NX81 Platform APIs Reference Guide

Version 2.3

For Android

Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 2

Class Documentation

2.1 android.hardware.IOManager Class Reference

The IOManager service is used to set date/time, enable/disable screen rotation,control device power and etc. Note that it's not a standard Android SDK and it is platform dependent. When you want to use the library (.jar) in your applications, you MUST use "compileOnly" modifier in build Gradle (Android studio) in order to use the lastest version of system library in the system.

Classes

- enum BATTERY_HEALTH
- enum SCREEN_OFF_TIMEOUT
- enum USB_FUNCTION

Public Member Functions

- void autoSetDateTime (boolean en)
- void disableHomeButtonOnNaviBar (boolean disable)
- void disableRecentButtonOnNaviBar (boolean disable)
- void disableSoftwareKeyboard (boolean disable)
- void disableSwipeDownGestureOnStatusBar (boolean disable)
- void disAllowSafeBoot (boolean disallow)
- boolean enableNFC (boolean enable)
- String getAndroidSecurtiyPatchLevel ()
- BATTERY_HEALTH getBatteryHealthLevel ()
- String getBluetoothMacAddress ()
- USB_FUNCTION getCurrentUsbFunctions ()
- USB_FUNCTION getDefaultUsbFunctions ()
- String getDeviceSerialNumber ()
- String getOSImageVersion ()
- String getPackageVersion (@NonNull String packageName)
- Locale getPrimaryLocale ()
- int getScreenBrightness ()
- SCREEN_OFF_TIMEOUT getScreenOffTimeout ()
- String getTime ()
- int getVersion ()

- String getZone ()
- String[ ] getZoneList ()
- void goToSleep ()
- int gpioRead (int gpio)
- boolean gpioWrite (int gpio, int value)
- boolean is24Hour ()
- boolean isADBDebuggingEnabled ()
- boolean isAutoRotation ()
- boolean isDateTimeAuto ()
- boolean isDevelopmentSettingsEnabled ()
- boolean isHomeButtonDisabled ()
- boolean isPackageInstalled (@NonNull String packageName)
- boolean isRecentButtonDisabled ()
- boolean isSafeBootAllowed ()
- boolean isSoftwareKeyboardDisabled ()
- boolean isSwipeDownGestureDisabled ()
- void powerOff (int ms)
- void sendKeyEvent (int keyCode)
- void sendKeyEventEx (@NonNull String str)
- boolean set24Hour (boolean is24Hour)
- boolean setADBDebuggingEnabled (boolean enable)
- boolean setDate (int year, int month, int day)
- boolean setDefaultLocale (@SuppressLint("UseIcu") @NonNull Locale locale)
- void setDefaultUsbFunctions (@NonNull USB_FUNCTION func)
- boolean setDevelopmentSettingsEnabled (boolean enable)
- void setRotation (boolean en)
- boolean setScreenBrightness (int level)
- boolean setScreenOffTimeout (@NonNull SCREEN_OFF_TIMEOUT scOffTimeout)
- boolean setSearchPackagesSuspended (boolean suspended)
- boolean setTime (int hourOfDay, int minute)
- boolean setZone (@NonNull String tzId)
- boolean setZone (int tzId)
- boolean updatePackage (@NonNull String filePath)
- boolean updatePackageAndRelaunch (@NonNull String filePath, @NonNull String packageName)
- void updateSystemImage (@NonNull String fullPath)
- void wakeUp ()
- int writeValueToFile (@NonNull String path, int value)

Static Public Member Functions

- static boolean getSystemProperties (@NonNull String key)
- static String getSystemPropertyString (@NonNull String key)

Static Public Attributes

- static final String **ACTION_APP_UPDATE_STATUS** = "android.app.upgrade.status"

  intent action used to broadcast package installation result
- static final String **ACTION_OS_UPDATE_FAILURE** = "android.os.update.failure"

  action used to broadcast error during calling system update API (from sdk v1.4)

- static final String **EXTRA_APP_INSTALL_RESULT** = "result"

  extra data to identify installation result (UPDATE_APK_SUCCESS or ...)

