

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.

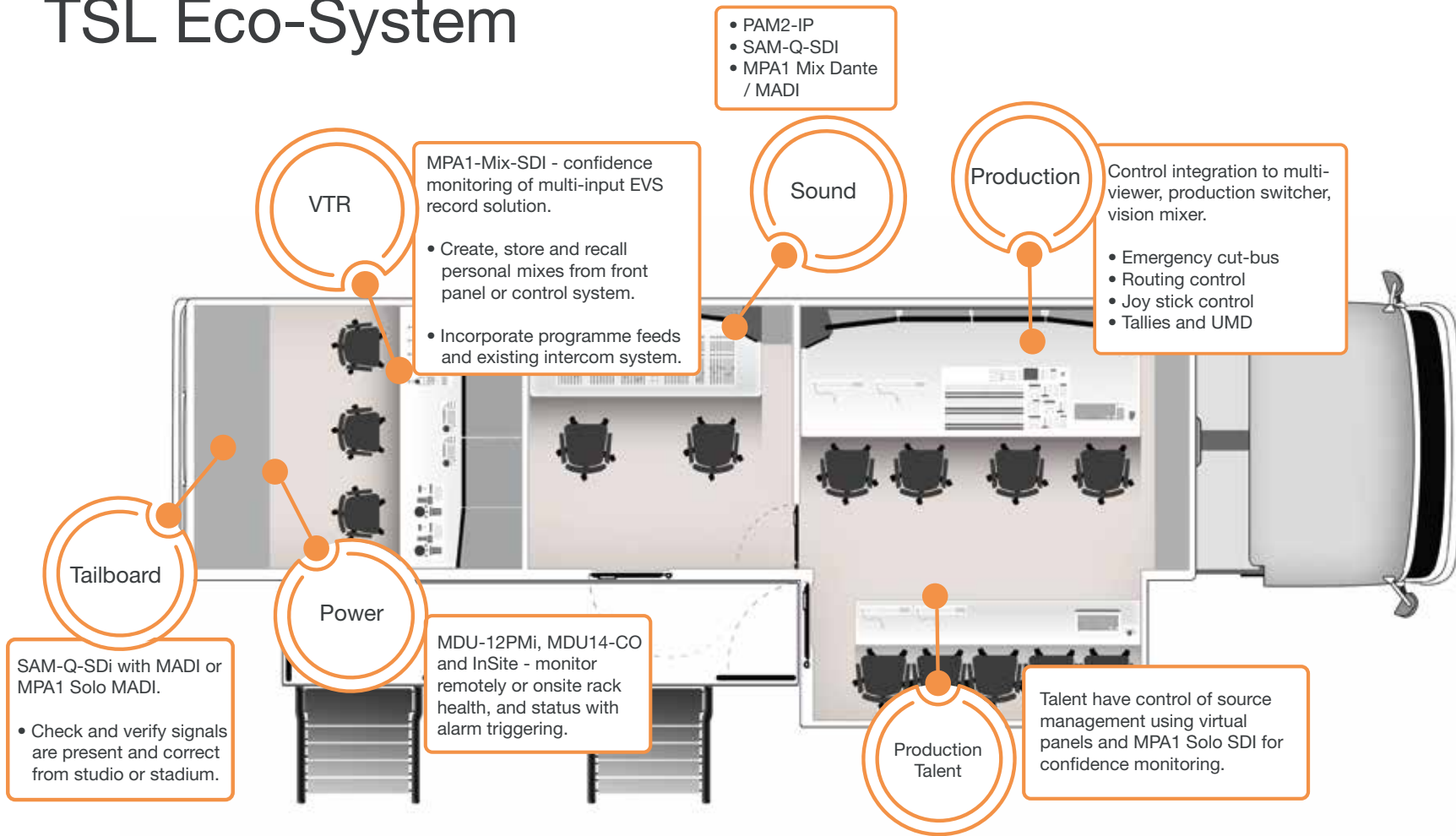
Members Of



Trusted By



TSL Eco-System



DID YOU KNOW?

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

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 in to 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.

