

IQFDA30

3G/HD/SD-SDI Re-clocking Distribution Amplifier with Fiber I/O

IQFDA30 is an extremely space-efficient hybrid distribution amplifier for mixed fiber and copper workflows.

The IQFDA30 from Grass Valley, a Belden Brand, provides an HD-SDI 3 Gb/s, 1.5 Gb/s or 270 Mb/s SD-SDI input with both SDI and fiber optic outputs in a single width package. Its 80m 3G, 170m HD input equalization performance and non re-clocking distribution of wide-band signals make it ideal for all distribution applications. Fiber signals can also be received and distributed as SDI depending on the chosen SFP device type.

Why should you choose this module?

- The IQFDA30 is an extremely space-efficient hybrid distribution amplifier for mixed fiber and copper workflows
- Useful for critical installation thanks to outstanding input equalization capability

KEY FEATURES

- Intelligent 3G SDI, HD-SDI and SD-SDI re-clocking distribution amplifier
- Will distribute DVB-ASI and other wide-band signals
- Equalizes up to 80m at 3 Gb/s, 170m at 1.5 Gb/s and 300m at 270 Mb/s when using Belden 1694A cable
- Standards supported:
 - 3G-HD to SMPTE ST 424/425
 - HD-SDI to SMPTE ST 292
 - SD-SDI to SMPTE ST 259-C
 - DVB-ASI & SDTI SMPTE ST 305
 - SMPTE ST 297-2006
- 1310 nm, 1550 nm and CWDM output wavelengths available
- RollCall monitoring allows all signal paths to be managed

SPECIFICATIONS

Inputs and Outputs

Signal Input

SDI input: 1x

Input cable length:

Up to 80m Belden 1694A @ 3 Gb/s

Up to 170m Belden 1694A @ 1.5 Gb/s

Up to 300m Belden 1694A @ 270 Mb/s

Fiber Signal Input

Inputs: 1x

Optical: 3 Gb/s HD-SDI, 1.485 Gb/s HD-SDI or 270 Mb/s SD-SDI

Connector/format: LC single-mode

Conforms to:

SMPTE ST 297-2006

SMPTE ST 424/425 (HD level A/B)

SMPTE ST 292 (HD)

SMPTE ST 259-C (SD)

Signal Outputs

SDI outputs: up to 4

Fiber Signal Output

Outputs: Up to 2

Optical: 3 Gb/s HD-SDI, 1.485 Gb/s HD-SDI or 270 Mb/s SD-SDI

Connector/format: LC singlemode

Conforms to:

SMPTE ST 297-2006

SMPTE ST 424/425 (HD level A/B)

SMPTE ST 292 (HD)

SMPTE ST 259-C (SD)

Controls

Indicators

Power: OK (Green)

CPU: OK (Green flashing)

Input 1: OK (Green), Bypass (Orange), Loss (Red)

SFP A: Selected (Green)

RollCall Functions

Video controls:

Input 1 format select: SDI, Rx

Laser disable: On/Off

Input 1 select: Auto, 3G, HD, SD, DVB-ASI (SMPTE ST 305),

Bypass (reclocking off), Output

Input status: Present, Loss/Unknown, Data Rate

Other Controls

User memories: Name, save and recall 16 user memories

Memory naming: User configurable naming of memories 1 – 16

Information window: Video Input Status

Logging:

Input 1 Type

Input 1 Data Rate

Input 1 Present

Input 1 Error

Input 1 Loss

Optical logging:

Tx Laser Bias High Warning

Tx Power Low Warning

Tx Power High Warning

Note: Optical I/O, control and logging dependent on type of SFP module fitted

Laser wavelength:

Input 1 Rx Power High Warning

Input 1 Rx Power Low Warning

Input 1 Rx Power Measurement

RollTrack index: Up to 16 RollTrack destinations

RollTrack controls: On/Off, Index, Source, Address, Command, Status, Sending

RollTrack sources: Unused, Input Present, Input Loss, Input Rate, Fiber Rx Power OK, Fiber Rx Power Fail, Fiber Tx Bias OK (1&2), Fiber Tx Bias High (1&2), Fiber Tx Bias Low (1&2)