- static final String **EXTRA_ERROR_MESSAGE** = "errmsg"

  extra string to identify error message during calling system update API (from sdk v1.4)
- static final int **UPDATE_APK_FAILURE** = 2

  indicates failed to update new APK
- static final int **UPDATE_APK_FILEPATH_CONTENT_ERROR** = 1

  indicates APK file path not found or invalid APK found
- static final int **UPDATE_APK_SUCCESS** = 0

  indicates new APK is installed successfully

2.1.1 Detailed Description

The IOManager service is used to set date/time, enable/disable screen rotation,control device power and etc. Note that it's not a standard Android SDK and it is platform dependent. When you want to use the library (.jar) in your applications, you MUST use "compileOnly" modifier in build Gradle (Android studio) in order to use the lastest version of system library in the system.

Call Context.getSystemService("gpio") to get the service.

2.1.2 Member Function Documentation

2.1.2.1 autoSetDateTime()

```
void android.hardware.IOManager.autoSetDateTime (
            boolean en )
```

Enable/Disable to use network provided time

Note that the api also set time zone automatically.

Parameters

en	true: use network provided time; otherwise: auto time OFF

See also

isDateTimeAuto()

Since

v1.0

2.1.2.2 disableHomeButtonOnNaviBar()

```
void android.hardware.IOManager.disableHomeButtonOnNaviBar (
            boolean disable )
```

Disable HOME button (circle shape) on the navigation bar

Parameters

disable	true to disable the button; false: enable the button to goto home screen

See also

disableRecentButtonOnNaviBar()

isHomeButtonDisabled()

Since

v1.2

2.1.2.3 disableRecentButtonOnNaviBar()

```
void android.hardware.IOManager.disableRecentButtonOnNaviBar (
            boolean disable )
```

Disable RECENT button (square shape) on the navigation bar

Parameters

disable	true to disable the button; false: enable the button to use app switch function

See also

disableHomeButtonOnNaviBar()

isRecentButtonDisabled()

Since

v1.2

2.1.2.4 disableSoftwareKeyboard()

```
void android.hardware.IOManager.disableSoftwareKeyboard (
            boolean disable )
```

Disable Software Keyboard

Parameters

disable	true to disable Software Keyboard; otherwise Software Keyboard will not disabled

See also

isSoftwareKeyboardDisabled()

Since

v1.1

2.1.2.5 disableSwipeDownGestureOnStatusBar()

```
void android.hardware.IOManager.disableSwipeDownGestureOnStatusBar (
            boolean disable )
```

Disable swipe down gesture on the status bar

Parameters

disable	true to prevent user from showing the quick menu and notifications

Since

v1.2

2.1.2.6 disAllowSafeBoot()

```
void android.hardware.IOManager.disAllowSafeBoot (
            boolean disallow )
```

Disable/Enable safe mode

Parameters

disallow	true to disable safe boot mode, false to allow safe boot mode

See also

isSafeBootAllowed()

Since

v1.7

2.1.2.7 enableNFC()

```
boolean android.hardware.IOManager.enableNFC (
            boolean enable )
```

Turn on/off NFC

Parameters

enable	true to turn on NFC; false to turn off NFC

Returns

true if successfully; false: Nfc is not supported or failure

Since

v1.3

2.1.2.8 getAndroidSecurtiyPatchLevel()

```
String android.hardware.IOManager.getAndroidSecurtiyPatchLevel ( )
```

Get Android Securtiy Patch Level

Returns

a string identifies Android Securtiy Patch Level

Since

v1.0

2.1.2.9 getBatteryHealthLevel()

```
BATTERY_HEALTH android.hardware.IOManager.getBatteryHealthLevel ( )
```

Get Battery Health

Returns

BATTERY_HEALTH enum value is wrapped to BatteryManager.BATTERY_HEALTH_XXX

Since

v1.3

See also

BATTERY_HEALTH

2.1.2.10 getBluetoothMacAddress()

```
String android.hardware.IOManager.getBluetoothMacAddress ( )
```

Get Bluetooth MAC Address

Note that this a block call.

