CATALOG 2015

mobile video studio ELMAN Dual O.B.Box HD

Blackmagicdesign

NewTek

TriCaster

ROSTEC Engineering

elettronica mangione

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MOBILE VIDEO STUDIO

Sports Mobile Studio

The SPORTS MOBILE STUDIO has been designed for live footage of motor racing, this version uses 2 NewTek TriCaster, a 860 with 8 inputs used as main video director, dedicated to filming and sending the signal via cable or satellite and a 460 with 4 inputs dedicated to the management of transmission and streaming on the web on social networks, also having a double TriCaster in the case of failure of one can be used as an alternative the other.
We recommend for sporting events that require even the slow motion (eg. football matches) instead of a TriCaster 460 a Tricaster 4800 that has the function of moviola with 4 slow motion.

In SPORTS MOBILE STUDIO are installed:

- 2 Smart Video HUB 16x16 video matrix of Blackmagic Design. They take as input the video from all cameras involved in the shootings and send them to all 2 TriCaster, if there are problems while you are on air, via the matrix can immediately switch all cameras from a TriCaster to another.
- 2 ATEM Studio Converter 2 Blackmagic Design, to connect via optic fiber up to 8 cameras SDI or HDMI (4 + 4) , which can be positioned up to 45 km away, in the 2 apparatuses is also built-in a talkback intercom for communication between cameramen and director.
- 1 equalized analog video distributor (1x20 Kramer VM-1021) that is connected to a Beta recorder.
- 1 audio mixer (Mixer Audio Ultrazone ZMX8210 - Behringer).
- 1 solid state memory (SSD) recorder: HyperDeck Studio 2 (Blackmagic Design) to make a backup of the video of the race can put at the disposal of the judges in the case of infringements or accidents. The judges have another HyperDeck Studio on which to place the SSD to review the movie in another room.
- 1 Open Gear rack frame by Blackmagic Design with 20 slot that accommodates various cards with different functions between them. In this configuration, the first card is a distributor and clock reference to synchronize the two Blackmagic Matrix and the two TriCaster to have them in phase in case of a sudden exchange from one to the other TriCaster. The second card is a converter SDI / Analog to use a tape recorder in Beta format. The third is a conversion card Analog / SDI in order to use the reportage that are supplied in the Beta Standard. The fourth card is the UpDownCross which is a signal converter from SDI HD to SDI SD and vice versa and from PAL to NTSC and vice versa.Conversion video formats from SD to HD, Conversions Up / down / cross, NTSC / PAL outputs, converts 720p to 1080i or vice versa, Auto SD / HD Switching, Low jitter SDI.
- The sound diffusion is performed using 2 speakers Bose (Companion 2 Series 3).
- 2 big TV/monitor (32" LED Samsung UE32F5000) are matched to the TriCaster 860 while the third monitor, the smallest, (Monitor 20" Fujitsu BV20T-6) with articulated arm is matched to the TriCaster 460, In the event of failure of the TriCaster 860, using a HDMI switch, you can connect the 2 big monitors to TriCaster 460.

Completing the mobile studio: 4 hard disk Seagate sata 3 6 gbit/s 2 TB 7200 RPM; 1 power distributor; 2 mouse; various cables for wiring; 2 drawers for items, for rack (one high 2RU and the other high 3RU); Flightcase with 6 wheels

Applications

- Live events (sport, art, political);
- Dedicated studio during international TV transmissions: (soccer, F1, Motorcycling etc);
- Advertising, television spots, telesales;
- Documentaries and journalistic reports;

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- Production of video and industrial video;
- Short and full-lenght film;
- Interviews and debates;
- Live concerts and realization of musical videoclips;
- Inaugurations, shows, seminairs and congresses;
- Student, technical and sanitary personnel training;
- Virtual sets;
- Surgical videos;
- Weddings, fashion parades;
- TV shots in cult sites;
- Live streaming and Webcasting;
- Community access e PEG facilities;
- TV Stations.

Newtek Tricaster 860
TriCaster 860 builds on the features of every TriCaster professional model, and adds more channels, more sources, more I/O, more visuals and effects, and higher capacity.
Add new shows or take on more clients, create more programming, and discover fresh streams of revenue from the same program content.
With a fully loaded, 24-channel switcher with 8 M/Es, eight-source ISO recording, real-time multi-channel media delivery with simultaneous streaming and social media publishing, and the powerful integrated effects system, productions will be more than sizzling, they will be explosive.

Features
8 M/E, 24-channel video switching with audio mixer, titles, warping transitions, buffers, DSK and DVE effects; higher-capacity media storage accommodates a high volume of project work; I/O and source resolution, format and frame rate flexibility to go from show to show, adding new camera angles and submixes along the way for the most sophisticated programs; holographic LiveSets that incorporate 3D environments, panoramic vistas, and real camera motion; extensive automation and breakout control of commands and complex sequences; custom, interactive elements and effects sequences triggered by talent; instant social media publishing; built-in live streaming at the push of a button; stream, broadcast, project and record—live or in post—so you can meet viewers wherever they watch, now or later.

NewTek TriCaster 460
The most versatile and extensive of NewTek mobile-scale multi-camera video solutions, TriCaster 460 has any-format, any-resolution, any frame-rate I/O and amped-up production capabilities to let you connect any camera, access any available video source, and go live from locations that you could only dream of reaching before. Go live from virtually new worlds with 3D and holographic sets.
Produce a four-camera show that looks infinitely bigger, with layered video, real-time compositions, and multiple submixes that give the look of adding four other switchers into the stream. Deliver multi-channel media with simultaneous streaming and social media publishing. Record every feed for later remixing, sweetening, or just fixing mistakes.
Get the source footage to your creative team for postproduction, or create whole new programs from the media you already captured. With TriCaster 460, your revenue opportunities are just beginning.

Features
4-M/E, 15-channel video switching with 4 M/Es, audio mixer, titles, warping transitions, buffers, DSK and DVE effects; flexible I/O with mix-and-match HD and SD component, composite, and SDI connectivity for any resolution, frame synced for optimal video processing; customizable visuals to brand each program with its own high-end look and feel; virtual sets with 3D environments and panoramic appearance, including realistic camera movements; extensive automation and breakout control of commands and complex sequences; custom, interactive elements and effects sequences triggered by talent; publish to social networks, stream live, record and project, simultaneously; record each camera feed for later production with our groundbreaking IsoCorder multi-track capture technology; postproduction workflows with extensive file format compatibility and removable storage; deliver from a van, small studio, broadcast control room, backstage, blogger's workspace.

Newtek Tricaster 850 TW
Add dedicated, single-channel playback control to your live production workflow with TriCaster 850 TW. Share

the workload with a second operator, focused exclusively on playing back stored clips and graphics. Slow down or speed up playback of the dedicated channel, and with jog-wheel and transport controls, you can forward, reverse, and replay any clip with a touch.

- Intuitive layout for manual control of TriCaster media players
- Dedicated operation for instant replay and slow motion playback of a selected DDR
- Illuminated buttons for heightened visibility of control surface activity under any environmental lighting conditions
- Premium T-Bar and jog wheel for precision control of clip creation and playback
- Durable, ergonomic design for confident, comfortable performance.

Blackmagic Design Smart Videohub router
Smart Videohub includes all the great features of Micro Videohub plus a built in control panel. Now you can change all routing with the push of a button! Smart Videohub includes 16 x 16 SDI, 3 Gb/s SDI, auto SD/HD/3 Gb/s SDI, re-clocking, ethernet, USB and serial router control interfaces. Great first router that's incredibly easy to use. Plus you can expand it's power with all the exciting Videohub control !

- **SDI Video Input:** 16 x 10 bit SD-SDI, HD-SDI, 3Gb/s HD and 2K switchable
- **SDI Video Output:** 16 x 10 bit SD-SDI, HD-SDI, 3Gb/s HD and 2K switchable
- **Reference Input:** Blackburst and TriSync for SD, HD and 2K
- **Multi Rate Support:** Auto detection of SD, HD or 3 Gb/s SDI. Simultaneous routing of 2K, HD, SD video and DVB-ASI
- **Updates:** USB 2.0 high speed (480Mb/s) interface
- **Router Control:** 32 buttons for local control of Videohub or use either RJ45 Ethernet or USB 2.0 high speed interface shared over IP network

- **Router Configuration:** Use either RJ45 Ethernet or USB 2.0 high speed interface shared over IP network
- **RS-422 Router Control:** 1 x input for controlling router crosspoint switching
- **Reclocking:** On all SDI outputs, auto switching between standard definition, high definition or 3 Gb/s SDI video
- **SD Format Support:** 625/25 PAL and 525/29.97 NTSC
- **HD Format Support:** 1080p23.98, 1080PsF23.98, 1080p24, 1080PsF24, 1080p25, 1080PsF25, 1080p29.97, 1080PsF29.97, 1080p30, 1080PsF30, 1080i50, 1080i59.94, 1080i60, 1080p50, 1080p59.94, 1080p60, 720p23.98, 720p24, 720p25, 720p29.97, 720p30, 720p50, 720p59.94, 720p60
- **2K Format Support:** 2048 x 1556/23.98/24/25

Blackmagic Design Studio Converter 2
The Blackmagic Design Studio Converter 2 inputs SDI video signals transmitted over optical fiber and converts the signals to SDI for use with video switchers. When used in conjunction with the Blackmagic

Design ATEM Camera Converter, you can send video signals up to 28 miles between camera and switcher using available optical fiber cables. A typical set up using the Studio Converter 2 is to connect it between the switcher and up to four ATEM Camera Converter units. This set up allows the Converter 2 to receive the signals from the fiber cable, convert the signals to SDI using 10-bit processing, and send the signals to the switcher. The Converter 2 supports SD/HD signals, and when using the available ATEM Camera Converter you can use any camera with an SDI/HDMI output. The converter 2 can also be used as 4 independent simultaneous bi-directional SD/HD-SDI to optical converters. The converter 2 features a built-in mic input, speaker and headphone jack that provides talkback audio for communicating with camera operators. The Converter 2 passes tally signals embedded in the SDI program stream.

Blackmagic Design Hyperdeck Studio 2
The Blackmagic Design HyperDeck Studio 2 is a file-based deck that features the same functionality and control of professional tape decks. It records uncompressed video with 4:2:2 color sampling at 10-bit in Quicktime format, and also records video using either ProRes or DNxHD codecs. With two SSD slots, you can record almost endlessly as one SSD becomes full, recording automatically continues on to the other. The HyperDeck Studio features one 3G-SDI input and three SD/HD/3G-SDI outputs plus a loopthrough output, and one HDMI input and one HDMI output. All outputs, except the loopthrough SDI, are always active, so playback is available on both the SDI and HDMI outputs no matter what input it was recorded from.

Blackmagic Design Open Gear 20 Slot Frame
OpenGear rack frame with 20 slots, with power supply and fans, suitable for accommodating up to 20 modules with different functions using the standard OpenGear.
The following modules are installed:

- **OpenGear Converter Sync Generator:** includes 10 crystal stabilized video reference outputs for referencing all the video equipment in your studio with either high definition tri-sync or standard definition black burst. Perfect for small studios or outside broadcasts!
- **OpenGear Converter SDI to Analog:** includes everything you need to convert from SDI to analog HD/SD component, NTSC and PAL video out, plus balanced AES/EBU and analog audio out. Easily connect to Betacam SP, VHS and video monitors. Features a built in hardware down converter to connect HD-SDI video to SD equipment!
- **OpenGear Converter Analog to SDI:** perfect for converting from analog HD/SD component to SDI out with balanced AES/EBU and analog audio embedding. Now you can convert analog devices such as Betacam SP, VHS, set top boxes, gaming consoles and HDV cameras to incredible quality SD/HD-SDI video.
- **OpenGear Converter UpDownCross:** lets you convert between multiple SD and HD video standards with high quality up, down and cross conversion. OpenGear Converter UpDownCross even includes a full standards converter, plus adapts SDI audio delay to match video processing for accurate AV sync.

Behringer Ultrazone ZMX 8210 Zone 8 Channel Audio Mixer
A professional 8-channel audio mixer with rack mountable which can distribute music programming and announcements to up to three zones (rooms).
It can be used with any microphone, including professional-grade condenser mics, thanks to the onboard phantom power. The eight input channels are equipped with high-quality mic preamplifiers for absolutely pristine sound quality. A master 4-band equalizer is provided to ensure voice intelligibility and address any potential feedback problems. Moreover if you need more than eight channels, two ZMX8210s can be linked together, providing a total of 16 inputs.

ELMAN is able to furnish all the necessary equipments for use of Dual O.B. BOX HD: video cameras, VCRs etc...

In accordance with constant improvement policy of products, Elman S.r.l. reserves the right to modify without notice and at any time, features and prices of its own apparatus.

MOBILE VIDEO STUDIO

O.B. BOX Dual 8000

mobile video studio HD, SD with virtual set

Mobile video studio O.B. Box Dual 8000 is a broadcast-quality system that can be used for shooting of every kind of event and is equipped with a built-in server can send the output signal streamed on the internet.
Mobile video studio O.B. Box Dual 8000 is based on the new production system Newtek Tricaster 8000 2.0 version that can handle 8 remote PTZ (pan,tilt,zoom) cameras without cameramen, from O.B. Box Dual 8000 you can adjust: orientation, zoom, focus and iris.
For this reason this version of O.B. Box Dual 8000 does not have an internal intercom system as in other O.B. Box of our production, however in the container are 2 free 1 RU slots to insert 1 or 2 additional equipment, like for example our genius intercom for connecting cameramen, technicians and technical director in the case of use of conventional cameras.
The TriCaster 8000 has 8 video inputs and 3 HDSDI video outputs, Component or Composite, 2 HDMI, 1 VGA; then a new configurable multiview. Now the video mixer has 4 DSK, but the biggest news are the M/E bus, in fact the TriCaster 8000 has 8 M/E Bus, and each of these can be configured with 4 sources and 4 overlay.

The installed equipment

- NewTek TriCaster 8000 ver. 2.0 system;
- Tricaster - Control Surface 8000 CS;
- 2 LCD / LED 20" monitors Fujitsu B20T-6;
- Power supply panel for control energy distribution with protection through magnetothermal and differential switcher;
- Speakers for sound;
- Mini QWERTY Keyboard;
- Trackman MarbleTrackball (LOGITECH);
- Rack Mobile (closed dimensions 104 x 75 x 39 cm - Weight: around 75 kg)

Applications

- Live events (sport, art, political);
- Dedicated studio during international TV transmissions: (soccer, F1, Motorcycling etc);
- Advertising, television spots, telesales;
- Documentaries and journalistic reports;
- Production of video and industrial video;
- Short and full-lenght film;
- Interviews and debates;
- Live concerts and realization of musical videoclips;
- Inaugurations, shows, seminairs and congresses;
- Student, technical and sanitary personnel training;
- Virtual sets;

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- Surgical videos;
- Weddings, fashion parades;
- TV shots in cult sites;
- Live streaming and Webcasting;
- Community access e PEG facilities;
- TV Stations.

Equipment Description
NewTek TriCaster 8000
TriCaster 8000 is the first content publishing hub for all media coming into a live program, all creativity and branding that happens on screen, all variations of the branded program output, multi-channel delivery with simultaneous streaming and social media publishing—and all the integration points in between, for broadcasters, brands, content owners and media publishers to flow smoothly with their infrastructure and create, publish and repurpose that media.
TriCaster 8000 is the model that delivers our most extensive integration with broadcast operations, with remote control of a redundant system, router support for large-scale enterprise production, 24-channel switcher, professional audio mixing, and up to 14 output destinations. And, with the world's most powerful integrated effects system now made even more powerful with insanely innovative visual effects (you'll have to see them to believe you can actually create them yourself), you'll have your audience hooked on every screen.

Product Essentials
- 8-M/E, router-extensible 24-channel video switching with audio mixer, titles, warping transitions, buffers, DSK and DVE effects
- 8 M/E multi-camera production platform with re-entry for vastly scalable, creative live productions
- Mirroring with remote control of redundant system
- Virtually limitless scalability up or down in production breadth, crew size, and peripherals
- Awe-inspiring 3D visual effects, holographic virtual sets, graphics and transitions to fit any brand
- Live, multi-platform social media publishing to engage fans and followers instantly
- Extensive automation and breakout control of commands and complex sequences
- Custom, interactive elements and effects sequences triggered by talent
- Built-in live streaming at the touch of a button
- Access to all sources and functions with an included hardware control surface
- Broadcast, stream, publish, project and record all at the same time

TriCaster 8000 Control Surface
For the most sophisticated, high-performance live productions, you need total control. Included with every TriCaster 8000 system, the TriCaster 8000 CS is a natural extension of the platform's remarkable innovation, with a user-focused, industrial design and fresh, new take on familiar production controls. With the introduction of TriCaster 8000 CS to your workflow, you have a seamless, physical connection to the powerful capabilities of TriCaster 8000, with a whole new dimension of speed and control.
- Intuitive layout mapped directly to the TriCaster 8000 interface for maximum interaction, including operation of the main switcher, all 8 M/E rows and TransWarp effects
- Practical lighting and backlighting of controls and control groups for heightened visibility of control

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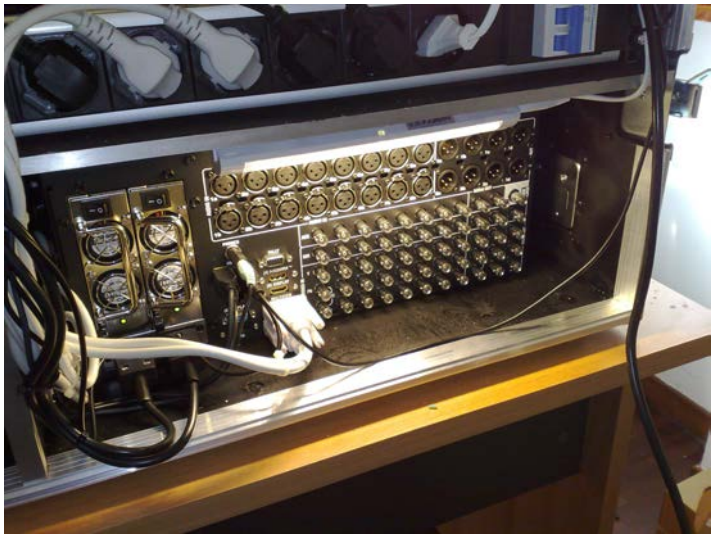
surface activity under any environmental lighting conditions
- Dynamically variable lighting integrated into T-Bars for precision, at-a-glance status and progress of effects, zooms and transitions
- Instant triggering of complex operation sequences, with support for user-configurable macros
- Seamless, simultaneous changeover of multiple production elements with versatile, multi-select delegate controls
- Sleek, cockpit styling and state-of-the-art design that speaks to operators and executives alike.

Dual LCD / LED Monitors Fujitsu B20T-6 (20 inch)

Fujitsu Display B20T-6 LED Display
Advanced display: 50.8 cm (20-inch)
Best ergonomic and energy saving solutions for office applications
The Fujitsu Display B20T-6 LED offers best ergonomics and usability for intensive office use with a 4-in-1 stand. High resolution for pin sharp pictures with modern applications.
Environment-friendly LED technology with unique, high efficient energy saving solutions like ECO operation mode and ECO standby
Convenient and fatigue-proof longtime-usage with excellent visual ergonomics for the office
Optimized and relaxed position - with ergonomic stand featuring height adjust, swivel, tilt and 90° rotation
Flexible connectivity with DVI and Analog
Ready for remote inventory and administration tasks due to the DisplayView
Manageability tools
Representative design with space saving front frame and smart details like discretely integrated speakers

Technical details
- Diagonal Size: 50.8 cm (20-inch)
- Aspect ratio: 16:9
- Horizontal: 30 - 82 kHz
- Vertical: 56 - 76 Hz
- Resolution: 1600 x 900 pixel (recommended)
- Brightness - typical: 250 cd/m2
- Contrast - typical: 1000:1
- Contrast - advanced: 2,000,000:1
- Viewing angle (h/v) - typical: 170°/170° CR5:1
- Color performance: 16.7 million colors (Hi-FRC)
- Stand: 4-in-1 Stand
- Height adjust range: 120 mm
- Tilt angle: -5° / +35°
- Swivel angle: 340°
- Rotation to portrait: 90°
- Video Input: 1 x DVI (HDCP), 1 x D-SUB
- Audio sound output: 2 x 1.5 W

Logitech Trackman Marble Trackball
A handy trackball, improve control while reducing hand and wrist motion.



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MOBILE VIDEO STUDIO

ATEM Studio BOX

Mobile Video Studio for SDI and HDMI cameras

ATEM Studio BOX is a cheap mobile video studio based on Blackmagic Design ATEM 1 M / E multi-function Production Switcher that encloses the functions of a video switcher (HDMI, SDI and analog inputs) with lots of effects and an audio switcher.
ATEM Studio BOX is a equipment that can be used both in the consumer and broadcast environments due to the fact that is appropriate for both professional SDI cameras to both the consumer at low cost with HDMI output that currently have achieved excellent levels of definition.
The same HDMI inputs can be used for signal input from computer (video recorded, titles etc ...).
In addition, a software as supplied, allows you to use an inexpensive laptop to control all the functions dell'ATEM 1 M / E without having to buy the keyboard control Blackmagic Design (ATEM 1 M / E Broadcast Panel).Among the customers who bought ATEM Studio BOX TV studios but there are also schools for their classrooms.
The system is composed of:

- Cabinet/Cart 19" rack on wheels
- Blackmagicdesign ATEM 1 M / E Production Mixer Multifunction
- Intercom Elman TBP8 - talkback plus 8 inputs
- 2 beltpack for communication between two cameramen and director
- 2 handheld transmitters and receivers Sennheiser w-112-p g3
- A headphones box to listen the audio of ATEM 1 M / E, is the cheapest option, on request we can also integrate the cart with a small audio mixer.
- Control panel power supply (ELMAN)
- Drawer for holding objects
- 4 rolls of 15 meters with XLR connectors for connection with 2 beltpack.

Blackmagicdesign ATEM 1 M/E production switcher

Product Highlights

- 8 Inputs - (4) HDMI, (4) HD/SD-SDI
- Passes Video Only/Strips Embedded Audio
- Analog Video & Audio Input
- HD/SD-SDI, HDMI & Analog Program Outputs
- 3 Aux Outputs
- 7 Keyers
- Downconverted SDI & Composite Outputs
- SDI & HDMI Multi-View Output

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- ATEM Control Panel Software (Mac/PC)I

The Blackmagic Design ATEM 1 M/E Production Switcher is a 2 RU-high, 8-source switcher that accepts four 10-bit HD/SD-SDI inputs, four HDMI inputs, and one analog video input for a total of eight simultaneous inputs, each with a frame synchronizer. The ATEM 1 M/E Switcher comes with a software control panel, and it's also compatible with the 1 M/E & 2 M/E Broadcast Panels from Blackmagic (not included). The unit is designed to pass video only, so it strips away any audio embedded on the SDI input.
For live productions of all kinds, the ATEM 1 M/E represents an extremely affordable way to get in the game at a broadcast-quality level, switching HD and SD sources such as cameras with HDMI or SDI output, VTRs/DDRs, etc., and adding keys and graphics. Whether you'll operate via mouse & laptop or you're ready to switch your sources from a control panel, you're still operating at a very high level, with a 10-bit signal path throughout (depending on your video system, of course).
Program outputs come in the form of SDI, analog, and HDMI, and there are three auxiliary SDI outputs. There's also USB 3.0 output for Windows systems, for directly capturing a 10-bit master to your computer. The switcher features DVE transitions, seven keyers, two built-in media players for clips and stills, and multi-view output, which eliminates the need for separate monitors for each source.

Features

Connectivity

- **Video Inputs:** 8x Total simultaneous, 4x SDI 10-bit (HD/SD switchable), 4x HDMI 1.4a (10-bit HD/SD switchable), 1x Composite/S-Video/10-bit Component (component is HD/SD switchable)
- **Audio Input:** 2-channel analog balanced XLR via breakout cable
- **Sync Input:** Tri-Sync or black burst
- **Built-in TBC/Frame Sync:** 8 internal frame synchronizers (all inputs)
- **Total Outputs:** 14
- **Program Output:** 1x SDI (10-bit HD/SD switchable), 1x HDMI 1.4a (10-bit HD/SD switchable), 1x Component (HD/SD switchable), 1x permanently downconverted Composite NTSC/PAL, 1x downconverted 10-bit SDI
- **Preview (PVW) Output:** 1x SDI 10-bit (HD/SD switchable)
- **Auxiliary Output:** 3x SDI 10-bit (HD/SD switchable)
- **Computer Outputs:** 1x USB 3.0 from Aux. 1 output. Media Express for Windows included
- **Outputs per Multi-View:** 1x HD-SDI, 1x HDMI
- **SDI Audio Output:** 2 channels embedded into SDI output
- **Analog Audio Output:** 2 channels balanced XLR via breakout cable
- **Ethernet:** 1x 10/100/1000 BaseT input. Allows direct connection between control panel and chassis, or via network
- **Control Panel:** ATEM Software Control Panel included free for Mac OS X and Windows. ATEM 1 M/E Broadcast Panel preferred (not included); compatible with ATME 2 M/E Broadcast Panel (not included)
- **Serial Communication:** 1x RS-422 output
- **Tally Output:** Added via Ethernet connection; GPI and Tally Interface product (not included)
- **GPI:** Added via Ethernet connection; GPI and Tally Interface product (not included)

Processing

- **Color Space Conversion:** Hardware-based, real-time
- **Processing Delay:** 1 line
- **HD Down Conversion:** Built-in, high-quality hardware downconverter always outputs to SD-SDI and composite outputs when working in HD video formats. Component output can be switched between HD or SD. Selectable between letterbox, anamorphic 16:9, and center-cut 4:3 styles

Standards

- **HD Format Support:** 1080i50, 1080i59.94, 720p50, 720p59.94
- **SD Format Support:** 625/25 PAL, 525/29.97 NTSC
- **SDI Compliance:** SMPTE 259M, 292M
- **HDMI Resolutions:** Input resolutions for computers: 720 x 480 59.94 Hz, 720 x 576 50 Hz, 1280 x 720 59.94/50 Hz, and 1920 x 1080 59.94/50 Hz
- **Video Sampling:** 4:2:2

- **Color Precision:** 10-bit
- **Color Space:** 4:2:2 YUV

Media Player

- **Quantity:** 2
- **Channels:** 2x for key and fill
- **Resize Clip Manually:** 32 with fill and key
- **Clip Capacity:** 2 with fill and key
- **Maximum Clip Length:** 1080i: 180 frames, 720p: 360 frames, NTSC/PAL: 900 frames
- **Image Format:** PNG, TGA, BMP, GIF, JPEG and TIFF
- **Video Format:** QuickTime and AVI
- **Audio Format:** WAV, MP3, AIFF

Multi-View Monitoring

- **Number of Windows:** 1 x 10
- **Routable Windows:** 8
- **Tally:** Red for program and green for preview indication
- **Window Source Labels:** Yes

Extras

- **Keyers:** 7x Total, 4x Upstream. 2x Downstream, 7x Linear/Luma, 4x Chroma, 1x Transition (Stinger/DVE)
- **Generators:** 5x Pattern, 2x Color
- **DVE (Digital Video Effects):** 1x DVE with 3D borders & drop shadow

TBP8 - talkback plus 8 channels 2/4 wires intercom - 4 interrupted feedback

TBP8 is the new professional intercom produced by ELMAN that allows the communication to 4 wires on 8 channels, or to 4 wires on 7 channels plus to 2 wires on 1 channel, on which you can connect more users.

FEATURES

- 8 independent channels
- 4 IFB bus and loop-through for every channel
- Monitoring of IFB and RTC signal (talkback return)
- 2 wires mode selectable for channel 1, with or without IFB
- Selectable microphone input: headset or gooseneck (XLR 3 connector)
- Independent regulation for the microphone inputs with relative level indication
- External control LS CUT (cut listening loudspeaker) and DIM (attenuation listening)
- Independent configuration for every channel for: routing control and signal monitoring
- Talk switch GPI output (optional)
- Amplified output (2 watts) for external speakers through two 6.3 mm jacks (one on front panel and other on rear panel)
- Universal AC power: 100-240 Vac 70 mA
- DC power: 12 V or 24 V (1,2 A)
- Metallic case: 19" 1RU standard with depth 350 mm
- Weight: 3.5 Kg

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Sennheiser EW 122-P G3 E
Sennheiser's EW 122-p G3 portable wireless system is perfect for field recording and reporting. This system comes with a bodypack transmitter and an inconspicuous ME 4 clip-on lavalier microphone, which is designed to reproduce speech naturally. What's more, the Sennheiser EW 122-p G3 wireless system comes with super-portable receiver that easily clips to a video camera's shoe mount using an included adapter. For professional sound at a reasonably price, you can trust the Sennheiser EW 122-p G3 wireless system.

Sennheiser Evolution EW 122-p G3 Wireless System at a Glance:
- Pro-quality sound support for less!
- Ideal for field recording and reporting
- Complete system with microphone, bodypack transmitter and camera-mountable receiver

Evolution G3 Presenter Series: Pro-quality sound support for less!
The stage is yours — no matter how big, no matter how small. No matter what, when, or where you're presenting, the EW 122-p G3 wireless presentation system gives you pro-standard sound support. You get the same quality as used in TV studios and huge international conference halls — for less.

EW 122-p G3: Ideal for field recording and reporting
The EW 122-p G3 portable wireless system from Sennheiser is ideal for field recording and reporting applications. The ME 4 clip-on cardioid lavalier microphone is virtually invisible and the extremely small SK 100 G3 bodypack transmitter is very lightweight. The system also comes with the EK 100 G3 camera-mountable receiver, which features an enhanced frequency bank system with up to 12 compatible frequencies.

Complete system with microphone, bodypack transmitter and camera-mountable receiver
The EW 122-p G3 system gives you everything you need for successful wireless performance. You don't need additional components or accessories.

Sennheiser EW 122-p G3 Wireless System Features:

- Operates on Sennheiser's "A" band (516MHz-558MHz)
- Sturdy metal housing (transmitter and receiver)
- 42 MHz bandwidth: 1680 tunable UHF frequencies for interference-free reception
- Enhanced frequency bank system with up to 12 compatible frequencies
- Adaptive-diversity reception for high reception quality
- Pilot tone squelch for eliminating RF interference when transmitter is turned off
- Automatic frequency scan feature searches for available frequencies
- Enhanced AF frequency range
- Increased range for audio sensitivity
- Wireless synchronization of transmitters via infrared interface
- User-friendly menu operation with more control options
- Illuminated graphic display (transmitter and receiver)
- Auto-Lock function avoids accidental changing of settings
- HDX compander for crystal-clear sound
- Transmitter and receiver feature battery indication in 4 steps
- Programmable Mute function
- Contacts for recharging BA 2015 accupack directly in the transmitter or receiver
- Wide range of accessories adapts the system to any requirement

In accordance with constant improvement policy of products, Elman S.r.l. reserves the right to modify without notice and at any time, features and prices of its own apparatus.

MOBILE VIDEO STUDIO

Dual O.B. BOX HD

mobile video studio HD, SD with virtual studio for Sport events

The mobile video studio Dual O.B.Box HD was made mainly for shooting sports events, the heart of the system consists of a NewTek TriCaster 455 (can also be mounted a tricaster 855 that instead of having 4 channels video input has 8 input video).
Of course, the Dual O.B.Box HD can be used for all types of shooting television broadcast.
Compared with previous O.B.Box the width of the container is double both because it is mounted a larger number of apparatuses is because the control surface Tricaster - Control Surface 450 CS is more cumbersome than previous and next to the 455 CS, being necessary the use of slow motion, we mounted the TriCaster 850 TW Slow Motion Control.

The prototype of this Mobile Video Studio has been made for a customer who is concerned with the production of sports programs related to the world of motorsport therefore is used in motor racing circuits where the distance between the various cameras that the shooting is remarkable, for this reason, one of the peculiarities of the Dual O.B.Box HD is connect 4 cameras via fiber optic cable (which can be up to 45 km distance) on which they travel the following signals: video, audio, and conversation between director and cameraman / technical (intercom).
With the Dual O.B.Box HD are provided 4 Blackmagic Design ATEM Camera Converter that are battery-powered converters to interface the locations of the cameras to fiber optics.
Using a NewTek TriCaster 855 can also be increased to 8 the number of cameras connected via fiber optics (options to be agreed during the design phase with the client).
Dual O.B.Box HD is equipped with a matrix switcher 16x16 SDI video with embedded audio that can increase the number of video inputs up to 16, therefore considered the 4 channels used for the cameras with optical fiber, 12 inputs are available.
About the audio TriCaster 455 has a built-in mixer with 4 channels of embedded audio Reserved 4 SDI video (for example, 4 cameras), 2-channel audio coming from the LAN, 2 channels from 2 VCR's built-in DDR1 and DDR2, 1 channel dedicated to the internal sounds, 1 channel reserved for internal effects.
Dual OBBox HD is also equipped with a built-in server for the transmission of the program also via streaming on the internet.

The installed equipment:

- NewTek TriCaster 455 system, 14 channels portable live production , 4 inputs + 2 iVGA, IsoCorderin 4-channel HD / SD. Multistandard PAL-NTSC;
- Tricaster - Control Surface 455 CS;
- Tricaster Slow Motion Control 850 TW;
- 2 LCD / LED 20" monitors Fujitsu B20T-6;
- Smart Videohub Black Magic Design; (16x16 matrix SDI video with embedded audio);
- Black Magic Design ATEM Studio converter (converts the signals over optical fiber and manages communications intercom);
- n.4 Blackmagic Design ATEM Camera Converter (converts the signals over optical fiber and manages communications intercom);
- Power supply panel for control energy distribution with protection through magnetothermal and differential switcher;
- Mobile Rack (closed dimensions 104 x 75 x 39 cm - Weight: around 75 kg)

Applications

- Live events (sport, art, political);
- Dedicated studio during international TV transmissions: (soccer, F1, Motorcycling etc);
- Advertising, television spots, telesales;

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- Documentaries and journalistic reports;
- Production of video and industrial video;
- Short and full-lenght film;
- Interviews and debates;
- Live concerts and realization of musical videoclips;
- Inaugurations, shows, seminairs and congresses;
- Student, technical and sanitary personnel training;
- Surgical videos;
- Weddings, fashion parades;
- Live streaming and Webcasting;
- TV Stations.

