



# Operation Manual

**1T-TG-PCHD**  
**Analog Test Generator**

**1T-TG-DVI**  
**DVI Test Generator**



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## **1.0 INTRODUCTION**

Thanks for purchasing this Test Generator from TV One. The 1T-TG-PCHD and 1T-TG-DVI provide stable test signals for a wide variety of PC and HDTV resolutions. The two units are identical in operation and specifications except that the 1T-TG-PCHD has an analog output, while the 1T-TG-DVI has a DVI Output. 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.

TV One reserves the right to revise any of its hardware and software following its policy to modify and/or improve its products where necessary or desirable. This statement does not affect the legal rights of the user in any way.

All third party trademarks and copyrights are recognised. The TV One logo, TV One-task and CORIO are the registered Trademarks of TV One. All other trademarks are the property of their respective holders.

### **1.2 Features**

The 1T-TG-PCHD and 1T-TG-DVI Test Pattern Generators have many features that enable them to perform in a superior manner. Among those features you will find:

- Ultra Compact, High Performance Units
- Analog or DVI Version
- PC and HDTV Outputs
- RGBHV & YPbPr Outputs
- PC Resolutions to 1280x1024
- Most HDTV Scan Resolutions
- Selectable Refresh Rates
- Over 15 Unique Test Patterns
- Rugged Metal Case
- Locking DC Power Connector for Security

## 2.0 SPECIFICATIONS

<b>Output Resolutions</b> (Note 1)		
<b>VESA</b>	<b>Resolution</b>	<b>Format / Refresh Rates</b>
VGA	640x480	RGBHV 50, 60, 72, 75, 85Hz
SVGA	800x600	RGBHV 50, 60, 72, 75, 85Hz
XGA	1024x768	RGBHV 50, 60, 70, 75, 85Hz
WXGA	1280x768	RGBHV 50, 60Hz
SXGA	1280x1024	RGBHV 50, 60Hz
480p	852x480	RGBHV 50, 60Hz
576p	852x576	RGBHV 50, 60Hz
720p	1280x720	RGBHV 50, 60Hz
1080i	1920x1080 (i)	RGBHV 50, 60Hz (Note 2)
<b>Output Format</b>		
1T-TG-PCHD		Analog: RGBHV, YPbPr via HD15
1T-TG-DVI		DVI-D: RGBHV via DVI-I Connect
<b>Test Patterns</b>		
Color Bars		Color Bars/Multi-Burst (2 types)
Grayscale-Light>Dark		Multi-Burst (Note 3)
Grayscale-Dark>Light		Checkerboard
Fade - Black to White		White, Yellow or Cyan Field
Cross Hatch - Standard		Green, Magenta or Red Field
Cross Hatch - Small		Blue or Black Field
Alt. 1 Pixel B/W Lines		H or E Pattern
Alt. 2 Pixel B/W Lines		Large Circle
Alt. 3 Pixel B/W Lines		Circles - Repeating
Alt. 4 Pixel B/W Lines		Chinese Characters (3x)
<b>Mechanical – 1T-TG-PCHD</b>		
1T-TG-PCHD (H-W-D)		30x133x76mm (1.2"x5.25"x3")
1T-TG-DVI (H-W-D)		30x146x76mm (1.2"x5.75"x3")
Weight (Net)		280 g (0.63 lbs)
<b>Environmental</b>		
Operating Temperature		0° to +50° C (+32° to +122° F)
Operating Humidity		10% to 90%, Non-condensing
Storage Temperature		-10° to +60° C (+14° to +140° F)
Storage Humidity		10% to 90%, Non-condensing
<b>Power Requirement</b>		
External Power Supply		5VDC@2A - Locking DC
<b>Regulatory Approvals</b>		
Amplifier Units		FCC, CE, RoHS
Power Supplies		UL, CUL, CE, PSE, GS, RoHS
<b>Warranty</b>		
Limited Warranty		3 Years Parts and Labor
<b>Accessories Included</b>		
1x Power Adapter		US, UK or Euro
1x Operations Manual		
<b>Notes</b>		
(1) 1T-TG-PCHD also has YPbPr out for HDTV Resolutions.		
(2) The 1080i is actually a doubled 540p signal, which is recognized as a 1080i by most HDTV Displays.		
(3) Not a true Multi-Burst. Alternating B/W Vertical Lines.		

### 3.0 CHECKING PACKAGE CONTENTS

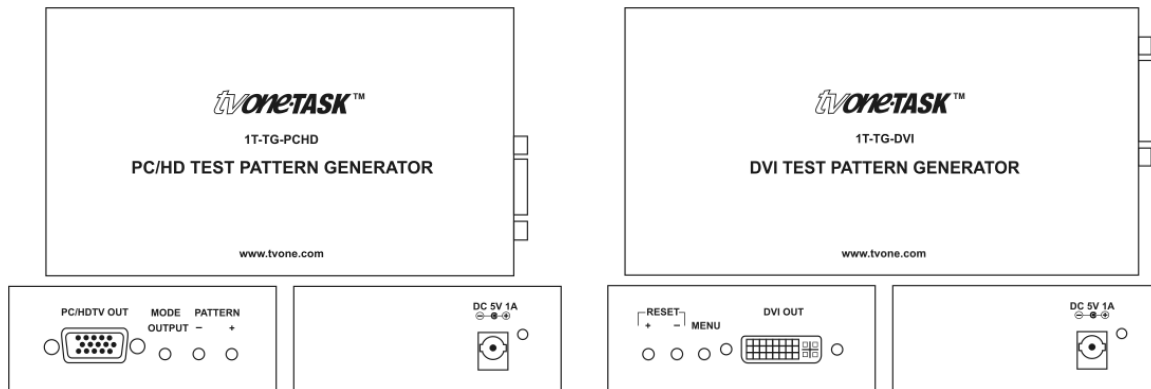
Before attempting to use this unit, please check the packaging and make certain the following items are contained in the shipping carton:

- 1x Test Generator
- 1x 100-240VAC to 5VDC Power Adapter
- 1x Operations 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

The first step is to connect a Display Input to the Output of the Test Generator and then the power. Presented below are drawings of the two units showing the locations of the output and power connectors.

