Advanced Control Systems

WITH EXPERTISE SPANNING AUDIO MONITORING, CONTROL SYSTEMS AND POWER MANAGEMENT, TSL PRODUCTS HELPS YOU KEEP PACE WITH EVER CHANGING CUSTOMER DEMANDS, WHATEVER THE APPLICATION.
Maintain Ownership Of Your Systems

With increasing demands on resources, budgets, and the rapid adoption of IP and remote production, it is more essential now than ever for control systems to be able to hide underlying system complexities so that operators can remain focused on making great content.

TSL works with our closest customers worldwide to provide a user-focused experience, regardless of the advances in underlying technology, to:

• Maintain clear and intuitive operational actions ranging from single-application controls right through to enterprise solutions.
• Build systems based on extensive protocol libraries.
• Easily adapt & expand control as your requirements change.
• Avoid expensive support contracts by investing in a system that is easily customised by the end-user.
• Easily accessible technical and project support teams on-hand.

Members Of

![AMWA](image1) ![SMPTE](image2) ![iabm](image3)

Trusted By

![Arqiva](image4) ![BBC](image5) ![RTÉ](image6) ![bexel](image7) ![CANAL+](image8) ![CCTV](image9) ![ntv](image10)

![Globecomm](image11) ![Globosat](image12) ![Star Sports](image13) ![AMP Visual TV](image14) ![M-net](image15) ![EITV](image16) ![SABC](image17) ![Ericsson](image18)
DID YOU KNOW?

TSL Products is also a market leader in Audio Monitoring for SDI, Hybrid and IP infrastructure.

TSL Eco-System

VTR
- MPA1-Mix-SDI - confidence monitoring of multi-input EVS record solution.
  - Check and verify signals are present and correct from studio or stadium.

Sound
- PAM2-IP
- SAM-Q-SDI
- MPA1 Mix Dante / MADI

Production
- Control integration to multi-viewer, production switcher, vision mixer.
  - Emergency cut-bus
  - Routing control
  - Joy stick control
  - Tallies and UMD

Production Talent
- Talent have control of source management using virtual panels and MPA1 Solo SDI for confidence monitoring.

Tailboard
- SAM-Q-SDI with MADI or MPA1 Solo MADI.
  - Check and verify signals are present and correct from studio or stadium.

Power
- MDU-12Pmi, MDU14-CO and InSite - monitor remotely or onsite rack health, and status with alarm triggering.

Master Control

E-Sports

Studios

Pro-AV

MOS

Outside Broadcast

Fly Packs

IP Infrastructure
Advanced Control Systems

From signal routing, to remote device control, by grouping multi-level actions into a single, user-configurable interface, you can do things that will make your production much more efficient.

With over 30 years of broadcast systems experience, the team at TSL understand how a control-eco system that is scalable, flexible, adaptable and entirely independent from proprietary development can bring value to operations worldwide.

By providing just the controls needed, from simple interfaces for specific tasks, to unleashing the full power of a system built on a logic-based and open control layer, customers are able to maintain complete ownership of their systems.

Third Party Integration
Independent and protocol agnostic integration that provides the flexibility needed to choose best fit and best of breed with confidence, to integrate with new or existing third party systems.

Powerful Control Engine
Take the efficiency found in automated systems and multiply it to dramatically reduce production costs and support facility wide management.

Intuitive Control Interfaces
Fully customisable interfaces to enhance and streamline operational workflows and bring flexibility to facilities worldwide.

• Self-Contained Control Systems
• Virtual Panels
• Technical Display
Advanced control, from production to playout.

Our System Controllers allow you to build relationships between routing paths, from simple audio follow video and pass through of control between devices to complete ganged signal routing.
Remote & Live Production

Remotely controlled devices and systems across multiple locations to save on cost and keep staff working efficiently.

**Functions**

- **Studio Preset Management (Save/Recall)** – Save and recall complete studio configurations including camera positions/parameters, lighting scenes, routing tables and more.
- **Studio Delegation** – Assign studios to PCRs with associated routing, tally and control following assignment.
- **Video Routing (confidence monitoring, branding)** – Routing and naming control, single cross point, associated sources, and salvos for studio presets.
- **Tally Management** - Complete scalable tally solution across multiple routers, switchers, cameras and multiviewers.

**Device Control**

- **Audio Control (Mic gain, IFB, routing)** – Control over audio routing and channel controls for remote control, studio preset set/recall and back-up control.
- **PTZ Camera Control** – Complete control over PTZ (Pan Tilt Zoom) cameras for granular control, preset set/recall and tally control.
- **Lighting Control** – Set and recall scenes of a lighting mixer and adjust levels via hardware or virtual control panels.
- **VoIP Control (Dial/MakE/End call)** – Use virtual panels to dial, make and end VoIP calls.

