

**PRSS**  
**SINGLE TRANSPONDER**

2/06/18

# Opening Remarks

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# Topics

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- ↗ Squawk Channel
- ↗ New Squawk SCPC
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- ↗ Transponder 1, 3, 5 Assignments
- ↗ Next Steps to Combined Carrier
- ↗ Day of Transition
- ↗ Legacy and Combined Carrier Receiver Definition
- ↗ Escalation Support
- ↗ QA

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# Project Sponsors

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# Squawk Channel

- ☞ Stations will continue to be able to access Squawk through the following options.
  - ☞ Stations that are using the legacy SR2000pro receivers to access Squawk will not be affected by the transition. Squawk will remain as Stream 22 (Transponder 3) and will continue to be decoded by the SR2000.
    - ☞ Exception: 2/13/18 at 13:59:30 - 14:02:00 for 2:30min
  - ☞ Stations can now receive Squawk from a dedicated carrier on Transponder 1 (Frequency 1432.4, Symbol Rate 263) and can continue to use their SR2000 units.
  - ☞ Stations can now subscribe to Squawk via the ContentDepot Portal which allows them to receive the Squawk channel on their SFX 4104 receiver.
- ☞ In the near future, stations should begin preparations to transitioning away from Stream 22 (Transponder 3). On April 30<sup>th</sup>, 2018 PRSS will begin preparations and reminder notifications about our plans to cease Squawk on Stream 22 (Transponder 3). The Squawk on Transponder 3 will be removed in order to continue with transponder consolidation and bandwidth efficiencies.

# New Squawk SCPC Transponder 1 Receiver Definitions - RF

**Carrier A**

**Carrier B**

Locked to Carrier A

Description: PRSS Audio Subsystem

Frequency: 1432.400000 MHz

Symbol Rate: 263.000 ks/s

Viterbi Rate: 3/4

NCC PID: 4150 (1036)

Modulation Type: QPSK

Enable 22kHz Tone: Disabled

Polarization: Horizontal (18V)

Description: PRSS Audio Subsystem

Frequency: 1432.400000 MHz

Symbol Rate: 263.000 ks/s

Viterbi Rate: 3/4

NCC PID: 4150 (1036)

Modulation Type: QPSK

Enable 22kHz Tone: Disabled

Polarization: Horizontal (18V)

To determine if this receiver is supplying voltage to the LNB to select polarization, click on the DVB Carrier text near the top of the page, and then click on the LNB Attributes icon.

## Carrier Settings

- Frequency to 1432.4 MHz
- Symbol Rate 263.0 ks/s
- Viterbi Rate  $\frac{3}{4}$
- NCC PID 4150
- Modulation Type QPSK

# New Squawk SCPC Transponder 1 Receiver Definitions - Audio

The screenshot shows the 'Audio Configuration' page of the International Datacasting receiver. The top navigation bar includes tabs for Identity, DVB Carrier, Data Delivery, Channel Guide, Logging, Metrics, Audio (selected), Utilities, and Upgrade. The 'Audio Configuration' page is divided into two columns for 'Stream 1' and 'Stream 2'. On the left, there are buttons for 'Show', 'Edit Stream 1', 'Edit Stream 2', 'Back to main', 'Refresh', and 'Send Changes'. The 'Send Changes' button is highlighted in green. The 'Multicast Address: 229.0.0.43', 'Port Number: 10043', and 'Data Rate: 64000 bps' for Stream 1 are circled in red.

Stream 1	Stream 2
<b>Audio Stream:</b> enabled	enabled
<b>Channel:</b> no channel selected	no channel selected
<b>Type:</b> IP	IP
<b>PES PID:</b> Undefined	Undefined
<b>Multicast Address:</b> 229.0.0.43	229.0.0.11
<b>Port Number:</b> 10043	10011
<b>Data Rate:</b> 64000 bps	256000 bps
<b>Input Interface:</b> Satellite	Satellite
<b>Mode:</b> RTP	RTP
<b>Latency:</b> Low	Low
<b>Packet routing:</b> Packets will not be sent out the ethernet port	Packets will not be sent out the ethernet port
<b>Contact Closure:</b> R1 R2 R3 R4 Off Off Off Off	<b>R1 R2 R3 R4</b> Off Off Off Off
<b>Meta Data:</b> Not Available	Not Available