Returns

BT hardware address if successfully; otherwise return "Unavailable"

Since

v1.1

2.1.2.11 getCurrentUsbFunctions()

```
USB_FUNCTION android.hardware.IOManager.getCurrentUsbFunctions ( )
```

Get current USB function

Returns

USB_FUNCTION enum value: USB_FUNCTION_NONE, USB_FUNCTION_MTP, USB_FUNCTION_↩ TETHERING, USB_FUNCTION_MIDI and USB_FUNCTION_PTP

See also

getDefaultUsbFunctions()

setDefaultUsbFunctions()

Since

v1.7

2.1.2.12 getDefaultUsbFunctions()

```
USB_FUNCTION android.hardware.IOManager.getDefaultUsbFunctions ( )
```

Get default USB function

Returns

USB_FUNCTION enum value: USB_FUNCTION_NONE, USB_FUNCTION_MTP, USB_FUNCTION_↩ TETHERING, USB_FUNCTION_MIDI and USB_FUNCTION_PTP

See also

getCurrentUsbFunctions()

setDefaultUsbFunctions()

Since

v1.7

2.1.2.13 getDeviceSerialNumber()

```
String android.hardware.IOManager.getDeviceSerialNumber ( )
```

Gets the hardware serial number, if available.

Returns

The serial number if specified.

Since

v2.0

2.1.2.14 getOSImageVersion()

```
String android.hardware.IOManager.getOSImageVersion ( )
```

Get the version of OS Image

Returns

a string identifies OS image version

Since

v1.0

2.1.2.15 getPackageVersion()

```
String android.hardware.IOManager.getPackageVersion (
            @NonNull String packageName )
```

Get package version name

Note that it returns version name of an android package. The versionName is defined in application gradle file or AndroidMainfest.xml.

Parameters

packageName	android package name, must be non-null

Returns

versionName if success; Otherwise, return an empty string

Since

v1.4

2.1.2.16 getPrimaryLocale()

```
Locale android.hardware.IOManager.getPrimaryLocale ( )
```

Get primary Locale

Returns

a primary locale if successful; otherwise return null

See also

setDefaultLocale()

Since

v1.5

2.1.2.17 getScreenBrightness()

```
int android.hardware.IOManager.getScreenBrightness ( )
```

Get the screen brightness level

Returns

an integer identifies screen brightness level.

Since

v1.0

2.1.2.18 getScreenOffTimeout()

```
SCREEN_OFF_TIMEOUT android.hardware.IOManager.getScreenOffTimeout ( )
```

Get Screen Off Timeout

Returns

SCREEN_OFF_TIMEOUT enumuration value; return ERROR_GET_SCR_OFF_TIMEOUT if failed

Since

v1.4

2.1.2.19 getSystemProperties()

```
static boolean android.hardware.IOManager.getSystemProperties (
            @NonNull String key )  [static]
```

Check to see if the value of specified system property equals to "1"

Parameters

key	system property's name, must be non-null

Returns

true if value = 1; otherwise return false

2.1.2.20 getSystemPropertyString()

```
static String android.hardware.IOManager.getSystemPropertyString (
            @NonNull String key )  [static]
```

A helper function to get system property

Parameters

key	system property's name, must be non-null

Returns

a string if the property is found in system; otherwise return an empty string

Since

v1.0

2.1.2.21 getTime()

```
String android.hardware.IOManager.getTime ( )
```

Get the time setting

Returns

a String that is time setting.

Since

v1.0

2.1.2.22 getVersion()

```
int android.hardware.IOManager.getVersion ( )
```

Get the version of platform SDK

Returns

an integer value: only low-8 bits are valid (eg. **0x12** identifies **V1.2**, **0x20** identifies **V2.0**.)

Since

v1.0

2.1.2.23 getZone()

```
String android.hardware.IOManager.getZone ( )
```

Get the time zone setting

Returns

a String that is time zone setting.

