



## **Lumistar LS-76-M2 Series Modular Dual Stream Upconverter**

**The LS-76-M2 is Primarily Designed to Interface  
with the LS-28-DRSM Series Products**

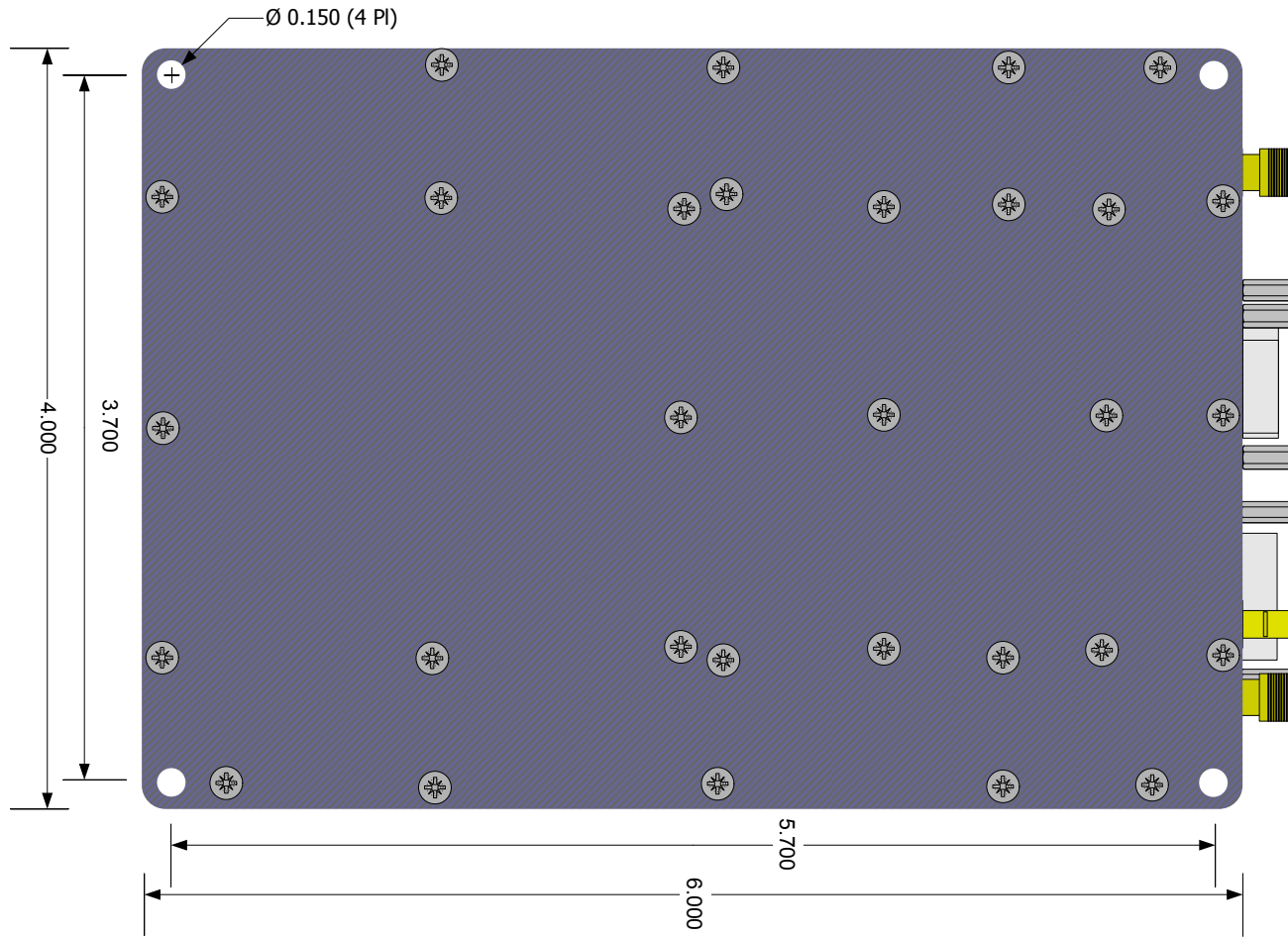




## **LS-68-M2 Series Features**

- **Small foot-print / form factor**
- **Four Software Selectable IF Inputs Ports**
- **70MHz IF Upconversion with Eight Bandwidth Selections**
  - **250k, 500k, 1M, 2M, 5M, 10M, 20M and 40MHz**
- **Auxiliary IF Input Filtering: 8 Custom Input Filter Selections**
- **IF Input Range: 1MHz to 500MHz; 70MHz is Nominal;**
  - **Ranges outside of 70MHz are custom, Consult Factory**
- **IF Input Power Range: +20 to -50dBm**
- **IF Input Support: AGC (non-linear) or AGC Freeze (linear)**
- **RF Output Frequency Bands: up to 5 software selectable bands**
  - **P-Band, CIF- Band, LL-Band, UL-Band, S-Band, NATO E Band, C1, C2, C2E, plus IF bandpass, Custom Bands**
- **Number of RF Outputs: One or Two**
- **Output Power Level: +20dBm to -92dBm; Software variable**
- **Output Power Step Resolution: approx. 0.1dBm**
- **Output Power Profile Step Rate: 50usec (typical)**
- **Interfaces: RS232 or RS422 Serial, USB 2.0, 10/100 Ethernet (TCP)**
- **Approximate Power Consumption: 18 W**
- **Power Input: 9-42VDC**
- **Remote Power Shut-Down Signal**
- **10MHz Reference Input/Output Port**
- **Optional Discrete IO**
- **Internally stored configurations selectable via external discrete signal**
  - **Up to 16 available**

