**Spec Tracking Number: PIS2025**

**MyMedia 本地多媒体**

**Document Owner**

This specification is owned by:

Wang Ziqi

Infotainment Group, ELEC, PATAC

+86 21 50165016 -(ext)594954

Ziqi\_Wang@patac.com.cn

目录  
Contents

[1 需求概述 / Requirements Overview 3](#_Toc28096653)

[1.1 背景价值 / Background Value 3](#_Toc28096654)

[1.2 名词解释 / Terminology 3](#_Toc28096655)

[1.3 功能全景 / Panorama of Functions 4](#_Toc28096656)

[2 需求列表 / List of Requirements 4](#_Toc28096657)

[3 需求描述 / Requirement Description 5](#_Toc28096658)

[3.1 本地音乐 / Local Music 5](#_Toc28096659)

[3.1.1 全部歌曲 / All Songs 6](#_Toc28096660)

[3.1.2 我的设备 / My Device 7](#_Toc28096661)

[3.1.3 艺术家 / Artist 9](#_Toc28096662)

[3.1.4 专辑 / Album 9](#_Toc28096663)

[3.1.5 流派 / Genre 10](#_Toc28096664)

[3.1.6 支持的外部设备源 / Supported External Device Source 11](#_Toc28096665)

[3.1.7 支持的音视频文件格式 / Supported Audio And Video File Format 14](#_Toc28096666)

[3.2 播放控制 / Play Control 14](#_Toc28096667)

[3.2.1 基本操作 / Basic Operations 14](#_Toc28096668)

[3.2.2 歌词显示 / Lyrics Display 20](#_Toc28096669)

[3.2.3 硬按键操作响应 / Response to Hard Key Operation 20](#_Toc28096670)

[3.2.4 播放时媒体信息的显示 / Display of Media Information During Playing 21](#_Toc28096671)

[3.3 本地视频 / Local Video 21](#_Toc28096672)

[3.3.1 视频播放及显示 / Video Play and Display 22](#_Toc28096673)

[3.3.2 视频的播放模式 / Video Play Mode 22](#_Toc28096674)

[4 系统需求 / System Requirements 23](#_Toc28096675)

[4.1 账号相关 / Account 23](#_Toc28096676)

[4.2 应用内设置 / In-app Setting 23](#_Toc28096677)

[4.3 外部调用 / External Call 23](#_Toc28096678)

[4.4 数据维护 / Data Maintenance 23](#_Toc28096679)

[4.5 版本升级 / Version Upgrade 24](#_Toc28096680)

[4.6 埋点需求 / Event Tracking Requirements 24](#_Toc28096681)

[4.7 相关CAN信号 / Related CAN Signals 24](#_Toc28096682)

[4.8 相关标定项 / Related Calibration Items 24](#_Toc28096683)

[5 附录 / Appendix 24](#_Toc28096684)

[**Revision Log** 24](#_Toc28096685)

# 需求概述 / Requirements Overview

## 背景价值 / Background Value

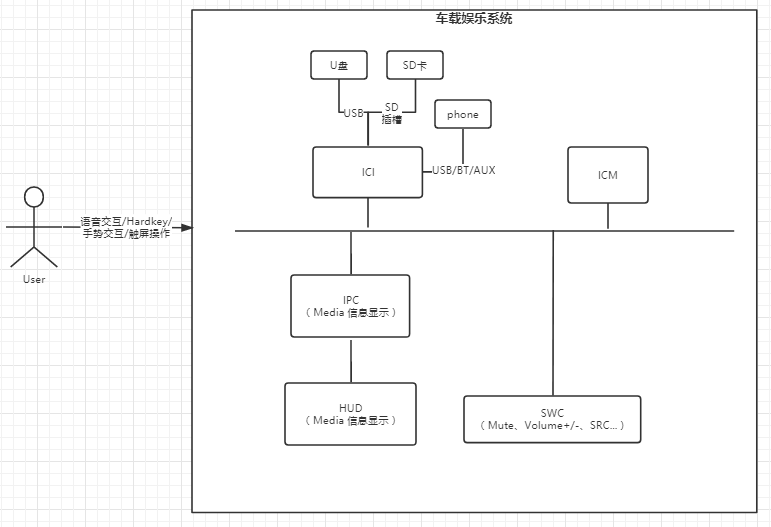
为车内用户提供本地多媒体播放能力并支持多种外接方式，如USB、SD、蓝牙等。

Provide the play function of MyMedia for the occupants and support a variety of external connections, such as USB, SD, Bluetooth, etc.

## 名词解释 / Terminology

* **外部设备音源**，指~~Aux、~~USB、~~SD、~~BT Audio~~、iPod音源~~。  
  **External audio source:** It refers to audio source from Aux, USB, SD, BT Audio, iPod and other external devices.
* **播放列表**, 指系统能够识别和播放的媒体组织成的列表。  
  **Playlist:** It refers to a list of media identifiable and playable for the system.
* **当前播放列表**，指正在播放的媒体所在的播放列表。  
  **Current playlist:** It refers to the playlist where the media being played is in.

## 功能全景 / Panorama of Functions



语言交互/Hardkey/手势交互/触屏操作Language interaction/Hardkey/ /touch screen operation

# 需求列表 / List of Requirements

（细分并描述需求的主要功能模块，列出功能模块的优先级：1，2，3，1最低，3最高。）

(Subdivide and describe the main functional modules of the requirements, and then list out the priority of these functional modules: 1, 2 and 3; 1 represents the lowest; 3 represents the highest.)

|  |  |  |  |
| --- | --- | --- | --- |
| Module | Subfeature | Description | Priority |
| 本地音乐  Local music | 外部音源支持  Support of external audio source | 识别和支持~~SD~~、USB、~~MTP~~、BT Audio~~、iPod、Aux~~  Identify and support, USB, BT Audio, | 3 |
| 浏览歌曲  Song browsing | 支持按艺术家、专辑、流派、设备、全部歌曲等方式分类浏览歌曲  Support song browsing by artist, album, genre, device, all songs, etc. | 3 |
| 本地视频  Local video | 视频播放  Video play | 视频播放及显示  Video play and display | 2 |
| 播放控制和显示  Play control and display | 基本操作  Basic operations | 播放/暂停  Play/pause | 3 |
| 上/下一首  Previous/next | 3 |
| 快进/快退  Fast forward/fast backward | 2 |
| 调整播放进度  Play progress adjusting | 3 |
| 播放模式切换  Play mode switching | 3 |
| 查看播放列表  Playlist viewing | 3 |
| 硬按键操作响应  Response to hard key operation | 支持方向盘、faceplate的硬按键响应  Support response to hard key of steering wheel and faceplate | 3 |
| 播放时内容显示  Content display during playing | 支持播放时歌曲的信息展示  Support song information display during playing | 3 |

# 需求描述 / Requirement Description

## 本地音乐 / Local Music

VCS系统应支持用户播放外部设备音源内的符合格式要求的音频内容。支持的外设音源包括~~Aux、~~USB、~~SD、MTP、~~BT Audio~~、iPod~~。~~支持的音频格式，请参见PIS2023-音源总则Spec。~~

The ICI system shall support users to play the audio content, which meets the format requirements, from the audio source of external devices. The supported audio sources of external devices include USB, SD, BT Audio. See *PIS2023-General Spec for Audio Source* for the supported audio formats.

