

**SOUND**  **DEVICES**  
**ASTRAL**®



**Tech Note**

Sound Devices  
Astral ARX16 & Astral ARX32  
Mirror Mode

## Tech Note: Mirror Mode

RF Mirror Mode allows a second Astral ARX16 or Astral ARX32 unit to mirror the RF and NexLink settings of a primary ARX16 or ARX32 such that if the primary unit fails or loses power, the secondary ('Backup') unit continues to receive and output audio seamlessly as well as taking over NexLink control of paired Astral transmitters. It is the perfect redundant system for mission critical events where failure is not an option.

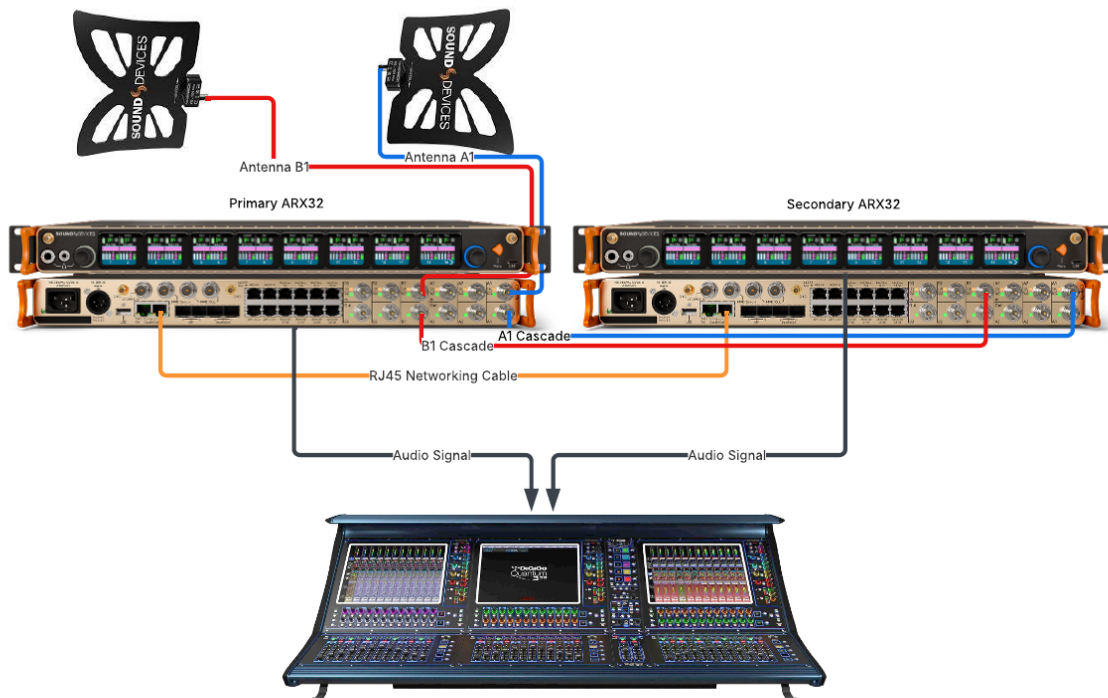
The following settings are mirrored:

- TX List
- Antenna Mode
- NexLink menu switch -> "Manually set Frequency, Modulation, and Privacy on Transmitters"
- RX channel settings: Bands 1-3, Frequencies, Modulation, Privacy, Gain, HPF, and Polarity
- Global RX Output Gain
- DiGiCo Console List (when Network > RF Mirror Mode > Mirror DiGiCo Console List is On).

Note that in RF Mirror mode there are two entirely separate audio feeds: one from the primary unit, and one from the secondary unit. There is no automatic switching of the audio feeds - it is incumbent on the user to switch the audio externally.

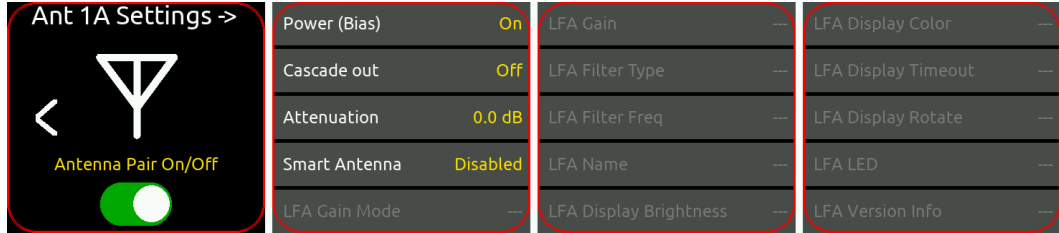
When using DiGiCo consoles, if the primary fails, the secondary unit can issue an RF Mirror macro command to the console to switch over from its Main to Alt inputs seamlessly. Please refer to our Tech Note on AstralComm or the receiver's user manual.

The model, firmware version, country, and number of RX channels on the Astral Series receiver (based on installed expansion licenses) must be identical between the primary and secondary receivers before mirroring can be enabled.



### Setup Mirror Mode

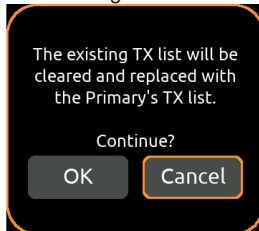
1. No action is required for setting up the primary Astral Series receiver for Mirror Mode. From the Main Menu of the primary receiver, navigate to the Network Menu. Document the Control IP address for the primary receiver.
2. Connect both primary and secondary Astral Series receivers to the same control network.
3. Connect RF antennas to the primary receiver.
4. Connect the RF Cascade Outputs from the primary receiver to the RF Inputs of the secondary receiver. If the primary receiver loses power, the secondary receiver will take over, providing bias power to active antennas and data to smart antennas.



