

SITUATION

Some local broadcast signals are not carried by **DIRECTV®** but are desired by the homeowner with an AU9S, SL5S or SL3S single wire multi-switched dish.

SOLUTION

SONORA model **AD14** combines and amplifies the signals from a local free to air antenna and SWM output.

RELATED CONSIDERATIONS

Model **HD14** is recommended for adding local broadcast signals to **DISH®** systems. See model **D54** for examples of combining off-air with **DishPro®** switch outputs.

Model **LA141R** may also be used to further amplify local broadcast and SWM output signals.

FEATURES

- Indoor/Outdoor Die-cast Aluminum
- DC, 22 kHz and 2 MHz passing low loss
- VHF/UHF gain 14 dB
- SWM Gain..... 10 dB
- Power passing..... 1 Amp

APPLICATION NOTES

An integrated AU9S single line multi-switch dish signal is combined with a local antenna in model **AD14**.

Power for the AU9S and **AD14** is provided by the **SWMPI** power inserter.

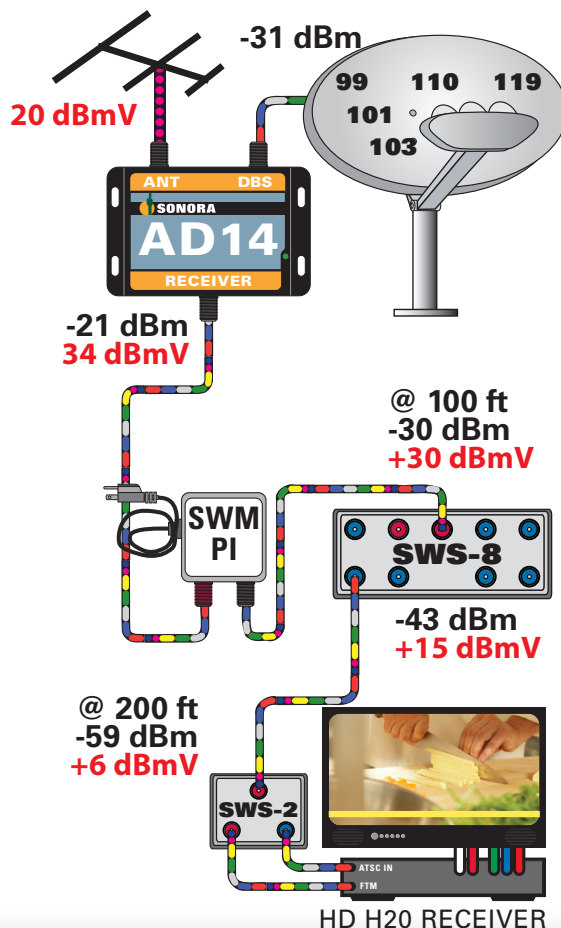
The amplified combined signal is split with model **SWS-8** to multiple rooms.

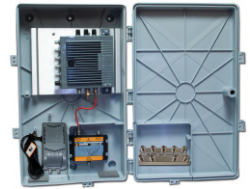
At each receiver, the signal is split with model **SWS-2** to the SWM tuner and the ATSC (local) tuner.



DESCRIPTION

Model **AD14** is an active diplexer that combines **DIRECTV®** single wire multi-switch signals and local broadcast signals.





