Instruction Manual

1T-DA-726 3G/HD/SD-SDI
Distribution Amplifier with Reclocking

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1.0 INTRODUCTION

The 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier, with reclocking, provides 6 outputs from a single SDI input for distribution to devices capable of receiving and/or displaying such signals. The 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier provides third generation HD/SD signal distribution with triple-rate processing and six separately buffered and reclocked outputs. Automatic input cable equalization up to 300m (1000ft)@SD and 150m (500ft)@HD/3G is provided and all ancillary data is passed through to the outputs. Since the SDI signals are reclocked, multiple 1T-DA-3G/HD/SD-SDI Distribution Amplifiers can be cascaded for longer transmission runs.

Our professional video conversion products have been serving the industry for over twenty years. TV One offers a full line of high quality Seamless Switchers, Video Scalers, Up/Down/Cross Converters, Analog-Digital Converters (SD/HD-SDI, HDMI, DVI), Format Converters, Standards Converters, TBC/Frame Synchronizers, Matrix Routing Switchers, Signal Distribution Amplifiers and Cat.5 Transmission Systems.

1.1 Liability Statement

Every effort has been made to ensure that this product is free of errors. TV One cannot be held liable for the use of this hardware or any direct or indirect consequential damages arising from its use. It is the responsibility of the user of the hardware to check that it is suitable for his/her requirements and that it is installed correctly. All rights reserved. No parts of this manual may be reproduced or transmitted by any form or means electronic or mechanical, including photocopying, recording or by any information storage or retrieval system without the written consent of the publisher.

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1.2 Features

- 3G/HD/SD Triple Rate Distribution
- Six Buffered and Reclocked Outputs
- Data Rates of 270 / 1483 / 1485 / 2970 Mbps
- Supported Protocols: DVB-ASI@270Mbps, SMPTE: 259M,292M,424M,425M
- Automatic Cable Equalization and Signal Retiming
- All Ancillary Data is passed to the outputs
- Distribution Amplifiers may be Cascaded for Longer Cable Runs
- Front Panel Input Signal Lock and Rate LED
- Locking DC Power Connector

1.3 Getting the Best Results

There are many factors affecting the quality of results when distributing SDI type signals. Some basic precautions will ensure the best possible performance from your new 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier.

- **Output display device** – The quality of the output signal will depend largely upon the type and quality of the SDI display device used. For instance, some video projectors just look better than others.
- **Distance between the DA sources and the display –** This plays a major role in the final result. Long distances are possible, but special measures should be taken in order to avoid cable losses. These include using high quality cables. Line amplifiers may also be necessary for the longest runs.
- **Input/Output connection cables** – Low quality cables are susceptible to interference. They degrade signal quality due to poor matching and can cause elevated noise levels. Cables should be of the best quality.
- **Interference from nearby electrical devices** – These can have an adverse effect on signal quality. For example, an older computer monitor often emits very high electromagnetic fields that can interfere with the performance of video equipment in its proximity.

2.0 SPECIFICATIONS

Video Inputs	
3G/HD/SD-SDI	1x via BNC Connector
Video Output	
3G/HD/SD-SDI	6x via BNC Connector
SDI Transport	
SDI Standards	3G/HD/SD-SDI
Data Rates	270 / 1483 / 1485 / 2970 Mbps
Video Bandwidths	[2.97Gpbs & 2.97/1.001Gbps]
Supported Protocols	DVB-ASI@270Mbps, SMPTE: 259M,292M,424M,425M
Signal Reclocking	Enabled, All Outputs
Ancillary Data Pass-through	Enabled, All Outputs
I/O Impedance	75Ω
Eye Pattern (HD)	
Amplitude	800mv (<10%)
Rise Overshoot	<2% (<10%)
Fall Overshoot	<2% (<10%)
Long Time Jitter	0.195usec (<1.0usec)
Timing Jitter	0.8usec (<1.0usec)
Alignment Jitter	0.13usec (<0.2usec)
Max Cable Distances	
Reference: Belden 1694A	3G:150m(500'), HD:150m(500'), SD:300m(1000')
Warranty	
Limited Warranty	3 Years Parts and Labor
Mechanical	
Size (H-W-D)	30x200x90mm (1.18"x7.88"x3.54")
Weight (Net)	530g (1.17lbs)
Environmental	
Operating Temperature	0° to +40°C (+32° to +104°F)
Operating Humidity	20% to 90%, Non-condensing
Storage Temperature	-20° to +60°C (-4° to +140°F)
Storage Humidity	20% to 90%, Non-condensing
Power Requirement	
External Power Supply	5VDC@6A
Regulatory Approvals	
SDI DA	FCC, CE, RoHS
Power Supply	UL, CUL, CE, PSE, GS, RoHS
Accessories Included	
1x AC Power Adapter	US, UK or Euro
1x Instruction Manual	
Product Item Number	
1T-DA-726	1x6 3G/HD/SD-SDI DA

