

PRODUCT OS807W

SINGLE CHANNEL
 2 or 4-WIRE AUDIO AND E & M
 TO FIBRE INTERFACE
 USER MANUAL

20 June 2006

OS807W TEST CERTIFICATE

Product	:	OS807W
Serial No	:	
Job No	:	
Test	Criteria	Result
PSU : +5V	+5V +/-0.2V	
+8V	+8V +/-0.2V	
-5V	-5V +/-0.2V	
Carrier Frequency	200kHz ± 10Hz	
Input Signal Level	0dBm (2Vp-p)	
Optic TX Level	- dBm	
Optic RX Sensitivity	- dBm	
VCO Lock Voltage	4Vdc	
Lock Indicator	Operational	
Output Signal Level	0dBm (2Vp-p) into 600 Ohm	
Frequency Response	50Hz to 17kHz – 3dB Points	
Tested By:		/ /

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USER MANUAL

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1. PRODUCT DESCRIPTION

1.1 GENERAL

The OS807W is a single channel 4-Wire Audio and E & M Switching to fibre interface card, and is supplied as a single Euro size PCB. This card plugs into the OS800 (19” sub rack system), or can be housed in a metal box with a built-in power supply. It contains one transmit channel, and one receive channel. It uses FM modulation to send the audio across the fibre link. The frequency response is 50Hz to 17kHz. It can be configured for 2-Wire, or 4-Wire operation. E & M Switching operates only in the 4-Wire mode.

2. FEATURES:

The card is arranged from top to bottom as :
 Receive Channel RX1
 Transmit Channel TX1

The transmit channel receives audio from the copper input, conditions and modulates it, and transmits this signal onto the fibre cable. The input signal can be seen on the test point TP1. The nominal signal level is 2Vp-p and the maximum allowable signal on this point is 4Vp-p.

The receiver channel receives the optic signal from the fibre cable, demodulates it, and transmits it to the copper output. This signal can be measured on a test pin TP2 on the front of the card. Note that the output must be terminated into 600Ohms in order to get the correct signal level. There is a LOCK led on the receiver channel that will light up when it receives a valid FM signal on the optical fibre.

In E & M mode, the carrier signal is disabled until such time that the M Input is activated (connecting it to Earth) on pin 6 of the RJ11 connector. The audio signal will now be sent across fibre to the remote unit, where that unit will generate a LOCK signal, which is then also used to activate the E Output (switching it to Earth) on pin 1 of the RJ11 connector.

CHANNEL	VARIABLE RES	TESTPOINT	FUNCTION
TX1	VR 1	TP 1	INPUT SIGNAL ADJUST
RX1	VR 2	TP 2	OUTPUT SIGNAL ADJUST

NB TP 3 = 0 Volt Reference point for measurements.

3. INDICATIONS

The unit has 4 leds that indicate the following :

Link OK (LED 1) The unit is locked onto a valid FM carrier signal received from the fibre cable.

Power (LED 2) +8Vdc is present.

Power (LED 3) +5Vdc is present.

Power (LED 4) -5Vdc is present.

4. STOCK CODE SELECTION

4.1 ORDERING INFORMATION:

Stock Code selection:

OS807W[x][x][x]/[ver] Version.(not specifically required for ordering)

- | | | _____ Power Supply Option (For metal box option only) (Blank for card version).
- | | _____ Optic Connector Option.
- | _____ Optic Option.

OPTIC OPTION	WAVELENGTH	RANGE	BUDGET DISTANCE	OPTIC CONNECTOR OPTION		POWER SUPPLY OPTION	
A	850nm	Short Range Multimode	3.5km	A	SMA	A	220VAC
B	1300nm	Medium Range Multimode	12km	B	ST	B	110VAC
C	1300nm	Medium Range Multi/Singlemode	20/40km	C	FC/PC	-	-

4.2 VERSION HISTORY

OS807W____/A - FIRST PRODUCTION VERSION

5. PREPARATION FOR USE

5.1 UNPACKING

Check for physical damage caused during transportation. Return any damaged equipment to the supplier. The manufacturer is not responsible for any damage caused during transportation.

5.2 INSTALLATION

The card version simply slots into the OS800 rack. For the boxed unit, check that the supply voltage matches that of the equipment, before installation commences. Connect the power cable. The equipment has no ON/OFF switch and is therefore active as soon as power is connected.

Connect the audio and E & M cables.

5.3 CONNECTION:

Connect the local TX fibre port to the remote unit's RX fibre port, and vice versa.

The Audio connection is made via a RJ11 plug. For a 4-Wire system, pins 3 & 4 are audio output, and pins 2 & 5 are audio input. For a 2-Wire system, pins 2 & 5 are used. Pin 6 is used for M-Input, and pin 1 is used for E-Output signals.

The unit is supplied in 4-Wire configuration as the default set-up. For connection to a 2-Wire system, Links1, 2 and 3 have to be swapped over to the 2W position, as seen on the card. The audio electrical inputs and outputs are fully isolated via audio transformers.

NOTE : The Earth Tag on the back of the unit MUST be connected to the equipment system Ground.

5.4 COMMISSIONING

If the link is correctly connected and the Link OK led is ON, then the audio link should be operational.

6. OPERATORS INSTRUCTIONS & FAULT DIAGNOSIS

The unit needs no operator intervention to function.

If a fault arises, it is necessary to observe the led indications. If any of the power led's are OFF, the unit is faulty and needs to be sent in for repairs. If the LINK OK led is OFF, then the fibre link should be checked for consistency, and the losses measured. If the fibre tests ok, then the OTPIC TX levels should be measured with an Optic Power Meter. If they are outside of the specification, then the unit needs to be sent in for repair.

7. MAINTENANCE INSTRUCTIONS

No routine maintenance is required on this equipment.

8. SPECIFICATION :

8.1 ELECTRICAL

INPUT Normal - 0dBm (2V peak to peak)
 Maximum - 6dBm (4V peak to peak)
 Impedance - 600 Ohm.
 (NB Input has an adjustable gain and can amplify to a max of +3dB)
 M Input - Activated by connection to Earth.

OUTPUT : Normal - 0dBm (2V peak to peak)
 Impedance - 600 Ohm
 E Output - Connects to Earth when activated

Frequency Response : 50Hz to 17kHz (-3dB Cut-off Frequency Points)

Transmission Mode : FM Modulation, Carrier @ 200kHz

Modulation Index : 30%

Power Supply:

Card : +12V & -12V, (uses existing power from the OS800 Sub-Rack System)

Box : 220Vac @ 15mA (3.3W)
 110Vac @ 30mA (3.3W)

Optical:

OPTIC OPTION	WAVELENGTH	TX LEVEL	RX LEVEL	BUDGET DISTANCE	OPTIC CONNECTOR OPTION	
A	850nm	-18dBm	-30dBm	3.5km	A	SMA
B	1300nm	-20dBm	-32dBm	12km	B	ST
C	1300nm	-12dBm	-32dBm	20/40km	C	FC/PC

8.2 MECHANICAL

Dimensions : 100mm x 160mm x 20mm (W,L,H)

Weight : 150g (Card)
 ~1kg (Box)

9. **NOTES**

10.

CONTACT DETAILS

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