13(BGND)
14(HSYNCGND)	_____	14(HSYNCGND)
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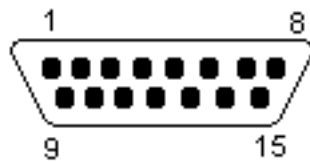
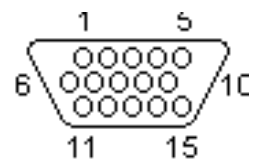
CONNETTORE MONITOR

DB15 2 file

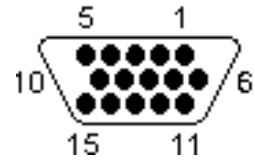
Macintosh ⇒ Monitor 1024 x 768



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE



USCITA VIDEO MAC

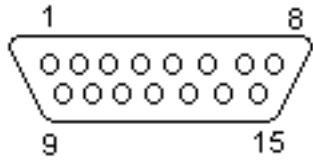
CONNETTORE MONITOR (VGA)

DB15 2 file

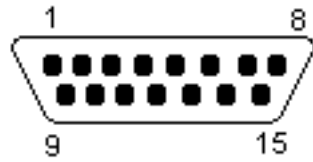
DB15 3 file

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2(RED)	_____	1(RED)
4-7(SENSE 0-1)		
5(GREEN)	_____	2(GREEN)
6(GGND)	_____	7(GGND)
9(BLUE)	_____	3(BLUE)
12(VSYNC)	_____	14(VSYNC)
13(BGND)	_____	8(BGND)
14(HSYNCGND)	_____	10(HSYNCGND)
15(HSYNC)	_____	13(HSYNC)

Macintosh ⇒ Monitor 1152 x 870



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE

USCITA VIDEO MAC

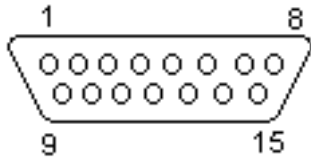
DB15 2 file

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2(RED)	_____	2(RED)
3(CSYNC)	_____	3(CSYNC)
4-7-10-11(SENSE 0-1-2)		
5(GREEN)	_____	5(GREEN)
6(GGND)	_____	6(GGND)
9(BLUE)	_____	9(BLUE)
11(CVSYNCGND)	_____	11(CVSYNCGND)
12(VSYNC)	_____	12(VSYNC)
13(BGND)	_____	13(BGND)
14(HSYNCGND)	_____	14(HSYNCGND)
15(HSYNC)	_____	15(HSYNC)

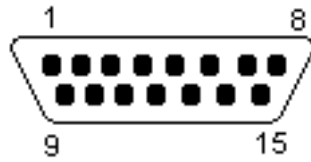
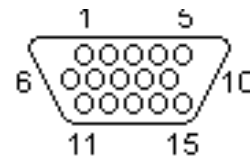
CONNETTORE MONITOR

DB15 2 file

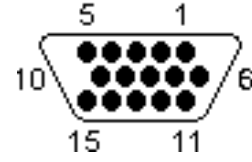
Macintosh ⇒ Monitor 1152 x 870



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE



USCITA VIDEO MAC

DB15 2 file

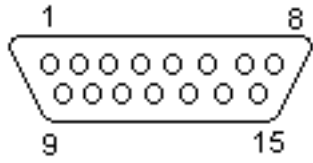
- 1(RGND) _____
- 2(RED) _____
- 4-7-10-11(SENSE 0-1-2)
- 5(GREEN) _____
- 6(GGND) _____
- 9(BLUE) _____
- 12(VSYNC) _____
- 13(BGND) _____
- 14(HSYNCGND) _____
- 15(HSYNC) _____

CONNETTORE MONITOR (VGA)

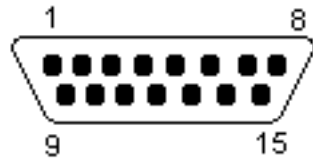
DB15 3 file

- 6(RGND)
- 1(RED)
- 2(GREEN)
- 7(GGND)
- 3(BLUE)
- 14(VSYNC)
- 8(BGND)
- 10(HSYNCGND)
- 13(HSYNC)

Macintosh ⇒ Multiscan 13"



