S7200
TV Signal Analyzer

Key Benefits

- Real-time analysis and monitoring
- All-In-One TV Signal Analyzer
- Digital Standards:
  DVB-C/C2, DVB-T/T2, DVB-S/S2, ATSC and ISDB-Tb
- Video Decoder: MPEG2/4H.264/VC-1, SD/HD
- IPTV
- Transport Stream Analyzer
- Fast Spectrum Analysis



Overview

The S7200 TV Signal Analyzer provides fast, easy real-time analysis and monitoring of terrestrial, cable, and satellite TV signals (8VSB, QAM [J.83A/C/C2], QPSK, 8PSK, and PAL, SECAM, & NTSC RF Channels). The range of capabilities offered by the S7200 includes all measurements required to install, maintain, and troubleshoot 8VSB transmitters and includes complete RF analysis and logging, along with transport stream recording.



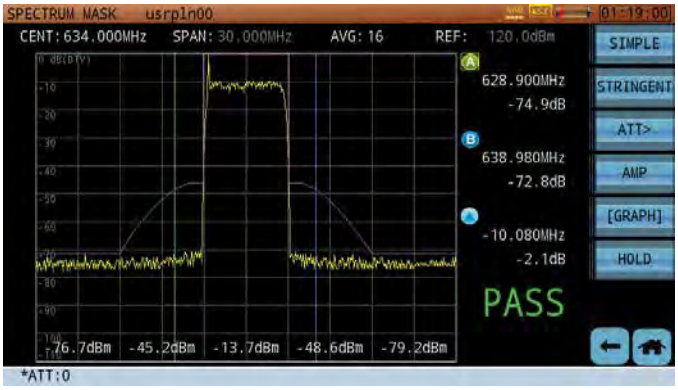
Full-Screen Image Display

Key Features

- Digital/Analog TV and Digital Satellite TV analysis
- MPEG2 Transport stream analyzer and monitoring via TS-ASI input & RF input
- High Speed Spectrum Analysis:
  frequency range 5 ~ 2150 MHz, max span 1200MHz
- Video decoding of MPEG2, MPEG4, and H.264 for 1080p, 720p and 560i, and PAL/NTSC/SECAM color system
- MPEG support
- Real-time analysis, monitoring, and recording of MPEG Transport Streams via TA-ASI input & RF output
- Easy-to-read fast spectral displays, including constellation and eye diagram displays
- ATSC 8VSB Spectral Emissions Mask
- Remote monitoring capable
- Closed captions monitoring
- Electronic programming guide
- User channel plan for ATSC/USA
- CAM modules for encrypted channels
- WiFi Analysis and Communication - 2.4 & 5 GHz (802.11 a/b/g/n)
- Optical Power measurements and Optical Receiver option

Spectrum Measurement

Featuring integrated high-speed spectrum analysis capability, the S7200 covers TV & Broadcasting signals (5-1220 MHz) as well as Satellite IF signals (950-2150 MHz).



Spectral Emissions Mask

DVB-T2 Signal Analysis

Covers QPSK and 16, 64, and 256 QAM, providing power level, MER, CBER/LBER, constellation measurements, and echo pattern.



Antenna DVB-S/S2 Signal Analysis

Transport Stream Analysis & Monitoring

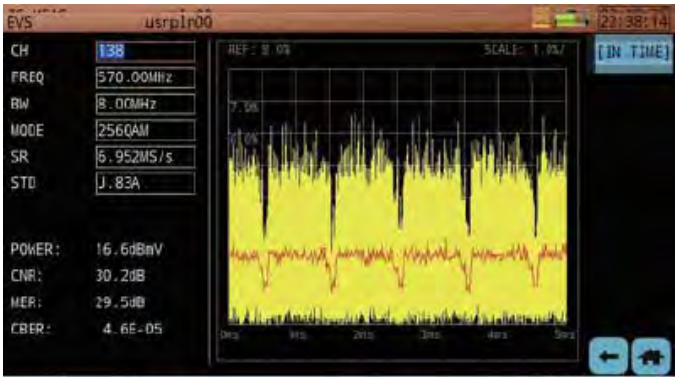
The S7200 provides real-time analysis, monitoring, and recording of MPEG Transport Streams via TS-ASI input & RF output. Featuring TR101 290 3-level monitoring, the S7200 lists PSI/SI and transport stream program informaton. In addition, the S7200 lists details of all programs running in a TV network or a transponder. With 32GB of storage, the S7200 can save hours of TS footage for instant replay and analysis.



