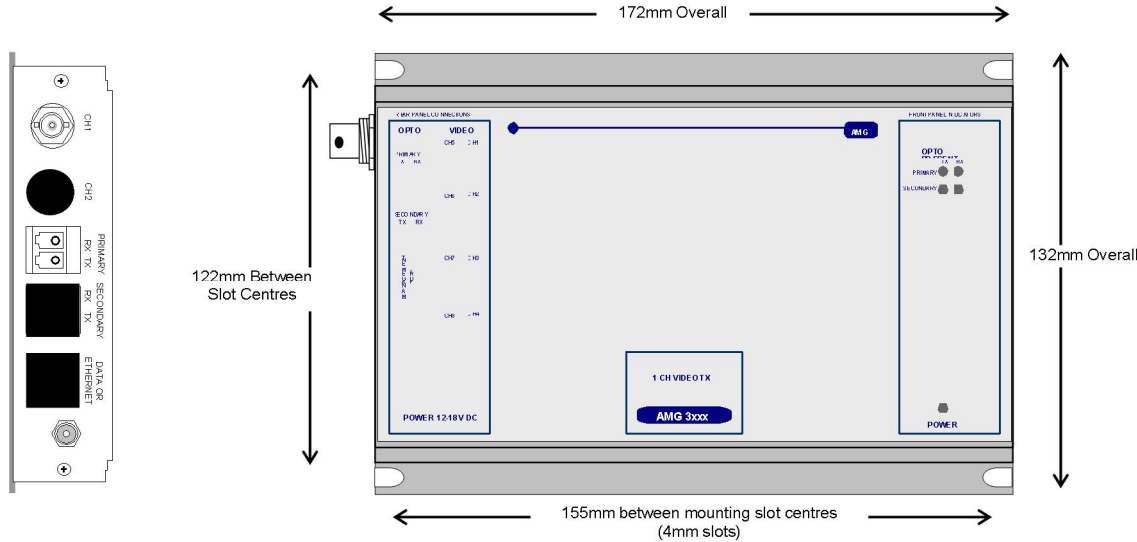


# AMG3621 Instruction Manual

## Single Channel Video Insert Unit for a Multimode Fibre Spur



The **AMG3621** is a standalone one channel video insert unit designed to transmit 1 video signal onto a multimode optical fibre spur.

The **AMG3621** is designed to be powered using an **AMG2003** standalone power supply.

The **AMG3621** is designed to operate with an **AMG3682** or rackmount equivalent **AMG3682R** eight channel video receive unit. The receive unit will 'drop off' up to eight video channels which are being transmitted along the fibre spur from up to eight single channel or equivalent number of multi-channel insert units.

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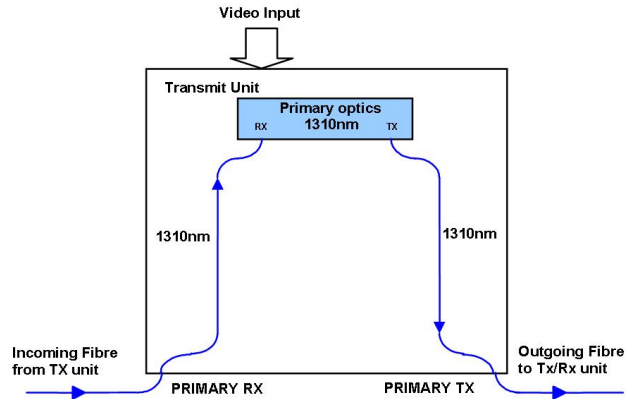
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# Introduction

## Unit Functional Schematic

The **AMG3621** receives and transmits optical signals on a primary channel operating at a wavelength of 1310nm on a single optical fibre spur.

The **AMG3621** receives incoming video data transmitted from a preceding **AMG3621** transmit unit. It then inserts video data onto the outgoing optical signal.



As each unit regenerates the optical signal, the optical dynamic range between each optically connected node is 17dB.

