155 Mb/s G.703 (STM-1)
Data Distribution Amplifier
Type DDA-3020

Block diagram DDA-3020 - Signal path
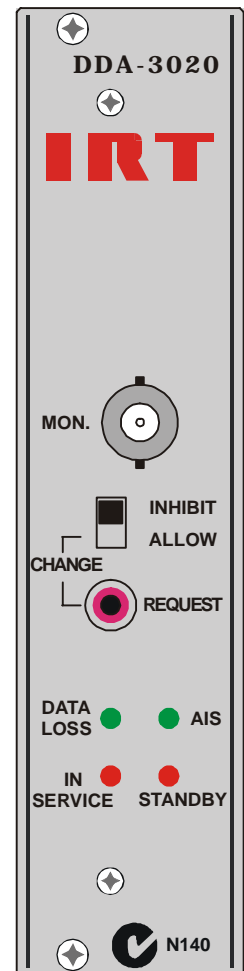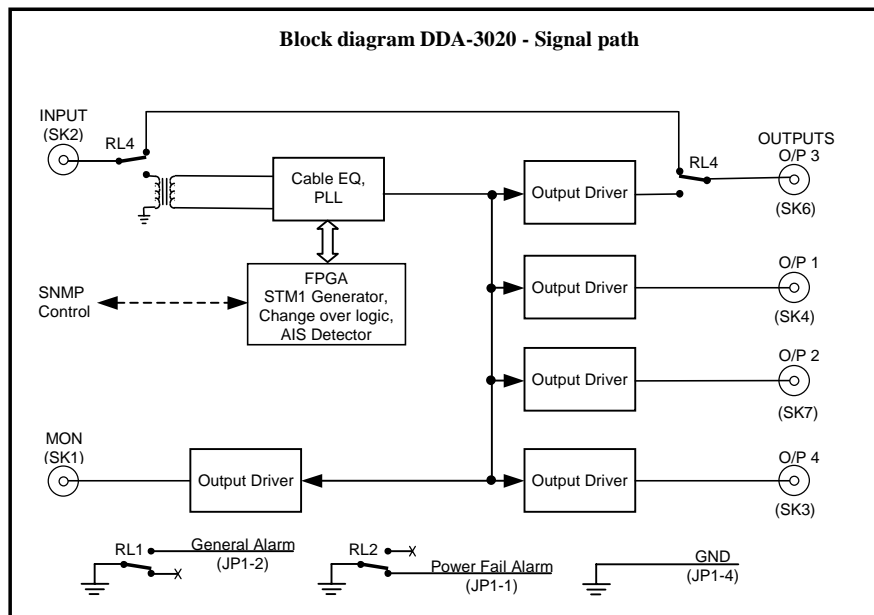
Features:

- **Adaptive cable input equalisation.**
- **Data regeneration.**
- **Front panel monitoring facility.**
- **Protection switching facility.**
- **External alarms and bypass.**
- **Redundant pair operation capability.**
- **Simple Network Management Protocol (SNMP) monitoring.**
- **Compatible with other IRT Eurocard modules and frames.**

General:

The DDA-3020 data distribution amplifier is intended for use with STM1 data signals conforming to the ITU Rec. G.703.   The DDA-3020 is primarily intended for use in pairs with a double width rear assembly (ZDA-3021RH) for automatic path protection applications, although it is supplied as standard with its own rear assembly for stand-alone applications.

Four outputs are provided at the rear of the module with an additional output for monitoring purposes on the front panel. One output (O/P 3) is controlled by relays to provide a bypass signal from the input in the event of a power failure.

Indicators are provided on the front panel for:
DC power
Data loss
AIS detect
Module in service
Module in standby

Changeover inhibit and changeover request switches are provided on the front panel for use where modules are linked in pairs for redundancy. For this configuration the ZDA-3021RH double width rear assembly is needed to link the logic sections of two modules.

When used as a line equaliser or distribution amplifier the DDA may be housed in any of IRT's standard Eurocard frames. When used in pairs for handshake operation only 3 RU chassis types may be used so that the double width rear assembly may be used.

The DDA-3020 is also equipped with Simple Network Management Protocol (SNMP) monitoring so that status and alarms can be remotely monitored and controlled via an Ethernet connection. This function is only available when the unit is housed in an IRT 4000 series frame fitted with the SNMP agent module, CDM-4000.

DDA-3020 Technical Specifications

In accord with ITU-T Rec. G.703 155,520 kb/s – see *Electrical characteristics of G.703 signals*.

Input:

Type	Transformer coupled.
Impedance	75 Ω terminated.
Equalisation	Automatic for up to 200 m of Belden 8281 equivalent.

Outputs:

Number	1 switched, 3 non-switched, regenerated, reclocked unshaped outputs located on rear connection assembly and 1 located on front panel.
Impedance	75 Ω source terminated.

Electrical Characteristics:

Cable Type	Coaxial
Impedance	75 Ω
Signal level	1.0 V
Pulse Shape	Unshaped, fig. 22&23/G.703
Nominal pulse width	9.64 ns
Code conversion	Code Mark Inversion (CMI)
Return loss at input ports	$\geq$ 15dB over frequency range 8 MHz to 240 MHz

Controls & alarms:
Input:

External changeover request	A ground applied to this input will emulate the operation of the front panel switch "Change Request".

Outputs:

Power Failure	Contact closure to ground if power has failed.
General alarm	Contact closure to ground if

a. Data Loss is detected OR

b. AIS is detected AND the AIS disable link (LK 3) is not installed.

AIS detection is defined as a series of all "1"s in the payload of a frame.

Data Loss is defined as less than 120 data "1"s in 512 G.703 data rate clock periods.

Connectors: Data: BNC
Alarm: Krone LSA plus

Indicators:

DC power.
Data loss.
AIS detect.
Module in service.
Module in standby.

Power requirements	28 Vac CT (14-0-14) or ± 16 Vdc.
Power consumption	< 4 VA
Temperature range	0 - 50° C ambient
Mechanical	Suitable for mounting in IRT 19" rack chassis types with input output and power connections on the rear panel.
Finish: Front panel:	Grey, silk-screened 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 accessories	Rear connector assembly.
Optional accessories	ZDA-3021RH double width rear assembly.

Due to our policy of continuing development, these specifications are subject to change without notice.
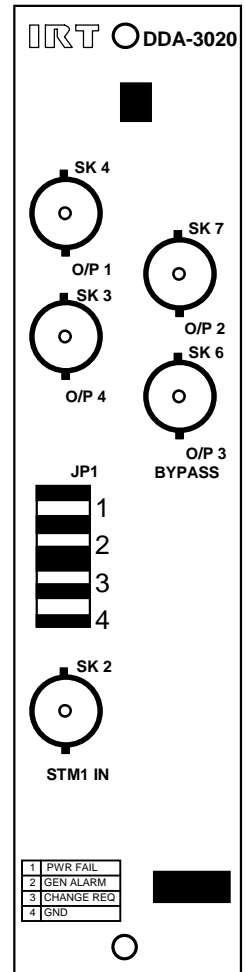
Detailed specifications available from:

Manufacturer:	**Local Agent:**	**IRT can be found on the Internet at:**
IRT Electronics Pty Ltd		**http://www.irtelectronics.com**

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