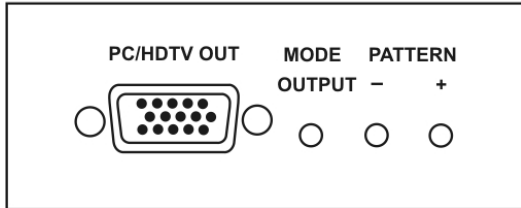


The 1T-TG-PCHD Test Generator outputs analog RGBHV or YPbPr formats. When a PC (RGBHV) output is used, select an HD-15 to HD-15 Cable to connect the Generator's Output to the destination device. When an HDTV (YPbPr) output is used, select an HD-15 to 3-RCA Cable to connect the Generator's Output to the destination device. The 1T-TG-DVI outputs digital RGBHV format via the DVI connector.

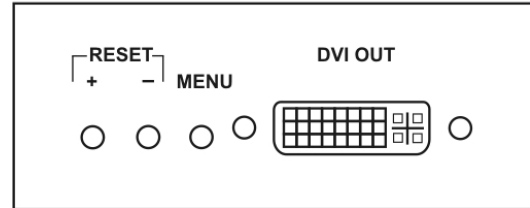
The Test Generator ships with an In-Plug Power Adapter to convert 100-240VAC@50-60Hz to 5VDC. Connect the DC Output Cord from the Power Adapter to the back of the unit and then plug the Power Adapter into an AC Receptacle. When the Power Adapter is plugged in, a Green LED will light and the unit will begin to function.

## 5.0 OPERATING THE UNIT

The Generator is controlled via three buttons with status indicated by OSD. The position of the buttons is slightly different on the two models but the functionality is the same.



**1T-TG-PCHD**



**1T-TG-DVI**

- **Mode Output Button:** This Button changes the Refresh Rate and the Resolution of the output.
- **+ and - Buttons:** These Buttons change the test pattern being produced by the unit.
- **XGA Reset:** Simultaneously depressing the – and + buttons returns settings to factory defaults and sets the output to XGA.
- **480p Reset:** Simultaneously depressing the Mode and - buttons returns settings to factory defaults and sets the output to 480p.

## 5.1 Getting the Best Results

Some basic precautions will ensure the best possible performance from your Test Generator.

- **Output Display Device** – The quality of the output signal will depend largely upon the type and quality of display device used. For instance, some video projectors just look better than others.
- **Using Default Resolution** – It is always best to set the output resolution of the Test Generator to the default resolution and refresh rate of the display device. If the display device automatically tracks the resolution and refresh rate of the incoming signal, initially set the Test Generator to the middle of the range of acceptable signals.
- **Distance between the Test Generator and the Display Device** – Long distances are possible, but special measures should be taken in order to avoid cable losses. These include using high quality (coax-type) VGA cables and Premium DVI Cables. Line amplifiers may also be necessary.
- **Output Connection Cables** – Low quality cables degrade signal quality. Coax-type computer cables are recommended because of their superior internal shielding characteristics.

- **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.

## 5.2 Refresh Rate and Resolution

Each time the Mode Output button is pressed, the output increments one step. The available Refresh and Resolution selections are as follows:

VESA	Resolution	Format / Refresh Rates
VGA	640x480	RGBHV 50, 60, 72, 75, 85Hz
SVGA	800x600	RGBHV 50, 60, 72, 75, 85Hz
XGA	1024x768	RGBHV 50, 60, 70, 75, 85Hz
WXGA	1280x768	RGBHV 50, 60Hz
SXGA	1280x1024	RGBHV 50, 60Hz
480p	852x480	RGBHV 50, 60Hz
576p	852x576	RGBHV 50, 60Hz
720p	1280x720	RGBHV 50, 60Hz
1080i	1920x1080 (i)	RGBHV 50, 60Hz (Note 2 on pg. 3)

## 5.3 Test Pattern Selection: The + and – Buttons

Pressing the + and – Buttons will increment and decrement the test pattern selection through a large range of outputs. The patterns are the same for both models of Test Generator, the only difference being the signal format – RGBHV, YPbPr for the 1T-TG-PCHD and DVI-I for the 1T-TG-DVI.

Test Patterns	
Color Bars	Color Bars/Multi-Burst (2 types)
Grayscale-Light>Dark	Multi-Burst (Note 3)
Grayscale-Dark>Light	Checkerboard
Fade - Black to White	White, Yellow or Cyan Field
Cross Hatch - Standard	Green, Magenta or Red Field
Cross Hatch - Small	Blue or Black Field
Alt. 1 Pixel B/W Lines	H or E Pattern
Alt. 2 Pixel B/W Lines	Large Circle
Alt. 3 Pixel B/W Lines	Circles - Repeating
Alt. 4 Pixel B/W Lines	Chinese Characters (3x)



## **6.0 TROUBLESHOOTING**

Other than checking for faulty cables, the only common problem would be choosing a wrong Output Setting. Make sure the display is capable of handling the resolution and refresh rate selected and make sure the output format selected (RGB or YPbPr) is correct for the type of cable being used at the output. 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**

1T-TG-PCHD and 1T-TG-DVI Test Pattern Generators 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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End of Manual