对于USB、SD~~、MTP~~设备这~~三~~2个外部设备音源，ICI系统应支持为每一个逻辑设备生成一个该逻辑设备中所有可播放音乐的播放列表。

For the audio source from the two external devices, namely USB and SD, the ICI system shall support the generation, for each logical device, of a playlist of all playable music in such logical device.

对于USB、SD~~、MTP~~设备这~~三~~2个外部设备音源中可识别播放的音乐文件，ICI系统应支持按照全部歌曲、艺术家、专辑、流派对音乐文件进行分类。

For the music files from the two external devices, namely USB, SD, that are identifiable and playable, the ICI system shall support the classification of music files by all songs, artist, album, and genre.

注：

Note

* BT Audio的操作和显示要求详见PIS-2038 BT Audio Spec；  
  See *PIS-2038 BT Audio Spec* for the operation and display requirements of BT Audio;
* ~~iPod的操作和显示要求详见PIS-2026 iDevice Spec；  
  See~~ *~~PIS-2026 iDevice Spec~~* ~~for the operation and display requirements of iPod;~~
* 音源切换、移除规则、开关机和音源切换时媒体播放状态记录详见PIS-2023音源总则Spec；  
  See *PIS-2023 General Sp*ec for Audio Source for the rules of audio source switching/removal, startup & shutdown, and the recording of media play status at audio source switching.

### 全部歌曲 / All Songs

系统应支持显示来自USB、~~SD、MTP~~这~~三~~ 2个“外部设备源”的全部歌曲，默认以歌曲名排序。~~排序请参考PIS-2040 Chinese Sorting Specification。~~其显示顺序规则应按歌曲名拼音首字母从小到大依次比对排序，即首字母相同时按第二字母大小排序，以此类推。

The system shall support the display of all songs, sorted by song name by default, from the two “external device sources”, namely USB and SD. See PIS-2040 Chinese Sorting Specification for the sorting. The display rules should be sorted by alphabetical first letter of the song from small to large, that is, the first letter at the same time according to the size of the second letter, and so on.

在歌曲列表项中需显示歌曲的歌曲名称，如果歌曲名称无法获得，则系统应显示该歌曲的文件名（包括后缀名）。

In the song list item, the system shall display the name of each song; when the name of any song is not available, the system shall display the file name (including its suffix name) of such song.

注：通常情况下，歌曲名称指的是ID3信息中title。~~若系统支持歌曲信息修正模块，系统应显示经过歌曲信息修正后的Title。~~

Note: in general, the song name refers to the Title in ID3 information. ~~Provided that the system supports the song information correction module, the system shall display the Title having undergone the song information correction.~~

### 我的设备 / My Device

#### 逻辑设备-USB / Logical Device-USB

当有可以被识别的USB存储设备连接时，该USB作为一个逻辑设备，其所有可播放音频文件将被整合成播放列表被添加到对应的该设备分类中。~~系统应支持识别和显示多个USB设备并支持显示USB设备名，具体数量取决于有多少个合法的USB设备被连接和识别。~~

When a USB storage device that can be identified is connected, all playable audio files in the USB that acts as a logical device shall be integrated into a playlist and then added to the corresponding device category.

对于USB设备连接异常时，如无法连接外设，~~外设中的媒体类型、媒体协议不支持、~~设备无响应、不支持的HUB等，系统应提示用户。

When the connection of any USB device goes abnormal, for example, the connection of any external device fails or the media type/protocol in the external device is not supported, the system shall prompt the user.

一旦USB设备连接并被识别，系统应在后台识别可播放的媒体文件并排序。~~USB文件1000个（包括非多媒体文件）识别和排序时间应小于3秒。~~

Once the USB device is connected and identified, the system shall identify and sort the playable media files in the background. ~~The time taken to identify and sort 1,000 USB files (including non-multimedia files) shall be less than 3 seconds.~~

对于USB逻辑设备被物理移除的情况，请参考PIS-2023 音源总则。

See *PIS-2023 General Spec for Audio Source* for the case where the USB logical device is physically removed.

#### ~~逻辑设备-SD / Logical Device-SD~~

~~当有可以被识别的SD设备连接时，该SD作为一个逻辑设备，其所有可播放音频文件将被整合成播放列表被添加到对应的该设备分类中。系统应支持识别和显示多个SD设备并支持显示SD设备名，具体数量取决于有多少个合法的SD设备被连接和识别。~~

~~When a SD device that can be identified is connected, all playable audio files in the SD that acts as a logical device shall be integrated into a playlist and then added to the corresponding device category.~~

~~对于SD设备连接异常时，如无法连接外设，外设中的媒体类型、媒体协议不支持等，系统应提示用户。~~

~~When the connection of any SD device goes abnormal, for example, the connection of any external device fails or the media type/protocol in the external device is not supported, the system shall prompt the user.~~

~~一旦SD设备连接并被识别，系统在后台识别可播放的媒体文件并排序。SD文件1000个（包括非多媒体文件）识别和排序时间应小于3秒。~~

~~Once the SD device is connected and identified, the system shall identify and sort the playable media files in the background. The time taken to identify and sort 1,000 SD files (including non-multimedia files) shall be less than 3 seconds.~~

~~对于SD逻辑设备被物理移除的情况，请参考PIS-2023 音源总则~~

~~See~~ *~~PIS-2023 General Spec for Audio Source~~* ~~for the case where the SD logical device is physically removed.~~

#### ~~逻辑设备-MTP / Logical Device-MTP~~

~~当有可以被识别的MTP设备连接时，该MTP作为一个逻辑设备，其所有可播放音频文件将被整合成播放列表被添加到对应的该设备分类中。系统应支持识别和显示多个MTP设备并支持显示MTP设备名，具体数量取决于有多少个合法的MTP设备被连接和识别。~~

~~When a MTP storage device that can be identified is connected, all playable audio files in the MTP that acts as a logical device shall be integrated into a playlist and then added to the corresponding device category. The system shall support the identification and display of multiple MTP devices and support the display of each MTP device name: the specific number shall be determined by how many compatible MTP devices are connected and identified.~~

