LMb

TECHNICAL DATA

Digital Hybrid Wireless® UHF Belt Pack Transmitter

LMb, LMb/E01, LMb/X

- **Digital Hybrid Wireless for compandor-free audio**
- **50 mW or 100 mW EIRP RF power (varies per model; see Specifications)**
- **Compatibility modes for use with analog receivers**
- **25 or 100 kHz tuning steps**
- **Integrated multi-function switch for mute or talkback modes**
- **Wide range input gain control in 1 dB steps**

The LMb transmitter can be configured to operate as a “one touch” device with a single power on/off switch on the top panel, or with full access to all operational parameters using the side panel membrane switches and LCD interface. The top panel switch can also be configured to provide a mute or talkback function.

This versatility makes the transmitter at home in a wide variety of applications from video production to theater, stage and house of worship.

The servo bias input accepts mic or line level signals with a wide range of gain adjustment in 1 dB steps. Accurate LED indications on the top panel and a bar graph indicator on the LCD allow precise gain adjustments to be made for the maximum signal to noise ratio and minimum distortion. The limiter in the preamp can cleanly handle signal peaks over 30 dB above full modulation, allowing the input gain to be set high enough to achieve the maximum signal to noise ratio.

Along with providing peerless audio quality with wide frequency response and dynamic range in Nu Hybrid mode, the technology used in the LMb includes compatibility modes for Lectrosonics Mode 3 and IFB receivers.

The housing is an aluminum extrusion with machined aluminum top and control panels, finished with an ultra hard, black electroless nickel finish called ***ebENi***.

Digital Hybrid Wireless® is a patented design that combines 24-bit digital audio with an analog FM radio link to provide outstanding audio quality and the extended operating range of the finest anawlog wireless systems.

The design overcomes channel noise in a dramatically different way, digitally encoding the audio in the transmitter and decoding it in the receiver, yet still sending the encoded information via an analog FM wireless link.

This proprietary algorithm is not a digital implementation of an analog compandor. Instead, it is a technique which can be accomplished only in the digital domain, even though the audio inputs and outputs are analog signals.

*US Patent 7,225,135

LECTROSONICS®
Rio Rancho, NM, USA
www.lectrosonics.com

Specifications

Operating Frequencies:

US:	Band A1:	470.100 - 537.575
	Band B1:	537.600 - 614.375
E01:	Band A1:	470.100 - 537.575
	Band B1:	537.600 - 614.375
	Band 606:	606.000 - 631.500
	Band C1:	614.400 - 691.175
E06:	Band B1:	537.600 - 614.375
	Band C1:	614.400 - 691.175
X:	Band A1:	470.100 - 537.575 MHz
	Band B1:	537.600 - 614.375 MHz
	Band C1:	614.400 - 691.175 MHz

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

Frequency Selection Steps:
US: Selectable; 100 kHz or 25 kHz
E01: Selectable; 100 kHz or 25 kHz
E06: Selectable; 100 kHz or 25 kHz
X: Selectable; 100 kHz or 25 kHz

RF Power output:
US: 50 mW
E01: 50 mW
E06: 100 mW EIRP
X: 50 mW

Compatibility Modes:
US: Nu Hybrid, Mode 3, IFB
E01: Digital Hybrid, IFB
E06: 100 Mode, 200 Mode, Mode 3, Digital Hybrid, IFB, Mode 6, Mode 7
X: 100 Mode, 200 Mode, Mode 3, Digital Hybrid, IFB, Mode 6, Mode 7

Pilot tone:
25 to 32 kHz; 5 kHz deviation (Digital Hybrid mode)
3.5 kHz deviation (Nu Hybrid)

Frequency Stability:
± 0.002%

Spurious radiation:
US: Compliant with ETSI EN 300 422-1 v1.4.2
E01/E06/E0X: 60 dB below carrier

Equivalent input noise:
–120 dBV (A-weighted)

Input level:
Nominal 2 mV to 300 mV, before limiting;
Greater than 1V maximum, with limiting

Input impedance:
US: 2k Ohm
E01/E06/E0X: Mic: 300 Ohm, Line: 2k Ohm (for E01/E06/X)

Input limiter:
DSP controlled, dual envelope "soft" limiter with greater than 30 dB range

Gain control range:
44 dB; digital control

Modulation indicators:
- Dual bicolor LEDs indicate modulation of -20, -10, 0 and +10 dB referenced to full modulation
- LCD bar graph

Audio Performance:

Frequency Response:
90 Hz to 20 kHz (+/-1dB) - NuHybrid
70 Hz to 20 kHz (+/-1dB) - Digital Hybrid

Low frequency roll-off:
–12 dB/octave; 70 Hz

THD:
0.2% (typical)

SNR at receiver output:

SmartNR	No Limiting	w/Limiting
OFF	103.5	108.0
NORMAL	107.0	111.5
FULL	108.5	113.0

Note: The dual envelope "soft" limiter provides exceptionally good handling of transients using variable attack and release time constants. Once activated, the limiter compresses 30+ dB of transmitter input range into 4.5 dB of receiver output range, thus reducing the measured figure for *SNR without limiting* by 4.5 dB

Controls:
- Top panel slide switch; programmable as ***power***, ***mute***, ***talkback*** or ***no*** (off) function
- Side panel membrane switches with LCD interface for power on/off and all setup and configuration controls

Audio Input Jack:
Switchcraft 5-pin locking (TA5F)

Antenna:
Galvanized steel, flexible wire

Battery:
Two AA lithium

Battery Life:
Duracell Ultra: 7 hours

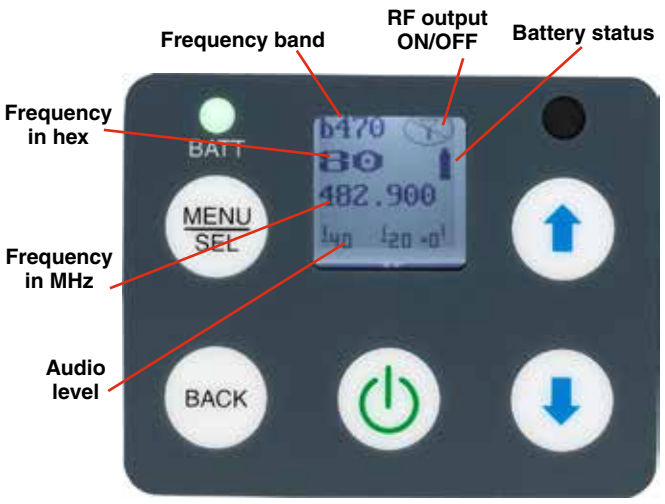
Weight:
5 ounces (141 grams), including lithium AA batteries and wire belt clip

Dimensions:
3.2 x 2.4 x .8 in. (81 x 61 x 20 mm)

Emission Designator:
110KF3E (US)
180KF3E (E01, E06)

The membrane switch panel and LCD enable access to all adjustments and settings. The menu structure is easy to navigate. Battery status is indicated by a bi-color LED that is green with a fresh battery, then turns to red as the battery runs down, and finally starts blinking red when there is about 30 minutes of runtime remaining.

The Main Window displays the current settings, including frequency, battery status, RF output status and audio level (modulation).



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