

关于音量调节

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1.RK 平台上一般硬件音量最大与最小已设为最大增益与静音。

2.Android 的音量调节主要依靠软件实现，具体可以看：

/hardware/rk29/audio/AudioPolicyManagerBase.cpp 的 computeVolume 函数，该函数基本原理

3.就是每种音频设备会对应一条音量曲线，按照一定数学关系来选择具体增益。

4.一般客户有要求调节低音量时增益范围，可以看下图中的数组，因为每条音量曲线是根据下图数组算出来的，因此改变数组值即可改变音量曲线。

下图数组的意思是每条曲线有一个大数组，大数据内包含 4 个小数组，小数组第一个值代表 1~100 的某个值（音量被量化成 100），第二个值代表增益（dB），如下图第一条曲线：

1: -49.5dB（衰减 49.5dB 输出） 100:0dB（无衰减输出）

客户可根据自己需要来改变数组值，具体是哪条曲线需要客户自己去根据名字对应。

如：33: -33.5f 可改为-22.5 之类的，可以提高 1~33 之间音量步进值。

```
const AudioPolicyManagerBase::VolumeCurvePoint
AudioPolicyManagerBase::sDefaultVolumeCurve[AudioPolicyManagerBase::VOLUME_INDEX_COUNT] = {
    {1, -49.5f}, {33, -33.5f}, {66, -17.0f}, {100, 0.0f}
};

const AudioPolicyManagerBase::VolumeCurvePoint
AudioPolicyManagerBase::sDefaultMediaVolumeCurve[AudioPolicyManagerBase::VOLUME_INDEX_COUNT] = {
    {1, -58.0f}, {20, -40.0f}, {60, -17.0f}, {100, 0.0f}
};

const AudioPolicyManagerBase::VolumeCurvePoint
AudioPolicyManagerBase::sSpeakerMediaVolumeCurve[AudioPolicyManagerBase::VOLUME_INDEX_COUNT] = {
    {1, -56.0f}, {20, -34.0f}, {60, -11.0f}, {100, 0.0f}
};

const AudioPolicyManagerBase::VolumeCurvePoint
AudioPolicyManagerBase::sSpeakerSonificationVolumeCurve[AudioPolicyManagerBase::VOLUME_INDEX_COUNT] = {
    {1, -29.7f}, {33, -20.1f}, {66, -10.2f}, {100, 0.0f}
};

const AudioPolicyManagerBase::VolumeCurvePoint
AudioPolicyManagerBase::sSpeakerSonificationVolumeCurveDrc[AudioPolicyManagerBase::VOLUME_INDEX_COUNT] = {
    {1, -35.7f}, {33, -26.1f}, {66, -13.2f}, {100, 0.0f}
};

// AUDIO_STREAM_SYSTEM, AUDIO_STREAM_ENFORCED_AUDIBLE and AUDIO_STREAM_DTMF
// AUDIO_STREAM_RING on phones and AUDIO_STREAM_MUSIC on tablets.
// AUDIO_STREAM_DTMF tracks AUDIO_STREAM_VOICE_CALL while in call (See A
// The range is constrained between -24dB and -6dB over speaker and -30dB

const AudioPolicyManagerBase::VolumeCurvePoint
AudioPolicyManagerBase::sDefaultSystemVolumeCurve[AudioPolicyManagerBase::VOLUME_INDEX_COUNT] = {
    {1, -24.0f}, {33, -18.0f}, {66, -12.0f}, {100, -6.0f}
};

const AudioPolicyManagerBase::VolumeCurvePoint
AudioPolicyManagerBase::sDefaultSystemVolumeCurveDrc[AudioPolicyManagerBase::VOLUME_INDEX_COUNT] = {
    {1, -34.0f}, {33, -24.0f}, {66, -15.0f}, {100, -6.0f}
};

const AudioPolicyManagerBase::VolumeCurvePoint
AudioPolicyManagerBase::sHeadsetSystemVolumeCurve[AudioPolicyManagerBase::VOLUME_INDEX_COUNT] = {
    {1, -30.0f}, {33, -26.0f}, {66, -22.0f}, {100, -18.0f}
};
```