Virtual Panel control for remote studio productions.

Access equipment webpages efficiently for fast config changes and trouble shooting.
OB Trucks

Fully configure broadcast trucks whilst sharing and managing resources between your systems to save time, space and money. Utilise remote engineering management tools to save costs and increase efficiency.

- **Camera Assign** – Assign camera names to CCUs effortlessly.

- **Joystick Multiplexing** – Use fewer RCPs to control multiple CCUs and assign cameras to RCPs on the fly.

- **Tally Management** – Complete scalable tally solution across multiple OB trucks.

- **VTR Control** - manage VTRs with single or ganged control, from basic transport control to cue points, slow-motion control and two-machine cuts editing.

- **Facility Expansion** - Maximise up-time and manage variable demand by simply docking trucks to larger broadcast facilities seamlessly as needed. Delegate control and information while minimising setup time.

- **Video/Audio Routing** – Routing control over video and audio routers. Single cross point, associated sources, and salvos.

- **InterTruckability** - Quickly and simply interact to share all device information, managing names, control and tally across systems. Signal patching is reduced as tielines become dynamic, naming problems are eliminated and logic patching is performed virtually.
Production Control

Centralise resources across the production chain and take control of key functions with a system built on automated logic.

**Studio Control**

- **Translation, Delegation and Control Routing** - Delegate exclusive control by schedule or on-demand. Device control follows production from room to room.

- **Single Button Set-up (Programme presets)** – Set/recall complete routing tables, equipment configurations and scenes to allow one button studio setup for specific shows, reducing setup time and complexity.

- **Emergency Cut Bus Facility** – disable vision mixer output, control change over and provide control of router cuts and provide ECB tally management.

- **Studio Delegation** - Assign studios to PCRs with associated routing, tally and control following assignment.

**Device Control**

- **‘One Touch’ Studio Fail Over** – Push or pull studio setup across to different PCR in case of control room malfunction.

- **Production Automation** - MOS integration with ENPS and iNews to simplify your news production and take control over the critical devices you depend on.

- **Video Server Playout** - Easily manage a single video server channel up to 32 playout channels.
Master Control and Transmission

Support network growth, ageing systems and workflow gaps or interruptions to local programming and breaking news. Achieve efficiencies and cost savings by delegating monitoring and control responsibilities to affiliate stations.

- **Hub and Spoke** - give local operators control over which source is routed to air and access & control content for any, or all local market outlets.

- **Automation Playout & Ingest** - Fast, simple and reliable control with scheduled actions and primary, back-up or tertiary automation.

- **SCTE** - break into the affiliate's programming, should national or regional coverage take precedence

- **Configure Signal Flows** - to manage all content and process flows, as well as process automation to define automatic responses to system changes and critical data sharing.

- **Disaster Recovery** - select and remotely route primary or back-up automation to air.

- **Operator Controls** - Configure routers and monitor walls, directly control Glue, identify signals, incoming lines to steer satellite downlinks, system-wide pre-sets.

- **Cloud Playout** - make cloud-based resources look and act like traditional devices, so that operators can continue to control their cloud playout via the same familiar automation workflows and control systems they are used to.
Control, Trigger, Interface, Integrate

A range of self-contained control solutions that can be used individually to solve simple everyday problems, inter-connect to form a wider eco-system or plug straight into any third-party control system to help you quickly and cost-effectively get the job done.

• Quickly adapt and expand systems as control requirements change.
• Don’t be locked into expensive and complex control solutions.
• Integrate software and hardware products fit for your requirements.
• Give operators the control they need over the devices they use.
• Interface old & new equipment and extend the life of existing systems.

IP Control Buddy
A complete control solution that fits in the palm of your hand, perfect for flyaway kits, small production tasks and one button applications to simultaneously control multiple devices.

• Controls any GPI/O, Serial, IP enabled device, located anywhere, from a single button push.

• Directly control other devices, such as Ensemble Designs’ ultra-compact BrightEye NXT routers, Blackmagic Media Players and Power Distribution Systems.

• Trigger a salvo of actions such as:
  • Turn a GPI Output On or Off
  • Transmit a Serial Command
  • Transmit an Ethernet TCP, UDP, SNMP, or HTTP command

The IP Control Buddy helps you:
• Turn it on. Turn it off.
• Start it. Stop it.
• Open it. Close it.
• Raise it. Lower it.
• Enable it. Disable it.
And more...

