

# LYNX

# Distribution

# D VO 5820

**fiber**

**3G**

**SDTV / HDTV**

**SERIES 5000**

## 3Gbit Dual SDI/ASI Distribution Amplifier

**CardModules**

### Description

The DVO 5820 is a flexible dual channel distribution amplifier suitable for SDI/ASI video signals up to 3Gbit/s. Both channels have an optical input and provide 3 x electrical and 1 x optical output, channel 2 input can also be switched to an electrical input. This module is ideally suited for demanding digital multi-format broadcast and professional applications.

The optical outputs are CWDM compatible with 18 selectable wavelengths, (non CWDM support is also available)

The module auto-detects the input video standard with support for all SDI video formats up to 3Gbit/s. In non re-clocked mode

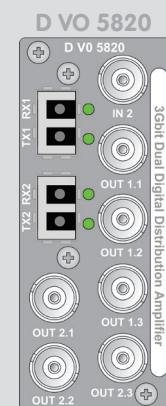
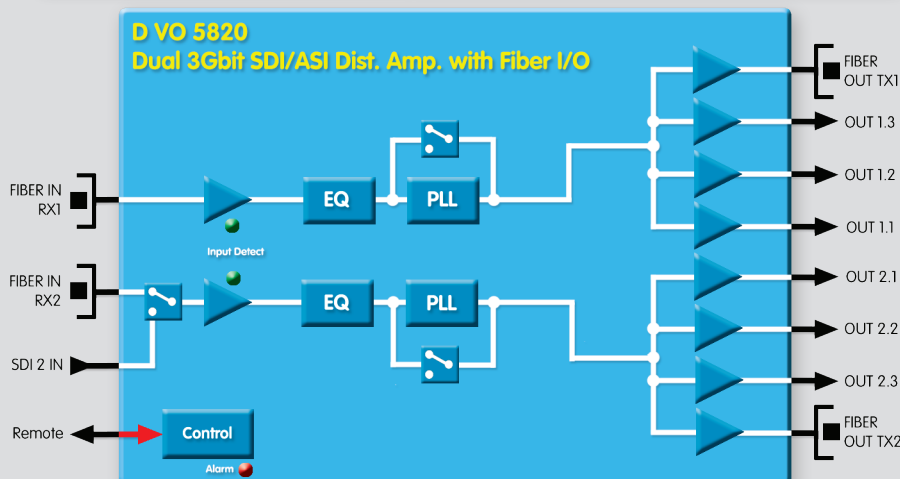
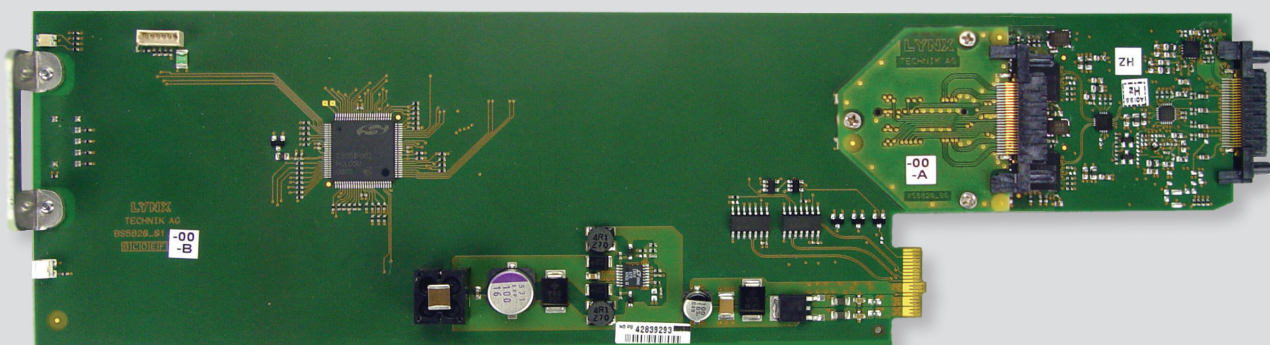
the module will transparently pass any data between 15Mbit/s and 3Gbit/s. Support for ASI/DVB and SMPTE 310 signals is also provided.

The Fiber SFP sub-modules are secured on the backplane allowing for module removal and hot swapping without removing any rear I/O fiber connections.

Local settings are provided via an integrated dip switch on the card edge.