Since

v1.0

2.1.2.24 getZoneList()

```
String[] android.hardware.IOManager.getZoneList ( )
```

Get the time zone list

Returns

a string array that is zone list.

Since

v1.0

2.1.2.25 goToSleep()

```
void android.hardware.IOManager.goToSleep ( )
```

Goto sleep

Call the api to make the device enter to sleep

See also

wakeUp()

Since

v1.0

2.1.2.26 gpioRead()

```
int android.hardware.IOManager.gpioRead (
            int gpio )
```

Read GPIO value

This is platform dependent APIs. Not all platforms supported.

Parameters

gpio	GPIO PIN

Returns

1/0 if success; -1 otherwise

Since

v2.1

2.1.2.27 gpioWrite()

```
boolean android.hardware.IOManager.gpioWrite (
            int gpio,
            int value )
```

Write GPIO value

This is platform dependent APIs. Not all platforms supported.

Table 2.12 NX81 Control Pin Description

GPIO PIN	Function
135	Control 3.3V Power Output on top connector
70	Control 5V Power Output on top connector
82	Control EXP_RST# pin on top connector (Note: 3.3V power MUST BE turn ON first; 0->HIGH, 1->LOW)

Parameters

gpio	GPIO PIN
value	either 1 or 0

Returns

true if successful; false otherwise

Since

v2.1

2.1.2.28 is24Hour()

```
boolean android.hardware.IOManager.is24Hour ( )
```

Get the time format is 24 hours or not.

See also

set24Hour

Returns

true: 24 hour; false: 12 hour

Since

v1.0

2.1.2.29 isADBDebuggingEnabled()

```
boolean android.hardware.IOManager.isADBDebuggingEnabled ( )
```

Is ADB Debugging Enabled

Returns

true if ADB enabled;otherwise return false

See also

isDevelopmentSettingsEnabled()
setADBDebuggingEnabled()

Since

v1.6

2.1.2.30 isAutoRotation()

```
boolean android.hardware.IOManager.isAutoRotation ( )
```

Get rotation settings

Returns

true if auto rotation is allowed; otherwise return false

See also

setRotation()

Since

v1.0

2.1.2.31 isDateTimeAuto()

```
boolean android.hardware.IOManager.isDateTimeAuto ( )
```

Is date/time used network provided time ?

Returns

true: Use network provided time; false: auto time OFF

See also

autoSetDateTime()

Since

v1.0

2.1.2.32 isDevelopmentSettingsEnabled()

```
boolean android.hardware.IOManager.isDevelopmentSettingsEnabled ( )
```

Is Developer Options enabled

Returns

true if Development Option enabled; false if disabled

See also

setDevelopmentSettingsEnabled()

setADBDebuggingEnabled()

Since

v1.6

2.1.2.33 isHomeButtonDisabled()

```
boolean android.hardware.IOManager.isHomeButtonDisabled ( )
```

Check to see if HOME button (circle shape) on the navigation bar is disabled

Returns

true if HOME button is disabled

See also

disableHomeButtonOnNaviBar()

Since

v1.2

2.1.2.34 isPackageInstalled()

```
boolean android.hardware.IOManager.isPackageInstalled (
            @NonNull String packageName )
```

Check to see if package is installed

Parameters

packageName	The full name of the desired package, must be non-null

Returns

true if package is found; otherwise return false

See also

getPackageArchiveVersionCode()

getPackageVersionCode()

Since

v1.4

2.1.2.35 isRecentButtonDisabled()

```
boolean android.hardware.IOManager.isRecentButtonDisabled ( )
```

Check to see if RECENT button (square shape) on the navigation bar is disabled

Returns

true if RECENT button is disabled

See also

disableRecentButtonOnNaviBar()

Since

v1.2

2.1.2.36 isSafeBootAllowed()

```
boolean android.hardware.IOManager.isSafeBootAllowed ( )
```

Check to see if safe boot mode is allowed

Returns

true if safe mode is allowed (no restrictions set by system and device owner), false if not allowed

