TALLY & UMD SYSTEM

SYSTEM CONTROLLER SC-11

Handbook

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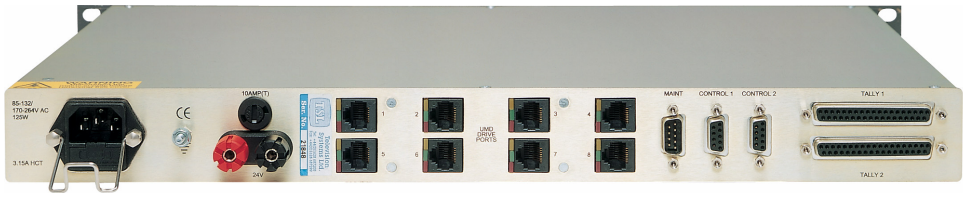
TSL System Controller SC-11



Please Read This First

Installation instructions

- Check that the voltage input setting on the rear of the equipment matches the local voltage.
- Support the rear of 1RU equipment.
- Ensure that sufficient cooling is available for units which are vented and/or use cooling fans. 1RU above and below the equipment is ideal.
- Please ensure that all PCBs behind the front access panel are fully seated following transit.
- Ensure that communication cables have the ground carried through to the connecting equipment.
- Please use the current Winsoft version that is provided with the Manual
- Be prepared to check/change the RS422/RS485 connections as the Tx and Rx cable pairs may be different on third party equipment to that specified in the TSL manual.
- TSL has frequently been contacted for a “no comms” fault and it has been found that the cabling is at fault. Check the pin-outs as shown in the manual.

Please read the manual before contacting TSL in case of difficulty.

SAFETY

Installation.

Unless otherwise stated TSL equipment may be installed at any angle or position within an operating temperature range of 5° ~ 25° C .

The RJ45 connectors are for use only with TSL UMD equipment.

All TSL equipment conforms to the EC Low Voltage Directive:

EC Low Voltage Directive (73/23/EEC)(OJ L76 26.3.73)(LVD). Amendment: (93/68/EEC) (OJ L220 30.8.93).

Earthing/Grounding

In all cases, the frame of the equipment must be earthed on installation. Connection to an earthed strip running the length of the frame is ideal.

The earth pin on the IEC mains inlet connector is connected to the metal frame of the equipment, to 0 volts on the internal DC PSU and to signal ground, unless otherwise stated. All metal panels are bonded together. Rack mounted equipment must be earthed (grounded).

Mounting

Careful consideration of the of equipment location and mounting in racks must be made. In particular, consideration must be given to the stability of free-standing racks by mounting heavy equipment low in the rack. The rear of the unit should be supported in the rack.

Power

For pluggable equipment, the socket outlet shall be installed near the equipment and shall be easily accessible.

Consideration must be given to the supply circuit loading and switch on/fault surges that will affect overcurrent protection trips and switches etc.

Check that the fuse rating is correct for the local power (mains) supply. Replacement fuses must be of the same rating and type for continued protection against fire risk.

The equipment rating is shown on the rear panel.

No power supply cord is provided with this equipment.

Do not switch on until all connections are made.

Ventilation

Due consideration for cooling requirements must be given when mounting the equipment. Ideally 1RU of rack space should be left above and below the unit.

If the equipment is installed in a closed unit, consideration must be given to providing forced air cooling in order that the maximum recommended temperature is not exceeded.

WARRANTY, MAINTENANCE AND REPAIR

All TSL equipment is guaranteed for one year from the date of delivery to the customer's premises. If the equipment is to be stored for a significant period, please contact TSL concerning a possible extended warranty period.

Failure during warranty

If any TSL product should fail or become faulty within the warranty period, first please check the PSU fuses.

All maintenance work must be carried out by trained and competent personnel.

Technical support information

E-Mail address: support@televisionsystems.ltd.uk
Telephone Support Number for the UK and Europe: +44 (0) 1628 670000
Telephone Support Number for the USA only: 1 877 591 2108
If equipment has to be returned to TSL for repair or re-alignment, please observe the following:

TSL Returns Procedure

Please telephone +44 (0)1628 676200 (Fax: +44 (0)1682 676299) and ask for Sales who will provide a Returns Number. This will enable us to track the unit effectively and will provide some information prior to the unit arriving.

