

**Options**  
Title: FM Stereo MPX Receiver  
Output Language: Python  
Generate Options: QT GUI

**Variable**  
ID: samp\_rate  
Value: 192k

**Variable**  
ID: rx\_samp\_rate  
Value: 2M

**Import**  
Import: math

**QT GUI Range**  
ID: rx\_freq  
Label: RX Frequency  
Default Value: 103.7M  
Start: 87.5M  
Stop: 108M  
Step: 100k

**QT GUI Range**  
ID: rx\_gain  
Label: RX Gain  
Default Value: 30  
Start: 0  
Stop: 70  
Step: 1

**QT GUI Range**  
ID: rx\_cutoff  
Label: RX Filter...f Frequency  
Default Value: 100k  
Start: 10k  
Stop: 300k  
Step: 10k

**QT GUI Range**  
ID: bb\_gain  
Label: Baseband Audio Gain  
Default Value: 400m  
Start: 100m  
Stop: 2  
Step: 100m

**QT GUI Range**  
ID: stereo\_diff\_gain  
Label: Stereo L...hannel Gain  
Default Value: 7  
Start: 0  
Stop: 50  
Step: 1

**PlutoSDR Source**  
IIO context URI: 192.168.2.1  
LO Frequency: 103.7M  
Sample Rate: 2M  
Buffer size: 32.768k  
Quadrature: True  
RF DC Correction: True  
BB DC Correction: True  
Gain Mode (RX1): Manual  
Manual Gain (RX1)(dB): 30  
Filter Configuration: Auto  
RF Bandwidth (Hz): 20M

**Low Pass Filter**  
Decimation: 1  
Gain: 1  
Sample Rate: 2M  
Cutoff Freq: 100k  
Transition Width: 20k  
Window: Hamming  
Beta: 6.76

**QT GUI Frequency Sink**  
Name: RX Spectrum  
FFT Size: 4096  
Center Frequency (Hz): 103.7M  
Bandwidth (Hz): 2M

**WBFM Receive**  
Quadrature Rate: 2M  
Audio Decimation: 1

**Rational Resampler**  
Interpolation: 24  
Decimation: 250  
Taps:  
Fractional BW: 0

**QT GUI Frequency Sink**  
Name: Demod Spectrum  
FFT Size: 4096  
Center Frequency (Hz): 0  
Bandwidth (Hz): 192k

**Low Pass Filter**  
Decimation: 1  
Gain: 400m  
Sample Rate: 192k  
Cutoff Freq: 15k  
Transition Width: 1k  
Window: Hamming  
Beta: 6.76

**Note**  
Note: Baseband L+R

**Band Pass Filter**  
Decimation: 1  
Gain: 7  
Sample Rate: 192k  
Low Cutoff Freq: 18.5k  
High Cutoff Freq: 19.5k  
Transition Width: 500  
Window: Hamming  
Beta: 6.76

**Note**  
Note: 19 kHz Stereo Pilot

**Band Pass Filter**  
Decimation: 1  
Gain: 7  
Sample Rate: 192k  
Low Cutoff Freq: 37.5k  
High Cutoff Freq: 38.5k  
Transition Width: 500  
Window: Hamming  
Beta: 6.76

**Note**  
Note: 36 kHz

**Low Pass Filter**  
Decimation: 1  
Gain: 7  
Sample Rate: 192k  
Cutoff Freq: 15k  
Transition Width: 1k  
Window: Hamming  
Beta: 6.76

**Note**  
Note: Baseband L-R

**Frequency Xlating FIR Filter**  
Decimation: 1  
Taps: firdes.low\_pass(1.0,...  
Center Frequency: 57k  
Sample Rate: 192k

**Note**  
Note: Complex Baseband RDS

**Rational Resampler**  
Interpolation: 19k  
Decimation: 192k  
Taps:  
Fractional BW: 0

**Decimating FIR Filter**  
Decimation: 1  
Taps: rrc\_taps\_manchester

**Variable**  
ID: rrc\_taps\_manchester  
Value: [rrc\_taps[n] - rrc\_...

**RRC Filter Taps**  
ID: rrc\_taps  
Gain: 1  
Sample Rate (Hz): 19k  
Symbol Rate (Hz): 2.375k  
Excess BW: 1  
Num Taps: 151

**AGC**  
Rate: 2m  
Reference: 585m  
Gain: 53  
Max Gain: 1k

**Symbol Sync**  
Timing Error Detector: Zero Crossing  
Samples per Symbol: 16  
Expected TED Gain: 1  
Loop Bandwidth: 10m  
Damping Factor: 1  
Maximum Deviation: 100m  
Output Samples/Symbol: 1  
Interpolating Resampler: MMSE, 8 tap FIR

**Constellation Receiver**  
Constellation Object: ...c30>  
Loop Bandwidth: 62.8319m  
Minimum Freq Deviation: -2m  
Maximum Freq Deviation: 2m

**Differential Decoder**  
Coding: Differential  
Modulus: 2

**RDS Decoder**  
Log: Disable  
Debug: Disable

**RDS Parser**  
Log: Disable  
Debug: Disable  
PTY Locale: North America

**RDS Panel**

