



## DTV Signal Generator (MPEG2/DVB/ATSC/Opencable Signal Generator) - DSG500

### Overview

DSG500 is the all-in-one DTV signal generator supporting TS and RF Signal output in one unit. It can cover all DTV standard in one unit including DVB-T, DVB-C, DVB-S, ATSC and Opencable. DTV Signal Generator offers easy connection to various digital television signal sources and receivers, suitable for high-definition and standard definition digital television.

Especially, DTV Signal Generator supports Mobile TV Spec test for Mobile DVB-T receiver manufacturers as below.

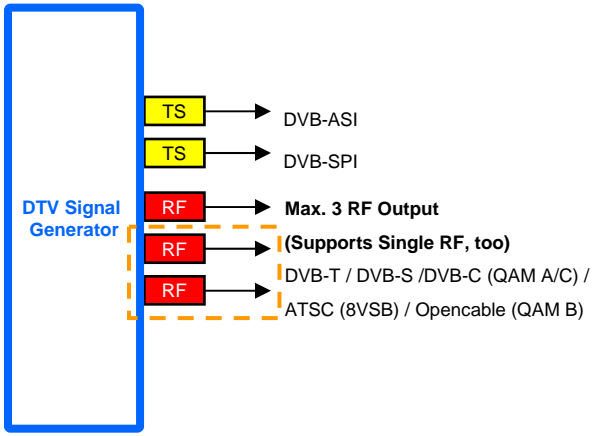
- Sensitivity Test : Support RF Output Level 0~ -120dBm (Level Step Size : 0.5dB)
- C/N Noise Generation : AWGN (Optional)
- Fading (Echo, Doppler) Simulation (Optional)

Most importantly, DSG500 supports multi signal output (Max. 3 RF) in one unit that allows simultaneous signal use. It will save your cost and time for buying several other DTV signal generators.

### Intended Application

- Mobile DVB-T receiver Design and Manufacturing Test
- Set-top Box / DTV(LCD, PDP) Manufacturing
- Set-top Box, DTV Development and Performance Verification
- Stream Play-out and Recording for Production Line Applications
- Simulation of Mobile DVB-T and DTV (Terrestrial/Satellite/Cable) Broadcasting Transmission
- DTV Chip Development (Tuner/MPEG)
- DTV Demonstration & Sales
- DTV Signal Source in exhibition

- Code: DSG500
- TS OUT : ASI, SPI
- RF OUT : DVB-T  
DVB-S  
DVB-C (QAM Annex-A/C)  
ATSC (8VSB)  
Opencable (QAM Annex-B)



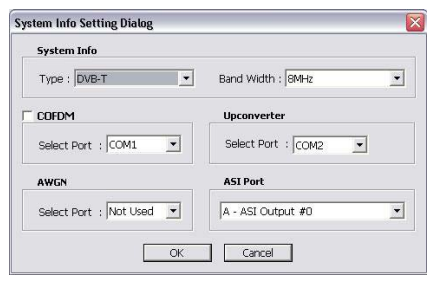
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DTV Test & Measurement Solutions



## Main Features

- **DSG500**
  - RF Output : Multi Standard Modulator – Multi RF supports (MAX. 3 RF outputs)
    - DVB-T, DVB-C, DVB-S or 8VSB
  - RF Output Level : 0 ~ -120dBm
  - RF Frequency Range : 50 ~ 862 MHz
  - NIT Auto setting
  - MPEG2 TS Output : DVB ASI/LVDS Multi Interface
  - Support Mobile TV Spec Test
  - Sensitivity, C/N Generation and Fading Simulation (Echo/Doppler) -Optional
  - Error Injection (TR 101 290 Level Error)
  - PIDs Analysis
  - PS to TS (File, Live) Convert
  - Decoding View
  - Control of each Input/Output Interface independently
  - Memory Play on RAM Cache memory
  - Automatic Bit-rate and Play Time Calculation
  - User-defined Output Bit-rate Setting (Burst mode/ Static mode)
  - Packet Size : RAW/188/204/188+16(LVDS)
  - TS Verifying Setting
  - Inserting Null Packets (Static Mode)
  - Play List (Each Output)
  - Sequential Play
  - Slide Bar
  - Support C/N Generation
    - C/N Range : 0~+40dB (Resolution : 0.1dB)
    - Noise BW : ① 0~10MHz according from Signal CH BW (Spec.)  
② User Select : ~ Max. 45MHz
  - Support Fading Simulation (Future Support)
    - 6 CHs (Optional : Max. 12CHs)
    - Speed Range : 0~120km/h
    - Path Delay : 100ns~10μs (Resolution : 100ns)
    - Path Loss : 0~-25dB (Resolution : 0.1dB)