~~一旦MTP设备连接并被识别，系统在后台识别可播放的媒体文件并排序。MTP文件1000个（包括非多媒体文件）识别和排序时间应小于3秒。~~

~~Once the MTP device is connected and identified, the system shall identify and sort the playable media files in the background. The time taken to identify and sort 1,000 MTP files (including non-multimedia files) shall be less than 3 seconds.~~

~~对于MTP设备连接异常时，如无法连接外设，外设中的媒体类型、媒体协议不支持等，系统应提示用户。~~

~~When the connection of any MTP device goes abnormal, for example, the connection of any external device fails or the media type/protocol in the external device is not supported, the system shall prompt the user.~~

~~对于MTP逻辑设备被物理移除的情况，请参考PIS-2023 音源总则。~~

~~See~~ *~~PIS-2023 General Spec for Audio Source~~* ~~for the case where the MTP logical device is physically removed.~~

### 艺术家 / Artist

对于USB、~~SD、MTP~~这~~三~~ 2个“外部设备源”的可播放歌曲应支持按艺术家类别进行分类，形成艺术家分类列表。艺术家列表中每一个条目是一个艺术家名称或“未知艺术家”。

For the playable songs from the two “external device sources”, namely USB, SD, the system shall support the classification by artist to form a Categorical List of Artists. Every single entry in the Categorical List of Artists shall correspond to an artist name or “Unknown Artist”.

对于无法获取艺术家信息的音频文件，系统应将其归类到艺术家分类列表的“未知艺术家”分类中。

For the audio files with artist information unavailable, the system shall classify them into the category of “Unknown Artist” under the Categorical List of Artists.

在艺术家分类列表中，应按艺术家名顺序排列。如果“未知艺术家”分类存在，“未知艺术家”将被永远排列到列表的末尾（最后一个）。

In the Categorical List of Artists, the artists shall be arranged by name. If the category of “Unknown Artist” exists, the “Unknown Artist” shall always be queued to the end of the List (the last one).

“未知艺术家”代表一个播放列表。即选择该分类后将得到一个可播放歌曲的列表。其他艺术家分类项则代表了一个“专辑分类列表”，即选择该分类将得到该艺术家对应的专辑分类列表。

The “Unknown Artist” represents a playlist, that is, selecting this category, the user shall gain a list of playable songs. Any other categorical item of artist represents a “Categorical List of Albums”, that is, selecting this categorical item, the user shall gain a categorical list of albums corresponding to the artist.

### 专辑 / Album

对于USB、~~SD、MTP~~这~~三 2~~个“外部设备源”的可播放歌曲应支持按专辑类别进行分类，形成专辑列表。

For the playable songs from the two “external device sources”, namely USB ~~and SD~~, the system shall support the classification by album to form a List of Albums.

专辑分类列表中每一个条目都是一个专辑名称~~或“未知专辑”~~。

Every single entry in the List of Albums shall correspond to an album name or “Unknown Album”.

对于无法获取专辑信息的音频文件，对应专辑名称应显示文件当前所在文件夹名称。当系统根据专辑分类时，该音频文件应归类在所在文件夹名称分类中。~~系统应将其归类到专辑分类列表的“未知专辑”分类中。~~

For the audio files with album information unavailable, the system shall classify them into the category of “Unknown Album” under the List of Albums.

在专辑列表中，系统应按专辑名顺序排列。~~如果“未知专辑”分类存在，“未知专辑”将被永远排列到列表的末尾（最后一个）。~~

In the List of Albums, the albums shall be arranged by name. If the category of “Unknown Album” exists, the “Unknown Album” shall always be queued to the end of the List (the last one).

专辑分类列表中每一个条目都代表一个播放列表。即选择该分类后将得到一个可播放歌曲的列表。

Every single entry in the Categorical List of Albums represents a playlist, that is, selecting this entry, the user shall gain a list of playable songs.

### 流派 / Genre

对于USB、~~SD、MTP~~这~~三~~ 2个“外部设备源”的可播放歌曲应支持按流派类别进行分类，形成流派分类列表。~~艺术家~~流派列表中每一个条目是一个流派名称或“未知流派”。

For the playable songs from the two “external device sources”, namely USB and SD, the system shall support the classification by genre to form a Categorical List of Genres. Every single entry in the Categorical List of Artists shall correspond to a genre name or “Unknown Genre”.

对于无法获取流派信息的音频文件，系统应将其归类到流派分类列表的“未知流派”分类中。

For the audio files with genre information unavailable, the system shall classify them into the category of “Unknown Genre” under the Categorical List of Genres.

在流派分类列表中，系统应按流派名顺序排列。如果“未知流派”分类存在，“未知流派”将被永远排列到列表的末尾（最后一个）。

In the Categorical List of Genres, the genres shall be arranged by name. If the category of “Unknown Genre” exists, the “Unknown Genre” shall always be queued to the end of the List (the last one).

流派分类列表中每一个条目都代表一个播放列表。即选择该分类后将得到一个可播放歌曲的列表。

Every single entry in the Categorical List of Genres represents a playlist, that is, selecting this entry, the user shall gain a list of playable songs.

### 支持的外部设备源 / Supported External Device Source

#### USB大容量存储设备 / USB Storage Device

系统应支持USB大容量存储设备，兼容USB1.1，USB2.0，USB3.0标准。

The system should support USB storage device, compatible with USB1.1, USB2.0 and USB3.0 standards.

系统应支持识别FAT16/32、 Ext 2/3/4文件系统，如果USB设备没有以上文件系统，则系统不识别该USB设备。

The system should support the FAT16/32 and Ext 2/3/4 file system. If the USB device does not have the above file system, the system should not recognize the USB device.

系统应支持识别和显示多个USB设备并支持显示USB设备名，具体数量取决于有多少个合法的USB设备被连接和识别。

The system shall support the identification and display of multiple USB devices names, and the number depends on how many legitimate USB devices are connected and identified.

如果USB设备有多个分区，且分区不一样，则系统应先识别第一个所能支持的文件系统的分区。

If the USB device has multiple partitions and the partitions are different, the system should identify the partition of the first supported file system.

举例说明：

Case1：U盘分两个文件系统如下

* Partition 1: FAT16
* Partition 2: FAT32

则系统应识别和访问Partition 1 分区。

Case2：如果U盘分两个文件系统如下

* Partition 1: reiserfs
* Partition 2: FAT32

则系统应识别和访问Partition 2分区。

Example:

Case1: There are two file systems in the USB device as below:

* Partition 1: FAT16
* Partition 2: FAT32

Then the system should identify and access to Partition 1.

