

# DS303B

## Digital TV Signal Generator

### General

The DS303B is a multi signal generator for terrestrial digital TV broadcasting. If assembled together with the optional units, it can output signals compatible with terrestrial digital TV broadcasting systems used in countries around the world, including ATSC in North America, DVB in Europe, ISDB in Japan, and DTTB/DMB-TH in China.

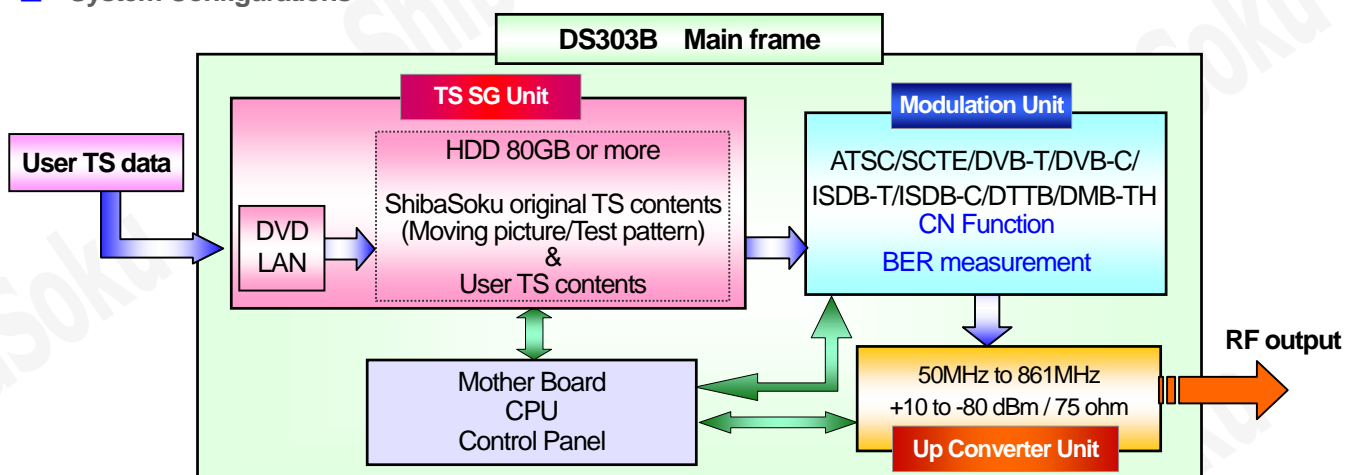
Using an optional modulation methods, it can also output signals for different types of terrestrial digital TV broadcasting. This makes it possible to handle different TV broadcasting systems without the need to prepare different signal generators for different TV broadcasting systems.



### Features

- ◇ The DS303B is a multi signal generator for terrestrial digital TV broadcasting in worldwide.
- ◇ Supports multi terrestrial digital TV broadcasting systems  
 ATSC, SCTE (USA QAM, Annex B), DVB-C (Annex A), ISDB-T (including 1 segment), ISDB-C (Annex C), DVB-T, DTTB (China, GB20600-2006), DMB-TH (China, GB20600-2006)
- ◇ The DS303B consists of TS SG unit, Modulation unit, and Up Converter unit
  - TS SG Unit: TS output from its built-on hard disk drive. Generates moving pictures and test patterns for each modulation system
  - Modulation Unit: Up to 8 different modulation systems can be installed into a unit
  - Up Converter Unit: Generates RF signals in the VHF and UHF band
- ◇ Noise signal can be added. (C/N 0.0 to 30.0dB, 0.1dB step)
- ◇ BER (Bit Error Rate) measurement is available.
- ◇ TS-Remux for ISDB-T system can be executed by external PC software.
- ◇ If a power amplifier (optional RA series) is added to the DS303B, a centralized TV signal generator system can be established.

### System Configurations



## ■ Specifications

- ◇ Main frame
  - REF input signal INT/EXT (switchable)
  - Connector BNC-J/ 50 ohm
  - Frequency 10 MHz +/-5 ppm
  - Level 0.3 to 3.0 Vp-p, sine wave
  - REF output signal
  - Connector BNC-J/ 50 ohm
  - Frequency 10 MHz +/-3 ppm or less (It follows the input signal at an External input mode)
  - Level Approx. 1.0Vp-p, sine wave
  - Monitoring functions Fan monitor, power failure (when equipped with DS303B100 only)
  - Remote control Optional, DS303A001, RS232C, GP-IB and GPI interfaces
- ◇ TS SG Unit (Optional DS303B100)
  - DVB-SPI input/output signal
  - Compliant with EN 50083-9 standards
  - Connector D-SUB 25pins, FEMALE
  - Level LVDS, differential 100 ohm
  - Transmission rate 0.0625 to 7.5 Mbps
  - Drives DVD drive and HDD (80 GB or more)
  - Interfaces LAN and Serial (for UPS connection)
  - Compatible stream
  - Compliant with ISO/IEC 13818-1, MPEG-2 system, and MPEG2-TS
  - Transmission rate 0.5 to 50 Mbps (depends on TS contents)
  - Packet length 188/204/208 bytes
- ◇ Modulation unit (Option DS303B200)
  - Input signal DVB-SPI
  - Compliant with EN 50083-9 standards
  - Connector D-SUB 25pins, FEMALE
  - Level LVDS, differential 100 ohm
  - Transmission rate 0.0625 to 7.5 Mbps
  - IF output signal BNC-J/75 ohm
  - Frequency 44 MHz +/-200 kHz (1 Hz step)
  - Level -15 dBm
  - Additional functions
  - CN function (0.0 to 30.0dB, 0.1dB step)
  - BER measurement
  - PRBS signal can be generated
  - IF signal polarity switchable
- ◇ Modulation systems (Options)
  - ATSC DS303A210, ATSC/A53 standards
  - ISDB-T DS303A211, ARIB STD-B31
  - DVB-T DS303A212, ETSI EN 300744
  - DTTB (\*1) DS303A215, GB20600-2006
  - DMB-TH (\*2) DS303A213, GB20600-2006
  - SCTE DS303A220, ANSI/SCTE 07, ITU-T Recommendation J.83 Annex B
  - ISDB-C DS303A221, ITU-T Recommendation J.83 Annex C
  - DVB-C DS303A222, ITU-T Recommendation J.83 Annex A
- \*1: Supports MULTI, SINGLE (P0 and P2) carrier mode
- \*2: Supports MULTI carrier mode
- ◇ Up Converter Unit (Optional DS303B300)
  - IF input signal BNC-J/75 ohm
  - Frequency 44 MHz
  - Level -15 dBm +/-5 dB (IF AGC on)
  - RF output signal BNC-J/ 75 ohm
  - Frequency 50 to 861 MHz (1Hz step)
  - Level +10 to -80 dBm (0.1 dB step)
  - Phase noise Less than -90dBc/Hz at 10kHz offset
  - Spurious Less than -50dBc
  - Monitor output signal
  - BNC-J/75 ohm (About -20 dB from the RF output)
- ◇ General specifications
  - Operating temperature 5 to 40 degree C, 20 to 85%RH (non dewing)
  - Power supply AC100 to 240 V, 50/60 Hz
  - Power consumption
  - Max. 250 VA
  - Dimensions 426(W) x 149(H) x 460(D) mm
  - Weight 17 kg or less (within TS SG, modulation and up converter unit)
  - Accessories
  - AC power code 1 set
  - 3P-2P conversion connector 1 set



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