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Warranty

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NOTE: Opening the CellXtract faceplate to access the embedded PC will void the warranty.

NOTE: "Hacking" the CellXtract application to access the embedded PC's Operating System will also void the warranty. Logicube can reload the CellXtract application for a substantial fee.

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1. Introduction to CellXtract and CellXtract-TNT

Introduction



Congratulations on your purchase of CellXtract or CellXtract-TNT. This manual covers the features and operation of both models. Information on the specific capabilities and operation of CellXtract-TNT for Chinese-chip mobile devices can be found in chapter 7.

CellXtract

CellXtract is a self-contained, rugged device that has been designed specifically for harsh field environments. The CellXtract is a comprehensive data extraction tool and is a standalone device with no external computer required to immediately view data extracted from mobile devices. CellXtract provides data extractions from cell phones, smartphones, Satellite Navigation Devices, PDAs, SIM cards and flash based media. Data can be extracted from devices using three connection methods; data cables, infrared ports or Bluetooth radio frequency communications. The target devices may connect to CellXtract by one, two or all three of these methods.

The CellXtract software also helps with easy identification of the target device and informs the user of available connection methods. The user can select the preferred connection method.

CellXtract-TNT

The CellXtract-TNT model delivers all of the features of CellXtract plus the ability to extract data from thousands of Chinese “knock-off” and legitimate brand mobile devices. The CellXtract-TNT provides a full physical extraction of the memory chips on Chinese-chip cell phones, a full physical image (binary file) of the memory chip

is extracted. The binary file is decoded to show user information including passwords, SMS, contacts, call logs and deleted data. The CellXtract-TNT supports data extraction from the major chipset manufacturers including MediaTEK, Infineon, Spreadtrum, MSTAR, and Cool Sand.

Recommended use of CellXtract/CellXtract-TNT

CellXtract/CellXtract-TNT is a forensically sound mobile device data extraction tool, able to obtain real time intelligence from a mobile device at a scene. It is designed to extract as much information as possible in a forensic manner and disclose any other information which might be present but has not been extracted. It is aimed at getting information immediately from the mobile device to help move forward an investigation. CellXtract and CellXtract-TNT have been designed with a full audit trail allowing users to demonstrate when actions were taken. The examination is write-protected to ensure that information cannot be written to the handset or media card.

CellXtract and CellXtract-TNT have been tested on a large range of devices and its capabilities are displayed during the data extraction process. The tests have verified that CellXtract and CellXtract-TNT extracts data reliably. The User should consult this information to ensure that the captured data meets their needs

Users should consider using CellXtract and CellXtract-TNT in an appropriate environment to prevent any messages or calls being received which will change the data on the handset. This can also be considered as interception. The user should consult with their local authorities for recommendations on legal implication of intercepting data in the context of their examinations.

Current Software Version of CellXtract and CellXtract-TNT

Software updates are available by subscription only. Software updates ensure that your CellXtract/CellXtract-TNT provides compatibility with the latest mobile devices on the market. Please contact Logicube Technical Support to verify if you have a valid subscription.

New software features are listed in the CellXtract/CellXtract-TNT activity log every time it is started.

CellXtract/CellXtract-TNT Extraction Notes

There are several changes to handsets that will result from examination by CellXtract or CellXtract-TNT.

If an unread SMS is opened during the examination process, the unread SMS status will change to “read” on the phone or SIM card. However CellXtract and CellXtract-TNT will report the original status of the message.

CellXtract and CellXtract-TNT operation will remove the missed call message or symbol from the handset.

Bluetooth acquisitions will leave the extracting device name in the “trusted devices” list in the handset Bluetooth menu.

The extraction of SMS messages can be skipped thus preventing these changes to the data on the handset.

Features

- Data extraction from mobile devices with no external computer required – view data in real-time, on scene
- Portable and light-weight with a rugged chassis specifically designed for the harshest field environments
- Intuitive and easy to use even for non-technical personnel
- Supports over 2,000 mobile devices including Apple iPhone, Android, BlackBerry, Smart Phones, Palm, Symbian, Windows Mobile and GPS devices. Apple and Android Tablets will be supported in an upcoming release.
- Comprehensive data extraction includes the acquisition of missed calls, dialed calls, received calls, phonebook, SMS messages, deleted SMS messages from SIM, Multimedia (MMS) messages, calendar, memos, to-do lists, photos, video, audio and other files
- Designed specifically for military organizations. The battery-powered CellXtract and CellXtract-TNT are light weight at 4 lbs, provide a ruggedized chassis, and small footprint (8"x8.5"x3") making it ideal for harsh field environments. Meets IP54 (international Protection Code) specification for dust and splashing water and a subset of MIL-STD-810F specification for Altitude/Temperature/Humidity/Rain/Sand/Dust/Shock/Vibration
- A user-friendly color touch screen and interface make CellXtract/CellXtract-TNT easy to navigate for novice users. Easy to read reports are available on demand. Report structure is specifically designed for forensic investigators. Provides reports in SQLite3 and converted to HTML for easy viewing.
- Search capture reports by entering an individual keyword using the touchscreen keyboard on the CellXtract/CellXtract-TNT or pre-load a list of search keywords.
- Extracted data is unaltered using write protection, MD5 hash for data verification, and time-stamped audit trail
- Bluetooth and IrDA capability
- Built-in SIM Card/SD Card reader
- SIM ID Cloning feature that allows you to extract phone data when the SIM Card is PIN locked or when the SIM is not available
- Memory Card Reader is included to support extraction from other types of flash memory cards
- NIC (Network Isolation Card) isolates the suspect phone from the cellular network making it impossible to receive SMS messages or calls
- Physical Acquisition currently available for the CellXtract-TNT for phones with the Chinese chipsets (Infineon, Mediatek and Spreadtrum, MSTAR, and Cool Sand.
- An internal rechargeable battery is easily recharged using an AC power source or DC power (12v and optional 24v) connectivity. These power options ensure that the CellXtract/CellXtract-TNT is

available for use anytime, anywhere, including in military vehicles such as Humvees