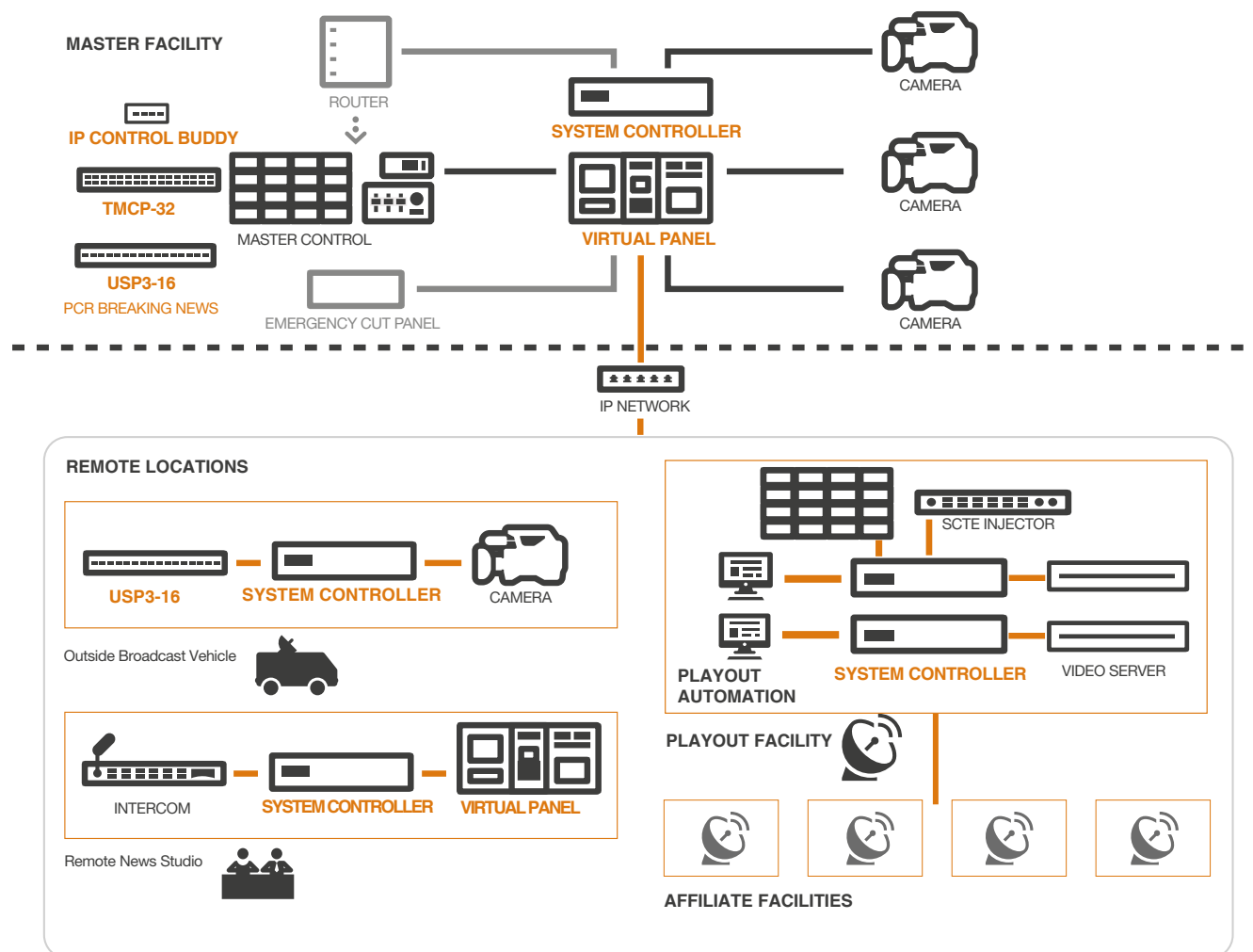
- Self-Contained Control Systems
- Virtual Panels
- Technical Display



DID YOU KNOW?

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.

Advanced control, from production to playout.



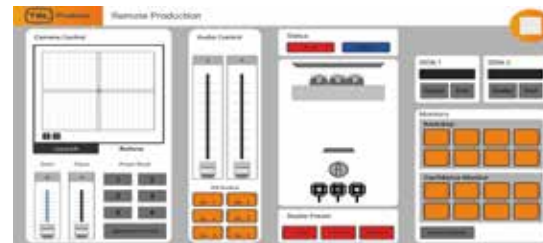


Remote & Live Production

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.



Virtual Panel control for remote studio productions.

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.



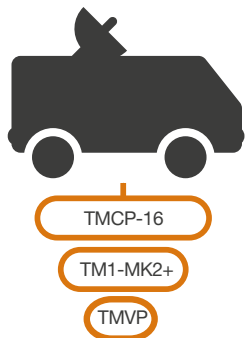
Access equipment webpages efficiently for fast config changes and trouble shooting.

OB Trucks

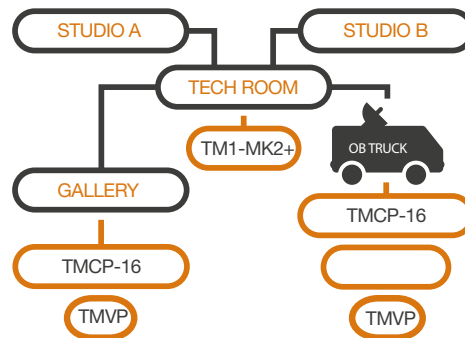
Fully configure broadcast trucks whilst sharing and managing resources between your systems to save time, space and money. Utilise remote engineering management tools to save costs and increase efficiency.

- **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.