Equipment Description

NewTek TriCaster 455

The NewTek TriCaster 455 is a 4-camera input, tightly integrated hardware and software solution for streaming video online and producing live events. The TriCaster comes with an appropriate control surface and with two powerful software applications -- a live production software and a character generation and vector graphics software. Altogether the package offers built-in multi-track ISO recording with broadcast, projector, and online output options, completely customizable visuals, powerful 3D effects, video playback, graphics, and transitions, virtual sets and more.
Digital and analog outputs allow streaming to broadcast machines and to live projectors. And very importantly, you can connect to a network by Ethernet and stream videos directly to the web. At the same time, you can store files to internal storage drives or by AUX output also to external drives.

Specifications

- Channels: 14 - 6 external, 4 internal, 4 virtual inputs;
- Video Input: 4 simultaneous live video sources, in any combination of HD-SDI, HD Component, SD-SDI, SD Component, Y/C (BNC) or Composite connections and resolutions;
- Network Sources: 2 live sources via Gigabit connection, selectable from any networked computer or Apple AirPlay device;
- Media: 5 integrated digital media sources for video, graphics and sounds;
- Frame Buffer: 5 channels for static graphics or watch folder;
- Virtual Inputs: 4 independent, mix/effect-style channels, with transitions and per-source 3D positioning, scaling and cropping;
- DSKs: 2 primary DSK channels and dedicated upstream overlay per virtual input, each with independent transition controls, 3D positioning, scaling, cropping and integrated TransWarp effects;
- Effects and Transitions: Integrated TransWarp effects engine on all effects channels supports standard transitions, customizable animation store transitions with audio, and overlay effects;
- Virtual Set: 24 HD live virtual sets, with multiple camera angles, real-time reflections, specular highlights, animated zoom and presets;
- Video Output: Up to 4 output connections and 2 independent A/V output signals - Mix and match output formats, connection types, resolutions and aspect ratios - HD-SDI, HD Component, SD-SDI, SD Component, Y/C (BNC) or Composite - HDMI, DVI and VGA output for displays or projector - Network output for live streaming;
- Recording: Multi-track, multi-format recording of up to 4 simultaneous channels via IsoCorder technology;
- Recording Capacity: ~ 20 hours 1080i or ~ 120 hours 480i - 1 trayless SATA III removable drive;
- Live Streaming: HD live streaming via Gigabit connection, with presets in up to 720p;
- Audio Inputs: 4 SDI embedded, 3 x 2 balanced 1/4" (Mic/Line), 1 x 2 balanced XLR (Mic/Line);
- Audio Outputs: 2 SDI embedded, 1 x 2 balanced XLR, 1 x 2 balanced 1/4" (AUX), 1 stereo 1/4" for headphones;
- Supported Formats: NTSC: 1080/30p, 1080/24p, 1080/60i, 720/60p, 720/30p, 720/24p, 480/60i

TriCaster 455 Control Surface

Producing on-location doesn't mean leaving the comforts of the control room behind. The TriCaster 455 CS lets you maintain a small production footprint without sacrificing manual control. With an intuitive layout, familiar live production controls and compact frame, TriCaster 455 CS is a perfect fit for mobile production or tight spaces.

- Intuitive layout mapped directly to the TriCaster 455 interface for maximum interaction;
- Full-featured workflow for optimal live production performance;
- Illuminated buttons for heightened visibility of control surface activity under any environmental lighting conditions;
- Premium T-Bar and three-axis joystick for precision control of effects, zooms and transitions;
- Seamless, simultaneous changeover of multiple production elements with versatile, multi-select delegate controls;
- Durable, ergonomic design for confident, comfortable performance

TriCaster 850 TW

Add dedicated, single-channel playback control to your live production workflow with TriCaster 850 TW. Share the workload with a second operator, focused exclusively on playing back stored clips and graphics. Slow down or speed up playback of the dedicated channel, and with jog-wheel and transport controls, you can forward, reverse, and replay any clip with a touch.

- Intuitive layout for manual control of TriCaster media players;
- Dedicated operation for instant replay and slow motion playback of a selected DDR;
- Illuminated buttons for heightened visibility of control surface activity under any environmental lighting conditions;
- Premium T-Bar and jog wheel for precision control of clip creation and playback;
- Durable, ergonomic design for confident, comfortable performance.

LCD / LED Monitors Fujitsu B20T-6 (20 inch)

Fujitsu Display B20T-6 LED Display
Advanced display: 50.8 cm (20-inch).
High resolution for pin sharp pictures with modern applications.
Environment-friendly LED technology with unique, high efficient energy saving.
Flexible connectivity with DVI and Analog
Representative design with space saving front frame and smart details like discretely integrated speakers.

Technical details

- Diagonal Size: 50,8 cm (20")
- Aspect ratio: 16:9

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- Resolution: 1600 x 900 pixel (recommended)
- Brightness - typical: 250 cd/m2
- Contrast - advanced: 2,000,000:1
- Viewing angle (h/v) - typical: 170°/170° CR5:1
- Color performance: 16.7 million colors (Hi-FRC)
- Stand: 4-in-1 Stand
- Video Input: 1 x DVI (HDCP) - 1 x D-SUB
- Audio sound output: 2 x 1,5 W
- USB downstream: 4 x USB 2.0

Smart Videohub Blackmagicdesign
Smart Videohub includes all the great features of Micro Videohub plus a built in control panel. Now you can change all routing with the push of a button! Smart Videohub includes 16 x 16 SDI, 3 Gb/s SDI, auto SD/HD/3 Gb/s SDI, re-clocking, ethernet, USB and serial router control interfaces. Great first router that's incredibly easy to use. Plus you can expand it's power with all the exciting Videohub control !

Blackmagicdesign ATEM Studio Converter

ATEM Studio Converter is the ideal partner for the ATEM Camera Converter. Connect up to four Camera Converters via optical fiber up to 28 miles away with bi-directional video plus tally and talkback! Connect your ATEM switcher program output to the ATEM Studio Converter and this is distributed to the four Camera Converters. Multiple Studio converters can be cascaded together when more than 4 cameras are needed. Studio converter can also be used as four independent SDI or Fiber to HDMI converters and four independent simultaneous SDI to Optical and Optical to SDI converters!

Blackmagic Design ATEM Camera Converter
Get everything you need for cameras in live production with a single converter! Connect your camera's SDI or HDMI outputs for conversion to optical fiber, while your switcher program feed can be fed back via optical fiber for camera monitoring. ATEM Camera Converter includes an internal battery, talkback, tally, and microphone inputs!

Together with the Dual O.B. BOX HD are provided 4 ATEM camera converter because the cameras that can be connected via optical fiber are 4. At the customer's request can be realized Dual O.B. BOX HD mounting the TriCaster 855 has which has the double channel, so can be used 8 cameras connected via fiber optics.

ELMAN is able to furnish all the necessary equipments for use of Dual O.B. BOX HD: video cameras, VCRs etc...

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MOBILE VIDEO STUDIO

O.B. Box Tricaster HD

mobile video studio HD, SD with virtual studio capability

O.B. Box Tricaster HD is an amazing portable TV studio which, thanks to Tricaster TCXD300 the hearth of this system, is able to create a perfect virtual studio HD (1080i e 720p) with 3 cameras, real-time chromakeying, live titling, audio mixing, live video streaming and more in HD.

Applications

- Live events (sport, art, political);
- Dedicated studio during international TV transmissions: (soccer, F1, Motorcycling etc);
- Advertising, television spots, telesales;
- Documentaries and journalistic reports;
- Production of video and industrial video;
- Short and full-lenght film;
- Interviews and debates;
- Live concerts and realization of musical videoclips;
- Inaugurations, shows, seminairs and congresses;
- Student, technical and sanitary personnel training;
- Virtual sets;
- Surgical videos;
- Weddings, fashion parades;
- TV shots in cult sites;
- Live streaming and Webcasting;
- Community access e PEG facilities;
- TV Stations.

Installed equipment

- Tricaster TCXD300 HD (NEWTEK);
- Live Control LC11 (NEWTEK);
- Ultrazone ZMX 8210 Zone 8 Channel Audio Mixer (BEHRINGER);
- 2 /4 Wires Genius Intercom, listen amplifier and tally (ELMAN);
- 4.3" Quad LCD monitor OSEE model RMS4342-HSC for HD/SD-SDI and analog signals;
- 19” LCD Monitor V193 (ACER);
- ACK-595 Mini Keyboard (SUPERTRONIC);
- Trackman MarbleTrackball (LOGITECH);
- Back patch panel with all audio (XLR) and video (BNC) connectors for connection to Tricaster TCXD300 HD;
- Lighting through 3 high-efficiency white LEDS in the front area, back area and internal area;
- Power supply panel for control energy distribution with protection through magnetothermal and differential switcher.

Equipment Description

TriCaster™ TCXD300 Portable Live HD Production

High definition (HD), live, multi-camera video production no longer exists only in the realm of big television studios or giant production trucks with banks of monitors, miles of cables, tape machines, video recorders, video effects generators, titling stations, audio mixers and more. Today, all of that power, quality and potential exists in a 20-pound box small enough to fit in a backpack with the flexibility for one person or a small team to deliver network-quality video. TriCaster™ TCXD300 makes it possible for you to broadcast, project, live stream or record full

HD programming.
TriCaster TCXD300 is a high definition, network-quality portable live production solution. In one small box you gain multi-channel HD switching, HD network-style virtual sets, HD titling, HD digital disk

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recording, audio mixing, HD editing, full HD streaming and more.

Pristine Video and Audio
- End-to-end HD 1080i video pipeline, including effects and virtual sets;
- Video processing employs 32-bit floating-point precision, 4:4:4:4 video processing and component (YCbCrA) color (well beyond industry standard 10-bit);
- Four-channel audio processed at 48 kHz, 32-bit floating point;
- Extensive audio input/output flexibility including Embedded SDI on all video channels, four channels of AES/EBU, and professional level balanced XLR/phone connectors;
- All video inputs can be Proc-Amped, keyed and frozen, including titles and DDR;
- Integrated full field rate Waveform Monitor and Vectorscope with full color beam tracing;
- Individual processing controls for both Main and VGA outputs;
- Pristine capture of video or stills with support for full 4:2:2 up to 1920 x 1080 resolution at very high bit-rates;
- Next-generation optimized user-interface design with key live production tools readily available, supported by the ability to quickly access controls to configure each source.

Virtual Inputs and Live Virtual Sets
- Five Virtual Input functions, each similar to advanced mix/effects bus with positioning and overlay capabilities;
- Use "virtual cameras" by populating multiple Virtual Inputs from a single camera source (and switch between them);
- Each source has a Proc Amp, keying, garbage matte and alpha channel support;
- Layer up to five live video or CG sources (internal or supplied by network);
- Independent zoom and pan controls for each source that make composition and camera placement easy;
- All Virtual Inputs provide an additional overlay channel with independent transitions and scaling capabilities;
- Insert live video inputs into live virtual sets with ease;
- Zoom the virtual camera smoothly and easily either interactively, or using automatic control to user specified zoom preset levels;
- Presets provide quick convenient access to numerous Virtual Input setups.

Production Flexibility
- HD-SDI and HD component plus SD-SDI, component, Y/C and composite input/output;
- Mix source resolutions and aspect ratios (including HD and SD video);
- Simultaneous HD and SD video output with Proc Amp control;
- * iVGA™ supports unlimited networked computers as live inputs to the switcher;
- Simple live HD streaming with Adobe® Flash® or Windows Media® in either push or pull;
- Record 18 hours of full HD 1080i video in high quality 100Mbps I-Frame only MPEG at up to 4:2:2 color precision;
- Genlock input for broadcast system integration supports bi-level and tri-level references;
- On-screen ISO monitoring for all switcher inputs (internal and external);
- Enhanced secondary video output for projector or second monitor (up to 1920 x 1200) with sophisticated full field-rate defielding and scaler processing offers varied displays including Program, Preview, Effects, all ISO sources, Waveform Monitor and Vectorscope, and more;
- Dedicated upstream overlay with transitions with per source positioning, scaling, and color processing;
- Two additional downstream overlay channels with individual transitions, scaling, position, keying and alpha channel;
- Sophisticated control system for transitions, automated playback, overlays and more;
- Next generation LiveMatte™ HD for incredibly clean real-time keying with advanced spill suppression and garbage matte controls;
- Convenient user presets available throughout the live production environment, including DDR playlists, Virtual Inputs, and audio mixers;
- Integrated audio mixer with audio-follows-video and talk-over options;
- Auxiliary audio output supports external mixing of sound from integrated media players for easy integration with complex audio installations and external mixing;
- Edit title pages live, including changes to fonts, text sizes, graphic replacement and more;
- Media player autoplay allows easy on-air cue of titles, video clips, sophisticated count-down capabilities and more;
- DDR provides real-time dynamic playback speed control for clip playback;
- New session system allows convenient storage and recall of complete configuration and playlist setups for different shows, locations and more;
- Easy access to every important control during live production;
- Support for LiveControl™ LC-11;
- Hardware switcher; Extensive file format support simplifies media import;
- Integrated professional HD CG/Titling and real-time HD editing capabilities.

Newtek LC11 LiveControl (T-Bar)

For a physical connection to each input during your live presentation.
LC11 LiveControl with large, back-lit, easy-to-read buttons allowing for easy transition from one source to the next without looking down or using a keyboard or mouse. All camera, picture, video, and network sources can be placed on either the Live or Preview row. Quickly choose your title, picture, or transition

using the rotary dials. Use the T-bar to manually transition sources.

Features

- **Back-Lit** Large back-lit buttons are offered for preview, program and M/E selection.
- **Physical Connection** Mixing consoles such as this allow the user to feel more like a standard live studio and offer a physical connection to each input.
- **Control** This device utilizes back-lit buttons, joysticks and T-bars to control selection, camera setting, insert postion, transition and transition speed.
- **Upgrade** This console offers an upgrade from previous versions to match with higher end Tricaster system functionality.
- **Benefits** This device improves accuracy for fast paced productions, offers tactile control and allows director to maintain focus on the show.

Behringer Ultrazone ZMX 8210 Zone 8 Channel Audio Mixer

A professional 8-channel audio mixer with rack mountable which can distribute music programming and announcements to up to three zones (rooms). It can be used with any microphone, including professional-grade condenser mics, thanks to the onboard phantom power. The eight input channels are equipped with high-quality mic preamplifiers for absolutely pristine sound quality. A master 4-band equalizer is provided to ensure voice intelligibility and address any potential feedback problems. Moreover if you need more than eight channels, two ZMX8210s can be linked together, providing a total of 16 inputs.

Features

- Ultra-flexible and easy-to-use zone mixer with remote control ports for commercial sound systems and fixed installation applications;
- 6 ultra-low noise Mic/Line inputs with Gain control, -20 dB Pad, Level/Clip indicator, +48 V phantom power and bus-assign switches;
- 2 selectable high-headroom stereo inputs with mono/stereo switch;
- Channel 1 provides variable threshold to enable automatic bus mute for announcements, etc;
- 3 assignable outputs (Left, Right and Aux) with individual Master controls and 5-segment LED meters;
- Ultra-musical 4-band master EQ and global microphone low-cut filter for perfect sound adjustment;
- Left, Right, Aux and Mute bus links available including Master/Slave switch for connecting multiple units;
- Remote master Left/Right level control port for ultimate flexibility;
- Select switch for routing microphone bus post remote control;
- Integrated channel muting system with Priority select;
- All inputs/outputs on Euro-type connectors;
- High-quality components and exceptionally rugged construction ensure long life.

Elman 2/4 Wire Genius Intercom

This apparatus has 3 distinct functions: Intercom, Listen Amplifier, Tally.
The first is a 7 channels full/duplex and semi/duplex intercom with return modulation and input for external producer.
The intercom has three 2 wire channels (for the video cameras) and four 4 wire channels to speak, for example, to an external producer, recording rooms, external o.b.van, etc...

Listen Amplifier and compact stereo speaker system

An Audio/listen amplifier of the TV Studio is located inside the intercom and the volume is adjusted by PROGRAM control.
The audio diffusion of the O.B. BOX Tricaster HD is performed by a couple of loudspeakers located inside, on the back of apparatus.
The RMS output power is 5 watt.

Tally

In the Genius Intercom is also placed the system of sending tally informations for 4 cameras; this signal is transmitted trough the 2 wire audio line sent to beltback terminals (optional) of cameramen.

4.3" Quad LCD monitor OSEE model RMS4342-HSC for HD/SD-SDI and analog signals

Is a 2U high rack mountable LCD monitor of our

represented Osee that offers video and audio monitoring with high resolution of 480x270. The unit is equipped with full digital processing technology, and its screens feature anti-glare. The model accepts HD-SDI, SD-SDI and analog composite signal. A high display quality of all video signals can be ensured by full digital processing. The precise scaling chip as well as Gamma correction is a guarantee for high quality display image.

Features
- Auto-Sensing HD/SD-SDI, Composite signal;
- Embedded Audio Support, 4 or 8 Channels Audio Meters (VU & PPM);
- H/V Delay, Under Scan, Safe & Area Marker, Aspect Ratio, Blue Only, Tally;
- 1 Pair Audio Monitoring via Headphone Jack;
- Waveform and Vectorscope display for SDI signal;
- Dynamic UMD supporting TSL and Image Video protocol;
- Gamma and color temperature correction;
- OSD Tally support;
- LED Tally support.

Acer 19" LCD Monitor V193 (WLBMD)

It's an up and over monitor to improve the view angle. When the studio is put in the container for the transport the monitor is closed horizontally. The V193 monitor has clear details and bright images.
Thanks to 50.000:1 high contrast ratio, to 5ms response time and to 300 cd/m2 brightness it's the ideal monitor for viewing contents in high definition.
Integrating a two CCFL lamp system instead of four resulting in a simplified connector and inverter power board design, cutting power consumption by 50 percent.
Image smoothing and color scaling with automatic adjustments for a fast and easy personalization of view according to work needs.
This monitor is interfaced directly with control output of Tricaster Studio.

Features
- Display Size: 48 cm (19") Wide TFT LCD, 408X255 mm;
- Panel Technology: TN + film;
- Max Resolution: 1440 x 900;
- Pixel pitch: 0.283 mm;
- PPI: 90;
- Horizontal Frequency: 30~80KHZ;
- Vertical Frequency: 55~75HZ;
- Contrast ratio: 50.000:1;
- Image brightness : 300cd/m2;
- Response time: 5ms;
- Colours: 16.7M;
- NTSC Colour situation 72%;
- Viewing Angle CR 5:1 176° / 176°;
- Viewing Angle CR 10:1 160° / 160°;
- Multimedia: no;
- Kensington Lock Support: Yes;
- Connections: VGA - DVI;
- Power Consumption: Energy Star® On: 16.5W, Stand By: 0.56W, Off: 0.55W;
- Dimensions (WxHxD) 441.8 x 360.1 x 161.5 mm;
- Weight 4.3 kg;
- MTBF Hours: 50000hr/25°C;
- Certifications: UL, CUL, TUV/GS, T-Mark, ISO9241-3/-7/-8, FCC/B, VCCI, CE, TCO03, C-tick,BSMI,WHQL, ISO 13406-2.

Supertronic ACK-595 Mini Keyboard

A reduced dimension standard keyboard with 88-89 keys and numeric keypad.

Logitech Trackman Marble Trackball

A handy trackball, improve control while reducing hand and wrist motion.

Lighting

The OB BOX Tricaster HD has a lighting system through white light high efficiency 3 led bands. The lighted areas are:
1) front area (all the area of controls which is under the 19" monitor; 2) back area (the area of connectors of the apparatuses and of patch panel); internal area (lighting of frontal panel of Tricaster Studio). The lighting of front and back area is started up and deactivated by the opening and the closing of front door (with minikeyboard and trackball mouse).

Flightcase container for transport

In order to facilitate the transport and protect the O.B.Box Tricaster HD, a shockproof special container is available constructed observing IATA norms.
The dimensions of flightcase container are (in mm.): 650 (W), 700 (H), 700 (D).
The weight of flightcase container is: 18,40 Kg.

ELMAN is able to furnish all the necessary equipments for use of O.B.Box Tricaster HD: video cameras, VCRs etc...

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MOBILE VIDEO STUDIO

O.B. BOX Tricaster 40

mobile video studio with virtual studio capability

O.B. Box Tricaster 40 is an amazing portable TV studio which, thanks to Tricaster TCXD40, the hearth of this system, is able to create a virtual studio with four cameras, real-time chromakeying, live titling, audio mixing, live video streaming and more.

Applications

- Live events (sport, art, political);
- Dedicated studio during international TV transmissions: (soccer, F1, Motorcycling etc);
- Advertising, television spots, telesales;
- Documentaries and journalistic reports;
- Production of video and industrial video;
- Short and full-lenght film;
- Interviews and debates;
- Live concerts and realization of musical videoclips;
- Inaugurations, shows, seminairs and congresses;
- Student, technical and sanitary personnel training;
- Virtual sets;
- Surgical videos;
- Weddings, fashion parades;
- TV shots in cult sites;
- Live streaming and Webcasting;
- Community access e PEG facilities;
- TV Stations.

The installed equipment

- Tricaster TCXD40 (NEWTEK);
- Live Control CS40 (NEWTEK);
- Ultrazone ZMX 8210 Zone 8 Channel Audio Mixer (BEHRINGER);
- 2 /4 Wires Genius Intercom. listen amplifier and tally (ELMAN);
- LCD / LED Monitors Fujitsu B20T-6 (20 inch);
- ACK-595 Mini Keyboard (SUPERTRONIC);
- Trackman MarbleTrackball (LOGITECH);
- Back patch panel with all audio (XLR) and video (BNC) connectors for connection to Tricaster TCXD40;
- Lighting through 3 high-efficiency white LEDS in the front area, back area and internal area;
- Power supply system for control energy distribution with protection through magnetothermal and differential switcher.

Equipment Description

NEWTEK Tricaster TCXD40

TriCaster TCXD40 lets professionals and novices alike create streaming television, or air broadcast-quality video on the Web and mobile devices quickly and easily. For television stations, schools, offices, and production startups that don't have access to an SDI infrastructure, TriCaster 40 is a simple solution for creating real-time productions of events and shows and streaming truly professional video programs to the Web. Just plug in cameras and audio, and start creating.

- Professional component connectivity and essential formats that are ideal for full HD web streaming, basic broadcast and beyond;
- Go live, right out of the box, with off-the-shelf HD cameras;
- Broadcast, stream, project and record within

Tricaster TCXD40

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minutes;
- Television style virtual sets, moving backgrounds, effects and graphics;
- A/V cart and carry portability;
- Option to add hardware control surface for professional operation and intuitive on-air production.

Newtek 40CS (Control Surface, T-Bar)

For a physical connection to each input during your live presentation.
Adding a TriCaster 40CS to the system TCXD40 unleashes additional control capabilities, supporting operations not possible otherwise. TriCaster 40 CS, though compact, provides full control over the various video layers and effects provided by its namesake live production system. Controls are logically and ergonomically grouped, and will be familiar in no time.

Features
- Studio-style control in durable, compact design perfect for desktop or portable use;
- Intuitive layout mapped to TriCaster 40 for maximum manual interaction;
- Large, backlit buttons and premium T-Bar for confident, comfortable performance;
- Multi-purpose control over production elements with versatile delegate buttons;
- Instant setup and integration for fixed or on-the-fly production workflows.

Behringer Ultrazone ZMX 8210 Zone 8 Channel Audio Mixer

A professional 8-channel audio mixer with rack mountable which can distribute music programming and announcements to up to three zones (rooms). It can be used with any microphone, including professional-grade condenser mics, thanks to the onboard phantom power. The eight input channels are equipped with high-quality mic preamplifiers for absolutely pristine sound quality. A master 4-band equalizer is provided to ensure voice intelligibility and address any potential feedback problems.

Moreover if you need more than eight channels, two ZMX8210s can be linked together, providing a total of 16 inputs.

Features
- Ultra-flexible and easy-to-use zone mixer with remote control ports for commercial sound systems and fixed installation applications;
- 6 ultra-low noise Mic/Line inputs with Gain control, -20 dB Pad, Level/Clip indicator, +48 V phantom power and bus-assign switches;
- 2 selectable high-headroom stereo inputs with mono/stereo switch;
- Channel 1 provides variable threshold to enable automatic bus mute for announcements, etc;
- 3 assignable outputs (Left, Right and Aux) with individual Master controls and 5-segment LED meters;
- Ultra-musical 4-band master EQ and global microphone low-cut filter for perfect sound adjustment;
- Left, Right, Aux and Mute bus links available including Master/Slave switch for connecting multiple units;
- Remote master Left/Right level control port for ultimate flexibility;
- Select switch for routing microphone bus post remote control;
- Integrated channel muting system with Priority select;
- All inputs/outputs on Euro-type connectors;
- High-quality components and exceptionally rugged construction ensure long life.

Elman 2/4 Wire Genius Intercom

This apparatus (in the center) has 3 distinct functions: Intercom, Listen Amplifier, Tally.
The first is a 7 channels full/duplex and semi/duplex intercom with return modulation and input for external producer.
The intercom has three 2 wire channels (for the video cameras) and four 4 wire channels to speak, for example, to an external producer, recording rooms, external o.b.van, etc...

Listen Amplifier and compact stereo speaker system

An Audio/listen amplifier of the TV Studio is located inside the intercom and the volume is adjusted by PROGRAM control.
The compact stereo speaker of the O.B. BOX Tricaster is performed by a couple of middle-high loudspeakers (the right one and the left one) inserted in 19” monitor and by a woofer for low frequencies located inside, on the back of apparatus.
The RMS output power is 2 watt on frontal loudspeakers and 5 watt on woofer.

Tally

In the Genius Intercom is also placed the system for sending tally informations for 4 cameras; this signal is transmitted trough the 2 wire audio line sent to

beltback terminals (optional) of cameramen.

LCD / LED Monitors Fujitsu B20T-6 (20 inch)
The Fujitsu Display B20T-6 LED offers best ergonomics and usability for intensive use.
High resolution for pin sharp pictures with modern applications.

LED backlight technology
The display is equipped with an ultra-high contrast and lighting complete and uniform to be easy on the eyes, reduced energy consumption in terms of cost and environmentally friendly mercury-free panels.

Technical details
- Display Size: 50.8 cm (20-inch)
- Aspect ratio: 16:9
- Horizontal: 30 - 82 kHz
- Vertical: 56 - 76 Hz
- Resolution: 1600 x 900 pixel
- Brightness - typical: 250 cd/m2
- Contrast - advanced: 2,000,000:1
- Viewing angle (h/v) - typical: 170°/170° CR5:1

- Color performance: 16.7 million colors (Hi-FRC)
- Stand: 4-in-1 Stand
- Height adjust range: 120 mm
- Tilt angle: -5° / +35°
- Swivel angle: 340°
- Rotation to portrait: 90°
- Video Input: 1 x DVI (HDCP) - 1 x D-SUB
- Audio sound output: 2 x 1.5 W
- USB downstream: 4 x USB 2.0

Supertronic ACK-595 Mini Keyboard
A reduced dimension standard keyboard with 88-89 keys and numeric keypad.

Trackman Marble Trackball Logitech
A handy trackball, improve control while reducing hand and wrist motion.

ELMAN is able to furnish all the necessary equipments for use of O.B.Box Tricaster 40: video cameras, VCRs etc...

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MOBILE VIDEO STUDIO

O.B.Box Genius 08

Portable Television Studio

DV, Component YUV, Super VHS (Y/C), Composite

Genius O.B. BOX 08 Portable TV Studio is the evolution of the Genius O.B. BOX MK2 previous model from wich it takes a part of the apparatuses, whereas other apparatuses have been replaced with more recent versions and higher performances.
In comparison with MK2 model, the new Genius O.B. BOX 08 moreover changes the design of container that allowed to reduce further the dimensions of it.
Genius O.B. BOX 08, even though it is a very reduced dimension TV Studio, is complete of all the necessary equipment for television production, included an intercom system.
It can be used either in studio or for external shots and, in this case, it will allow to transport it with facility and rapidity in whichever place of the event, even the most inaccessible.
The heart of the Genius O.B. Box 08 is constituted by a Datavideo SE-800 four channel vision switcher (for digital and analogue video).
Thanks to use of frame memories and TBC it also allows to use television cameras and VCRs with signals asynchronous between them.
This involves a notable acceleration of the startup operations and a saving on the purchase of equipment for synchronization and measurement, avoids moreover the use of specialized technical personnel.

Applications

- live events (sport, art, political, actuality)
- dedicated studio during international TV transmissions (soccer, F1, motorcycling etc …)
- advertising, television spots, telesales
- documentaries and journalistic reports
- productions of industrial video
- production of video
- shortfilms and full-length film
- interviews and debates
- webcasting transmissions
- videostreaming conferences
- live concerts, realization of musical videoclip
- inaugurations, shows, seminars and congresses
- students, technical and sanitary personnel training
- surgical videos ...
- weddings, fashion parades
- cultural and didactic meetings
- TV shots in cult sites

The creation of new digital video standards, together to wide diffusion of equipment for television shots that have reached together to an extreme compactness a quality video of professional level to extremely approachable costs, has suggested to ELMAN to realize the new one: Genius O.B. Box 08, the O.B. Box of fourth generation able to operate both with the classical analogical video inputs and with the new digital video inputs.

Use of New Digital Cameras

A big advantage in having inserted video digital inputs into the Genius O.B. BOX 08 is given by the possibility to use DV/firewire cameras that, further to be smaller, are able to guarantee images equals or even better than to the old analog professional cameras, but at lower prices.

The inputs of the same cameras can be used in its turn as digital VCRs. Moreover, thanks to installed “3 in 1” JVC SR DVM700 professional VCR it is possible to use material shoted on the following supports: DVD, mini DVD and mini-DV.

List of the apparatus contained in the system

- triple 5.6” LCD TFT Monitor (MARSHALL V-R563P)
- quad 4" LCD TFT MONITOR (ELMAN)
- 2 wires / 4 wires Intercom + audio amplifier and tally (ELMAN)
- compact stereo speaker system with woofer (ELMAN)
- 4x1 Switcher/ 1x6 Distributor (ELMAN)
- 4 channels Audio/Video Mixer SE800 (Datavideo)
- JVC SR-DVM700 three-in-one digital videorecorder incorporating Mini-DV- DVCAM DVD and HARD DISK with various editing and dubbing capabilities
- 12 channels Audio Mixer Behringer XENYX 1202
- AC/DC Power Distribution- Power supply system (ELMAN)
- gooseneck service light

Is provided a protective flightcase container according to the IATA rules.

EQUIPMENT DESCRIPTION

Mixer Datavideo SE-800

The SE-800 is a broadcast quality four inputs digital mixer.
Multi-format inputs and outputs with Analogue/DV format conversion.
Each input can accept: DV (DV25), Components YUV,

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Super VHS (Y/C) or Composite video formats, and convert output to all formats.
The full size control panel includes 30 pre-

programmable keys that let you playback the pre-programmed functions instantly by pressing a single key.
Dual channel TBC with YUV 4:2:2 Frame synchroniser for Composite, S (Y/C) and Component Y.U.V. inputs and outputs.
SE 800 is also equipped with four channel stereo mixer with stereo microphone and earphone connections.

Features

- 4 video inputs. Each input can accept: DV (DV25), Component YUV, Super VHS (Y/C) or Composite video formats, and convert output to all formats.
- Output: DV (DV25), Components (Y.U.V.), S-Video S(Y/C), Video Composite, SDI
- Four channel audio mixer with unbalanced audio stereo inputs (for balanced inputs use BAC-03 option)
- An audio stereo master output and an output for headset
- A microphone audio input
- Colour processor including R.G.B.Correction with white balance and last set-up upon each input.
- Audio video Synchronizer
- 50+ digital effects include: A/B Roll, A/B Dissolve, Chroma Key, Mosaic, PIP, Strobe, Fade and Wipe with soft edge, etc...
- 30 instant Pre-programmable playback function keys
- 2 channels TBC
- 4:2:2 Full screen frame memory. 3,5 Mhz for components (Y.U.V.), S-Video s (Y/C), Composite video inputs and outputs
- SDI overlay to use with SDI output of a character generator

7 LCD TFT Full Colors Monitors: Triple 5.6" and Quadruple 4”

A collapsible support holds seven color panel flat LCD monitors that are all tiltable so one can obtain a perfect contrast vision.
They are light, have a low consumption and don't tire the eyes.
They are compatible with the standards PAL and NTSC (autoswitching).
The three 5.6" monitors (Marshall V-R563P) are used to see respectively: preview output (center), program output (right), video recorder input (left).
Every monitor (960 x 234 pixels) is equipped with 2 inputs and 2 outputs for composite video, has three tally

leds (yellow, red and green) and an embedded color bar generator.
On the frontal panel of each monitor are the following controls: power, colour, hue, brightness, contrast and video1, video2, bars.
The four 4" monitors (ELMAN 4"x4) have 4 input signals and each of them is equipped with tally leds (red) that shows what signal is on air.
Every monitor has an loop through input
Elman 4”x4 monitors (480 x 234 pixels) have the colour, hue and brightness control.

JVC SR-DVM700 three-in-one digital professional video recorder incorporating digital Mini-DV, 250 GB Hard Disk and DVD recorder with various editing and dubbing capabilities.

SR DVM 700 has an input for analog signals too.

- Video recorder on: Mini DV, 250 GB Hard Disk, DVD
- Also capable of playing back DVCAM™ tapes
- DV IEEE 1394 Interface
- Capable to perform editing on H.D.
- Capable to formulate a menu before DVD creation
- Inputs: composite video, YC, DV.
- Outputs: composite video, YC, component, DV

By side of SR DVM700 has been prearrenged a lodging for remote control.

Audio Section

The audio signal, coupled with 4 input video, is mixed automatically by SE 800 audio/video mixer during transitions from a channel to another one.
Genius O.B. BOX 08 is also equipped with 12 inputs

Audio Mixer Behringer of the rising generation: XENYX 1202.
The mixer is mounted on a tip-top support that is locked by a proper bracket during the transport.
Exploitable Inputs in XENYX 1202 are: 4 mono

channels and 2 stereo channels and they can be balanced and unbalanced.
An adapter located on the back of Genius O.B. BOX 08 allows to provide the output general audio in a balanced and unbalanced way.

BEHRINGER XENYX 1202

- 12 inputs and 2 bus with preamps mixer
- Highest quality 12 inputs mixer 2 bus with XENYX mic. preamplifier
- Lowest interference, very high dynamic range
- 2 new XENYX vanguard mic preamplifier
- ”British” 3 bands neoclassic EQ for a warm and musical sound

Thanks to use of the most modern circuit techniques, XENYX 1202 mixer is able to reproduce an incomparable warm analog sound.
The channels of microphones are equipped with preamp High-End XENYX Mic, which quality of sound and dynamic is comparable to that of outboard preamp and provide an incredible headroom with 130 dB dynamic spectrum.
With a bandwidth from 10Hz to over 200Hz they allow a crystalline reproduction of various nuances.