3.0 CHECKING PACKAGE CONTENTS

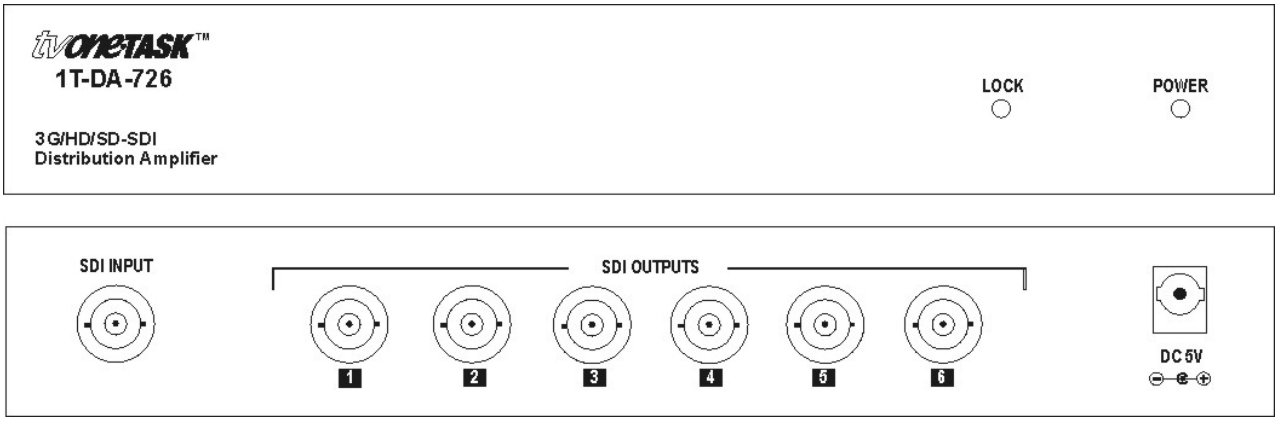
Before attempting to use this unit, please check the packaging and make certain the following items are contained in the shipping carton:

- 1x 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier
- 1x 100~240VAC to 5VDC Power Adapter
- 1x Instruction Manual

Note: *Please retain the original packing material should the need ever arise to return the unit. If you find any items are missing, contact your reseller or TV One immediately. Have the Model Number, Serial Number and Invoice available for reference when you call.*

4.0 CONNECTING THE HARDWARE

Connect the SDI Video Source to the input of the 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier, connect its outputs to appropriate SDI devices or monitors and lastly connect the AC to DC Power Adapter. The drawing below shows the locations of the input, outputs and power connector.



1T-DA-726 3G/HD/SD-SDI Distribution Amplifier

4.1 Connecting the Input to the Distribution Amplifier

You can connect any SDI compliant device's output to the 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier's input. Make certain that the SDI cable is securely plugged into the source device as well as the 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier. Always use a high quality cable, as short a length as possible, for best results.

4.2 Connecting the Outputs to the Destination Devices

Using a high quality SDI cable, connect each output of the 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier to an SDI compliant device. Use the shortest cable run possible.