TR101 290 Three-Level Monitoring

DVB-C Signal Analysis

Other supported standards include J.83 Annex A/C (on models S7200 and S7200-ISDB-Tb) and J.83 Annex A/B/C (on model S7200-ATSC), providing power level, MER, BER, & constellation measurements. Use the Error Vector Spectrum (EVS) function to quickly find interference signals beneath the QAM mask. The frequency domain EVS tool helps measure narrow- band interference signals, while the time domain EVS function is used for wide-band interference signals such as LTE interference.



Time Domain EVS Measurement

DVB-T/H Signal Analysis

Covers QPSK, 16 QAM, and 64 QAM modulation schemes, providing power level, MER, CBER/VBER, constellation measurements, and echo pattern.

DVB-S/S2 Signal Analysis

The S7200 supports the DVB-S/S2 digital broadcast standard, providing power level, MER, BER, & constellation measurements.

DVB-C2 Signal Analysis

The S7200 also supports the DVB-C2 digital broadcast standard, providing power level, MER, BER, and constellation measurements (including 64, 256,1024, and 4096 QAM).

Specifications

Spectrum Analysis	
Frequency Range	5~1220 MHz (TV), 950 MHz ~ 2150 MHz (Satellite)
Frequency Span	0~1215MHz (TV) 0~1200MHz (Satellite)
Frequency Step	1kHz (TV & Satellite)
Resolution Bandwidth (-3dB)	30kHz, 100kHz, 300kHz, 1MHz, 3MHz
Level Measurement Range	-50dBmV ~ +60dBmV (TV), -30dBmV ~ +60dBmV (Satellite)
Measurement Accuracy	<1.5 dB
Measurement Detector	Positive Peak, Negative Peak, Sample, Average, RMS
Reference Level	-30dBmV ~ +60dBmV
Markers	2 vertical markers
Analog TV Measurement	
Supported Standards	B/G, I, D/K, L/L´, M/N
Supported Color Standards	PAL, SECAM, NTSC
Frequency Step	10 kHz
Hum Measurement	1% ~ 15%
C/N	> 50dB
Level Measurement Range	-30dBmV ~ +60dBmV
Measurement Accuracy	< 1.5 dB
Level Resolution	0.1 dB
DVB-T/H Measurement	
Frequency Range	42 MHz ~ 1002 MHz
Modulation Type	QPSK, 16 QAM, 64 QAM
Power Level Range	-35dBmV ~ +50dBmV
Level Resolution	0.1 dB
Power Level Accuracy	±1.5 dB (C/N >20 dB)
MER Measurement	> 35 dB
MER Accuracy	±2.0 dB
CBER/VBER	√
Constellation	√
Echo Pattern	√
DVB-T2 Measurement	
Frequency Range	42 MHz ~ 1002 MHz
Modulation Type	QPSK, 16 QAM, 64 QAM, 256 QAM
Power Level Range	-35dBmV ~ +50dBmV
Level Resolution	0.1dB
Power Level Accuracy	±1.5 dB(C/N >20 dB)
MER Measurement	>38 dB
MER Accuracy	±2.0 dB
CBER/LBER	√
Constellation	√
Echo Pattern	√

ATSC Measurement	
Modulation Type	8 VSB
Power Level Range	-35dBmV ~ 50dBmV
Level Resolution	0.1 dB
Power Level Accuracy	±1.5 dB(C/N >20 dB)
MER Measurement	>40 dB
MER Accuracy	±2.0 dB
BER	√
Constellation	√
ISDB-Tb Measurement	
Modulation Type	QPSK, 16 QAM, 64 QAM
Modulation Bandwidth	6MHz
Power Level Range	-35dBmV ~ 50dBmV
Power Resolution	0.1dB
Power Level Accuracy	±2.0dB (C/N>20dB)
MER Measurement	> 40dB
MER Accuracy	±2.0dB
CBER	1E-1~1E-5
VBER	1E-1~1E-7
Constellation	√
DVB-C Measurement	
Frequency Range	42 MHz ~ 1002 MHz
Modulation Type	16/32/64/128/256 QAM ITU-T J.83 ANNEX A/C 64/256 QAM ITU-T J.83 ANNEX B
Symbol Rate	1.8 MS/s ~ 7.0 MS/s
Power Level Range	-30dBmV ~ +50dBmV
Level Resolution	0.1 dB
Power Level Accuracy	±1.5 dB(C/N > 20 dB)
MER Measurement	~40 dB
MER Accuracy	±2.0 dB
BER	1E-3 ~ 1E-9
Constellation	√
DVB-C2 Measurement	
Power Level Range	-35dBmV ~ +50dBmV
Power Level Accuracy	±1.5 dB (C/N >20 dB)
Guard Interval	1/64, 1/128
Bandwidth	6 MHz and 8 MHz
Spectrum Inversion	Auto
PLP Code Rates	2/3, 3/4, 4/5, 5/6, 8/9, 9/10
PLP Constellation	16, 64, 256, 1024, 4096 QAM
Data Slices	Type 1 & 2 supported, width up to 7.61 MHz
Cell ID	Detected from Transmitter Station
Network ID	Detected from Transmitter Station
CS System ID	Detected from Transmitter Station
DVB-S/S2 Measurement	
Modulation Type	QPSK, 8PSK
Symbol Rate	2 - 45 MS/s (DVB-S) 1 - 45 MS/s (QPSK DVB-S2) 1 - 45 MS/s (8PSK DVB-S2)
Power Level Range	-20 ~ +50 dBmV
Level Resolution	0.1dB
Power Level Accuracy	±1.5 dB (C/N>20dB)
MER Measurement	> 25 dB
MER Accuracy	±2.0 dB
BER	DVB- S (CBER/VBER) DVB-S2 (CBER/LBER)
Constellation	√

