IRT COMMUNICATIONS

3G HD SD ASI

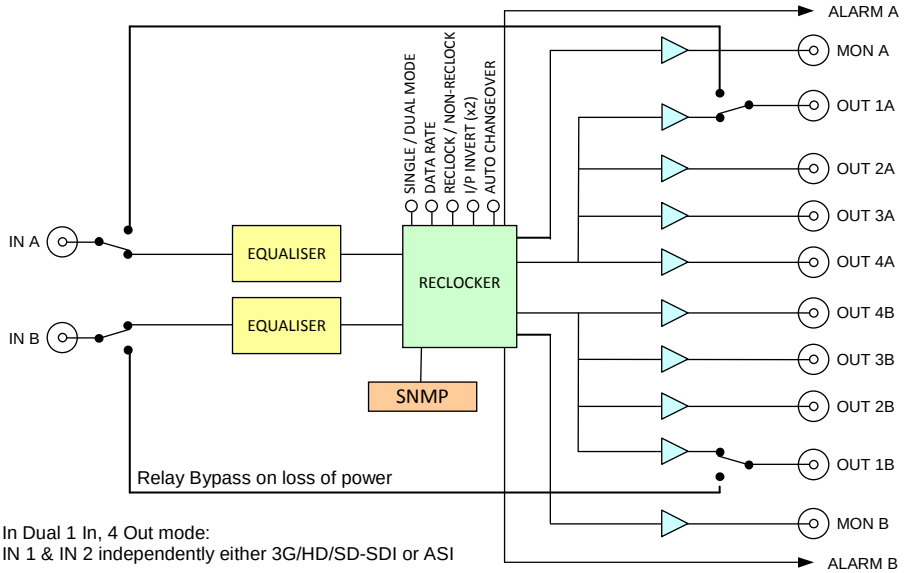
DDA-4010

Single 1 In, 8 Out / Dual 1 In, 4 Out 3G/HD/SD/ASI Reclocking/Non-Reclocking Distribution Amplifier

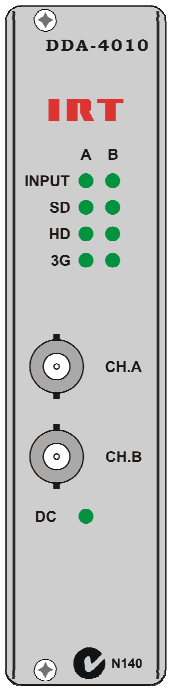
FEATURES

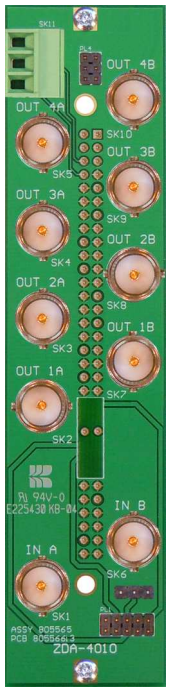
- **Switch selectable for single 1 in, 8 out or dual 1 in, 4 out distribution amplifier operation.**
- **In-phase reclocked / non-reclocked outputs on each amplifier.**
- **Selectable for either 3G/HD/SD-SDI or ASI applications.**
- **Automatic output muting on no input.**
- **Front panel monitoring outputs.**
- **Front panel indicators provide monitoring of presence of inputs and lock status.**
- **Automatic changeover to second input on loss of primary input (selectable).**
- **Relay bypass on loss of power.**
- **SNMP monitoring and control.**

BLOCK DIAGRAM DDA-4010 SIGNAL PATH

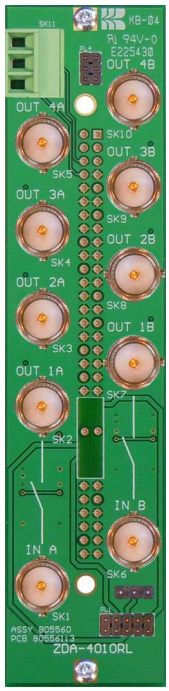


In Dual 1 In, 4 Out mode:
IN 1 & IN 2 independently either 3G/HD/SD-SDI or ASI





ZDA-4010
Rear Assembly
(on request)



ZDA-4010RL
Relay Bypass
Rear Assembly
(Standard)

GENERAL

The DDA-4010 serial digital data distribution amplifier provides the user with a single module to cover a wide range of distribution and monitoring functions for 3G/HD/ SD-SDI or ASI signals.

Two quad output reclocking / non-reclocking distribution amplifiers are provided on the one card. On board switch settings allow either of the inputs to feed all outputs to create a one in, eight out distribution amplifier.

Where non-reclocking is required, on-board switch settings select between reclocking and non-reclocking modes.

