Antenna TV Network Distribution System Technical Overview

September 23,2019

Antenna TV's technical assistance number is (866) 315-1876. It is answered 24 hours a day – 7 days a week to assist affiliates with on-air and local receiver issues. Technical support personnel who can help with cue triggers or other issues are available during normal business hours Central Time.

Antenna TV is distributed to affiliates digitally via satellite Galaxy 14, Transponder C13 with the following parameters.

Galaxy 14 – 125 degrees West
Transponder C13 - Horizontal
Downlink Frequency: 3,960 MHz.
L-Band: 1,190. MHz.
Symbol Rate: 29.27 Mbps
FEC: ¾
DVB-S modulation
42 Mb digital stream
Network ID: 776
Cisco Power Vu Encrypted Signal
Channel 30 - AntennaTV

Antenna TV Network is standard definition in a 4:3 aspect ratio. Two audio channels (dual channel mono or stereo when available) are transmitted. Antenna TV programming is closed captioned. We pass through V-Chip where it's provided by programmer, but not all the programming includes V-Chip.

Electronic Program Guide information is not embedded in the network signal. It is available from Gracenote (A Nielsen Company) and other data suppliers.

Affiliate equipment needed for the Antenna TV Network.
Satellite Antenna
A suitable 2 degree compliant C Band satellite dish capable of receiving a signal from Galaxy 14 at 125 degrees west is required. Antenna TV recommends a minimum 3.8 meter diameter dish. A digital (phase stable 2.00 ppm or better) Low Noise Block (LNB) down converter is required. Installation of a Terrestrial Interference (TI) filter between the dish feed and the LNB is highly recommended. Weather protection for the dish and feed is also strongly recommended if the receive site experiences snow fall. Appropriate

RG-11 cable can be used between the dish/LNB and the receiver if the total length is less than 250 feet.

Receiver

Antenna TV will provide a Cisco receiver to decrypt the network signal. Model D9854 units are provided to affiliates who need a SD-SDI video with embedded audio signal for their station. D9858 units can be provided to affiliates that need an MPEG2 ASI stream for channel splicing equipment. Antenna TV technical representatives will help with the receiver selection. Receivers will be pre-configured prior to shipment to you whenever possible.

Cue Triggers

AntennaTV provides local commercial, branding, program start and ID "triggers" via "in-band" signaling available in the Cisco (Scientific Atlanta) distribution system.

Antenna TV Affiliates have three (3) options available to decode the various event triggers sent by the Network:

- DPI Decode using the Ross Video TDS-100 card with GPO outputs
- Cue triggers from Cisco Receivers with open collector outputs
- DTMF Tones from Cisco Receivers using a special audio output and a station supplied decoder

Antenna TV technical support staff members can assist affiliates with specific wiring and programming information for each of the options listed above if requested.

DPI Decode with the Ross Video TSD-100 card

The Antenna TV Network sends SCTE-35 triggers that are embedded in the satellite transport stream. The Ross TSD-100 decodes these embedded triggers from the receiver ASI output and translates them to GPO closures. These closures connect to your station automation system and logo inserter.

Cue Triggers from the Cisco D9854 or D9858 Receiver

The Cisco receiver has eight (8) "open collector" outputs that are controlled by the Antenna TV network. Remember that these cue trigger pins are OPEN COLLECTOR outputs, and require suitable pull down/pull up resistors and a related power source for proper operation.

Dual Tone Multi Frequency (DTMF) Audio

The Cisco receiver also delivers DTMF audio with specific tone sequences for each of the Antenna TV Network events. Affiliates that wish to utilize the DTMF option should contact Antenna TV technical personnel for a list of the specific DTMF sequences.

Specific Antenna TV Network Affiliate Events aka Cue Triggers

Event 1 - Cue Trigger 1– Pin 1 – "Insert Local Branding" Trigger
A momentary closure (2 second) after the start of every program segment.

Event 2 - Cue Trigger 2 – Pin 2 – "Cover Programming" Trigger
A momentary closure at the start of every program. This can be used to roll "cover programming" where permitted. This trigger will have a 2 second pre-roll built in i.e. the trigger will be sent two seconds before a program change at the top of a given hour.

Event 3 - Cue Trigger 3 – Pin 3 – "Affiliate Commercial Break"
A momentary closure to start the affiliate commercial break. This trigger will have a 2 second pre-roll built in i.e. the trigger will be sent two seconds before the local break is to start.

Event 4 - Cue Trigger 4 – Pin 4 – Station Identification
Closure lasting 10 seconds to permit insertion (and removal) of the local station identification keyer. Given programming considerations, this trigger will be send shortly after the top of the hour within the FCC legal window for station identification.

Event 5 - Cue Trigger 5 – Pin 5 – "Remove Local Branding" Trigger
A momentary closure sent 2 seconds prior to the end of every program segment.

Equipment Configuration Instructions
CISCO D9854/D9858 RECEIVER Configuration
Your receiver will be preconfigured prior to delivery. Antenna TV is an encrypted signal and the receiver must be AUTHORIZED before it will output SD-SDI video and embedded audio and/or decrypted ASI data. After connecting a Galaxy 14 Horizontal L-band feed to the RF1 Input, the receiver should display signal level and margin numbers. Be sure that the PE1 channel number on the front display is "30." The channel name "Antenna TV" will be displayed when the receiver sees a G14 T13 signal and has received the Program Mapping Table. The Red and Green indicators on the front of the receiver should be flashing. The receiver will self-authorize within a half hour after it begins to receive the Galaxy 14 transponder 13 signal. When this occurs, the Red indicator will go out and the Green indicator will become solid. If this is does not occur, please contact Antenna TV Technical Support at (866) 315-1876 with the Unit Address (UA) number of the receiver.

Antenna TV technical support staff members are available to assist you with specific information on integrating the cue triggers available into your station. Please contact us at your earliest opportunity.