TABLE OF CONTENTS

Figures

REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	Preliminary Version	May 01
1.1	First revision for DS3 only product	Oct 01
1.2	General format clean up. Updated features & block diagram.	Sept 09

1. OVERVIEW

The 7700DA-DS3 Distribution Amplifier provides automatic coaxial cable equalization, reclocking and signal distribution of DS3 (44.736 Mb/s) telecommunications signals. The 7700DA-DS3 accepts a B3ZS-encoded Alternate Mark Inversion (AMI) input signal and provides four reclocked G.703 compliant output signals.

The 7700DA-DS3 occupies one card slot and can be housed in a 1RU frame which will hold up to 3 modules, a 3RU frame which will hold up to 15 modules, a 350FR portable frame which will hold up to 7 modules or a standalone enclosure which will hold 1 module.

Features:

- Supports DS3 (44.736Mb/s)
- Accepts B3ZS-encoded AMI input signals
- Automatic cable equalization for up to 1000ft of high quality 75Ω cable
- Signal reclocking and optional jitter attenuator
- Output wave shaping for DS3 standards compliance
- High/Low output amplitude setting for long/short cable lengths
- Loss of signal (LOS) detection/indication
- Outputs 1's pattern generation upon loss of input signal
- Electrical output drive level control for enhanced distance
- Transformer coupled inputs/outputs
- Input/output transient protection

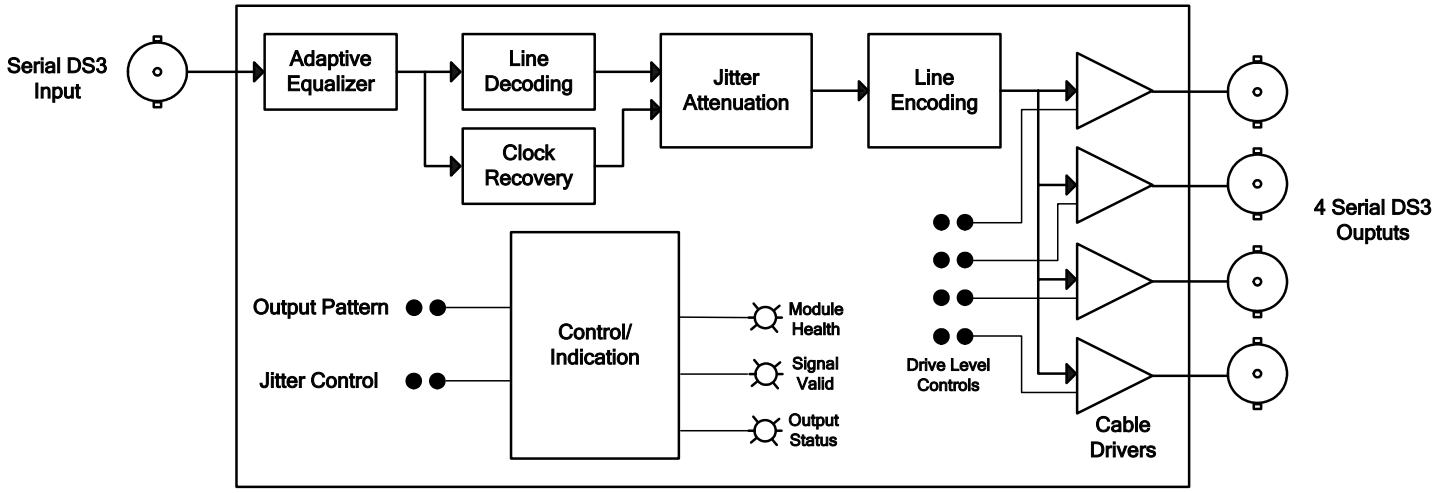

Figure 1-1: 7700DA-DS3 Block Diagram

2. INSTALLATION

The 7700DA-DS3 comes with a companion rear plate that has 5 BNC connectors. For information on mounting the rear plate and inserting the module into the frame see the 7700FR chapter section 3.

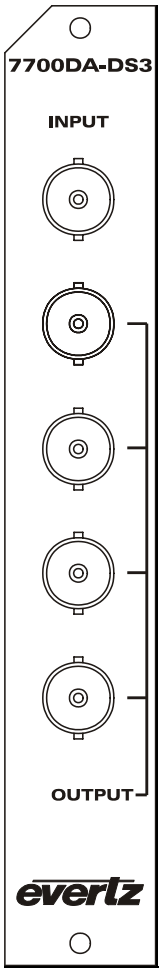

Figure 2-1: 7700DA-DS3 Rear Panels

INPUT: Isolated input BNC for DS3 (44.736 Mb/s) signals. This input is also transformer coupled to meet G.703 requirements. A jumper is available on the main board, to allow the isolated BNC shield to be connected to DC ground or AC ground.

OUTPUT: There are four BNC connectors with transformer coupled, reclocked outputs.