Case2: There are two file systems in the USB device as below:

* Partition 1: reiserfs
* Partition 2: FAT32

Then the system should identify and access to Partition 2.

当USB大容量存储设备被识别的分区中存在非隐藏、可播放的音频及视频文件时，系统应识别该USB大容量存储设备。注意，“非隐藏”文件被定义为该文件及该文件的所有父文件夹（包括根文件夹）的属性都为非隐藏。

When there are visable and playable audio and video files in the identified partition of the USB storage device, the system should recognize the USB mass storage device. Note that "visable" file is defined as the attribute of the file and all its parent folder (including root folder) is not hidden.

如果USB设备中没有可播放歌曲（含只有视频的情况），或所有可播放歌曲属性都为“隐藏”，则该设备连接至系统后，系统将识别该设备的内容为空。

If there is no playable songs (including cases that there are only videos) in the USB device, or if all playable songs are "hidden", when the device is connected to the system, the system should recognizes that the device's content is empty.

对于被识别的USB设备，系统仅识别那些被支持的“非隐藏”的音频及视频文件。（注：系统不支持隐藏Windows操作系统下的隐藏文件。）

For identified USB devices, the system only recognizes supported "unhidden" audio and video files. (Note: The system does not support to hide hidden files under the Windows operating system)

#### SD设备（Delete）

~~系统应支持识别FAT16/32、 Ext 2/3/4文件系统，如果SD设备没有以上文件系统，则系统不识别该SD设备。~~

~~The system should support the FAT16/32 and Ext 2/3/4 file system. If the SD device does not have the above file system, the system should not recognize the SD device.~~

~~系统应支持识别和显示多个SD设备并支持显示SD设备名，具体数量取决于有多少个合法的SD设备被连接和识别。~~

~~The system shall support the identification and display of multiple SD devices names, and the number depends on how many legitimate SD devices are connected and identified.~~

~~如果SD设备有多个分区，且分区不一样，则应先识别第一个所能支持的文件系统的分区。~~

~~If the SD device has multiple partitions and the partitions are different, the system should identify the partition of the first supported file system.~~

~~举例说明：~~

~~Case1：SD设备分两个文件系统如下~~

~~Partition 1: FAT16~~

~~Partition 2: FAT32~~

~~则系统应识别和访问Partition 1 分区。~~

~~Case2：如果SD设备分两个文件系统如下~~

~~Partition 1: reiserfs~~

~~Partition 2: FAT32~~

~~则系统应识别和访问Partition 2 分区。~~

~~Example:~~

~~Case1: There are two file systems in the SD device as below:~~

* ~~Partition 1: FAT16~~
* ~~Partition 2: FAT32~~

~~Then the system should identify and access to Partition 1.~~

~~Case2: There are two file systems in the SD device as below:~~

* ~~Partition 1: reiserfs~~
* ~~Partition 2: FAT32~~

~~Then the system should identify and access to Partition 2.~~

~~SD存储设备中被识别的分区中存在非隐藏、可播放的音频及视频文件，那么该SD存储设备将被系统识别。注意，“非隐藏”文件被定义为该文件及该文件的所有父文件夹（包括根文件夹）的属性都为非隐藏。~~

~~When there are visable and playable audio and video files in the identified partition of the SD storage device, the system should recognize the SD storage device. Note that "visable" file is defined as the attribute of the file and all its parent folder (including root folder) is not hidden.~~

~~如果SD设备中没有可播放歌曲（含只有视频的情况），或所有可播放歌曲属性都为“隐藏”，则该设备连接至系统后，系统将识别该设备的内容为空。~~

~~If there is no playable songs (including cases that there are only videos) in the SD device, or if all playable songs are "hidden", when the device is connected to the system, the system should recognizes that the device's content is empty.~~

~~对于被识别SD设备，系统仅识别及添加那些被支持的“非隐藏”的音频及视频文件。（注：系统不支持隐藏Windows操作系统下的隐藏文件。）~~

~~For identified SD devices, the system only recognizes supported "unhidden" audio and video files. (Note: The system does not support to hide hidden files under the Windows operating system)~~

### 支持的音视频文件格式 / Supported Audio And Video File Format

系统应支持Android平台主流的音视频文件格式并随Android升级，具体格式清单应由供

应商提供给泛亚Review后确认。

The system shall support the mainstream audio and video file format of Android platform and upgrade with Android. The specific format list shall be provided by the supplier to PATAC for review and confirmation.

## 播放控制 / Play Control

### 基本操作 / Basic Operations

系统支持用户对音视频进行播放、暂停、上一首、下一首、快进和快退、调整播放进度、查看播放列表、切换播放模式等基本操作。

The system supports such basic operations as Play, Pause, Previous, Next, Fast Forward & Fast Backward, Play Progress Adjusting, Playlist Viewing, and Play Mode Switching for audio/video files.

#### 播放/暂停 / Play/Pause

系统应提供用户暂停/播放音视频的能力。若当前的音视频已播放结束，则系统应根据当前播放模式继续播放下一个音视频节目。

The system shall enable the user to Pause/Play audio and video files. When the play of current audio/video file ends, the system shall continue to play the next audio/video file according to the current play mode.

当音视频处于暂停时，若用户操作调整播放进度、上/下一首、快进/快退后，系统应恢复播放该音视频。

When the media player is paused, the system should resume playing if the user operates the playback progress or press previous/next button.

#### 播放模式 / Play Mode

系统应支持3种播放模式：列表循环、随机播放、单曲循环。初始播放模式为列表循环~~由交互设计确定~~。

The system shall support 3 play modes: List Loop, Random Play, and Single Loop. The initial play mode is List Loop.

* 随机播放：系统在当前播放歌曲的歌曲列表中生成随机序列，并按此随机序列循环播放歌曲。当前歌曲列表内的所有歌曲都播放完一遍后，系统将按此随机序列循环再播放一遍。在随机播放时，如果用户选择播放“上/下一首”，则系统应根据随机序列中该歌曲的“上/下一首”播放。在该模式下，列表的循环范围为当前歌曲所在的歌曲列表。  
  Random Play: the system generates a random sequence in the list of currently played songs and plays these songs in this random sequence repeatedly. After all these songs in the current list of songs have been played once, the system shall play them once again in this random sequence. Under the mode of random play, if the user operates the key “Previous/Next”, the system shall play the “Previous/Next” song of the current one in this random sequence. Under this mode, the loop range of the list falls within the list of songs where the current song belongs.
* 列表循环：系统在当前播放歌曲所在的播放列表中循环播放。例如当前播放列表是全部歌曲列表，则循环播放全部歌曲。播放列表的排序规则请参考**PIS 2040** Chinese Sorting Specification。  
  List Loop: the system plays the songs repeatedly in the playlist where the currently played song belongs. For example, provided that the current playlist covers all lists of songs, the system shall play all songs repeatedly. See ***PIS 2040*** *Chinese Sorting Specification* for the sorting rules of playlist.
* 单曲循环：循环播放当前播放的歌曲或节目。  
  Single loop: play the currently played song or program repeatedly.

