In [1]:
```
import librosa
import IPython.display as ipd
import matplotlib.pyplot as plt
import librosa.display
import numpy as np
```

In [4]:
```
debussy_file = 'debussy.wav'
```

In [5]:
```
ipd.Audio(debussy_file)
```

Out[5]:

In [8]:
```
signal, sr = librosa.load(debussy_file)
```

In [9]:
```
signal.shape
```

Out[9]:
```
(661500,)
```

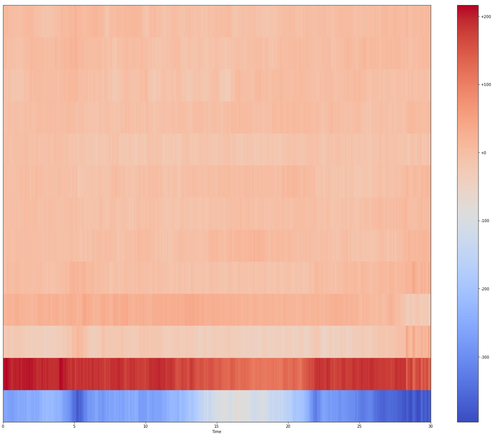
In [10]:
```
#extracting mfccs

mfccs = librosa.feature.mfcc(signal, n_mfcc = 13,sr = sr)
```

In [12]:
```
mfccs.shape
```

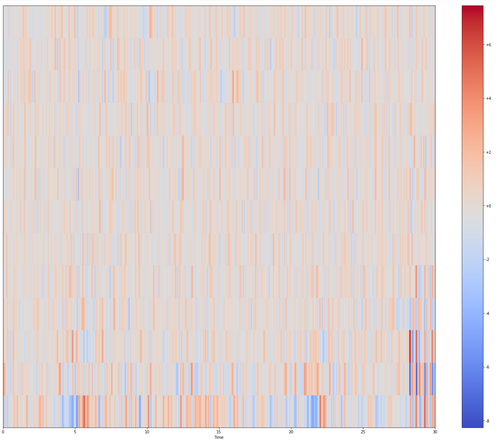
Out[12]:
```
(13, 1292)
```

In [13]:
```
plt.figure(figsize=(25,20))
librosa.display.specshow(mfccs,
                         x_axis='time',
                         sr=sr)
plt.colorbar(format="%+2.f")
plt.show()
```

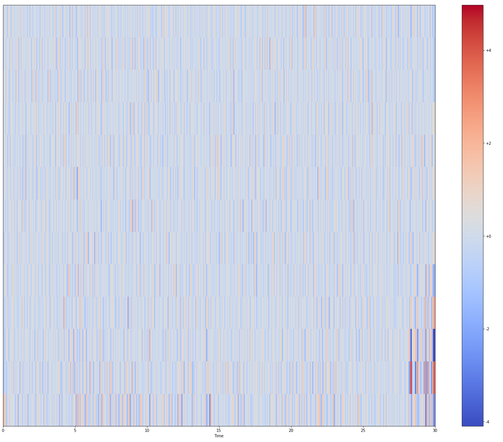


In [14]:
```
delta_mfccs = librosa.feature.delta(mfccs)
deltal_mfccs = librosa.feature.delta(mfccs, order=2)
```

In [15]:
```
plt.figure(figsize=(25,20))
librosa.display.specshow(delta_mfccs,
                         x_axis='time',
                         sr=sr)
plt.colorbar(format="%+2.f")
plt.show()
```



In [16]:
```
plt.figure(figsize=(25,20))
librosa.display.specshow(deltal_mfccs,
                         x_axis='time',
                         sr=sr)
plt.colorbar(format="%+2.f")
plt.show()
```



In [17]:
```
comprehensive_mfccs = np.concatenate((mfccs,delta_mfccs,deltal_mfccs))
```

In [19]:
```
comprehensive_mfccs.shape
```

Out[19]:
```
(39, 1292)
```

In [ ]:
```

```