See also

disAllowSafeBoot()

Since

v1.7

2.1.2.37 isSoftwareKeyboardDisabled()

```
boolean android.hardware.IOManager.isSoftwareKeyboardDisabled ( )
```

Get software keyboard disable status

Returns

true if software keyboard is disabled; otherwise return false

See also

disableSoftwareKeyboard()

Since

v1.1

2.1.2.38 isSwipeDownGestureDisabled()

```
boolean android.hardware.IOManager.isSwipeDownGestureDisabled ( )
```

Check to see if swiping down gesture on the status bar is disabled

Returns

true if swiping down gesture is disabled

See also

disableSwipeDownGestureOnStatusBar()

Since

v1.2

2.1.2.39 powerOff()

```
void android.hardware.IOManager.powerOff (
            int ms )
```

Power Off

Parameters

ms	delay time to power off

Since

v1.0

2.1.2.40 sendKeyEvent()

```
void android.hardware.IOManager.sendKeyEvent (
            int keyCode )
```

Raise a software key event

Parameters

keyCode	android virtual key code

See also

sendKeyEventEx()

Since

v1.0

2.1.2.41 sendKeyEventEx()

```
void android.hardware.IOManager.sendKeyEventEx (
            @NonNull String str )
```

Raise a software key event

Parameters

str	a string, must be non-null

See also

sendKeyEvent()

Since

v1.0

2.1.2.42 set24Hour()

```
boolean android.hardware.IOManager.set24Hour (
            boolean is24Hour )
```

Set the time format to 24 hours or not.

Returns

true: Set successfully; false: Setting failed

Since

v1.0

2.1.2.43 setADBDebuggingEnabled()

```
boolean android.hardware.IOManager.setADBDebuggingEnabled (
            boolean enable )
```

Enable/Disable ADB Debugging

Parameters

enable	true to enable; false to disable

Returns

false if any error occurred; otherwise return true

See also

isADBDebuggingEnabled()

setDevelopmentSettingsEnabled()

Since

v1.6

2.1.2.44 setDate()

```
boolean android.hardware.IOManager.setDate (
            int year,
            int month,
            int day )
```

Custom time (year/month/day).

See also

setTime

Returns

true: Set successfully; false: Setting failed

Since

v1.0

2.1.2.45 setDefaultLocale()

```
boolean android.hardware.IOManager.setDefaultLocale (
            @SuppressLint("UseIcu") @NonNull Locale locale )
```

Set system default language

Set default locale will cause the system default language is changed. Note that the locale passed the function MUST be one of Locale.getAvailableLocales(). The API is not a block call, but the system looks halted for a while during the Locale migration.

Parameters

locale	set the locale as primary locale (default locale), must be non-null

Returns

false if locale is invalid; true if successfull

See also

getPrimaryLocale()

Since

v1.5

2.1.2.46 setDefaultUsbFunctions()

```
void android.hardware.IOManager.setDefaultUsbFunctions (
            @NonNull USB_FUNCTION func )
```

Set default USB function

The default USB function that you attach the USB cable to your computer can be controlled by the API. If you change default USB function to USB_FUNCTION_NONE, the current USB function will not change until you plug-in the USB cable again.

Parameters

func	USB_FUNCTION enum value: USB_FUNCTION_NONE, USB_FUNCTION_MTP, USB_FUNCTION_TETHERING, USB_FUNCTION_MIDI and USB_FUNCTION_PTP. (must be non-null)

See also

getDefaultUsbFunctions()

getCurrentUsbFunctions()

Since

v1.7

2.1.2.47 setDevelopmentSettingsEnabled()

```
boolean android.hardware.IOManager.setDevelopmentSettingsEnabled (
            boolean enable )
```

Enable/Disable Developer Options

Parameters

enable	true to enable; false to disable

Returns

false if any error occurred; otherwise return true

See also

isDevelopmentSettingsEnabled()

setADBDebuggingEnabled()

Since

v1.6

2.1.2.48 setRotation()

```
void android.hardware.IOManager.setRotation (
            boolean en )
```