# Top View

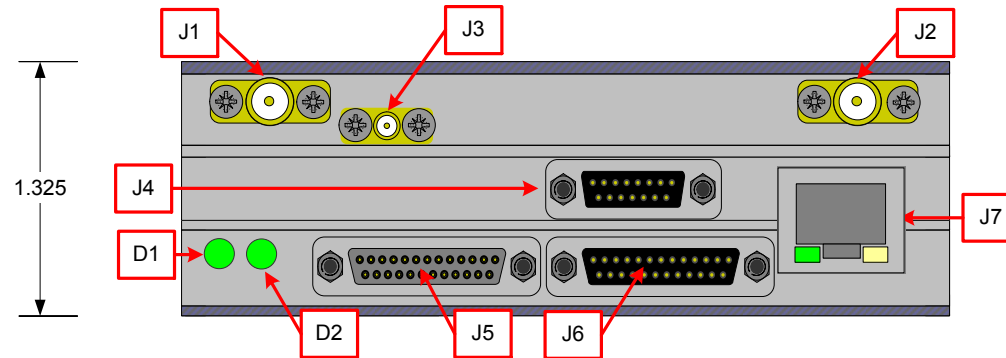


**Notes:**

- 1.) All dimensions shown are in inches.
- 2.) Tolerances are +/- 0.005 inches.

Lumistar Inc 2270 Camino Vida Robles, Suite L Carlsbad, CA 92011 (760) 431-2181		
Title: Specification Control Drawing (SCD) - LS76M2 IF Upconversion Module		
Size A	Document Number: SCD-76M-02-001-01	REV -
Date: 01 February 2018		Sheet 1 of 4

# Front View



Designator	Style	Signal Description
J1	SMA-F	Channel 1 RF/IF Output
J2	SMA-F	Channel 2 RF/IF Output
J3	SMB-M	10MHz Reference Input/Output
J4	uDSUB15	IF Input Source Connector
J5	uDSUB25	Combiner Digital I/O (Power)
J6	uDSUB25	User Digital I/O
J7	RJ45	Ethernet Control/Status/Data Interface
D1	Multi Color LED	Status LED
D2	Multi Color LED	Status LED

**Notes:**

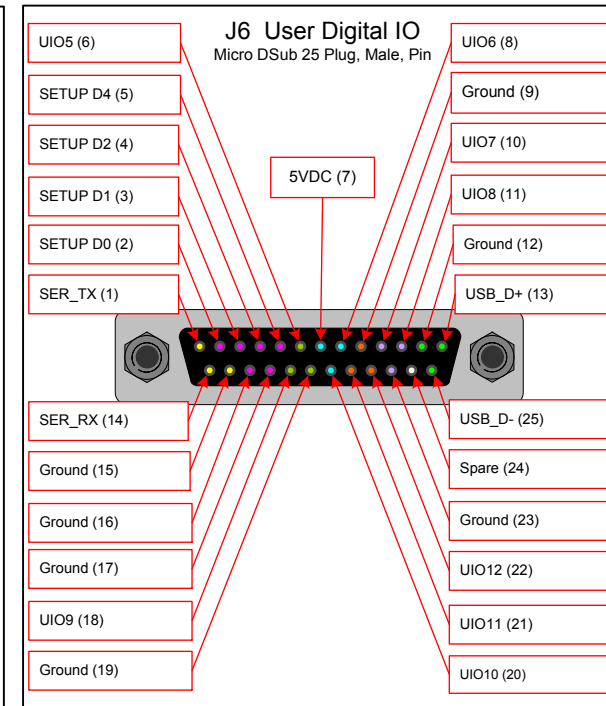
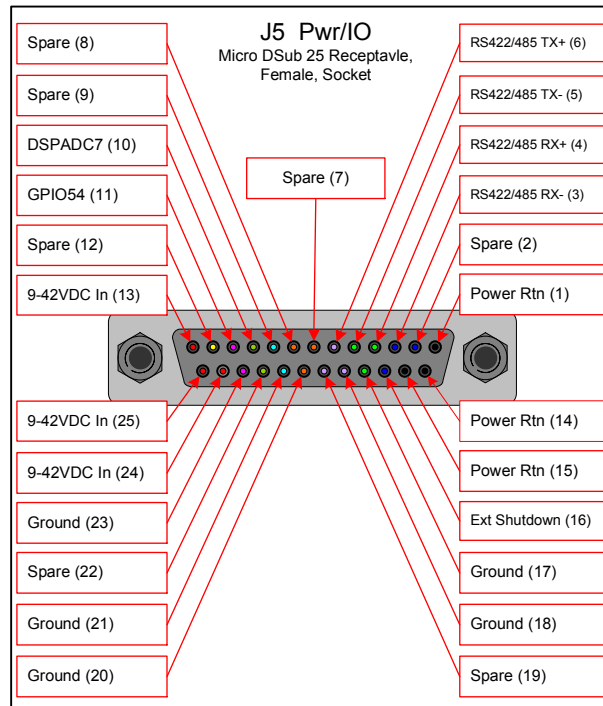
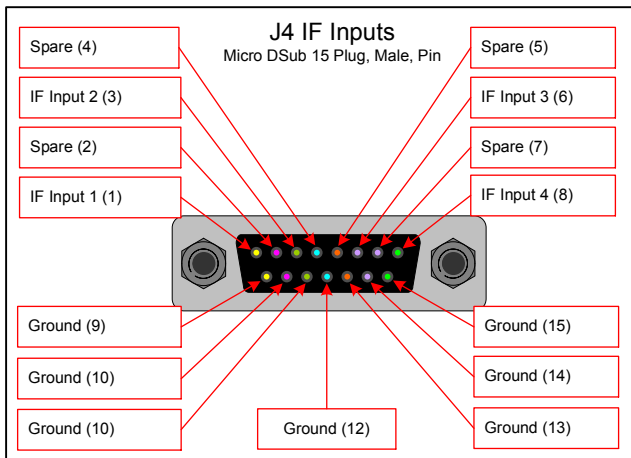
- 1.) All dimensions shown are in inches.
- 2.) Tolerances are +/- 0.005 inches.

