

WB88HD SERIES



FRONT PANEL

8 IN - 8 OUT VGA-UXGA & STEREO AUDIO

CARATTERISTICHE GENERALI

- Pannello di controllo professionale a pulsanti diretti I/O di commutazione
- Indicatori display di stato per una visione completa delle selezioni
- Etichette per singolo pulsante I/O e su interfaccia software
- Pulsante di sicurezza per blocco pannello di controllo
- Memorizzazione dei punti incrocio dell'ultimo stato operativo
- 8 memorie di preset
- Funzione di commutazione globale inclusa
- Tutti i comandi sono richiamabili da pannello di controllo e da porta seriale
- Commutazione nell'intervallo verticale
- Gestione del video e dell'audio anche separata (AFV o Breakaway)
- Livello audio regolabile per singolo ingresso
- Porta RS-232 inclusa per controllo da sistema esterno (es. PC, touch-screen ecc.)
- Software di gestione e di automazione in ambiente Windows® inclusi
- Feedback di livello
- Porta RS-485 inclusa per applicazione di pannelli di controllo remotabili fino a 1000 m. e/o estensione del sistema con matrici in cascata
- Impiego di uno o più pannelli per controlli multigestione, utilizzando in combinazione anche il pannello MK1 da 1RU o MDK1 da tavolo

GENERAL FEATURES

- Professional control panel tactile switch I/O buttons
- Display indicators provide a full status view
- I/O buttons labels also on software interface
- Last operative status power down memory
- 8 preset memories
- Global switching function, included
- All commands can be recalled from control panel and serial port
- Vertical interval switching
- Separate control of video & audio (AFV or Breakaway)
- Adjustable audio level input by input
- RS-232 built-in port for external control system (i.e. PC, touch-screen, etc.)
- Windows®-based control and automation software, included
- Level feedback
- RS-485 built-in port for remote control panels applications (up to 1000 m) and/or system enlargement by matrices in cascade
- Control by one or more panels, utilizing also any combination of MK1 keypad 1RU or MDK1 desktop remote control panel

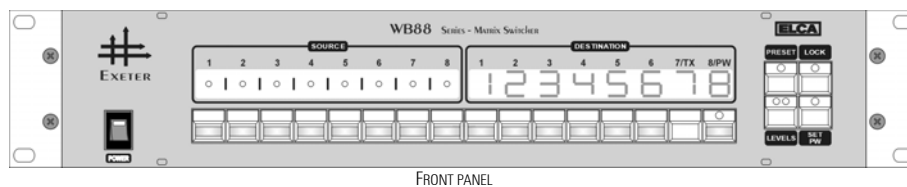
COMPATIBILITÀ DEI SEGNALI

Video composito, Y/C (S-video), YUV, RGB, RG_sB, RGBS, RGB-HV, VGA, S-VGA, XGA, S-XGA, SXGA-WIDE, UXGA.

SIGNALS COMPATIBILITY

Composite video, Y/C (S-video), YUV, RGB, RG_sB, RGBS, RGB-HV, VGA, S-VGA, XGA, S-XGA, SXGA-WIDE, UXGA.

WB88TRD CONTROL PANEL



FEATURES

- 8 input keys
- 8 output keys
- 8 status displays
- 4 function keys (preset, lock, levels, set preview)
- 1 RS-485 (LINK+POWER) port: D9 M connector

THE CONTROL PANEL CAN BE REMOTED BY:

	RS-485 (LINK+POWER) PORT	RS-485 (LINK) PORT
Power supply	<i>powered by matrix switcher</i>	<i>independently powered</i>
Cable	flat-cable 9 pins 28 AWG (Ø 0.3 mm)	Bifilar 26 AWG (Ø 0.4 mm)
Max. cable length	10 m.	1000 m.

La lunghezza del cavo è testata in base alle specifiche del cavo stesso, come riportato in tabella. L'impiego di cavi con specifiche diverse o inferiori non garantisce l'applicazione alle distanze sopra indicate; l'impiego di cavi con specifiche superiori garantisce l'applicazione a distanze maggiori rispetto a quelle sopra indicate. Il numero di pannelli remoti applicabili è illimitato. Per assistenza allo sviluppo di sistemi complessi, rivolgersi alla casa produttrice.