### Features

- Supports SDI ASI/DVB and SMPTE 310 up to 3Gbit/s
- Dual channel 1>4
- 2 optical inputs, with selectable electrical input on channel 2
- 3 x electrical and 1 x optical outputs per channel
- CWDM support with 18 selectable optical wavelengths
- Reclocking or non-reclocking mode for each channel
- Auto-detect input video standard.
- Transparently pass data between 15Mbit/s and 3Gbit/s in non re-clocked mode.
- Microprocessor controlled with internal flash ram for storing configuration
- Input presence detection with LED indication for each channel
- LC fiber connections
- Fiber SFP modules secured on backplane. Module can be freely removed or replaced without disconnection of fiber cables
- Remote control, status monitoring and error reporting when used with LYNX control system
- SNMP error reporting when used with master controller option
- Hot Swappable



**Backplane**

**D VO 5820**  
**DISTRIBUTION**

## 3Gbit Dual SDI/ASI Distribution Amplifier

## CardModules

## Specifications

## SDI (electrical) Video Input

|                 |                                                                      |
|-----------------|----------------------------------------------------------------------|
| Signal Type     | Serial Digital Video SMPTE 259M, 292M, 424M<br>DVB-ASI and SMPTE 310 |
| Video Standard  | All formats ( 270Mbits/s through 2.97Gbits/s)                        |
| Input level     | 0.8 v peak to peak                                                   |
| Input Impedance | 75 Ohms                                                              |
| No. Of inputs   | 1 (selectable)                                                       |
| Connector       | BNC                                                                  |
| Return loss     | > 15dB (1.485Gbit)<br>> 10dB (2.97Gbit)                              |

## SDI (Optical) Inputs

|               |                                                                                |
|---------------|--------------------------------------------------------------------------------|
| Signal type   | SMPTE 297M - 2006                                                              |
| Connector     | LC / UPC                                                                       |
| No. Of inputs | 2                                                                              |
| Wavelength    | 1260nm to 1620nm                                                               |
| Sensitivity   | -3dBm to -19dBm (1310nm non CWDM version)<br>-7.5dBm to -20dBm (CWDM versions) |

## SDI (electrical) Video Outputs

|                  |                                                                                                                                   |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Signal Type      | Serial Digital Video SMPTE 259M, 292M, 424M<br>DVB-ASI and SMPTE 310                                                              |
| Video standard   | Follows input                                                                                                                     |
| Output level     | 0.8 v peak to peak                                                                                                                |
| Output impedance | 75 Ohm                                                                                                                            |
| No. Of Outputs   | 6 (3 for each channel)                                                                                                            |
| Connector        | BNC                                                                                                                               |
| Return loss      | > 15dB (1.485Gbit)<br>> 10dB (2.97Gbit)                                                                                           |
| Jitter           | < 0.20 UI (270 MHz)<br>< 1.0 UI - Timing Jitter - (1.485Gbit - 2.97Gbit)<br>< 0.20 UI - Alignment Jitter - (1.485Gbit - 2.97Gbit) |

## SDI (Optical) Outputs

|                           |                                                                          |
|---------------------------|--------------------------------------------------------------------------|
| Signal Type               | SMPTE 297M - 2006                                                        |
| Connector                 | LC / UPC                                                                 |
| No. Of outputs            | 2 (one for each channel)                                                 |
| Max transmission distance | 10Km @ 3Gbit Singlemode * (non CWDM)<br>40Km @ 3Gbit Singlemode * (CWDM) |
| Wavelength                | Select from options table                                                |
| TX Power                  | Refer to options table                                                   |

## Performance

|                         |                                                                                                                                |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Cable equalization      | Up to 250M using Belden 8281 (270Mbit)<br>Up to 140m using Belden 1694A (1.485Gbit)<br>Up to 80m using Belden 1694A (2.97Gbit) |
| Control                 | Local settings using on board dip switches. Remote control possible when used with LYNX controller                             |
| Status monitoring (LED) | Signal presence plus general alarm                                                                                             |

## Operation modes

|                              |                                                                                                                |
|------------------------------|----------------------------------------------------------------------------------------------------------------|
| Dual fiber input             | 2 x Fiber in > 3 x copper SDI out plus 1 x Fiber per channel                                                   |
| 1 x Fiber + 1 x copper input | 1 x Fiber in > 3 x copper SDI out plus 1 x Fiber out<br>1 x copper SDI in > 3 x copper SDI out + 1 x Fiber out |
| Re-clocking                  | Clocked or non re-clocked operation                                                                            |

