DBSM/DBSMD

TECHNICAL DATA

Digital Transcorder

DBSM-A1B1, DBSM/E01-A1B1, DBSM/E01-B1C1, DBSMD-A1B1, DBSMD/E01-A1B1, DBSMD/E01-B1C1, DBSM/E09-A1B1, DBSMD/E09-A1B1

DBSM

DBSMD

- **Encrypted with AES 256 bit CTR, offering four key policies**
- **Selectable output power to maximize operating range or battery life**
- **Ultra-lightweight, corrosion resistant housing**
- **OLED interface with lockout option**
- **Servo Bias input circuitry**
- **IR (infrared) port for fast setup**
- **Integrated recorder on internal microSDHC memory card**
- **Timecode jam-sync capability with TCXO for <1 ppm accuracy**
- **High density mode for ultra-tight channel spacing**

The DBSM and DBSMD digital transcorders were developed specifically for the needs of the film industry. Features include input gain adjustment in 1 dB increments over a 44 dB range and adjustable low frequency audio roll-off for 3 dB down points at 20, 35, 50, 70, 100, 120 or 150 Hz to control subsonic and very low frequency audio content. The transmitters also offer selectable output power of 10, 25 and 50 mW. A special high-density (HDM) transmit mode at 2 mW allows for ultra-tight channel spacing without concern for frequency coordination.

The input section features the unique Lectrosonics servo bias input circuitry with a standard TA5M type jack for use with electret lavaliere mics, dynamic mics, or line level signals. A DSP-controlled analog audio limiter is employed ahead of the first mic preamp to protect the entire audio chain from overload. The limiter has a range of more than 30 dB for excellent overload protection, and a dual release envelope that makes the limiter acoustically transparent while maintaining low distortion of brief transients and longer duration peaks.

A water resistant control panel with LCD, membrane switches and multi-color LEDs make input gain adjustments, frequency and compatibility mode selection quick and accurate. The battery compartment accepts industry-accepted AA batteries (lithium recommended).

The housing is machined from solid aluminum blocks to provide an extremely lightweight and rugged package. A special non-corrosive finish resists salt water exposure and perspiration in extreme environments.

Frequency Tuning Range

RF-intense multichannel and mobile venues must have a broad selection of frequencies available to alleviate interference problems, especially with the emergence of DTV telecasts. Frequencies are selectable in 25 kHz steps across the broad tuning range of each frequency band.

Recording Function

The record and transmit function can be used simultaneously (only in regions outside the United States). For US models, when the unit is transmitting and recording is turned on, the audio in the RF transmission will stop, but the battery status will still be sent to the receiver.

The transmitters can be jammed with timecode sync for eachaudio file alignment during post production and uses atemperature compensated crystal (TCXO) for <1 PPM accuracy.

NOTE: Timecode is disabled when recording and transmitting simultaneously.

LECTROSONICS®
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Specifications

Operating frequencies:

DBSM(D)-A1B1: Band A1-B1: 470.100 - 607.950
DBSM(D)/E01-A1B1: Band A1-B1: 470.100 - 614.375
DBSM(D)/E01-B1C1: Band B1-C1: 537.600 - 691.175
DBSM(D)/E09-A1B1 Band A1-B1: 470.100 - 614-375

NOTE: It's the user's responsibility to select the approved frequencies for the region where the transmitter is operating

Channel Spacing: 25 kHz

RF Power output:
DBSM: 2 (HDM only), 10, 25 or 50 mW
DBSMD: 2 (HDM only), 10, 25 or 50 mW

DBSM(D)/E01-A1B1: 2 (HDM only), 10, 25 or 50 mW
DBSMD(D)/E01-B1C1: 2 (HDM only),10, 25 or 50mW

DBSM/E09-A1B1: 2 (HDM only), 10, 25 mW
DBSMD/E09-A1B1: 2 (HDM only), 10, 25 mW

Compatibility Modes: DBSM/DBSMD: D2 digital with encryption, and HDM high density digital with encryption

Modulation Type: 8 PSK
Encryption Type: AES-256 in CTR mode
Frequency stability: ± 0.002%
Spurious radiation: Compliant with ETSI EN 300 422-1
Equivalent input noise: –125 dBV, A-weighted