#### 上一首/下一首 / Previous/Next

系统应分别对应不同模式下上一首/下一首操作的响应：

The system shall respond to the operation of Previous/Next under different modes:

|  |  |  |
| --- | --- | --- |
|  | 上一首  Previous | 下一首  Next |
| 单曲循环  Single Loop | 按下上一首键，系统将跳至当前播放歌曲列表的上一首的开头~~重新~~播放  Once the key of Previous is pressed, the system shall jump to the previous song of the currently played song list for playing | 按下下一首键，系统应跳至当前播放歌曲列表的下一首的开头~~重新~~播放  Once the key of Next is pressed, the system shall jump to the next song of the currently played song list for playing |
| 随机播放  Random Play | 按下上一首键系统应切换至随机列表中的上一首。  Once the key of Previous is pressed, the system shall switch to the previous song in the random play list.  当上一首的操作已遍历完整个列表的random序列，用户若继续执行上一首操作，系统应循环该random序列，切换至上一首歌曲。  When the operation of Previous has traversed through the random sequence of the entire list, if the user continues to perform the operation of Previous, the system shall repeat this random sequence and switch to the previous song. | 按下下一首键，系统应切换至随机歌曲列表中的下一首歌曲播放。  Once the key of Next is pressed, the system shall switch to the next song in the random play list.  当下一首的操作遍历完整个列表的random序列，用户若继续执行下一首操作，系统应循环该random序列，切换至下一首歌曲。  When the operation of Next has traversed through the random sequence of the entire list, if the user continues to perform the operation of Next, the system shall repeat this random sequence and switch to the next song. |
| 列表循环  List Loop | 按下上一首键系统应按顺序序列切换至上一首播放。  Once the key of Previous is pressed, the system shall switch to the previous song in sequence.  当上一首的操作已遍历完当前歌曲列表的整个顺序列表，则系统应按循环该顺序列的方式切换上一首。该顺序列表的范围为当前播放歌曲所在的歌曲列表。  When the operation of Previous has traversed through the entire sequence of the current list of songs, the system shall switch to the previous song by the way to loop this sequential list. The range of this sequential list falls within the list of songs where the currently-played songs belong. | 按下下一首键，系统应按顺序序列切换至下一首歌曲播放。  Once the key of Next is pressed, the system shall switch to the next song in sequence.  当下一首的操作已遍历完当前歌曲列表的整个顺序列表，则系统应按循环该顺序列的方式切换下一首。该顺序列表的范围为当前播放歌曲所在的歌曲列表。  When the operation of Next has traversed through the entire sequence of the current list of songs, the system shall switch to the next song by the way to loop this sequential list. The range of this sequential list falls within the list of songs where the currently-played songs belong. |

若当前只有一个音视频文件时，若用户执行“上一首”“下一首”操作，系统将从当前音视频的开头处重新播放。

When there is only one audio/video file available currently, if the user performs the operation of “Previous”/“Next”, the system shall switch to the beginning of the current audio/video file for replaying.

对于已完成索引加载的本地USB/~~SD~~音频，上一首和下一首的声音播放响应时间小于300毫秒，声音和ID3信息同步。

For local USB/SD audio that has completed indexing, the audio playing time taken to respond to the operation of Previous/Next shall be less than 300 milliseconds while the sound shall be synchronized with the ID3 information.

#### 快进/快退 / Fast Forward/Fast Backward

##### 歌曲的快进/快退 / Fast Forward/Fast Backward of Song

对于在曲目内快进，有如下要求：

For the operation of Fast Forward within the track, the following requirements shall be met:

1） 长按此按钮，歌曲在播放过程中快进。  
Long press this key to fast forward the song during playing.

2） 每次快进10秒。显示屏上要显示播放时间。  
Fast forward by 10 seconds at a time. The display screen shall show the play time.

3） 如果长按时间达到3秒，则每次快进20秒。  
Fast forward by 20 seconds at a time when the long press lasts for 3 seconds.

4） 如果长按时间达到6秒，则每次快进30秒。  
Fast forward by 30 seconds at a time when the long press lasts for 6 seconds.

5） 松开按钮后歌曲回到正常速度播放。  
Release the key to resume the normal play speed of a song.

6） 快进时能放出声音。  
The song is played audibly during fast forwarding.

7） 快进到末尾了，跳到下一首歌，在下一首歌里不再快进。  
When the operation of Fast Forward is carried to the end of a song, the system shall skip to the next song and simultaneously disable the operation of Fast Forward therein.

8） 如果在下一首歌中继续按快进，则仍参照以上规则。  
To carry on the operation of Fast Forward in the next song, please refer to the above rules.

对于在曲目内快退，有如下要求：

For the operation of Fast Backward within the track, the following requirements shall be met:

1） 长按此按钮，歌曲在播放过程中快退。  
Long press this key to fast rewind a song during playing.

2） 每次快退10秒。显示屏上要显示播放时间。  
Fast rewind by 10 seconds at a time. The display screen shall show the play time.

3） 如果长按时间达到3秒，则每次快退20秒。  
Fast rewind by 20 seconds at a time when the long press lasts for 3 seconds.

4） 如果长按时间达到6秒，则每次快退30秒。  
Fast rewind by 30 seconds at a time when the long press lasts for 6 seconds.

5） 松开按钮后歌曲回到正常速度播放。  
Release the key to resume the normal play speed of a song.

6） 快退时能放出声音。  
The song is played audibly during fast rewinding.

7） 快退到歌曲开始时，停止快退，正常播放该歌曲。  
When being carried to the beginning of the song, the operation of Fast Backward shall be disabled while the song shall be played at normal speed.