- Supports all major network technologies including CDMA, GSM, iDEN, TDMA
- Customized data downloads. Users can specify which parts of a phone's memory are extracted
- Phone cables included for all supported phones in a convenient carrying case
- CellXtract/CellXtract-TNT will display Geo-Tag data for images that have been captured using a device with a GPS receiver
- Device selection software allows users to quickly identify by brand, model, photo, and/or dimensions
- Capture Skype call logs and contacts
- Frequent software updates (subscription required) ensures compatibility with new phones as they are introduced
- Optional physical extraction on Android based phones (Android 1.6 – 2.3.4) extracting, dumping, and decoding data from contacts, call logs, SMS, emails, and user files.
- CellXtract-TNT only: Full physical extraction of the memory chips on Chinese-chip cell phones. A full physical image (binary file) of the memory chip is extracted
- CellXtract-TNT only: Support for thousands of mobile devices that use Chinese-manufactured chipsets. The four supported chipsets, Infineon, Spreadtrum, Mediatek and MSTAR, and Cool Sand represent over 97% of Chinese-chip phones on the market.
- CellXtract-TNT only: Auto pin definition identifies data and power configurations
- CellXtract-TNT only: Extracts, decodes and reports deleted data
- CellXtract-TNT only: User Password extraction supported for all Chinese chipsets
- CellXtract-TNT only: Data decoding on Chinese chipset phones. After acquisition of the memory chip's physical image, the binary file is decoded to show user information including passwords, SMS, contacts and call logs. Supports decoding various languages and character sets including Arabic and Chinese and Southeast Asian languages and data storage formats
- CellXtract-TNT only: Binary file export. Binary file can be saved to an external storage device and then imported to third-party tools for further manual or automatic decoding.
- CellXtract-TNT only: Password extracted immediately and provided to examiner during extraction process.
- CellXtract-TNT only: Extracts from MTK, SPD, INF features phones and MTK Android.
- CellXtract-TNT only: Decodes file system, SMS, contacts call logs, pin codes and IMEIs.
- CellXtract-TNT only: Decodes deleted data.
- CellXtract-TNT only: File download support for MTK chipset.

Using this guide

This user guide is made up of 10 sections:

Introduction
Getting Started
Capturing Data
Analyzing Captured Data
Other Features
CellXtract-TNT
Glossary and Troubleshooting Guide
Supported Handsets
Index
CellXtract Software License

System description

The CellXtract system is packed in a carrying case. Inside, you will find the following components:

- AC Adapter
- A complete set of adapters for all phones supported
- Cable storage carrying bag
- Memory card reader
- A USB thumb drive
- 3 NICs (Network Isolation Cards) to be used for network isolation and SIM ID cloning
- Two Micro SIM card adapters
- One micro SD card with SD card adapter
- One USB hub
- One Velcro tie
- A radio frequency foil shielding (Faraday) bag
- 12V car charger
- CD with CellXtract software and user's manual

NOTE: *Opening the CellXtract to access the embedded PC will void the warranty. "Hacking" the CellXtract application to access the embedded PC's Operating System will also void the warranty. Logicube can reload the CellXtract application for a substantial fee.*

The CellXtract-TNT system is packed in a carrying case. Inside, you will find the following components:

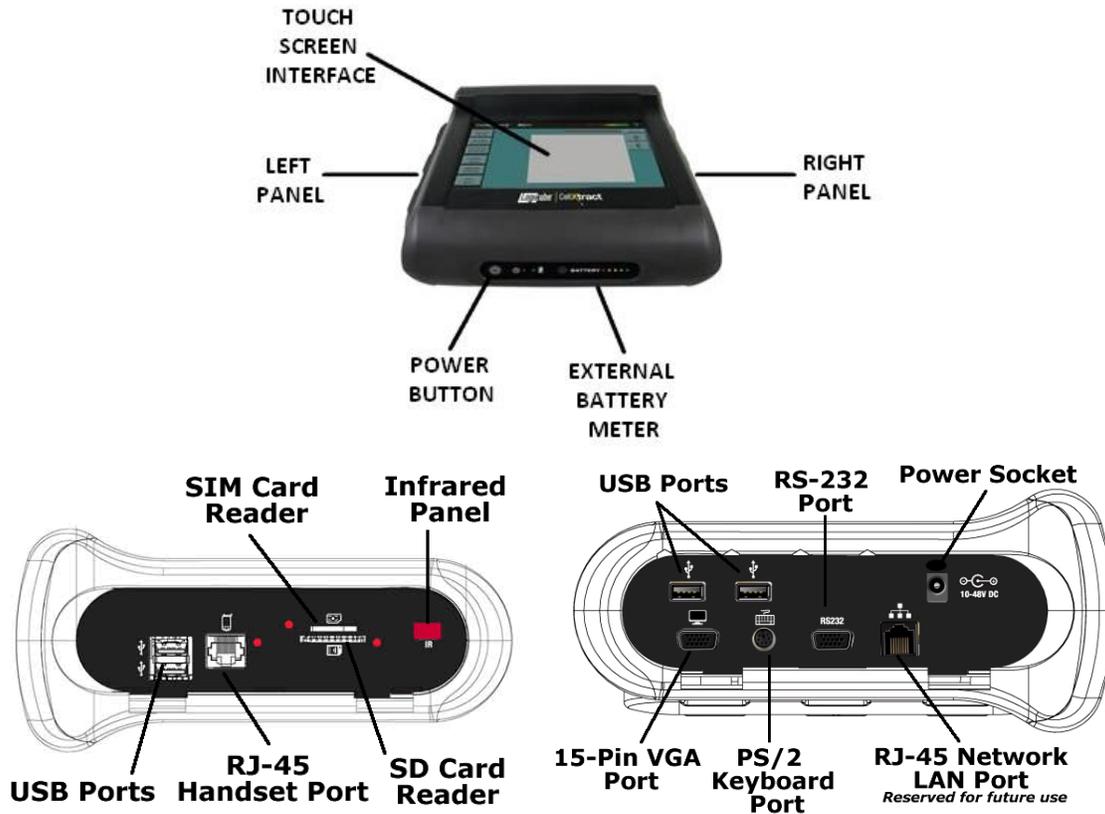
- Two cable storage bags with complete set of adapters for all phones supported as well as cables and "tips" for extraction from Chinese phones
- Memory card reader
- A USB thumb drive
- 3 NICs (Network Isolation Cards) to be used for network isolation and SIM ID Cloning