The DDA-4010 will automatically reclock to match the input at either 3G-SDI, HD-SDI, SD-SDI or ASI rates, or can be fixed to operate at any one of these rates. Both sides of the DDA-4010 can be run independently allowing a mixture of signal types to be used.

The DDA-4010 is also configurable for automatic changeover from one input to the other on loss of input signal allowing for an input Main/Standby scenario.

Due to the nature of ASI signals being phase sensitive, signal inversion is also possible for situations where an inverted ASI signal needs to be corrected.

Front panel LEDs indicate when input signals are present and whether the outputs are locked to the inputs.

A relay bypass rear assembly switches the Inputs to one of their respective Outputs in the event of a power failure.

Simple Network Management Protocol (SNMP) is available for remote setup and monitoring of input status and alarm states when used in an IRT frame fitted with SNMP capability.

The DDA-4010 is designed to fit IRT's 4000 series 3RU frame for use with IRT's SNMP system as well as being suitable with IRT's 1000 series 1RU Eurocard frames and may be used alongside any other of IRT's Eurocards.

DDA-4010

TECHNICAL SPECIFICATIONS

Inputs:

Number		2
Impedance		75 Ω, BNC.
Type		3G-SDI, HD-SDI, SD-SDI or ASI (to SMPTE 424M, 292M and 259M-C standards; and DVB-ASI standard).
Return loss		15dB 5 MHz to 1.485 GHz, 10dB from 1.485 GHz to2.97 GHz[1].
Equalisation	**Automatic**	100 m at 3G-SDI rate with Belden 1694A[2]; 200 m at HD-SDI rate with Belden 1694[2,3], 120 m with Belden 8281[2,3]; 400 m at SD-SDI/ASI rate with Belden 1694[3], 300 m with Belden 8281[3,4].

Outputs:

Number		8 (1 in, 8 out; or (2x) 2 in, 4 out), plus 2 front panel monitoring.
Type		Reclocked or non-reclocked, switch selectable.
Level		800 mV ± 10%.
Impedance		75 Ω, BNC.
Return loss		15dB 5 MHz to 1.485 GHz, 10dB from 1.485 GHz to 2.97 GHz[1].

Performance:

Reclocking		Automatic or selectable for 3G-SDI, HD-SDI or SD-SDI / ASI operation.
Rise Time	**3G/HD**	< 135 ps at 2.97 Gb/s and 1.485 Gb/s;
	SD	> 0.4 ns and < 1.5 ns at 270 Mb/s.
Intrinsic Jitter		< 0.3 UI at 2.97 Gb/s reclocked; < 0.2 UI at 1.485 Gb/s reclocked; < 0.1 UI at 270 Mb/s reclocked.

Indicators:

DC	LED (green) for module power.
INPUT A	LED (green) when signal present on channel A input (LED flashes if present but not active[5]).
INPUT B	LED (green) when signal present on channel B input (LED flashes if present but not active[5]).
SD	LED (green) x2 when SD-SDI or ASI signal present and locked to selected input on either A or B outputs.
HD	LED (green) x2 when HD-SDI signal present and locked to selected input on either A or B outputs.
3G	LED (green) x2 when 3G-SDI signal present and locked to selected input on either A or B outputs.

Alarm Outputs:

Alarm A	A alarm switches to either open circuit or ground (link selectable) via MOSFET relays on either loss of signal or incorrect signal rate on I/P A.
Alarm B	B alarm switches to either open circuit or ground (link selectable) via MOSFET relays on either loss of signal or incorrect signal rate on I/P B.

Power requirement:

Voltage	28 Vac CT (14-0-14) or ±16 Vdc.
Power consumption	< 6 VA.

Other:

Temperature		0 - 50°C ambient.
Mechanical		Suitable for mounting in IRT 19" rack chassis with input, output and power connections on the rear panel.
Finish	**Front panel**	Grey background, black lettering & red IRT logo.
	Rear assembly	Detachable silk-screened PCB with direct mount connectors to Eurocard and external signals.
Dimensions		6 HP x 3 U x 220 mm IRT Eurocard.
Standard		ZDA-4010RL relay bypass rear assembly suitable for 3G-SDI[1], HD-SDI and SD-SDI/ASI signals.

	NOTE 1	With non-bypass rear assembly. Return loss reduced by a couple of dB at 3G rate with bypass relay rear assembly.
	2	With non-bypass rear assembly. Reduces to ~ 50m with bypass relay rear assembly.
	3	If two inputs are being inputted, cable equalisation is limited to that of the higher rate.
	4	Reduces to ~ 70m when SW1-4 (I/P A), SW2-4 (I/P B) is ON.
	5	When automatic change-over function has been set.