**QT GUI Range QT GUI Range** Variable Variable Variable **QT GUI Range QT GUI Range Options ID:** hi\_thres ID: gain2 Title: DCF77 Receiver **ID:** decimation **ID:** samp\_rate ID: freq\_DCF77 ID: lo\_thres ID: gain1 **Label:** upper Threshold Label: Gain2 **Value:** 192k **Value:** 77.5k Value: 4 Label: Gain1 Author: henningM1R **Label:** lower Threshold **Default Value: 125 Default Value:** 150 Output Language: Python **Default Value: 2.5 Default Value: 150** Start: 0 Start: 1 **Generate Options: QT GUI** Start: 500m Start: 1 **Stop:** 500 **Stop:** 450 **Stop:** 50 **Stop:** 400 Complexity: 1.133mbal Step: 1 **Step:** 500m **Step:** 100m Step: 1 default real: 290 Adapt the upper threshold Adapt the upper threshold default real: 150 so that the one value is provided default simulation: 1 so that the one value is provided default simulation: 1 each time the signal is high each time the signal is high **QT GUI Sink** osmocom Source **QT GUI Frequency Sink** Name: **Device Arguments:** airspyhf=0 **FFT Size:** 1024 FFT Size: 1024 Sync: Unknown PPS Center Frequency (Hz): 77.5k Center Frequency (Hz): 0 **Number Channels: 1** Bandwidth (Hz): 2k Bandwidth (Hz): 192k Sample Rate (sps): 192k **Update Rate:** 10 Ch0: Frequency (Hz): 77.5k **Ch0: Frequency Correction (ppm):** 0 **Low Pass Filter** command Ch0: DC Offset Mode: 0 **QT GUI Time Sink Decimation:** 1 Ch0: IQ Balance Mode: 0 **Gain:** 150 **Name:** received...sband\_signal Ch0: Gain Mode: False Sample Rate: 192k **Number of Points:** 768k **Ch0: RF Gain (dB):** 30 Cutoff Freq: 1.2k Sample Rate: 192k **Ch0: IF Gain (dB):** 30 **Transition Width: 250** Autoscale: No **Ch0: BB Gain (dB):** 0 Simple Squelch Window: Kaiser Ch0: Bandwidth (Hz): 4k **Beta:** 6.76 Threshold (dB): -50 ou **Rational Resampler** Alpha: 1 Interpolation: 1 filter out low noise **Multiply Const Decimation:** 4 below given threshold Constant: 150 Taps: **TCP Source** Fractional BW: 0 Amplify signal Frequency Xlating FIR Filter **Address:** 127.0.0.1 **Decimation:** 1Apply downsampling to **Port:** 55.554k reduce computations on Taps: variable low pass fi... Mode: Client total number of samples **Center Frequency:** 77.5k Sample Rate: 192k This block takes the DCF77 signal from a simulated Demodulation from 77.5 kHz Channel at 77.5 kHz. down to the base band. Low-pass Filter Taps **ID:** variable\_...filter\_taps\_0 Gain: 1Sample Rate (Hz): 192k Cutoff Freq (Hz): 5k Transition Width (Hz): 1k Window: Hamming Rational Resampler **Beta:** 6.76 **QT GUI Time Sink** Interpolation: 4 **Number of Points:** 960k **Decimation:** 1 Sample Rate: 192k Taps: Autoscale: No Fractional BW: 0 view the noisy input signal for correct timing-display to set the thresholds properly the previous down-sampled/decimated signal must be upsampled/interpolated again **Audio Sink** Sample Rate: 48 kHz **Virtual Source Virtual Sink** Complex to Mag^2 Stream ID: 1 Stream ID: 0 Compute real-valued signal **QT GUI Time Sink** Name: decoded DCF77 bits Threshold **DCF77 Decoder Number of Points: 192k** out Scaling: 4 Virtual Source **Low:** 2.5 Sample Rate: 192k Stream ID: 1 **High:** 125 Sample Rate: 192k Autoscale: No msg\_out Tolerance: 20m **Initial State: 1** Check if the output bitstream syncs to falling edge is tagged properly at the edges \* decodes 0, 0.1sec zero and 0.9sec one \* decodes 1, 0.2sec zero and 0.8sec one **ZMQ PUSH Message Sink** \* decodes new minute if 1,8 or 1,9sec one **Address:** tcp://1....0.1:55555 Timeout (msec): 500 provide signal to a ZMQ server to futher decode the bits to convenien date & time information print **Message Debug** store PDU Vectors: On print\_pdu show the decoded message protocol

(mostly with 0 and 1)

just for local debugging purposes

**Virtual Sink** 

Stream ID: 0