##### 视频的快进/快退 / Fast Forward/Fast Backward of Video

系统支持当用户通过按键进入视频快进/快退状态，松开按键回到正常速度播放。视频快进/快退的逻辑与歌曲相同，参考3.2.1.4.1章节。

~~系统应有能力使视频的快进、快退在8倍速，16倍速，32倍速之间循环切换。~~

~~The system shall support switch of the Fast Forward/Fast Backward of video among 8x, 16x and 32x.~~

~~用户在执行快进操作后，视频将按对应的倍速快进。当快进至视频结尾处，系统将停止快进，进入下一个视频正常播放。在快进过程中，若用户执行了“快退”“上一首”“下一首”“播放”“暂停”“循环模式”“随机模式”等操作后，系统将停止快进并保持快进之前的播放状态。~~

~~After the user performs the operation of Fast Forward, the video play shall get accelerated accordingly by 8x/16x/32x. When the operation of Fast Forward is carried to the end of the video, the system shall disable the operation and proceed to the next video for playing at normal speed. During the fast forwarding, if the user performs such operation as “Fast Backward”, “Previous”, “Next”, “Play”, “Pause”, “Loop Mode” and “Random Mode”, the system shall disable the operation of Fast Forward and return to the play status before the operation of Fast Forward is performed.~~

~~用户在执行快退操作后，视频将按对应的倍速快退。当快退至视频开头处，系统将停止快退，正常播放该视频。在快退过程中，若用户执行了“快进”“上一首”“下一首”“播放”“暂停”“循环模式”“随机模式”等操作后，系统将停止快退并保持快退之前的播放状态。~~

~~After the user performs the operation of Fast Backward, the video play shall get rewound accordingly by 8x/16x/32x. When the operation of Fast Backward is carried to the beginning of the video, the system shall disable the operation and resume the video playing at normal speed. During the fast rewinding, if the user performs such operation as “Fast Forward”, “Previous”, “Next”, “Play”, “Pause”, “Loop Mode” and “Random Mode”, the system shall disable the operation of Fast Backward and return to the play status before the operation of Fast Backward is performed.~~

##### 快进/快退的声音播放要求 / Sound Play Requirements during Fast Forward/Fast Backward

快进和快退时无卡滞或爆音，响应时间小于300毫秒。

There shall be no clamping stagnation or sonic boom during Fast Forward/Fast Backward while the time taken to respond shall be less than 300 milliseconds.

##### 视频的倍速播放需求

用户能够通过娱乐系统对视频的播放倍速进行切换，支持视频在1X，1.5X，2X，0.5X之间循环切换。

特别地，当视频处于倍速播放状态时，用户通过操作进入快进（快退）状态时，视频应按照3.2.1.4.2章节快进（快退）；当退出快进（快退）状态时，则视频应恢复原有倍速的播放状态。

#### 调整播放进度 / Play Progress Adjusting

系统应支持用户快速调节到播放时长内的任意位置处开始播放。

The system shall enable the user to quickly adjust the play progress to any position within the play duration to start playing.

#### 播放列表 / Playlist

系统应支持查看当前播放列表，当前正在播放的歌曲在播放列表中需要高亮显示。

The system shall support viewing of the current playlist while the currently played song shall be highlighted in the playlist.

### 歌词显示 / Lyrics Display

若当前音源支持歌词显示，则系统在播放歌曲时应支持同步显示歌词。针对系统不支持识别的格式不需要显示歌词。

If the current audio source supports lyrics display, while playing the song, the system shall support the synchronous display of lyrics. There is no need to display lyrics for formats that the system does not support.

若当前音源支持歌词显示，则至少要支持识别lrc格式的歌词。

~~系统应支持显示/取消显示歌词。~~

~~The system shall support the operation to activate/deactivate Display of Lyrics.~~

### 硬按键操作响应 / Response to Hard Key Operation

系统应支持[mute]键(对应键值包括[SWC\_MUTE], [KEY\_CODE\_MUTE])、[next]键(对应键值[SWC\_NEXT])、[prev]键(对应键值[SWC\_PREVIOUS])、[volume +/-]键(对应简直包括[SWC\_VOL\_UP], [SWC\_VOL\_DOWN])、[seek\_up]键(对应键值[KEY\_CODE\_SEEK\_UP])、[seek\_down] 键(对应键值[KEY\_CODE\_SEEK\_DN])、[Fav\_Up]键、[Fav\_Down]键的按键操作。

本文档定义的是Media相关按键最大集对应的功能，由于不同项目支持的按键不同，VCS项目上需要支持的按键具体参考PIS2002。

The system shall support the operation on keys of [SWC\_MUTE], [KEY\_CODE\_MUTE], [SWC\_NEXT], [SWC\_PREVIOUS], [SWC\_VOL\_UP], [SWC\_VOL\_DOWN], [KEY\_CODE\_SEEK\_UP], [KEY\_CODE\_SEEK\_DN].

* 按下[mute]键，系统应保持媒体静音。再按下，系统应恢复媒体音量。  
  Once the [mute] key is pressed, the system shall mute the media. Once the key is pressed again, the system shall restore the media volume.
* 按下[next]键，系统应根据播放模式，播放当前播放列表的下一首。若当前播放的是电台，那么系统需要搜索并播放下一个强台。  
  Once the [next] key is pressed, the system shall play the next song in the current playlist according to the play mode. If you are currently playing a radio station, the system needs to search for and play the next strong station.
* 按下[prev]键，系统应根据播放模式，播放当前播放列表的上一首。若当前播放的是电台，那么系统需要搜索并播放上一个强台。  
  Once the [prev] key is pressed, the system shall play the previous song in the current playlist according to the play mode. If you are currently playing a radio station, the system needs to search for and play the previous strong station.
* ~~按下~~短按[Fav\_Up]键，~~对应系统功能同[prev]键。~~系统应根据播放模式播放当前播放列表的上一首。若当前播放的是电台，那么系统需要搜索并播放上一个强台。
* Short press [Fav\_Up] key to correspond to system function as [prev] key. The system should play the previous track of the current playlist according to the play mode. If you are currently playing a radio station, then the system needs to search and play the last strong station.
* ~~按下~~短按[Fav\_Dn]键，~~对应系统功能同[prev]键。~~系统应根据播放模式播放当前播放列表的下一首。若当前播放的是电台，那么系统需要搜索并播放下一个强台。
* Short press the [Fav\_Dn] key to correspond to the [prev] key. The system should play the next track of the current playlist according to the play mode. If the current station is playing, the system needs to search and play the next strong station.
* 长按[Fav\_Up]键，系统应判断当前音/视频播放状态，对其执行快进操作。特别地，针对tuner，切换收藏电台，不响应快进操作，即当系统存在收藏电台时，则按顺序切换上一个收藏电台；当系统无电台收藏时，不响应长按操作。针对BT Audio音源，不响应长按操作。
* Long press [Fav\_Up] button, the system should determine the current state of audio/video playback, to perform fast forward operation. In particular, for tuner, the favorite station is switched without responding to the fast forward operation, that is, when there are favorite stations in the system, the previous favorite station is switched in order; When the system has no radio collection, it does not respond to a long press operation. BT Audio does not respond to a long press operation.
* 长按[Fav\_Dn]键，系统应判断当前音/视频播放状态，对其执行快退操作。特别地，针对tuner，切换收藏电台，不响应快退操作，即当系统存在收藏电台时，则按顺序切换下一个收藏列表；当系统无电台收藏时，不响应长按操作。针对BT Audio音源，不响应长按操作。
* Long press [Fav\_Dn] button, the system should determine the current state of audio/video playback, the perform quick refund operation. In particular, for tuner, the favorite station is switched without responding to the quick back operation, that is, when there is a favorite station in the system, the next favorite list is switched in order; When the system has no radio collection, it does not respond to a long press operation. BT Audio does not respond to a long press operation.
* 按下[volume +/-]键，系统应增高或降低当前媒体音量。  
  Once the [volume +/-] key is pressed, the system shall increase or decrease the current media volume.
* 短按[seek\_up] 键，系统应根据播放模式，播放当前播放列表的上一首。