The cable length is tested according to the specifications of the cable, as reported on the table above. The use of cables with different or lower specifications does not ensure the application on above mentioned distances; the use of cables with higher specifications ensures the application on longer distances respect the above ones. The number of remote control panels to be connected is unlimited. We suggest to contact the manufacturer to develop extended systems.

INCLUDED ACCESSORIES

1 flat-cable: 4 m. standard (powered by mainframe)

OPTIONAL ACCESSORIES

External power supply for control panel, order code T300

POWER SUPPLY

AC 9V 0.2A

MECHANICAL SPECIFICATIONS

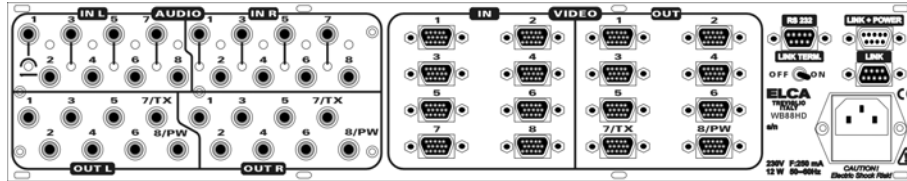
MODEL	DIMENSIONS (CM)	WEIGHT (KG) APPROXIMATELY
WB88TRD	19" 2RU (W. 48.3; H. 8.8; D. 4). Width includes rack ears.	1.1

WB88THDASS

8x8 VGA-UXGA & UNBALANCED STEREO AUDIO, WITH LOCAL CONTROL PANEL

WB88THDASSR

8x8 VGA-UXGA & UNBALANCED STEREO AUDIO, WITH REMOTE CONTROL PANEL



REAR PANEL

ANALOG RGB INPUTS

- Number of inputs: 8
- Connectors: 15-pin HD female
- Impedance: 75 Ω
- Return loss: -46 dB @ 5 MHz
- Coupling: DC
- Signal level: 1 Vpp
- Signal max. level: 2 Vpp

ANALOG RGB OUTPUTS

- Number of outputs: 8
- Connectors: 15-pin HD female
- Impedance: 75 Ω
- Signal level: 1 Vpp
- Coupling: DC
- Bandwidth: 400 MHz
- Flatness: 1 Hz to 100 MHz, ±0.1 dB
- Crosstalk: -52 dB @ 5 MHz
- Differential phase: 0.1° @ 5 MHz
- Differential gain: 0.1% @ 5 MHz
- 2T Pulse K-factor: 0.2%
- Signal to noise ratio: 70 dB unweighted

H & V SYNC INPUTS

- Impedance: 510 Ω
- Signal level: CMOS / TTL
15 Hz to 150 kHz

H & V SYNC OUTPUTS

- Signal level: 4.5 Vpp TTL on 510 Ω
- Polarity: follows input

ANALOG UNBALANCED STEREO AUDIO INPUTS

- Number of inputs: 8
- Connectors: 2 x RCA Plug
- Impedance: 10 kΩ
- Coupling: AC
- Signal level: 0 dBu
- Signal max. level: +18 dBu
- External level adjustment: -6 dB (per input)

ANALOG UNBALANCED STEREO AUDIO OUTPUTS

- Number of outputs: 8
- Connectors: 2 x RCA Plug
- Impedance: 1 kΩ
- Signal level: 0 dBu
- Signal max. level: +18 dBu
- Gain: 0 dB ± 0.1 dB
- Crosstalk: -80 dB @ 10 kHz
- Frequency response: 0.2 Hz to 200 kHz, -3 dB
- Flatness: 2 Hz to 100 kHz, ±0.1 dB
- Distortion (THD+N): 0.1%, @ 400 Hz 0 dBu
- Signal to noise ratio: 85 dB

REMOTE CONTROLS

- 1 RS-232 port: D9 F connector.
- 1 RS-485 (LINK+POWER) port: D9 M connector.
Communication port. Beside the data line, it allows to power up a remote control panel.
- 1 RS-485 (LINK) port: D9 F connector.
Communication port.