AC/DC Power Distribution

On the top part of SE800 mixer is located the apparatus for control energy distribution, the AC/DC Power

Distribution.
On the frontal panel, there are 3 switches: the first is a general differential switch for AC electrical net, the second is an "equipment" switch for the apparatuses installed inside Genius O.B. Box 08 , the third is a switch for "external" equipment outside Genius O.B. Box 08.
Two 5 ampere automatic switches protect the line of power supply of internal and external equipment.
A XLR 5 female connector located on the right of frontal panel allows to power directly the goosenek illumination lamp with flexible arm to light up the control zone of the TV Studio without disturbing the surrounding environment

Power Supply

The total power consumption of Genius O.B. Box 08 is about 220 W (90-240 Vac).
Thanks to the universal power supply it can be used in every area of the world.

Intercom Genius

This apparatus (in the center) has 3 distinct functions: Intercom, Listen Amplifier, Tally.
The first is a 7 channels full/duplex and semi/duplex intercom with return modulation and input for external producer.
The intercom has three 2 wires channels (for the video cameras) and four 4 wires channels for to speak, as an example, with a external producer, recording rooms , external o.b.van, etc...

Listen Amplifier and compact stereo speaker system

Audio/listen amplifier of the TV Studio is located inside the intercom and the volume is adjusted by PROGRAM control.
The compact stereo speaker of the Genius O.B. BOX 08 is performed by a couple of middle-high loudspeakers (the right one and the left one) placed on the top of the three 5.6” monitors and by a woofer for low frequencies located inside, on the back of apparatus.
The RMS output power is 2 watt on frontal loudspeakers and 5 watt on woofer.

Tally

In the Genius Intercom is also placed the system of sending tally informations for 4 cameras; this signal is transmitted trough the 2 wires audio line sent to beltback terminals (optional) of cameramen

Switcher/Video Distributor

The apparatus on bottom on the central zone of Genius O.B. BOX 08 is a 4 channels video switcher that has the function to change the input signal of VCR shown by left 5.6" monitor.
In the same apparatus is housed a 1x6 equalized video distributor which input is connected to output of SE800 video mixer to send the signal to more users.

Genius O.B. BOX 08 Case

The external part of the container is manufactured in a black painted wood and the interior is made of a mechanical frame on which are housed all the apparatuses. This structure allowed us to reduce further the bulk in comparison with the previous version of Genius O.B. BOX.
The dimensions of the Genius O.B. BOX 08 are: (in mm.): 525 (W), 555 (H), 570 (D).
The weight of Genius O.B. BOX 08 is: 48,2 Kg.

Wire System

A particular attention has been given to the wiring of all interconnection cables among various apparatuses that

are identified each one with a number placed near every connector and are illustrated in the schemes of the provided manual.

Flightcase container for transport

In order to facilitate the transport and protect the Genius O.B. Box 08, a shockproof special container is available

constructed observing IATA norms.
The dimensions of flightcase container are (in mm.): 650 (W), 700 (H), 700 (D).
The weight of flightcase container is: 18,40 Kg.

Personalized configurations

Elman is able to furnish different versions of Genius O.B. Box 08 according to the needs of the client.
On request, the Elman can realize others flightcase for the installation of CCU systems, auxiliary audio production systems or other apparatuses (to agree with the customer requirements).
ELMAN is able to furnish all the necessary equipments for use of Genius O.B. Box 08: video cameras, VCRs etc ...

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MOBILE VIDEO STUDIO

VP Box

Video Production Box
Portable TV Studio Production

Applications:

- live events (sporting, artistic, political, actuality)
- personalized shots during international TV transmissions
- publicity, television spots, television sales
- documentaries and journalistic report
- video productions
- industrial video productions
- short and long films
- interview and debates
- webcasting transmissions
- video streaming conferences
- live concerts, realization of musical videoclip
- inaugurations, shows, seminars and congresses
- training of students, technical and sanitary personnel, etc...
- tv shots in surgery room
- marriages, fashion exhibitions
- cultural and didactic meetings
- tv shots in cult sites

VP BOX DESCRIPTION

VP Box is a portable professional television studio in miniature, complete and easily manageable from few people.
The **VP Box** is realized in an elegant container of metal and wood, the **VP Box** has all the necessary equipment for the television shots and for the communications between the technicians that realize it (director, cameramen etc...).
For his transport is furnished a special container with shaped inside stuffing.

REPEATABILITY OF COMMANDS

If you have the necessity to create a lot of rooms equipped for television shots, videostreaming and videoconference (ministries, schools, industries, banks, etc…) and you desire your technicians not to waste time, every time, to learn the configuration and the commands of the apparatuses of every different posting (with risk of errors in the moment of the working), you can equip every room with a **VP Box**.
The technicians will be every time of forehead to the same type of apparatuses and will be quickly ready for to operate.
Moreover, being the equipment always of the same type, the job of training will be simplified.

ACCESSIBILITY WITH EVERY CONDITION

When it is essential to use more television cameras connected to a control board (shots of soccer, concerts, shows...), but particular structural, logistic or of transport conditions, prevent to use one structure prepared on a o.b.van, to use a **VP Box** is the only alternative solution.
The particular situations in order to use **VP Box**, are those in which the equipment video it must travel in airplane, in ship, or with other transported material from thirds party as it happens in the tournee and the road show. Also when the zone of the tv shots it is localized in places accessible with difficulty from motor vehicles, as an example: rooms placed to the last plans of centers conferences, stand situates to the center of exhibitions spaces, theatres, ski tracks, etc…, the **VP Box** represents an optimal solution.

DEDICATED PRODUCTION CONTROL

In occasion of shots of world-wide interest (formula 1 gran prix, motorcycling competitions, soccer matches, etc…), to the international TV production control is placed side by side a "dedicated" production control that personalizes the program with images coming from the own television cameras. The **VP Box** is used also for this scope.

THE VP BOX EQUIPMENT INCLUDES:

Triple LCD monitor

An innovative triple LCD monitor produced by the Elman, composed from two 5.6 inch screens and from one 10 inch screen for a better vision of the images. The monitor is balancing for to improve the visualization angle. When **VP Box** is introduced in the container for the transport, the triple monitor is closed horizontally.

Video Mixer Datavideo SE 500 - 4 input channels for S-Video (Y/C) and Composite

The SE-500 includes 4 groups of video input (4 x composite and 4 x S-Video), color correction, digital video transition effects, MIDI control interface, RS-232 remote

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Triple Monitor: one 10” and two 5.6” displays

control interface and many more professional features. The SE-500 includes a truly unique feature Quad Preview. This preview output displays both tally light signals, and next video effects indicator. The operator can use one single monitor to observe four video input sources, camera activities, and video transition effects. The SE-500 has all the popular features of many more expensive mixers. No Genlock Required. Dual Channel Time Base Corrector and 4:2:2 frame synchronizer built in.

Video mixer SE500 and videorecorder JVC SR-HD1250

JVC SR-HD1250 combo deck recorder for Blu-Ray, DVD, HDD, SD card

SR-HD1250 is the world’s first professional HD combo deck featuring a Blu-ray recorder, 250GB HDD, and SDHC compatible SD card slot. The SR-HD1250 is ready to import recordings from high-definition camcorders compatible with AVCHD, HDV and DV to facilitate the creation of recordings in full HD format

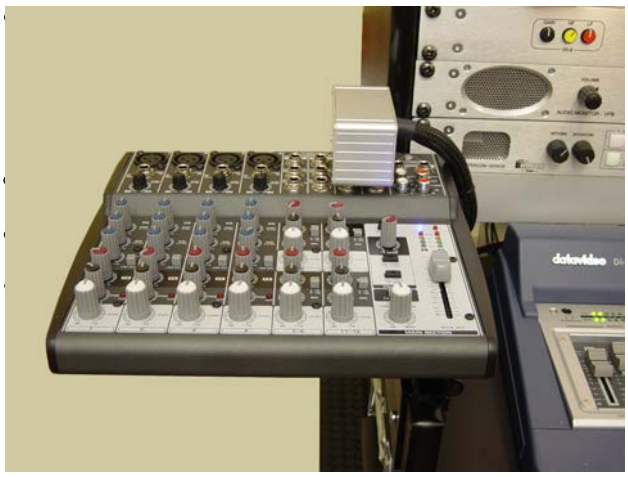
Audio Mixer Behringer XENYX 1202

The 12-input, 2-bus mic/line mixer XENYX 1202, boasts 4 state-of-the-art invisible mic preamps (IMPs) and an effective, extremely musical 3-band EQ plus, switchable low-cut filter on all mono channels

- 130dB dynamic range for 24-bit, 192kHz sampling rate inputs
- Ultrawide 60dB gain range
- Lowest possible distortion - 0.0007% (20Hz-20kHz)

Intercom Genius - Intercom/Tally

7 channels full/duplex and half/duplex intercom with interrupted feedback and input for external producer.



Audio Mixer Behringer XENYX 1202

The intercom has 3 channels at 2 wires (for cameras) and 4 channels at 4 wires. Intercom Genius also sends Tally information for 4 videocameras, that are transmitted on 2 wires audio line.

VPB Audio Monitor

System for audio amplification and diffusion in a 1 RU. The two loudspeakers dedicated to middle and high frequencies are assembled inside the 1RU container, while a woofer is installed inside the **VP Box.**

VDE/VS 2x4 - Switcher/Video Distributor

4 channels double video switcher + 1x6 equalized video distributor.

AC/DC Power Distribution - Controller for energy distribution

On the frontal panel, there are 3 switches: the first (left) is a differential switch for AC electrical net (system power), the second a "equipment" switch for the apparatuses installed inside **VP Box** , the third a switch for "external" equipment outside **VP Box**.

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From top to bottom:
1) Lodging for remote controller of the JVC SR DVM700.
2) AC/DC Power Distribution - Controller for energy distribution
3) VDE/VS 2x4 - Double switcher and video distributor.
4) Audio monitor VPB.
5) Intercom Genius - Intercom/tally.

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VIDEO

4COMP2SDI

Quad Format Video Converter from Composite Video to SDI

Specifications

- **Standards:** composite PAL, NTSC
- **Connectors:** 75 ohm BNC
- **Signal level:** 1Vpp nominal
- **Return loss:** >40dB to 5.5 Mhz
- **CMR:** >6 Vpp

SDI OUTPUTS

- **Standard:** SMPTE 259M 270 Mb/s 525/625 SDI
- **Connectors:** 75 ohm BNC
- **Outputs:** 8 (2 for every channel)
- **Signal level:** 800 mVpp +/- 10% (terminated)
- **Return loss:** >18 dB to 270 Mhz
- **Jitter:** <0.15 UI with colour bars input

PERFORMANCE

- **Differential gain:** <1.5%
- **Differential phase:** <0.4%

OTHERS

- **Voltage:** 220 Vac
- **Power:** 20 watt
- **Power connector:** IEC
- **LED:** for power and signals
- **Temperature range:** 0 - 40 C°
- **Dimensions:** 1 RU 19" standard
- **Weight:** 4 Kg

The 4COMP2SDI is a quad broadcast quality analogue to SDI converter with 2 outputs for every channel.
It uses 12 bit over sampling ADCs with 5 lines adaptive comb filtering. Temporal noise reduction offers the highest quality conversion on the market. The unit accepts PAL and NTSC analogue inputs.
It is housed in a 1RU case for rack 19".

Features

- Analogue composite to SDI ADC
- Digital TBC and jitter filter for greater output stability
- High speed oversampling 12 ADC's
- Temporal recursive noise reduction
- Automatic gain control

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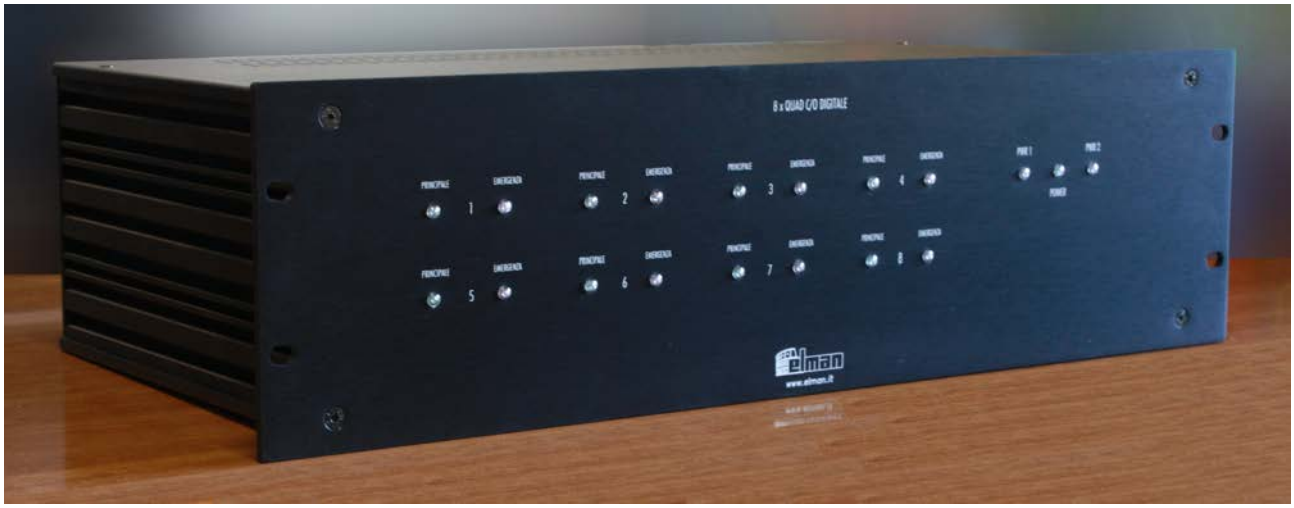
VIDEO

8x4 digital SDI C/O

digital changeover



The 8 x quad digital SDI changeover is used in playout broadcast systems to give the operator an opportunity to switch immediately issuing from the main system to the emergency in the event of a failure of the equipment used in the distribution of audio/video signals: computers, hard disks, DVD players, etc ...
The 8 x quad digital SDI changeover consists of 8 groups of 4 each change over.
Each group is composed of 2 SDI change over (SDI1 and SDI2) and 2 AES Audio change over (AES1 and AES2).
Each group is controlled by the connector for remote control (9-pin D) that controls both the exchange of all change over of the group (the main or emergency).
The connectors for audio and video are both 75 ohm BNC.
The changeover is compatible with SDI and HDSDI signals.
Each remote control receives the return status from the change over providing additional information to the operator that the switch was actually made.
The device has two power inputs connectors 220 VAC and 2 internal power supply working in parallel, so can be powered from two different sources one like backup of the other.
In case of power failure the outputs will be connected automatically to the main inputs.
The container is made of aluminum and is 3 units high 19 " rack.

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VIDEO

8RUXPWR5

Multiple 14V 0.75A power supply with PWR5-14V1A modules

8RUXPWR5 is a modular multiple power supplier for 19” rack mounting and is realized in a 2 unit high aluminium container
8RUXPWR5 has 3 power supply groups with 6 outputs for an amount of 14 V 18 outputs that supply a 0.75 A. maximum current.
Every power supply group is made of 2 pull-out modules (PWR5-14V1A model) that work in parallel to assure the working of apparatuses powered also in case one of two modules is damaged.
The modules inserted in the apparatus are 7: 3 couples + a module in reserve.
8RUXPWR5 is normally used to power the OCP400 master control panel for LDK and Infinity cameras, but it can be also used in many other applications.
On frontal panel of every drawer, besides the start switch, there are 6 leds that indicate the presence of voltage on the 6 outputs.
On back panel there are 6 IEC socket for the connection of every module to electricity network, 18 clamps for 14 V outputs and 3 STATUS clamps that send a remote alarm (ON/OFF) in case one of 3 power supply groups is damaged (the switching off of one of leds placed on frontal panels of modules allows to identify quickly the output that doesn’t work).

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VIDEO

8SDI/A

8x SDI to analog video converter

The 8SDI/A is a high perfomance, multistandard, video converter which accepts eight component serial digital inputs (4:2:2) and provides three analog outputs for every converter.
These three analog output can be user configured as a composite and Y/C , or RGB or YUV.
A loop-through reference input is provided to lock the colour field sequence.
The 8SDI/A is a 1 RU 19" mountable frame with universal power supply input (90-240 Vac).

FEATURES

- 8 indipendent converters
- 3 user configured outputs per converter (CVBS + Y/C, RGB, YUV).
- Ideal for monitoring serial component signals with inexpensive composite analog monitors.
- 1 loop-through reference input to lock the colour field sequence.

SPECIFICATION

Serial inputs

- n. of inputs: 8 BNC (1 every converter)
- Standards: SMPTE 259M-C
- Input equalization Automatic to 200m (8281 or equivalent cable)
- Date rate: 270Mb/s
- Impedence: 75 ohms

Analog outputs

- n. of outputs: 24 (3 every converter)
- Standards: PAL and NTSC
- Connector: 3 BNC
- Signal level : 1 Vpp nominal

Reference inputs

- Level: 1Vpp, Black & Burst
- Impedance: 75 ohms (Terminated)

Physical

- Dimensions: 19" W x 1.75" H x 11.81"D (483mm x 45mm x 300mm)

Electrical

- Power: Universal Input 90-264 VAC.

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VIDEO

AVACO

Audio/Video
Automatic Change Over

Whenever the main video signal has a fault, the Change Over automatically switches to the audio/video emergency signals.
As soon as the preferential signal returns, it resumes the starting conditions.
The switching can be controlled manually as well as automatically, through a local or remote control.
The possible applications of this equipment are many e.g.:

- To switch automatically from the main signal to an alternative one (stand by) whenever the first one should have a fault during the transmission.
- Broadcast of an excusing message: “The transmission is going to restart as soon as possible”.
- It can be used to switch from the identification signal of a dumping point to the signal of the journalistic work to be dumped. Connecting audio and video output of a VTR to the main input of the C/O this will switch to the above mentioned signals. Finally, turning off the main signal, the C/O will go back to the identification signals.

The Audio/Video Automatic Changeover is a stand alone that can be accommodated in the ELMAN’s 1 RU multifuction-system subrack which can be inserted up to three standalone modules simultaneously.
The Audio/Video Automatic Changeover can be independently utilized also being the apparatus provided with its own power supply and with all the necessary connectors on a rear panel.

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VIDEO

AVM168

Video Router PAL/NTSC 16x8

AVM168 is a PAL/NTSC Video Router dedicated to the professional and broadcast field realized in a 1 RU 19" metallic box,
AVM168 has 16 inputs and 8 outputs. AVM168 can be used in television production studios, o.b.van, systems for video surveillance etc... The commutation of the AVM168 occur in much simple way.
The commutation control can be set up from the keyboard on front panel of the AVM168, through the optional remote control or by means of a computer with standard RS422 output connect to 9 pins D connector placed on the back of the AVM168.
It is provided of vertical interval switching to avoid any picture rolls.

Front panel control
- 16 push-buttons with lighting system for the selection of the input channel.
- 8 push-buttons with lighting system for the selection of output channel.
- Key ENABLE which allows the operator to effect one commutation.

Rear panel connectors
- 16 BNC for video inputs signals
- 8 BNC for video outputs signals
- 2 BNC for reference signal
- for remote control RS422.
- Connector for electrical net

Option: Remote control 16 x 8

Technical specifications
- Inputs: 16 composite video
- Outputs: 8 composite video
- Max/outputs level: 2 Vpp/75 ohms
- Bandwidth: (-3 dB): 260 Mhz
- Differential gain: 0.01%
- Differential Phase: 0.01 Deg
- S/N Ratio: 64.9 dB
- Crosstalk: 60 dB
- Control: Front Panel and Remote Control
- Coupling: DC
- Power Source: 10 VA

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VIDEO

CAV2SDI

Video Format Converter from Analog (Y-PB-PR) to SDI

Specifications

ANALOGUE INPUT

- **Standard:** YUV component 625
- **Composite:** PAL
- **Connectors:** three 75 ohm BNC
- **Signal level:** 1 Vpp nominal
- **Retun Loss:** >40 dB to 5.5 Mhz
- **CMR:** >6 Vpp

SDI OUTPUT

- **Standards:** SMPTE 259M 270 Mb/s 625 SDI
- **Connector:** one 75 ohm BNC
- **Signal Level:** 800 mVpp +/- 10% (terminated)
- **Jitter:** <0.15 UI with color bars input
- **Return Loss:** >18 dB to 270 Mhz

PERFORMANCE

- **Differential gain:** < 0.4%
- **Differential phase:** < 0.4%

POWER

- **Voltage:** 7-12 VDC
- **Current:** 600 mA at 7 V
- **Temperature range:** 0-40 °C
- **Dimensions:** 106 mm x 226 mm x 34 mm
- **Weight:** 185 g

The CAV2SDI is a broadcast quality universal analogue to SDI converter. It uses 12 bit over sampling ADC's with 5 lines adaptive comb filtering. Temporal noise reduction and 3D motion adaptive YC separation offer the highest quality conversion on the market. The unit accepts YUV analogue inputs. The unit is housed in an extremely compact and rugged aluminium case and is suitable for both field and studio applications.

Features

- Universal analogue to SDI ADC
- High speed oversampling 12 bit ADC's
- Digital TBC and jitter filter for greater output stability
- Temporal frame recursive noise reduction
- Motion adaptive 3D YC separation using a 5 line comb filter
- Automatic gain control
- Extremely compact and rugged

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VIDEO

CO5SDI

5 x SDI Change Over

SPECIFICATIONS

Electrical input

- **Number of inputs:** 2 for 5 modules
- **Data rate NRZ:** 1 to 540 Mbps
- **Impedance:** 75 ohm
- **Connector:** BNC

Electrical output

- **Number of outputs :** 1 for 5 modules
- **Connector:** BNC
- **Impedance:** 75 ohm
- **Electrical Dual power supply**
- **Power:** 220 Vac

Supported Standards

- **SMPTE:** SMPTE259M, SMPTE305.2M, SMPTE310M, SMPTE344M
- **DVB-ASI:** EN50083-9

CO5SDI is a serial digital video 2x1 change over providing high performance line switching for various signal formats from 1Mbps up to 540Mbps.

The CO5SDI is designed for various line protection applications for studio, campus, broadcast and telecom.

CO5SDI is divided in two parts: the switching central unit and the remot control unit.

They are both devices for 19” rack.

The switching unit is designed to be inserted into a metal box high 2RU, provided with two power supplies (please see photo, showing the back of the device with the two AC power connector).

Both power supplies run in parallel to avoid it switches off in case of any failure.

The remote control CO5SDI/RC is designed to be inserted into a metal box high 1 RU and it’s already arranged for a 8 channels control (CO8SDI next version).

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CO5SDI/RC - Remote Control

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VIDEO

C/O SDI x 32 latched

Change Over SDI x 32

C/O SDI x 32 Latched is a multiple change over (switcher) for SDI serial digital video composed by 32 modules and each of them has 2 inputs and 1output.
Switching happens with high quality performances and features in different formats, from 1 Mbps until 540Mpbs.
C/O SDI x 32 Latched has been realized for different applications: TV stations, recording studios. telecommunication, broadcast, schools, etc…
C/O SDI x 32 Latched is devided into 3 parts: the switching master station (5RU 19" high) and two remote controls; the first one controls change overs from 1 to 16 and the second one from 17 to 32.
Every remote control is 1RU 19" high.
The Switching Master Station is equipped with 2 power suppliers (note the two connectors of power supply in the image that shows the back of the apparatus).
Both the two power suppliers work in parallel to avoid the apparatus cuts out even if one of the two power suppliers is damaged.
The connection among the three units is obtained through 32 multiple cables with connectors type D9.
Even if there is not electrical energy every change over maintains the last selected channel (latched).
On frontal panel of remote controls are located the buttons (protected by a trasparent flap to avoid accidental switchings) necessary for the switching of each one of change overs and 2 leds per key that point out the selected input channel.

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VIDEO

COSDIA

Change Over Audio Video SDI

The COSDIA is a professional audio/video change over that allows to select 3 signals video in input (2 SDI inputs and an analogical video input) to send them to 1 video output SDI (serial digital interface).

The audio related to the 2 SDI video inputs are type digital AES/EBU (it enters with 2 BNC connectors: AES1 and AES2) while that realtive to the analogical video input is a balanced stereo audio and it enters through 2 XLR connectors.

The analogical video signal and related analogical stereo audio are converted inside the COSDIA, in digital, to be able to send it to exit when the ANALOG input is selected.

The selection happens through three buttons endowed with a protection cover against the accidental manoeuvres, placed on the frontal panel of the COSDIA.

The COSDIA is realized in a metallic container high 1 RU 19” and has an incorporated power supply.

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VIDEO

CO/VSDA

Automatic Change Over for Audio and Video SDI

The CO/VSDA is a change over realized in a 1/3 unit case (high 1RU 19") that makes a commutation on the audio and video signals of emergency if the principal signals come to miss.

The frontal panel of the CO/VSDA has the followings commands:

Operational mode key (Automatic, Semiautomatic and Manual)

- In the AUTO Mode , the Change Over automatically exchanges from the principal video to that substitutive after the period of delay planned by the Time switcher.
  The exchange on the principal signal immediately happens after the restoration of the same.
- In SEMIAUTOMATIC mode, the initial exchange happens automatically while the restoration of the principal signal happens pressing the ENABLE key.
- In MANUAL mode, the exchanges happens manually (key A or B). The commutation can also be effected through a remote control.

The TIME switcher selects the interval time that will spend before that the automatic commutation happens on the emergency video.
The CO/VSDA is provided with a bypass circuit that, in absence of power or in case of damage, allows to transit the signals in the A input.

Features

- Audio: analog or serial digital
- Video: serial digital
- Mode: automatic, semi-automatic, manual
- Switching delay: selectable (0.25-2.5 sec)
- Automatic by-pass when the power goes off

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VIDEO

Dual C/O Video SDI

Double Change Over Video SDI

The DUAL C/O VIDEO SDI is a 2x1 dual professional video change over for SDI serial digital signals.

The apparatus is composed of two 2x1 SDI video change over that are independent between them.

The circuits of the two change over are realized on pull-out cards so they can be simply replaced in case of maintenance of the apparatus.

Switching can be started up by two independent remote controls: REM1 (primary) and REM2 (secondary) but only one a time can work. The REM1 remote control decides to keep the control of the apparatus or to give it to the REM2 secondary remote control.

The apparatus is equipped with a GPI EMERGENZA (GPI Emergency) output (back panel) with normally open contact that is started up (closed) when EMERGENZA (Emergency) input is selected from the keyboard of the remote control.

The apparatus is realized in an 1RU metallic box and is equipped with a double power supply that guarantees the working of the DUAL C/O VIDEO SDI even if one of the two power supplies is damaged.

Front panel - DUAL C/O VIDEO SDI

Rear panel - DUAL C/O VIDEO SDI

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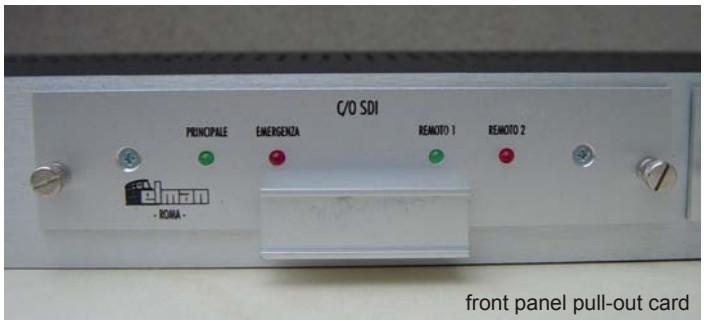

front panel pull-out card

Rear panel - A section

Rear panel - B section

Front panel remote control

Rear panel remote control

REMOTE CONTROL

Every remote control can be used to control until 6 DUAL C/O VIDEO SDI.
On the frontal panel of the remote control are placed three buttons equipped with a protection cover against accidental monoeuvres.
From left to right are placed the following keys:

- PRINCIPALE/EMERGENZA (Main/Emergency). Through this button the main signal or the emergency signal is sent to output.
- REM P/REM S Through this button the primary or secondary remote control can be started up (this button works only on the main remote control)
- TEST/AUDIO. This key of remote control is responsible for the control of another apparatus called C/O AUDIO SDI that is responsible for the audio analogic and SDI switching.

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VIDEO

DUAL VED

dual CVBS equalized video distribution amplifier

Dual VED - Dual CVBS video distribution amplifier clamped, differential input and 2 bands equalized DVE1: 1X4 and DVE2: 1x2

All video distribution amplifiers have the same basic function, generating from a video input several outputs.
Features such as differential input, equalizing response or clamping are not necessarily present in each model and performance differs according to specifications and features.
The Dual VED contains inside 2 independent distributors for composite video , the first one endowed with an input and 4 outputs and the second of an input and 2 outputs. Both are endowed with differential video input for high performances, of two bands equalizier and of an 4 outputs amplifier in the case of the DVE1 and with 2 outputs in the case of the DVE2.
Thanks to the Dual VED can be corrected the errors of phase and noise introduced by the length of the coaxial cables for connection.
The Dual VED is a stand alone that can be accommodated in the ELMAN's 1 RU RMA multifuction-system subrack which can be inserted up to three standalone modules simultaneously.
The Dual VED can be independently utilized also being the apparatus provided with its own power supply and with all the necessary connectors on a rear panel.

Technical specifications

Differentials Inputs
- BNC connectors: 2

Output
- Number of outputs: 4 + 2
- BNC connectors: 6

Performance
- Equalization 0-300 meters (0-1000 ft) coaxial cable Rg59
- Gain and EQ settings can be accomplished with knobs for complete accuracy
- Differential Gain >0,1%
- Differential phase >0,15°
- Frequency response >-0,9 dB to 15MHz
- Hum and noise >60 dB
- Tilt >0,5%
- Electrical length 46 nS
- Power supply 220 VAC - option universal psu 90-240VAC or DC psu 12V DC available
- Power consumption 5W
- Dimension in mm: 300x130x44 - Weight 1,8Kg

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VIDEO

DVB-T HD

professional HD TV Tuner for digital terrestrial channels

The DVB-T HD is a professional TV tuner for digital terrestrial channels which occupies only just 1/3 space of 19”/1RU and allows to receive the TV signals in VHF and UHF range (VHF: 174 MHz ~ 230MHz, UHF: 470 MHz ~ 862MHz).
The encoding of signals is type: PAL.
n autosearch system stores all channels available in the area (max. 500 channels).
The search can be also done manually or according to available networks.
The rest of different controls are shown with OSD system on screen of interfaced monitor: TV channels, radio channels, radio channel informations , autoresearch, manual research, installation assistance, video dimension adjustment, subtitle language, standard TV, local setup, OSD language, time zone etc.
Are available the followings outputs: 1 composite + 1 Y/Pb/Pr HD + 1 HDMI.
On frontal panel are located: LCD display for the programming and the control of functions, eleven buttons for the selection of different channels and functions, 2 leds: one NUM, the other one SET.
The choice of channels happens with UP and DOWN system pressing the up arrow/down arrow button or inserting directly the number of desired channel using the numerical keypad 0-9 (to select the numerical keypad you have to press shift button and the happened activation is confirmed by the switching on of NUM led).
The shielded container guarantees perfect performances even in presence of local electromagnetic strong fields.
The DVB-T can be used autonomously or inserted in an ELMAN RMA model container that can contain up to 3 modules with the same dimensions, even with different functions.
The DVB-T has been designed to be used in pullman equipped for TV shots, or, thanks to its reduced dimensions, in portable studios; but it can be easily used with videoprojectors and monitors.

Updating software
It is possible to update the software of the receiver through the USB port.

Features
- Entirely compatible with Standard HD DVB-T MPEG2/MPEG4 AVC/H.264;
- Frequency range: 174-862 Mhz;
- Output Y/Pr/Pb HD 1920x1080i;
- HDMI output;
- Encoding system: PAL/NTSC;
- Video formats: 4:3 and 16:9;
- 256 Color OSD support (on screen display) (Multi-language support, default English);
- EBU and VDB subtitle support;
- OSD Teletext decoding and VBI Teletext support;
- PIG support (picture in graphic);
- EPG (Electronic Program Guide) and Information-Plate support;
- Multilanguage audio support;
- Channel search in Automatic, manual and Network mode;
- Max 500 channel receivable;
- Channel list mode in All, Favorite, Scrambled;
- Parental control with block on system, all channels and programs by age limitation;
- Extended information shows the full program information;
- Auto language selection of program for Audio language with user setting in menu.
- Reproduction of multimedia files, also video (. AVI) by USB port;
- It furnishes power for use with active antennas.

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VIDEO

ED09

High Brightness Display for outside

ED09

The high brightness display ED09 is an apparatus realized in a metal container suited to be used in external places as it is equipped with a particular protection from the water and the bad weather in general.
The inscriptions are realized on interchangeable and non deformable panels and can be customized according to customer needs. (for example: ON AIR, SILENCE, DO NOT COME IN etc…)
On the lower of container are mounted 2 fans that allow the extraction of hot air that could form inside the ED09 in case of prolonged exposure to sun rays.
The light is given out by a high brightness LED's panel.

The power supply requested is 48 Volt with a 0,5 ampere absorption.
As you can see in the images Elman can provide a 1RU high power supplier called ED09P4 able to power 4 ED09 at the same time.
The external dimensions of display in mm are: 400 X 200 X 125.

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ED09 + ED09P4

rear of quad power supply ED09P4

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VIDEO

ED10

indoor display with high brightness LED backlight

The high brightness display ED10 is an apparatus fabricated in a metal container suited to be used in indoor places.

Possible applications such as signal light are various: in television studios , theaters, cinemas, dubbing rooms , conference halls , hotels , shopping centers , hospitals , etc ...
The signs are realized on interchangeable and non deformable panels and can be customized according to customer needs (for example: ON AIR, SILENCE, DO NOT COME IN, XRAY, WC, etc...).

The luminous sign has a swivel bracket , so it can be placed over a door along the wall but also mounted on the flag at 90 degrees and since the writing is double (front and rear) , can be viewed in the distance in a corridor from both directions .
The light that backlights the sign , is powered by a panel of high-brightness LEDs, can also be seen in a very clear environment , the LEDs compared with the neon light has the advantage of have a low power consumption and longer life.

Power supply is 220V (15.4W) , the display is remote switched on using an external clamping (relays, switches, etc ...) and there are 2 return wires that send to the remote control (such as a console , a operative center , etc. . ..) that all the status lights on the display are illuminated.
The external dimensions of display in mm are: 350 (l) x 110 (h) x 50 (d).
We can customize the written word or any symbol , even the color of the LED can be changed according to customer requirements .