For each item, this unique Returns Number must be included with the Fault Report sent with the unit.

A contact name and telephone number are also required with the Fault Report sent with the unit.

Fault report details required.

- Company:
- Name:
- Address:
- Contact Name:
- Telephone No:
- Returns Number:
- Symptoms of the fault (to include switch setting positions, input signals etc):

Packing

Please ensure that the unit is well packed as all mechanical damage is chargeable. TSL recommends that you insure your equipment for transit damage.

The original packaging, when available, should always be used when returning equipment..

If returned equipment is received in a damaged condition, the damage should be reported both to TSL and the carrier immediately.

YEAR 2000 CONFORMITY REQUIREMENTS

This product conforms to the following rules:

Rule 1	No value for the current date will cause any interruption in operation.
Rule 2	Date based functionality will behave consistently for dates prior to, during and after the Year 2000.
Rule 3	In all interfaces and data storage, the century in any date is specified either explicitly or by unambiguous algorithms or by inferencing rules.
Rule 4	The Year 2000 is recognised as a leap year.

EC DECLARATION OF CONFORMITY

Application of Council Directives Nos:
EC Low Voltage Directive (73/23/EEC)(OJ L76 26.3.73)(LVD).
Amendment: (93/68/EEC) (OJ L220 30.8.93).
Conformity Standards Declared:
EN 60950

EMC Directive: 89/336/EEC, Amended 92/31/EEC.
Conformity Standards Declared:
EN 50081-1, EN 50082-1

Manufacturer's Name:	Television Systems Ltd
Manufacturer's Address:	Vanwall Road Maidenhead SL6 4UB England United Kingdom
Type of Equipment:	UMD System Controller
Model No:	UMD SC-11
Part Number:	TSLP- UMD SC-11
Date CE Mark Affixed:	2000

I, the undersigned, declare that the equipment specified above conforms to the quoted Directives and Standards.

Place: Maidenhead, England

Signature: _____

Date: _____

Print: J F PINNIGER

Position: PRODUCT MANAGER

WARNING

Disconnect power before removing the covers

There are no user adjustable parts inside the unit

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Section A

SYSTEM CONTROLLER SC-11

(SOFTWARE VERSION 7.5xx)

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1.0 Introduction

The UMD (under monitor display) system consists of a number of display modules, positioned under the picture monitors, controlled by a 19" 1RU remotely located System Controller, SC-11.

The System Controller distributes power and provides the control for the displays. It also carries interfaces for routing matrices, inputs for connecting to vision mixer tallies and output drivers for other cue lights and additional tally control.

All operational set-ups such as the router assignments, mnemonics and tally routing are programmed with the set-up computer running Winsoft, connected to the Maintenance Port on the System Controller. All parameters are automatically saved in a battery backed up non-volatile memory.

The System Controller is capable of powering a maximum of 38 eight character UMD units and addressing up to 126 units. An auxiliary 2RU power supply, the PSU-22, is required for systems with more than about 38 displays.

The display modules are connected to the System Controller by RJ45 overall screened cable. RJ45 splitter units are available to drive more than one display from an output port.

There are 32 tally input pins for connection to a vision mixer and 32 open collector tally output drivers for external cue lamps. Inputs and outputs may be individually assignable to each other.

Router status and vision mixers providing serial tally information are connected by RS422 D9 connectors.

Warning

Remove power to the unit when removing and replacing circuit cards.

The circuit cards are not "hot swappable".

2.0 Installation

The System Controller and UMDs should be installed in a standard 19" rack allowing good ventilation. No other special precautions need be taken.

2.1 Recommendations

- Consideration must be given to power losses incurred on long cable runs (in excess of 50 meters) between the displays and the System Controller. It is recommended that the loop resistance of the power circuit should not exceed 1 ohm.
- Cables to the UMD's should be screened CAT5 cable in order to conform with the European CE requirements. It is recommended that Category 5E FTP (foil screened twisted pair) cable is used. The individual cores are rated at 1A.
- The displays should be distributed evenly between the eight display drive outputs on the System Controller.
- To conform to CE requirements the cases should be bonded to ground using, ideally, braiding connecting straps.