Factory default: Resets all module settings to factory specified default values and clears memories

Default settings: Resets all module settings to factory specified defaults but does not clear memories

Restart: Software restart of the module

Module information: Reports following module information: Software version, Serial number, Build number, KOS version, Firmware version, PCB version

General Specifications

Electrical:

3 Gb/s SDI, SMPTE ST 424/425

1.5 Gb/s HD-SDI, SMPTE ST 292

270 Mb/s SDI, SMPTE ST 259-C / DVB-ASI

Connector/format: BNC/75Ω panel jack on standard Grass Valley connector panel

Signal amplitude: 800 mV ±80 mV

Return loss:

>-15 dB (270 Mb/s, 1.5 Gb/s)

>-10 dB (3 Gb/s)

Output jitter:

SD-SDI 0.2 UI (10 Hz) / 0.2 UI (1 kHz)

3G/HD-SDI 1.0 UI (10 Hz) / 0.2 UI (100 kHz)

Optical 1310 nm Tx

Wavelength: 1310 nm

Spectral width (FWHM): >1.5 nm (typ.)

Output power: 0 to -5 dBm (-2 dBm typ.)

Rise and fall time:

135 ps @ 3 Gb/s

270 ps @ 1.5 Gb/s

1.5 ns @ 270 Mb/s

Latency: <40 ms

Extinction ratio: >7.5:1 (typ.)

Optical return loss: -27 dB

Link distance:

Up to 30 km @ 270 Mb/s

Up to 21 km @ 1.5 Gb/s

Up to 10 km @ 3 Gb/s

Optical CWDM Tx

Wavelength: 1270 - 1430 nm (SFP type dependent)

Spectral width (FWHM): >1 nm (typ.)

Output power: 0 to 4 dBm typical

Rise and fall time:

135 ps @ 3 Gb/s

270 ps @ 1.5 Gb/s

1.5 ns @ 270 Mb/s

Latency: <40 ms

Extinction ratio: >7.5:1 (typ.)

Optical return loss: -27 dB

Optical Rx

Input wavelength range: Min. 1260 nm, Max. 1620 nm

Input sensitivity: -21 dBm

Optical power input range: >-0 dBm, <-20 dBm

Link distance:

Up to 30 km @ 270 Mb/s

Up to 21 km @ 1.5 Gb/s

Up to 10 km @ 3 Gb/s

Optical High Sensitivity Rx

Input wavelength range: Min. 1260 nm, Max. 1620 nm

Input sensitivity: -19 dBm

Optical power input range: >-9 dBm, <-28 dBm

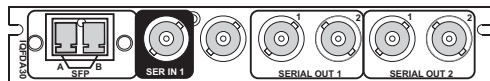
Power Consumption

Module power consumption: 4.5 PR Max.
(B Frames)

ORDERING

IQFDA3000-1B3

3G/HD/SD-SDI Re-clocking Distribution Amplifier with Fiber I/O. 1 SDI input, 1 optical input or 2 optical outputs, 4 SDI outputs.



Fiber SFP options

FC1-13T1

Single fiber transmitter (1310 nm)

FC1-13T2

Dual fiber transmitter (1310 nm)

FC1-15T1

Single fiber transmitter (1550 nm)

FC1-15T2

Dual fiber transmitter (1550 nm)