## Video Input Channel Configuration

At the **AMG3621** or rackmount **AMG3621R** insert unit, video signals present at the BNC inputs can be inserted on one to eight video channels transmitted on the optical fibre. The first video channel number of each insert unit is set by the rotary switch on the front panel of the unit.

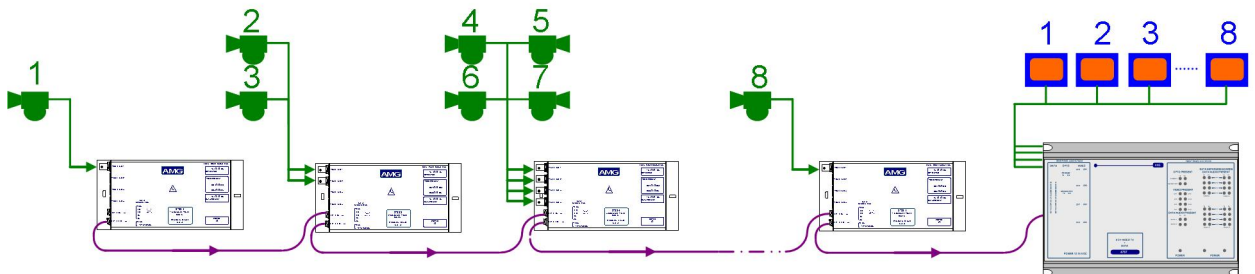
It is normal to set each insert unit to a different channel number. If the same number is used twice, an insert unit connected 'down stream' on the primary optical route will 'over-write' any coincident video channels coming from the previous insert unit and those video signals will be lost.

The switch channel numbers 1 to 8, correspond to video channels 1-8. Unused switch channel numbers 0 & 9 duplicate video channel selections 1 & 8 respectively. i.e. setting switch to position 0 or 1 selects video channel 1 and setting switch to position 8 or 9 selects channel 8.

## Optical Connection

The **AMG3621** or rackmount **AMG3621R** is designed to be connected in a spur or point to point optical system.

In a spur system, single, dual and four channel insert units respectively can be combined to make up an 8 channel video transmission system as illustrated below.



## Connections

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### Video Input Connections

No. of channels ..... 1  
Connector ..... 75 ohm BNC Socket.  
Input Impedance ..... 75 ohm terminated.  
Input Level ..... 1 volt p-p nominal  
Frequency Response..... 10Hz to 7MHz.

### Optical Connections

#### PRIMARY OPTO OUT

Connector ..... LC/PC  
Primary Optical Launch Power ..... -5dBm  
Transmit Wavelength ..... 1310nm

Primary Optical Sensitivity ..... -22dBm  
Receive Wavelength ..... 1310nm

Optical Fibre ..... Multimode 50/125 or 62.5/125\*\*

\*\*Note: the transmission distance is limited by the bandwidth of the Multimode optical fibre. The optical data rate is 1.25Gbits/s. The maximum bandwidth specification at this data rate for Multimode fibre is 2km. although in most cases the units will operate successfully over longer fibre lengths. It is advisable however for distances greater than 2km, to have the optical fibre tested.

### Power Connection

Connector Type ..... 2.1mm screw lock long power jack – centre positive  
Connector Partno..... Switchcraft S761K, AMG G16125-00  
Supply Voltage..... 13.5 to 18.0 Volts DC.  
Maximum Power ..... 5 Watts

## **Front Panel Indicators**

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### **Power LED**

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

### **Video Input LED's**

Video Present CH1 .....	Green	-	video signal present on input BNC
	Org	-	channel present but no video on I/P BNC

### **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 transmitting

## **Physical Information**

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### **Dimensions**

Height..... 112mm  
Width..... 170mm (excluding connectors)  
Depth ..... 35mm  
Weight..... 500grams

### **Mounting Details**

The AMG unit is supplied with a clip-on mounting bracket which should be attached to a panel or wall using 2 off 4.0mm screws. The unit is clipped into the mounting bracket, and is then held firmly in position.

### **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**

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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**

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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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