



**VISTEK V1671 & V1672**  
**DUAL SDI/ASI – FIBRE INTERFACES**  
**USER GUIDE**

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# VISTEK V1671 & V1672 dual sdi/asi - fibre interfaces

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# VISTEK V1671 & V1672

## dual sdi/asi – fibre interfaces



### 1. DESCRIPTION

The V1671 and V1672 are a complementary pair of units for the interfacing of serial digital video signals over multi-mode optical fibre. They are 3U cards which form a part of the Vistek V1600 range of interface products, and can be fitted into either a 1U V1601 or 3U V1603 rack. Each unit has two independent channels.

The V1671 is the 'sender' which converts an electrical SDI signal to non-visible light, suitable for transmission over multi-mode fibre. There is an active feedthrough of the SDI signal in addition to the fibre output, which often avoids the need for a special distribution in an installation.

The V1672 is the 'receiver' which converts the non-visible light from a multi-mode fibre to a conventional electrical SDI signal. There are two SDI outputs from each channel.

Both units are duals so they can work with two completely independent signals. Unlike earlier versions of these units they operate only at 270MHz D1. This is much more reliable in service particularly with compressed ASI signals. It is possible to work with other SDI signals but the units will need to be returned to the factory.

The optical interface uses standard ST type connectors and is suitable for transmission over multi-mode fibre up to 7km in length. The fibre should be either 62.5µm/125µm or 50µm /125µm.

A particular feature of the V1671 and V1672 is the minimal amount of active circuitry on the rear module, which makes it very easy to change units in the unlikely event of failure. And on the rear module the active optical components are mounted on a sub-module, so they too can be removed without disturbing the main parts of the rear module.

The units are fully compatible with the Vistek DART control and monitoring system along with all the other V1600 modules and units from some other manufacturers. A range of software and hardware control systems are available to access these units over DART.

### 2. SAFETY

The V1671 Fibre Transmitter uses a LED to generate an infra-red optical signal with a power not exceeding -14dBm.

No lasers are involved.

No optical safety precautions are required.

## 3. INSTALLATION

### 3.1 Rear Modules

The V1671 and V1672 are similar to other V1600 modules, in that most of the active circuitry is contained within a 3U card which mounts into either the V1601 or V1603 chassis. A predominantly passive rear module is mounted onto the rear of the chassis which picks up power and DART control signals. Thus the main modules receive all their connections through the rear module. Due to the need for direct fibre connections these modules have a special rear connector assembly that is not common to other V1600 modules. Because one unit is a transmitter and one is a receiver it is not possible to have a common rear module for the two units; however the rear modules have been carefully designed to use as much common components as possible. This does mean that they do look very similar, and care should be taken to match the correct front to rear module.

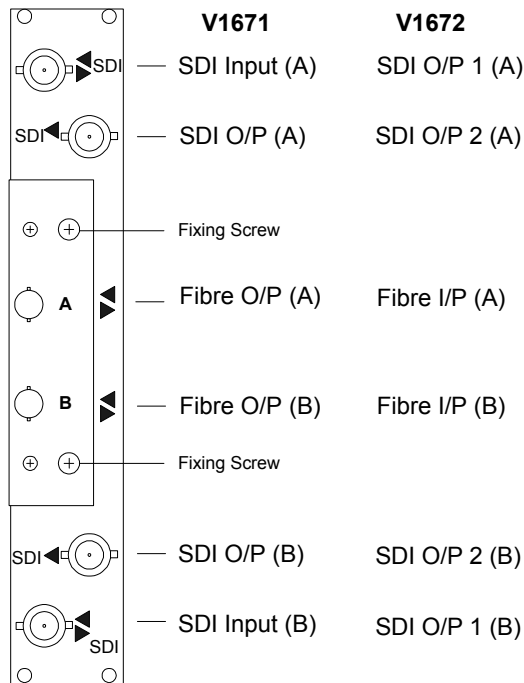
If a module is plugged into the wrong rear module, then the actual fibre drivers and receivers will not be powered, no damage will result, and a red LED on the front panel will indicate a Module Error.

The actual fibre drivers and receivers are mounted on a sub-board which plugs into the rear module after the removal of the two screws as indicated in Section 3.2. This means that it is possible to change them from the rear of the chassis. This should be done with the front unit removed so that the sub-board is not powered. It is only the sub-board that changes for the two units, so in all other respects the rear modules are identical.

If the sub-board is not present when the main unit is inserted, then the red LED indicating Module Error will be on.