Each RJ45 connector on the Controller is fused (re-settable thermal fuses) at about 1.3Amps . (The fuse will open after a short time at loadings greater than about 1.3A.).

Do not exceed the maximum loading of the unit ~ 38 PLU or 95W.

Notes.

PLU**.** Power Loading Unit ≡ 2.5Watts

LEDs are provided for confidence checking of both the power and data to the UMDs and the return data from the AMU1 series.

If more than one PSU-22 is to be driven from the Display Outlets, each PSU-22 must be fed from a separate block. I.e. PSU-22 No 1 is fed from any outlets in the range 1 – 4 and PSU-22 No 2 is fed from any outlets in the range 5 – 8.

If the Controller is some distance from the monitor stack, a Power Supply Unit, PSU-22, should be located in the bottom of the stack.

The System Controller is wired on the Ports as Device.

Note

Tally 1 This is for the parallel tally inputs from a vision mixer.
Tally 2 This is for the mapped tally output connections.
Control 1. This is for the Router connection.
Control 2. This is for the serial tally information from the Vision Mixer

2.2 Tally Inputs

Serial tallies from the vision mixer should be connected to the nominated D9F RS422 connector. If in doubt, check the Winsoft Properties information.

Parallel (GPI) tallies are connected directly to the Tally 1 connector on the System Controller. A ground or 0V in the pin is required to operate the tallies. The common or ground connection is connected to Pin 36. The tally inputs are connected to Pins 1 through to Pin 32.

2.3 Tally outputs.

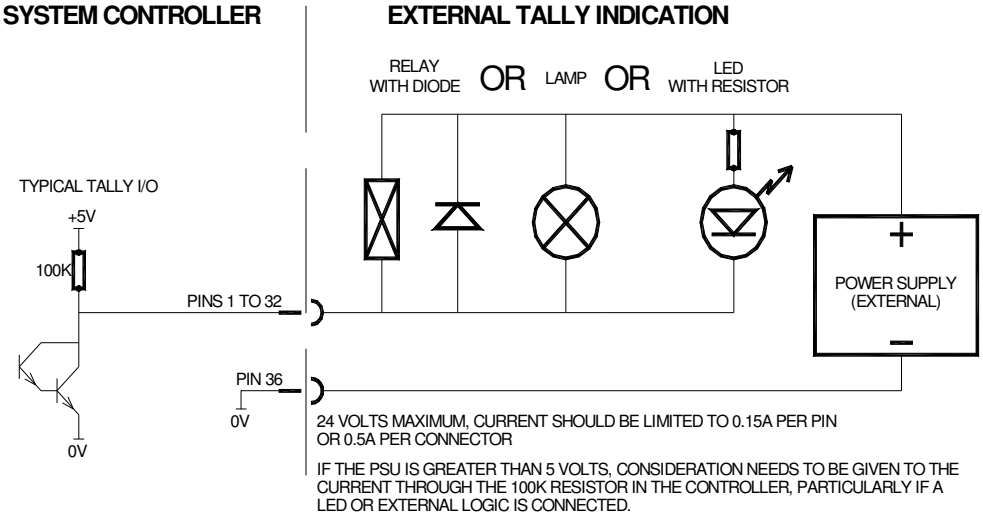
Tally outputs are available on the 'Tally 2' connector of the System Controller. These consist of 32 open collector driver circuits available on Pin 1 through to Pin 32 Common (ground) appears Pin 36. The circuit is capable of sinking approx. 150mA to ground to activate relays etc.

These tally outputs are intended to *control cue lights on camera heads, VTRs, Telecine machines etc. as well as directly any static under-monitor displays in the system. External drivers are needed for high current applications.

For situations where multiple relay closures are needed, a TSL Cue/Tally Distribution Unit, CTD-1S should be installed. This unit connects directly to the 'TALLY 2' connector on the SC-11 and will provide 4 sets of relay closures from each of the 32 tally outputs.

Tally inputs and outputs are assigned to UMDs via set up computer which is connected to the Maintenance Port. The set up program, Winsoft, is provided with every System Controller.