## Audio Settings

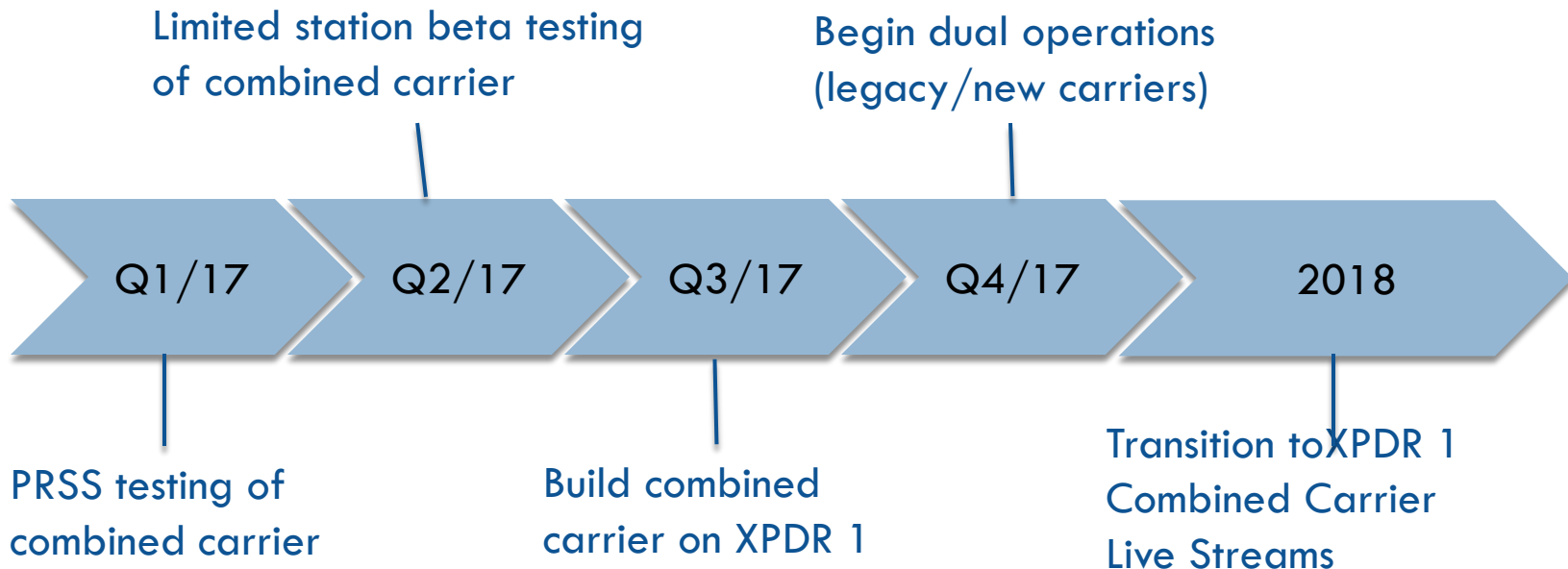
- Multicast Address 229.0.0.43
- Port Number 10043
- Data Rate 64000 bps



# Timeline to Single Transponder

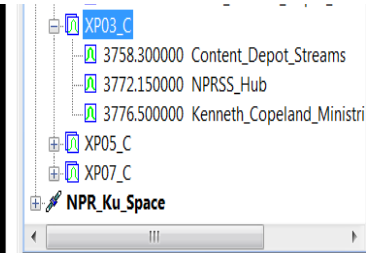
Incremental steps to complete Single Transponder transition

- Combined Carrier (Alpha Q1, 2017)
- Combined Carrier (Beta Q2, 2017)
- Combined Carrier Files Only release to all Member Stations (Q3, 2017)
  - (Completed on Nov 6, 2017)
- Enable Streams in (Q1 2018),
  - (Scheduled for Feb 13<sup>th</sup>)

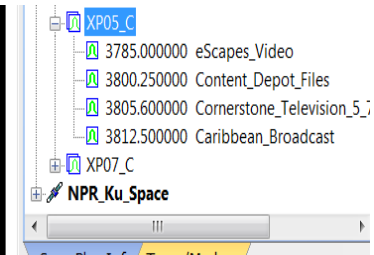
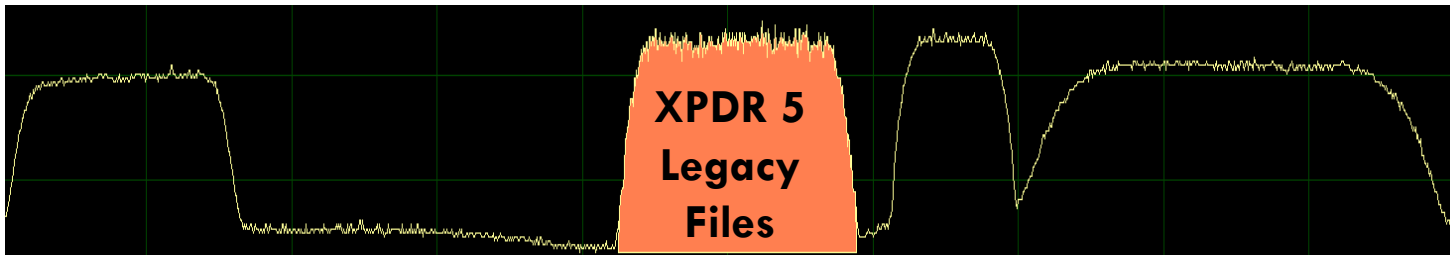