Supports SNMP & HTTP
Universal Control Switches
Providing a streamlined user interface, single panel monitoring and control of multiple devices, the USP3 panels are ideal for when users must interact quickly between active sources and when multiple switch commands must be activated simultaneously.

- Show users only the device or system information, status and tallies they need in order to react quickly and accurately to any situation.
- Give users control over only those functions they need to simplify operations and reduce errors.
- Monitor and Control multiple devices from a single panel.
- Easily create multi-action commands (macros) with a single push-button command.

AnyWhere Interface Box
Designed for applications in A/V, industrial, radio, and television broadcasting, the AIB allows users to bridge systems and achieve that key bit of functionality they require without performing any programming.

Anywhere Interface Box range offers up to 16 GPI/Os and multiple device control paths, including Ethernet and serial, whilst the AIB4 adds 2-way DTMF and dial-up modem, for device management and monitoring flexibility.

All AIBs include:
- Ethernet
- RS232/RS422 serial port
- Generate & Monitor ASCII / Hex Command data
- SNMP Messaging Transmit & Receive
- Monitor SNMP Traps

<table>
<thead>
<tr>
<th>Trigger</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn GPI on / off</td>
<td>GPO On / Off</td>
</tr>
<tr>
<td>Serial Command</td>
<td>Serial Command Out</td>
</tr>
<tr>
<td>Ethernet Command</td>
<td>Ethernet Command Out</td>
</tr>
<tr>
<td>SNMP Trap</td>
<td>SNMP Set</td>
</tr>
<tr>
<td>SNMP Get</td>
<td>HTTP Set</td>
</tr>
<tr>
<td>HTTP Get</td>
<td>DTMF Send (AIB4)</td>
</tr>
<tr>
<td>DTMF Receive (AIB4)</td>
<td>Timer Start</td>
</tr>
<tr>
<td>Timer End</td>
<td>Start Sequence (Salvo)</td>
</tr>
<tr>
<td>Push a button</td>
<td>Set Button Text</td>
</tr>
<tr>
<td></td>
<td>Set Button Colour</td>
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</tbody>
</table>
The Power of Virtual Panels

Virtual Panel (TMVP) is a software-based control surface that interfaces to any control system and allows customers to visualise their workflows to effectively and intuitively manage their systems.

Virtual panels can replicate full studio controls, camera controls, routing panels, signal flows, pre-sets and source names, all configured by the user with minimal training.

The easiest way to achieve this is by using virtual panels to:
- Maintain clear and intuitive actions for the operator.
- Present just the controls they need.
- Customise design for best fit individual processes.
- Create common interfaces.
- Easy to use drag and drop design, with ability to make changes on the fly.
- Access equipment webpages for configuration and trouble shooting.
FlashBoard Technical Display

Co-ordinate operations facility-wide and get information to those who need it, when they need it, where they need it. Launched in 2018 Flashboard has achieved rapid adoption and can now be found in broadcast installations world-wide.

Recognising the increasing need for critical workflow information to be delivered visually at the point of use FlashBoard, a screen-based display system, sits on your regular IT network to deliver:

- Sophisticated System and World Clocks
- Up-Down Production timers
- On-Air and cue light indication
- On-screen branding
- Web based content display
- Video tiles

FlashBoard integrates seamlessly with TSL TallyMan or any other third party control system to gain access to the extensive range of attached third party equipment to create sophisticated command, control and display systems that are limited in scope only by your imagination.

FlashBoard can also operate as a stand alone system, using the creator software package to bring significant cost advantage to installations worldwide through ease of use and human workflow efficiencies.
Hardware

System Controllers

TM1 MK2+
- 1 RU unit
- 64 user configurable GPIO (freely configurable per pin)
- 32 Isolated Relay Outputs
- 2 x Gigabit Ethernet ports
- 4 x RS422 ports
- TallyMan software included
- Solid state memory
- Built in dual redundant PSU

GTP-32
- 1 RU unit
- 32 GPI
- 32 GPO
- 2 x Ethernet Ports
- RS422/RS232
- Web Server
- Built in Diagnostics
- Event Logs

Panels and Interfaces

Control Panels provide a customisable user interface, initiating any function available within the system including router control, tally activation, command triggers to third party devices, shot recall on robotic cameras and display of real time system data.