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE

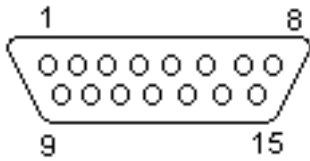
USCITA VIDEO MAC

DB15 2 file

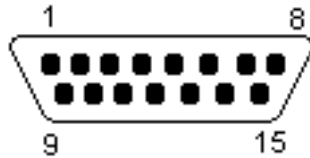
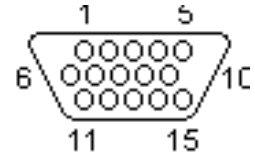
1(RGND)	_____	1(RGND)
2(RED)	_____	2(RED)
3(CSYNC)	_____	3(CSYNC)
4-11(SENSE 0)		
5(GREEN)	_____	5(GREEN)
6(GGND)	_____	6(GGND)
7-10(SENSE 1-2)		
9(BLUE)	_____	9(BLUE)
12(VSYNC)	_____	12(VSYNC)
13(BGND)	_____	13(BGND)
14(HSYNCGND)	_____	14(HSYNCGND)
15(HSYNC)	_____	15(HSYNC)

CONNETTORE MONITOR

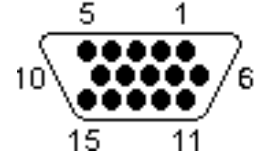
DB15 2 file



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE



USCITA VIDEO MAC

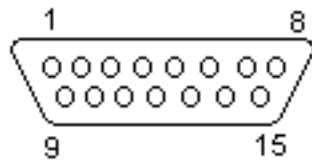
DB15 2 file

1(RGND)	_____	6(RGND)
2(RED)	_____	1(RED)
4-11(SENSE 0)		
5(GREEN)	_____	2(GREEN)
6(GGND)	_____	7(GGND)
7-10(SENSE 1-2)		
9(BLUE)	_____	3(BLUE)
12(VSYNC)	_____	14(VSYNC)
13(BGND)	_____	8(BGND)
14(HSYNCGND)	_____	10(HSYNCGND)
15(HSYNC)	_____	13(HSYNC)

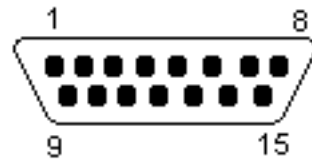
CONNETTORE MONITOR (VGA)

DB15 3 file

Macintosh ⇒ Multiscan 17"



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE

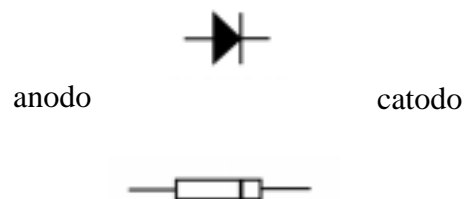
USCITA VIDEO MAC

DB15 2 file

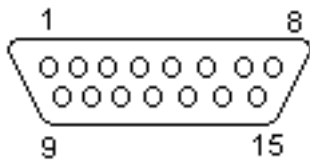
1(RGND)	_____	1(RGND)
2(RED)	_____	2(RED)
3(CSYNC)	_____	3(CSYNC)
4-11(SENSE 0)		
5(GREEN)	_____	5(GREEN)
6(GGND)	_____	6(GGND)
7-10(SENSE 1-2 diodo col catodo pin 10 - anodo pin 7)		
9(BLUE)	_____	9(BLUE)
12(VSYNC)	_____	12(VSYNC)
13(BGND)	_____	13(BGND)
14(HSYNCGND)	_____	14(HSYNCGND)
15(HSYNC)	_____	15(HSYNC)

CONNETTORE MONITOR

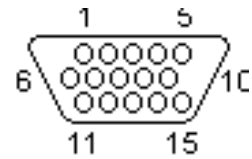
DB15 2 file



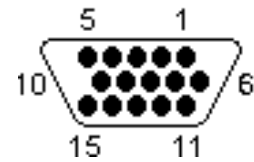
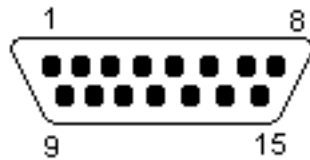
Macintosh ⇒ Multiscan 17"