Input level:
If set for dynamic mic: 0.5 mV to 50 mV before limiting
Greater than 1 V with limiting

If set for electret lavaliere mic: 1.7 uA to 170 uA before limiting
Greater than 5000 uA (5 mA) with limiting

Line level input: 17 mV to 1.7 V before limiting
Greater than 50 V with limiting

Input impedance:
Dynamic mic: 300 Ohms
Electret lavaliere: Input is virtual ground with servo adjusted constant current bias
Line level: 2.7 k ohms

Input limiter: Soft limiter, 30 dB range
Bias voltages: Fixed 5 V at up to 5 mA
Selectable 2 V or 4 V servo bias for any electret lavaliere
Gain control range: -7 to 44 dB; panel mounted membrane switches
Modulation indicators: Dual bicolor LEDs indicate modulation –20, -10, 0, +10 dB referenced to full modulation
Controls: Control panel w/ LCD and 4 membrane switches
Low frequency roll-off: Adjustable from 20 to 150 Hz
Input Type: Analog mic/line level compatible; servo bias preamp for 2V and 4V lavaliere microphones
Input level:
- Dynamic mic: 0.5 mV to 50 mV
- Electret mic: Nominal 2 mV to 300 mV
- Line level: 17 mV to 1.7 V

Input connector: TA5M 5-pin male
Audio Performance
Frequency response: 20Hz to 20kHz, +/- 1dB: D2 Mode
20Hz to 16KHz, +/- 3dB: High Density (HDM) Mode
Dynamic range: 112 dB (A)
Distortion: < 0.035%
Antenna: Flexible, unbreakable steel cable.
Battery: AA (+1.5 VDC), disposable, Lithium recommended

	Lithium	Alkaline	NiMH
DBSM-A1B1 (1 AA):	2 mw - 8:55 10 mw - 7:25 25 mw - 6:35 50 mw - 4:45	2 mw - 2:15 10 mw - 2:00 25 mw - 1:25 50 mw - 1:10	2 mw - 5:25 10 mw - 4:55 25 mw - 4:25 50 mw - 4:20
DBSMD-A1B1 (2 AA):	2 mw - 18:20 10 mw - 16:35 25 mw - 15:10 50 mw - 12:10	2 mw - 7:45 10 mw - 7:10 25 mw - 6:20 50 mw - 4:30	2 mw - 10:55 10 mw - 10:30 25 mw - 9:20 50 mw - 7:25

Weight w/ battery(s):
DBSM-A1B1: 3.2 oz. (90.719 grams)
DBSMD-A1B1: 4.8 oz. (136.078 grams)

Overall Dimensions: (without microphone)
DBSM-A1B1: 2.366 x 1.954 x 0.642 inches; 60.096 x 49.632 x 16.307 mm
DBSMD-A1B1: 2.366 x 2.475 x 0.642 inches; 60.096 x 62.865 x 16.307 mm

Emission Designator: DBSM-A1B1/DBSMD-A1B1: 170KG1E (D2 mode)
DBSM-A1B1/DBSMD-A1B1: 110KG1E (HD mode)

Recorder

Storage media: microSDHC memory card
File format: .wav files (BWF)
A/D converter: 24-bit
Sampling rate: 48 kHz
Recording modes/Bit rate:
• HD mono mode: 24 bit - 144 kbytes/s

Input
Type: Analog mic/line level compatible; servo bias preamp for 2V and 4V lavaliere microphones
Input level:
- Dynamic mic: 0.5 mV to 50 mV
- Electret mic: Nominal 2 mV to 300 mV
- Line level: 17 mV to 1.7 V

Input connector: TA5M 5-pin male
Audio Performance
Frequency response: 20Hz to 20kHz, +/- 1dB:
Dynamic range: 112 dB (A)
Distortion: < 0.035%
Operating temperature range
Celsius: -20 to 40
Fahrenheit: -5 to 104

Specifications subject to change without notice.

Available Recording Time

Using a microSDHC* memory card, the approximate recording times are as follows. The actual time may vary slightly from the values listed in the tables.

(HD mono mode)

Size	Hrs:Min
8GB	11:10
16GB	23:00
32GB	46:10

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