4.3 Connecting Power

The 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier is shipped with a Power Adapter to convert 100~240VAC@50-60Hz to 5VDC. Connect the DC Output Cable from the Power Adapter to the unit and then plug the Power Adapter into an AC Receptacle. There is no power switch. The unit begins to function as soon as it is plugged into AC.

5.0 OPERATING THE DISTRIBUTION AMPLIFIER

Once the input, output and power cables are connected, plug the AC adaptor into the AC receptacle and the 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier will begin to function. A Power LED on the unit will confirm power is present. A second LED will indicate that a valid SDI input signal is present and the 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier has locked to the signal. Other than connecting cables and applying power, there are no operator interventions required.

6.0 TROUBLESHOOTING

In the event of problems, first make certain that the input and output cables are no more than the specified lengths for the type of SDI signal being distributed and are of the highest possible quality. Next, make certain that the 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier is receiving power.

If you experience problems using the 1T-DA-726 3G/HD/SD-SDI Distribution Amplifier, you should attempt to determine what is wrong by attaching the source device directly to the destination device using the same cables you are using with the expanded system. Use first the source cable and then the destination cable. This is a way of determining if the problem is due to bad cables or a problem with the other devices. If you are unable to obtain a signal using this simplified path, suspect the cables, the source device or the destination device.

After trying the above suggestions should the problem still persist, contact your dealer for additional suggestions before contacting TV One. Should the dealer's technical personnel be unable to assist you, contact TV One via our support website: ***http://tvone.crmdesk.com.*** Create a technical support request on the site and our support team will respond within a short period of time.

7.0 LIMITED WARRANTY

TV One warrants the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a fixed term from the date of purchase. The warranty term for specific product lines is defined below.

1. TV One branded products based on TV One's CORIO technology are warranted for a period of five years from the date of purchase. This includes products with the model number prefix of C2, 1T-C2, CX, A2 or S2.

2. TV One-task branded products, other than those based on TV One's CORIO technology mentioned above, are warranted for a period of three years from the date of purchase. This includes products with the model number prefix of 1T, with the exception of 1T-C2.

3. LCD Monitors are warranted for a period of three years from the date of purchase, with the exception of the LCD panels integrated into the monitors that are supplied by third parties. LCD panels are limited to the term and conditions of the warranty offered by the respective LCD panel manufacturer. Such specific LCD panel warranties are available upon request to TV One.

Should a product, in TV One's opinion, prove defective within this warranty period, TV One, at its option, will repair or replace this product without charge. Any defective parts replaced become the property of TV One. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not originally intended.

If repairs are necessary under this warranty policy, the original purchaser must obtain a Return Authorization Number from TV One and return the product to a location designated by TV One, freight prepaid. After repairs are complete, the product will be returned, freight prepaid.

LIMITATIONS - All products sold are "as is" and the above Limited Warranty is in lieu of all other warranties for this product, expressed or implied, and is strictly limited to two years from the date of purchase. TV One assumes no liability to distributors, resellers or end-users or any third parties for any loss of use, revenue or profit.

TV One makes no other representation of warranty as to fitness for the purpose or merchantability or otherwise in respect of any of the products sold. The liability of TV One with respect to any defective products will be limited to the repair or replacement of such products. In no event shall TV One be responsible or liable for any damage arising from the use of such defective products whether such damages be direct, indirect, consequential or otherwise, and whether such damages are incurred by the reseller, end-user or any third party.

8.0 REGULATORY COMPLIANCE

The 1T-DA-726 3G/HD/SD-SDI Distribution Amplifiers have been tested for compliance with appropriate FCC and CE rules and regulations. The Power Adaptor/Supplies have been tested for compliance with appropriate UL, CUL, CE, PSE, GS Rules, Regulations and/or Guidelines. These Products and Power Adapters are RoHS Compliant.

9.0 CONTACT INFORMATION

Should you have questions or require assistance with this product in areas not covered by this manual, please contact TV One at the appropriate location.

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