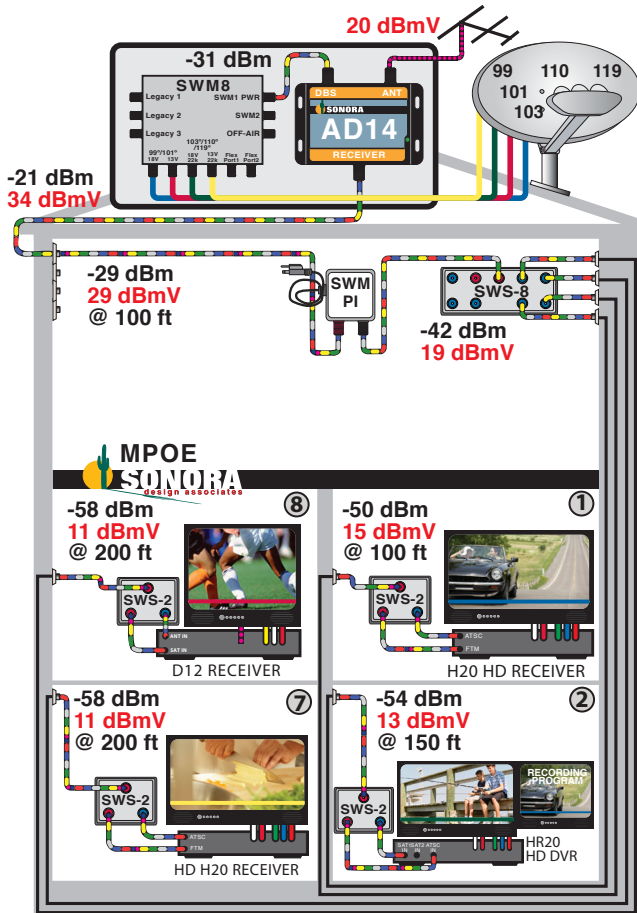
Model **SWMBOX-8H** contains (1) **SWM8** switch, (1) **AD14**, (1) **SWMPI** and (1) **SWS-8** for (8) outlets in a single wire home.

Within the enclosure, model **AD14** combines and amplifies the **SWM8** output with the local antenna output.

After 100 feet of RG-6, the **SWMPI** is inserted to power the **AU9**, **AD14** and **SWM8**.

The **SWMPI** output is split with model **SWS-2**. The signal is sufficiently strong to travel 200 feet of RG-6 to room 4.

A **SWS-2** splitter is used to split the combined signal to an ATSC local receiver and the **DIRECTV®** SWM tuner.



SPECIFICATIONS

Specifications..... TypicalQC Limit Gain

| | | |
|---------------|------------|-------|
| 2 MHz | -2 dB..... | -3 dB |
| 54 MHz..... | 14 dB..... | 12 dB |
| 806 MHz | 11 dB..... | 9 dB |
| 950 MHz | 10 dB..... | 9 dB |
| 1850 MHz..... | 10 dB..... | 9 dB |

Maximum Input

| | |
|----------------------------|----------|
| (8) SWM transponders | -26 dBm |
| (8) off-air NTSC..... | +20 dBmV |
| (16) off-air ATSC | +20 dBmV |

Return Loss

| | | |
|--------------------------|------------|-------|
| Input Return Loss | 12 dB..... | 10 dB |
| Output Return Loss | 12 dB..... | 10 dB |

Pass band Flatness

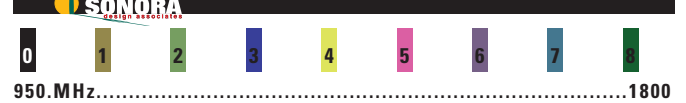
| | | |
|-----------------------|--------------|--------|
| Any 24 MHz band | 0.1 dB..... | 0.2 dB |
| Any 6 MHz band | 0.05 dB..... | 0.1 dB |
| 54 to 806 MHz | ± 2 dB..... | ± 1 dB |

Noise Figure..... 4 dB..... 5 dB

Power Specifications

| | |
|--------------|------------------------|
| Voltage..... | 12 to 29 VDC |
| Current..... | 45 mA..... 60 mA @ 29V |

DIRECTV® SWM8 Frequency Plan



DIRECTV® receivers operating in the SWM mode are assigned a frequency slot to receive signals from the single wire multi-switch.

The first frequency band is for communication between the SWM and the receivers. The remaining slots are assigned as receivers join the network.

Mechanical Specifications

| | |
|--------------------------------|------------------|
| Dimensions | 4" x 3.5" x 7/8" |
| Weight | 0.7 lb (0.3 kg) |
| Master Carton (44 units) | 11" x 9" x 9" |
| Master Carton Weight..... | 21 lb. (9.5 kg) |

Environmental Specifications

| | |
|-----------------------------|------------------|
| Operating Environment:..... | Indoor/Outdoor |
| Ambient Temperature | -30° C to +70° C |