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VIDEO

EL1800 Plus

1x6 Video Distribution Amplfier
3 Bands Equalized

Technical specifications

Input
- Differential looping
- BNC connectors

Output
- Number of outputs: 6
- BNC connectors: 6

Performance
- Equalization 0-300 meters (0-1000 ft) coaxial cable RG59 Gain and EQ settings can be accomplished with the trim for complete accuracy
- Differential Gain>0,1%
- Differential phase >0,15°
- Frequency response >-0,9 dB to 15MHz
- Hum and noise >60 dB
- Tilt >0,5%
- Electrical length 46 nS
- Power supply 220 VAC - option universal psu 90-240VAC or DC psu 12V DC available
- Power consumption 5W
- Dimension in mm 300x130x44
- Weight 1,8Kg

All video distribution amplifiers have the same basic function, generating from a video input several outputs. Features such as differential input, equalizing response or clamping are not necessarily present in each model and performance differs according to specifications and features.

Now you can have all the above at an affordable cost in Elman's EL 1800 Plus, a high-performance differential input, 6 outputs, 3 band video equalizing and clamping amplifier designed to compensate for attenuation, phase errors and noise associated with cable runs.

The EL 1800 Plus is a stand alone that can be accommodated in the ELMAN's 1 RU RMA multifuction-system subrack which can be inserted up to three standalone modules simultaneously.
The EL 1800 plus can be independently utilized also being the apparatus provided with its own power supply and with all the necessary connectors on a rear panel.


example of 3 EL1800 plus mounted in subrack RMA 1 (front)

example of 3 EL1800 plus mounted in subrack RMA 1 (rear)

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VIDEO

GIMx6

Inputs Monitors Identificator

By using GIMX6 (1 RU frame) you can identify the source signal without any written label on monitor display.

GIMx6 lets you insert an identity text (1 or 2 rows of 24 characters each one) on 6 different video signals.

Through the TALLY control it is possible to display on the video the notice "ON AIR".

Without the incoming video signal, the text will be displayed on the monitor over a colored background generated by GIMx6.

As soon as the incoming video signal comes back the text will be automatically displayed on the incoming video. Thus the identity text will be displayed on the monitors both with and without the incoming video signal.

GIMx6 provides 3 outputs for each one of the 6 video input.

Available NTSC or PAL television standards.

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VIDEO

GPI PRC

GPI Programmable Remote Control

The GPI (General purpose interface) is a signal of synchronization that is produced by some consumer or professional apparatuses and is transmitted to compatible apparatuses.
The GPI PRC (Programmable Remote Control) is a programmable remote control realized in a 1 RU metal container that can be used to control both GPI apparatuses and whatever electronic apparatuses.
The apparatus is equipped with 8 PRESET keys, a TAKE control and 8 LED SET to confirm that the take has been made.
The GPI PRC has 3 outputs: MAIN, REMOTE and BACKUP on female D25 connectors.
On every output connector are 8 opening and closing contacts of relé relating to that circuit (MAIN, REMOTE or BACKUP) for an amount of 24 opening/closing contacts.
The GPI PRC has also an input connector (male D25) through which it is possible to access to 8 opto-isolated inputs to connect other apparatuses of the same kind in series.
Every output can be completely configured through software and can be defined for every key.
It is possible to decide trough software the GPI output or outputs to close; or, if there is the input connector with external closures, to decide what key is lighted or what GPI isclosed.
All the program of configuration of GPI Programmable Remote Control can be loaded by a computer through LAN socket located on back panel and can be also emulated through a software.
The programming language is in Basic that simplifies the change of functions of every key well explained in the program that is provided with the apparatus; the embedded development system is TIDE belonging to TIBBO company.
The GPI PRC can be used in all the systems where is necessary a remote control that must be adapted to the modes of the product to interface; for example to control a video switcher, an on the air system, an audio switcher etc.
The power supply is inside the apparatus.

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VIDEO

GPI Repeater

32 Modules 1x3
(General Purpose Interface)

The GPI (General Purpose Interface) is a signal for synchronization that is produced by some consumer or professional equipments and that is transmitted to compatible equipments.
One of the most frequent uses that it does, concerns the combining between an editing controller and a video mixer. The responsible for the edition can for example make start a video transition or effect of the mixer in a determined established point.
The edition control unit will transmit the sync signal to the mixer through the GPI connection at the opportune moment.
The GPI Repeater, made by ELMAN, is an apparatus in a 2 unities container for rack 19" that contains inside 32 independent circuits each of which has an input and three outputs GPI.
Such outputs can control 3 different apparatuses, that have the necessity to receive contemporarily the same command (type on/off).
Being the 3 outputs electrically separate one from the other, it doesn't take the risk to damage the connected apparatuses; while if the apparatuses were simply connected in parallel, the differences of voltage in continuous between an apparatus and the other one could cause damages.
The GPI Repeater has 2 power supply circuits that work in parallel. In case of damage of one of the two (verifiable from the turning off of the led on the frontal panel), the operation of the apparatus is guaranteed by the second feeding circuit.

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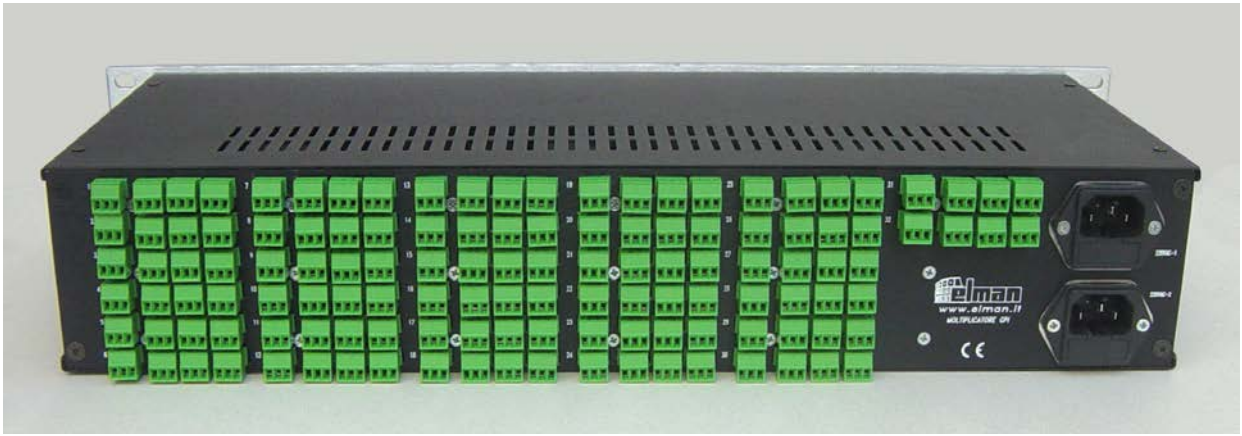

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VIDEO

GVI1224

Characters and Color Bars Generator PAL or NTSC

GVI 1224 can be used when it is necessary recognize the origin of a determined video signal, for example in: television studios, on-air rooms, systems for videoconference etc...

GVI 1224 system allows to overlap 12 text rows of 24 characters each one on a video input.
In case of input signal lacking, the base video signal will be automatically replaced with PAL or NTSC bars color (on request).
This signal is provided by an internal PAL or NTSC generator (on request).
GVI 1224 provides a key and fill signals which are inlaying on transition video by a linear inserter.
The key and fill signals are programmed to obtain white characters with black edge.
The Sync signals necessary for the GVI 1224 come from a video input.
The characters can be moved in vertical and horizontal position. It is possible to determine independently the character's dimensions of each row and the flashing of each character.
The short and capital characters are composed by a matrix of 10 points for 7 lines of each half-frame; so the character's matrix in a frame is composed by 10 points for 14 lines.
The format of each row can be selected to obtain characters of 14,28,42,56 lines; equivalently the width varies with the same proportion.

The character's selection comes through push buttons on the front panel of the apparatus.
There is a connector for external keyboard.
The external keyboard can be simple (consists the same buttons that are on the front panel of GVI 1224) or alphanumeric one (title type), making considerably easier the text's writing.
It is possible to memorize up to 10 pages, recalling them according to the user's requirement.
A RAM memory of the apparatus provided with rechargeable nichel-cadmium battery store the data in case of power supply lacking.
The data can be stored in case of continuous energy absence more than two years.
According to the user's requirements, it is possible to memorize basic texts, to which it will be possible to add other characters.

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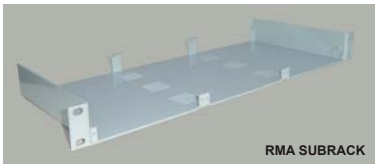
VIDEO

GVI SDI

Identification Generator for Digital Video



The video identification generator GVI SDI is a modular apparatus of ELMAN Stand Alone (1/3 of 19"/1RU) series that can work both autonomously (it has the embedded power supply) or inserted in the RMA subrack of ELMAN multifunction system.
The GVI SDI is fundamentally a character generator that allows to identify a SDI video signal overlapping on it a writing identification composed by a maximum of 25 lines of text for 38 characters each (according to the size of the character the matrix varies (S1=38x25 S2=20x15 S3=13x8 S4=10x5 S5=8x4 S6=6x3 S7=5x2).
The generator also displays in absence of the input signal a black background or color bars.
The signal of key and that of filling are programmed so that to get white characters.
The characters can be moved in vertical and horizontal to the desired position; it is possible to determine independently the size of the characters of every page, moreover can be established the flash for every character.
The characters are built on a 16 points for 16 lines matrix.
The format of every page can be selected for getting characters of 16-32-48-64-80-96-112 lines, the number of the characters for line varies dependently to the select format.
The selection of the characters happens through the buttons placed on the front panel of the apparatus.
On the back panel, besides the AC power supply connector, there are 3 BNC: one for the input signal and 2 for the 1 and 2 outputs , moreover is present a D female 9 pins connector for the remote control.

In the case of power fail or breakdown, the input and the output 1 are automatically bypassed, therefore the video signal is always available.
An inside memory allows the memorization of six different pages of text, usable subsequently by user.
The memory is type: ferric state that guarantees in absence of energy the maintenance of data for 45 years.

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VIDEO

RCU-PTZ

Remote Control Unit for PTZ Visca Videocameras

Commands

- 4 positions joystick for the adjustment of movement in horizontal (Pan) and in vertical (Tilt).
- 2 positions joystick for the regulation of the zoom (from tele to wideangle).
- Button switch for activation and deactivation of the digital zoom with relative signaling led.
- Button switch for select manual or automatic focus (2 leds show which one of the two functions is selected)
- Knob for regulation of focus in manual mode (Far/Near)
- Button switch for the selection of control of the opening of the iris: automatic or manual (2 leds show which one of the two functions is selected)
- Knob Bright/Dark for the regulation of the opening of the iris (in manual)
- Button switch for the activation of the exposure control with Backlight with relative signaling led.

Conceived for being used for the video surveillance, the television cameras PTZ (Pan, Tilt, Zoom) are also affirmed in the field of the television shots thanks to a quality that is now equal to the classical videocameras (they exist in version with 3 ccds and also for high definition) but, above all, for the fact that, being controllable by remote, they don't need a cameraman that manages them; they are very small and little invasive expecially when the shots are executed in particular environments: churches, places of cult, surgery rooms etc..

Elman has realized to the purpose: RCU-PTZ, a very simple remote control that allows to drive from distance, television cameras type PTZ with VISCA protocol interface.

The remote control RCU-PTZ has also an input Tally for connection to the video mixer of the control room that allows to turn on the led for signaling "On Air" when the television camera is selected from director. The cable coming from the television camera PTZ is connected to a connector D female with 9 pins (protocol VISCA-RS422). Particularly the RCU-PTZ has been tested with success with Sony television cameras model: EVI-D70, EVI-D100 and EVI-D30: but the range of models with which it can be interfaced is very wide.

The remote control is powered with a 8-12 V voltage (150mA) supplied by an external power supply (given with RCU-PTZ).

The RCU-PTZ is very intuitive in his operation and it is realized in an elegant alluminium box.

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VIDEO

RCU-PTZ2

Remote Control unit for VISCA PTZ videocameras with telephone interface

Conceived for being used for the video surveillance, the television cameras PTZ (Pan, Tilt, Zoom) are also affirmed in the field of the television shots thanks to a quality that is now equal the classical videocameras (they exist in version with 3 ccds and also for high definition), but above all for the fact that being controllable by remote, they don't have need of a cameraman that manages them, they are very small and little invasive especially when the shots are executed in particular environments: churches, places of cult, surgery rooms, etc... The Elman has realized to the purpose: RCU-PTZ2, a very simple remote control that allows to drive from distance, television cameras type PTZ, with VISCA protocol interface.
RCU-PTZ2 is very intuitive in his operation and it is realized in an elegant aluminum box. The characteristics are identical to the precedent model RCU-PTZ but in this version has been included an interface that allows the control of all the functions of the videocamera (except the focus, that can be planned in automatic) through a remote telephone by numerical keyboard.

Commands

- 4 positions joystick for the adjustment of movement in horizontal (Pan) and in vertical (Tilt)
- 2 positions joystick for the regulation of the zoom (from tele to wideangle).
- button switch for activation and deactivation of the digital zoom with relative signaling led
- button switch for select manual or automatic focus (2 leds show which of the two functions is selected)
- knob for regulation of focus in manual mode (Far/Near)
- button switch for the selection of the control of the opening of the iris: automatic or manual (2 leds show which of the two functions is selected)
- knob Bright/Dark for the regulation of the iris opening (in manual)
- button switch for the activation of exposure control with Backlight, with relative signaling led.

The remote control RCU-PTZ2 also has a led for signaling "On Line" when is active the telephone command.
The cable coming from the television camera PTZ is connected to a connector D female with 9 pins (protocol VISCA - RS422).
Particularly the RCU-PTZ2 has been tested with success with Sony television cameras model: EVI-D70, EVI-D100 and EVI-D30 but the range of models with which it can be interfaced is very wide.
The remote control is powered with a 8-12 V voltage (150 mA) supplied by an external power supply (given with RCU-PTZ2)

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VIDEO

RCVC

Radio Controlled Video Clock
DCF 77,5 Khz / RAI

Applications

- TV station and TV control rooms exact time.
- measurement of times and sequences of dubbing.
- activation of electrical equipment at a preset time.
- synchronization external clocks and computers.
- press rooms and meetings
- airport and train station waiting rooms , etc.

Main features

- wireless synchronization (DCF).
- ease of programming by using the menu of the video.
- programmable up/down timer.
- 4 sizes of characters displayable on the screen.
- Programmable opening and closing time of the contacts.
- RS422 output for display control and satellite clocks.
- RS232 output to synchronize computers.
- adjustable time zone gap.
- automatic adjustment of seasonal time change and leap-year correction.

RCVC is a single RU/19" high precision video clock, managed by a microprocessor unique in its kind.

It can be radio synchronized through Long Waves signal, emitted by the German station DCF77 (Mainflingen - Frankfurt) 50 Kw in AM at 77.5 Khz. The synchronization signal is generated by atomic clocks with cesium oscillator.
RCVC doesn't need any setting for seasonal time change or leap year correction.
Thanks to its possibility of synchronization, RCVC can be used on the whole territory reached by DCF77, that is the great part of European territory.
RCVC displays on the video the following indications: hour, minute, second, day of the week, day, month and year.
It is possible to display part of the indications, i.e. only hour and minute.
Without the incoming video signal the insert will be displayed on the color background video signal generated by RCVC.
RCVC has an adjustable TIMER with count down or stop-watch functions, very useful e.g. in a dubbing studio.
You may change the character's dimensions through the menu (4 different types) and shift them along the X and Y axis of the display.
The characters are white with a black edge to avoid sparkling effect with the background signal.
Furthermore RCVC can be programmed as a time controller of the opening and closing time of 2 different relays.
It is available an RS422 output to control remote displays up to 800 meters from RCVC.
A standard output RS232, programmable up to 9600 baud with 9 pin connector output, provides the synchronization of personal computers.
RCVC is the right choice to register in the archive your TV programs, displaying on the images the exact broadcasting time.

On the front panel you can find: alphanumeric display, providing date and time information which will be displayed also on the video, time set up/down push button, normal/bypass push button to bypass the clock information from the video signal, push button to display the menu on the video.
On the rear panel you can find: power supply connector 220 Vac, input and output video connectors, synchronization signal connectors, D9 connector for RS422 output, D9 connector for RS232 output, output connector for the 2 relays of the time control.
Design and specifications subject to change without prior notice.

N.B. RCVC uses microprocessor technology, thus, if requested, it can be adapted to the specific requirements of the user.

Options: DCF/RCVC: DCF77 Radio receiver, RAI/RCVC: RAI Radio receiver.

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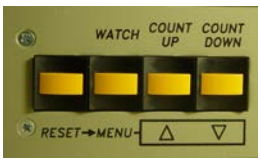

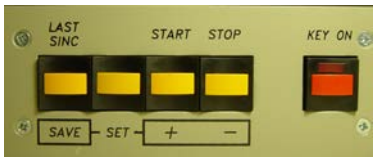

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VIDEO

Remote PTZx4

remote control for PTZ Canon VC or Sony VISCA videocameras

Elman Remote PTZx4 for the Canon VC-C4 and VC-C50 or Sony with Visca Protocol Pan/Tilt/Zoom Video Cameras is a essential device for improve function in educational, teleconferencing and security applications.
Conceived for being used for the video surveillance, the television cameras PTZ (Pan, Tilt, Zoom) are also affirmed in the field of the television shots thanks to a quality that is now equal the classical videocameras (they exist in version with 3 ccds and also for high definition), but above all for the fact that being controllable by remote, they don't have need of a cameraman that manages it, they are very small and little invasive especially when the shots are executed in particular environments: churches, places of cult, surgery rooms, etc...

Description
The ELMAN Remote PTZx4 is an RS-232 serial (or RS422) desktop remote control designed to control the Canon VC-C4 and VC-C50 or Sony with Visca Protocol pan/tilt/zoom video cameras.
A joystick with proportional rate technology provides with precision and accuracy simultaneous control of pan, tilt and zoom.
Up to four camera systems can be connected and controlled by one ELMAN Remote PTZx4.
4 switches control iris and focus of the camera lens (focus and exposure).
Six preset memories: pan, tilt, zoom and focus adjustment, for each of the four cameras.
The presets can be recalled by selector switches provided.
Interacting local and remote control panels, RS-232 (or RS422) interconnected, can control the cameras at either location by selecting the Local/Remote switch on front panel.
On request (optionals) various interconnecting cable are available.

Functions
- Proportional Joystick for control pan, tilt and zoom
- Lens Iris Bright/Dark
- Lens Focus Far/Near
- Lens Focus Auto/Man
- 4 Pan/Tilt/Zoom Camera Select
- Switches
- Six Preset Shot Switches
- Local/Remote Switch

On order specify if remote control has to be interfaced with Canon or Sony (Visca) videocameras.

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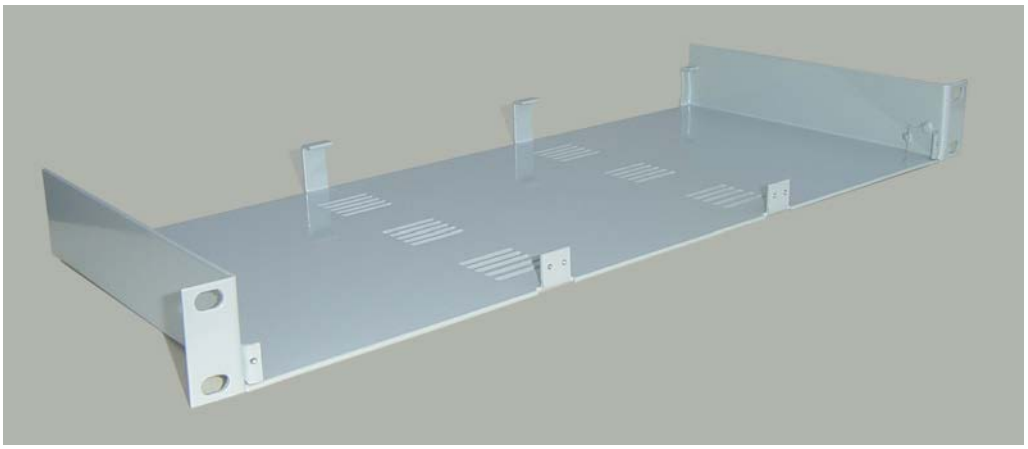
VIDEO

RMA

1 RU subrack for multifunction system



The need to "standardise" the working space and overcome its limitation has brought to the birth of a system that allows to house the equipment in one third of a 19" standard rack frame instead of the traditional 1Ru/19".
Elman has designed the "multifunction system subrack" that allows to insert up to three different standalone modules in 1Ru 19" (audio, video, etc ...).
Each unit has its own power supply and is also standalone, making it ideal for audio/video production field applications.
The adoption of this system offers outstanding advantages such as:

- Each module is standalone and can be used without the rack mount adapter.
- No need to dissemble the system frame to change modules.
- Power supply embedded in every apparatus.

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example of RMA with 3 video distribution amplifier EL1800+

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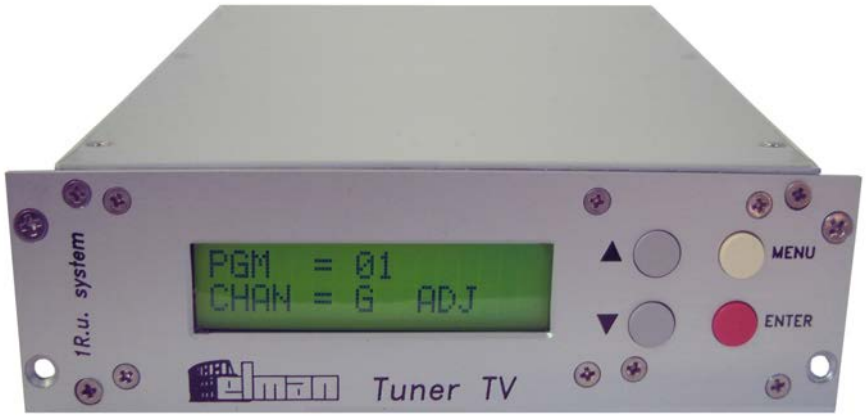
VIDEO

TUTV

Professional TV Tuner

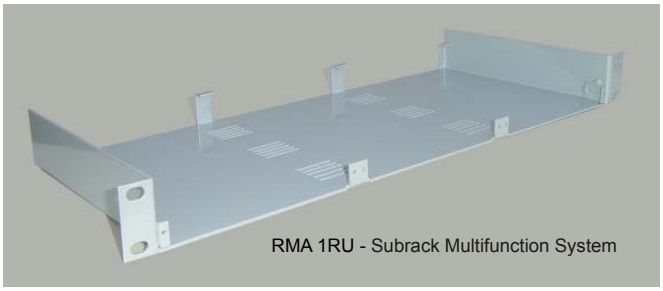


TUTV is a professional tuner that can memorize 99 channels in VHF-UHF band with a frequency coverage from 48.25 to 863.25 Mhz.
Thanks to its reduced dimensions it can be integrated in TV O.B.Van and TV portable studios.

Elman has realized a series of apparatuses for modular containers of the Stand Alone Series (Subrack Multifunction System RMA 1RU) and the last born is the professional TV Tuner with 99 channels MOD, the TUTV that occupies the space of just 1/3 of 19"RU and allows to receive the television signals in the range of frequencies included between 48.25-863.25 Mhz.
The shielded container also guarantees perfect performances in presence of strong local electromagnetic fields.
A LCD display placed on the frontal panel facilitates the scheduling of channels.
On the back panel there are: the connector for antenna, the BNC for the composite video output PAL, a connector D 9 poles for the output audio mono, the connector for 12 Volt power supply, the BNC for SDI output (only SDI model)
The TUTV has been created for being used in vehicles equipped for external television shots or, thanks to the reduced dimensions, in portable TV production systems; but it can easily be linked together with videoprojectors and monitors.
The TUTV is furnished without the external AC/DC power supply with universal input and 12 volt output (mod. TUTV/A optional).

Features

- European Version PAL standard;
- Frequencies coverage in 3 bands: (48.25-154.25 Mhz) (161.25-439.25 Mhz) (447.25-863.25 Mhz);
- PLL controlled tuning;
- Ultra linear FM PLL demodulator;
- Complies with European regulations on radiation, signal handling and immunity ("CENELEC 55020, 55013");
- 1 antenna connector;
- 1 mono audio output D9 connector;
- 1 input for 12 V power supply;
- External Power Supply (optional mod. TUTV/A)
- Dimensions in mm: 300 x 145 x 44
- Weight: 1,5 Kg


RMA 1RU - Subrack Multifunction System

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rear of TUTV

rear of TUTV with SDI output option

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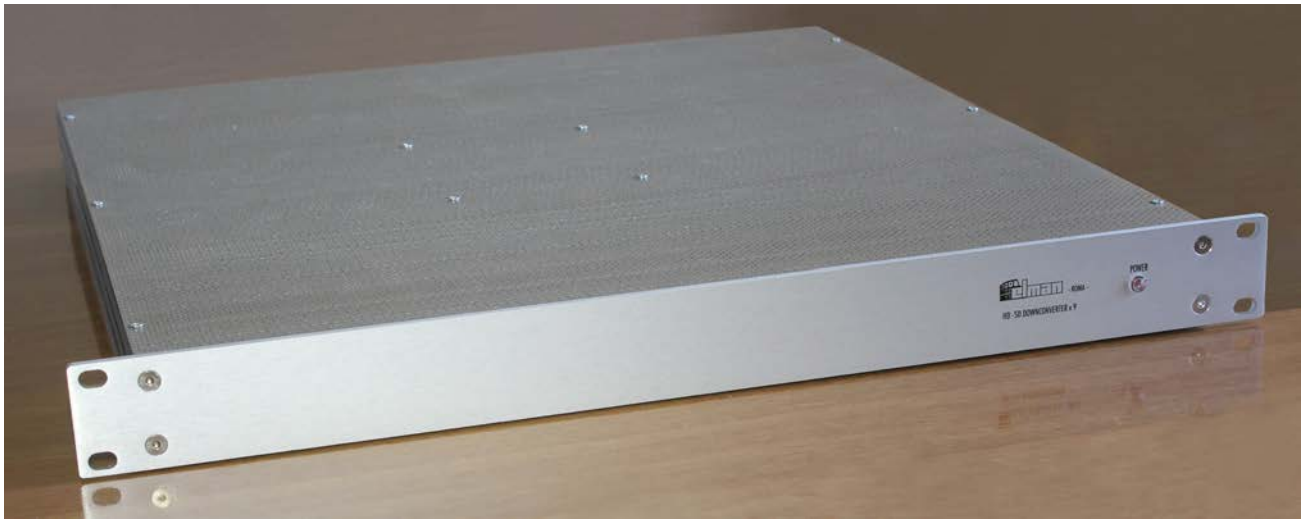
VIDEO

UPDOWN Converter x9

up: SD SDI >HD SDI
down: HD SDI>SD SDI+CVBS(Pal/Ntsc)



UPDOWN converter x 9 is composed of 9 converters that convert video signals in UP: SD SDI >HD SDI and in DOWN: HD SDI > SD SDI + CVBS composite (Pal/Ntsc). The input signal to a loop reclocked. The container is 1 rack unit, 420 mm deep and weighs 7.6kg.
Suitable for example for connecting a monitoring point with analog inputs to a new system HD (in DOWN mode).
It is possible via the internal switches change each converter 9 as up-converter, this method excludes the composite video output because not HD.
The configuration can be chosen when ordering such as for example 4 UP CONVERTER and 5 DOWN CONVERTER. The number of converters can vary from 4 to 9 to the customer's request.

- SDI Video Input commutabile tra SD, HD e 3 Gb/s SDI
- SDI Video Outputs automatically match the SD, HD and 3 Gb/s SDI video input unless up, down, cross and/or standards conversion is enabled.
- Reference Input Blackburst and TriSync for SD & HD.
- Multi Rate Support Auto detection of HD or standard definition SDI inputs.
- Re-clocking Yes

Standards Video

- SDI Format Support 625/25 PAL, 525/29.97 NTSC, 1080PsF23.98, 1080PsF24, 1080PsF25, 1080i50, 1080i59.94, 1080i60, 720p50, 720p59.94 and 720p60.
- SDI Compliance SMPTE 259M, SMPTE 292M, SMPTE 296M, ITU-R BT.656, ITU-R BT.601 and SMPTE 297M for Optical Fiber SDI.
- SDI Video Rates SDI video connections are switchable between standard definition and high definition.
- SDI Video Sampling 4:2:2.
- SDI Audio Sampling Television standard sample rate of 48 kHz and 24 bit.
- SDI Color Precision 4:2:2.
- SDI Color Space YUV.
- SDI Auto Switching Automatically selects between SD SDI, HD-SDI and 3 Gb/s SDI.

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VIDEO

VIT261

video isolation transformer and hum eliminator

VIT 261 allows to eliminate the ground loop Interference and ground voltage difference from video signal.

The main features are:

- Video passes through, hum is stopped
- Noise elimination and smooth video signal transmission
- Standard safety earthing of all apparatus
- Easy to use: simply insert at any point in effected transmission line
- Rugged construction and small size

Now, thanks to the VIT 261 is possible to eliminate “hum bars” and other video disturbances caused by ground voltage differences (ground loops) or electromagnetic pickup in coax cable.

If the source (e.g., mixer) and the load (e.g., monitor) are grounded via different AC circuits, there are probable ground voltage differences, while if the coax cable runs parallel to AC power wiring you can have the electromagnetic pickup.

VIT 261 has a smooth response, negligible insertion loss, and have no differential gain or phase distortion.

VIT 261 is specially projected for use with standard 75 Ohm composite or component video signals.

SPECIFICATIONS

- impedance: 75 ohm
- connectors: BNC female jacks (2)
- midband insertion loss: 0.3 dB
- 3dB bandwidth: 8Hz - 15MHz
- max voltage of 20 hz signal for 5% distortion: 1 Vrms
- max noise voltage at 60 hz: 1000 Vp-p
- standard configuration: 2 BNC female, nickel-plated steel case, 2 mounting flanges

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VIDEO

VLK1/FTB

Linear Keyer and Program Fade

Specifications

INPUTS

- PGM Composite – 1V p-p
- Fill Composite – 1V p-p
- Key Composite – 1V p-p

OUTPUTS

- Preview Composite – 1V p-p
- PGM Composite – 1V p-p

PERFORMANCE

- Differential gain < 0.5%
- Differential phase < 0,5°
- Delay Timing < 15 nS

PHYSICAL

- VLK1 size and weight 1/3 19" rack mount, 1Ru high, 310mm depth, 1,5 Kg
- Control panel size (mm) and weight W 185, D 135, H 55, 0,5 Kg
- **Video connector:** BNC
- **Control panel connection to keyer:** 9-way cable, D-type connectors
- **Power IEC connector, 90-260 VAC**
- **Consumption** < 10 VA

The VLK1/FTB includes

- Keyer
- Remote control
- Connecting cable mt. 5

Option: Rack Mount Adapter (RMA)

Features

- Key Titles, Digital Effects and Logos
- Keying or Program Fade with automatic or manual transition
- Key 100% linearity preset
- Variable GAIN and CLIP for non linear keying
- NEXT TRANSITION function
- Variable rate automatic transition generator
- Transparency effect
- Programme and Key Fade IN/OUT function
- External or internal FILL signal
- Preview output to check key effect
- Sync and black signals derived from the input
- PAL/NTSC auto switch
- Desktop remote control
- Stand alone module or fitted in 1/3 of 1RU rack mount adapter
- Universal Power supply 90-260 VAC

Desktop Remote Control

The VLK1 is a stand alone that can be accommodated in the ELMAN's 1 RU multifuction-system subrack which can be inserted up to three standalone modules simultaneously.
The VLK1 can be independently utilized also being the apparatus provided with its own power supply and with all the necessary connectors on a rear panel.

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VIDEO

VLK4/FTB

Quad Linear Key Inserter with Fade to Black (PAL/NTSC)

VLK4 with rack remote control

SPECIFICATIONS

Input-Output Characteristics

- PGM Inputs: Pgm1 primary looping inputs (is also genlock reference), Pgm2
- Key Inputs: 4 effects key looping inputs
- 4 effects fill looping inputs

Video Outputs

- 1 Preview, 2 Program, 1 Key, 1 Fill
- Data: 9 pin connector RS 422 for the remote control

Video System characteristics (on program output)

- Differential Phase: < 1°
- Differential Gain: < 0,5%
- PGM Bandwidth: ± 0.1 dB DC to 8 Mhz
- Path Length Deviation: ± 1°
- Absolute Delay: 45 ns
- Crosstalk: > 54 dB at 4,43 Mhz
- 2 T k_factor < 0,3%
- Lum. non-linearity: < 2%
- YC Delay: < 6 ns
- SNR (WGT): > 65 dB

Mechanical and power characteristics

- VLK4 Panel: 1 Ru, depth 31 cm (with connector), weight: 3,5 Kg.
- Remote control desk: Dimensions: 19 x 14 x 5 cm, weight: 0,5 Kg.
- Remote control rack: weight: 0,5Kg.
- Input power: <110 or 220 Vac 50-60 Hz
- Power consumption: 20 VA

VLK4 is a NTSC/PAL single RU/19" device which enables insertion of 4 separate linear keys.
All VLK4's functions are operable by a remote control.
VLK4 is the solution to all problems caused by the insertion of titles on video images.
As you know, a "hard key" titling often determines a confusion between the signals and causes the well known "sparkling edges" effect.
Our equipment, on the other hand, thanks to its linear key transparent titling, provides the best sharpness of the video edges and an extreme transparency of the incoming video signal.
This enables a multi-layer titling (BACKGROUND, MID-BACK, MID-FORE and FOREGROUND etc.).
The linearity of the titling, is made possible by a signal of control KEY which determines the mixing level of main picture (BACKGROUND) and titling signal (FOREGROUND).

For instance

- whenever the KEY signal is at 25% level, the two signals
- (BACKGROUND and FOREGROUND) are respectively at 75% and 25%.
- whenever the KEY signal is at 100% level, the mixing determines the erasing of BACKGROUND and displays 100% of FOREGROUND signal.

VIDEO MIXERS

Many video mixers do not allow the linear insertion because their performances are limited to the "hard Key" type.
The VLK4 can be added up to your mixer to update the keyer system.
Furthermore, VLK4 has KEY and FILL outputs which, if connected to the video mixer's KEY input, provide to the latter all the engaged keys just by using the KEY control on the mixer.