POWER SUPPLY FEATURES OF RS-485 PORTS

LINK + POWER & LINK ONLY

	RS-485 (LINK+POWER) PORT		RS-485 (LINK) PORT
Power out	DC +12 V 0.2A	DC +12 V 0.4A	-
Control panel	Local <i>Built-in</i>	Remote <i>Powered from matrix switcher</i>	Remote <i>External power supply</i>

POWER SUPPLY

AC 230V 50/60 Hz – 12 W (AC 117V on request)

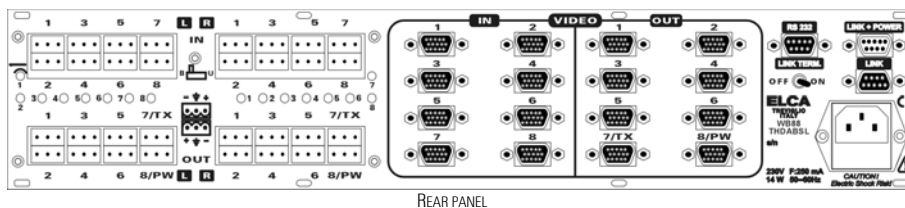
MECHANICAL SPECIFICATIONS

MODEL	DIMENSIONS (CM)	WEIGHT (KG) APPROXIMATELY
WB88THDASS	19" 2RU (W. 48.3; H. 8.8; D. 25.8). Width includes rack ears.	5.0
WB88THDASSR	19" 2RU + 2RU for remote control panel	--



WB88THDABSL 8x8 VGA-UXGA & BALANCED STEREO AUDIO, WITH LOCAL CONTROL PANEL

WB88THDABSLR 8x8 VGA-UXGA & BALANCED STEREO AUDIO, WITH REMOTE CONTROL PANEL



REAR PANEL

ANALOG RGB INPUTS

- Number of inputs: 8
- Connectors: 15-pin HD female
- Impedance: 75 Ω
- Return loss: -46 dB @ 5 MHz
- Coupling: DC
- Signal level: 1 Vpp
- Signal max. level: 2 Vpp

ANALOG RGB OUTPUTS

- Number of outputs: 8
- Connectors: 15-pin HD female
- Impedance: 75 Ω
- Signal level: 1 Vpp
- Coupling: DC
- Bandwidth: 400 MHz
- Flatness: 1 Hz to 100 MHz, ±0.1 dB
- Crosstalk: -52 dB @ 5 MHz
- Differential phase: 0.1° @ 5 MHz
- Differential gain: 0.1% @ 5 MHz
- 2T Pulse K-factor: 0.2%
- Signal to noise ratio: 70 dB unweighted

H & V SYNC INPUTS

- Impedance: 510 Ω
- Signal level: CMOS / TTL
- 15 Hz to 150 kHz

H & V SYNC OUTPUTS

- Signal level: 4.5 Vpp TTL on 510 Ω
- Polarity: follows input

ANALOG BALANCED STEREO AUDIO INPUTS

- Number of inputs: 8
- Signal type: 4 balanced inputs
4 balanced or unbalanced inputs (by external switch)
- Connectors: 2 x terminal block, 3 pin
- Impedance: 10 kΩ
- Coupling: AC
- Signal level: 0 dBu
- Signal max. level: +18 dBu
- External level adjustment: -6 dB (per input)
- CMRR: -72 dB, 10 kHz

ANALOG BALANCED STEREO AUDIO OUTPUTS

- Number of outputs: 8
- Signal type: balanced
- Connectors: 2 x terminal block, 3 pin
- Impedance: 50 Ω
- Signal level: 0 dBu
- Signal max. level: +16 dBu
- Gain: 0 dB ± 0.1 dB
- Crosstalk: -80 dB @ 10 kHz
- Frequency response: 0.1 Hz to 150 kHz, -3 dB
- Flatness: 10 Hz to 20 kHz, ±0.2 dB
- Distortion (THD+N): 0.05%, @ 400 Hz 0 dBu
- Signal to noise ratio: 85 dB

REMOTE CONTROLS

- 1 RS-232 port: D9 F connector.
- 1 RS-485 (LINK+POWER) port: D9 M connector.
Communication port. Beside the data line, it allows to power up a remote control panel.
- 1 RS-485 (LINK) port: D9 F connector.
Communication port.