FC1-R1

Single fiber receiver

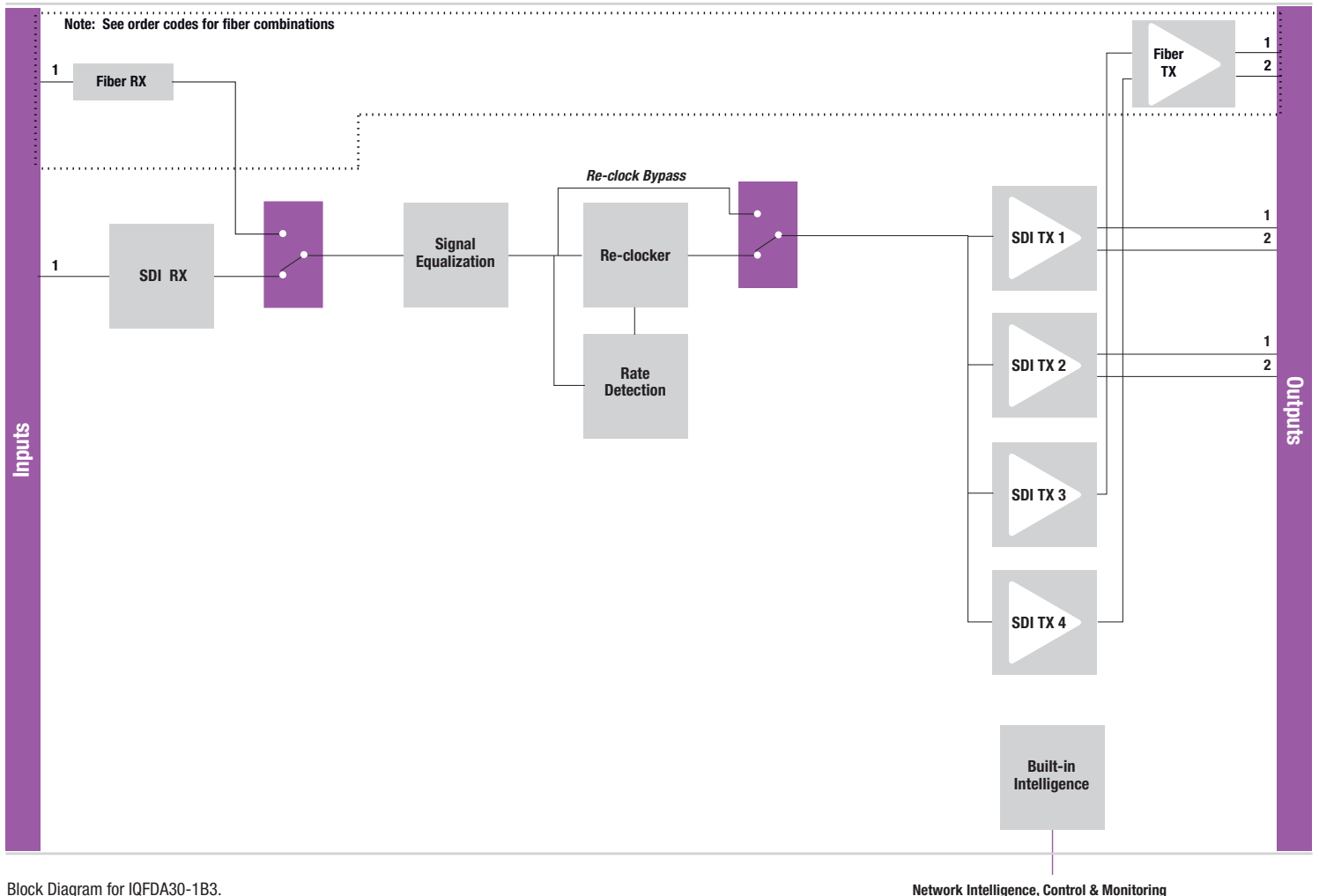
FC1-13TR

Single fiber transceiver (1310 nm)

Contact Grass Valley for CWDM and high-sensitivity SFP options

Note: Fiber SFP type must be ordered in addition to the module.

For more details on enclosure types please refer to the IQ Modular Enclosures datasheet.



Block Diagram for IQFDA30-1B3.

Network Intelligence, Control & Monitoring



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