Rotate screen automatically or not

Parameters

en	true indicates auto rotation ; otherwise: Portrait only

See also

isAutoRotation()

Since

v1.0

2.1.2.49 setScreenBrightness()

```
boolean android.hardware.IOManager.setScreenBrightness (
            int level )
```

Set the screen brightness level

Parameters

level	an integer between 0 - 255

Returns

true: Set successfully; false: Setting failed

Since

v1.0

2.1.2.50 setScreenOffTimeout()

```
boolean android.hardware.IOManager.setScreenOffTimeout (
            @NonNull SCREEN_OFF_TIMEOUT scOffTimeout )
```

Set Screen Off Timeout

Parameters

scOffTimeout	screen off timeout (defined in SCREEN_OFF_TIMEOUT), must be non-null

Returns

true if successfully; otherwise return false

Since

v1.4

2.1.2.51 setSearchPackagesSuspended()

```
boolean android.hardware.IOManager.setSearchPackagesSuspended (
            boolean suspended )
```

Enable/Disable search settings feature

Parameters

suspended	true to disable search settings feature, false to enable search settings feature

Returns

false if any error occurred; otherwise return true

Since

v1.7

2.1.2.52 setTime()

```
boolean android.hardware.IOManager.setTime (
            int hourOfDay,
            int minute )
```

Set time (hours/minutes)

See also

setDate

setZone

is24Hour

set24Hour

Returns

true: Set successfully; false: Setting failed

Since

v1.0

2.1.2.53 setZone() [1/2]

```
boolean android.hardware.IOManager.setZone (
            @NonNull String tzId )
```

Set time zone

You may use the API with time zone list API.

Parameters

tzId	: please input the getZoneList String ID or order number, must be non-null

See also

getZoneList

Returns

true: Set successfully; false: Setting failed

Since

v1.0

2.1.2.54 setZone() [2/2]

```
boolean android.hardware.IOManager.setZone (
            int tzId )
```

Set time zone

You may use the API with time zone list API.

Parameters

tz↩ Id	: please input the getZoneList String ID or order number.

See also

getZoneList

Returns

true: Set successfully; false: Setting failed

Since

v1.0

2.1.2.55 updatePackage()

```
boolean android.hardware.IOManager.updatePackage (
            @NonNull String filePath )
```

Silent install/update android package

Parameters

filePath	The path to the archive file, must be non-null

Returns

false if file not found or package could not be successfully parsed. Return true immediately if new package proceeds to install. You are able to register a broadcast ACTION_APP_UPDATE_STATUS to get package installation result (i.e. get intent extra "EXTRA_APP_INSTALL_RESULT").

REMARK: Android package cannot be downgraded ! (i.e. the versionCode of the new package MUST greater than or equal to the current version of pacakge installed on the system) Some pepople always use version number (versionCode= 1) and use different version name to identify app version. In the case, they can revert any older versions of package directly without uninstalling the previous version first. However, if these packages use same versionCode, an older version of application may install accidentally.

See also

ACTION_APP_UPDATE_STATUS

EXTRA_APP_INSTALL_RESULT

isPackageInstalled()

Since

v1.4

2.1.2.56 updatePackageAndRelaunch()

```
boolean android.hardware.IOManager.updatePackageAndRelaunch (
            @NonNull String filePath,
            @NonNull String packageName )
```

Update android package and Restart it

Parameters

filePath	The path to the archive file, must be non-null
packageName	the pkg name you want to lauch, must be non-null

Returns

false if file not found or package could not be successfully parsed. Return true immediately if new package proceeds to install. You are able to register a broadcast ACTION_APP_UPDATE_STATUS to get package installation result (i.e. get intent extra "EXTRA_APP_INSTALL_RESULT").

Update package and re-launch it when the package is installed successfully.

