





```
struct BiquadCoefficients { float b0, b1, b2, a1, a2; };
NonRealtimeMutable<BiquadCoefficients> biquadCoeffs;

void processAudio (float* buffer)
{
    NonRealtimeMutable<BiquadCoefficients>::ScopedAccess<true> coeffs(biquadCoeffs);

    processBiquad (*coeffs, buffer);
}

void changeBiquadParameters (BiquadCoefficients newCoeffs)
{
    NonRealtimeMutable<BiquadCoefficients>::ScopedAccess<false> coeffs(biquadCoeffs);

    *coeffs = newCoeffs;
}
```

fantasy's NonRealist Manifesto





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farbot's NonRealtimeMutable

```
struct BiquadCoefficients { float b0, b1, b2, a1, a2; };  
NonRealtimeMutable<BiquadCoefficients> biquadCoeffs;
```

```
void processAudio (float* buffer)  
{  
    NonRealtimeMutable<BiquadCoefficients>::ScopedAccess<true> coeffs(biquadCoeffs);  
    processBiquad (*coeffs, buffer);  
}
```

```
void changeBiquadParameters (BiquadCoefficients newCoeffs)  
{  
    NonRealtimeMutable<BiquadCoefficients>::ScopedAccess<false> coeffs(biquadCoeffs);  
    *coeffs = newCoeffs;  
}
```

Non-real-time Mutate Summary

- Scenario:
 - Data is big: `std::atomic<>::is_always_lock_free == false`
 - The non-real-time thread **can** mutate the object
 - Real-time thread will not fail to acquire the resource
- Trade-off:
 - The real-time thread **can not** mutate the object
 - Non-real-time thread will wait on the real-time thread
 - Overhead of copying on the non-real-time thread
- Examples:
 - Sharing large data from the non-real-time thread to the real-time thread
 - Audio samples, wavetables, filter coefficients etc.