The Image Video tally control system is an essential component of broadcast and production environments. It must determine where signals come from, where they go, and how they are being used.

In a typical multi-production environment, signals arriving at the facility's main router are checked for quality, converted and then routed as per studio requirements.

Studios use these and other local signals in production. A basic tally system must:
- Trace back to and tally the origin of a signal that reaches a specific monitoring point
- Distinctly identify signals which contribute to the on-air path
- Return information back to the signals origin describing its usage

**IMAGE VIDEO**'s TSI-4000 based Tally System goes beyond this level of functionality, providing these standard features:
- Scalability – up to 48 controllers can be networked together with each controller having up to four network interfaces installed
- Multiple Tally areas – Each controller supports 16 tally areas - This is ideal for a multi-control room operation
- Distinct identification of signals in use by other studios in shared facility to avoid equipment sharing problems
- Tally Expression Language allows for the creation of custom applications by the end user
- Alternate names for any signal, i.e. descriptive names for remote signals, or abbreviated names to save display space
- Provide additional source names in the same display (i.e. combine a source name with the name of the tie line or signal converter that carries the source)
- Interactive editing of display contents to place messages on infrequently changed displays
- Indicate on-air, next-to-air, or other tally states such as ISO or remote tally with a different color or message
- Interfaces to all routers, switchers and multi-viewers using serial or Ethernet ports
- GPI inputs track other equipment or control display and status functions
- General purpose GPI outputs provide tally or control to other equipment
- TSI-4000 Tally System Interface coordinates all tally system operations
- Ethernet port combines multiple independent tally systems into one facility-wide system
- Change any aspect of tally system from a Windows PC, even while tally system is in use
- Save any number of tally system configuration files to disk and recall later for different productions or operator preferences
- Monitor tally system from PC with on-screen display of multiple monitor walls

The IMAGE VIDEO Tally System quickly identifies originating sources carried to any point in your signal switching system. It traces a signal's path through various types of routing and processing equipment including routing switchers, production switchers, and master control switchers. The tally system can interface to equipment from all major manufacturers including popular multi-image display systems.

The IMAGE VIDEO Tally System is extremely easy to configure. It can be configured to monitor signal routing and processing equipment in virtually any arrangement. The tally system can even monitor signals that re-enter the same equipment or signals that go to many destinations.

To configure the tally system, model your unique system by identifying the equipment you wish to monitor and the signal interconnections between that equipment. Add remote displays to the tally system and choose the type of information you wish to appear in each display. Add general purpose outputs and specify their functions. You can connect equipment from different manufacturers in the same tally system.
TSI-4000

At the heart of the IMAGE VIDEO Tally System is the TSI-4000 Tally System Interface. The TSI-4000 collects information from signal routing and processing equipment to operate displays and tallies as directed by its internal configuration information. The TSI-4000 is configured from a Windows PC running the Tally System Console 2 program. Once configured, the TSI-4000 continues to operate the tally system with or without the PC connected. Other TSI-4000 features include:

• All electronics housed in two rack unit frame
• Ten RS-422 / RS-485 ports
• Up to four Ethernet ports (2 built in, 2 via USB)
• Redundant power supply hot swappable
• Color LCD for configuration and status of TSI-4000 ports and devices
• Multiple TSI-4000 units connected together through their Ethernet ports can extend system capacity or make independent local tally systems with shared remote information

GPI I/O INTERFACE

In most tally systems, there are cameras, tape machines, or other equipment that needs a control signal to indicate on-air, next-to-air, isolation, or some other useful condition. In some cases, there is signal switching equipment that, rather than having a serial port for interrogation and control, provides only parallel control signals to indicate switching activity. In either of these situations, the IMAGE VIDEO TXP-16, TXI-48, and TXI-80 Tally Expansion Interfaces provides general purpose outputs and inputs between this equipment and the rest of the tally system. Each unit provides up to 48 inputs and -48 outputs in a single rack unit (80 in / out in 2U). Outputs are dry relay contact closures. Inputs can be optically-isolated, voltage-sensing, or pull-to-ground type. Cascade many TXI Interface Units to extend system capacity up to 2048 inputs and 2048 outputs per TSI-4000 unit using RS-422 / 485 or Ethernet.

RCP-20 / RCP-40
TALLY MAP
VIRTUAL PIN MATRIX

Many applications require a dynamic user interface to modify frequently changing resources. Image Video provides this functionality either as an intuitive virtual pin matrix GUI, or a dedicated remote control panel. Common applications include camera delegation in a multi-control room facility, or external tally assignments in mobile production vehicles. Additional applications include router control, remote GPI control and ISO assignment.
With ever increasing system complexity and size, a new approach was required to build, program and operate a modern facility wide tally control system.

Tally System Console 2, provides the user with a table based user interface, that allows source and destination definitions to easily be pasted into tables from spreadsheets, or routing switcher configuration software.

In one table, the user can view and modify monitor wall display names, as well as router and switcher physical I/O's.

Source and destination definitions may be defined globally or on a per device basis.

A source or destination item may appear on an undermonitor display using it’s native name, a short name or long name alias.