*Note: In Mirror Mode, the secondary receiver will mirror the primary receiver's Antenna Mode, however Bias Power, Cascade Out, Attenuation, and Smart Antenna settings do not transfer from the primary unit to the secondary unit. These options will need to be configured manually on both the primary and secondary receiver.*

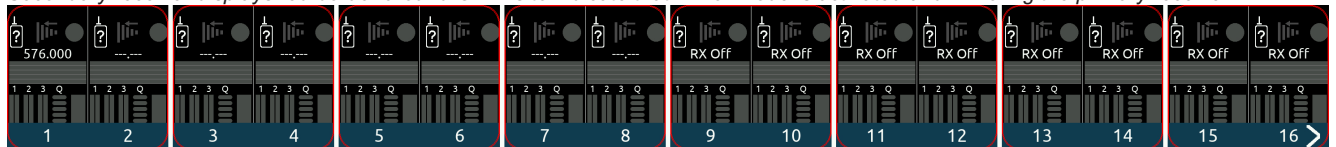
5. Connect the audio outputs from the primary receiver to the audio mixing console.
6. Connect the audio outputs from the secondary receiver to the audio mixing console.
7. On secondary receiver, navigate through Main Menu > Network Menu > RF Mirror Mode, and enter the Control IP address from the primary receiver into the section labeled "Primary IP Address" and select Save.
8. Select RF Mirror Mode in the Networking Menu and Select On.
9. When the secondary receiver has established connection to the primary receiver and is ready to activate Mirror Mode, the following message is displayed:

"The existing TX List will be cleared and replaced with the Primary's TX List. Continue? OK, Cancel".



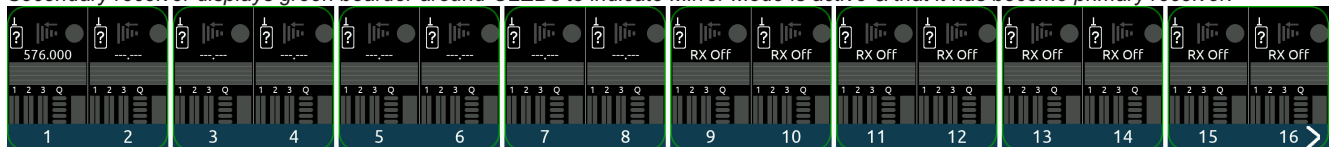
- Select Cancel to disable Mirror Mode.
- Select OK to continue activating Mirror Mode. Once Mirror Mode has been successfully activated, the OLED borders illuminate red and the Status field displays "Mirroring Primary unit".

*Secondary receiver displays red border around OLEDs to indicate that Mirror Mode is activated and mirroring the primary receiver.*



10. NexLink commands and settings are grayed out on the secondary receiver. These only become active if the primary receiver fails. The following popup is displayed if any RF-related control on the OLEDs is touched: "That setting cannot be modified while mirroring another unit"
11. Should the primary receiver fail, lose network connectivity, or power down, the secondary receiver seamlessly takes over NexLink control and receiver duty, the Status field displays "Serving as Primary unit", and the red border surrounding all OLEDs changes to green. When the primary receiver comes back online, it resumes control and the secondary switches back to 'Mirroring Primary unit'.

*Secondary receiver displays green boarder around OLEDs to indicate Mirror Mode is active & that it has become primary receiver.*



### Disabling Mirror Mode

1. Tap the Mirror Mode selection and select Off to disable Mirror Mode.
2. If the secondary receiver is serving as primary receiver (i.e. displaying green borders), the following popup appears: "Permanently take over NexLink control? Yes, No"
  - a. When Yes is selected, the secondary receiver exits Mirror Mode and retains all settings, TX List and full NexLink control.
  - b. When No is selected, the secondary receiver exits Mirror Mode, clears its TX List and disables NexLink control.

### Mirror status

The Status field and OLED border color indicate the state of the secondary receiver when Mirror Mode is active as follows:

Status Message	OLED Border Color	Description
Mirroring Disabled	None	RF Mirror Mode is disabled.
Connecting to primary unit	Yellow	Establishing connection to Primary unit. This typically only appears very briefly unless the Backup is unable to connect to the Primary.
Mirroring Primary unit	Red	Backup unit is mirroring the Primary's settings successfully (TX List, NexLink Tuning Mode, Receiver channel settings). The Primary is still responsible for NexLink control.
Serving as Primary unit	Green	The Primary has failed (e.g. loss of power) and the Backup has taken over full NexLink control from the Primary.
Country mismatch	Yellow	Displayed when the Primary and Backup's country settings do not match. These settings must match before Mirroring can be enabled.
Software version mismatch	Yellow	Displayed when the Primary and Backup's software versions do not match. These must match before Mirroring can be enabled.
Channel count mismatch	Yellow	Displayed when the Primary and Backup's number of available RX channels are not matched. These must match before Mirroring can be enabled.

Example: Status field showing 'Channel count mismatch' and yellow border



### Using Astral Commands in RF Mirror Mode

Macro commands created on a Primary Astral ARX16 or Astral ARX32 are mirrored to an Astral ARX16 or Astral ARX32 when RF Mirror Mode is activated. Based on whether the DiGiCo Console List is set to be mirrored or not, the system can be configured so that both units send macro commands or only the active unit sends macro commands. Select Network > RF Mirror Mode, then turn on or off the 'Mirror DiGiCo Console List' setting as follows:

- On = Only the active unit (Primary or Secondary) sends the macro commands. This is typically used in single console applications.
- Off = Both Primary AND Secondary units send the macro commands. This is typically used in scenarios where Primary and Secondary ARX32s are each feeding their own consoles.