APPLICATIONS

Thanks to its features, VLK4 can be employed for various applicatons.
The sector of graphical images is surely the one where you can get better results by using a linear key transparent insertion.
For example it provides fade or curtain effects between BACKGROUND and FOREGROUND or the insertion of an animation on live images.
For further information, for full specifications, do not hesitate to contact us.

VLK4/FTB - back panel

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Desk remote control

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FEATURES

- Four layer linear keying, automatic PAL or NTSC
- Factory preset 100% linear keyer, CLIP and GAIN control for non-linear one
- REVIEW, lets you preset of 100% linear keyer or CLIP and GAIN levels before the insertion on line
- Automatic or manual FADE IN and FADE OUT for KEYERS, PGM1 and PGM2
- Auto transition adjustable timing, manual knob transition or cut button
- Possibility to fade simultaneously BACKGROUND and KEY (1, 2, 3, 4) signals
- [KEY1],[KEY2],[KEY3],[KEY4],[PGM FADE],[PGM1/PGM2] push buttons select the desired next transitions
- Remote control for desk or rack
- Accumulative KEY and FILL OUT: Accumulative keying allows any combination of the four inputs to be selected and aired simultaneously, providing multiple key capability in a single Keyer
- Automatic bypass to background video upon loss of power

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Rack remote control (1/2 1RU)

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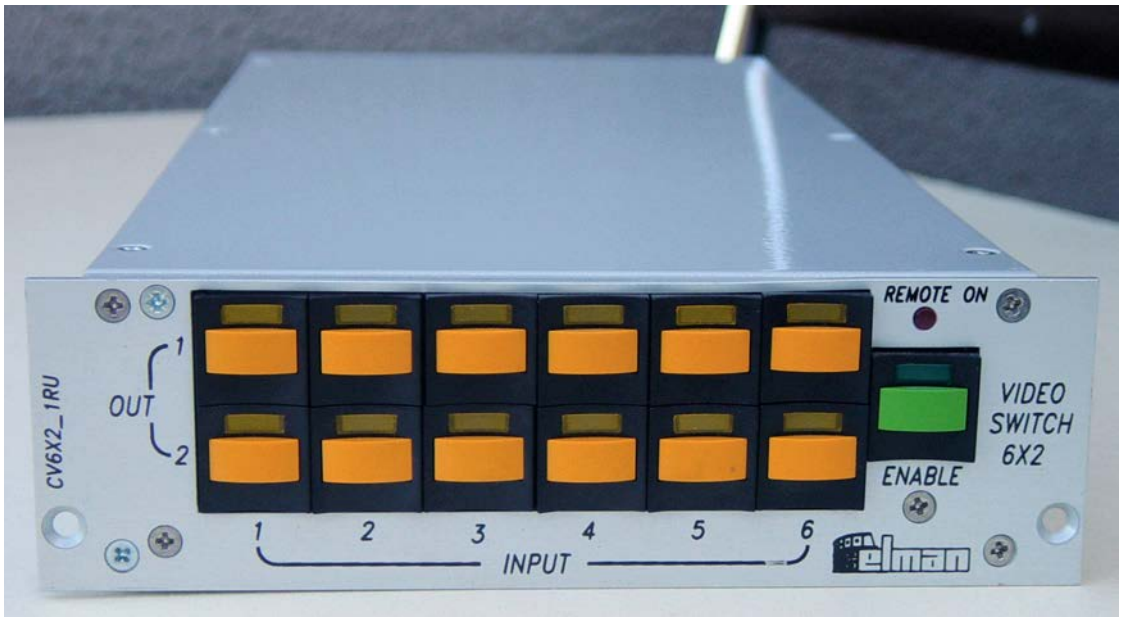
VIDEO

VS61/VS62

Video Switcher 6x1
Video Switcher 6x2



Description

Elman's mod. VS62 is a switcher for the video matrix signals with 6 inputs and 2 outputs independent.
Through VS62 is possible to set each output one between 6 input signals.
The principal characteristics of VS62 are the following:

- 6 Video inputs (DC RESTORED);
- vertical interval switching (reference input1);
- automatic predisposition on 1 input at the time of power ON;
- broadcast quality;
- link input for synchronization with other audio and video switchers.

The video switcher VS62 is housed in 1RU/19" frame and it can be accommodated in the multifunction-system subrack which can be inserted up to three standalone modules simultaneously.
It can be independently utilized also being the apparatus provided with its own power supply 220 VAC and with all the necessary connectors on a rear panel.

VS61 – VIDEO SWITCHER 6 x 1

Elman's VS61 provides the same characteristics of VS62 but with 6 Video inputs and 1 output.

VS61 and VS62 are vertical interval switchers, allow genlocked cameras or video sources to be switched simultaneously and avoiding any picture rolls.

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AUDIO

AD/4ST

1X4 stereo audio distributor

AD/4ST rack version - front

ELMAN's AD/4ST is a 1x4 balanced stereo audio distributor realized in a robust 19” 1RU high metal container (44 mm).

The connection of audio inputs and outputs happens through XLR connectors: 2 females for “loop trough” input and 4 males for the 4 outputs.

AD/4ST is equipped with an inside 200 Vac power supply with IEC socket on back panel.

Is also available the 1 x 4 double version called AD-Dual 1x4 built in a metal drawer that can be used autonomously as it is equipped with inside power supply; or it can be inserted in the ELMAN RMA multifunction subrack that can lodge up to 3 modules of the same kind or also with different functions.

modular AD-Dual 1x4 version - front

APPLICATIONS

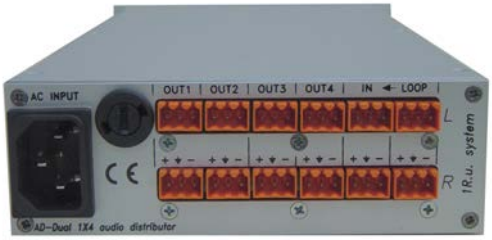
- 1X4 stereo audio Distributor;
- 1X8 mono Distributor.

ADJUSTMENTS

The frontal panel of the equipment is provided with controls to adjust the GAIN of the distributor, with -12dB to +12 dB respecting to the input signal level

Technical specifications

- Frequency response: 10Hz - 100 KHz (-3dB);
- THD: < 0.01%;
- CMMR: -70dB (Vin= +20dB @ 1KHz).



modular AD-Dual 1x4 version - rear

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AD/4ST rack version - rear

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AUDIO

AES/EBUx4

digital audio splitter x 4

Elman AES/EBUx4 is a Digital Audio Splitter Panel for 4 channel housed in a 1RU rugged metal case and using balanced lines with transformers and XLR connectors.
Elman AES/EBUx4 thanks to an optimal bandwidth and low pulse abberation is reccomended for the professional digital audio applications.
Used for balanced 110 ohm impedance signals, this unit accepts signal levels until 10 V peak to peak.
Thanks to accurate specification and irrilevant signal alteration, this apparatus may be used in cascade with signal power reduction of 3 dB for every stage.

Applications
- Broadcast control rooms
- Recording studios
- Post production installations
- O.B. Vans

Features
- Device is used for splitting AES/EBU digital audio signals
- Excellent impedance matching
- Eliminates the need for a distribution amplifier in many applications
- Rugged metal cases (1RU)

SPECIFICATIONS
- Bandwith: 15 kHz to 115 MHz
- Input Connectors: 3 XLR female
- Outputs Connectors: 6 XLR male
- Typical Impedance: 110 ohm
- Rise time: 3 nS
- Insertion Loss: about 3 dB
- Impedance Matching: +/- 2%
- Common-mode Rejection Ratio: 50 dB (10 Mhz)
- Max Signal: 10V peak to peak
- Dimensions: width 482,6 mm (19") x height 44,5 mm (1 RU) x depth 40 mm

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AUDIO

AITSV

Audio Converter balanced to unbalanced 1:1 600 ohm

The AITSV is an adapter that allows to connect and to convert, through a high quality transformer, the audio balanced output of a professional apparatus to the unbalanced input of a semi professional or consumer equipment.

The input connector is the classical Cannon XLR female with 3 pins and lock button, while for the output has been adopted a BNC that garantees a best retain in comparison to the classical audio jacks.

The container is metallic to allow a good shield for the electromagnetic noise.

Both the impedances are 600 ohm and the transformation ratio between input and output is 1:1.

FEATURES

- Primary Impedance: 600 ohm
- Secondary Impedance: 600 ohm
- Transformation ratio: 1:1
- High quality audio transformer
- Galvanic isolation
- Connectors: XLR (input) and BNC (output)
- Frequency response: 30 Hz- 35 kHz (+1. 5 dB)
- Shielded metallic box
- EMC: US

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AUDIO

AS82

8x2 audio switcher

ELMAN AS82 is a audio switcher in a standard 19" 1RU frame with 8+8 balanced inputs and 2 outputs.
The audio switcher AS82 has an incorporated power supply.

The principal characteristics of AS82 are the following:

- 8+8 balanced audio inputs for ensuring a refusal in common way within the bandwidth of the system;
- automatic predisposition on input N.1;
- 2 different balanced audio output;
- separate audio level adjustment for each output channel.

AS82 is contained in an aluminum box 1 RU standard 19"

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AUDIO

ASI

Audio Source Identification

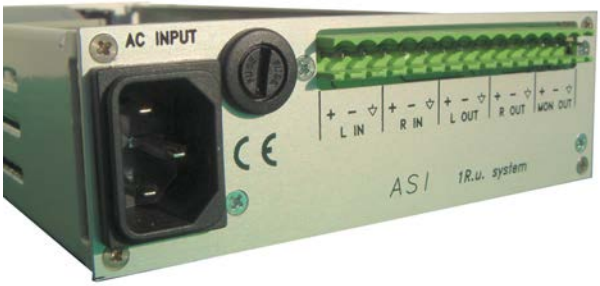
Basically A.S.I. provides the identification of the audio source (mono/stereo) and a control of the circuit quality which you are connected to.
This equipment has been designed and produced in co-operation with Radiotelevisione Italiana, to replace the old cartridge players.
Thus A.S.I. is the essential equipment for those who have to control and/or switch audio signals.
A.S.I. is a stand alone that can be accommodated in the ELMAN's 1 RU multifuction-system subrack which can be inserted up to three standalone modules simultaneously.

A.S.I. can be independently utilized also being the apparatus provided with its own power supply and with all the necessary connectors on a rear panel.

Its innovative functions are made possible by a solid state recorder which enables the recording of an identification message up to 1 minute long.

The available functions, indicated in a led display with 8 alphanumeric characters and selectable by using the menu, are:

- IDENT+ST: It provides an output signal including the spoken identification alternate with a stereo identification signal (see Id STEREO).
- IDENT+MO: It provides an output signal including the spoken identification alternate with one level sound reference.
- FREQ: generates a sinusoidal output signal with a frequency which can be chosen between 10Hz and 30Khz, with minimum steps of 10 Hz.
- SWEEP: generates a constant level (+/- 1dBu) sinusoidal signal which varies the frequency every 2 seconds, the signal is at -18 dBu compared to 100%.
  The provided frequencies are: 40-50-125-250-500-1K-2K-4K-6K-8K-10K-12K-14K-15K-16KHz.
- ID STEREO: The right channel outputs a continuous note at 1KHz, while the left channel outputs a note at 1 KHz which is interrupted for 250 ms every 3 seconds.
- LEVEL: by using the controls UP and DOWN, it's possible to select the output level among: +12, +6.0, 0.0, -6.0, -12 dBu.
- REC MIC: used to record up to 1 minute long the signal of the microphone. The recording starts by pushing the rec. button and goes on as long as the button is kept pressed. A countdown is displayed during the recording.
- REC LINE: used to record the signal of the right channel input.



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AUDIO

BOX audio PC

2x1 audio switcher for PC professional audio card with XLR

2x1 Audio switcher to be inserted in one 5.25" front slot of a computer (reserved usually to the CD/DVD driver).
The Box Audio PC, interface him with professional audio and audio/video cards provide of XLR audio inputs (for example: OSPREY audio/video acquisition cards), it allows to work with connectors in front of PC, both XLR (balanced signals) that jack 3 mm (unbalanced signals) and it has also the function of 2x1 audio switcher.

On front panel there are:
- Female connector XLR 3 for balanced left input (line/microphone)
- Female connector XLR 3 for balanced right input (line/microphone)
- Male connector XLR 3 for balanced left output
- Male connector XLR 3 for balanced right output
- Audio input jack 3 mm for microphone (mono)
- Audio input jack 3 mm for line input (mono)
- Audio output jack 3 mm (stereo)
- Button for commutation between A and B channel (with led indication)
- Button for the selection of the connectors to be used: XLR or Jack (with led indication)
- 1 Switch for choice of the type of input signal of the channel A (microphone or line)
- 1 Switch for choice of the type of input signal of the channel B (microphone or line)

On the back of the apparatus there is a power connector equal to that that we can also find on hard disk, floppy and CD, there is a 9 pins D female connector with which, through a special cable, the Box Audio PC connects him to the input and output of the audio/video PC card , moreover is present a connector for remote keyboard control.

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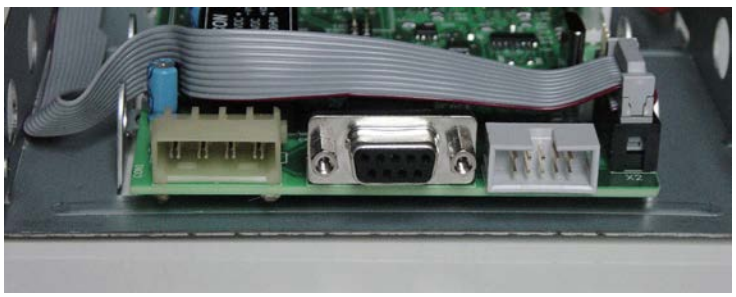

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AUDIO

DA8AES

8 inputs AES/EBU audio D/A Converter

Elman DA8AES provides digital AES/EBU signals to analog audio conversion.
It supports audio sampling frequencies from 28 kHz to 108 kHz, and converts the incoming AES/EBU digital audio signals to stereo balanced analog audio signals using 24-bit conversion.

APPLICATION: the DA8AES is the ideal choice in installations requiring high quality analog audio from an AES-EBU digital audio source.

Features

Audio
- Maximum Output Level: +18dBu balanced
- Output Impedance: <=75 ohm balanced
- Dynamic Range: 80dB
- Gain Range: Selectable 6dBu, 12dBu, 18dBu output level
- Distortion & Noise: <0.01 % THD + N@1 kHz, ref 0dBu
- Sample Freq. Range: 28kHz - 108kHz
- Audio sampling word length: 24 bit

Operational Controls
- 8 x Gain Select: DIP switch
- 8 x De-emphasis On/Off: DIP switch

Connections
- Digital Inputs: 8 x AES/EBU balanced 110 ohm (Connector Sub D25)
- Analogue Outputs: 8 x 2 Balanced Out (Connector 2 x D25)
- Mains Input: Filtered IEC, 220-240V, fused, 20W max
- Fuse Rating: Anti-surge fuse 250mA 20 x 5mm (230VAC)

Mechanical
- case: rugged metal case 1 RU 19"

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AUDIO

DDV

Digital Dolby VCA
extracts dolby 5+1 from SDI

Elman DDV (Dolby Digital VCA), is an apparatus for 19" rack 2 units high, obtained with a 24-bit conversion, from audio embedded in the video signal input SDI (SD-HD-2K): 6 analog audio outputs in DOLBY 5 +1 format.
On the front panel there are 6 LED VU-meter to check the audio level and that there are the 6 channels of Dolby audio embedded in video signal input SDI, the output master volume is controlled by a remote control connected via LAN cable.
On the rear panel there are: outlet for AC power supply, the six dolby channel on balanced outputs by XLR connectors, the LAN port for remote control of volume, input BNC SDI A on where to send the signal SD/HD, in the case of 2K signal using the second BNC: SDI input B, on the third BNC connector are output SDI out, which is a looped output signal SDI (SD / HD) of signal input on the SDI connector A.
A HDMI connector allows you to connect a monitor to control the incoming video signal, via an adapter, you can also exit with DVI-D signal.

Connections

- SDI Video Input: 2 x BNC inputs switch between SD-SDI, HD-SDI 4:2:2, HD-SDI 4:4:4, 2K via SDI and dual-link HD-SDI 4:4:4.
- SDI Video Output: 1 x BNC active loop through output switches between SD, HD 4:2:2, HD 4:4:4 and 2K.
- HDMI Video Output: Via DVI-D to HDMI adaptor. Supports HDMI displays, such as a TV or video projector, up to 1920 x 1080 resolution.
- Analog Audio Output: 6 x balanced 24 bit analog outputs on XLR connectors -10dB, de-embedded from SDI input.
- HDMI Audio Output: Via DVI-D to HDMI adaptor.
- DVI-D Video Output: Supports SD, HD and 2K using Dual Link DVI-D displays up to 30 inches 2560 x 1600 in size.
- HDMI Connection: Via included DVI-D male to HDMI Type A female adaptor.
- Multi Rate SDI Support: 270 Mb/s standard definition, 1.5 Gb/s high definition 4:2:2, 3 Gb/s 4:4:4 high definition and 2K film.

Standards

- SD Format Support via DVI-D: 625/25 PAL and 525/29.97 NTSC.
- SD Format Support via HDMI: 625/25 PAL and 525/29.97 NTSC.
- HD Format Support via HDMI: 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080i50, 1080i59.94 and 1080i60 , 1080p50, 1080p59.94 and 1080p60.
- HD Format Support via DVI-D: 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080i50, 1080i59.94, 1080i60, 1080p50, 1080p59.94, 1080p60.
- 2K Format Support via DVI-D: 2048 x 1556p23.98, 2048 x 1556p24 and 2048 x 1556p25.

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- SDI Compliance: SMPTE 259M, SMPTE 274M, SMPTE 292M, SMPTE 296M, SMPTE 425M-B, ITU-R BT.656, ITU-R BT.601 and SMPTE 297M for Optical Fiber SDI.
- SDI Video Sampling: 4:2:2 and 4:4:4.
- SDI Audio Sampling: Television standard sample rate of 48 kHz and 24 bit.
- SDI Color Precision: 4:2:2 10 bit and 4:4:4 10 bit.
- SDI Color Space: 4:2:2 YUV, 4:4:4 YUV and 4:4:4 RGB.
- HDMI Configuration: HDMI automatically configures to connected display.
- HDMI Resolution: Pixel for pixel HD resolution input to connected device.
- DVI-D Resolution: Pixel-for-pixel display on LCD displays.
- DVI-D Configuration: Automatic adjustment using VESA E-EDID1.3.

Extras

- Real Time Processing: Adaptive pull-down processor guarantees smooth motion display.
- Video Scaling via DVI-D: Pixel for pixel display. Scale up SD to fill display in 2D modes. Scale up HD to fill display in 2D modes.

Display Requirements

- Interface: connessione DVI-D connection to LCD computer monitor or HDMI Type A connection to HDMI display.
- Resolution via DVI-D: 1920 x 1200 or 1920 x 1080 required for HD1080 video SDI formats. 1280 x 800 recommended for HD720 video SDI formats. 2560 x 1600 required for 2K feature film formats. DVI-D displays generally do not support 720p50 or 1080p50 but most recent HDMI displays do.
- Capturing from copy-protected HDMI sources: The HDMI input of a display must accept either: 1920 x 1080 for HD1080 video SDI formats or 1280 x 720 for HD720 video SDI formats. A Full HD display should be considered if pixel for pixel video is desired as other HDMI displays present at a lower resolution.
- Refresh Frame Rate for DVI : Nominal 60Hz, however 48 to 75 Hz recommended.

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AUDIO

EL3600

Stereo Monitor Meter 1 RU

Elman EL3600 Stereo Phase & Peak Monitor Meter, provides high precision control of the audio level, of the stereo phase correlation, and of the acoustic quality in a 1/RU-thick equipment.
On the central of front panel there is a led display, the level is indicated through 19 + 19 elements (-40 to +3 dB) and phase through 5 elements (-1 to +1 degree)
With reference to the acoustic quality, we can say that, those who have listened to Elman Stereo Monitor were all impressed by its stereophonic high-fidelity, and amazed by the fact that such results were achieved by a 1/RU equipment.
It is possible to adjust the scale of vu-meter through internal jumps. (from 0 to -18 dB).
Magnetic shielded loudspeakers allow the use of EL3600 near CRT monitors without distorsion or color changes of image.
The controls on the front panel are: volume, stereo-mono switcher, left-right switcher.
The connectors on the rear panel are: power supply connector, two female XLR connectors for right and left channel input, two male XLR connectors for right and left channel loop output.

Specifications

- Bandwith (-3dB): 20 Hz to 100 Khz
- Distorsion (full band): < 0,2%
- RMS Power for each channel: 2 W (with 0dB input)
- Internal electronic crossover
- 4 loudspeakers
- Metallic alluminium chassis
- Power supply: 220 V 50Hz (on request 230V 60Hz)

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AUDIO

EL3600/W

Stereo Monitor 1RU with woofer

EL3600/W stereophonic listening is the ELMAN EL3600 evolution with the additional of an inside woofer (here the initial W) and it is the right equipment to monitor with an high quality an audio signal into areas where small availability spaces (like into OB Van) can prevent the use of big loudspeakers.

In an only 19" 1RU is included a system that comprises an amplifier with embedded loudspeakers and a woofer

Low frequency section features:

Signal/noise ratio = -70dB

Maximum power = 15 watts R.M.S. (7.74 Veff)

High frequency section features

Signal/noise ratio = -65dB

Maximum Power = 5 watts R.M.S. (6.32 Veff)

EL3600/W can efficiently reproduce low frequencies in spite of its small size (it measures a single 19" rack unit) thanks to a special loudspeaker used for bass (woofer) and to its acustic-electric optimization, as a result of a long engineering work.

EL3600/W is also furnished in a version with level/phase meter and, in this case, the name of the apparatus is EL3600/WM.

The above mentioned equipment is made of a little lever control for listening, in addition to stereo set, a right or a left channel separately, and of two output connectors, one for each channel where one can capture stereophonic signals at level line.

Particular of EL3600/WM

EL3600/W stereophonic listening uses one loudspeaker for each channel (for middle-high frequencies) and a single loudspeaker (in common between the two channels) for low frequencies.

One of its main features is represented by the high loudspeaker working that, by a low electric power, gives out an excellent power of sound; by only two watts for media-high sounds and by 10 watts for low sounds it's possible to listen to the sound to an optimal level and with one remarkable fidelity reproduction.

In any case it's possible to increase powerful until to a maximum of 5 watts for media-high sounds and to a maximum of 15 watts for low sounds (position of the volume grip handle to approximately 3/4 input 0 dB).

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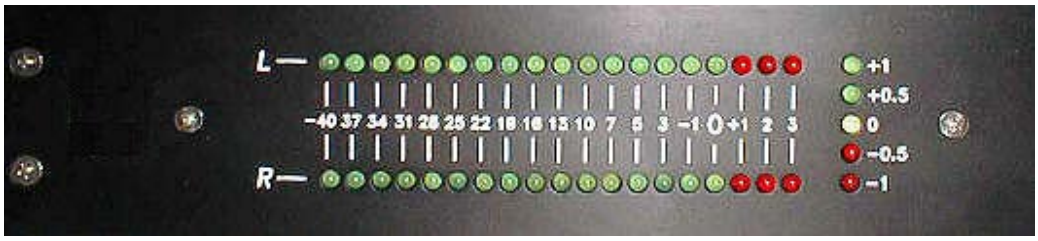
AUDIO

PPM & DPPM

Stereo Peak and Phase Meter
Dual Stereo Peak and Phase Meter



FEATURES

Level meter

- Balanced Audio transformer input;
- Peak Program measurement;
- Bargraph display with dual colour red & green segment LED;
- Internal adjustment to enable the reference level to the desired standard (0,6,12,18 dB);
- Over 40 dB range.

Phase correlator

- Scale calibrated to phase correlation factor;
- Moving dot indication display;
- Red led - negative correlation;
- Green led – positive correlation.

SPECIFICATIONS

- Power supply: 220 VAC ± 10%;
- Audio Input max: +21 dB;
- Response Time set to DIN 45406 standards.

Dimension (mm):

- Standard 19"/1Ru, 300 Dept;
- Dual 19"/1Ru, 300 Dept;
- Stand alone module 146 W x 44 H x 310 D, weight 1,5 Kg.

- Elman 's Program level & phase meter is a new based stereo analogue audio meter giving a very accurate program level measurement and phase correlation, realized in three version:
- Standard equipment – PPM 19"/1Ru, realized in a subrack 19";
- Dual 19"/1Ru equipment – DPPM 19"/1Ru, realized in a subrack 19";
- Stand alone module – PPM/SAM, can be accommodated in the ELMAN's 1 RU multifuction-system subrack which can be inserted up to three standalone modules simultaneously.

The PPM/SAM, can be independently utilized also being the apparatus provided with its own power supply and with all the necessary connectors on a rear panel.

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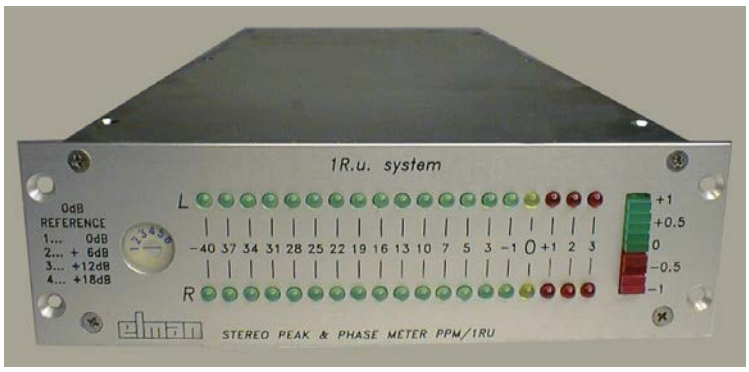
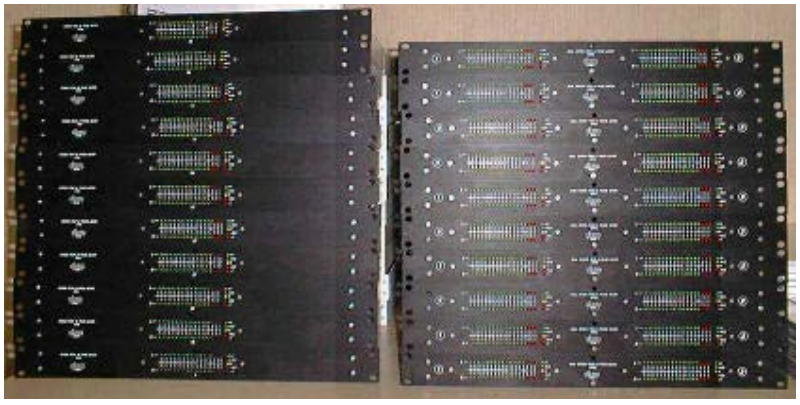


PPM/SAM



Standard (PPM 19"/1RU)

Dual (DPPM 19"/1RU)

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AUDIO

SAS21

2x1 stereo audio switcher with level/phase meter

SAS21 is a double 2x1 stereo audio switcher realized in a metallic container tall 1RU rack 19".
SAS21 is constituted by two separate commutation sections, the first one works with balanced signals, the second with unbalanced signals, the command is common to both the sections.
Pressing the A input button, is selected the A input of both sections, balanced and unbalanced, the same thing happens for the B input.
The section balanced of the SAS21 is also endowed of a LED stereo meter for level and phase and of a inside 1x3 audio distributor that proposes the outputting signal from the switcher, on 3 different outputs with 3 contacts XLR connectors male.
Of these 3 outputs, two are regulated to 0 dBm (unitary gain; the level of the output signal is the same of that in input), while the level of the third is amplified of 12 dB and adjustable through the volume control that is found on the frontal panel; in the same panel they are available the 2 buttons for the selection of the input channel: A or B.
The two balanced inputs are provided of connectors XLR female and each it has a selector of the entry level: for microphone or line.
The two unbalanced inputs and the relative outputs are provided of RCA and 3 mm jack connectors and they can indifferently be used by signals with micro o line level.
In the balanced section, the two inputs are isolated and balanced through transformers while the outputs are balanced through differential amplifiers.
A 220 Volts power supply is embedded.
The dimensions are: 40 (h) x 435 (l) x 280 (d) mm.

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AUDIO

SAS61

6x1 stereo audio switcher

ELMAN SAS61 is a stereo audio switcher in a standard 19" 1RU frame with six balanced inputs and a single output.

The stereo audio switcher SAS61 has an incorporated power supply.

The principal characteristics of SAS61 are the following:

• 6 balanced stereo audio inputs for ensuring a refusal in common way within the bandwidth of the system;

• automatic predisposition on 1 input;

• 1 balanced stereo audio output;

• connection to the inputs and outputs through XLR connector;

• remote control input (remote control optional).

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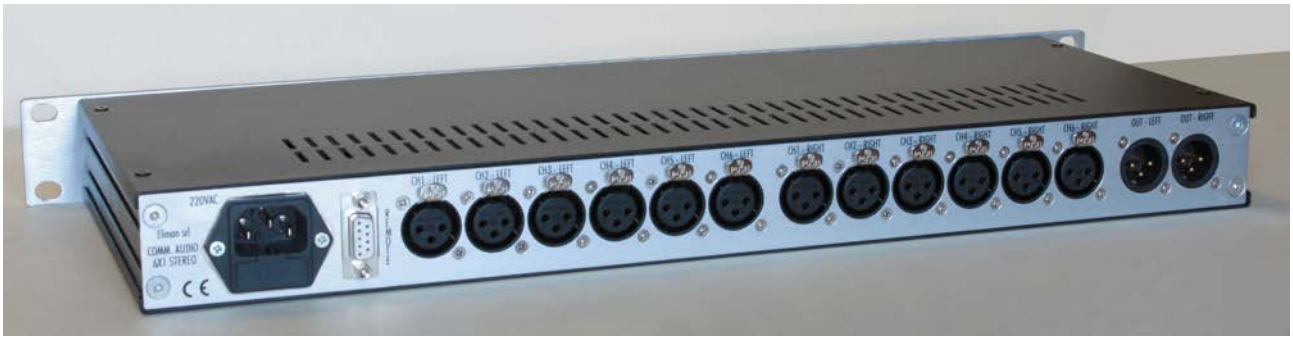

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AUDIO

UAR

Unit for remote listening

UAR (Unit for remote listening) is an apparatus with a dual function: listening and remote intercom, is made of 2 separate 1 rack unit 19 " containers, interconnected by a LAN cable type FTP on which traveling the balanced audio IN and OUT and RS422 command signals.
The control apparatus that we will call MASTER has intercom, control keyboard and speaker listening, while the other that we will call SLAVE has all female 3-pin XLR connectors for the audio signal inputs that are 7 in total: 4 mono (1,2,3,4) and three stereo (program, aux1 and aux2).
The usefulness of this apparatus is the fact that you can hear the sound from another room without the use of 10 different cables with XLR connectors, but using only a small shielded cable for LAN (up to 100 meters). The MASTER unit has the keyboard for the selection of audio input for both left and right channels, for the order are: Channel 1, Channel 2, Channel 3, Channel 4, Aux 1, Aux 2 , Program.
The level of each input signal can 'be adjusted by pressing the corresponding button and turning the knob of the rotary switch, the bar LED instrument above the knob will indicate the stored level, releasing the button the value is saved in the memory flash so that the next time the same value is restored.
As last adjustable input signal there is intercom button that adjusts the sound level received by an external intercom via the XLR OUT and IN connectors places on MASTER unit.
Same procedure for the adjustment of input audio signals also for the keys intercom.
All audio signals are summed and can be heard through the front speaker or with headphones or through speakers connected to the rear connectors XLR OUT LEFT and RIGHT (amplified outputs 6 watts).

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AUDIO

VCAx2 - VCAx6

VCA - Audio Level Controller for 2 or 6 lines

VCA Level Controller is a system that allows to adjust through an only control, the audio level of 2 channel stereo systems (VCAx2) or 6 channel stereo systems (VCAx6), in particular in 5.1 Dolby systems (5 front channels and 1 back channel). The system is composed of 2 apparatuses interconnected through an headed cable with RJ45 connectors: a remote control box with a potentiometer to adjust simultaneously the level of all channels and a box that contains all in and out XLR connectors (balanced signals), the related amplifiers and the power supplier. VCA Level Controller is generally used in some places like cinemas, theaters, audio room when it is not possible to do the adjustment of audio volume directly from the player or from the mixer that normally are in other places.

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VCAx6 (rear)

VCA remote control (rear)

VCAx2 (front)

VCAx2 (rear)

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MONITOR

DOUBLE 8.4"

dual 8.4" monitor display PAL /NTSC - for rack 19"

Double 8.4” full color PAL/NTSC LCD TFT Monitor has been projected to be used in all broadcast applications where the space available is very limited; it can be located in a 19” 4 RU high container and is compatible with PAL and NTSC television standard with automatic recognition of incoming signal.
Each monitor is equipped with 3 composite video inputs (CVBS) type Loop Through.
The controls and indication leds of every monitor are:

- **POWER** - on/off start button with red indication led
- **UP** - Button to turn up the value of selected voice in the menu on screen (OSD)
- **DOWN** - Button to turn down the value of selected voice in the menu on screen (OSD)
- **IN1** - Selection button of input 1 with green indication led
- **IN2** - Selection button of input 2 with green indication led
- **IN3** - Selection button of input 3 with green indication led
- **MENU** - Button to go into the menu on screen (OSD) that shows the following controls: brightness, contrast, detail, color, hue (NTSC).

It is also possible to overturn the image displayed in every monitor either horizontally and vertically
On back panel, besides all BNC connectors related to looping inputs (6 for each monitor), is a 3 pin male for the connection of 12 volt power supplier (provided).
The monitor is mounted on a support that allows the operator to adjust the angle as regards to its own look-out point to obtain the best contrast.
As all Elman apparatuses this monitor can be personalized according to the needs of the client.