POWER SUPPLY FEATURES OF RS-485 PORTS

LINK + POWER & LINK ONLY

	RS-485 (LINK+POWER) PORT		RS-485 (LINK) PORT
Power out	DC +12 V 0.2A	DC +12 V 0.4A	--
Control panel	Local <i>Built-in</i>	Remote <i>Powered from matrix switcher</i>	Remote <i>External power supply</i>

POWER SUPPLY

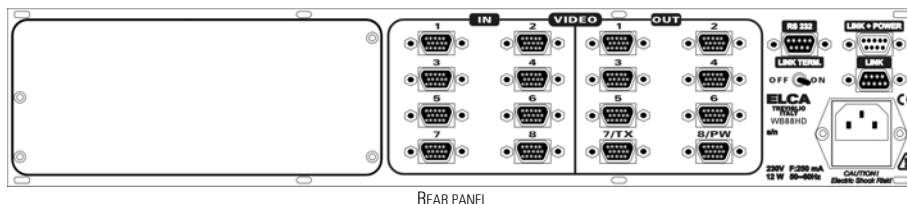
AC 230V 50/60 Hz – 14 W (AC 117V on request)

MECHANICAL SPECIFICATIONS

MODEL	DIMENSIONS (CM)	WEIGHT (KG) APPROXIMATELY
WB88THDABSL	19" 2RU (W. 48.3; H. 8.8; D. 25.8). Width includes rack ears.	--
WB88THDABSLR	19" 2RU + 2RU for remote control panel	--



WB88THD	8x8 VGA-UXGA, WITH LOCAL CONTROL PANEL
WB88THDR	8x8 VGA-UXGA, WITH REMOTE CONTROL PANEL
WB88HD	8x8 VGA-UXGA, WITHOUT CONTROL PANEL



REAR PANEL

ANALOG RGB INPUTS

- Number of inputs: 8
- Connectors: 15-pin HD female
- Impedance: 75 Ω
- Return loss: -46 dB @ 5 MHz
- Coupling: DC
- Signal level: 1 Vpp
- Signal max. level: 2 Vpp

ANALOG RGB OUTPUTS

- Number of outputs: 8
- Connectors: 15-pin HD female
- Impedance: 75 Ω
- Signal level: 1 Vpp
- Coupling: DC
- Bandwidth: 400 MHz
- Flatness: 1 Hz to 100 MHz, ±0.1 dB
- Crosstalk: -52 dB @ 5 MHz
- Differential phase: 0.1° @ 5 MHz
- Differential gain: 0.1% @ 5 MHz
- 2T Pulse K-factor: 0.2%
- Signal to noise ratio: 70 dB unweighted

H & V SYNC INPUTS

- Impedance: 510 Ω
- Signal level: CMOS / TTL
15 Hz to 150 kHz

H & V SYNC OUTPUTS

- Signal level: 4.5 Vpp TTL on 510 Ω
- Polarity: follows input

REMOTE CONTROLS

- 1 RS-232 port: D9 F connector.
- 1 RS-485 (LINK+POWER) port: D9 M connector.
Communication port. Beside the data line, it allows to power up a remote control panel.
- 1 RS-485 (LINK) port: D9 F connector.
Communication port.