UMD and GPI programming has never been easier. Once an under monitor display or a GPI output has been defined, it can be easily reprogrammed using a simple drag and drop interface. A source or destination item, is simply dropped onto a target (UMD or GPI), and the new programming takes effect immediately.

The flexibility and high level of customization that Image Video tally systems are famous for is still available using a powerful tally expression language. This language allows custom applications to be created simply and quickly.

Tally System Console 2 comes standard with a large number of prebuilt UMD and GPI styles that meets the requirements of the most demanding users.

New multiple tally area capability means that a single controller can accommodate up to 8 unique tally areas. In a typical multi-control room facility, a tally area would represent a production control room, or master control room.
**Virtual GPI Pin Matrix**

Now GPI routing and assignments may be made with our new integrated virtual matrix. In a mobile production environment, you frequently have to reassign external GPI I/O signals on the fly. Other applications include: router control, camera delegation, machine control, etc.

Multiple maps may be created and recalled at the push of a button.

**RCP Control Panel Editor**

Similar functionality to the virtual pin matrix is also available in a dedicated hardware panel with 20 (RCP-20) or 40 (RCP-40) pushbuttons.

Tally system Console 2 also integrates an easy to use control panel editor which allows the user to quickly and easily modify the functionality of the control panel by dragging and dropping source, destinations, or control functions onto buttons.

**Virtual Monitor Wall View**

Virtual monitor walls may be created to allow the user to monitor the status of any point in the tally system. In addition to monitoring, UMD’s may be reprogrammed by dragging and dropping a source or destination item onto the virtual UMD.
TSI-4000 TALLY SYSTEM INTERFACE

- Monitors the health of main and backup tally controllers
- Keeps configuration data synchronized between tally controllers
- Manual or automatic selection of controllers
- Includes all required cables to interconnect TSI-4000 controllers and the ACO
- System status indicated on tri-color LED’s
- Available as a standalone unit for use with existing controllers, or as part of a complete package including one or two TSI-4000 controllers

Color LCD control panel with touch interface provides configuration and status functions:

Easily configure one of the four network interface cards in the TSI-4000
Detailed status of all devices in the tally system are available.

Advanced diagnostics such as direct GPI control.
If color change is needed but the display message changes infrequently, install static displays. Print your own labels on transparencies, then insert labels into displays as needed. Static displays provide the same 'look' as changeable display's, but at reduced cost. Connect the tally system to the display's built-in tally input to change color from green to red to indicate on-air or some other condition. The 7721 series of static displays features a plugable terminal block for tally connections, a brightness control, and a tally color mode selector.
IMAGE VIDEO has a wide variety of display models to suit any application. Select from three-color or single-color in 17”, 13” and 8.5” wide models. Choose rack or wall mounting, or take advantage of space in front of monitor controls with a unique front-mount mounting system.

Build a tally system from any combination of display models. Outfit an entire facility or monitor wall, or start with just a few displays and expand later. To reduce cost, any display can be loaded with fewer than the maximum LED’s so you only pay for the display space that you need.

**SINGLE-COLOR DISPLAYS**

If color change is not important for displays in some locations, install single-color displays, further reducing cost. If desired, single color displays can include different colored LED end blocks to indicate on-air tally or other conditions.

**RDU-1710 SERIES HIGH RESOLUTION UNDER MONITOR DISPLAY**

Features:

- High resolution 16 dots high x 160, 112, and 80 dots wide models available.
- Text may be displayed in any combination of red, green, and amber color.
- Less than 1” deep.
- Many different mounting options available, including a zero rack space mounting bracket.
- Ability to display character sets such as Chinese, Japanese and Arabic.
- Interfaces with our TSI-1000 tally controller.
- Display surface may be partitioned into 8 sections.
- Large selection of text effects such as scrolling and dissolves between messages.
- Download custom graphics characters.
- Brightness of display is adjustable to suit most lighting conditions.
UMD ORDERING INFORMATION

RDU-1513 Dual Display (17”)
134-0153-13 16 proportionally spaced / 13 fixed space characters per side
134-0153-08 10 proportionally spaced / 8 fixed space characters per side

RDU-1512 Single Display (17”)
134-0152-26 32 proportionally spaced / 26 fixed space characters per side
134-0152-08 10 proportionally spaced / 8 fixed space characters per side

RDU-1517 Single Display (13”)
134-0157-20 24 proportionally spaced / 20 fixed space characters
134-0157-08 10 proportionally spaced / 8 fixed space characters

RDU-1516 Single Display (13”)
134-0156-13 16 proportionally spaced / 13 fixed space characters per side
134-0156-08 10 proportionally spaced / 8 fixed space characters per side

RDU-1518 Single Display (17”) with two channel audio meter
134-0158-20 24 proportionally spaced / 20 fixed space characters with audio meter
134-0158-08 10 proportionally spaced / 8 fixed space characters with audio meter

RDU-1519 Dual Display (17”) with four channels of audio meter
134-0159-08 10 Proportional / 8 fixed space characters per side with audio meter
134-0159-13 16 Proportional / 13 fixed space characters per side with 4 channels of audio metering

