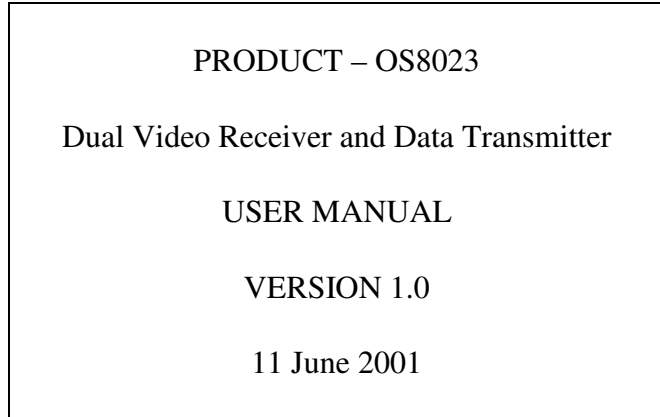


OS8023u  
 Author : W.D.  
 Issue 1.0



<b>Product: OS8023 \ AB</b>		<b>Model:</b>	<b>850SR-ST</b>
<b>Serial Number:</b>		<b>JOB No :</b>	
<b>TEST</b>	<b>CRITERIA</b>	<b>RESULT</b>	
Power Supply	+5V, -5V dc		
LED Power Indicator	Functional		
Video RX Indicator	Functional		
Data TX Indicator	Functional		
Optic TX Level Ch1	- dB		
Optic TX Level Ch2	- dB		
Optic RX Level Ch1	- dB		
Optic RX Level Ch2	- dB		

**Date:** ..... **Tested By:** .....

**USER MANUAL**

**1 PRODUCT DESCRIPTION**

**1.1 General**

The OS8023 is a Dual Data Transmitter and Video Receiver.

The Data Transmitter is used in Video Systems for low speed data communication interfaces over Fibre. It is compatible with LL232 which is a RS232 to fibre interface and the LL422 or OS8422 which is a RS422 or RS485 to fibre interface.

The Video Receiver converts an optical signal received from the fibre into a composite video signal that is transmitted into a BNC connector. When the optic signal is present a led indicator will light up.

This unit is designed to fit into a OS800 19" sub rack system. The card is a standard eurocard size.

This unit operates autonomously.

**1.2 Basic System Description**

The main purpose of this unit is to provide a compact Rack mount interface to a PTZ Camera. (Pan Tilt Zoom)

The Data Transmitter is used to control the camera. It converts the RS422 one directional data signal into an optical signal and transmits it into the fibre. The Video Receiver converts the optical signal into a composite video signal. The AGC circuit then checks the amplitude and corrects the signal before transmitting it into the 75Ω BNC connector.

**Features**

- Repeat data without interference.
- Multiple cards fit into OS800 - 19" rack system.
- Interface directly to the OS8021 Single channel RS422 Receiver and Video Transmitter.
- Compatible with standard composite video.

**Uses**

- Ideally suited for Pan tilt zoom systems in video applications.

**1.3 Indications**

Data TX - Data Transmitter on Fibre  
 Video RX - Video Receiver on Fibre

**2 PRODUCT STOCK CODES**

**OS8023** - Dual Data Transmitter and Video Receiver on Fibre.

**3 PREPARATION FOR USE**

**3.1 Unpacking**

Each OS8023 is shipped factory tested, and packed in a protective packaging.  
 Inspect the packaging for any visual damage.  
 The manufacturer is not liable for damage during shipment.

**3.2 Configuration of the Links**

To set the circuit to AGC mode Link 1 and 2 must be set in position.  
 For manual gain mode the links must be out.

Link 3,4,5,6 selects normal or invert Video signal. This link is factory set and depends on the optic type used. Usually when 1300nm optics are used then links 3 and 4 must be set and when 850nm optics are used links 5 and 6 must be set.

**3.3 Connecting to Copper Cables**

It is not necessary to remove the cards from the sub rack.  
 Connect the fibres to the front of the card taking care not to bend the fibres.  
 For the data link connect the 3pin screw connector with the positive line to the right hand side of the connector and the negative to the next

pin. The screen for the cable can be connected to the left hand side of the connector

For the video link connect the BNC connectors to the back of the card.