By pressing the [seek\_up] key, the system should play the previous track in the current playlist according to the play mode.

* 短按[seek\_down] 键，系统应根据播放模式，播放当前播放列表的下一首。

By pressing the [seek\_down] key, the system should play the next track in the current playlist according to the play mode.

* ~~按下~~长按[seek\_up]键，系统应判断当前音视频播放状态，对其执行快进操作；特别地，针对tuner，BT Audio音源不响应快进操作。  
  Once the [seek\_up] key is pressed, the system shall judge the play status of the current audio/video file and exert the operation of Fast Forward on it; In particular, the tuner source does not respond to fast-forward operations.
* ~~按下~~长按[seek\_down]键，系统应判断当前音视频播放状态，对其执行快退操作；特别地，针对tune，BT Audio音源不响应快退操作。  
  Once the [seek\_down] key is pressed, the system shall judge the play status of the current audio/video file and exert the operation of Fast Backward on it; In particular, the tuner source does not respond to fast rewind operations.

系统进入~~TOD~~免打扰模式后，不应响应上述硬按键操作。

Once entering No-disturb mode, the system shall not respond to any of the above hard key operations.

### 播放时媒体信息的显示 / Display of Media Information During Playing

系统应支持V1和V2(包括V2的3个版本)版的ID3信息。系统应通过ID3信息获取到歌曲的歌曲名，艺术家名，专辑名，专辑图片，流派信息等。

The system shall support the ID3 information of V1 and V2 (including 3 versions of V2). The system shall acquire the song name, artist name, album name, album picture, genre information, etc of the song through the ID3 information.

系统应自动过滤掉ID3信息中字符串首和串尾的空格键及类空格字符，如“\t”，“\n”，“\r”。

The system shall automatically filter out the space bar and space-like characters, such as "\t", "\n", "\r", in the head and tail of the character string in the ID3 information.

系统应支持显示当前媒体播放的时间和总播放时间。

The system shall support the display of play time and total play time of the current media.

对与当前音源，若其支持歌词显示，则系统在播放歌曲时应支持在车机端同步显示歌词。

For the current audio source, if it supports lyrics display, the system shall support the synchronous display of lyrics on the infotainment terminal.

## 本地视频 / Local Video

系统应支持播放USB、~~SD、MTP~~中的视频。

The system shall support the playing of videos from USB and SD.

### 视频播放及显示 / Video Play and Display

当车辆处于Park档时，系统应支持视频正常播放，视频画面和声音应保持同步。

When the vehicle is engaged to Park gear, the system shall support the normal playing of video and video pictures and sound should be kept in sync.

当车辆处于非Park档时，系统应禁止用户继续观看视频，并弹出警告画面，此时视频声音可继续播放。

When the vehicle is engaged to any non-Park gear, the system shall prohibit the user from continuing to watch the video and pop up a warning screen; in this case, the video sound shall still be played audibly.

视频播放时应支持显示视频总时长和已播放时长。

During the video playing, the system shall support display of the total duration and already-played duration of the video.

系统应支持不同的视频画面播放模式，包括~~具体由交互设计确定~~。

* 正常（Normal）: 将video画面同比例拉伸，再显示到屏幕上，允许显示区域有黑边存在。
* 全屏（Full）: 将video画面同比   拉伸，再显示到屏幕上，充满全屏，不允许有黑边存在。
* ~~缩放（Zoom）: 将video画面不同比例拉伸，再显示到屏幕上，充满整个显示区域即可。~~

The system shall support different video play modes, including：

* Normal：Stretch the video screen in the same proportion and then display it on the screen, allowing black edges to exist in the display area
* Full-screen (Full) : the video images from stretching, is displayed on the screen, Full screen, there is no black border.

系统应支持视频处于后台播放，并支持恢复到前台继续播放。

The system should support the video playing in the background, and support to restore to the foreground to continue playing.

### 视频的播放模式 / Video Play Mode

视频的播放模式只支持列表循环播放模式。~~应与音频的播放模式保持一致。例如：设置音乐播放模式为单曲循环，视频播放模式会同步变成单曲循环，设置视频的播放模式为列表循环，则音乐的播放模式也同步变成列表循环。~~

The video play mode should only support list loop.

# 系统需求 / System Requirements

## 账号相关 / Account

## 应用内设置 / In-app Setting

## 外部调用 / External Call

Media模块应支持对外提供当前激活的音源信息，包括该source当前播放的歌曲/视频信息（包括歌曲/视频名称，艺术家名，专辑名，专辑图片），播放状态，当前歌曲/视频播放的位置和总时长，当前歌曲/视频所在的播放列表及其分类，以及当前歌曲/视频的播放模式，歌词等信息。

The Media module shall support external provision of the information of currently activated audio/video source, including the information of the currently-played song from such Source (involving audio/video name, artist name, album name, and album picture), play status, play position, total duration, playlist of current audio/video and its classification, play mode, lyrics, etc. of current audio/video.

Media模块应对外提供Source音源切换的能力。

The Media module shall enable the Source switching externally.

~~Media模块应对外提供根据场景化的要求播放指定歌曲的能力。~~

Media模块应对外提供播放操作，包括播放、暂停、上一首、下一首、播放模式选择等。

The Media module shall provide the play operations externally, including Play, Pause, Previous, Next, Play Mode Selection, etc.

Media模块应支持用户通过VR语音助手对网络音源~~本地音乐、本地视频~~，按名称、作者、分类等方式进行检索，具体要求参见PIS-2030 VR Spec。

The Media module shall support the user to search, via VR voice assistant, the network songs by name, author, classification, etc. See *PIS-2030 VR Spec* for specific requirements.