<table>
<thead>
<tr>
<th>Control Panels</th>
<th>Anywhere Interfaces</th>
<th>Universal Switches</th>
<th>VTR Controllers</th>
<th>Playout Clip Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMCP-16</td>
<td>IP Control Buddy</td>
<td>USP3-16</td>
<td>ST-300-T</td>
<td>CP-30</td>
</tr>
<tr>
<td>TMCP-32</td>
<td>AIB-2</td>
<td>USP3-8</td>
<td>ST-600 KiPRO Controller</td>
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<tr>
<td>TMCP-48</td>
<td>AIB-4</td>
<td>USP3-8D</td>
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<td></td>
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<td>USP3-Shotbox</td>
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<td>USP3-TSA</td>
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</tbody>
</table>

Anywhere Interfaces

- IP Control Buddy
- AIB-2
- AIB-4

Universal Switches

- USP3-16
- USP3-8
- USP3-8D
- USP3-Shotbox
- USP3-TSA
### Interfacing

New protocols are added to our control systems as they are released.

The most common are listed here. This list is not definitive.

<table>
<thead>
<tr>
<th>Interface</th>
<th>Protocol Type In Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpermann</td>
<td>Alpermann Timers</td>
</tr>
<tr>
<td>Blackmagic</td>
<td>Switcher, Router</td>
</tr>
<tr>
<td>Clearcom</td>
<td>Clearcom (HCI V2)</td>
</tr>
<tr>
<td>DHD Audio</td>
<td>V5.52/XR, 52/XS, XG, XD</td>
</tr>
<tr>
<td>DNF / TSL</td>
<td>USP3</td>
</tr>
<tr>
<td>ETL</td>
<td>Router</td>
</tr>
<tr>
<td>Evertz/Quartz</td>
<td>Symphony, Quartz protocol</td>
</tr>
<tr>
<td>EVS</td>
<td>Media player</td>
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<tr>
<td>ForA</td>
<td>ForA MFR/HVS</td>
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<tr>
<td>Grass Valley</td>
<td>Kahuna, GVG Native (SMS7000) GVG200, GVG2100, GVG4000, Kalypso, Zodiac, K-Frame Ethernet, ACOS V2, Kayenne, Acappella, Jupiter ES Switch, NP0017 (NV9000), CRSerial.</td>
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<tr>
<td>Harris/Leitch</td>
<td>LRC, Z-Protocol</td>
</tr>
<tr>
<td>InfraRed</td>
<td>Multiple</td>
</tr>
<tr>
<td>LAWO</td>
<td>Ember+</td>
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<tr>
<td>Kramer</td>
<td>2000</td>
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<tr>
<td>Newtek</td>
<td>Tricaster TC-1</td>
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<tr>
<td>Nevion</td>
<td>VikinX</td>
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<tr>
<td>NVision</td>
<td>DCP, NV5100MC, NP0017 (NV9000)</td>
</tr>
<tr>
<td>Omneon</td>
<td>Mediaplayer</td>
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<tr>
<td>Oxtel</td>
<td>Harmonic</td>
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<tr>
<td>Panasonic</td>
<td>Panasonic HS6000, HD-Integrated Camera (PTZ)</td>
</tr>
<tr>
<td>Pesa</td>
<td>USP, P1N</td>
</tr>
<tr>
<td>ProVideo RS1616</td>
<td>RS1616</td>
</tr>
<tr>
<td>Riedel</td>
<td>RRC5</td>
</tr>
<tr>
<td>Ross</td>
<td>Carbonite</td>
</tr>
<tr>
<td>RTS</td>
<td>Intercom</td>
</tr>
<tr>
<td>Sierra Serial Xpt</td>
<td>Serial Xpt</td>
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<tr>
<td>Sigma</td>
<td>MRX</td>
</tr>
<tr>
<td>Snell &amp; Wilcox/Probel</td>
<td>Tally Protocol, Kahuna-Kalypso Protocol, SWP02, SWP08, K360</td>
</tr>
<tr>
<td>SNMP</td>
<td>V1</td>
</tr>
<tr>
<td>Sony</td>
<td>MVS-X, VISCA</td>
</tr>
<tr>
<td>Talia</td>
<td>ProScan, EOS</td>
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<tr>
<td>Telecast</td>
<td>ProScan</td>
</tr>
<tr>
<td>Telemetric</td>
<td>Control</td>
</tr>
<tr>
<td>Thomson</td>
<td>BTS ASCII 9000 series, DD1020/30, Kayak DD series, Multicast tally contribution, DD35 ACOS</td>
</tr>
<tr>
<td>Utah</td>
<td>RCP-1</td>
</tr>
<tr>
<td>Vinten Redamec</td>
<td>Control</td>
</tr>
</tbody>
</table>
Contact our international team

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For further details about our product range and where to buy please visit:

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