

Technical Overview



**Technical Overview for
The LS-18-P1 Series
Telemetry Simulation & Test Transmitter
System Products**

(with optional Bit Sync/Decom/Data Recording capabilities)

**The LS-18-P1 Series Products
are designed specifically to support
Flight Test Operations well in to the Future**



LS-18-P1 Series

**“Portable Lunchbox” RF and Data Telemetry Simulation / Test Transmitter
with optional “Bit Sync/Decom/Data Recording” capabilities**

**This is Lumistar’s newest most compact and capable
Telemetry Simulation & Test Transmitter System**

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Technical Overview



LS-18-P1 Series “Portable Lunchbox” Telemetry Simulation & Test Transmitter System Features

- **Ideal for Fixed Ground, Mobile, Airborne and Remote Applications**
 - Portable / Modular Unit is Ideal for Remote locations
- Ruggedized Portable Configuration
 - Waterproof and Buoyant when cover is closed
- **TTL Clock/Data Output of Programmed Data (one)**
- **RF Modulated Output of Programmed or Externally Applied Data (one or two)**
 - Standard bands available, up to 5 in a single unit
 - *Standard bands include LL, UL, S, E, C bands (all)*
- **RF Power adjustable between approx. +5 dBm and -60 dBm**
- **Standard Multi-Mode Modulation Formats**
 - Digital PCM/FM (ARTM Tier 0), SOQPSK-TG (ARTM Tier 1), & Multi-H CPM (ARTM Tier 2)
- Simulator TTL Clock/Data Rate: Up to 50 Mbps (NRZ codes)
- Modulated RF Transmitter Data Rates up to 46 Mbps for SOQPSK & Multi-H CPM, 20 Mbps for PCM/FM
- Programmable Major and Minor Frame Data
 - IRIG Class I and II Data Formats
 - Variable Word Length: 3 to 16 bits
 - Minor Frame Length: 3 to 65536 Words
 - Major Frame Length: 1 to 4096 Minor Frames
 - Bit Order: MSB or LSB
 - Frame Sync Location: Leads, Trails
 - Sub Frame Sync: FCC, FAC, SFID, URC
 - Single PCM Simulator (default); six dynamic and 56 unique words; programmable word attributes; programmable frame attributes
- BERT PRN capabilities for simulated data output (*pseudo-random number pattern generation*)
- Baseband PCM “video” Outputs (analog)
- Baseband Filtering Bandwidth: 0.125, 0.25, 0.5, 1, 1.5, 2, 2.5, 3, 4, 6, 8, 10, 15, 20, 35MHz (*software controlled*)
- Baseband Output Level: Software controlled
- PCM Output Codes: NRZL-L/M/S, BIO-L/M/S, RZ, DM-M/S, M2-M/S
- Randomized Codes: $2^{11}-1$, $2^{15}-1$, $2^{17}-1$, $2^{23}-1$
- **Baseband Telemetry Processing (Optional Features)**
 - **One Full Feature Bit Synchronizer, 50 Mbps capability (optional)**
 - **One Full Feature Decom, 50 Mbps capability (optional)**
 - *Ethernet UDP Multicast Data Output of raw bits or decommutated data*
 - **64 GB Data Recording of Raw or Decommuted Data (optional)**
 - **Playback of Recorded Data (future option)**
 - *Allows playback of data recorded by the system*
- IRIG Time for time stamping data
 - Provides for time stamping for the simulated/decommutated/recorded TM data
 - Optional GPS to IRIG Time Code Converter
- No OS in the box!
 - This is an “Ethernet Appliance”
 - Control / Status over Ethernet
 - Lumistar App for Control/Status provided with the unit
- Small Size and Weight
 - 16.5” x 13.0” x 6.8”
 - Approx. 15 pounds
 - IP 67, ATA Specification 300, Military Standard C-4150J
 - BUOYANCY: Waterproof (lid closed) / Floats in Salt Water
- AC Power Supply
 - 100-250 VAC, 50-60 Hz
 - 45-50 watts typical, mode dependent
 - Backup Battery for swapping between AC/DC operation (*included in our quote as an option*)

Technical Overview



**LS-68-P1 Series Telemetry Simulator
(Top View of Control Panel)**



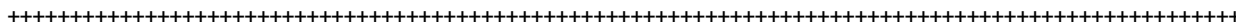
**LS-68-P1 Series Telemetry Simulator
(with Cover Closed)**

Technical Overview



LS-68-P1 Series Telemetry Simulator (with Battery and Control / Status Software on Laptop)

Laptop Not Supplied



Please consult Lumistar Sales for more information:

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