Newland

SCANNING MADE SIMPLE

MT90 Orca

mobile computer

SDK Handbook

Revision History

Version	Description	Date
V1.0.0	Initial release.	January 16, 2018

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About This Manual

This manual is applicable to NLS-MT90 portable data collectors (hereinafter referred to as **“the MT90”** or **“the terminal”**).

Development Environment

All APIs are built based on standard Android broadcast mechanism, so there is no need for additional SDKs. The MT90 application development environment is the same as Android application development environment.

Obtain Product Model Number

To get the product model number, use android.os.Build.MODEL, for example, MT90.

Barcode Scanner

Scan Barcode

To activate the MT90 to scan barcode, application should send the following broadcast to the system.

- Broadcast: nlscan.action.SCANNER_TRIG

  To trigger the scan engine.

- Extra scan timeout parameter: SCAN_TIMEOUT (value: int, 1-9; default value: 3; unit: second)

  To set scan timeout, i.e. the maximum time a scan attempt can last.

- Extra scan type parameter: SCAN_TYPE (value: 1 or 2; default value: 1)

  To set scan type: Value = 1, read one barcode during a scan attempt

  Value = 2, read two barcodes during a scan attempt (This feature is **NOT** available)

Example 1:

```
Intent intent = new Intent ("nlscan.action.SCANNER_TRIG");
mContext.sendBroadcast(intent);
```

Example 2:

```
Intent intent = new Intent ("nlscan.action.SCANNER_TRIG");
intent.putExtra("SCAN_TIMEOUT", 4);// SCAN_TIMEOUT value: int, 1-9; unit: second
intent.putExtra("SCAN_TYPE ", 2);// SCAN_TYPE: read two barcodes during a scan attempt
mContext.sendBroadcast(intent);
```

Note: When a scan and decode session is in progress, sending the broadcast above will stop the ongoing session. When scanning barcode by pressing the Scan key, it is processed at the bottom layer, thus application does not need to listen for Scan KeyPress event or send the broadcast.

Get Barcode Data

There are three ways to get barcode data:

1. Fill in EditText directly: Output scanned data at the current cursor position in EditText.

2. Simulate keystroke: Output scanned data to keyboard buffer to simulate keyboard input and get the data at the current cursor position in TextBox.

3. Output via API: Application acquires scanned data by registering a broadcast receiver and listening for specific broadcast intents.

- Broadcast: nlscan.action.SCANNER_RESULT
  To get barcode data.
- Extra scan result 1 parameter: SCAN_BARCODE1
  To get the data of barcode 1.
  Type: String
- Extra scan result 2 parameter: SCAN_BARCODE2
  To get the data of barcode 2.
  Type: String
- Extra symbology ID number parameter: **SCAN_BARCODE_TYPE**
  Type: int (-1 indicates failure to get symbology ID Number)
  To get the ID number of the barcode scanned (Refer to the “Symbology ID Number” table in Appendix to get the barcode type).
- Extra scan state parameter: SCAN_STATE (value: fail or ok)
  To get the status of scan operation: Value = fail, operation failed
  Value = ok, operation succeeded
  Type: String

Example:

Register broadcast receiver:

```
mFilter= newIntentFilter("nlscan.action.SCANNER_RESULT");
mContext.registerReceiver(mReceiver, mFilter);
```

Unregister broadcast receiver:

```
mContext.unregisterReceiver(mReceiver);
```

Get barcode data:

```
mReceiver= newBroadcastReceiver() {
        @Override
publicvoidonReceive(Context context, Intent intent) {
            final String scanResult_1=intent.getStringExtra("SCAN_BARCODE1");
            final String scanResult_2=intent.getStringExtra("SCAN_BARCODE2");
            final int barcodeType = intent.getIntExtra("SCAN_BARCODE_TYPE", -1); // -1:unknown
            final String scanStatus=intent.getStringExtra("SCAN_STATE");
                if("ok".equals(scanStatus)){
                //Success
                }else{
                //Failure, e.g. operation timed out
                }
    }
    };
```

Stop Scanning

Use the broadcast **nlscan.action.STOP_SCAN** to stop an ongoing decode session.