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TECHNICAL SPECIFICATIONS

- **Display:** LCD TFT color 2 x 8.4”
- **Display resolution:** (points): 800 (O) x 600 (V)
- **Video standard:** 1V pp composite PAL/NTSC Auto Switch
- **Matrix:** active
- **Display active area dimensions:** 162 x 121,5 mm
- **Brightness:** 350cd/m2
- **Contrast ratio:** 500:1
- **Response time:** 10 ms
- **View angle T/D/L/R:** 35°/15°/55°/55° (min)
- **Operating temperature:** -30 - 85° C
- **Storage temperature:** -40 - 95° C
- **Dimensions in mm (without rack ears):** 440 (w) x 172 (h) x 39 (d)
- **Dimensions in mm (with rack ears):** 480 (w) x 172 (h) x 39 (d)
- **Weight:** about 1,5 Kg
- **Power supply:** 12 VDC
- **External power supplier:** 100-240 VAC input, 12V DC output
- **Absorbed power:** 1,3 A /12V DC

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MONITOR

DT8SDI

8" LCD desktop monitor analog CVBS / SDI embedded

The 8” LCD monitor DT8SDI is mounted on an adjustable desktop support and has a double video input: CVBS analog or standard SDI with audio embedded and a balanced analog stereo audio input.
The SDI video signal transports 16 audio embedded channels that can be listened through the front loudspeakers with the possibility to select both the 4 groups and the 4 AES channels.
Two graduated led bar meters from -20 a +3 dBm allow to control the right and left levels of both analog input stereo audio signal and the digital input stereo audio signal.
The analog audio input is available on a 9 contacts D connector placed on the back panel.

On the front panel are:
- 2 led bar meters for the control of stereo audio input;
- 2 loudspeakers for the diffusion of the stereo audio;
- a button to select one between the 4 groups of audio embedded and 4 leds that indicate the selected group;
- a button to select one between the 4 channels of audio embedded and 2 leds that indicate the couple of selected channels;
- a button for the selection of analog audio/video input (CVBS) or of the digital audio/video input (SDI embedded) and 2 leds that indicate the selected input;
- a button to start up the OSD menu for the management of all the functions of the monitor;
- UP and DOWN buttons for the navigation inside the OSD menu;
- ROTATE button to rotate the image in case of a different use from the DESKTOP;
- POWER power button with relating indication led.

On the back panel are:
- BNC connector for CVBS analog video input;
- BNC connector for SDI embedded video input;
- 9 contacts D connector for balanced analog stereo audio input;
- Jack socket for 12 Vcc power supply input.

TECHNICAL FEATURES

- Display: TFT LCD Colour 8”
- Display resolution (points): 800 (O) x 600 (V)
- Video standard: PAL/NTSC Auto Switch 1 V pp composite, SDI with audio embedded
- Matrix: Active
- Display active area dimensions: 162 x 121,5 mm
- Brightness: 350 cd/m2
- Contrast ratio: 500:1
- Response time: 10 ms
- View angle T/D/L/R: 35°/15°/55°/55° (min)
- Operating temperature: -30 – 85° C
- Storage temperature: -40 - 95°C
- Max dimensions in mm (included base): 319 (l) x 191,1 (h) x 100 (d)
- Power supply: 12 VDC
- External power supplier: 100-240 VAC input, 12VDC output

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MONITOR

DUAL5HDSDI3G

Dual 5" rack monitor
HD/SDI Embedded + 3G

The Dual5hdsdi3g is a double monitor 5" 16:9 for rack mount (19" 3RU).
The video signals played are: SDI, HD, SDI, 3G, CVBS analog composite.
The audio signals are: embedded with group selection, digital AES, analog.
Every video and audio input is looped.
Each monitor is equipped with a dual input SDI video, in the case of lack of primary (SDI IN) is automatically shown the secondary (ALT SDI IN).
On the frontal panel there are 2 leds for tally, controllable from the TALLY IN back connector.
The power supply is 12V and is provided an universal power supplier for the 110-220V network.
The listening level can be adjusted through the frontal potentiometer and, inserting the frontal jack it's possible to listen the audio of loudspeakers in headphone.
The HD/SDI video signal carries 16 audio embedded* channels that can be listened through the front loudspeakers with the possibility to select either the 4 groups and the 4 AES channels.
The monitor also accepts the stereo analog audio for video input that can be selected for the listening through the frontal keyboard.

SPECIFICATIONS

- SDI Video Input: Switchable between SD, HD and 3 Gb/s SDI
- SDI Redundant Input: Automatically switches over if main SDI input is lost
- Multi Rate Support: Auto detection of HD or standard definition SDI inputsù
- Updates and Configuration: Via USB 2.0 high speed. (480 Mb/s)
- Reclocking: Yes
- SDI Compliance: SMPTE 292M, SMPTE 259M, SMPTE 296M, ITU-R BT.656 and ITU-R BT.601
- SDI Video Rates: SDI video connections are switchable between standard definition and high definition
- SDI Video Sampling: 4:2:2
- SDI Audio Sampling: Television standard sample rate of 48 kHz and 24 bit
- SDI Color Precision: 4:2:2
- SDI Color Space: YUV
- SDI Auto Switching: Automatically selects between SD SDI, HD-SDI and 3 Gb/s SDI
- SDI Format Support: 625/25 PAL, 525/29.97 NTSC, 1080PsF23.98, 1080PsF24, 1080PsF25, 1080i50, 1080i59.94, 1080i60, 720p50, 720p59.94 and 720p60
- Dimensions in mm: without rack ears: 440 (w) x 120 (h) x 66 (d), with rack ears: 480 (w) x 120 (h) x 66 (d)

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MONITOR

DUAL 5.6"

full color LCD TFT - PAL/NTSC for rack 19"

TECHNICAL SPECIFICATIONS

- Display: 2 x 5.6" Colour TFT LCD
- Display Resolution (dots): 960 (W) x 234 (H)
- Video System: PAL/NTSC Auto Switch 1V pp composite
- Pixel Arrangement: RGB delta
- Matrix: Active
- Display Screen: 113 x 84 mm
- Brightness (nit): 530
- Contrast Ratio: 250 : 1
- Rising Response Time: 25ms (max 50ms)
- Audio Amplifier Power: 2 watts
- Viewing Angle T/D/L/R: 45°/60°/60°/60° (min)
- Operating Temperature: 0 - 60° C
- Dimensions in mm (w/o the mounting wings): 440(W) 12.5(H) 34(D)
- Weight: 1,500 Kg approx.
- Power: 12 to 24V DC
- External power supply: 100 to 240 VAC input, output 12V DC
- Consumption: 1,4 A/12V DC

The Dual 5.6" Full Colour TFT FLAT Panel Monitor Display is housed in 19"/3Ru frame.
Its weight and size make it particularly suitable in those applications where space is a concerning factor.
The Dual 5.6" is provided with a support which enables to orient the monitor in the most suitable position.
Thanks to its optimal image quality reproduction which does not strain the eyes, it is particularly suitable for those people who have to work with it for several hours a day.
The Dual 5.6" it is endowed with 2 balanced audio inputs (one for every video) and of a 2 watts amplifier. The channels selector CH1-CH2 set to the center between the 2 screens allows to select the audio to listen. The volume command is unique.
This monitor is available in the 19"/3Ru rack version and also in desktop and portable configurations, and as for most of Elman's equipment, it has been developed on the base of specific customers' requirements therefore, one or more monitors can be customised according to particular requests or needs.

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MONITOR

DUAL 5.6" HD/SDI

dual 5.6" color monitor
HD/SDI Embedded

The Dual 5.6” monitor HD/SDI Embedded is mounted on an adjustable rack container with HD SDI video double input in 1080i/1080p and 720p SMPTE 292/296 formats and accepts standard definition SDI too.
Every video input has 2 equalized and buffered outputs.
The HD/SDI video signal carries 16 audio embedded* channels that can be listened through the front loudspeakers with the possibility to select either the 4 groups and the 4 AES channels.
The monitor also accepts the stereo analog audio for video input that can be selected for the listening through the frontal keyboard.
The listening level can be adjusted through the frontal potentiometer and, inserting the frontal jack it’s possible to listen the audio of loudspeakers in headphone.
On the frontal panel there are 2 leds for tally controllable from the TALLY IN back connector.
The power supply is 12V and is provided an universal power supplier for the 110-220V network.
*The 16 audio embedded channels are subdivided into 4 groups and each of them carries two couples of stereo channels.

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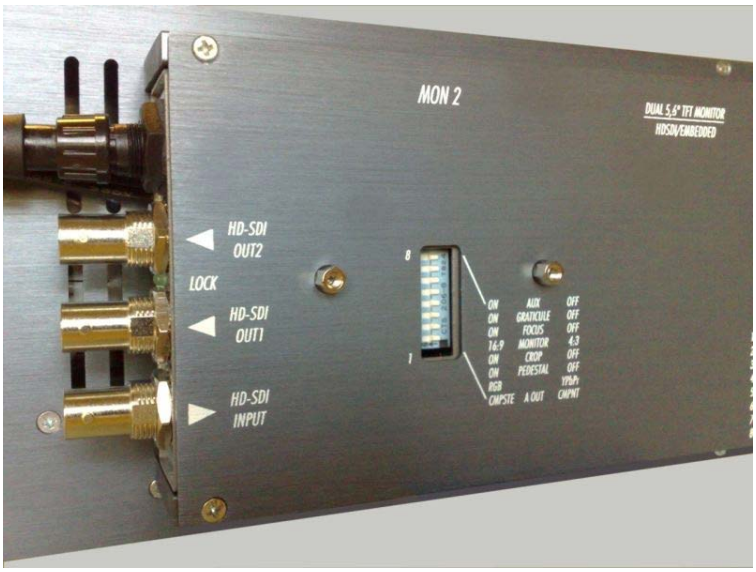
SPECIFICATIONS

SDI/HD input video formats
- 1080i 50/59.94/60 Hz
- 1080p/psf 23.98/24/25/29.97/30 Hz
- 720p 50/59.94/60 Hz

Downconversion
Multi-Point Interpolation, 10 bit Processing, 3:2 Conversion for 23.98/24p/psf Inputs

Downconverter Controls
- External Dip switches
- Input Video Format
- Output Video Format
- 4:3 Safe-Zone Graticule Overlay
- Pedestal (Output)
- 4:3/16:9 Monitor Select

Dimensions (in mm)
- without ears: 440 (w) x 120 (h) x 66 (d)
- with ears: 480 (w) x 120 (h) x 66 (d)



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MONITOR

Dual 5.6" SDI AES

Dual monitor 5.6" SDI AES

TECHNICAL SPECIFICATIONS

- Display: 2 x 5.7" Colour TFT LCD
- Viewable size image: 5.7"
- Active display area (mm): 116.16(H)x87.12(V)
- Matrix: Active
- Pixel pitch (mm): 1815(H)x0,1815(V)
- Number of pixels: 640x480
- Contrast Ratio: 300:1
- Display color: 262144 (6bit/colors)
- Brightness (cd/m2): 220
- Viewing angle (CR>=10): 140(H); 100(V)
- Synchronization Range orizontal/vertical: 31.5~37.5 Khz / 60~75 Hz)
- Recommended resolution: 640x480@60,75 Hz
- Audio Amplifier Power: 2 watts
- Operating Temperature: 0 - 60° C
- Height: 4 RU 19"
- Weight: 1,500 Kg approx.
- Power: 12 V DC
- Consumption: 1,4 A/12V DC
- LED: Tally
- External power supply: 100 to 240 VAC input, output 12V DC

The Dual 5.6" SDI AES Full Colour TFT FLAT Panel Monitor Display is housed in 19"/4RU frame.
Its weight and size make it particularly suitable in those applications where space is a concerning factor.
The Dual 5.6" SDI AES is provided with a support which enables to orient the monitor in the most suitable position.
Thanks to its optimal image quality reproduction which does not strain the eyes, it is particularly suitable for those people who have to work with it for several hours a day.
The Dual 5.6" SDI AES it is endowed with 2 balanced audio inputs (one for every video) and 1 AES digital audio input and of a 2 watts amplifier.
The volume command is one for each audio input.
The video inputs can be analog or digital SDI and for each input there is a loop (with reclocker for SDI).
This monitor is available in the 19"/4RU rack version and also in desktop and portable configurations, and as for most of Elman's equipment, it has been developed on the base of specific customers' requirements therefore, one or more monitors can be customised according to particular requests or needs.

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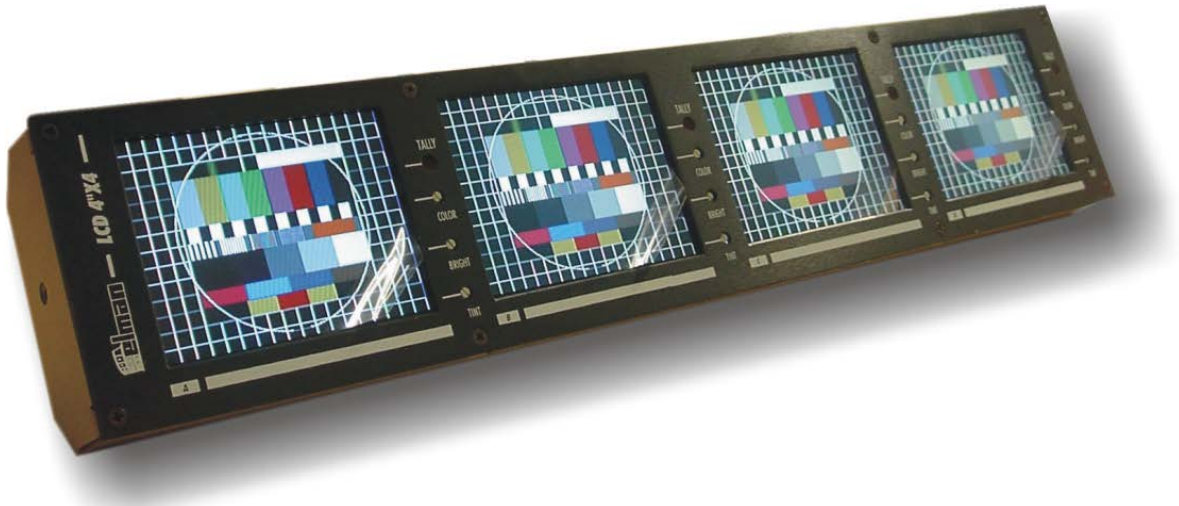
MONITOR

LCD4"x4

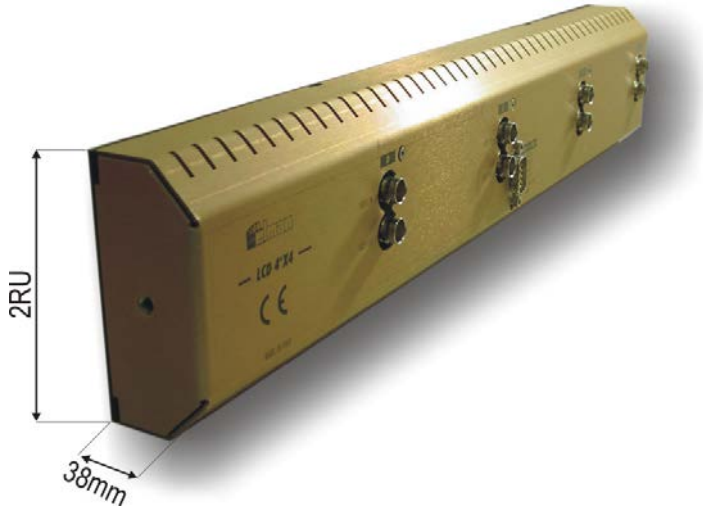
Quad LCD TFT Monitors 4" Composite PAL/NTSC or SDI



COMPOSITE OR SDI VIDEO INPUTS (2 versions)

The Quad 4" by Elman is a 2 units panel for 19" rack with a tilt movement and 4 high resolution and brightness Broadcast/Professional 4" LCD TFT Monitors on board.
LCD4"x4 is available in two versions: with inputs for composite video PAL/NTSC, or with inputs for digital video SDI (PAL/NTSC).
The version for composite video is provided with buffered inputs/outputs passing (BNC) for a looping through connection without any quality loss.
The version SDI is provided with entries on BNC for every monitor.
The video input standard is composite PAL/NTSC with automatic identification and autoswitching.

Features



- **Display**: High resolution 4" LCD TFT
- **Resolution**: 480 × 234 pixels
- **Active area**: 82.10 x 61.80 (mm)
- **Dot Pitch**: 0.171 x 0.264 (mm)
- **High brightness**: 500 (cd/m²)
- **Contrast ratio**: 250 : 1
- **Response Time**: 35 ms (a 25°C)
- **Display**: Anti glare
- **Video Standard**: PAL/NTSC with automatic identification
- **Video Input** (analog model): composite on BNC 75 Ohm, (digital model): SDI on BNC 75 Ohm
- **Connectors**: each monitor is provided with a input and output BNC (loop-through)
- **Assembly**: 2 units Rack 19" with tilt rotation
- **Inputs** (analog model): Independent composite input for each monitor with passing buffered output without any quality and level signal loss
- **Inputs** (digital model): Independent for each monitor
- **Low consumption and temperature** - excellent for mobile applications
- **Settings**: individual for Brightness and Contrast
- **Led**: in each monitor for ON LINE signal
- **Tally input**: D 9-Pin connector
- **Supply**: 12 Volts DC (with power supply supplied), Absorbed current: 1 A
- **Dimensions**: (L x A x P) 440 x 87 x 43 mm
- **Weight**: 1,2 Kg

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MONITOR

LCD7SDIx12

12 SDI Video inputs with audio embedded + audio meters

The monitor LCD7SDIx12 - Dual 7 "TFT is mounted on an adjustable rotating 3 unit 19" rack container, has 12 SDI video inputs, each of which has 8 pairs of audio stereo channels embedded.
The display is LED backlighting for better picture quality, longer life and lower power consumption.
Each display can show a stereo VU-meter vertical bars to monitor the audio level of input channel selected.
Each display can show one of the 12-channel SDI input by selecting it via his keyboard while the audiostereo pair can be chosen by one of the on-screen menu (OSD).The buttons on the right of each monitor: MENU, UP, DOWN, ENTER allow to enter the various menus and make selections and adjustments.
Is it possible to save the settings on internal memory, reloading or resetting all to factory defaults values.The OSD menu allows you to select and adjust: brightness, contrast, backlight, saturation, CH AUDIO, VU METER (ON / OFF), SAVE, LOAD, RESET.
In the middle between the 2 displays there is a button to select the audio to listen through the front (left or right monitor) and the potentiometer for adjusting the volume.
On the left side of LCD7SDIx12 there is a stereo jack for headphone listening.
In the front panel to each monitor there is a two-colors (green and red) LED TALLY for report the situation Preview or ON-AIR, its command is sent from the video mixer 9-pin D connector TALLY IN, located on the rear panel.
On the back of the monitor are also the 12 BNC connectors for SDI inputs and connector for the power supply which can range from 8 to 12 volts.

Features

- Broadcast and professional use
- Display: 7 " LCD TFT
- Resolution: 800 × 480 pixels
- Contrast Ratio: 500
- Brightness: 300 CD/m2
- Response Time: 10 ms (at 25°C)
- Video Standard: PAL
- Active area: 152,4 x 91,44 (mm)
- Dot Pitch: 0.0635 x 0.01905 (mm)
- LED Life: 20.000 hours
- Surface Treatment: anti-reflective
- Connectors: 12 SDI inputs on BNC 75 ohm
- Tally inputs: 9-pin D connector
- Tally LED: red and green bi-color for reporting on each monitor preview or on air state
- Power: 8-12 volts (12 volt power supply included)
- Current consumption: 1.5 A
- Assembly: 3 RU 19 " container with side brackets for rotation
- Dimensions: (W x H x D) 440 x 125 x 38 mm, without lateral wings
- Weight: 1.5 Kg

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MONITOR

LCD 8.4"

6 inputs monitor display full color LCD TFT PAL/NTSC/PC

Technical Specifications

Video inputs

- Level: 1 VPP
- Input impedance: 10 Kohm

Monitor

- Resolution: 800 x 600 pixel
- Medium brightness: 170 cd/m^2
- View angle: U/D 30°/60°, LR 60°/60°
- Standard: PAL 4.43, NTSC 3.58
- Contrast ratio: 250:1

Audio inputs

- Coupling: with transformer
- Input impedance: 600 ohm

Speakers

- Power: 2W/8W (with potentiometer on maximum volume and -10dB on input)
- T.H.D.+ N@ 1Khz at maximum power: 0.1%
- Pass band -3dB: 33Hz...33Khz
- Cross -talk L->R, R->L@10Khz: -60dB

Audio Out

- Coupling: with transformer
- Output impedance: 33W
- Gain: unitary
- Max level for T:H:D:=1%: 7dB
- Pass band -3dB: 30 Hz...30Khz
- Cross talk L->R, R->L@10Khz: -80dB

Power supply

- Voltage: 100V-240V
- Consumption@220V: 0.150mAC

The LCD 8.4” rack monitor has been projected to visualize and to listen the signals video and audio coming from more sources.
The apparatus is equipped with 6 video inputs and 8 balanced audio stereo inputs, all of them are type loop through; it has besides a 2 watts embedded amplifier with loudspeaker installed on the frontal panel.
Through a keyboard placed on the frontal panel it is possible to select the following inputs:

- video 1 and audio stereo 1
- video 2 and audio stereo 2
- video 3 and audio stereo 3
- video 4 and audio stereo 4
- video 5 and audio stereo 1 and 2
- video 5 and audio stereo 3 and 4
- video 6 and audio stereo 1 and 2
- video 6 and audio stereo 3 and 4

The channels 5 and 6 have the characteristic to select 2 different stereo audio channels to monitor the signals converted by the digital SDI with audio embedded.

The audio listening of the LCD 8.4” can happen through the incorporated loudspeakers or through a headphone connectable to the jack socket located on the frontal panel.

Two potentiometers allow the indipendent regulation of the volume of the loudspeaker and the headphones.
Under every loudspeaker is positioned a LED’s VU-Meter with range from -20dB to + 3dB.
Under the 8.4” LCD display there are the buttons that command the video monitor that is endowed with an OSD menu (on screen display).
The video monitor can also be commanded by a remote control furnished in endowment.
A push button also allows to select between the video input or the computer input.
On the back panel of the monitor are found the BNC connectors for video inputs an outputs (loop through) and the 3 contacts XLR connectors for audio inputs and outputs (loop through).
The monitor has also an audio balanced output on 5 contacts male XLR for the connection to an external amplifier.

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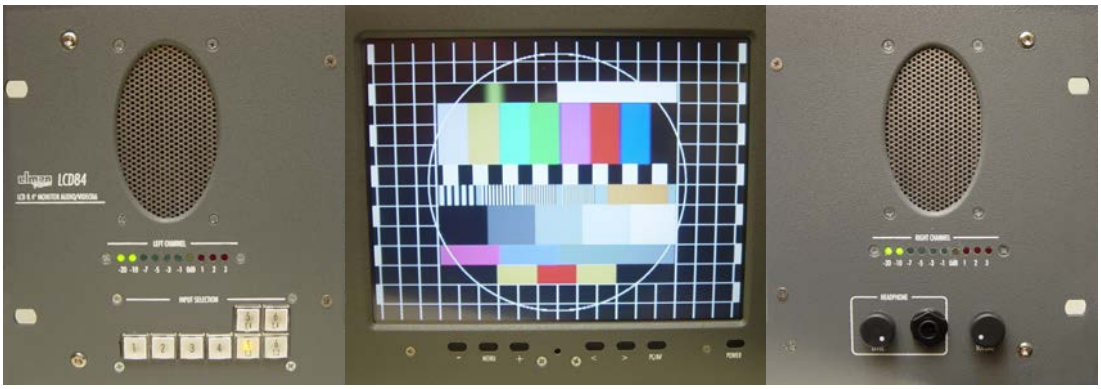
- video 1 and audio stereo 1
- video 2 and audio stereo 2
- video 3 and audio stereo 3
- video 4 and audio stereo 4
- video 5 and audio stereo 1 and 2
- video 5 and audio stereo 3 and 4
- video 6 and audio stereo 1 and 2
- video 6 and audio stereo 3 and 4



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MONITOR

ROCKY III HD

carrying case with LCD 5" 16:9
monitor LED backlight
PAL/NTSC/HDSDI/SDI embedded audio

ROCKY III HD is the ideal monitor to make external video shots, it has got a 5” 16:9 LCD TFT LED backlight color display, compatible with PAL/NTSC/HDSDI/SDI television standards. It has got a strong building suited with the immediate vision of shots made out its own production studios.
ROCKY III HD is incorporated into a case made by a waterproof and not-deformable plastic material, provided with a 1 watt amplifier and a loudspeaker to audio listening.
The monitor accepts on the CVBS/SDI BNC input: PAL/NTSC (auto switching) analogical signals and digital signals SDI with audio embedded; video modality (analogical or digital) is selected by a button. The other BNC input is for HDSDI with loop BNC connector.
The SDI video signal carries 16 audio embedded* channels that can be listened through the front loudspeaker with the possibility to select either the 4 groups and the 4 AES channels by GROUP e CHANNEL buttons.
The ROCKY III HD can be supplied with a 220 V net by a IEC connector (it incorporates a power supply based on the switching modern technology), in alternative, it can be also supplied by linking a 12 V outside source to the 4 pins XLR connector (the same one used in broadcast cameras).
The ROCKY III HD pictures show bright colours and an high definition between a large view angle also with the presence of a direct light coming from back (of the operator).
Audio input signal can be of a balanced one type, with its input by Cannon connector or not balanced with the input on a RCA connector model.
ROCKY III HD is also provided with an earphone jack plug.
On the front panel there is a red and green bar instrument to test the audio level.
The regulations and the selections are digital with control through buttons.
The ROCKY III HD is born to be used during broadcast television shots but it can also used for the following applications:

- Professional video shots
- Un-professional video shots
- Representative Demo
- Conference rooms and video conference
- Vehicles equipped with video recorders or DVD recorders
- Surveillance video
- Sat Antenna establishments

All electronic section, connectors and drivers included, have been inserted into the waterproof case in order to isolate it in a close fitting manner from outside when its cover is closed.
Here following the extraordinary characteristics of this little suitcase firstly produced only for military use:

- extraordinary impact resistance, corrosive material resistance, water resistance, sand resistance, dust resistance and atmospheric agents resistance
- Hermetic closing
- Waterproof resistant up to 10 mt depth
- Removable cover
- Anti overturning supports
- High thickness plastic resin body

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- O-Ring lining model with neoprene seal
- Pressurize valve for a fast adjustment of the inside pressure in case of height or temperature changes
- Ergonomic handle and pressure locks with padlock liability
- Temperature resistance (from - 33° to + 90°)
- Crush tested
- IP 67 Certification and Stanag 4280 Ed. 2 certification

TECHNICAL SPECIFICATION

- Display: 5" Colours TFT LCD LED backlight
- Display resolution (dots): 800 (W) x 480 (H)
- Dot pitch : 0.135 (W) x 0.135 (H)
- Display Dimensions : 118,5 x 77,5 mm
- Brightness: 400 cd/m2
- Contrast Ratio: 600 : 1
- Rising Response Time: 6 (max 12ms)
- Viewing angle H/V: 150°/130°
- Operative temperature: 0 - 60° C
- CVBS Video Input: PAL/NTSC Auto switch 1V pp composite, 75 ohms
- SDI Video Input: SD, HD and 3 Gb/s SDI, SMPTE 292M, SMPTE 259M, SMPTE 296M, ITU-R BT.656 and ITU-R BT.601, 270 Mbit/s, 75 ohms
- SDI Format Support: 625/25 PAL, 525/29.97 NTSC, 720p50, 720p59.94, 720p60, 1080PsF23.98, 1080PsF24, 1080PsF25, 1080i50, 1080i59.94, 1080i60
- SDI Video Sampling: 4:2:2
- SDI Color Space: YUV
- SDI Audio Sampling: Television standard sample rate of 48Khz and 24 bit
- HDSDI, SDI,CVBS Connectors: 75 ohm BNC
- Audio Mono Input 1: XLR connector, balanced 0dB input
- Audio Mono Input 2: RCA connector, no-balanced input - 6 db
- Inside Loudspeaker: 1W maximum power
- Earphone output: 6.3 mm Jack
- Dimensions (mm): 305 (W) x 270 (H) x 144 (D)
- Weight: about 3,8 Kg
- Power Supply: a) internal 100-240V AC, b) outside supply by 4 Pin XLR connection DC 12V ± 10%
- Max Current consumption at 12V DC: 1200mA
- Max Current consumption at 100-240V AC: 150mA

*The 16 audio embedded channels are subdivided into 4 groups and each of them carries two couples of stereo channels.

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MONITOR

TRIPLE 5.6"

Color Monitor LCD TFT PAL/NTSC

Triple 5.6" Full Color PAL/NTSC LCD TFT Monitor has been projected to be used in all broadcast applications where the space available is very limited; it can be located in a 19” 3RU high container and is compatible with PAL and NTSC television standard with automatic recognition of incoming signal.
Each of three monitors is equipped with 2 CVBS inputs (composite video) type Loop Through.

The controls and indication leds of every monitor are:

- TALLY- Red led that indicates that the displayed signal is on air;
- POWER- on/off start button with green indication led;
- UP- Button to turn up the value of selected voice in the menu onscreen (OSD);
- DOWN- Button to turn down the value of selected voice in the menu on screen (OSD);
- SELECT- Selection button of inputs (1 or 2);
- MENU- Button to go into the menu on screen (OSD) and to modify the following controls: brightness, contrast, detail, color, hue (NTSC).

On back panel, besides all BNC connectors related to loopping inputs (4 for each monitor), are located a 9 pin male D connector that can be connected to video mixer to start up Tally leds of being on air and the connector for the connection of 12 volt power supplier (provided with the triple monitor).
The monitor is mounted on a support that allows the operator to adjust the angle as regards to his own look-out point to obtain the best contrast.

TECHNICAL SPECIFICATIONS

- Display: LCD TFT color 3 x 5.6”;
- Display resolution: (points): 960 (O) x 234 (V);
- Video standard: 1V pp composite PAL/NTSC Auto Switch;
- Matrix: active;
- Display active area dimensions: 113 x 84,7 mm;
- Brightness: 500cd/m2;
- Contrast ratio: 250:1;
- Response time: 10 ms;
- View angle T/D/L/R: 35°/15°/55°/55° (min);
- Operating temperature: -25 - 60° C;
- Storage temperature: -25 - 65° C;
- Dimensions in mm (without rack ears): 440 (w) x 127.5 (h) x 34 (d);
- Dimensions in mm (with rack ears): 480 (w) x 127.5 (h) x 34 (d);
- Weight: about 1,800 Kg;
- Power supply: 12V DC +/- 15%;
- External power supplier: 100-240 VAC input, 12V DC output;
- Absorbed power: 2,1 A/12V DC

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COMMUNICATION

4WBB

4 wires compact beltpack box battery powered, for headset use

The 4WBB is a compact battery-powered box for headset use only.
Selectable operating modes suit various applications in a number of studio and outside broadcast situations where 2/4 wires communications are used.

Description

Direct compatibility with other communication equipment is provided by the use of 4-wires operation as opposed to the more common, 2-wires beltpack systems.
Greater flexibility resulting from 4-wires operation also enables both interrupt and 2-wires modes to be easily selected by user.
The IFB option is typically used to provide an interrupted program feed to a presenter's earpiece, when the talk switch is pressed, while simultaneously allowing the program sound to be monitored on the headset.
As the signal is switched directly between the input and output connectors, the program signal path is fail-safe and does not require the unit to be powered.
In 2-wires mode, a number of Beltpack units can simply be connected in parallel, enabling all units to communicate with each other in conference mode.
To provide compatibility with earpieces which use a mono jack plug, the tip connection on the headset jack socket supplies the output for the headphones, the ring connection providing the microphone input.
The auxiliary input jack can be used in all modes to monitor any additional line-level signal such as a tape machine playback.
4WBB is compatible with similar apparatuses of other brands in commerce.

Features:

- Three user selectable modes: 4 wires mode, interrupted loop-through mode with input monitoring, 2-wires conference mode
- 9 volt battery powered with low current drain (current 5mA)
- Microphone limiter to maintain peak output at +6dB
- Power for electret microphone (optional - set with internal jumper)
- Auxiliary audio monitoring input on unbalanced 3.5mm jack
- LED low voltage warning: at 6V
- Strong aluminum case

Specifications

Microphone input / Line output amplifier
- Input impedance: Unbalanced for 200 ohm dynamic microphone
- Microphone connector: 6.35mm headset jack. Ring input, sleeve gnd
- Limiter input threshold: -62dBU
- Line output level: +8dBU peak (battery voltage >6V)
- Output impedance: 150 ohm, transformer coupled
- Line connector: XLR3M

Line input / Headphone amplifier
- Line input impedance: 10K ohm, transformer coupled
- Line input connector: XLR3F
- Gain range: +10dB to off
- Auxiliary input impedance: unbalanced high impedance
- Auxiliary input connector: 3.5mm jack
- Gain: fixed at 0dB
- Max Line/Aux input level: +8 dbU
- Headphone connector: 6.35mm headset jack. Tip output, sleeve gnd

2-Wires mode
- Line impedance: 10k ohm (listen), 600 ohms (talk)

Mechanicals
- Dimensions: 120 mm x 78 mm x 43 mm
- Case: Aluminum Alloy, clear Anodized
- Weight: 385g

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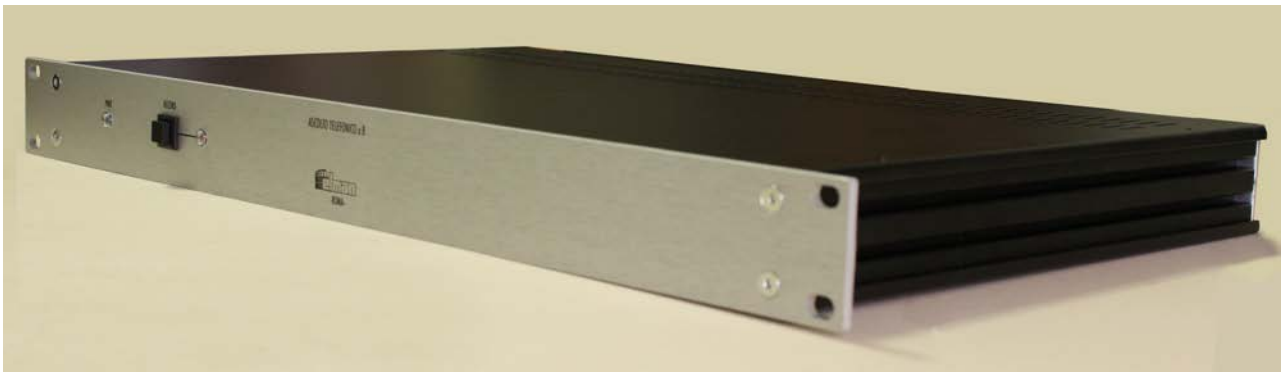
COMMUNICATION

AT8

8 lines telephone monitor for 8 return programs



AT8 is an unique apparatus in his kind and very useful, built on request of an our customer, it allows to listen through the telephone line, the sound of the return program of a radio or television transmission.
It can be employed from the journalists to be able to listen to the course of a program in studio and to understand when it is the time to intervene in the transmission.
The peculiarity of the AT8 is constituted by the possibility of chosen from remote outstation, by means of the telephone keyboard, of the return program that it is wished to listen between 8 different signals.
AT8 is useful when a reporter station is used in more transmissions or television channels, for example during the political elections, with AT8 you be able to intervene in one or more television news, choosing autonomously without the aid of technicians in studio the return program wanted.
AT8 is provided of 8 telephone line inputs so can be used simultaneously from 8 different users.
By means of a button positioned on the frontal panel is possible to record a vocal message that explains at the users that are connected by phone, what are the available transmissions and what the number is to press for being able to listen to her.
AT8 is realized in a strong metallic container high 1 RU 19" and is fed to 220 Vac, the weight is of 2,3 Kg.