If the links are selected for manual gain adjustment then the following procedure is followed. Each channel has its own adjustment for gain. This gain adjustment is not reachable from the front of the unit. By connecting the ground lead of the oscilloscope to the card frame the signal on each channel can be tested by connecting to this test pin. The gain is normally adjusted using a standard reference signal from a pattern generator at the Optic transmitter. The received Video signal is then monitored on the oscilloscope. The gain is now adjusted to get a 300mV sync signal. The oscilloscope must be set to line sync.

If the links are selected for AGC the unit can be used as it is. Note if you have changed the manual setting it is necessary to readjust the AGC setting by following the above procedure in AGC mode.

**3.4 Installation**

Ensure that the link loss over the fibre cable is within the power budget of the equipment.

**4 OPERATOR'S INSTRUCTION**

The unit needs no operator intervention to function.  
 If a fault arises, it is necessary to observe the alarm indications and to perform such procedures as first line maintenance as described in the proceeding chapter.

**5 MAINTENANCE INSTRUCTIONS**

No routine maintenance is required on this equipment.

**5.1 First Line Maintenance**

**5.1.1 Instrument and tools required**

Optic power meter  
 Multi-meter

Oscilloscope.

**5.1.2 Maintenance Procedure**

When arriving at a suspect unit it is necessary to check that all connections are correctly made.

Check that all fibre connectors are plugged in correctly and that the fibre is undamaged.

The first thing to check after that is the power supply. Check that the power to the OS800 is switched on. Then check the OS800 Power Supply for the voltage indicators(+V and -V) on the frontpanel. If none of the voltage indicator are working check the fuse on the back of the OS800. If the fuse is replaced and the unit is still not working even without an load the OS800 is faulty and must be replaced.

Use the optic power meter and measure the optic level coming out of the fibre at the suspect channel. Do this by disconnecting the ST connector and connect the fibre to an Optic power meter and check the optic emission level. If this level is to low or not present the fibre or the transmitter could be damaged or is not working

The next thing to check is the signal coming out of the unit. Do this by replacing the fibre and connecting the ground of your oscilloscope to the indicated GND testpin on the suspect unit. Then connect the probe to the Video Out testpin on the suspect channel. Measure this video signal to see if the signal is OK. If the signal is too small or to big check if the unit is set for Manual or AGC. If the unit is set for AGC adjustment is unnecessary.

If all these tests have been done and the system is still not operational the supplier must be notified.

**6 ORDERING INFORMATION**

OS8023 [Optic Option][Optic Connector Option]

Optic Option	Wavelength	Range	Budget distance	Connector
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AB	850nm	Short	3.5km	ST or SMA
BB	1300nm	Medium	12km	ST or SMA

**7 SPECIFICATIONS**

**7.1 Electrical Characteristics**

**Power Supply**

Power Connector -	20 Pin Double Sided Edge Connector
Supply Voltage -	12V ± 10% DC
Supply Current -	250 mA (max)
Power Dissipation -	3 Watt (max)

**Video**

Video Output Connector -	BNC Female
Output Impedance -	75 Ohms
System Bandwidth -	100 Hz to 10 MHz
Signal/Noise Ratio -	52 dB minimum
Differential Gain -	2 % typical
Differential Phase -	2° typical

**Data**

Data Input Connector-	3Pin Screw Connector
Data Reception Standard-	RS422 or RS485(one direction)

**7.2 Optical Characteristics**

Connector -	ST or SMA
Reception Wavelength -	820 nm or 1300nm
Responsivity -	7 mV/μW Typical or 13mV/μW
Fibre Compatibility -	50/125 μm diameter
Minimum Receive Level-	-30dB

**7.3 Physical Characteristics**

Space Consumption in 19” rack -	rack height x 25 mm
Overall Unit Dimensions -	Length - 171 mm
	Width - 128.5 mm with frontplate for frame
	Height - 25 mm with frontplate for frame

Weight - 120 g (max)

## 8 NOTES

Other Optic Options for single mode fibre available on request.

## 9 Contact Details