

# POWER SUPPLIES

5SATPLEQ POLARITY LOCKER

## SITUATION

The **DIRECTV**® (4) polarity **SLSP-F SlimLine**® dish with **SL5 LNB** and **DTV66E 95°** signals are required for distribution. The signals traveling through extended lengths of coax cable have lower loss at low frequencies.

## SOLUTION

Model **5SATPLEQ** powers a **DIRECTV**® **SL5 LNB**, polarity locks the four dish outputs, provides 20 V to power the 95° LNB and slope compensates the signals.

## RELATED CONSIDERATIONS

Line powered amplifiers may be powered by the power inserter. A total of 2 amps of DC is available from the short circuit protected power transformer.

## FEATURES

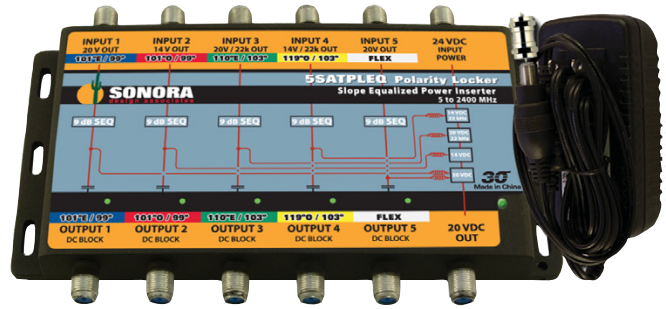
- **DBS Compatibility** . . . . . **DIRECTV**® **SL5** & **95°**
- **2 Amp Power Supply** . . . . . powers LNBs & line amplifiers
- **Power LEDs per polarity** . . . . . green if **NO** short circuits
- **Locks SL5 LNBs** . . . . . one polarity on each of (4) coax
- **Coax Cable Compensation** . . . . . 150 feet **RG-6**

## APPLICATION NOTES

Model **5SATPLEQ** generates powering and control signals to remove the dish powering burden from switches. It equalizes the Ka / Ku frequency bands for maximum output from amplifiers.

Model **LA145a** amplifier is powered by the 20V dc output of the **5SATPLEQ**.

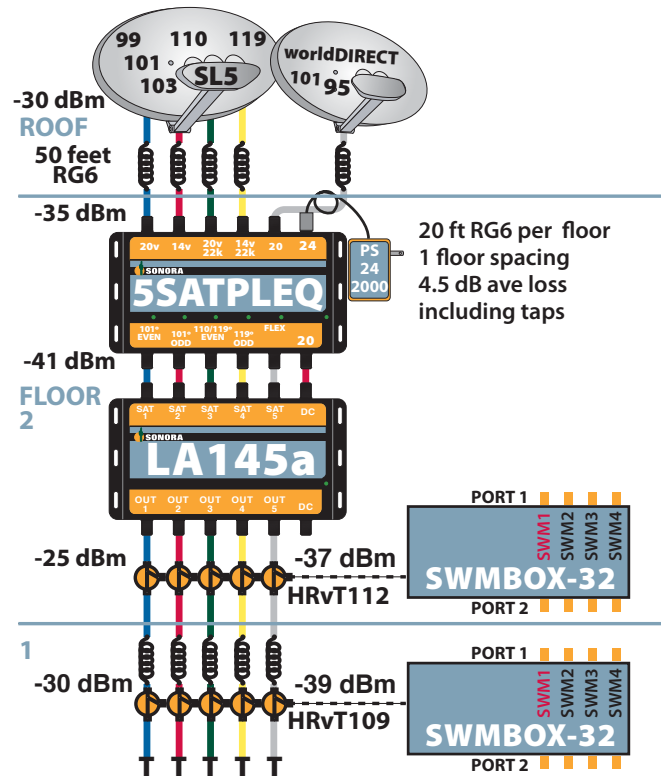
Model **HRvTx** directional couplers feed up to (4) **SWM8** switches in each **SWMBOX-32**.