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE



USCITA VIDEO MAC

CONNETTORE MONITOR (VGA)

DB15 2 file

DB15 3 file

1(RGND) _____ 6(RGND)

2(RED) _____ 1(RED)

4-11(SENSE 0)

5(GREEN) _____ 2(GREEN)

6(GGND) _____ 7(GGND)

7-10(SENSE 1-2 diodo col catodo pin 10 - anodo pin 7)

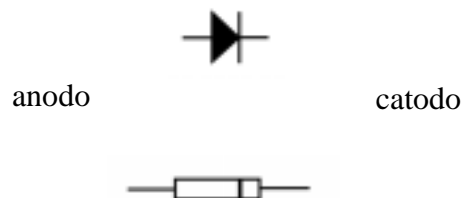
9(BLUE) _____ 3(BLUE)

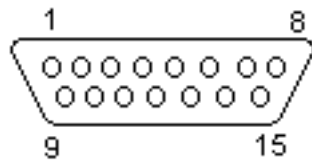
12(VSYNC) _____ 14(VSYNC)

13(BGND) _____ 8(BGND)

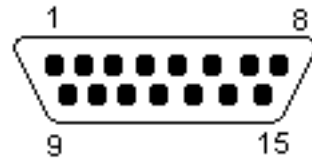
14(HSYNCGND) _____ 10(HSYNCGND)

15(HSYNC) _____ 13(HSYNC)





CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE

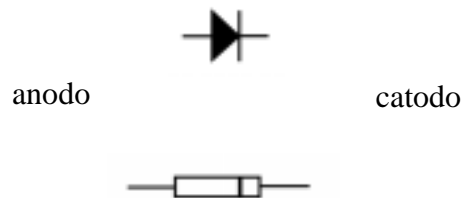
USCITA VIDEO MAC

DB15 2 file

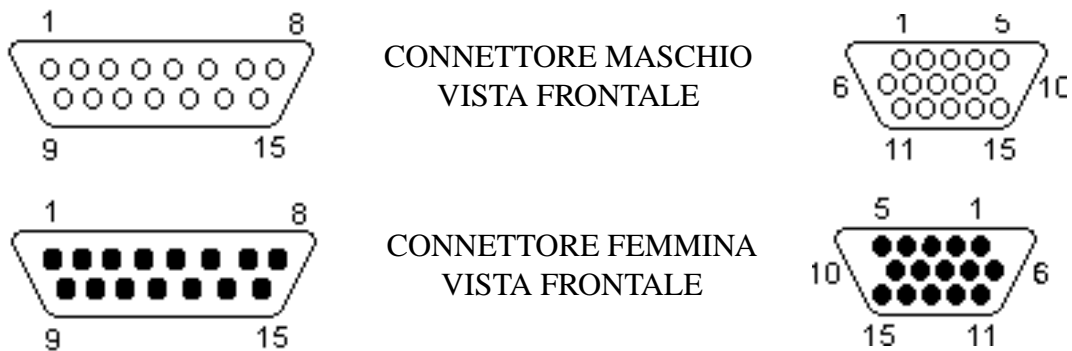
1(RGND)	_____	1(RGND)
2(RED)	_____	2(RED)
3(CSYNC)	_____	3(CSYNC)
4-11(SENSE 0)		
5(GREEN)	_____	5(GREEN)
6(GGND)	_____	6(GGND)
7-10(SENSE 1-2 diodo col catodo pin 7 - anodo pin 10)		
9(BLUE)	_____	9(BLUE)
12(VSYNC)	_____	12(VSYNC)
13(BGND)	_____	13(BGND)
14(HSYNCGND)	_____	14(HSYNCGND)
15(HSYNC)	_____	15(HSYNC)

CONNETTORE MONITOR

DB15 2 file



Macintosh ⇒ Multiscan 20"