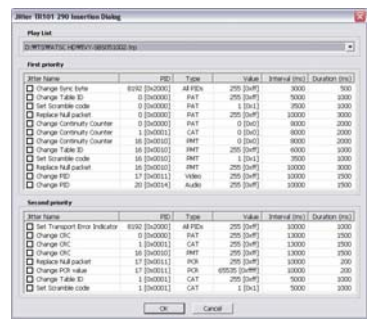
## TS and RF setting



system Information Setting



PS >> TS Converting



Jitter TR 101 290 Insertion



TS Setting

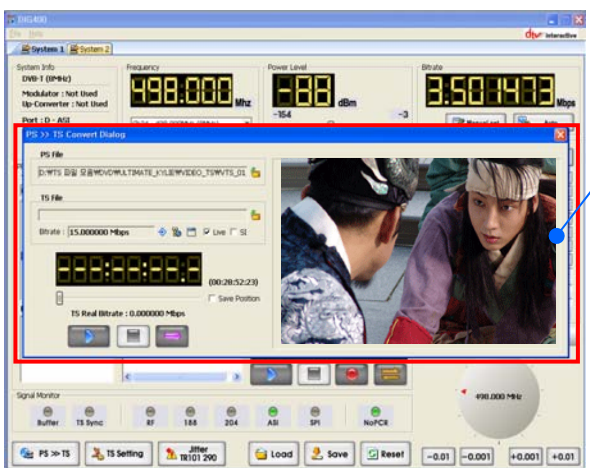
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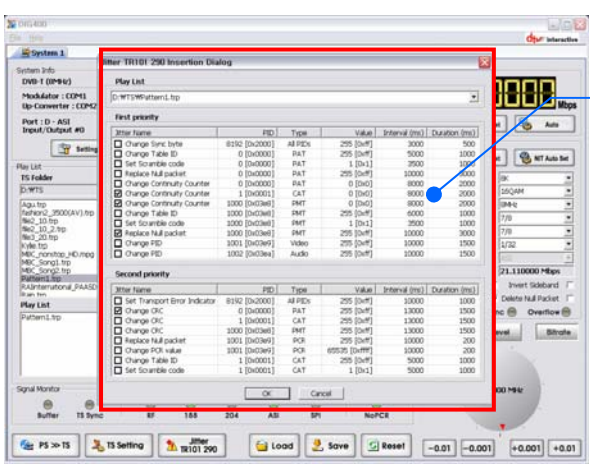
Highlight Features



- Analysis of PIDs
- Decoding View



- PS (Program Stream) to TS (Transport Stream) Convert
- Live PS Play



- Error Injection (ETR 290 Priority I, II)



## H/W Specification

### TS Out Module (User Select)

DVB-ASI Output PCI Card	DVB-SPI (LVDS) Output PCI Card
Output bit rate : 0 ~ 214Mbps Packet Size : 188/204 Byte Dual 16MByte Buffer Memory Null Packet Insertion from H/W	Physical Layer : DVB/SPI (LVDS) Output bit rate : ~ 108Mbps DVB/SPI Connector : 25-pin sub-D 8-Mbytes on-board buffer Packet Size : 130, 188, 192, 204 Byte Low Host CPU Occupation Architecture

### Modulation Characteristics (User Select)

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### Operating specification

Voltage :	AC 100 ~ 240V, 50/60Hz
Operating temperature :	10 to 40 degree
Operating humidity :	45 ~ 85% RH
Guaranteed temperature:	15 to 35 degree
Guaranteed humidity :	45 ~ 85% RH
Dimensions :	519.7(W) x 435(D) x 231.8(H)mm
Weight :	About 17kg



Ordering Information

Base Model	Description	Notes
<b>DSG500</b>	DTV Signal Generator. * RF Level : 0 ~ -120dBm * RF Level Step Size : 0.5dB * Multi Modulator / Multi RF	* Should be combined 1 option among "Options S" * Max. 3 RF output supports in case of Multi Modulator – Multi RF

