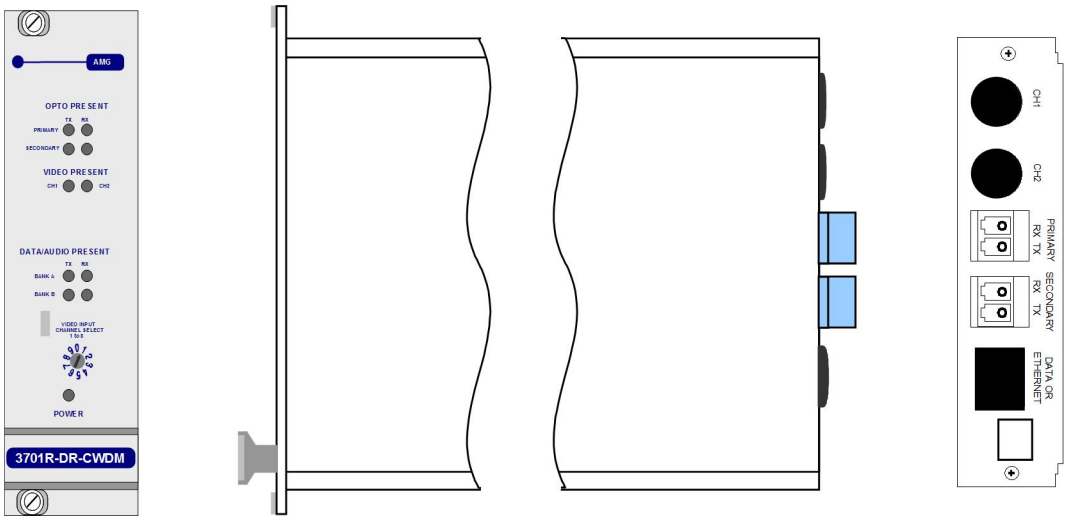
AMG3700 Series Repeater for Dual Redundant Operation for a Dual Redundant CWDM Fibre Ring



The **AMG3701R-DR-CWDMn/m** is a rackmount AMG3700 Series Repeat Unit designed to repeat the optical signals used in a two wavelength dual fibre CWDM ring.

The **AMG3701R-DR-CWDMn/m** is designed to plug into an AMG2009 or AMG2015 subrack, which in turn fits into a 19" rack system.

Contents

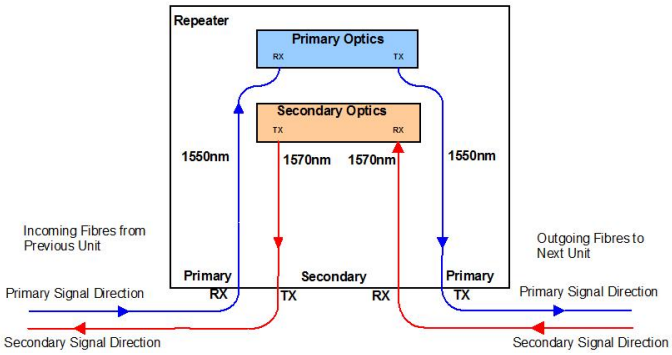
Introduction

Unit Functional Schematic

The **AMG3701R-DR-CWDMn/m** transmits and receives optical signals from both a primary and a secondary optical channel. The optical channels operate at wavelengths defined by '**n**' and '**m**' in the CWDM**n/m** part number and are transmitted on two optical fibres in different directions, operating at different CWDM wavelengths.

A typical configuration is shown in the schematic where **n** = 3, **m** = 4, the primary channel operates on 1550nm and the secondary channel on 1570nm.

If the primary input signal is not present, the unit will shut down the secondary output to inform the previous unit that the signal route is not OK. The previous unit will then send out the optical signal on its secondary output in the opposite direction.



This signal will be repeated around the ring to get back to this **AMG3701R-DR-CWDMn/m** on the secondary route. As the primary input is not present on this unit, the optical signal will now be taken from the secondary optical input and retransmitted on the primary output. This action automatically maintains the integrity of the video and data transmission in the event of a fibre failure.

If the secondary input signal is not present, the unit will assume that the route to the next unit is not OK and send out the optical signal on the secondary optical output. This optical signal will be transmitted to the next unit around the ring in the opposite direction on the secondary route.

As each unit regenerates the optical signal of the same wavelength, the optical dynamic range between each optically connected node of the same wavelength is 22dB.

Standard AMG CWDM Wavelengths

CWDM Code 'n' or 'm'	Wavelength (nm)		CWDM Code 'n' or 'm'	Wavelength (nm)
1	1510		5	1470
2	1530		6	1490
3	1550		7	1590
4	1570		8	1610

Connections

Optical Connections

PRIMARY OPTO OUT

Connector .....LC/PC
Primary Optical Launch Power .....-1dBm
Wavelength .....Defined by '**n**' in the AMG Partno.

Secondary Optical Sensitivity .....-23dBm
Wavelength .....Defined by '**m**' in the AMG Partno.

PRIMARY OPTO IN

Connector .....LC/PC
Primary Optical Sensitivity .....-23dBm
Wavelength .....Defined by '**n**' in the AMG Partno.

Secondary Optical Launch Power .....-1dBm
Wavelength .....Defined by '**m'** in the AMG Partno.

Power Connection

Power supply .....from plug in connection on the AMG2009 / AMG2015 subrack
Power consumption .....5 Watts max.

Front Panel Indicators

Power LED

Power	Green	-	unit powered
	Off	-	no power applied to unit

Fibre Optic LED's

Primary Opto Sync TX.....	Green	-	optical channel transmitting
	Off	-	optical channel not transmitting
Primary Opto Sync RX	Green	-	optical channel receiving
	Org	-	optical channel receiving but not sync.
	Off	-	optical channel not receiving
Secondary Opto Sync TX.....	Green	-	optical channel transmitting
	Off	-	optical channel not transmitting
Secondary Opto Sync RX	Green	-	optical channel receiving
	Org	-	optical channel receiving but not sync.
	Off	-	optical channel not receiving

Physical Information

Dimensions

Height.....3U Plug-in
Width.....7HP
Depth .....170mm excluding connectors
Weight.....500grams

Mounting Details

The unit is designed to be mounted within an AMG2009 or AMG2015 Subrack on standard card guides.

Removal / replacement from / to the Case

Note: - The AMG unit PCB's are static sensitive. Handle with proper care and use normal electrostatic discharge (ESD) procedures. Use properly grounded protection (for example, wrist straps) when handling the PCB.

To remove units from the case to access the data expansion boards and the daughter boards, remove the 2 or 4 fixing screws on the rear panel and slide the PCB's out of the case.
Ensure that the fibres do not snag or get trapped.

To replace the PCB's into the case, slide the PCB's gently into the case aligning the boards with the appropriate slots. Ensure that the fibre do not snag or get trapped.

Safety

AMG Optical Fibre Products use Class 1 laser systems in accordance with EN 60825-2:2000.

It is always advisable to follow good practice when working with optical fibre systems. This includes:

- Do not stare with unprotected eyes or with any unapproved collimating device at fibre ends or connector faces, or point them at other people.
- Use only approved filtered or attenuating viewing aids

For other safety issues and advice on good practice associated with optical fibre systems, please see EN 60825-2:2000 or your local safety officer.

Maintenance and Repair

There are no user serviceable parts within AMG products. See unit data sheet for full specification.

In case of problem or failure, please call your local support centre or contact: **AMG Systems Ltd.** at 3 The Omega Centre, Stratton Business Park, Biggleswade, Beds., SG18 8QB, UK.

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