POWER SUPPLY FEATURES OF RS-485 PORTS

LINK + POWER & LINK ONLY

	RS-485 (LINK+POWER) PORT		RS-485 (LINK) PORT
Power out	DC +12 V 0.2A	DC +12 V 0.4A	-
Control panel	Local <i>Built-in</i>	Remote <i>Powered from matrix switcher</i>	Remote <i>External power supply</i>

POWER SUPPLY

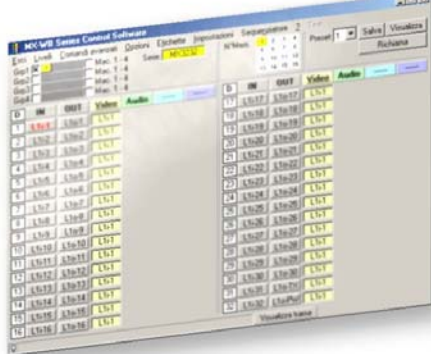
AC 230V 50/60 Hz – 12 W (AC 117V on request)

MECHANICAL SPECIFICATIONS

MODEL	DIMENSIONS (CM)	WEIGHT (KG) APPROXIMATELY
WB88THD	19" 2RU (W. 48.3; H. 8.8; D. 25.8). Width includes rack ears.	4.7
WB88THDR	19" 2RU + 2RU for remote control panel	5.8
WB88HD	19" 2RU	4.6



MCS CONTROL & AUTOMATION SOFTWARE



Il software di gestione della matrice, in ambiente Windows®, è fornito di serie e include due distinte applicazioni: il programma base fornisce una rappresentazione grafica della matrice, dello stato dei punti incroci, delle funzioni selezionate e può essere utilizzato in parallelo con il tradizionale pannello di controllo hardware; in aggiunta, il software Sequencer per automazione, consente l'esecuzione di una sequenza temporizzabile d'istruzioni di remotaggio della matrice via RS-232.

The matrix switcher control software Windows®-based is standard supplied and includes two distinct applications: the basic program provides a graphical representation of the matrix switcher, its crosspoints status and functions selection and it may be used in parallel with the traditional hardware control panel; besides the Sequencer software for automation allows the sequential execution of instructions with user defined delays, for the remote control of the matrix via RS-232.

GARANZIA	WARRANTY
Un anno, parti di ricambio e manodopera. (V. termini di "Garanzia" su Condizioni Generali di Vendita)	One year, parts and labour. (See "Warranty" terms on General Conditions of Sales)

CODICI D'ORDINE ORDERING CODES	Le matrici di commutazione sono disponibili nelle versioni: con pannello di controllo a bordo del mainframe, con pannello di controllo remoto, oppure senza pannello per una gestione solo via seriale (RS-232)			<i>The matrix switchers are available in the following versions: with built-in control panel, with remote control panel, or without panel for a serial control only (via RS-232)</i>		
	VIDEO	AUDIO	PANNELLO DI CONTROLLO	VIDEO	AUDIO	CONTROL PANEL
WB88THDASS	VGA-UXGA	stereo sbilanciato	locale	VGA-UXGA	unbalanced stereo	local
WB88THDASSR	VGA-UXGA	stereo sbilanciato	remote	VGA-UXGA	unbalanced stereo	remote
WB88THDABSL	VGA-UXGA	stereo bilanciato	locale	VGA-UXGA	balanced stereo	local
WB88THDABSLR	VGA-UXGA	stereo bilanciato	remote	VGA-UXGA	balanced stereo	remote
WB88THD	VGA-UXGA	-	locale	VGA-UXGA	-	local
WB88THDR	VGA-UXGA	-	remote	VGA-UXGA	-	remote
WB88HD	VGA-UXGA	-	-	VGA-UXGA	-	-

ACCESSORI OPZIONALI	OPTIONAL ACCESSORIES
WB88TRD	Pannello di controllo remote aggiuntivo (cavo standard 4 m.)
MK1	Pannello di controllo (X-Y) o single-bus remote satellite 1 RU (cavo standard 4 m.)
MDK1	Pannello di controllo (X-Y) remote da tavolo (cavo standard 4 m.)
T300	Alimentatore esterno per pannelli di controllo WB88TRD, MK1 o MDK1 remotati oltre 10 m
	<i>Additional remote control panel (standard cable 4 m.)</i>
	<i>1 RU Satellite remote control panel (X-Y) or single-bus (standard cable 4 m.)</i>
	<i>Desktop remote control panel (X-Y) (standard cable 4 m.)</i>
	<i>External power supply for WB88TRD, MK1 or MDK1 control panels remotated over 10 m.</i>