Options	Description	Notes	
<b>Option S (Single RF)</b>	S-501	DVB-T Module	* Please refer "Modulation Characteristics" in Page 4. * User can select only one option among S-501, S-502, S-503, and S-504 to use <b>Multi-modulator – multi RF. Then select M and/or M2 option</b> * User can choose Max. 5 modules from Options S if user don't want to add M or M2 options for <b>Multi-Modulator – Single RF only.</b> * If user selects S-507, Option M and M2 would not be possible. * SB-201 can be combined with S-501 and S-502.
	S-502	ATSC Module	
	S-503	DVB-C (Annex – A/C) Module	
	S-504	Opencable Module (Delivery Terms : 8weeks)	
	S-507	DVB-S Module	
	SB-201	AWGN Module	
<b>Option M (Second RF)</b>	M-501	DVB-T Module	* User can select only one option among M-501, M-502, and M-504 after selecting Option S. * MB-201 can be combined only one module among M-501, M-502 and M-504.
	M-502	ATSC Module	
	M-504	DVB-C (Annex – A/C) Module	
	MB-201	AWGN Module	
<b>Option M2 (Third RF)</b>	M2-501	DVB-T Module	* User can select only one option among M2-501, M2-502, and M2-504 after selecting Option M * M2B-201 can be combined only one module among M2-501, M2-502 and M2-504.
	M2-502	ATSC Module	
	M2-504	DVB-C (Annex – A/C) Module	
	M2B-201	AWGN Module	
<b>Option B</b>	B-101	ASI Out Module	* Should select Option S before selecting Option B.  * B-100 options after purchasing, it'll cost additional charges and delivery terms will be within 4 weeks.
	B-102	SPI Out Module	
	B-202	Fading Module (Future Support)	
	B-100	Option Upgrade Service	



## Frame Specification

Frames (User Select)		
Type	Specification	Model
Standard Frame 1	<ul style="list-style-type: none"> <li>Display : 10.4" LCD with touch screen (1024X768)</li> <li>HDD : 160G or higher</li> <li>OS: Windows XP Professional</li> <li>ODD: DVD Rom &amp; CD RW Combo</li> <li>Dimension : 450(W) X433(D)X230(H) mm</li> <li>Ethernet, USB 2.0</li> <li><b>* CE, FCC marked</b></li> </ul>	
Portable Frame	<ul style="list-style-type: none"> <li>Display : 12.1~15.1 inch TFT LCD Front Panel (800x600~1024x768)</li> <li>HDD : 160GB ~ 400GB Max.</li> <li>OS: MS Windows 2000 or XP</li> <li>ODD: DVD-RW COMBO (DVD Recorder Optional)</li> <li>Dimension : 400(W)X291(D)X213(H) mm / 15,7"X11.4"x8.3"</li> <li>Ethernet, USB 2.0</li> <li><b>* CE, FCC, UL, CCC marked</b></li> </ul>	
Super Portable Frame	<ul style="list-style-type: none"> <li>Display : 12.1inch X GA LCD (1024X768 : Standard) 14,1inch X GA LCD (1024X768 : Optional)</li> <li>HDD : 80GB ~120GB</li> <li>ODD: DVD-RW COMBO (DVD Recorder Optional)</li> <li>OS : Windows XP</li> <li>12-32VDC car adapter</li> <li>Expansion unit W/2*PCI (3/4 size)</li> <li>Dimension : 310(W)x255(D)x70(H) mm / 12.2"x10"x2.8"</li> <li><b>* CE, FCC, UL, CCC marked</b></li> </ul>	
Standard Frame 2	<ul style="list-style-type: none"> <li>Display : 6.4" TFT LCD Front Panel (640X480) with touch screen</li> <li>HDD : 80GB</li> <li>OS : Windows XP Pro</li> <li>Ethernet, USB2.0</li> <li>Dimension : 377(W)x360(D)x162(H)mm</li> </ul>	
Handheld Frame	<ul style="list-style-type: none"> <li>Display : 10.4" TFT LCD Front Panel (1024X768) with Touch Screen</li> <li>HDD : 40GB~100GB</li> <li>OS : Windows XP Pro</li> <li>Ethernet, USB2.0</li> <li>Dimension : 11.7'(W)x9.4'(D)x1.7'(H)</li> </ul>	
Ultra Frame	<ul style="list-style-type: none"> <li>Large LCD with Touch Screen</li> <li>Pentium 4, 3.0G Embedded OS</li> <li>Memory 1G / HDD200G</li> <li>DVD Rom / CD RW Combo</li> </ul>	