***Circuit required to use the open collector Tally Out to drive external relays**



2.4 Pin-out Details

The cable required to connect the System Controller with the computer is as follows:

UMD SYSTEM CONTROLLER		COMPUTER COMMS PORT		
MAINTENANCE PORT		AT		XT or PC
D 9 socket		D 9 socket		D 25 socket
2	←	3		2
3	→	2		3
5	GND	5		7

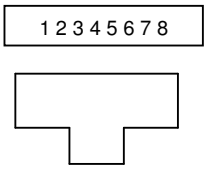
Note that for most installations a D9 to D9 connector pinout is required.

The displays are wired pin to pin.

RJ45 DISPLAY CONNECTORS	
1	0v
2	0v
3	RX-
4	TX+
5	TX-
6	RX+
7	+24v
8	+24v

Cable Details

View from the back.
Cable entry.



RJ45 Connector on the cable

MAINTENANCE AND RS 232 CONNECTORS D9 PLUG			
1	-	6	-
2	RX	7	RTS
3	TX	8	CTS
4	DTR	9	-
5	0v		

Cable Details – contd.

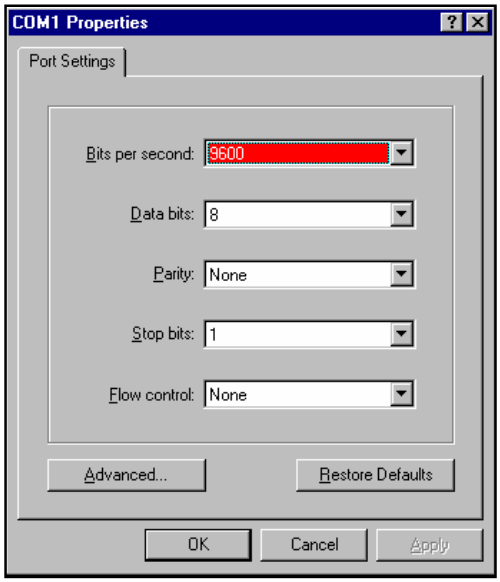
CONTROL 1 & 2 AND RS 422/RS485 CONNECTORS D9 SOCKETS			
1	0v	6	0v
2	TX-	7	TX+
3	RX+	8	RX-
4	0v	9	0v
5	-		

TALLY 1 & 2 INPUT/OUTPUT CONNECTORS D37 SOCKET			
1	TALLY 1	18	TALLY 18
2	TALLY 2	19	TALLY 19
3	TALLY 3	20	TALLY 20
4	TALLY 4	21	TALLY 21
5	TALLY 5	22	TALLY 22
6	TALLY 6	23	TALLY 23
7	TALLY 7	24	TALLY 24
8	TALLY 8	25	TALLY 25
9	TALLY 9	26	TALLY 26
10	TALLY 10	27	TALLY 27
11	TALLY 11	28	TALLY 28
12	TALLY 12	29	TALLY 29
13	TALLY 13	30	TALLY 30
14	TALLY 14	31	TALLY 31
15	TALLY 15	32	TALLY 32
16	TALLY 16	33	0v
17	TALLY 17	36	0v
		37	-

2.5 Computer Port Settings

These are usually the computer default settings. In Windows ’95 and ’98 the dialogue window may be accessed through:

Start > Settings > Control panel > System > Device Manager > Ports, Port Settings –



Bits/sec:	9600
Data Bits:	8
Parity:	None
Stop Bits:	1
Flow Control:	None
Under Advanced, click	Defaults.

3 The Internal Power Supply Specification

This is a Cosel UAW125S-24-N (+24V @ 5.2A) unit. In the event of a failure the faulty item should be returned to TSL for replacement.

The user should not attempt any repairs as this voids the PSU manufacturer's three year warranty.

Specifications

Input Voltage	85-132/170-264 AC auto ranging
Input Frequency	47-63 Hz
Inrush Current	<60A @ 230V I/P and full load
Leakage Current	0.75mA max
Output Adjustment	+ 10% to -5%
Line Regulation	0.8% max over input range
Load Regulation	1.6% max for 100% load cahnge
O/P Ripple and Noise	40mV pk-pk typical (150 mV pk-pk max)
Overload protection	Operates @ >105% of rating. Auto recovery
Storage Temperature	-20°C - +60°C
Relative Humidity	10% - 90% non-condensing
Cooling	Convection cooled
Safety Approvals	UL 1950, IEC 950 and CSA 22.2 No. 234, EN 60950