Rear panel

- 8 RJ11 connectors for the telephone lines
- 8 RJ45 connectors for the audio sources
- 1 RJ45 connector for the input signal of vocal message recorder
- 1 220 Vac IEC connector with fuse for power supply

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COMMUNICATION

BIA

Beltpack IFB Amplifier

Specifications

- **Input impedance:** 200K Ohm, active balanced
- I**nput connectors**: XLR3 plug & socket
- **Input signal limiter** threshold (Max Gain): Adjustable
- **Max headphone O/P level (no limiter):** +15dBU@9V,@6V (no load)
- **Max headphone O/P level (with limiter):** Thereshold level +6dB (no load)
- **Headphone output impedance**: 280 ohm
- **Battery voltage** for constant limiter output: 9V to 6V
- **Maximum Loudspeaker power**: 0.50W with 9V battery
- **Power Supply**: 9V Pp3 battery (500mAh typical)
- **Low battery indicator** :threshold 6V

Mechanicals

- **Dimensions**: 120mm x 78mm x 43mm
- **Weight**: 250g
- **Case**: Alluminium Alloy, clear Anodized.

The BIA (Beltpack IFB Amplifier), battery-powered belt-pack unit allows either loudspeaker or headphone monitoring of a communication or audio feed and is tipically used with a presenter's earpiece as part of an IFB kit.

Standard Features

- Selectable limiter: prevents clipping distortion and damage to hearing with earpieces and headphone types.
- Built-in 0.5W loudspeaker and amplifier (power to the amplifier is cut when headphones are connected)
- Loop through male & female XLR connectors: enable several units to be driven from a single feed.
- Headphone output on "A" gauge 6.35mm jack.
- Very low battery consumption
- Low battery voltage indicator.

Description

The input gain is controlled by a potentiometer, a 0/20dB gain switch and a selectable limiter. The limiter can be used to ensure a safe listening level over a wide range of input signal levels and also improves signal intelligibilty by preventing clipping of the output signal as the battery discharges.

The balanced output stage of the headphone amplifier drives earpieces and headphone, having either mono or stereo jack plugs with connections to the tip and ring only.

Although this causes headphones to driven in anti-phase, intelligibility of speak is unaffected and the higher impedances of the series connection ensure the most efficient impedance match to the output stage.

BIA is compatible with similar apparatuses of other brands in commerce.

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COMMUNICATION

Bluetooth Box Reporter

Apparatus for belt (Beltpack) to send journalistic services with high-quality audio through bluetooth connection directly with the vs. mobile phone. Supplied with microphone, headset and charger with mini USB connection, using the mini USB port you can also update the software inside. The apparatus is equipped with an XLR microphone input and 2 headphone outputs (journalist and interviewed). Signal level adjustment: input microphone (TX LEV), headphone output of the journalist (RX LEV) and the headphone output of the interviewee (LEV2 RX).
Approximately 5 hours autonomy.

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COMMUNICATION

COMMENTATORx6

commentary interface

Commentatorx6 is an interface consisting of 4 apparatus: 3 reporter terminals and 1 central unit, allows to 6 commentators equipped with headset / microphone to operate simultaneously during a broadcast and receive the program feedback in the headphones. Each of the commentators pressing the intercom button of his reporter cassette can enter to circuit intercom to talk and listen to the director (the director's return is common to all the reporters).
The output to the intercom traveling on a common channel for all reporters.
A peculiar characteristic of Commentatorx6 is the ability to connect the four unit via simple not shielded flat cables also for lengths of a certain size, this is possible because all audio outputs are isolated by means of quality transformer and the three reporter cassette are powered with a 48V DC voltage from the main unit to avoid unwanted ground loops.
Each station reporter has 2 XLR input connectors for connecting headset / microphone of two commentators, each of which has one button for intercom conversation with the director (with relative exclusion of signal to the audio mixer) and an adjustment volume for the headphones. On the back there are connectors for the interconnection of 3 reporter terminals using flat-ribbon cable, and of the central unit.
On the back of the central unit are the 6 XLR connectors for the audio signal coming out of each of the 6 microphones of reporters to send to the audio mixer, 2 XLR connectors for connecting to intercom, an XLR connector for the program return, a 9-pin D Intercom GPI connector with which the director intervenes simultaneously on listening to all 6 of the commentators interrupting momentarily the program return.
The power of the central unit is 220 VAC while the 3 stations are powered by 48 volts reporter using flat cables.
The central unit can be mounted on a 1RU space 19", dimensions: 430x170x44 mm while the 3 reporter terminals have the following dimensions: 200 x 150 x 63 mm.

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COMMUNICATION

Dual GSM

Audio Interface

There are some situations where radio reporter has to broadcast his radio service alive but he has at his disposal neither phone lines nor sat links.
In order to avoid such a matter Elman has produced Dual GSM (Dual GSM Audio Interface), the equipment that allows a connection to studio by GSM phone net with an excellent audio quality.
The Dual GSM has the same functions of the GAI (GSM Audio Interface) produced by the Elman, but it transmits two different audio signals on two separate channels; in practice it contains inside a double GAI.
By Dual GSM you will be able to send your radio service fastly and all over the world where is available some GSM phone net.

Features:

- Quad Band Gsm modules: integrated
- Power supply: 220 volts
- No back return effects (Larsen), and no echo and cross talk, thanks to DSP integrated.
- Front input: Microphone on XLR/F/3
- Impedance microphone input: 10 Kohms
- Return frequency: 250-3500 Hz (limited by mobile-phone filter).
- Microphone level control by commutator (10db steps from 0 to 50dB) and fine control by potentiometer.
- Modulation and peak level by 2 led.
- Back output: Jack for stereo headphone.
- Output headphone impedance: 8 ohms
- Headphone output loudness control
- Front keyboard to drive internal DB GSM phone module
- Input/output line at zero dB on back by XLR Cannon connectors
- D/F/9 back connection no active (for next internal modem and computer link).

This little equipment, useful into every van equipped for broadcast audio and video exterior shot, can also utilize GSM phone net as an usual phone set line using an usual BCA receiver and the GSM full duplex phone signal change over into a 4 wireless usual conference circuit to connect to audio set.
One of the main Dual GSM features is represented by the possibility to speak using a professional microphone and to listen directly from a loudspeaker without any noise around or any singing, thanks to a DSP circuit control (Digital Signal Processor) integrated. It allows to make interviews without any earphone.
Two GSM quad band modules are inside Dual GSM. Its functions are controlled by its keyboards and its LCD displays set on the front panel.
On the back panel there are the connectors: Audio IN, Audio OUT, Modem (no active), Phone (BCA Telephone), Antenna.
The Dual GSM is realized in a metallic box high 1 RU 19".

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COMMUNICATION

Dual TBP

dual talkback plus 8 channels intercom

ENGINEERING

The 8 channels intercom Dual TBP (Dual Talkback Plus) is ideal for TV production field and suitable for just about any communication requirement: for example:
- Film productions;
- Theater plays;
- Congress meetings;
- Sport events;
- Commercial and industrial installations, etc.

The Dual TBP system is composed of two apparatus:
- Engineering, reserved to the technician, and
- Producer reserved to the Director.

ENGINEERING

This apparatuses are connected through pin to pin cable between the LINK connectors situated on the rear panels of the same ones.
Engineering allows the independently and simultaneously communication with four cameramen (beltpack or camera controls) and with 4 channels reserved to the fixed replacement (for example: conference circuit) selectable through a lever control switches combined everyone to 2 Led of status indication (talk or listen).
Each of eight channels provided channels can be independently programmed for:
- IFB (interrupted feedback);
- Semiduplex mode;
- Full Duplex mode.

In the programming mode is possible to regular the compression of the microphone on 3 levels.
A couple of LCD display allows to visualize: the status of several channels (in programming mode), and the controls and functions activated from another intercom pressing the STATUS button.

PRODUCER

PRODUCER

Producer has the same functions described for the Engineering except:

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• the Producer can talk and listen all the camera through a lever control;
• it is disabled the programming of the functions: Duplex, Semiduplex, IFB (interrupted feedback).

TECHNICAL DATA
• Standard 19" 1RU frame;
• Microprocessor controlled system with transformer coupled 4-wire circuits;
• 8 independently programmable channels (on a non volatile memory);
• Front panel Instant Program access;
• Programmable functions: Duplex, Semi/Full Duplex mode, Return modulation;
• Return modulation selection: 1) program output, 2) TV output, 3) external signal;
• Momentary or latching Talk and Listen functions;
• 10W stereo amplifier provided with a volume knob to adjust the external loudspeaker output of the STEREO-PGM IN signal;
• Studio communication output;
• Mute function;
• Volume controls for earphone and loudspeaker monitoring of the return modulation or the intercom;
• Communications to and from 4 cameras and beltpacks;
• Power supply to beltpacks;
• External Producer function (Channel N° 4 input);
• Headset or microphone/loudspeaker communication.

TECHNICIAN

TECHNICIAN

The DUAL TBP TECHNICIAN intercom is an supplementary apparatus that allows to amplify the functionality of ENGINEERING intercom fitting between it and the users (cameras or other devices connected to channels lines).
The microphonic signal of TBP TECHNICIAN is added to the signal coming from the microphone of ENGINEERING intercom going to cameras or to users connected to channels lines.
The signal coming from cameras or users connected to channels lines is listened in loudspeaker by both intercoms.
To be able to connect the two intercoms are necessary pin-to-pin cables with 9 pin DB connectors.
The DUAL TBP TECHNICIAN is equipped with two microphonic inputs that can be selected through HEADSET stable button.
The HEADSET connector is 4 contact cannon and provides the necessary power supply for powered microphones.
On the same connector there is also the signal to be able to power a low or high impedance headset.
When this microphonic input starts up the loudspeaker disconnects.
The MIC connector is 3 contact cannon and provides the necessary power supply for powered microphones.
The mute key stops the microphonic line.

TECHNICAL DATA
All the inputs and outputs are galvanically isolated through quality transformer

LINE INPUT
• Clipping max level: = 12dB/600 ohm;
• Power in loudspeaker: = 4 Watt/8 ohm;
• Pass band @ - 3dB= 200 Hz -33 KHz;
• THD @ 1 Watt= 0.1%
LINE OUTPUT
• Clipping max level: = 12 dB/600 ohm;

• Pass band @ -3dB= 70 Hz -30 KHz;
• THD @ OdB= 0.01%

MICROPHONIC INPUT
• Level for compressor activation = -40 dB

ABSORPTION POWER
• 10 Watt @ 220 V

In accordance with constant improvement policy of products, Elman S.r.l. reserves the right to modify without notice and at any time, features and prices of its own apparatus.

ENGINEERING

PRODUCER

TECHNICIAN

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COMMUNICATION

EL4400

Intercom Stations

EL4400/I with internal microphone

To resolve the communication problems among all people involved in a television production, the Elman has realized a intercom series denominated EL4400.
The EL4400s are ideal to be used in applications: ENG, in pullman for outside broadcasting and in television studios.
All the versions have a good quality of audio reproduction and low noise, thanks to balanced circuits with transformers.
All the versions are endowed with internal power supply.

EL4400/I and EL4400/E

EL4400/I and EL4400/E system has inside a dual conference circuit that allows the communication with two different environments simultaneously.
The first conference circuit allows the communication in Full Duplex mode (hands free), while the second one in Semi Duplex (push to talk).
An incorporated microphone is situated on the front panel for model EL4400/I.
An external gooseneck microphone is situated on the front panel for model EL4400/E.
It is possible to exclude the microphone through a mute switch (in full duplex section).
The Semi Duplex mode works with a talk-listen push button.
An individual volume control is provided for each conference circuit.
The link is realized with a 4-wire system to allow an optimal communication.
The audio signals are the balanced type through transformers.
The connectors for the link with other intercom systems are D9 type.
The power supply is 220 VAC.

EL 4400/IC Console version
with gooseneck microphone

EL4400/IC
EL4400/IC is the console version, with single conference circuit, endowed with gooseneck microphone.
In this version it is possible to regulate the input and output level with two trimmers accessible from the superior panel (from 0 to +15 dB)

EL4400/D
EL4400/D is the rack version 1RU with double circuit semi-duplex (push to talk).

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EL 4400/D version double semi-duplex
with gooseneck microphone

EL 4400/E with external gooseneck microphone

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COMMUNICATION

GAI

GSM Audio Interface

GAI (GSM Audio Interface), the new equipment that allows the connection to studio by GSM phone net with an excellent audio quality.

With GAI you will be able to send your radio service fastly and all over the world where is available some GSM phone net.

There are some situations where radio reporter has to broadcast his radio service alive but he has at his disposal neither phone lines nor sat links.

In order to avoid such a matter Elman has produced GAI (GSM Audio Interface), the new equipment that allows a connection to studio by GSM phone net with an excellent audio quality.

By GAI you will be able to send your radio service fastly and all over the world where is available some GSM phone net. This little equipment, useful into very van equipped for broadcast audio and video exterior shot, it can also use GSM phone net as an usual phone set line using an usual BCA receiver and the GSM full duplex phone signal change over into 4 wireless usual conference circuit to connect to audio set.

One of the main GAI features is represented by the possibility to speak using a professional microphone and to listen directly from a loudspeaker without any noise around or any singing, thanks to a DSP circuit control (Digital Signal Processor) integrated. It allows to make interviews without any earphone.

A GSM quad band module (run all around the world) is inside GAI. Its functions are controlled by its keyboard and its LCD display set on the frontal panel. On the back panel is set the serial connector (male FME). The GAI is realized in a metallic box (high 1 RU and large 1/3 RU 19").

On the back there is a connector to use the GSM internal modem module that will start up with the next versions.

The GAI is interfaceble with microphones, earphones and headphones of any brand.

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Features

- Quad Band GSM module: integrated
- Power Supply: 12 Volts
- Back protection fuse: 1 A
- No back returns effects (Larsen) and no echo and cross talk, thanks to DSP integrated
- Front Input: Microphone on XLR/F/3
- Impedance Microphone input: 10 Kohm
- Return frequency: 250-3500 Hz (limited by mobile-phone filter)
- Microphone Level Control by commutator (10dB steps from 0 to 50dB) and fine control by potentiometer
- Modulation and peak level by 2 led
- Back output: Jack for stereo headphone
- Output headphone impedance: 8 Ohm
- Headphone output loudness control
- Front keyboard to drive internal DB GSM phone module
- Input/output line at 0dB on back by D/F/9 connector
- D/F/9 back connector no active (for next internal modem and computer link)

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COMMUNICATION

GENIUS Intercom

7 Channels with interrupted feedback

Features

Microphone Preamplifier (Panel Microphone)

- Mic Input Level@ 1kHz: -40dBm
- Output Level (to matrix): 0dBu, ± 0.2 dBu
- Frequency response: 72 Hz to 6.5 kHz, ±2dB

Microphone Preamplifier (Headset Microphone)

- Mic Input Level@ 1kHz: -40dBm
- Output Level (to matrix): 0dBu, ± 0.2dBu
- Frequency response: 72 Hz to 6.5 kHz, ±2dB

Speaker Amplifier (Panel Speaker)

- Maximum Volatge Gain: 25 dB
- Frequency response: 400 Hz to 22kHz, ±2dB
- Outpower (for amplifier): 2 watts into 8 ohm
- Output Voltage Level: 12 volts peak-to-peak (max.)
- Volume Control Range: 70 dB
- Speaker Rating: 2 watts max.

Headphone Amplifier

- Maximum Voltage Gain: 10dB
- Frequency response: 100Hz to 10kHz, ±2dB
- Headphone Impedance: 8 to 600 ohm
- Output Power: 300mW into 50 ohm
- Output Voltage Level: 5 volts peak-to-peak (max.)

INPUT/OUTPUT

4 WIRES (Serial-wired)

- **Input**: Nominal 0dBu transformer balanced
- **Output**: 0dBu, ±2dBu nominal transformer balanced
- **Power for Beltpack**: +12 VDC, unregulated, Output Current 0.5 A (for 1 Channel)
- **Line Impedance**: 600 ohm
- **Line Level**: -12dBu up to +6dBu maximum
- **S/N ratio**: 60dB (A)
- **Wire type:** 6 conductors twisted Maximal wire length between Intercom unit and Beltpack: 100m

7 channels full/duplex and half/duplex intercom with interrupted feedback and input for external producer.
The intercom has three channels at 2 wires (for cameras) and for channels at 4 wires to talk, for example, to an external producer, recording rooms, external o.b. van etc...
Intercom Genius has also a second function: it sends Tally information for 4 videocameras that are transmitted on 2 wires audio line for the cameramen beltpack terminals (optional).

Functions of commands on the frontal panel

- Volume INTERCOM: set the listening level of intercom
- Volume RETURN: set the listening level of the return
- 7 keys for TALK selection (1-2-3-4-A-B-C)
- 7 keys for LISTEN selection: (1-2-3-A-B-C)
- Red keys 1-2-3: select the channels that listen the return modulation, enable microphone and loudspeaker (disable headset with microphone) etc...

Front panel connector

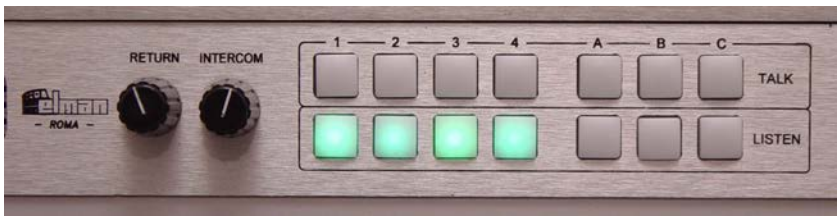
- Headset; XLR4 female

Rear panel connectors

- Serial-wired (4 CHANNELS-4 WIRE)1-2-3-4: 4xSUB-DF09 female with power supply for Beltpack. (Channel-4 and dedicated to function EXTERNAL PRODUCER)
- Parallel-wired (3 CHANNELS-2 WIRE) A-B-C: 3xXLR3 female-Channel A is dedicated to cameramen
- Stereo Program input: SUB-DF09 female
- Tally input: SUB-DF09 male
- Power Input Connenctor 12 volt: 3 pin connector locking
- Fuse 3.15 A

MENU (Red Keys)
For Keys 1-3 the functions can be seen on the upward line of the display.
With the Key 1 the menu is changed and it can be:
A) Menu **"SPEAKER"** (select the users of channels A, B and C)

- Key 3 enables microphone and loudspeaker (excludes cap with microphone
- B) Menu **"RETURN"**
- Key 2 selects the channel that will be enabled or not to listen the audio return
- Key 3 enables or disables the return for the channel selected with key 2
- C) Menu "**EXTERNAL PRODUCER**"
- Key 3 actives the function EXTERN PRODUCER



Keyboard Talk and Listen

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2 WIRES (Parallel-wired)

- **Input**: Nominal: -5dBu
- **Output**: 0dBu nominal
- **Power for Beltpack**: Intercom Line +10 VDC, short circuit protected, Output Current 0.3 A (for 1 Channel)
- **Line Impedance**: 600ohm
- **S/N ratio**: 50dB (A)
- **Wire type**: 3 conductors twisted with shield

Max. Beltpack connection for channel A: 4 units

Max. Beltpack conenction for channel B: 6 units

Max. Beltpack connection for channel C: 4 units

Maximal wire length between Intercom unit and last Beltpack: 100m

POWER SUPPLY

- DC Supply**:** 12V
- Input Current 3A (with max audio power without beltpack)

ENVIRONMENTAL

- Storage: -40°C to +60°C
- Operating: -10°C to +41°C
- Dimensions: 19” wide x 1RU x 7” (178mm) deep

TALK

The simple pressure of push-button TALK of the channel immediately puts in communication the chosen user. Such function is confirmed by the lighting of the correspondent key. If the loudspeaker of the panel is enabled and the chanel was in situation LISTEN this will be disable untill it is finished from situation TALK.
Push-button TALK works in two ways:

- Istantaneous is active when it is pressed (it only must press more than 3 second ones);
- Stable when is pressed the first time (less 2 seconds) enabling it and a second timedisabling (does not import how much is pressed).

LISTEN

Pressing push button LISTEN the chosen channel can be listen. This is confirmed by the lighting of correspondent key. Push button LISTEN works in stable way- when is pressed the first time it is enabled and the second time is disabled (does not import how much is pressed).

FULL DUPLEX and SEMI DUPLEX

When are enabled the micrphone and the loudspeaker of the front panel switch automatically in semi duplex communication mode (does not allow to be activated TALK and LISTEN at the same time).

RETURN

This function comes used in order to send one return modulation to wichever of the 7 channels: this modulation comes interrupted whenever is communicated with one of these Enable/Disable RETURN functions:

- Select menu PRG with key 1;
- Select the channel interested with key 2;
- Enable and disable with key 3

EXTERNAL PRODUCER

This function allows to an external director connected channel 4 to speak to the cameramen (it connects you to the channel A).

- Enable/Disable EXTERNAL PRODUCER functions:
- Select menu PRG with key 1
- Enable or disable with key 3.

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Menu display and keys (from left to right key 1-2-3)

COMMUNICATION

HFx6

handsfree x 6 intercom system

HFx6 is a full duplex hands-free intercom system, consists of 6 devices EL4400/HF2 interconnected together by means of an adder apparatus ADDERx6.
HFx6 is designed to facilitate communication between those involved in the production of television programs, in ENG applications, Outside Broadcast Van and television studios.

EL4400/HF2

EL4400/HF2 is a handsfree terminal, full duplex, with excellent audio quality playback with built-in amplifier and speaker, has a good signal noise ratio thanks to balanced circuits through transformers, is equipped with embedded power supply.
L 'EL4400/HF2 has a circuit that in case of continuous environmental noise, automatically raises the threshold level to prevent activation of transmission of apparatus, however is available a switch on the front panel that allows you to mute the microphone.
Despite the limited space in height, only 44 mm. (1 RU), the EL4400/HF2 speaker has a high quality reproduction.
The connection between devices is realized with a 4-wire system to enable high quality communications.
The link to the ADDERx6 happens through a couple of cables connected to the back connectors, 2 Cannon XLR with 3 contacts, male for the output and female for the input.
The standard version of EL4400/HF2 comes with built-in microphone, on request, as an alternative to the built-in microphone, you can have on front panel a 4 contacts XLR connector for to use an external microphone gooseneck.

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COMMUNICATION

TALKBACK PLUS

Instant Program Intercom

Features

- Standard 19" 1RU frame;
- Microprocessor controlled system with transformer coupled 4-wire circuits;
- 4 independently programmable channels (on a non volatile memory);
- Front panel Instant Program access;
- Programmable functions: Semi/Full Duplex mode, Return modulation;
- Return modulation selection: **1)** program output, **2)** TV output, **3)** external signal input.
- Momentary or latching Talk and Listen functions.
- 10W stereo amplifier provided with a volume knob to adjust the external loudspeaker output of the STEREO-PGM IN signal.
- Studio communication output.
- Mute function.
- Volume controls for earphone and loudspeaker monitoring of the return modulation or the intercom.
- Communications to and from 4 cameras and beltpacks.
- Power supply to beltpacks.
- External Producer function.
- Headset or microphone/loudspeaker communications.

This Intercom unit is a full-feature, standalone system capable of high professional performances.
Instant Program Intercom means that the functioning mode can be changed at any time during operation simply by pressing a few buttons of the control panel. Each of the four provided channels can be independently programmed for:

- Semi or Full Duplex mode,
- Return modulation reception (ON/OFF).

Both of these program operations are obtained through an easy-access menu.

TALKBACK PLUS is a high quality compact intercom suitable for just about any communication requirement; for example: television and film productions, theater plays, congress meetings, sport events, commercial and industrial installations, etc.

Options:

3 Twisted Pair Cable for connection between Talkback Plus and Beltpack

- **TBP15C** (length 15 mt)
- **TBP30C** (length 30 mt)

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COMMUNICATION

TALKBACK PRODUCER

Talkback Producer is an intercom created to interface itself to those 16 channels audio mixer that have not in endowment the talkback option.
Talkback Producer allows the communication (individual or in group) between the producer and who it is found on the other head of each of 16 lines in input of the audio mixer (for example: means the headsets with the artists in studio during a session of record or with the musicians on the stage-set means the monitor speakers on during an live execution).
The system is composed from two separate apparatus: Talkback Producer Console (2RU container) and Talkback Producer Central Unit (3RU container).

Talkback Producer Console

It is the unit (high 2RU) that contains: all the intercom controls, the microphone and the loudspeaker for the listening.

front panel

- 16 bright buttons TALK named TB1, TB2, TB3...
- 16 bright buttons LISTEN named LINE1, LINE2, LINE3...
- 1 bright button TB TO ALL to speak simultaneously with everything the 16 lines
- 1 3XLR female connector for the connection to a goose neck microphone
- 1 4XLR female connector for the connection of a headset
- 1 bright button HEADSET ON, with protection, for the commutation between the microphone and the headset
- 1 loudspeaker for the listening
- 1 knob for the regulation of the listening volume
- 2 led that indicate the presence of power on 2 apparatus (LOCAL POWER and UNIT POWER)

rear panel

- 1 3XLR female connector AUDIO IN to connect the Central Unit
- 1 3XLR male connector AUDIO OUT to connect the Central Unit
- 1 RJ45 connector SERIAL I/O that it is connected to the Central Unit for the exchange of the control data
- 1 IEC connector with fuse for the 220 Vac power

Talkback Producer Central Unit

It is the unit (high 3 RU) that contains the cards that develop the function of audio commutation and interfacement between the channel of the producer and the 16 channels in input.
The front panel is provided of a door to be able to access rapidly to 9 cards inside, for to monitor if all the leds that inform the correct power are ON and for to be able to replace the cards in case of failure.

rear panel

- 1 3XLR female connector AUDIO IN to connect the Console
- 1 3XLR male connector AUDIO OUT to connect the Console
- 1 RJ45 connector SERIAL I/O that it is connected to the Console for the exchange of the control data
- 1 IEC connector with fuse for the 220 Vac power

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- 1 D25 female connector LINE IN 1-8
- 1 D25 female connector LINE IN 9-16
- 1 D25 female connector DIRECT IN 1-8
- 1 D25 female connector DIRECT IN 9-16
- 1 D25 male connector DIRECT OUT 1-8
- 1 D25 male connector DIRECT OUT 9-16
- 1 D25 male connector LOOP IN 1-8
- 1 D25 male connector LOOP IN 9-16

Operating modes

The Talkback Producer is introduced in series between the 16 sources sound and the 16 inputs of the mixer, the mixer output instead passes inside the talkback producer and succeeds to go the final user.
The communications (of type speaks/listen) are always commanded from the producer for means of the console, if for example the producer wants to give alone indications to the technician connected to the input 1 of the mixer presses the key TB1 of the TALK bar (monostable) if instead it wants to listen to the same technical use also the key LINE1 of the LISTEN bar (this key is able to be is monostable that bistable).
The activation of the keys of the LISTEN bar interrupt the listening aside of the producer of the sound in exit from the mixer.
If the producer presses the key TB TO ALL can be listened simultaneously from everyone that it is connected to 16 input lines.

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COMMUNICATION

TBP4 intercom

talkback plus 4 channels
2/4 wires 4 IFB

TBP4 is a professional intercom produced by ELMAN that allows the communication to 4 wires on 4 channels, or to 4 wires on 3 channels plus to 2 wires on 1 channel, on which you can connect more users.
The functions of every channel are separately configurable.
The connection with other apparatuses happens through common connectors XLR.
The TBP4 is an intercom usable in all those cases in which the distance communication is necessary, for example:

- production of television programs and films;
- theatrical shows;
- conferences;
- sporting events;
- commercial and industrial installations, etc.

Thanks to the use of particular XLR panel connectors, it has been possible to contain the dimensions of the TBP4 in a container high only 1RU 19".
This, togheter with low consumption and the possibility of 12 V or 24 V power supply, make the TBP4 a versatile instrument for use both in studios and in vehicles for outside broadcast.
TBP8 is compatible with similar apparatuses of other brands in commerce.

Features:

- 4 independent channels.
- 4 IFB bus and loop-through for every channel.
- Monitoring of IFB and RTC signal (talkback return).
- 2 wires mode selectable for channel 1, with or without IFB.
- Selectable microphone input: headset or gooseneck (XLR 3 connector).
- Independent regulation for the microphone inputs with relative level indication.
- External control LS CUT (cut listening loudspeaker) and DIM (attenuation listening).
- Independent configuration for every channel for: routing control and signal monitoring.
- Talk switch GPI output (optional)
- Amplified output (2 watts) for external speakers through two 6.3 mm jacks (one on front panel and other on rear panel)
- Universal AC power: 100-240 Vac 70 mA
- DC power: 12 V or 24 V (1,2 A).
- Metallic case: 19" 1RU standard with depth 350 mm.

Microphone inputs

Gooseneck microphone input
type: balanced and unbalanced
connector: XLR3 female
impedance: 2000/4000 ohm
phantom power: 12 V 1.7 mA
headset inputs
type: balanced and unbalanced
connector: XLR5 female
impedance: 2000/4000 ohm
phantom power: 12 V 1.7 mA

Microphone output

type: balanced output with galvanic isolation in continuous current
connector: XLR3 male
nominal output level: 0 dBu
maximum output level (clipping): 17 dBu

Talkback inputs (RTB IN)

type: balanced input with galvanic isolation in continuous current
connector: XLR3 female
impedance: 10K ohm
Input level for 2 W in loudspeaker: 0 dB
maximum level (clipping): 12 dB
bandwith: -3 dB from 100 Hz to 10 Khz

Talkback outputs (TB OUT)

type: balanced output with galvanic isolation in continuous current
connector: XLR3 male
nominal output level: 0 dBu
maximum output level (clipping): 17 dBu

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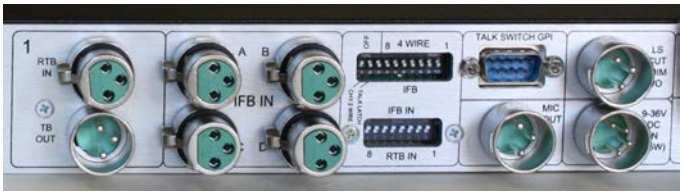
bandwith: -3 dB from 100 Hz to 7.5 Khz



Interrupted Feedback inputs (IFB IN)
type: balanced input with galvanic isolation in continuous current
connector: XLR3 female
impedance: 10K ohm
Input nominal level for 2 W in loudspeaker: 0dB
maximum level (clipping): 12 dB
bandwith: -3 dB from 100 Hz to 10 Khz

Segnaling LEDS
Talk Level 0 dBU
Talk Level 8 dBU
Call and Talk for every channel
GN (Gooseneck): gooseneck microphone input selected
H/S (Headset): headset microphone input selected

Controls

Front panel
- Select Mic - Select microphone input
- LS CUT - cut of loudspeaker listening
- LS DIM - regulation of listening level
- GROUP TALK - talk to all 4 channels
- TALK - TALK button for each of the 4 channels, configurable as monostable or bistable
- MON LEVEL - Regulation of listening level for each of the 4 channels
- IFB / RTB switcher for each of the 4 channels

- **Rear panel**
- Upper dip-switch (10 switches) for: selection operation to 2/4 wires for channel 1, Talk Latch (selection of the monostable or bistable function for the keys TALK), selection of 4 wires output with or without IFB
- Bottom dip-switch IFB/RTB (8 switchers) for: send to every exit TB, the signal IFB or RTB

Options:
On request we can furnish a version of the TBP4 able to feed directly the beltpack terminals 4WBB through the audio cable.

Optional accessories

TBU - Telephone Balance Unit
The TBU (Telephone Balance Unit) provide high degree of separation between send and receive signals, enabling 4-wires communications system to interface with the telephone network.
In telephone IFB applications, the high drive capacity at the 4-wires output, enables a presenter's earpiece to be connected directly to the unit without an external amplifier.

4WBB - 4 Wires Beltpack Box
The 4WBB is a compact 9V battery-powered box for headset use only.
Is available as option, a model of 4WBB directly fed by the TBP4 intercom through the cable audio.
Selectable operating modes suit various applications in a number of studio and outside broadcast situations where 2 or 4-wires communications are used.
The IFB option is typically used to provide an interrupted program feed to a presenter's earpiece, when the talk switch is pressed, while simultaneously allowing the program sound to be monitored on the headset.

BIA - Beltpack IFB Amplifier
The BIA (Beltpack IFB Amplifier), battery-powered belt-pack unit, allows either loudspeaker or headphone monitoring of a communication or audio feed, and is typically used with a presenter's earpiece as part of an IFB kit.

In accordance with constant improvement policy of products, Elman Srl reserves the right to modify without notice and at any time features and prices of its own apparatus.

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COMMUNICATION

TBP8 intercom

talkback plus 8 channels
2/4 wires 4 IFB

TBP8 is the new professional intercom produced by ELMAN that allows the communication to 4 wires on 8 channels, or to 4 wires on 7 channels plus to 2 wires on 1 channel, on which you can connect more users.
The functions of every channel are separately configurable.
The connection with other apparatuses happens through common connectors XLR.
The TBP8 is an intercom usable in all those cases in which the distance communication is necessary, for example:

- production of television programs and films;
- theatrical shows;
- conferences;
- sporting events;
- commercial and industrial installations, etc.

Thanks to the use of particular XLR panel connectors, it has been possible to contain the dimensions of the TBP8 in a container only 1RU 19" tall.
This, togheter with low consumption and the possibility of 12 V or 24 V power supply, make the TBP8 a versatile instrument for use both in studios and in vehicles for outside broadcast.

Features:

- 8 independent channels.
- 4 IFB bus and loop-through for every channel.
- Monitoring of IFB and RTC signal (talkback return).
- 2 wires mode selectable for channel 1, with or without IFB.
- Selectable microphone input: headset or gooseneck (XLR 3 connector).
- Independent regulation for the microphone inputs with relative level indication.
- External control LS CUT (cut listening loudspeaker) and DIM (attenuation listening).
- Independent configuration for every channel for: routing control and signal monitoring.
- Talk switch GPI output (optional)
- Amplified output (2 watts) for external speakers through two 6.3 mm jacks (one on front panel and other on rear panel)
- Universal AC power: 100-240 Vac 70 mA
- DC power: 12 V or 24 V (1,2 A).
- Metallic case: 19" 1RU standard with depth 350 mm.
- Weight: 3.5 Kg.

