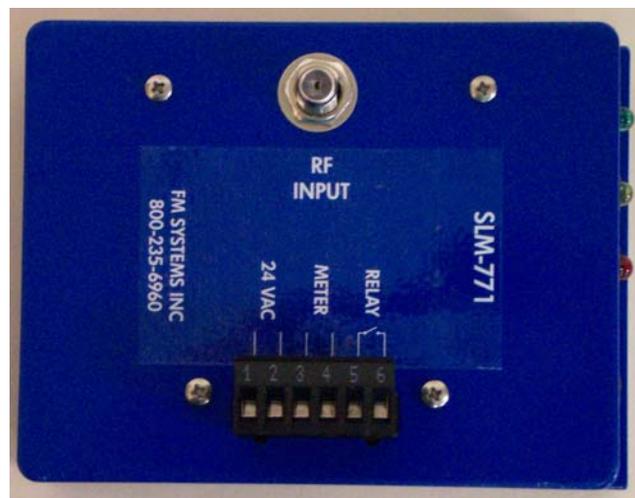# SLM-771

L-BAND SATELLITE LEVEL MONITOR

INSTALLATION MANUAL

IB 6461-01

SLM-771
L-BAND SATELLITE LEVEL MONITOR

DESCRIPTION

The SLM-771 is an L-Band Satellite Level Monitor designed to detect measure and report the receiving level of any RF signal from 5MHz up to 2.5GHz. Use it for early warning of satellite dish and LNB signal degradation due to snow loading, bug & bird intrusions, dish misalignment due to wind or movement, and any increase in LNB loss for whatever reason. It will alert you to the signal reduction before a system failure occurs.

FEATURES

It has both visual and telemetry voltage outputs calibrated in dB steps and an audible alarm with a relay contact for activation of external alarms or other equipment.

The front panel LED indicators are calibrated in 1dB steps for accurate loss detection. A front panel control is used to set up the monitor and alarm level. The meter output has a voltage that changes 100mV per 1 dB and is field adjustable for offset to match your telemetry transmission equipment. +/- 0.0 to 10 Volts is available at the meter output. The unit is fully RF shielded and can be mounted in the front or rear of your rack.

UNPACKING AND INSPECTION

Remove the equipment from the packing materials. The following materials should be supplied with each order.

QTY 1   SLM-771 (Blue Box).
QTY 1   Power Cube 24 VAC.
QTY 1   6 Position Screw Terminal Connector (may be attached).
QTY 1   Rack Mount Angle Bracket (may be attached) or PMS7005A.

PROGRAM JUMPER SELECTION

Some of the features of the SLM-771 may be programmed before the physical installation of the unit. The unit is shipped from the factory programmed for the audible alert sounder J-1 jumper selected OFF, the telemetry meter Voltage jumper J-2 on +/- Voltage output with zero input level equaling 0 Volts and the J-3 alarm contact relay output set to N.O. Normally Open. To change the field programmable jumpers, remove the four screws at the outer most edges of the unit cover and lift up the lid. Inside you will locate the Jumpers marked as J-1, J-2, and J-3.

J-1 Audible Alarm selector.

If this jumper is set to "ON" the audible alarm will sound when the Red LED indicator turns on below the user set alarm level. This audible alarm will sound until the RF input signal rises above the user set alarm level.

J-2 Telemetry Meter Voltage selector.

This selector has two shunt type jumpers that will select any of three meter voltage outputs that correspond to the RF level being detected. The Voltage changes level at 100mV per dB and can be adjusted or offset to match other equipment. You can select   0-10 Volts Positive, 0-10 Volts Negative, or +/- 0-10 Volts by moving the two jumpers as indicated.

J-2 Position		Output terminals
1-2	=	0-10 Volts Positive relative to ground.
3-4	=	0-10 Volts Negative relative to ground.
1-4	=	+/- 0-10 Volts relative to ground.
2-3	=	Both output terminals grounded.

Note:

Both 2 and 3 jumper positions provide a ground to the Screw terminal connector.

J-3 Alarm Relay Output Selector.

When an alarm is triggered the internal relay will output a contact closure. That contact can be field programmed to be Normally Open N.O. or Normally Closed N.C. Move the jumper to the desired relay operation. No jumper on will select no continuity for the relay output.