Rack Mount Adapters
131-0176-00 Pair of Rack Mount brackets for RDU-1513/1512/1613/1612
131-0176-01 Pair of Rack Mount brackets for RDU-1517 / 1617
131-0176-02 Pair of Rack Mount brackets for RDU-1516 / 1616

Pivoting Rack Mount Adapters
131-0187-00 Pair of Swivel Rack Mount brackets for RDU-1510/1610

Hinged Mounting Adapters
131-0187-01 Hinged slider bracket for RDU-1513/1512/1613/1612
131-0187-02 Hinged slider bracket for RDU-1517 / 1617
131-0187-03 Hinged slider bracket for RDU-1516 / 1616
131-0189-00 Pivoting wall mount bracket for RDU1510, 1610, 1710 series

RDU-1710 Series
134-0172-10 16 X 160 Pixel resolution allows for the displays of two lines of up to 32 characters per line (7 pixel high characters) or 10 characters of 16 pixel height. Or any combination of font sizes / foreign characters

7721 Static UMD
134-0069-01 Two color LED Single Display, rack-mount
134-0069-02 Two color LED Single Display, 17”
134-0069-03 Two color LED Single Display, 13”
134-0069-04 Two color LED Single Display, 8 5/8”
134-0069-05 Two color LED Dual Display, rack-mount
134-0069-06 Two color LED Dual Display, 17”
134-0069-12 Two color LED Triple Display, rack-mount
134-0070-01 7721A with 2 channel Audio Meter, rack-mount
134-0070-05 7721B with 4 channel Audio Meters, rack Mount
134-0099-01 Interchangeable legends for 7721E triple with up to 8 characters per insert in a Dot Matrix (5x7) configuration. Ten inserts are available per sheet.
134-0099-02 Interchangeable legends for 7721A,B, and with up to 10 characters per insert in a Dot Matrix (5x7) configuration. Ten inserts are available per sheet.

Wall Mount Power Packs
114-0316-01 120V 60Hz AC. 12VDC. 1000 ma. c/w right angle plug
114-0317-01 120V 60Hz AC.12VDC. 1000ma. for 7720/7721
132-0191-01 120V 60Hz AC.12VDC. 1000ma. for 7720/7721
114-0341-01 1710 Series 100-240V 50-60Hz AC. c/w right angle plug
132-0195-01 100V 50/60Hz AC.12VDC. 1000ma. for 7720/7721

External ‘Brick’ Corded Power Packs
114-0318-00 240V 50Hz AC. 12VDC 1000ma
132-0192-00 240V 50Hz AC. 12VDC 1000ma c/w 8’ AC cord and 20’ DC cord c/w 7720/7721 power / tally connector
114-0324-01 240V 50Hz AC. 15VDC @1.5A for RDU1710 series

Multi-RDU Power Supplies
132-0196-00 Powers up to 8 RDU1710 series displays 120V 60Hz c/w 8 - 20’ inter-connect cables
132-0189-00 Powers up to 12 RDU1510 series displays 120V 60Hz c/w 12 - 20’ inter-connect cables
132-0189-01 Powers up to 12 RDU1510 series displays 240V 50Hz c/w 12 - 20’ inter-connect cables
132-0190-00 Powers up to 18 RDU1610 series displays 120V 60Hz c/w 18 - 20’ inter-connect cables
132-0190-01 Powers up to 18 RDU1610 series displays 240V 50Hz c/w 18 - 20’ inter-connect cables
133-0201-20 20’ Locking Power Supply I/C cable assembly
ORDERING INFORMATION

TSI-4000 TALLY SYSTEM INTERFACE

161-0151-03 TSI-4000 Tally System Interface
90-264VAC 50 / 60Hz

161-0151-01 TSI-4000 Redundancy Package
(for upgrading existing single controller system)
1-TSI-4000 c/w 2 power supplies
1-TSI-4000 ACO

161-0151-02 TSI-4000 Redundancy Package
2-TSI-4000 c/w 2 power supplies
1-TSI-4000 ACO

200-0002-00 License for Miranda Kaleido multiviewer
200-0009-00 License for EVERTZ VIP / MVP multiviewer
200-0018-00 License for Avitech / Apantac multiviewer
200-0024-00 License for Imagine Communications multiviewer

134-0054-04 Tally expansion interface with 16 jumper configurable inputs and 16 contact closure outputs. Includes 2 wall mount power supplies.

134-0054-05 Tally expansion interface with 48 jumper configurable inputs and 48 contact closure outputs. Includes 2 wall mount power supplies.

134-0054-06 Tally expansion interface with 80 jumper configurable inputs and 80 contact closure outputs. Includes 2 wall mount power supplies.

138-0100-01 TXP-16 Tally Expansion Panel with 16 front panel user configurable I/O

138-0100-02 TXP-16 Tally Expansion Panel with 16 front panel user configurable I/O and 32 additional I/O via rear DB-37

132-0198-01 TXI Power supply 90-264V AC 47-63Hz. 12VDC@2.1A

138-0178-01 ECP-J16 Binding post input connector panel for use with TXI series of GPI frames

134-0179-01 ECP-O16 Binding post output connector panel for use with TXI series of GPI frames