Specifications (continued)

TS Analyzer	
Standard Interface	En 50083-9 (DVB SPI, ASI)
DVB-ASI Interface	75 Ω BNC
DVB-ASI Clock	270 MHz
DVB-ASI Max Data Rate	0 to 72 Mbps
DVB-ASI Output Signal Level	1.0 Vp-p nominal
DVB-ASI Return Response	> 15dB
DVB-ASI Input Level	800 mV +/- 10%
Realtime Decoder	Display real-time television feed (through CA system), including: program name, no., provider information, video & audio PIDs
TR101290 Monitor	TR101 290 3-level real-time monitor, not incl. buffer test parameters
Base Information	Count PID% by stream type: Videos, Audios, PSI/SI, Null Packages
PID List	Display all PIDs in current stream
Program Information	Detailed program information (if unencrypted); video resolution; audio compression rate
PCR Monitor	Calculate PCR interval and PCR accuracy
PSI/SI	Display PSI/SI details in tree structure, including PAT, PMT, CAT (NIT, SDT, RST, TDT, EIT options)
Program Info	EPG
PID Capture	Capture a specified PID by its type, e.g. Video, Audio, PSI (PAT, PMT, NIT, TDT, RST, SDT, EIT); display data in HEX format
Record/Replay	32GB SSD for Transport Stream recording
Video/Audio Decoder	
Video	MPEG1/2/4, H.264, VC-1
Video Resolution	1080p, 720p and 576i
Audio	MPEG1/2/4, AAC
CAM Module	EN50221 (DVB-CI) PCMCIA interface
TS-ASI Input And Output	√
TS Record	√
Wi-Fi Analysis	
Frequency	2.4G, 5G
Support Standard	802.11 a/b/g/n
Security Mode	WPA/WPA2/WPA-PSK/WPA2-PSK
Encryption	WEP/AES/TKIP
Test Parameters	SSID, Level, Channel
Optical Receiver	
Measurement Wavelength	1310nm, 1490nm, 1550nm
Measurement Range	-50dBm ~ +27dBm
Accuracy	±0.17dB (±3%)
Linearity	0.07dB/10dB
Resolution	0.01dBm
Interface	FC/SC/ST/APC General Optical Adapter
Optical Power Measurement	
Dynamic Conversion Range	-70dBm ~ +10dBm
RF Band Converted	5 MHz ~ 2150 MHz

Interface	
RF Input	75Ω F
USB	1 USB 2.0
LAN	2 100/1000 M
CAM	1 PCMCIA
TS-ASI Input / Output	2 75Ω BNC
DC Supply Input	12 V / 5 A
GPS Input	USB Dongle
General	
Display	7", 800 x 480 TFT LCD capacitive touchscreen
AC/DC Adapter	100 - 240 V/50-60 Hz (AC); 12 V/5 Ah (DC)
Battery	Li-ion, 7.4 V/13 Ah
Charge Time	~ 5 hrs.
Working Time	>5 hrs.
Remote Feeding	5/13/15/18/24 V, maximum 5 W
22 kHz Control Signals	DiSEqC 1.2 and SaTCR
Dimension (W×H×L)	253 mm × 194 mm × 84mm (10" x 7.6" x 3.3")
Weight	~2.4 kg (5.3 lbs.)
Working Temperature	-10 ~ +50 °C





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