- 12V car charger
- CD with CellXtract™ software and a users' manual

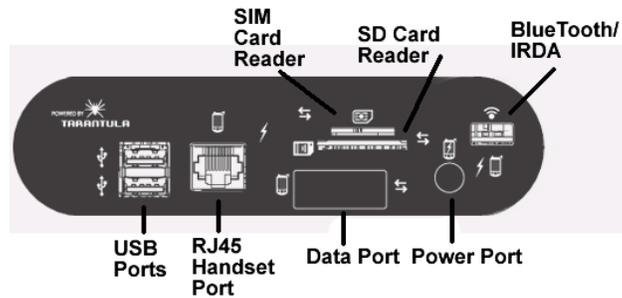
NOTE: *Opening the CellXtract-TNT to access the embedded PC will void the warranty. "Hacking" the CellXtract-TNT application to access the embedded PC's Operating System will also void the warranty. Logicube can reload the CellXtract-TNT application for a substantial fee.*

2. Getting Started

Overview of the CellXtract



CellXtract Overview



CellXtract-TNT Left Panel Overview

1. **TOUCH SCREEN INTERFACE** – All of the CellXtract/CellXtract-TNT software and user input is controlled from here
2. **LEFT PANEL** – The left panel contains the following ports:
 - Two USB Ports (For handset device cables, memory card reader and Bluetooth adapter)
 - SIM card reader with LED
 - SD card reader with LED
 - RJ-45 handset port with LED
 - Infrared panel
 - Data port (CellXtract-TNT only)
 - Power Port (CellXtract-TNT only)
3. **RIGHT PANEL** – The right panel contains the following ports:
 - Two USB ports for external storage devices and input devices
 - Power socket
 - 15-pin VGA port
 - PS/2 port for a keyboard
 - RS-232 (9-pin serial) port
 - RJ-45 network (LAN) port
4. **USB Ports** – The left side USB ports are designed to have the phone cable and Bluetooth adapter attached. The right side USB ports are designed for USB an external storage location such as a USB flash drive (or external USB drive where reports can be saved to) along with an input device (if desired) such as a mouse or keyboard.
5. **SIM Card Reader** – Attach a SIM card, Micro SIM adapter, or a NIC/SIM ID card into this slot to extract a SIM card, Micro SIM card, or create a NIC or SIM ID card.
6. **SIM Card Reader LED** – This LED blinks when reading a SIM card or creating a NIC/SIM ID card.
7. **RJ-45 Handset Port** – This port used for the non-USB cables provided with CellXtract/CellXtract-TNT for extraction of various devices
8. **RJ-45 Handset Port LED** – This LED is for the RJ-45 Handset Port.
9. **INFRARED (IR) PANEL** – During an infrared capture, the wireless device's IR port is pointed toward this panel.
10. **POWER SOCKET** – Attach the included AC adapter to this power socket to charge the CellXtract/CellXtract-TNT battery and to operate the CellXtract using external power.
11. **15-pin VGA Port** – This port can be used to attach an external monitor that has a VGA input.
12. **PS/2 Port** – This port can be used to attach a keyboard.
13. **RS-232 Port** – This port is used for some handsets with off-the-shelf cables not included with CellXtract/CellXtract-TNT.
14. **RJ-45 Network (LAN) Port** – 10/100 Ethernet port currently reserved for future use.
15. **16-pin Data Port** – CellXtract-TNT only. Data port for the data cable included with CellXtract-TNT.

16. **3.5mm Power Port** – CellXtract-TNT only. Power port for the power cables included with CellXtract-TNT.

NOTE: Other flash-based media cards (i.e. CompactFlash, Memory Stick, etc.) can be read in the memory card reader included with CellXtract. The memory card reader should be connected to one of the USB ports on the left panel.

Differences between CellXtract and CellXtract-TNT

The CellXtract-TNT has all the capabilities of the CellXtract plus the ability to extract data from major Chinese-manufactured chipsets: MediaTEK (MTK), Infineon, and Spreadtrum, MSTAR, and Cool Sand.

Chapter 1 through 6 covers the set-up and operation of CellXtract. These instructions also apply to CellXtract-TNT when you are performing extractions from non-Chinese chipset handsets.

Specific instructions for using CellXtract-TNT to perform extractions from Chinese-chip mobile devices can be found in Chapter 8.