Lumistar Inc  
 2270 Camino Vida Robles, Suite L  
 Carlsbad, CA 92011 (760) 431-2181

Title: Specification Control Drawing (SCD) - LS76M2 IF Upconversion Module

Size A	Document Number: SCD-76M-02-001-01	REV -
Date: 01 February 2018		Sheet 2 of 4

# IO Connectors



**Notes:**

- 1.) All pins designated "Spare" are no-connections within the LS76M2
- 2.) RS232xxB and RS232xxC connections are no-connects in the LS76M2 configuration

Lumistar Inc 2270 Camino Vida Robles, Suite L Carlsbad, CA 92011 (760) 431-2181		
Title: Specification Control Drawing (SCD) - LS76M2 IF Upconversion Module		
Size A	Document Number: SCD-76M-02-001-01	REV -
Date: 01 February 2018		Sheet 3 of 4

# Specifications

## Receiver Specifications/Notes:

1.) RF Upconversion Frequencies (MHz):	215-320, 400-1150, 1435-1535, 1710-1850, 2200-2395, 2185-2485, 4400-4950, 5091-5150, 5091-5250, Custom
2.) Number of Upconversion Bands:	Up to 5 plus IF pass-thru
3.) RF Tuning Step:	50 kHz steps (typical); as small as 10Hz is possible upon request
4.) Maximum IF Input Signal without damage:	+30 dBm
5.) IF Input Frequency:	70MHz typical, Variable from 1MHz to 500MHz; consult factory for details
6.) RF Output P1dB:	Variable; +20 dBm to -96dBm; Each channel separately controllable
7.) Output Fading:	Software controlled; 20kHz adjust rate (50usec step dwell time); 14-bit resolution
7.) VSWR:	1.5:1 typical or better
8.) Frequency Accuracy:	0.002 ppm (internal)
9.) Input/Output Impedance:	50 ohms
10.) IF Inputs:	Two inputs; SW selectable; linear and limited gain controls
11.) User Inputs/Outputs:	Total of 12 IO available (future definitions)
12.) DC Input Power (calculated):	9-42VDC; 26W (est.)
13.) Control Interfaces:	(See below)

## Control Interface Notes:

- 1.) All serial interfaces are active simultaneously. No priority is given to any individual interface. Interface commanding is based on "last commanded".
- 2.) Interfaces include, RS232 or RS422/485 4-Wire, USB 2.0 and 10/100Mbps Ethernet
- 3.) Ethernet interface support: IPv4, TCP
- 4.) Pin connections designated as "Spare" on sheet 3 are no-connects within the device
- 5.) RS232 versus RS422/485 4-Wire interface selection is made via software control. Once selected, the desired format will be active after subsequent power cycle.
- 6.) GPIO and UIO signals listed on sheet 3 are undefined. Consult factor for
- 7.) SETUPx interface pins are 5V logic input signals that select user stored setup configurations. Logic 1 is 5VDC logic level, logic 0 is ground. D3-D0 signals allow for up to 16 preset selections.

Lumistar Inc  
2270 Camino Vida Robles, Suite L  
Carlsbad, CA 92011 (760) 431-2181

**Title: Specification Control Drawing (SCD) - LS76M2 IF Upconversion Module**

Size A	Document Number: SCD-76M-02-001-01	REV -
-----------	---------------------------------------	----------

Date: 01 February 2018

Sheet 4 of 4