3. SPECIFICATIONS

3.1. INPUTS

Standards: G.703 @ 44.736 Mb/s
Connector: Isolated BNC per IEC 61169-8 Annex A
Equalization: Automatic 300m with Belden 8281 or equivalent cable
Return Loss: > 20 dB up to 44 Mb/s

3.2. OUTPUTS

Number of Outputs: 4 Per Card-Reclocked
Connector: BNC per IEC 61169-8 Annex A
Waveform: Conforms to G.703 compliant masks
Return Loss: > 18 dB up to 44.736 Mb/s

3.3. ELECTRICAL

Voltage: + 12VDC
Power: 6 Watts
EMI/RFI: Complies with FCC regulations for class A devices
Complies with EU EMC directive

3.4. PHYSICAL

Number of slots: 1

4. STATUS LEDS

MODULE OK: This Green LED will be On when the module is operating properly.

LOCAL FAULT: This Red LED will be On when the Signal Valid is Off, or Output Fault is On or when there is a fault in the module power supply.

SIGNAL VALID: This Green LED will be On when the input signal satisfies amplitude requirements.

OUTPUT FAULT: This Red LED will be On when an output fault or output connection error exists.

5. JUMPERS AND USER ADJUSTMENTS

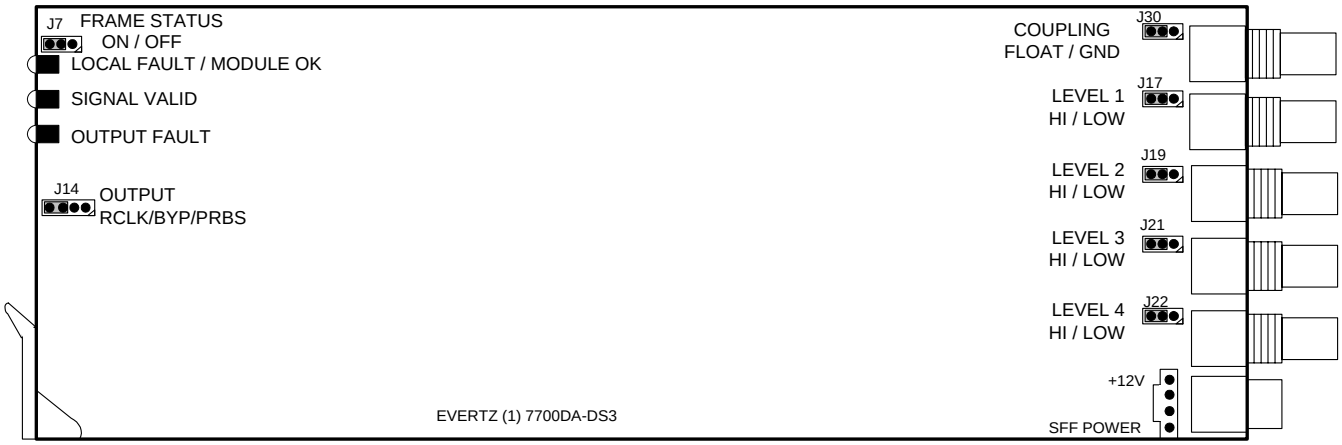

Figure 5-1: Jumper Locations for 7700DA-DS3 Cards

5.1. SELECTING WHETHER LOCAL FAULTS WILL BE MONITORED BY THE GLOBAL FRAME STATUS

The FRAME STATUS jumper J7, located at the top front of the module determines whether local faults (as shown by the Local Fault indicator) will be connected to the 7700FR frame's global status bus.

FRAME STATUS: To monitor faults on this module with the frame status indicators (on the Power Supply FRAME STATUS LEDs and on the Frame's Fault Tally output) install this jumper in the On position. (default). When this jumper is installed in the Off position local faults on this module will not be monitored.

5.2. SELECTING THE OUTPUT MODE

The OUTPUT jumper J14, located on the center front of the module, is a three position jumper that sets the output mode of the DA.

OUTPUT: To select the normal reclocking mode set the jumper to the **RCLK** position (default). This provides signal reclocking for the DS3 signal. The output defaults to a '1010…' pattern on loss of input signal.

To bypass signal reclocking set the jumper to the **BYP** position. This position is useful for performing system diagnostics.

Set the jumper to the **PRBS** position to output a '1010…' test pattern for additional diagnostics testing.

5.3. SELECTING THE INPUT ISOLATION MODE

The COUPLING jumper J30, located at the rear of the module beside the input BNC, is a two position jumper that sets whether the shield of the input BNC connector will be AC or DC coupled to ground.

COUPLING: When set to the **GND** position, the shield of the input BNC will be connected directly to the logic ground of the DA.

When set to the **FLOAT** position, the shield of the input BNC will be AC coupled to the logic ground of the DA.

5.4. SETTING THE TRANSMIT LEVEL

The four LEVEL jumpers, J17, J19, J21 and J22 located at the rear of the module beside the four output BNCs, set the transmit level for the signal on the adjacent BNC output connector.

LEVEL: When the cable length connected to the output is less than 225 feet (68.5 meters) set the jumper to the **LOW** position in order to meet the DSX-3 pulse specification.

When the cable length connected to the output is greater than 225 feet (68.5 meters) set the jumper to the **HIGH** position in order to meet the DSX-3 pulse specification.