Setting Up CellXtract

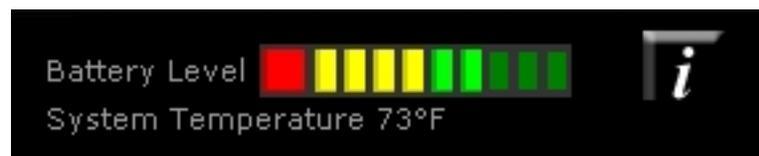
Battery Status and Temp Level

Before CellXtract is powered up for the very first time, it needs to have the battery charged. Attach the AC cable into the AC adapter and connect the other end to a wall outlet or power strip. Allow CellXtract to charge for at least 2 ½ hours.

The CellXtract main application screen displays the battery life of the unit. When the battery has depleted to around 5%, CellXtract will alert the user to recharge the CellXtract. When the battery level drops below this state, CellXtract will shut down and will not restart correctly until the unit is charged. The temperature level is displayed in degrees Fahrenheit and shows the system temperature.

Temperature Notes:

- CellXtract will warn the user when the system temperature exceeds 122 degrees Fahrenheit.
- CellXtract will shut down if the temperature level reaches 131 degrees Fahrenheit.



Battery Recharge State

Charging CellXtract

CellXtract may be charged with the included AC adapter. The AC adapter can be plugged into 110V or 220V AC power.

Normal charge time = 2 ½ Hours – A full charge will give about 5 hours of usage.

CellXtract also comes with a 12V car charger which can be used to charge the CellXtract using an in-vehicle 12V power supply.

An optional 12V/24V cable that can be plugged into a military BA-5590 battery is also available.

Powering Up CellXtract

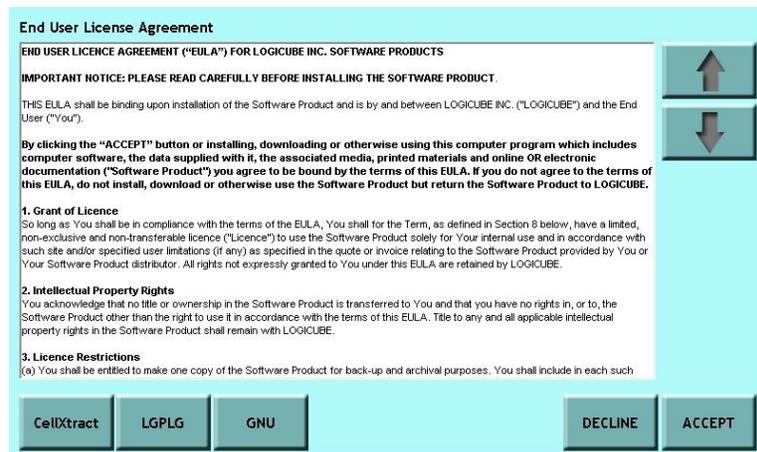
To power up CellXtract follow this step-by-step procedure:

1. The power button is located in front of the CellXtract. Locate the button with the following power symbol:



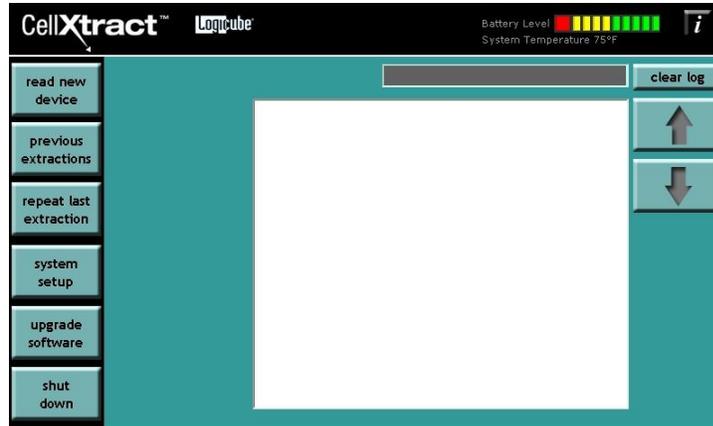
Power symbol

2. Press and release the power button. CellXtract will initialize and boot-up to the End User License Agreement (EULA).



End User License Agreement

3. Tap the **Accept** button to continue. CellXtract will boot to the Main Application Menu.



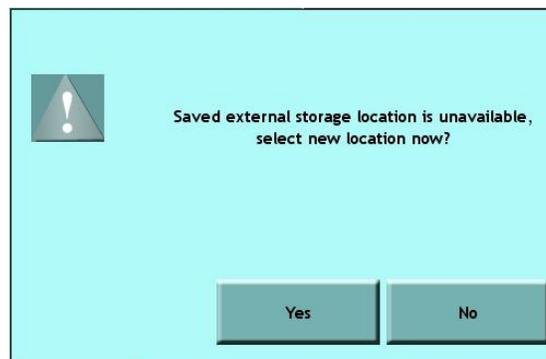
CellXtract Main Application Screen

External Storage Location

CellXtract saves all extraction reports and files to an external location. This is typically a USB flash drive or a USB external drive. The external storage location should always be placed on a USB port on the right side.

It is recommended that the USB flash drive used when extracting a device is larger in capacity than the total memory of the device (including any removable memory cards).

If a storage location is unavailable or has not been set during an extraction of a device, the following message will appear:



External storage unavailable prompt

Attach an external storage device to one of the available USB ports on the right panel of the CellXtract then tap the **Yes** button.

CellXtract will display a list of attached drives.