See also

ACTION_APP_UPDATE_STATUS

EXTRA_APP_INSTALL_RESULT

updatePackage()

isPackageInstalled()

Since

v1.8

2.1.2.57 updateSystemImage()

```
void android.hardware.IOManager.updateSystemImage (
            @NonNull String fullPath )
```

Execute a system update process

If everything is ok, thus the system will reboot to proceed the system image. Otherwise, you will receive ACTION↩ _OS_UPDATE_FAILURE broadcast if you have registered it.

REMARK: We cannot guarantee next boot time the system update process will be executed successfully. Maybe your new system image is corrupted or the version of OS image you use is not right for the current OS.

Before and after updating the OS, please check os version and use correct OS version. Beforing calling the API, you MUST prepare the system image in internal storage first (for example. "/sdcard/update.zip").

Parameters

fullPath	The path to the system image (file location in internal storage), must be non-null

See also

getOSImageVersion()

ACTION_OS_UPDATE_FAILURE

Since

v1.1

2.1.2.58 wakeUp()

```
void android.hardware.IOManager.wakeUp ( )
```

Wake up the device

In general, you should call the API in a JobService, especailly the device has entered sleep state.

See also

goToSleep()

Since

v1.0

2.1.2.59 writeValueToFile()

```
int android.hardware.IOManager.writeValueToFile (
            @NonNull String path,
            int value )
```

A helper function to write an integer value to a file

Parameters

path	filepath, must be non-null
value	a value of integer

Returns

0 if success; otherwise if error

2.2 android.hardware.IOManager.BATTERY_HEALTH Enum Reference

Static Public Member Functions

- **[static initializer]**

Public Attributes

- **BATTERY_HEALTH_COLD** =(BatteryManager.BATTERY_HEALTH_COLD)
- **BATTERY_HEALTH_DEAD** =(BatteryManager.BATTERY_HEALTH_DEAD)
- **BATTERY_HEALTH_GOOD** =(BatteryManager.BATTERY_HEALTH_GOOD)
- **BATTERY_HEALTH_OVER_VOLTAGE** =(BatteryManager.BATTERY_HEALTH_OVER_VOLTAGE)
- **BATTERY_HEALTH_OVERHEAT** =(BatteryManager.BATTERY_HEALTH_OVERHEAT)
- **BATTERY_HEALTH_UNKNOWN** =(BatteryManager.BATTERY_HEALTH_UNKNOWN)
- **BATTERY_HEALTH_UNSPECIFIED_FAILURE** =(BatteryManager.BATTERY_HEALTH_UNSPECIFIED_↩ FAILURE)

2.2.1 Detailed Description

Battery health enum values

2.3 android.hardware.IOManager.SCREEN_OFF_TIMEOUT Enum Reference

Public Attributes

- **ERROR_GET_SCR_OFF_TIMEOUT**
  Error on getting screen off timeout.
- **ERROR_UNKNOWN_TIMEOUT_VALUE**
  Unknown Timeout value.
- **SCR_OFF_10_MINS**
  After 10 minutes of inactivity.
- **SCR_OFF_15S**
  After 15 seconds of inactivity.
- **SCR_OFF_1_MINS**
  After 1 minutes of inactivity.
- **SCR_OFF_2_MINS**
  After 2 minutes of inactivity.
- **SCR_OFF_30_MINS**
  After 30 minutes of inactivity.
- **SCR_OFF_30S**
  After 30 seconds of inactivity.
- **SCR_OFF_5_MINS**
  After 5 minutes of inactivity.
- **SCR_OFF_NEVER**
  Never Sleep.

2.3.1 Detailed Description

Screen off timeout enum values

2.4 android.hardware.IOManager.USB_FUNCTION Enum Reference

Static Public Member Functions

- **[static initializer]**

Public Attributes

- **USB_FUNCTION_MIDI** =(3)
  MIDI USB function.
- **USB_FUNCTION_MTP** =(1)
  FILE TRANSFER usb function.
- **USB_FUNCTION_NONE** =(0)
  No data transfer.
- **USB_FUNCTION_PTP** =(4)
  PTP USB function.
- **USB_FUNCTION_TETHERING** =(2)
  USB Tethering function.

2.4.1 Detailed Description

USB default options enum values

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