Media模块应支持用户通过Global Search功能对USB音乐和网络音源按歌曲，歌手等方式进行搜索。系统播放搜索到的歌曲时，当前播放列表为“全部歌曲”。具体要求参考PIS2059 Global Search中的第4.2.3章节。

特别地，针对Global Search相关搜索功能~~，当USB损坏时应有对应异常提示~~。若断开USB则界面显示无结果，若已跳转后断开则播放默认FM音源。具体跳转逻辑以交互设计为准。

针对配备后排娱乐系统（RSE）的车辆，当后排隔断升起时，系统需要提示用户，并且此时用户无法对Media app内的功能进行操作。当系统接收到如下信号$1=Top时，标识后排隔断升起，用户无法对Media app操作。当系统接收该信号为其他值时，系统恢复正常，支持用户操作Media app。目前仅在CLEA架构上存在配置RSE的车辆。

|  |  |  |
| --- | --- | --- |
| Signal | Message | Conversion |
| Partition Wall Status | Partition\_Wall\_Status | $0=No Action; $1=Top; $2=Bottom; $3=Action |

The Media module should support users to Search USB music and network audio sources by songs and artists through the Global Search function. For specific requirements, please refer to Chapter 4.2.3 in PIS2059 Global Search.

In particular, for Global Search-related Search functions, there should be an exception prompt when USB is damaged. If you disconnect USB, the interface will show no results. If you disconnect after the jump, the default FM audio source will be played. The specific jump logic is subject to the interaction design.

## 数据维护 / Data Maintenance

当用户恢复出厂设置后，系统应清除所有本地多媒体数据，包括last source, media index信息等。

After the user resumes the Factory Settings, the system shall clear all local multimedia data, including last source, media index information, etc.

## 版本升级 / Version Upgrade

随系统升级

Upgrade with the system.

## 埋点需求 / Event Tracking Requirements

系统应通过记录用户收听喜好，用于生成用户画像，从而精准推荐用户偏好的音乐。具体请参考埋点需求文档PIS-2007.

The system shall record the user’s listening preferences to generate a user portrait, thereby accurately recommending music preferred by the user. See the document PIS-2007 on event tracking requirements for details.

## 相关CAN信号 / Related CAN Signals

## 相关标定项 / Related Calibration Items

# 附录 / Appendix

**Revision Log**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Date** | **Section** | **Description** | **Author** |
| 0.0.1.1 | 2021/1/13 | 3.2.1.4，3.2.3，3.3.1，4.3 | 1.变更视频画面播放模式为全屏播放  2.变更视频快进快退逻辑  3.增加视频倍速播放功能  4.变更[Fav\_Up/Dn]按键逻辑定义  5.增加458配置RSE车辆对Media app的影响需求 | Wang Ziqi |
| 0.0.1.0 | 2020/11/12 | 3.2.2，3.2.1.4，4.3 | 1.增加针对[Fav\_Up/Dn]键的功能描述。  2.补充说明BT audio不支持快进快退。  3.补充说明歌词格式  4.补充说明搜索歌曲播放逻辑 | Wang Ziqi |
| 0.0.0.9 | 2020/9/1 | 3.1.6.2，3.2.2，4.3 | 1.Remove SD card相关需求  2.补充对歌词显示的描述  3.删除VR对本地音乐的搜索需求  4.增加global search对media 的搜索要求  5.Update USB异常提示  6.增加歌曲排序规则 | Wang Ziqi |
| 0.0.0.8 | 2020/5/28 | 3.2.3 | 1.明确硬按键对应键值。  Specify the key value of the hard key.  2.变更硬按键定义，seek up/down短按切source，长按快进快退。  Change the definition of hard button, seek up/down short press source, long press fast forward and fast back. | Wang Ziqi |
| 0.0.0.7 | 2019/12/24 | 3.3.1  4.3  3.1.6  3.1.7  3.2.1.1  3.2.1.3 | 增加中英文对照翻译；  Add Chinese-English translation;  更新歌词显示说明；  Update lyrics display description;  补充视频后台播放说明；  Supplement video play background description;  补充视频信息外部接口说明；  Supplement video info interface description;  补充支持的外部设备源说明；  Supplement external device source support description;  补充支持的音视频文件格式说明；  Supplement audio/video format support description;  补充播放暂停的操作说明；  Supplement Play/Pause description;  修改单曲循环时上/下首的操作说明；  Modify description of Next/Prev in single loop;  修改视频播放模式；  Modify video play mode;  删除根据场景化的要求播放指定歌曲的能力；  Remove feature of scenario-based song playing requirements | Jin Zhiyi |
| 0.0.0.6 | 2019/11/2 | 3.3.1  1.2,2,3.1 | 补充视频画面比例需求；  Supplement video screen proportion requirements;  根据北美反馈，删除AUX支持；  Remove AUX support according to the feedback from GM; | Jin Zhiyi |
| 0.0.0.5 | 2019/9/16 | 3.1  3.1.1  3.1.2.3  3.1.3.  3.1.4  3.2.1.3  3.2.3  3.3  3.3.1 | 删除歌曲信息修正功能；  Delete song information correction feature;  根据北美反馈，删除MTP、ipod支持；  Remove MTP、ipod support according to the feedback from GM;  修改上/下首歌曲切换性能指标；  Modify Next/Prev behavior performance;  补充视频播放说明；  Supplement video play description;  补充初始播放模式说明；  Supplement initial play mode description;  修改TOD为免打扰模式；  Modify TOD as No-disturb mode; | Jin Zhiyi |
| 0.0.0.4 | 2019/7/10 | 3.2.1.3  3.3.2 | 删除上/下一首5s逻辑；  Delete the Previous/Next 5s logic;  补充本地视频播放模式；  Supplement the play mode of local video;  调整本地视频章节号；  Adjust the Article number of local video; | Jin Zhiyi |
| 0.0.0.3 | 2019/6/26 | 3.1  3.2.1  3.3.3  3.3.1.3  3.3.1.4 | 删除本地歌曲搜索；  Delete the search of local song;  补充视频播放恢复逻辑；  Supplement the video play resumption logic;  补充视频快进、快退的硬按键响应;  Supplement the hard-key response to Fast Forward/Fast Backward of video;  补充上一首/下一首定义；  Supplement the definition to Previous/Next;  补充歌曲快进/快退定义;  Supplement the definition to Fast Forward/Fast Backward of song; | Jin Zhiyi |
| 0.0.0.2 | 2019/5/17 | All | 删除在线音视频等功能，更新本地音乐功能  Delete such functions as Online Audio/Video, and update the functions of Local Music | Jin Zhiyi |
| 0.0.0.1 | 2018/5/17 | All | Initial | Jin Zhiyi |