### 3.2 Rear Panel Connections

For each channel there are two BNC connectors for the SDI video and a ST connector for the multi-mode fibre. They are allocated for the two units as follows:



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### 3.3 Interfacing

SIGNAL	V1671	V1672	COMMENTS
Power	5W	6W	
SDI I/P	BNC	n/a	Video to SMPTE 259M Max cable length >200m
SDI O/P	BNC	BNC	Video to SMPTE 259M
Fibre I/P	ST, 62.5/125µm	ST, 62.5/125µm	1300nm, -29 to -14dBm Max Fibre length ~7km
Fibre O/P	ST, 62.5/125µm	ST, 62.5/125µm	1300nm, -19 to -14 dBm

### 3.4 Unit Care

Users should be aware that fibre optic equipment requires different standards of care than more conventional co-axial cable. In particular the connectors must be kept clean from dust and other dirt. For this reason the rear modules are supplied with bayonet covers. These should always be used when a fibre cable is not connected. Fibre interconnections depend on accurate alignment and closeness of the fibre ends and any damage or distortion will drastically degrade performance.

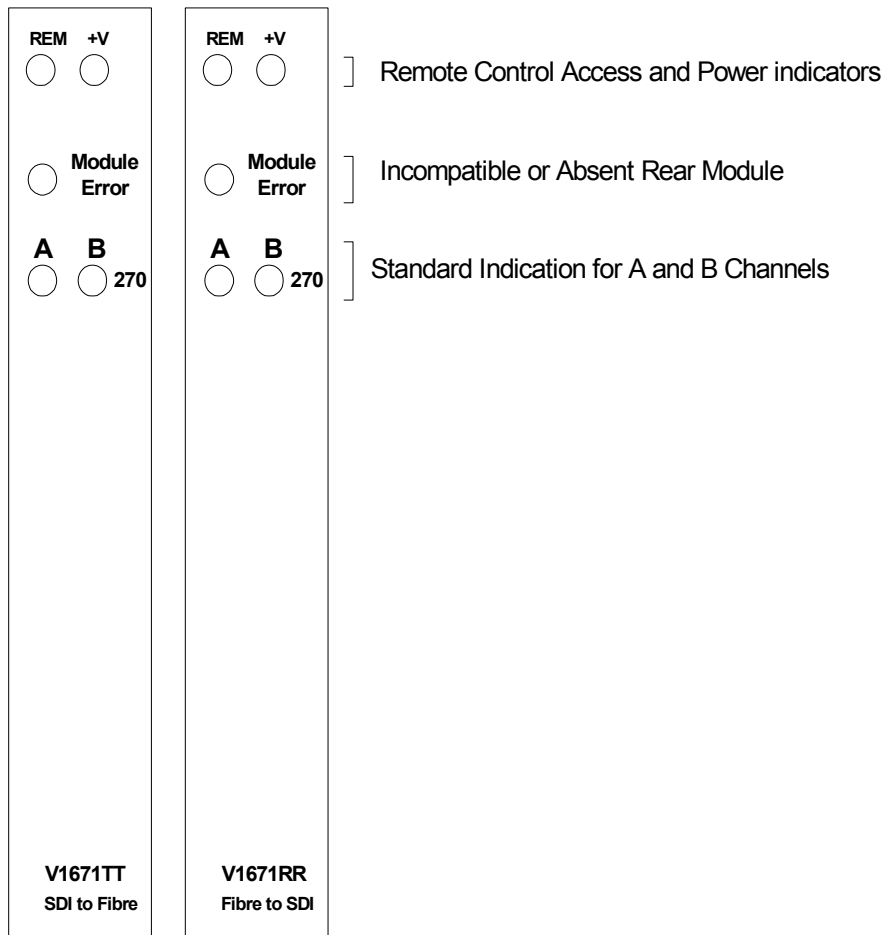
Similarly the fibre cable itself is very delicate, much more so than coax cable. There is a limit to the bend radius and the cable ends are fragile. The cable is always supplied with protectors and these should be used on the fragile ends whenever the cable is not in a connector.



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## 4. OPERATION

### 4.1 Front Panel



The front panel has indications but no control and is the same for both modules apart from the ident at the bottom. (The panels for both are shown above). Since there are no controls there is no need for the LOCAL/REMOTE switch found on many V1600 modules.

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Some of the indicators are common for both channels within a unit, while others refer only to the A and B as shown by the relevant letter above the LEDs. The following table shows the meanings of the LEDs.

Indicator	Colour	V1671	V1672
REM	Amber	Indicates DART Access	
+V	Green	VCC Regulation on unit is OK	
Module Error	Red	Incorrect or missing sub board on rear module	
A 270	Green	270Mb/s I/P present AND locked on A channel	270Mb/s Carrier Detect AND locked on B channel.
B 270	Green	270Mb/s I/P present AND locked	270Mb/s Carrier Detect AND locked

*Note: Carrier Detect is from the photodiode on the rear module. Locked is always from the re-clocker.*

### 4.2 User Configuration

There are no user controls or configurations on the V1671 or V1672.