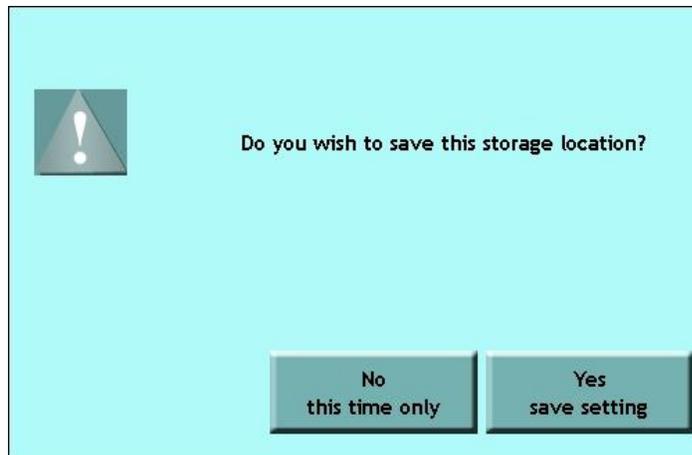
Drive selection screen

Tap the desired drive to highlight it then tap the **Select** button.

CellXtract will then ask if you would like to save this storage setting. The two choices are:

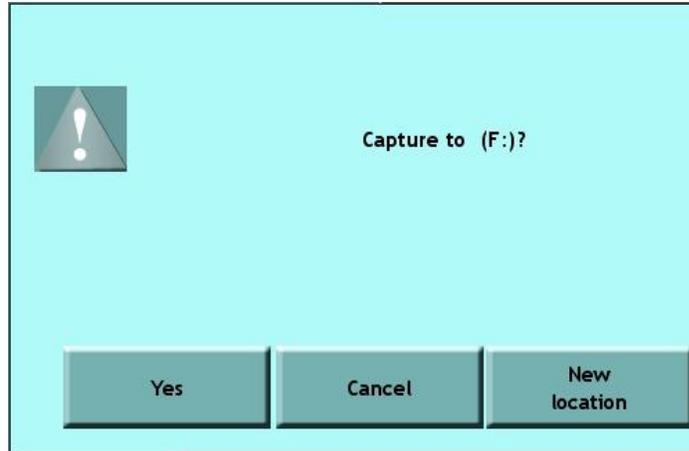
No this time only – Select this if you do not want to save the storage setting.

Yes save setting – Select this if you would like CellXtract to remember this storage setting.



Save storage confirmation screen

NOTE: If a previously used external storage device is attached, CellXtract will display the following screen. The drive letter may be different from what is displayed on your screen.



Existing external storage prompt

Select **YES** to capture to the selected external storage device.

Select **Cancel** to cancel the operation.

Select **New location** to select a different external storage device.

Step by Step – Device Extraction

Logical handset extraction is composed of 8 sections:

- Attaching an external storage location
- Selecting a handset
- Selecting a connection type (cable, Bluetooth, or infrared)
- Connecting the handset
- Case Details screen
- Extracting Standard data (SMS, contacts, etc.)
- Extracting Extended data (images, audio, video, etc.)
- Report Preview

These sections are described in more detail in this manual.

NOTE: For physical extraction, please refer to Chapter 7 – Physical extraction.

The following instructions are an example of how to perform a handset extraction.

NOTE: The recommended direction for extraction is left to right. The phone cables and USB adapter should be connected to the USB ports on the left side while the external storage location should be connected to the USB ports on the right side.

Attaching an external storage location

Attach an external storage location such as a USB flash drive or USB external drive to one of the available USB ports on the right panel. This will allow CellXtract to save extracted files and the report to the selected external storage location.

It is recommended that the USB flash drive used when extracting a device is larger in capacity than the total memory of the device (including any removable memory cards).

Selecting a handset

1. From the main screen, tap **Read New Device**.
2. Select the device type (For example, **Cell Phone**. *If **Cell Phone** is selected, choose **Logical Extraction**.*)
3. Select the manufacturer or Operating System of the device (For example, *Sony Ericsson*).
4. Next, select the model either by **List Models**, **View Models** or **Refine List** (For example, List Models).
5. A list of handsets will appear by model number. Scroll up or down to locate the model of the handset (For example, T610).

Selecting a connection type

When the handset is selected, the handset screen will appear which will show a picture of the handset (if available) along with the types of data that can be extracted. It will also show all the supported connection types (Cable, Infrared, and Bluetooth) for this handset.

1. Select the desired connection type. Depending on the model, you can choose between **Cable**, **Infrared** or **Bluetooth**. Some handsets do not support all connection types.

NOTE: If a cable connection is available, it will be selected by default.

2. Tap **Run Extraction**.

Connecting the handset

CellXtract will now show instructions on how to connect the handset.

- If cable was selected, CellXtract will let the user know what cable to attach, and when to attach the handset. Some cables need to be connected to an available USB port while others will need to be connected to the RJ-45 Handset Port.

NOTE: Some Nokia phones will require the back cover and battery to be removed. The cable will connect to the Nokia phone through the battery compartment (for example, cable 32).

- If infrared was selected, CellXtract will give instructions on how to enable infrared on the handset.
- If Bluetooth was selected, CellXtract will scan for visible Bluetooth devices within range then give instructions on how to connect to the device.

Case Details screen

Once connected to the handset, CellXtract will show the Case Details screen. The user can fill this screen at this time, or have the option to fill it out later, after the extraction has completed.

Extracting Standard data

CellXtract will then begin extracting Standard data. This includes handset information, contacts, SMS, call registers and organizer files.

Extracting Extended data

After Standard data has been extracted, CellXtract will begin extracting Extended data. This includes images, audio files, videos, and other files.