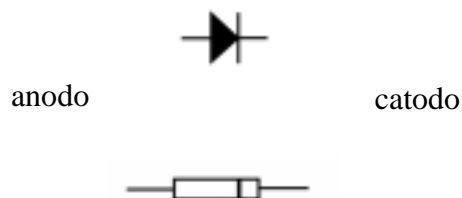
USCITA VIDEO MAC

DB15 2 file

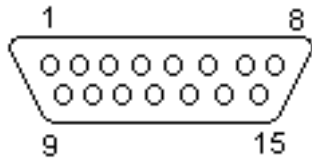
1(RGND)	_____	6(RGND)
2(RED)	_____	1(RED)
4-11(SENSE 0)		
5(GREEN)	_____	2(GREEN)
6(GGND)	_____	7(GGND)
7-10(SENSE 1-2 diodo colcatodo pin 7 - anodo pin 10)		
9(BLUE)	_____	3(BLUE)
12(VSYNC)	_____	14(VSYNC)
13(BGND)	_____	8(BGND)
14(HSYNCGND)	_____	10(HSYNCGND)
15(HSYNC)	_____	13(HSYNC)

CONNETTORE MONITOR (VGA)

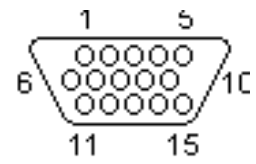
DB15 3 file



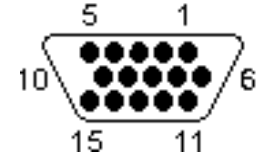
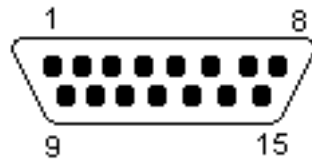
Macintosh ⇒ Monitor NEC FG (Vecchia serie)



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE



USCITA VIDEO MAC

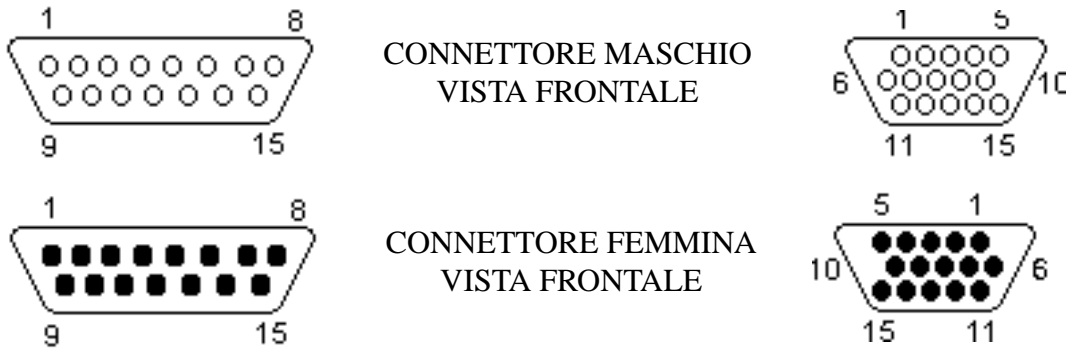
CONNETTORE MONITOR (VGA)

DB15 2 file

DB15 3 file

1(RGND) _____	6(RGND)
2(RED) _____	1(RED)
4(SENSE 0) _____	14(VSYNC)
5(GREEN) _____	2(GREEN)
6(GGND) _____	7(GGND)
9(BLUE) _____	3(BLUE)
11(CVSYNCGND) _____	4(ID2)
13(BGND) _____	8(BGND)
14(HSYNCGND) _____	11(ID0)
-- _____	10-13(SGND-HSYNC)

Macintosh ⇒ Monitor NEC FG (Dic. 1991)



USCITA VIDEO MAC

DB15 2 file

1-4-6-13 _____

2(REDF) _____

3(CSYNC) _____

5(GREEN) _____

9(BLUE) _____

CONNETTORE MONITOR (VGA)

DB15 3 file

4-5-6-7-8-10-11 _____

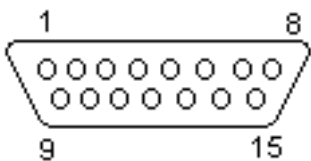
1(REDF) _____

13(HSYNC/CSYNC) _____

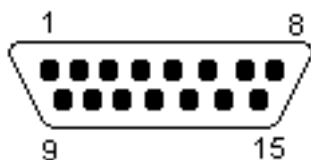
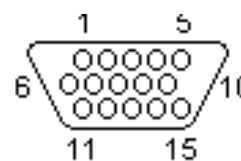
2(GREEN) _____