# Current Files and Streams Transponder Assignments

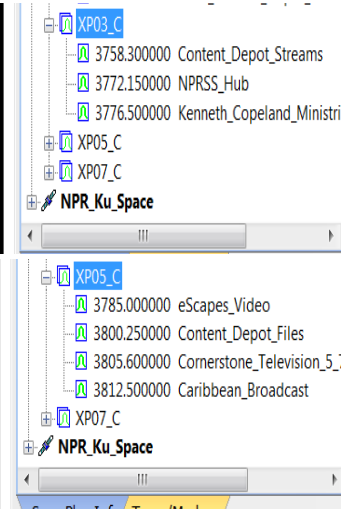
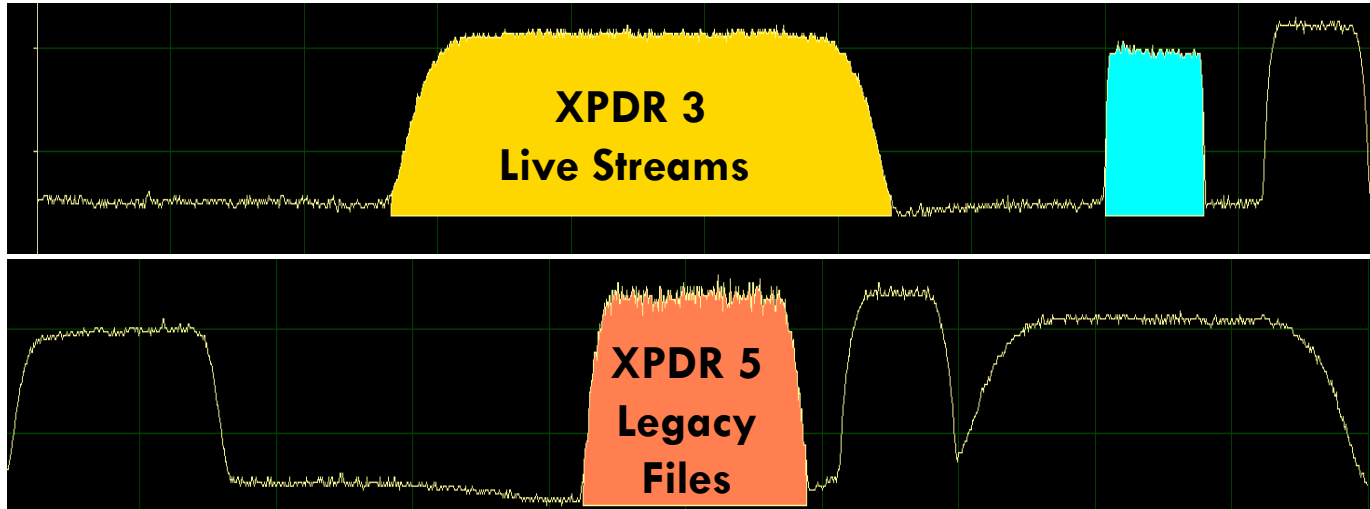
**Legacy Streams on Transponder 3**  
(13.5Mhz, DVB-S, QPSK,  $\frac{3}{4}$  FEC, 20 Roll-Off)



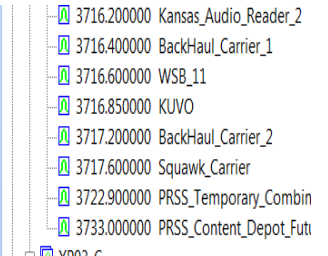
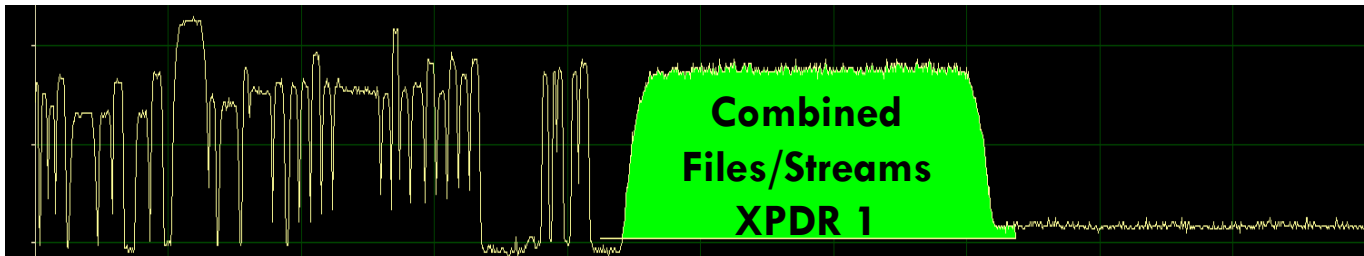
**Files on Transponder 5**  
(5.9Mhz, DVB-S, QPSK,  $\frac{3}{4}$  FEC, 20 Roll-Off )