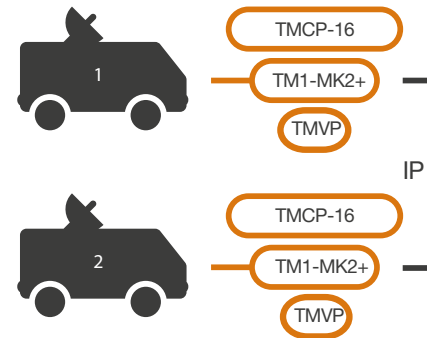
Single Truck Event



Facility Expansion



Multiple Truck Event



DID YOU KNOW?

TSL's control systems work across applications within Pro-AV, ESports and military, and are a great solution for fly packs and quick-action functions.



Production Control

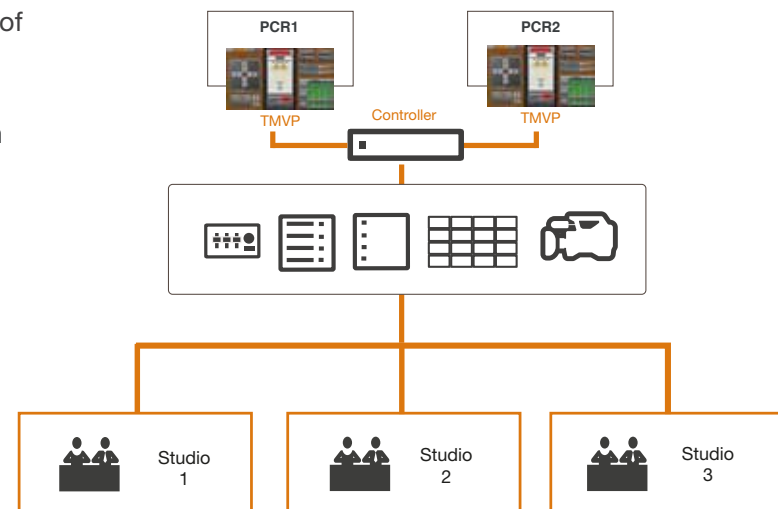
Centralise resources across the production chain and take control of key functions with a system built on automated logic.

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 Playback** - Easily manage a single video server channel up to 32 playout channels.



Studio Delegation

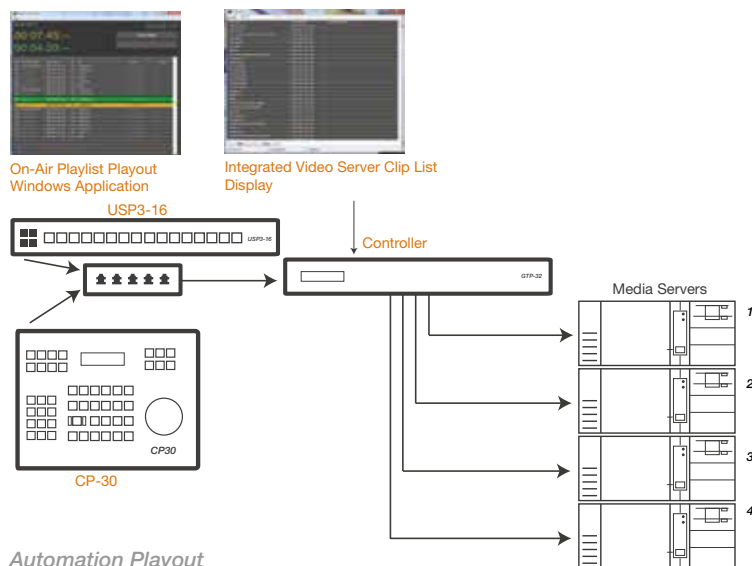
Master Control and Transmission

DID YOU KNOW?

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.

TSL's control systems are developed independently from any proprietary standards, meaning they will integrate with any third party system.

- **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.



Automation Playout

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

Trigger	Action
Turn GPI on / off	GPO On / Off
Serial Command	Serial Command Out
Ethernet Command	Ehernet Command Out
SNMP Trap	SNMP Set
SNMP Get	HTTP Set
HTTP Get	DTMF Send (AIB4)
DTMF Recieve (AIB4)	Timer Start
Timer End	Start Sequence (Salvo)
Push a button	Set Button Text
	Set Button Colour

DID YOU KNOW?

When used with Virtual Panel, operators can remotely control their TSL MPA1 audio monitors, as well as third party devices from the same interface.

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.



DID YOU KNOW?

Our products draw on decades of international experience to develop and deliver a range of top-quality products that meet the needs of today's broadcasters.

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.

Control Panels

TMCP-16
TMCP-32
TMCP-48

Anywhere Interfaces

IP Control Buddy
AIB-2
AIB-4

Universal Switches

USP3-16
USP3-8
USP3-8D
USP3-Shotbox
USP3-TSA

VTR Controllers

ST-300-T
ST-600 KiPRO Controller

Playout Clip Control

CP-30



Interfacing

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

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

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

Contact our international team

TSL Products operates globally



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

www.tslproducts.com

TSL Sales: +44 (0)1628 564 610

E-mail: enquiries@tslproducts.com



UNITS 1 & 2, FIRST AVENUE, GLOBE PARK, MARLOW, SL7 1YA, UNITED KINGDOM