## Electrical Specifications

|                   |        |
|-------------------|--------|
| Operating Voltage | 12 VDC |
| Power Consumption | < 4W   |

Specifications subject to change

|                   |                                        |
|-------------------|----------------------------------------|
| Safety            | IEC 60950/ EN 60950/ VDE 0805          |
| <b>Mechanical</b> |                                        |
| Size              | 283mm x 78mm                           |
| Weight            | CardModule 120g, connector plate 50g   |
| <b>Ambient</b>    |                                        |
| Temperature       | 5°C to 40°C Maintaining specifications |

## Settings and Control

## Local Settings

|                                                                                     |                          |
|-------------------------------------------------------------------------------------|--------------------------|
| Re-clocking                                                                         | clocked / non re-clocked |
| Input 2                                                                             | Optical / Electrical     |
| <b>Settings Available from Control System</b>                                       |                          |
| Local controls duplicated. No additional parameters provided via the control system |                          |

## On Board Indicators / LEDs

|                                                     |
|-----------------------------------------------------|
| Input 1 Present / No Input                          |
| Input 2 Present / No Input                          |
| General Alarm Indicator – 3 Color                   |
| RX and TX fiber activity (on rear connection panel) |

## \*Note

We recommend the use of Single Mode fiber cable with these modules. Multimode operation is possible, but performance (distance) is heavily influenced by the type of Multimode cable. Single Mode cable **MUST** be used for any CWDM application.

## CWDM Wavelength Selection

**NOTE.** Basic Module price **DOES NOT** include any SFP fiber transceiver modules. The required CWDM fiber optic transmitter wavelengths are selected from the table below. For non CWDM applications please specify the **OH-TR-1** option, this option has a 1310nm non CWDM transmitter. Select two options (one for each channel)

## Specifications

|                 |                                                                                     |
|-----------------|-------------------------------------------------------------------------------------|
| Connector       | LC / UPC                                                                            |
| Power           | -1 dBm typ. (CWDM modules)<br>-5dBm typ. for OH-TR-1 option (non CWDM)              |
| Max Distance    | 40km (nominal) for all CWDM options<br>10Km (nominal) for OH-TR-1 option (non CWDM) |
| Supported Cable | Single Mode*                                                                        |
| Wavelengths     | Select from table below                                                             |

## SFP Module Selections

| Model #             | Wavelength        | Model #             | Wavelength    |
|---------------------|-------------------|---------------------|---------------|
| <b>OH-TR-1</b>      | 1310nm (non CWDM) | <b>OH-TR-4-1450</b> | 1450nm (CWDM) |
| <b>OH-TR-4-1270</b> | 1270nm (CWDM)     | <b>OH-TR-4-1470</b> | 1470nm (CWDM) |
| <b>OH-TR-4-1290</b> | 1290nm (CWDM)     | <b>OH-TR-4-1490</b> | 1490nm (CWDM) |
| <b>OH-TR-4-1310</b> | 1310nm (CWDM)     | <b>OH-TR-4-1510</b> | 1510nm (CWDM) |
| <b>OH-TR-4-1330</b> | 1330nm (CWDM)     | <b>OH-TR-4-1530</b> | 1530nm (CWDM) |
| <b>OH-TR-4-1350</b> | 1350nm (CWDM)     | <b>OH-TR-4-1550</b> | 1550nm (CWDM) |
| <b>OH-TR-4-1370</b> | 1370nm (CWDM)     | <b>OH-TR-4-1570</b> | 1570nm (CWDM) |
| <b>OH-TR-4-1390</b> | 1390nm (CWDM)     | <b>OH-TR-4-1590</b> | 1590nm (CWDM) |
| <b>OH-TR-4-1410</b> | 1410nm (CWDM)     | <b>OH-TR-4-1610</b> | 1610nm (CWDM) |
| <b>OH-TR-4-1430</b> | 1430nm (CWDM)     |                     |               |

## Ordering Information

| Model #                     | Part Number | Description                                         | Includes                                                                            |
|-----------------------------|-------------|-----------------------------------------------------|-------------------------------------------------------------------------------------|
| D VO 5820                   | 5156205820  | 3Gbit SDI/ASI Dual Distribution Amp. with Fiber I/O | CardModule, Rear termination Panel, + Mounting Screws, and Reference Manual         |
| <b>Option:</b> OH-TR-X-XXXX | -           | Transceiver SFP Sub Module (mandatory - select two) | Select (2) from table above. Includes SFP modules pre-installed in module backplane |