# Combined Carrier



**Combining Live Streams and Files onto one single carrier on Transponder 1  
(10 Mhz, DVB-S2, QPSK, 5/6 FEC, 10% Roll Off)**



# Next Steps for Stream Delivery from Combined Carrier

- ↪ Performing downlink receiver definition changes to all Interconnected Station receivers on Tuesday, February 13<sup>th</sup>, at 1:59 PM ET
- ↪ Definition changes will force receivers to retune to acquire Stream traffic from XPDR 1
- ↪ No anticipated impact, expectation is to provide a seamless transition
- ↪ Requesting immediate notification if impact is detected
- ↪ Stations must validate correct tuning from Receivers

# Day of Transition

EDT

**1:50 pm ET – PRSS messages the system that we are about to begin the process**

**1:59:05 pm ET – PRSS updates the Net Managers for new Combined Carrier. L-Band 1 Carrier is changed to the following: Freq: 1427.1 | SymR: 9090.0 | Mod: DVB-S2**

**1:59:15 pm ET – PRSS verifies its receivers in DC and at BuNOC have updated L-Band 1 properly**

**1:59:30 pm ET – If all looks good, PRSS drops legacy streams carrier from Transponder 3. All receivers will then revert to new Combined Carrier and should be L-Band 1, locked to Carrier A.**

**1:59:35 pm ET – PRSS to verify audio on 24/7 streams**

**1:59:55 pm ET – Assuming no operation abort, PRSS begins preparing for Top of the Hour tuning**

**2:04 pm ET – If all continues to go well, PRSS will send communications to the system confirming we are continuing.**

**2:20 pm ET – PRSS manually pushes test files via CD host to /Archive**

**2:25 pm ET – PRSS confirms receipt of test files at the Washington and back-up NOC**

**2:30 pm ET – PRSS re-verifies power levels for all carriers**

**2:40 pm ET – PRSS re-verifies all streams and services**

# Legacy Carrier Transponder 3 Receiver Definitions

## L BAND 1

### Carrier A

**Description:** *PRSS Stream Delivery*  
**Frequency:** *1391.700000 MHz*  
**Symbol Rate:** *11250.000 ks/s*  
**Modulation Standard :** *DVB-S*  
**Viterbi/Code Rate:** *AUTO*  
**Alpha Factor:** *N/A*  
**NCC PID:** *4154 (103A)*  
**Enable 22kHz Tone:** *Disabled*  
**Polarization:** *Horizontal (18V)*

### Carrier B

**Locked to Carrier A**  
**Preferred Carrier is Carrier A**

*PRSS Stream Delivery*  
*1391.700000 MHz*  
*11250.000 ks/s*  
*DVB-S*  
*AUTO*  
*N/A*  
*4154 (103A)*  
*Disabled*  
*Horizontal (18V)*

To determine if this receiver is supplying voltage to the LNB to select polarization, click on the DVB Carrier text near the top of the page, and then click on the LNB Attributes icon.

# Combined Carrier Transponder 1 Receiver Definitions

## L BAND 1

### Carrier A

**Description:** *PRSS Stream Delivery*  
**Frequency:** *1427.100000 MHz*  
**Symbol Rate:** *9090.000 ks/s*  
**Modulation Standard :** *DVB-S2*  
**Viterbi/Code Rate:** *AUTO*  
**Alpha Factor:** *AUTO*  
**NCC PID:** *4154 (103A)*  
**Enable 22kHz Tone:** *Disabled*  
**Polarization:** *Horizontal (18V)*

### Carrier B

**Locked to Carrier A**  
**Preferred Carrier is Carrier A**

*PRSS Stream Delivery*  
*1391.700000 MHz*  
*11250.000 ks/s*  
*DVB-S*  
*AUTO*  
*N/A*  
*4154 (103A)*  
*Disabled*  
*Horizontal (18V)*

To determine if this receiver is supplying voltage to the LNB to select polarization, click on the DVB Carrier text near the top of the page, and then click on the LNB Attributes icon.

# Escalation Support

↩ PRSS Help Desk

↩ 800.971.7677

↩ [prsshelp@npr.org](mailto:prsshelp@npr.org)

↩ Network Support Center

↩ 202-513-2650



# Q & A

Stations can submit questions regarding this webinar to Erich Shea, [eshea@npr.org](mailto:eshea@npr.org)