NOTE: If at any point the CellXtract hangs or freezes during an extraction, connect the included USB hub between the USB port (on the left panel) and the phone cable and perform the extraction again. If your CellXtract did not come with a USB hub, please contact Logicube Technical Support. Contact information can be found at the end of this document.

Report Preview

Once the Extended data extraction has completed, CellXtract will show the report preview on the screen. Users can view the report on the spot and see what data was extracted. From the Report Preview screen, users can perform many different tasks such as searching for keywords. Printing the report, viewing the report, or disconnect the external storage location which will contain the report to be previewed on another computer.

Attaching and Identifying Devices

Handset devices can be difficult to identify. Many show the manufacturer or carrier's name or logo, but not the model name or number. This information is usually displayed behind the battery of the target device. To view the label, power down the target device then remove the battery.

On power-up a PIN or PUK number may be required to unlock the target device. This number can be obtained from the device’s network service provider by authorized law enforcement personnel.

Identification of the target device is required to determine which connection methods are available (e.g. cable, infrared or Bluetooth) and for data cables, the specific cable connector.

Attaching a Cellular Phone

1. Attach an external storage device to one of the available USB ports on the right panel.
2. Tap the **Read New Device** button on the Main Application Screen. The Device Type Selection screen will appear.
3. Tap the **Cell Phone** button. The next screen prompts the user to choose Logical or Physical extraction.
4. Select **Logical Extraction**. The next screen prompts the user to choose the manufacturer.
5. Once the manufacturer is chosen, the Cell Phone Selection Screen will appear. For a given manufacturer, CellXtract helps to identify the target cellular phone as follows:
 - Selection from a model list (**List models**)
 - Selection from model images (**View Models**)
 - Selection from a “short list” of model images based on entered dimensions (**Refine List**)

List Models

If the user knows the model of the cell phone, then the **List Models** option should be selected. A list will come up of all known models. Scroll down the list and select the model number of the cell phone.



Cell Phone Model List

View Models

If the model is unknown, images of all models for the chosen manufacturer are obtained by selecting **View Models**. Scroll down the list and choose the image that looks like the target cell phone.



Cell Phone Models

NOTE: Fully verified and supported handsets are indicated by green “check marks”. Handsets that are not supported but are expected to work are indicated by amber check marks. Unverified handsets have no check mark. Treat extractions from these handsets as a minimum data extraction.

NOTE: Some handsets can use a Network Isolation card (NIC) during capture. This feature is further explained in the **Network Isolation (NIC) Cards and SIM Card ID Cloning** section later in this chapter.

You may be faced with a large list of cell phones. To narrow down the search, tap the **Back** button and select **Refine List**.

Refine List

Refine List gives the user the option to apply two filters. The user can choose to apply either or both of these filters.

The first will narrow down the images shown using physical features of the phone (e.g. Does the phone have an antenna or camera and what type of phone is it?).

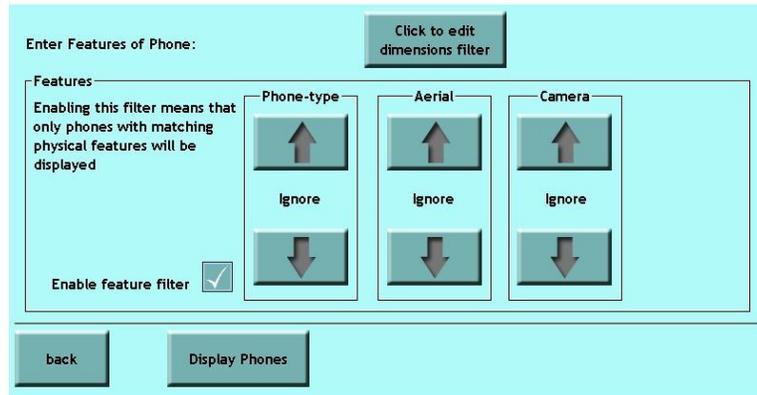
The second or Input Dimensions filter is used to enter the physical dimensions of the target device (length, width, depth) using mm or inches. CellXtract will display the models matching those dimensions or features.

Tap the Up and Down Arrows to change each filter. If the handset does not have one of the

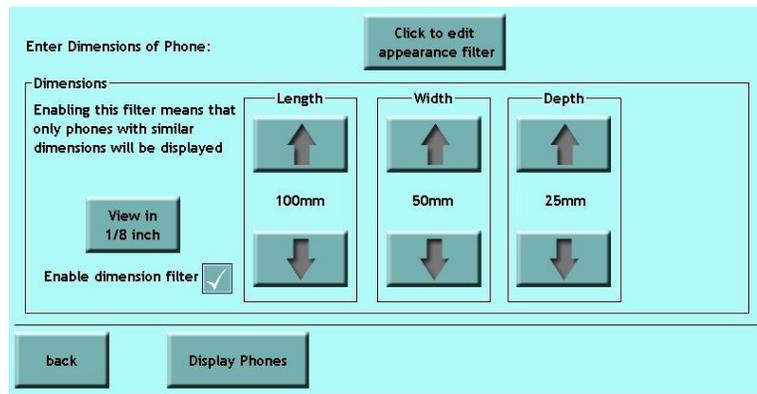
features, such as a camera, set the filter to “Ignore”.

When finished, tap the **Display Phones** button. CellXtract will display models matching those features.

Tap the model number or image to highlight it, and then tap the Select button.



Refine list screen with features



Refine list screen with dimensions

NOTE: This screen will allow the user to enter the dimensions in mm, 1/8 inch or 1/16 inch increments.

6. The handset screen will appear which will show a picture of the handset (if available) along with the types of data that can be extracted. It will also show all the supported connection types (Cable, Infrared, Bluetooth) for this handset.
7. Select the desired connection type. Depending on the model, you can choose between **Cable**, **Infrared** or **Bluetooth**. Some handsets do not support all connection types.