3(BLUE) _____

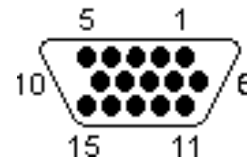
Macintosh ⇒ Monitor NEC FG (modalità VGA-SVGA)



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE



USCITA VIDEO MAC

CONNETTORE MONITOR (VGA)

DB15 2 file

DB15 3 file

1-6-13 _____ 4-5-6-7-8-10-11

2(REDF) _____ 1(REDF)

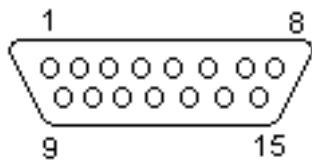
3(CSYNC) _____ 13(HSYNC/CSYNC)

5(GREEN) _____ 2(GREEN)

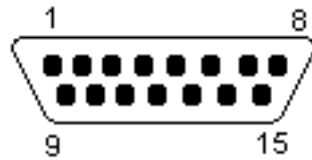
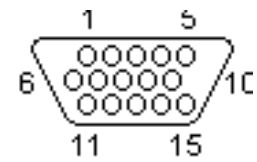
9(BLUE) _____ 3(BLUE)

12(VSINC) _____ 14(VSYNC)

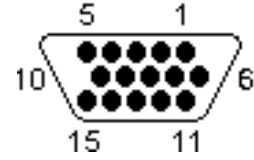
IBM PC ⇒ Monitor Mac (es. Multiple scan 17 o Applevision 1710)



CONNETTORE MASCHIO
VISTA FRONTALE



CONNETTORE FEMMINA
VISTA FRONTALE



CONNETTORE MONITOR

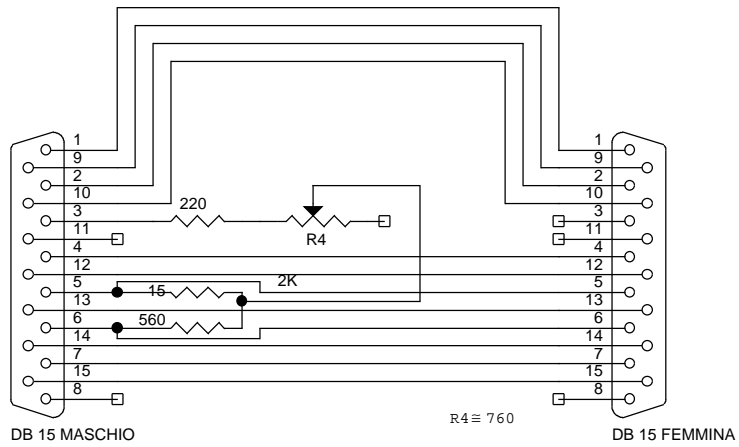
DB15 2 file

1(RGND)	_____	6(RGND)
2(RED)	_____	1(RED)
3(CSYNC)	_____	13(HSYNC/CSYNC)
4(SENSE0)	_____	4(ID2)
5(GREEN)	_____	2(GREEN)
6(GGND)	_____	7(GGND)
7(SENSE1)	_____	15(ID3)
9(BLUE)	_____	3(BLUE)
10(SENSE2)	_____	12(ID1)
12(VSYNC)	_____	14(VSYNC)
13(BGND)	_____	8(BGND)
14(HSYNCGND)	_____	5(GND)
15(HSYNC)	_____	13(HSYNC/CSYNC)
_____	_____	10-11(SGND-ID0)

CONNETTORE IBM PC (VGA)

DB15 3 file

Adattatore monitor SuperMac STD9751E per PowerMacintosh PCI



- 1-RED GND
- 2-RED VIDEO
- 3-COMPOSITE SYNC
- 4-MON ID 1
- 5-GREEN VIDEO
- 6-GREEN GND
- 7-MON ID 2
- 8-NC
- 9-BLUE VIDEO
- 10-MON ID 3
- 11-COMPOSITE & VERTICAL SYNC GND
- 12-VERTICAL SYNC
- 13-BLUE GND
- 14-HORIZONTAL SYNC GND
- 15-HORIZONTAL SYNC