INSTALLATION
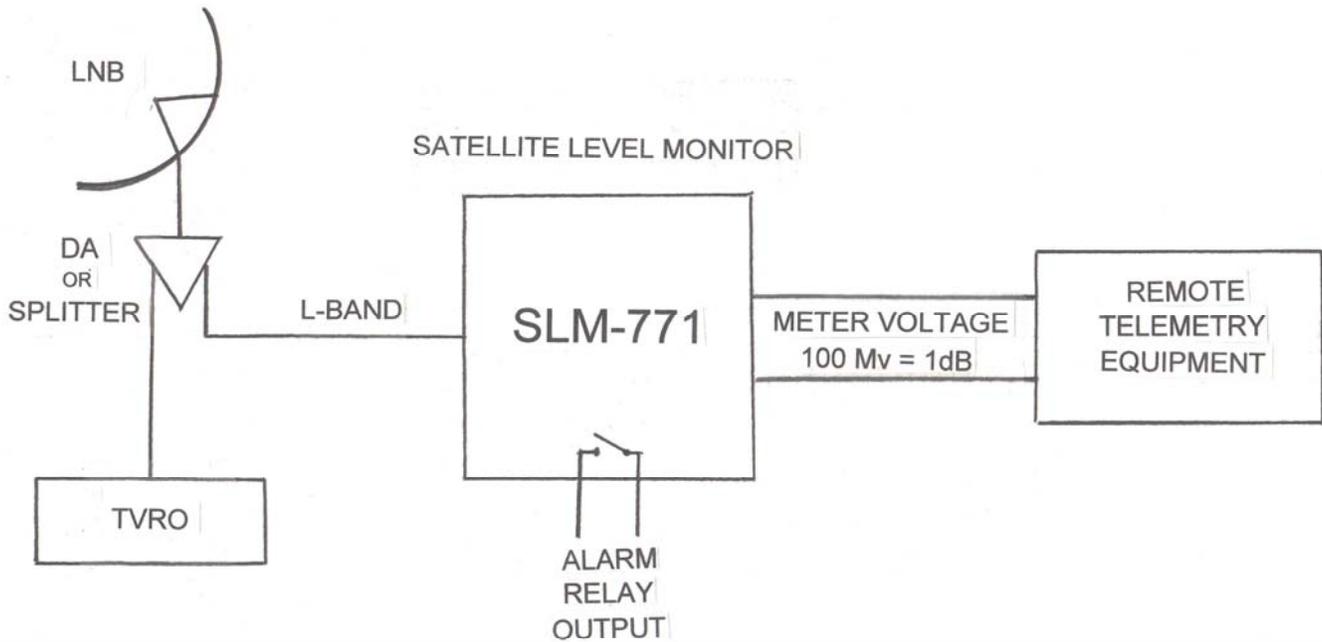
INSTALLATION BLOCK DIAGRAM

Locate a convenient place in your rack and mount the unit using the handy Rack Mount Angle Bracket. WARNING: This product is designed for indoor use only and if it is to be used outdoors it must be mounted in a water tight enclosure.

First attach the 24VAC power supply to the screw terminals marked (24 VAC). **CAUTION**: connecting the 24 VAC to any other terminals on the unit will cause damage to the unit or the power supply. Next attach the L-Band RF signal from your signal splitter or distribution amplifier output to the input F connector labeled (RF INPUT). Then connect the "Meter" output terminals to your telemetry equipment. Next connect the "Relay" terminals to any external equipment that you need to operate when an alarm occurs.

SET-UP

There are several ways that you can set up the alarm level to match your RF signals. One way is to use an attenuator to simulate signal loss. Because the unit is connected to a split off or distribution amplifier feed of the original signal you can attenuate the signal without degrading your ON AIR signal chain. Introduce a loss equal to the level you wish to have your alarm operate at using an attenuator between the signal source and the SLM-771 RF input. Then rotate the front control marked "LEVEL SET" counter clockwise until the RED alarm LED on the front panel turns on. This will set the alarm level to match the level created by the attenuator. Then remove the attenuator and the display will go up indicating proper operating level and the GREEN LED should be on indicating your level is a minimum of 3 dB above the alarm level.

Another way to set the front control is to use a variable attenuator ahead of the distribution amplifier and set the attenuation level until you just begin to get errors in the receiver equipment (just at threshold) then back off the attenuator the amount you want to use for your margin. Then set the front control until the RED LED just turns on indicating an alarm condition. When you remove the attenuator from the feed the SLM-771 will go back into the GREEN showing good signal strength.

You can set the unit without the use of an attenuator. Just input your signal source and adjust the front control until the green LED lights up and your alarm will be 3dB down from that level. You can also make adjustments on this control at any time to lower the alarm threshold during adverse weather or snow loading conditions to fine tune the setting.

TELEMETRY METER CALIBRATION

You may adjust or offset the Meter Voltage output to match other equipment by opening removing the top lid and adjusting the control marked "VR2 METER CAL". By measuring the voltage at the meter output terminals while adjusting the VR2 control you can set this voltage to coincide with any RF level within its range. Adjusting this control will not change any other setting on the device. You can return this to factory settings by terminating the RF input and adjusting VR2 to read zero at the terminal outputs.

MAINTENANCE

Other than VR2 there are no adjustments or calibration required inside the SLM-771.