NOTE: If a cable connection is available, it will be selected by default.

8. Tap **Run Extraction** and follow the on-screen instructions to begin the extraction process. CellXtract will prompt you to

- insert a cable, letting you know what cable number to connect and when to connect the handset.
9. The Case Details screen will appear. You can fill out the case details at this time then tap the **OK icon** or tap the **LATER** button if you want to fill out the information later.
 10. CellXtract will begin the extraction. When the process finishes, the **Extraction Complete screen** will appear.

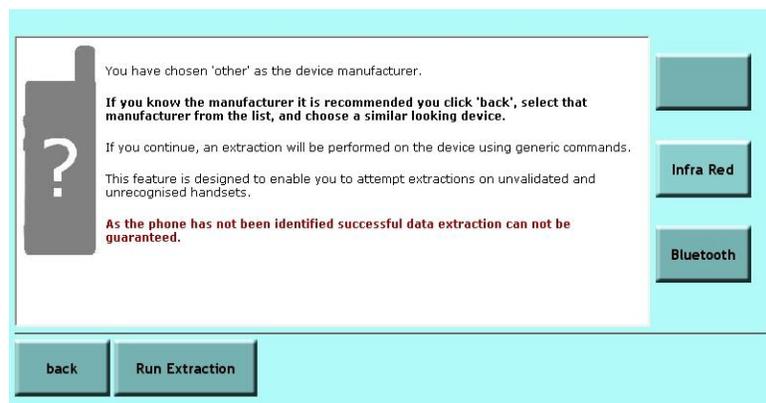
NOTE: If **Automatically extract ALL files** from the Extraction Settings screen is not checked, CellXtract will show a list of extended data (images, audio, video, etc.) that can be extracted. You may select all, some, or none of the files displayed.
 11. Tap the **OK icon** to complete the process and preview the report.

Generic Extraction Module

If the **Other** Button is chosen on the Cell Phone extraction screen, the Generic Extraction Module appears. This is used to extract from handsets that have not been identified or verified with CellXtract. This includes handsets where data could not be obtained from the known manufacturers as well as from unknown manufacturers.

The time taken for data extraction can take up to 30 minutes, depending on the amount of data.

The Generic Extraction Module only supports Bluetooth and Infrared connections.



Generic extraction screen

NOTE: Users should be aware that data extracted with the Generic Extraction Module is NOT validated. It is recommended that any data extracted using this method is visually verified by the User to ensure that no data is missed or misrepresented.

SIM Card Extraction

NOTE: CellXtract supports the ability to clone an existing SIM card ID. This and other features using the Network Isolation Card (NIC) are described in detail in the Network Isolation (NIC) Cards section on p. 56.

SIM Card extraction supports SIM, Micro SIM and USIM cards.

1. Remove the SIM Card from the target cell phone. It is usually located underneath the battery. Follow the cell phone manufacturer's instructions on how to remove the SIM card.
2. Attach an external storage device to one of the available USB ports on the right panel.
3. Tap the **Read New Device** button on the Main Application Screen. The Device Type Selection screen will appear.
4. Tap the **SIM Card** button. At this point CellXtract will prompt you to insert an external storage location or verify where you want to capture the data to. Select the external storage location desired.
5. A screen will appear prompting you to insert the SIM card into the reader. Place the SIM card, gold connector side facing down, in the SIM card slot then tap the **OK icon**. If the target phone uses a Micro SIM card (such as the iPhone 4 and 4S), place the Micro SIM card on the Micro SIM adapter and place the adapter, gold connector facing down, in the SIM card slot then tap the **OK icon**. The SIM card slot is located on the left side of the CellXtract.
6. As the card is read, the green LED to the left of the SIM card slot will blink for about 15-30 seconds. The Case Details screen will appear. You can fill out the case details at this time then tap the **OK icon** or tap the **LATER** button if you want to fill out the information later.
7. The CellXtract will read the SIM card and begin the extraction. When the process finishes, the **Extraction Complete screen** will appear.
8. Tap the **OK icon** to complete the process and preview the report.

Network Isolation Card Note: If "Create Network Isolation Card after SIM extraction" is selected (checked) in the 'Extraction' settings screen, CellXtract will prompt the user to insert a NIC. CellXtract will then create a Network Isolation Card that can be used in place of the SIM card to isolate the handset from the network.

NOTE: Refer to Chapter 4. Analyzing Captured Data for more information regarding the extracted data.

SIM PIN and PUK Codes

CellXtract enables an investigator to unlock SIM cards via the PIN code and the PUK code, if they are known.

When CellXtract is used to unlock a SIM card via the PIN code it does not relock the card afterwards.

When unlocking the SIM card via the PUK code CellXtract will reset the PIN number to "0000". To enable the feature to enter the PUK code, the PIN code needs to be entered incorrectly several times. The PIN-input screen displays the number of attempts remaining before the PUK code is required.

Dual SIM Extracted Data

Dual SIM handsets can contain two SIM cards; however the handsets are fully operational with only one SIM. Dual SIM handsets will have the following data:

- These handsets make use of two SIM card slots and are referred to as Slot 1 and Slot 2. Either slot can be used if only one SIM card is present.
- There are a number of ways the user can switch between SIM cards including a software menu option or a hardware button.
- The handsets also have the functionality to set which SIM card is initially used on start-up irrespective of the Slot it is in. Therefore the SIM card in Slot 2 can be set to be used before that in Slot 1.
- The SIM cards will be referred to as Primary SIM and Secondary SIM, where the Primary SIM is the one set to be used first.