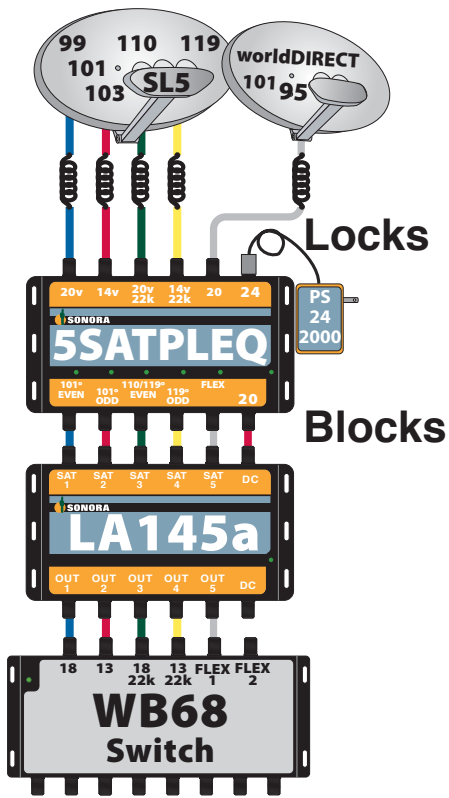
**5SATPLEQ**

## DESCRIPTION

**DIRECTV**® (5) LNB, Slimline & 95° Ku/Ka polarity locker equalizer and two Amp power inserter.



Revised Mar 2 2010



Up to 250 feet SL5 to Receivers

## WB68 & Distant AU9 SL5

DIRECTV® recommends that the distance between receiver and dish be less than 150 feet of solid copper RG-6. At distances greater than 150 feet they recommend a DC voltage booster and a line amplifier.

Model 5SATPLEQ provides higher LNB voltages (20 V vs 18 V) and strong control signal to lock the dish. The equalizer portion of the 5SATPLEQ offsets the cable loss at lower frequencies..

Model LA145a provides amplification of the DBS signals extending the range by 150 feet of RG6.

**Polarity locker outputs must match switch input voltages: 20V to 18V, 14V to 13V, 20V/22k to 18V/22k and 14V/22k to 13V 22k.**

## SPECIFICATIONS

Specifications ..... Typical ..... QC Limit

Inputs / Outputs ..... (5) @ 5 to 2400 MHz

### Insertion Loss

54 MHz.....	13 dB.....	14 dB
250 MHz.....	12 dB.....	13 dB
950 MHz .....	8 dB.....	9 dB
1450 MHz.....	5 dB.....	6 dB
1850 MHz .....	3 dB.....	4 dB
2150 MHz .....	2 dB.....	3 dB

Return Loss 54-2400 MHz..... 18 dB..... 15 dB

### Power Specifications

Power Transformer ..... 24 VDC, 2 Amp  
100 to 240 VAC input, switching, short circuit protected

### Output Voltages and Tones

101° & 99° (Even) LHCP .....	19.4 Vdc
101° & 99° (Odd) RHCP .....	13.4 Vdc
119° & 103° (Odd) RHCP .....	22 kHz & 13.4 Vdc
110°/119° & 103° (Even) LHCP .....	22 kHz & 19.4 Vdc
FLEX .....	19.4 Vdc

## DIRECTV® 5 Satellite Ka / Ku Switch Plan

99° Ka B RHCP 13V										101° Ku										99° Ka A				
1	3	5	7	9	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	5	1	3	5
2	4	6	8	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	5	1	3	5
1	3	5	7	9	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	5	1	3	5
2	4	6	8	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	5	1	3	5

250..750..950.....1450...1700..1850

99/101 Odd 99/101 Even 103/119 Odd 103/119 Even 110 Even DISH

### Mechanical Specifications

Dimensions ..... 7.5"L x 4.75"W x 7/8"H  
Weight ..... 1.5 lb (0.7 kg)  
Master Carton (8 units)..... 12" x 9" x 9"  
Master Carton Weight..... 16 lb. (7.2 kg)

### Environmental Specifications

Operating Environment:.....Indoor/Lockbox  
Ambient Temperature.....-30° C to +60° C