OPTICAL
SYSTEMS
DESIGN
PTY. LTD A.C.N. 003 020 504

# OPERATOR MANUAL

# OSD351

# FIBRE OPTIC CCTV TRANSMITTER CARD

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**C O N T E N T S**

# 1. TECHNICAL SUMMARY

## 1.1 BRIEF DESCRIPTION

The OSD351 fibre optic video transmitter card and one of OSD's OSD300 series fibre optic video receivers together form a high performance video transmission system capable of providing CCTV or better quality video over distances of at least 5km of standard low cost optical cables.

The OSD351 offers:

- Transmit bandwidth of at least 15MHz
- Immunity to electrical interference
- Complete end-to-end isolation
- Safe transmission in hazardous environments

As stated above it inter-operates with OSD's other CCTV video transmission equipment which are available in both card and module form.

It has an optical power adjust switch which allows operation with all multimode fibre types over all distances without the need for optical attenuators.

It is packaged in OSD's standard card format designed to plug into the OSD350 or OSD370 chassis.

The OSD351 operates off +8 to +18VDC.

## 1.2 TECHNICAL SPECIFICATION

**ELECTRICAL**

| | |
|---|---|
| Input/Output Impedance | 75Ω |
| Input Level | 1Vpp nominal |
| Video Connector | BNC female socket |
| Power Connector | 9 pin male D connector |
| Bandwidth | 10Hz to 15MHz, ±3dB |

**OPTICAL**

| | |
|---|---|
| Transmitter wavelength | 850 ±40nm nominal (1300nm optional for OSD351L) |
| Transmitter coupled power for: | |
| - 1300nm operation | >-20dBm (10μW) peak power (OSD351L) into 10/125um fibre (OSD351) |
| - 850nm operation | >-12dBm (60uW) peak power into 62.5/125um fibre (budget 21dB) |
| Transmitter power adjust | -6dB nominal, user selectable by board mounted switch on OSD351 |
| Optical connectors | ST standard |

**PHYSICAL**

| | |
|---|---|
| Power Requirements | +12V @ 100mA |
| Dimensions (mm) | 25W x 100H x 208D |
| Weight | 200g |
| Indicators | Signal Present |
| Operating Temperature | 0 to 60°C |
| Controls | Tx output power level, slide switch |
| Relative Humidity | 0 to 95% non-condensing |

DB9 Power Connector Pinouts

| | |
|---|---|
| Pin 6,7,8 | Ground |
| Pin 3 | +12V DC input |

# 2. INSTALLATION AND OPERATING INSTRUCTIONS

## 2.1 INTRODUCTION

This section outlines the methods required to install and operate the OSD351 successfully. It should be studied carefully if damage to the equipment or poor results are to be avoided.

This equipment has been fully tested prior to dispatch and is ready for immediate operation. However, it is advisable to check for external transportation damage before operation. If damage is present, return the unit and packing to the supplier immediately.

## 2.2 INSTALLATION

Plug the unit into it's OSD350 or OSD370 chassis and connect the video signal source to the OSD351 and the monitor or switcher to the OSD300 series receiver at the other end of the link.

Ensure that correctly terminated 75Ω BNC patch leads are used.

Fix the units into the chassis using the captivated screws and connect the optical cable.

If a video signal is being transmitted through the link "Video Signal Present" LEDs will illuminate on the front panels of both OSD351 transmitter and at the receiver.

Note that it can be plugged in or out of the OSD350 or OSD370 chassis with power on or off.

## 2.3 OTHER CONNECTIONS

The video signal is connected to or from external equipment by a BNC jack.

The optical fibre must be terminated by the appropriate optical connector. Before connection, inspect the end of the connectors to ensure that no dust or dirt is present as it could contaminate the modem connector and result in poor performance.

If it is necessary to clean the cable connectors use acetone or alcohol and a lint free tissue to remove contamination.

## 2.4 OPERATION

### 2.4.1 CONTROLS

The OSD351 video transmitter has only one control: "Optical Power". When in the "High" position the transmitted optical power is at a maximum, when in the "Low" position it is approximately 6dB lower.

Set the "Optical Power" switch to either "High" or "Low" depending on the link distance. The following table is a rough guide to the correct settings.

| Fibre Type | Product | Distance (km) | |
|---|---|---|---|
| | | Low | High |
| 50/125 multimode | OSD351 | 0 - 2 | 1 – 5 |
| 62.5/125 multimode | OSD351 | 0 - 3 | 2 – 5 |
| 10/125 singlemode | OSD351L | 0 - 10 | 5-30 |

### 2.4.2 INDICATORS

The OSD351 has only one indicator:

"Video Signal" - an amber indicator which illuminates when a video signal is connected.

# 3. MAINTENANCE

## 3.1 INTRODUCTION

The following section outlines the fault finding procedures for the OSD351 modem. Please take note of the following:

Personnel without considerable technical training should not attempt any maintenance except that outlined below.

If further maintenance is attempted you are warned that every care should be taken to ensure that internal measurements made while the equipment is running are taken carefully, as some components are extremely expensive and can be damaged by failure of any portion of their support circuitry.

## 3.2 EXTERNAL INSPECTION

Visually check the following:

Check that the power supply voltages are correct on the OSD911 (+12 to +16VDC and -12 to -16VDC).

Check that video signal is connected to the OSD351 and that the remote receiver has been correctly connected to properly terminated external equipment.

Inspect optical connectors, and clean using acetone and a lint free tissue to remove contamination.

Check that the OSD351 optical power switch is set to a level appropriate to the link distance.

## 3.3 ROUTINE MAINTENANCE

No routine maintenance is required for this equipment.

# 4. WARRANTY

Thank you for purchasing equipment designed, manufactured and serviced by Optical systems Design (OSD). OSD warrants that at the time of shipment, its products are free from defects in material and workmanship and conforms to specifications. Our Warranty conditions are outlined below:

## 4.1 WARRANTY PERIOD

For warranty period, please call your local OSD distributor.

## 4.2 ALL REPAIRS

Optical systems Design reserves the right to repair or replace faulty modules/units. Please obtain a “Return Material Authorisation” number form and number before returning goods. Goods must be returned to Optical systems Design, Warriewood or its nominated authorised representative, for all repairs in adequate packing material.

### 4.1.1 WARRANTY REPAIRS

Return shipments to OSD shall be at customer's expense and freight back to the customer will be at OSD expense.

### 4.1.2 OUT-OF-WARRANTY REPAIR

OSD reserves the right to repair or replace any faulty goods. Freight costs and insurance for both journeys are met by the user. All equipment repaired by OSD will have a 3 Month Warranty from the date of dispatch.

### 4.1.3 SITE REPAIR

By agreement site repairs may be undertaken for which out of pocket, hotel and travel expenses will be charged.

## 4.3 EXCLUSIONS

This warranty does not apply to defects caused by unauthorised modifications, misuse, abuse or transport damage to the equipment. All modifications to OSD’s standard product will need written authorisation and will be charged at normal repair rates. All modifications are to be carried out by OSD Technicians. Warranty will lapse if unauthorised removal and/or tampering with serial number and/or repair labels is evident.