TBP8 is compatible with similar apparatuses of other brands in commerce.

Microphone inputs
Gooseneck microphone input
type: balanced and unbalanced
connector: XLR3 female
impedance: 2000/4000 ohm
phantom power: 12 V 1.7 mA
headset inputs
type: balanced and unbalanced
connector: XLR5 female
impedance: 2000/4000 ohm
phantom power: 12 V 1.7 mA

Microphone output
type: balanced output with galvanic isolation in continuous current
connector: XLR3 male
nominal output level: 0 dBu
maximum output level (clipping): 17 dBu

Talkback inputs (RTB IN)
type: balanced input with galvanic isolation in continuous current
connector: XLR3 female
impedance: 10K ohm
Input level for 2 W in loudspeaker: 0 dB
maximum level (clipping): 12 dB
bandwith: -3 dB from 100 Hz to 10 Khz

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Talkback outputs (TB OUT)
type: balanced output with galvanic isolation in continuous current
connector: XLR3 male
nominal output level: 0 dBu
maximum output level (clipping): 17 dBu
bandwith: -3 dB from 100 Hz to 7.5 Khz

Interrupted Feedback inputs (IFB IN)
type: balanced input with galvanic isolation in continuous current
connector: XLR3 female
impedance: 10K ohm
Input nominal level for 2 W in loudspeaker: 0dB
maximum level (clipping): 12 dB
bandwith: -3 dB from 100 Hz to 10 Khz

Segnaling LEDS
Talk Level 0 dBU
Talk Level 8 dBU
Call and Talk for every channel
GN (Gooseneck): gooseneck microphone input selected
H/S (Headset): headset microphone input selected

Controls

Front panel
- Select Mic - Select microphone input
- LS CUT - cut of loudspeaker listening
- LS DIM - regulation of listening level
- GROUP TALK - talk to all 8 channels
- TALK - TALK button for each of the 8 channels, configurable as monostable or bistable
- MON LEVEL - Regulation of listening level for each of the 8 channels
- IFB / RTB switcher for each of the 8 channels

- **Rear panel**
- Upper dip-switch (10 switches) for: selection operation to 2/4 wires for channel 1, Talk Latch (selection of the monostable or bistable function for the keys TALK), selection of 4 wires output with or without IFB
- Bottom dip-switch IFB/RTB (8 switchers) for: send to every exit TB, the signal IFB or RTB

Options:
On request we can furnish a version of the TBP8 able to feed directly the beltpack terminals 4WBB through the audio cable.

TBP8T
Is available a modified version of TBP8 able to connect two telephones in parallel to the input 1. The only differences in comparison to the TBP8 basic version concern:
- the call button of the user 1 (with writing RING/TALK) that is used to make ring and to converse with the connected operators (for example the speakers of a newscast)
- on the back panel, change the connectors relative of the user 1 (2 XLR female instead that a male and a female) and the writings that in this case are TEL1 and TEL2 .

Optional accessories

TBU - Telephone Balance Unit
The TBU (Telephone Balance Unit) provide high degree of separation between send and receive signals, enabling 4-wires communications system to interface with the telephone network.
In telephone IFB applications, the high drive capacity at the 4-wires output, enables a presenter's earpiece to be connected directly to the unit without an external amplifier.

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Features
- Isolated, full-duplex 4-wires interface to non-digital telephone direct exchange lines.
- The unit is line powered.
- Simple optimization of sidetone rejection.
- LED's indicate "ring" and "off hook" conditions.
- Input level control.
- High drive output with level control.
- Loop-through telephone line sockets
- Connection to the telephone set is maintained while the unit is in use

Description

This unit is powered from the telephone line and provides an interface to a 4-wires circuit with separate level control of send and receive signals.
Optimum rejection of the input signal on the 4-wires output is achieved by adjusting SIDETONE NULL trimmer.
This can be used to compensate for local line variations or to adapt to the telephone systems of other countries, where line characteristics may differ.
To enable communication between the 4-wires circuit and the telephone network, the 4-wires an line connections are made to the unit and the "hook" switch is pressed to power the unit from the line.
This will be indicated by ON LED, and can either be done after an outgoing call has been dialed on a telephone set connected to the unit, or to answer an incoming call after RING LED is seen flash (a telephone set is not required for incoming calls unless an audible ring is required).
If the sidetone level at the 4-wires output is found to be excessive, the outgoing signal level should be reduced or the balance controls adjusted to minimize it.
To ensure compatibility with all systems, a switch is provided to select either the inner or outer pair of conductors on the RJ11 connector.
TBU is compatible with similar apparatuses of other brands in commerce.

TBU

Specifications

4-Wires input
- Input impedance: 10K ohm, transformer coupled on XLR3F connector.

Input level range: -12dBU to +8dBU

4-Wires output
- Output impedance: 150 ohm, transformer coupled on XLR3M connector.
- Output level range: -12dBU to +8dBU
- Sidetone rejection: 30 to 40dB average, depending on line characteristics.

2-Wires
- Connectors: 2xRJ11(American)
- Adapter BT603A (British) external

Mechanicals
- Dimensions: 120 mm x 78 mm x 43 mm
- Case: Aluminum Alloy, clear Anodized
- Weight: 250g

4WBB

4WBB - 4 Wires Beltpack Box

The 4WBB is a compact 9V battery-powered box for headset use only.
Is available as option, a model of 4WBB directly fed by the TBP8 intercom through the cable audio.
Selectable operating modes suit various applications in a number of studio and outside broadcast situations where 4-wires communications are used.

Features

Three user selectable modes:

1) 4 wires mode

2) Interrupted loop-trough mode with input monitoring

3) 2-wires conference mode

- 9 volt battery powered with low current drain (current 5mA)
- Microphone limiter to maintain peak output at +6dB
- Power for electret microphone (optional - set with internal jumper)
- Auxiliary audio monitoring input on unbalanced 3.5mm jack
- LED low voltage warning: at 6V
- Strong aluminum case

Description

Direct compatibility with other communications equipment is provided by the use of 4-wires operation as opposed to the more common, 2-wires beltpack systems.
Greater flexibility resulting from 4-wires operation also enables both interrupt and 2-wires modes to be easily selected by user.
The IFB option is typically used to provide an interrupted program feed to a presenter's earpiece, when the talk switch is pressed, while simultaneously allowing the program sound to be monitored on the headset.

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As the signal is switched directly between the input and output connectors, the program signal path is fail-safe and does not require the unit to be powered.
In 2-wires mode, a number of Beltpack units can simply be connected in parallel, enabling all units to communicate with each other in conference mode.
To provide compatibility with earpieces which use a mono jack plug, the tip connection on the headset jack socket supplies the output for the headphones, the ring connection providing the microphone input.
The auxiliary input jack can be used in all modes to monitor any additional line-level signal such as a tape machine playback.
4WBB is compatible with similar apparatuses of other brands in commerce.

Specifications

Microphone input / Line output amplifier
- Input impedance: Unbalanced for 200 ohm dynamic microphone
- Microphone connector: 6.35mm headset jack. Ring input, sleeve gnd
- Limiter input threshold: -62dBU
- Line output level: +8dBU peak (battery voltage >6V)
- Output impedance: 150 ohm, transformer coupled
- Line connector: XLR3M

Line input / Headphone amplifier
- Line input impedance: 10K ohm, transformer coupled
- Line input connector: XLR3F
- Gain range: +10dB to off
- Auxiliary input impedance: unbalanced high impedance
- Auxiliary input connector: 3.5mm jack
- Gain: fixed at 0dBMax
- Line/Aux input level: +8 dbU
- Headphone connector: 6.35mm headset jack. Tip output, sleeve GND

2-Wires mode
- Line impedance:10k ohm (listen), 600 ohms (talk)

Mechanicals
- Dimensions: 120 mm x 78 mm x 43 mm
- Case: Aluminum Alloy, clear Anodized
- Weight: 385g

BIA - Beltpack IFB Amplifier

The BIA (Beltpack IFB Amplifier), battery-powered belt-pack unit, allows either loudspeaker or headphone monitoring of a communication or audio feed, and is typically used with a presenter's earpiece as part of an IFB kit.

Standard Features
- Selectable limiter: prevents clipping distortion and damage to hearing with earpieces & headphone types
- Built-in 0.5W loudspeaker & amplifier (power to the amplifier is cut when headphones are connected)
- Loop-through male & female XLR connectors enable several units to be driven from a single feed.
- Headphone output on "A" gauge 6.35mm jack.
- Very low battery consumption.
- Low battery voltage indicator.

Description

The input gain is controlled by a potentiometer, a 0/20dB gain switch and a selectable limiter. The limiter can be used to ensure a safe listening level over a wide range of input signal levels and also improves signal intelligibility by preventing clipping of the output signal as the battery discharges.
The balanced output stage of the headphone amplifier drives earpieces and headphone, having either mono or stereo jack plugs, with connections to the tip and ring only .
Although this cause headphones to driven in anti-phase, intelligibility of speak is unaffected, and the higher impedances of the series connection ensures the most efficient impedance match to the output stage.
BIA is compatible with similar apparatuses of other brands in commerce.

BIA

Specifications
- Input impedance: 200K ohm, active balanced
- Input connectors: XLR3 plug & socket
- Input signal limiter threshold (Max Gain): Adjustable
- Max headphone O/P level (no limiter): +15dBU @ 9V, @ 6V (no load)
- Max headphone O/P level (with limiter): Threshold level +6dB (no load)
- Headphone output impedance: 280 ohm
- Battery voltage for constant limiter output: 9V to 6V
- Maximum Loudspeaker power: 0.5W with 9V battery
- Power supply: 9V PP3 battery (500mAh typical)
- Low battery indicator: threshold 6V

Mechanicals
- Dimensions: 120 mm x 78 mm x 43 mm
- Weight: 250g
- Case: Alluminium Alloy, clear Anodized

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COMMUNICATION

TBP10 intercom

10 channels - full duplex
4 wires and IFB

The TBP10 is the main unit of a handsfree system for professional communication, composed by a intercom TBP10 and from a maximum of 10 remote intercom stations EL4400/S.
The system is proper to be used during the production of films and television programs but it can be employed for comment, dubbing and any other purpose.
The TBP10 has an IFB input (interrupted feedback) to be able to listen the audio signal of the program in processing that is interrupted when begins the conversation with one of the EL4400/S stations.
The TBP10 is normally installed in the control room or in the comment/speaker room and all the EL4400/Ss in the various connected rooms (for instance editing rooms).
The start of the connection among a station EL4400/S and the TBP10 is executed pressing on the "TALK" lever switch present on the EL4400/S; to happened connection, the corresponding led on TBP10 is on, if in this circumstance, another intercom activates the lever switch "TALK", the corresponding led on TBP10 flashes but the connection is not activated, the second EL4400 remains in stand-by up until the first conversation is not completed.
The principle of functioning is based on a priority system; the EL4400/S linked to the connector number 1 has the highest priority, the number 10 the lowest one. If the EL4400/Ss that activate a request are two, the EL4400/S with lowest priority has to attend the end of the conversation of the EL4400/S with highest priority The connection with the stations EL4400/S happens through particular XLR connectors with which it has been possible keep down the height dimension of the TBP10 in only 1RU 19.»
The connection among the TBP10 and the EL4400s, is FULL DUPLEX and HANDSFREE; for a correct operation it is necessary to regulate the potentiometer set on the anterior panel of the central intercom (TBP10) so that among the interlocutors happens.a communication without interruptions.
The TBP10 is endowed with a particular circuit anti Larsen to eliminate the reentry of the signal audio among loudspeaker and microphone.
The optimal position of the potentiometers must be retouched in case there is a notable difference of noiseness in the environments where are placed the intercoms.

Features:

- 4 wires connection system
- interrupted feedback
- 10 independent channels
- handsfree operation
- headphone push button for the selection of the headphone and exclusion of the loudspeaker
- microphonic input with XLR 3 connector on frontal panel
- microphonic output 0 dB to be able to use the same microphone of the TBP10 for the comment
- Regulation of the microphone level (through trimmer)
- Independent level regulation for each of the 10 channels
- Regulation of the level of general listening
- Amplified output (2 watt) with incorporated loudspeaker
- 0 dB output for external amplifier
- universal power supply (100-240 Vac 70 mA)
- metallic container standard 19" 1RU with 350 mm depth .

Microphone Input
- type: balanced and unbalanced
- connector: XLR3 female
- impedance: 2000/4000 ohms
- phantom power: 48 Volt 1.7 mA

Microphone Outputs (MIC OUT)
- balanced output with galvanic and DC isolation
- connector: XLR3 male
- nominal output level: 0 dBu
- maximum output level at the clipping: 17 dBu

Talkback Inputs (RTB In)
- balanced input with galvanic and DC isolation
- connector: XLR3 female
- input impedance: 10 Kohm

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- input level for 2 Watt in loudspeaker: 0 dB
- maximum level at the clipping: 12 dB
- bandwidth: -3 dB from 100 Hz to 10 Khz

Talkback Outputs (TB OUT)
- balanced output with galvanic and DC isolation
- connector: XLR3 male
- output nominal level: 0 dBu
- maximum output level at the clipping: 17 dBu
- bandwidth: -3 dB from 100 Hz to 7.5 Khz

Interrupted Feedback Input (IFB In) for audio program
- balanced input with galvanic and DC isolation
- connector: XLR3 female
- input impedance: 10Kohm
- nominal input level for 2 Watt in loudspeaker = 0dB
- maximum level at the clipping: 12dB
- bandwidth: -3dB from 100Hz to 10Khz

0 dB Output
Audio output for the connection to an external amplification system, with 0 dB level independent from the regulation of the volume of listening on the frontal panel.

LED of signaling
- 10 leds for view the enabled channels
- led power of feeding
- led headphone: selected bonnet

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TBP10 rear

Remote station EL4400/S

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COMMUNICATION

TBP12 intercom

talkback plus 12 channels 2/4 wires 4 IFB

TBP12 is the new professional intercom produced by ELMAN that allows the communication to 4 wires on 12 channels, or to 4 wires on 7 channels plus to 2 wires on 1 channel, on which you can connect more users.
The functions of every channel are separately configurable.
The connection with other apparatuses happens through common connectors XLR.
The TBP12 is an intercom usable in all those cases in which the distance communication is necessary, for example:

- production of television programs and films;
- theatrical shows;
- conferences;
- sporting events;
- commercial and industrial installations, etc.

Thanks to the use of particular XLR panel connectors, it has been possible to contain the dimensions of the TBP12 in a container only 2RU 19" high.

Features:

- 12 independent channels.
- 4 IFB bus and loop-through for every channel.
- Monitoring of IFB and RTC signal (talkback return).
- 2 wires mode selectable for channel 1, with or without IFB.
- Selectable microphone input: headset or gooseneck (XLR 3 connector).
- Independent regulation for the microphone inputs with relative level indication.
- External control LS CUT (cut listening loudspeaker) and DIM (attenuation listening).
- Independent configuration for every channel for: routing control and signal monitoring.
- Talk switch GPI output (optional)
- Amplified output (2 watts) for external speakers through two 6.3 mm jacks (one on front panel and other on rear panel)
- Universal AC power: 100-240 Vac 70 mA
- DC power: 12 V or 24 V (1,2 A).
- Metallic case: 19" 2RU standard with depth 350 mm.
- Weight: 4.5 Kg.

This, togheter with low consumption and the possibility of 12 V or 24 V power supply, make the TBP12 a versatile instrument for use both in studios and in vehicles for outside broadcast.
TBP12 is compatible with similar apparatuses of other brands in commerce.

Microphone inputs
Gooseneck microphone input
type: balanced and unbalanced
connector: XLR3 female
impedance: 2000/4000 ohm
phantom power: 12 V 1.7 mA
headset inputs
type: balanced and unbalanced
connector: XLR5 female
impedance: 2000/4000 ohm
phantom power: 12 V 1.7 mA

Microphone output
type: balanced output with galvanic isolation in continuous current
connector: XLR3 male
nominal output level: 0 dBu
maximum output level (clipping): 17 dBu

Talkback inputs (RTB IN)
type: balanced input with galvanic isolation in continuous current
connector: XLR3 female
impedance: 10K ohm
Input level for 2 W in loudspeaker: 0 dB
maximum level (clipping): 12 dB

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Talkback outputs (TB OUT)
type: balanced output with galvanic isolation in continuous current
connector: XLR3 male
nominal output level: 0 dBu
maximum output level (clipping): 17 dBu
bandwith: -3 dB from 100 Hz to 7.5 Khz

Interrupted Feedback inputs (IFB IN)
type: balanced input with galvanic isolation in continuous current
connector: XLR3 female
impedance: 10K ohm
Input nominal level for 2 W in loudspeaker: 0dB
maximum level (clipping): 12 dB
bandwith: -3 dB from 100 Hz to 10 Khz

Segnaling LEDS
Talk Level 0 dBU
Talk Level 8 dBU
Call and Talk for every channel
GN (Gooseneck): gooseneck microphone input selected
H/S (Headset): headset microphone input selected

Controls

Front panel
- Select Mic - Select microphone input
- LS CUT - cut of loudspeaker listening
- LS DIM - regulation of listening level
- GROUP TALK - talk to all 12 channels
- TALK - TALK button for each of the 12 channels, configurable as monostable or bistable
- MON LEVEL - Regulation of listening level for each of the 12 channels
- IFB / RTB switcher for each of the 12 channels

- **Rear panel**
- Upper dip-switch (14 switches) for: selection operation to 2/4 wires for channel 1, Talk Latch (selection of the monostable or bistable function for the keys TALK), selection of 4 wires output with or without IFB
- Bottom dip-switch IFB/RTB (12 switchers) for: send to every exit TB, the signal IFB or RTB

Options:
On request we can furnish a version of the TBP12 able to feed directly the beltpack terminals 4WBB through the audio cable.

Optional accessories

TBU - Telephone Balance Unit
The TBU (Telephone Balance Unit) provide high degree of separation between send and receive signals, enabling 4-wires communications system to interface with the telephone network.
In telephone IFB applications, the high drive capacity at the 4-wires output, enables a presenter's earpiece to be connected directly to the unit without an external amplifier.

Features
- Isolated, full-duplex 4-wires interface to non-digital telephone direct exchange lines.
- The unit is line powered.
- Simple optimization of sidetone rejection.
- LED's indicate "ring" and "off hook" conditions.
- Input level control.
- High drive output with level control.
- Loop-through telephone line sockets
- Connection to the telephone set is maintained while the unit is in use

Description

This unit is powered from the telephone line and provides an interface to a 4-wires circuit with separate level control of send and receive signals.

Optimum rejection of the input signal on the 4-wires output is achieved by adjusting SIDETONE NULL trimmer.

This can be used to compensate for local line variations or to adapt to the telephone systems of other countries, where line characteristics may differ.

To enable communication between the 4-wires circuit and the telephone network, the 4-wires an line connections are made to the unit and the “hook” switch is pressed to power the unit from the line.

This will be indicated by ON LED, and can either be done after an outgoing call has been dialed on a telephone set connected to the unit, or to answer an incoming call after RING LED is seen flash (a telephone set is not required for incoming calls unless an audible ring is required).

If the sidetone level at the 4-wires output is found to be excessive, the outgoing signal level should be reduced or the balance controls adjusted to minimize it.

To ensure compatibility with all systems, a switch is provided to select either the inner or outer pair of conductors on the RJ11 connector.

TBU is compatible with similar apparatuses of other brands in commerce.

TBU

Specifications

4-Wires input

- Input impedance: 10K ohm, transformer coupled on XLR3F connector.

Input level range: -12dBU to +8dBU

4-Wires output

- Output impedance: 150 ohm, transformer coupled on XLR3M connector.
- Output level range: -12dBU to +8dBU
- Sidetone rejection: 30 to 40dB average, depending on line characteristics.

2-Wires

- Connectors: 2xRJ11(American)
- Adapter BT603A (British) external

Mechanicals

- Dimensions: 120 mm x 78 mm x 43 mm
- Case: Aluminum Alloy, clear Anodized
- Weight: 250g

4WBB - 4 Wires Beltpack Box

The 4WBB is a compact 9V battery-powered box for headset use only.

Is available as option, a model of 4WBB directly fed by the TBP8 intercom through the cable audio.

Selectable operating modes suit various applications in a number of studio and outside broadcast situations where 4-wires communications are used.

Features

Three user selectable modes:

1) 4 wires mode

2) Interrupted loop-trough mode with input monitoring

3) 2-wires conference mode

- 9 volt battery powered with low current drain (current 5mA)
- Microphone limiter to maintain peak output at +6dB
- Power for electret microphone (optional - set with internal jumper)
- Auxiliary audio monitoring input on unbalanced 3.5mm jack
- LED low voltage warning: at 6V
- Strong aluminum case

4WBB

Description

Direct compatibility with other communications equipment is provided by the use of 4-wires operation as opposed to the more common, 2-wires beltpack systems.

Greater flexibility resulting from 4-wires operation also enables both interrupt and 2-wires modes to be easily selected by user.

The IFB option is typically used to provide an interrupted program feed to a presenter’s earpiece, when the talk switch is pressed, while simultaneously allowing the program sound to be monitored on the headset.

As the signal is switched directly between the input and output connectors, the program signal path is fail-safe and does not require the unit to be powered.

In 2-wires mode, a number of Beltpack units can simply be connected in parallel, enabling all units to communicate with each

other in conference mode.
To provide compatibility with earpieces which use a mono jack plug, the tip connection on the headset jack socket supplies the output for the headphones, the ring connection providing the microphone input.
The auxiliary input jack can be used in all modes to monitor any additional line-level signal such as a tape machine playback.
4WBB is compatible with similar apparatuses of other brands in commerce.

Specifications

Microphone input / Line output amplifier
- Input impedance: Unbalanced for 200 ohm dynamic microphone
- Microphone connector: 6.35mm headset jack. Ring input, sleeve gnd
- Limiter input threshold: -62dBU
- Line output level: +8dBU peak (battery voltage >6V)
- Output impedance: 150 ohm, transformer coupled
- Line connector: XLR3M

Line input / Headphone amplifier
- Line input impedance: 10K ohm, transformer coupled
- Line input connector: XLR3F
- Gain range: +10dB to off
- Auxiliary input impedance: unbalanced high impedance
- Auxiliary input connector: 3.5mm jack
- Gain: fixed at 0dBMax
- Line/Aux input level: +8 dbU
- Headphone connector: 6.35mm headset jack. Tip output, sleeve GND

2-Wires mode
- Line impedance:10k ohm (listen), 600 ohms (talk)

Mechanicals
- Dimensions: 120 mm x 78 mm x 43 mm
- Case: Aluminum Alloy, clear Anodized
- Weight: 385g

BIA - Beltpack IFB Amplifier

The BIA (Beltpack IFB Amplifier), battery-powered belt-pack unit, allows either loudspeaker or headphone monitoring of a communication or audio feed, and is typically used with a presenter's earpiece as part of an IFB kit.

Standard Features
- Selectable limiter: prevents clipping distortion and damage to hearing with earpieces & headphone types
- Built-in 0.5W loudspeaker & amplifier (power to the amplifier is cut when headphones are connected)
- Loop-through male & female XLR connectors enable several units to be driven from a single feed.
- Headphone output on "A" gauge 6.35mm jack.
- Very low battery consumption.
- Low battery voltage indicator.

Description

The input gain is controlled by a potentiometer, a 0/20dB gain switch and a selectable limiter. The limiter can be used to ensure a safe listening level over a wide range of input signal levels and also improves signal intelligibility by preventing clipping of the output signal as the battery discharges.
The balanced output stage of the headphone amplifier drives earpieces and headphone, having either mono or stereo jack plugs, with connections to the tip and ring only .
Although this cause headphones to driven in anti-phase, intelligibility of speak is unaffected, and the higher impedances of the series connection ensures the most efficient impedance match to the output stage.
BIA is compatible with similar apparatuses of other brands in commerce.

BIA

Specifications
- Input impedance: 200K ohm, active balanced
- Input connectors: XLR3 plug & socket
- Input signal limiter threshold (Max Gain): Adjustable
- Max headphone O/P level (no limiter): +15dBU @ 9V, @ 6V (no load)
- Max headphone O/P level (with limiter): Threshold level +6dB (no load)
- Headphone output impedance: 280 ohm
- Battery voltage for constant limiter output: 9V to 6V
- Maximum Loudspeaker power: 0.5W with 9V battery
- Power supply: 9V PP3 battery (500mAh typical)
- Low battery indicator: threshold 6V

Mechanicals
- Dimensions: 120 mm x 78 mm x 43 mm
- Weight: 250g
- Case: Alluminium Alloy, clear Anodized

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COMMUNICATION

TBP16

16 channels intercom full duplex

FEATURES

- 4 wires connection system
- interrupted feedback
- 16 independent channels
- handsfree operation
- headphone push button for the selection of the headphone and exclusion of the loudspeaker
- microphonic input with XLR 3 connector on frontal panel
- microphonic output 0 dB to be able to use the same microphone of the TBP10 for the comment
- Regulation of the microphone level (through trimmer)
- Independent level regulation for each of the 16 channels
- Regulation of the level of general listening
- Amplified output (2 watt) with incorporated loudspeaker
- 0 dB output for external amplifier
- universal power supply (100-240 Vac 70 mA)
- metallic container standard 19" 1RU with 350 mm depth

The TBP16 is the main unit of a handsfree system for professional communication, composed by a intercom TBP16 and from a maximum of 16 remote intercom stations EL4400/S.
The system is proper to be used during the production of films and television programs but it can be employed for comment, dubbing and any other purpose.
The TBP16 has an IFB input (interrupted feedback) to be able to listen the audio signal of the program in processing that is interrupted when begins the conversation with one of the EL4400/S stations.The TBP16 is normally installed in the control room or in the comment/speaker room and all the EL4400/Ss in the various connected rooms (for instance editing rooms).
The start of the connection among a station EL4400/S and the TBP16 it is executed pressing on the "TALK" lever switch present on the EL4400/S; to happened connection, the corresponding led on TBP16 is on, if in this circumstance, another intercom activates the lever switch "TALK", the corresponding led on TBP16 flashes but the connection is not activated, the second EL4400/S remains in stand-by up to when the first conversation is not completed.
The principle of functioning is based on a priority system, the EL4400/S linked to the connector number 1 has the highest priority, the number 16 that lowest. If the EL4400/Ss that activate an request are two, the EL4400/S with lowest priority has to attend the end of the conversation of the EL4400/S with highest priority The connection with the stations EL4400/S happens through particular XLR connectors with which it has been possible keep down the height dimension of the TBP16 in only 2RU 19.»The connection among the TBP16 and the EL4400/Ss, is FULL DUPLEX and HANDSFREE.
The TBP16 is endowed with a particular circuit anti Larsen to eliminate the reentry of the signal audio among loudspeaker and microphone.

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COMMUNICATION

TBU

Telephone Balance Unit telephone line to 4 wires

Features

- The unit is line powered.
- Isolated, full-duplex 4-wires interface to non-digital telephone direct exchange lines.
- Simple optimization of sidetone rejection.
- LED's indicate "ring" and "off hook" conditions.
- Input level control.
- High drive output with level control.
- Loop-through telephone line sockets.
- Connection to the telephone set is maintained while the unit is in use.

Specifications

4-Wires input

- Input impedance: 10K ohm transformer coupled on XLR3F connector.
- Input level range: -12dBU to +8dBU.

4-Wires output

- Output impedance: 150 ohm, transformer coupled on XLR3M connector.
- Output level range: -12dBU to +8dBU.
- Sidetone rejection: 30 to 40dB average, depending on line characteristics.

2-Wires

- Connectors: 2xRJ11(American)
- Adapter BT603A (British) external

Mechanicals

- Dimensions: 120 mm x 78 mm x 43 mm
- Case: Aluminum Alloy, clear Anodized
- Weight: 250g

The TBU (Telephone Balance Unit) provides high degree of separation between send and receive signals, enabling 4-wires communications system to interface with the telephone network.
In telephone IFB applications, the high drive capacity at the 4-wires output, enables a presenter's earpiece to be connected directly to the unit without an external amplifier.
This unit is powered from the telephone line and provides an interface to a 4-wires circuit with separate level control of send and receive signals.
Optimum rejection of the input signal on the 4-wires output is achieved by adjusting SIDETONE NULL trimmer.

This can be used to compensate for local line variations or to adapt to the telephone systems of other countries, where line characteristics may differ.
To enable communication between the 4-wires circuit and the telephone network, the 4-wires line connections are made to the unit and the "hook" switch is pressed to power the unit from the line.
This will be indicated by the ON LED, and can either be done after an outgoing call has been dialed on a telephone set connected to the unit, or to answer an incoming call after RING LED is seen flash (a telephone set is not required for incoming calls unless an audible ring is required).
If the sidetone level at the 4-wires output is found to be excessive, the outgoing signal level should be reduced or the balance controls adjusted to minimize it.
To ensure compatibility with all systems, a switch is provided to select either the inner or outer pair of conductors on the RJ11 connector.

TBU is compatible with similar apparatuses of other brands in commerce.

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COMMUNICATION

TCM

Modular Commentator Terminal

The TCM is a multifunction unit designed to be used in the commentator station and it is composed of 10 pull-out sliding drawers.

Starting from the left side of the frontal panel we find:

- **1 and 2 module- Video Equalizer Distributors** with double circuit 1 x 2; each of them has two indipendent sections. They are equipped with a loop through input and 2 outputs. The possible regulations for each of the four distributors are: GAIN, HF (High Frequency) and LF (Low Frequency).
- **3 module- Video Switcher 4 x 1** allows to commute 4 inputs on a video output.
- **4 and 5 module- Microphone Amplifiers** with dual independent section; they accept microphone levels (-50dB) and line levels (0dB). These modules have a disactivable limiter and a potentiometer for output audio level adjustment,available TX1L out and TX1R out. The output signal of these 2 modules is sent to stereo Audio Switcher 3 x 1, the output of the Switcher 3 x 1 is connected to the Power Amplifier module. Every module can receive 2 mono channels or 1 stereo channel.
- **6 module- Audio RX** is a module for a stereo line input or for 2 mono input which allows to adjust the incoming audio signal level on RX1L IN and RX1R IN connectors (active loop through inputs). Inputs and outputs are tranformer isolated.
- **7 module- Power Amplifier.** At the input of this module there are output signals from Audio Switcher module through which are selected signals coming from Audio RX and Microphone Amplifiers modules. The output signal is sent to LEFT OUT and RIGHT OUT connectors and it is adjustable via GAIN LEFT and GAIN RIGHT potentiometers. Moreover the same signal can be listened on headphone on Headphone 1 and Headphone 2 outputs and each of them has its own GAIN adjustment.
- **8 module-Stereo Audio Switcher 3 x 1** allows to select, through a keyboard, the following sources: the two Microphone Amplifiers modules (IN1 and IN2) and the Video Switcher module (IN3). The signal of the selected source is inserted in the Power Amplifier module.
- **9 and 10 module - Power Supplies**. They are two parallel power supplies that provide to the apparatus the following voltages: +12 VDC, -12 VDC, +5VDC. In case one of the two power supplies is damaged the TCM working is guaranteed and it is not interrupted.

The apparatus is built in a 3 RU 19” metallic container.

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COMMUNICATION

TLFC2010

News anchor telephone selector for news editors

TLFC2010 is a system created to allow the news editors to communicate, by means of telephone, with the reporters or news anchor in the studios of radio or television newscasts.

The basic system is constituted by 2 equipment realized in metallic high 1RU 19" containers: the TLFC-2010 that constitutes the equipment core and the TLFC-CRR that is the device provided of keyboard that allows the selection of one between 8 telephone speakers with who speak.

The system can be expanded adding another one or two TLFC-CRR in order to allow to make to communicate the telephones in 8 workspaces of news anchor with 1,2 or 3 news editors.

Every telephone is provided of a LED that show when the news anchor is ON AIR, a LED that show the call from one of the news editors, the ringing tone that can be deactivated in order not to give noise during the transmission; in addition it has a button to be able to call the editorial staff, pressing the button plays the buzzer of the TLFC-CRR of the news editors and it is illuminated the key corresponding.

To the call it can answer one or all and 3 the news editors, having connected in parallel.

To the connector that carries the signals to the telephone can be connected a headphone or earpiece that allows to speaker of to listen the ON AIR return signal.

On the back panel of the TLFC-2010 there are the following connectors:

- CR1-CR8: are the 8 RJ45 connectors to wich are connected the speakers telephones, the headphone/earpiece and the call led.
- CRR1-CRR3: are the 3 RJ45 connectors to wich are connected the equipment TLFC-CRR of the news editors.
- CUFFIE: female D 25 pin connector on that is introduced the audio signal (usually the ON AIR signal return) to send to the news anchor headphone.
- TC: 9 pin D female connector to that is sended the ON AIR information and that is proposal to every telephone of news anchor by LED.
- FIRMWARE: mini USB connector from which can be carried out the updating of the equipment.

On the back panel of the TLFC-CRR there are the following connectors:

- 1 RJ11 connector to connect the telephone of the news editor.
- 1 RJ45 connector for the connection of the TLFC-CRR to the TLFC-2010.

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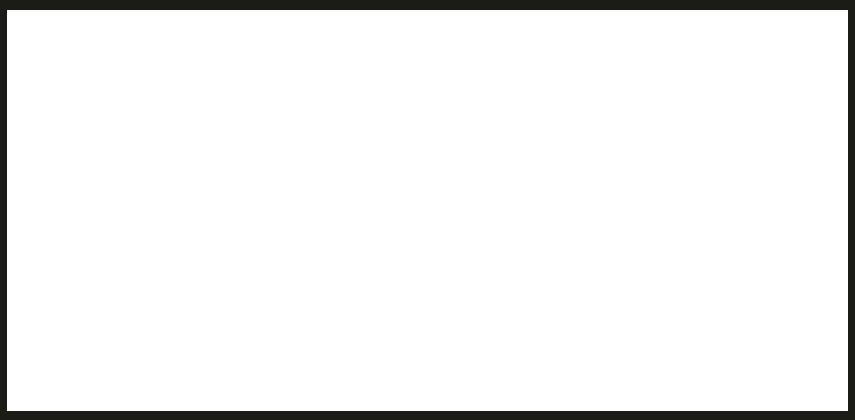

elettronica mangione

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