Example:

```
Intent stopIntent = new Intent(“nlscan.action.STOP_SCAN”);
mContext.sendBroadcast(stopIntent);
```

Change the Scanner Settings

Application can set one or more scanner parameters, such as enable/disable scanner, by sending to the system the broadcast **ACTION_BAR_SCANCFG** which can contain up to 3 parameters.

Parameter	Type	Description (* indicates default)
EXTRA_SCAN_POWER	INT	Value = 0 Disable scanner = 1 Enable scanner* Note: When scanner is enabled, it will take some time to initialize during which all scan requests will be ignored.
EXTRA_TRIG_MODE	INT	Value = 0 Level mode = 1 Continuous mode

		= 2 Pulse mode*
EXTRA_SCAN_MODE	INT	Value = 1 Fill in EditText directly* = 2 Simulate keystroke = 3 Output via API
EXTRA_SCAN_AUTOENT	INT	Value = 0 Do not add a line feed* = 1 Add a line feed
EXTRA_SCAN_NOTY_SND	INT	Value = 0 Sound notification off = 1 Sound notification on*
EXTRA_SCAN_NOTY_VIB	INT	Value = 0 Vibration notification off* = 1 Vibration notification on
EXTRA_SCAN_NOTY_LED	INT	Value = 0 LED notification off = 1 LED notification on*

Example 1: Disable scanner

```
Intent intent = new Intent ("ACTION_BAR_SCANCFG");
intent.putExtra("EXTRA_SCAN_POWER", 0);
mContext.sendBroadcast(intent);
```

Example 2: Output via API, add a line feed

```
Intent intent = new Intent ("ACTION_BAR_SCANCFG");
intent.putExtra("EXTRA_SCAN_MODE", 3);
intent.putExtra("EXTRA_SCAN_AUTOENT", 1);
mContext.sendBroadcast(intent);
```

Reserved Keys

The MT90 provides one reserved key F6. Application can define its function as per actual needs.

Example 1: Process the KeyDown event of reserved key

```
public boolean onKeyDown(int keyCode, KeyEvent event) {
switch (keyCode)
        {
case KeyEvent.KEYCODE_F6:
showInfo("F6 KeyDown\n");
break;
        }
return super. onKeyDown(keyCode,event);
}
```

Example 2: Process the KeyUp event of reserved key

```
public boolean onKeyUp(int keyCode, KeyEvent event) {
switch (keyCode)
        {
case KeyEvent.KEYCODE_F6:
showInfo("F6 KeyUp\n");
break;
        }
return super.onKeyDown(keyCode, event);
    }
```

Other APIs

Expand the Status Bar

To set the status bar to be expandable/not expandable, application should send to the system the broadcast **nlscan.action.STATUSBAR_SWITCH_STATE** with the value of Extra parameter ENABLE set to be true/false.

Example: Set the status bar to be not expandable

```
Intent intent = new Intent("nlscan.action.STATUSBAR_SWITCH_STATE");
intent.putExtra("ENABLE", false);
context.sendBroadcast(intent);
```

Press the Home Key to Switch to Desktop

To enable/disable the feature of switching to desktop by pressing the Home key, application should send to the system the broadcast **nlscan.action.HOMEKEY_SWITCH_STATE** with the value of Extra parameter ENABLE set to be true/false.

Example: Disable the feature of switching to desktop by pressing the Home key

```
Intent intent = new Intent("nlscan.action.HOMEKEY_SWITCH_STATE");
intent.putExtra("ENABLE", false);
context.sendBroadcast(intent);
```

Set the System Time

To set the system time, application should send to the system the broadcast **nlscan.action.SET_TIME** with the value of Extra parameter TIME_MS set to be a string represented as the number of millisecond.

Example:

```
public long getTimeMillis(){
    Calendar c = Calendar.getInstance();
    c.set(2016, 0, 1, 0,0,0);
    return c.getTimeInMillis();
}
Intent it = new Intent("nlscan.action.SET_TIME");
long mills = getTimeMillis();
it.putExtra("TIME_MS", String.valueOf(mills));
mContext.sendBroadcast(it);
```

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