The following data has been tested and can be extracted from these handsets:

IMEI – Each Dual SIM handset has two IMEI numbers, one for each SIM card Slot. The IMEI numbers are associated to the SIM card slots on the handset NOT the SIM Cards. CellXtract will only extract the IMEI number of Slot 1 regardless of how many SIM cards are present or which card is set as the Primary SIM.

IMSI – Each Dual SIM handset can have up to two IMSI numbers, one for each SIM card inserted. CellXtract will only extract the IMSI of

the Primary SIM card, regardless of which slot it is inserted into.

SIM Contacts – Dual SIM handsets can store contacts to either SIM card. CellXtract can retrieve contacts from both SIM cards and identify which card they were stored on. Contacts stored on the Primary SIM will be labeled “[Primary SIM]”. Contacts stored on the Secondary SIM will be labeled “[Secondary SIM]”.

SMS Messages – Dual SIM handsets can store SMS messages on either SIM card. CellXtract will only extract messages stored on the Primary SIM card, regardless of which slot it is inserted into. CellXtract will extract all handset SMS messages but cannot determine which SIM card they were sent to/from, this can be determined by viewing the SMS on the handset.

Call Logs – Dual SIM handsets store all call logs on the handset and can be dialed or received from either SIM card. CellXtract will extract all call log entries but cannot determine which SIM card was used to dial or receive the call, this can be determined by viewing the call logs on the handset. Any LDN’s stored on the SIM cards will not be extracted, a separate SIM card extraction will obtain this data.

NIC Functionality – Where NIC (Network Isolation Card) support is verified, a NIC will need to be created for each SIM card used in a Dual SIM handset. The NIC will need to be returned to the same Slot from which the SIM card taken from. Placing a NIC in the wrong slot will result in a loss of data.

NOTE: A separate extraction should always be performed on all SIM cards.

Attaching a Memory Flash Card

A memory card reader is included with CellXtract. The memory card reader supports several different formats:

- CompactFlash (CF)
- Secure Digital (SD, SDXC)
- MultiMediaCard (MMC)
- Memory Stick (MS)
- Memory Stick Micro (M2)

- Micro SD
- X-Card

The CellXtract software application does not allow data to be written to the Memory Card Reader slots.

NOTE: Do not insert the flash memory card (target card) at this time. CellXtract will prompt when to insert the target card.

1. Attach an external storage device to one of the available USB ports on the right panel.
2. Tap the **Read New Device** button on the Main Application Screen. The Device Type Selection screen will appear.
3. Tap the **Flash Memory** button.

NOTE: If prompted for an external storage location, please refer to External Storage Location in the CellXtract Operation section of this manual.

4. A screen will appear with the message: "Please ensure that the target card/drive is NOT inserted at this moment. Tap the **OK icon** to continue.
5. A screen will appear with the message: "Insert target card now". Attach the included memory card reader to one of the USB ports then attach the memory flash card you want to extract. Tap the **OK icon** when the white and blue LEDs on the memory card reader lights up.
6. The Case Details screen will appear. You can fill out the case details at this time then tap the **OK icon** or tap the **LATER** button if you want to fill out the information later.
7. The CellXtract will read the flash memory card and begin the extraction. When the process finishes, the **Extraction Complete screen** will appear.
8. Tap the **OK icon** to complete the process and preview the report.

NOTE: Refer to Chapter 4. Analyzing Captured Data for more information regarding the extracted data.

Imaging Flash Media

After capturing data, CellXtract will ask the user if it should perform a complete image capture of the flash memory card. If the user chooses to do this, CellXtract will run the following procedure:

1. CellXtract will make a sector-by-sector copy of the entire flash media drive.

2. The copy will be stored as an image file in the “_resource” folder of the extraction directory.
3. CellXtract will then scan the image file for the following types of JPEG files:
 - Extant JPEG: Normal, readable JPEG files.
 - Deleted JPEG
 - Embedded JPEG: JPEG files embedded in emails or other files.
4. Any found JPEG files will be displayed by CellXtract in the Extended Data screen.
5. The image file can be copied to a thumb drive and investigated further with hex-editing or forensic software.

NOTE: CellXtract cannot distinguish between Extant, deleted or embedded JPEG files. The image file should be further investigated to determine the status of any found files, and whether similar files exist in other formats.

Attaching a GPS Device

CellXtract can extract data from a number of GPS devices.

NOTE: For device specific extraction notes, please see **Chapter 6: Reference**.

1. Attach an external storage device to one of the available USB ports on the right panel.
2. Tap the **Read New Device** button on the Main Application Screen. The Device Type Selection screen will appear.
3. Tap the **GPS Device** button.
4. The next screen prompts the user to choose the type of GPS. Select the GPS to be extracted and tap the **OK icon**.

NOTE: If prompted for an external storage location, please refer to **External Storage Location in the CellXtract Operation section of this manual**.

5. Follow the on screen instructions to connect the GPS device. Once connected, the Case Details screen will appear. You can fill out the case details at this time then tap the **OK icon** or tap the **LATER** button if you want to fill out the information later.
6. The CellXtract will read the GPS device and begin the extraction. When the process finishes, the **Extraction Complete screen** will appear.

7. Tap the **OK icon** to complete the process and preview the report.

NOTE: Refer to Chapter 4. Analyzing Captured Data for more information regarding the extracted data.

SIM Card ID Cloning Step-by-step (Create NIC)

SIM Card ID cloning is available with CellXtract. You have three choices allowing different types of SIM Card ID cloning depending on the situation at hand.

- Create from Existing SIM
- Manually enter NIC data
- Create Test NIC

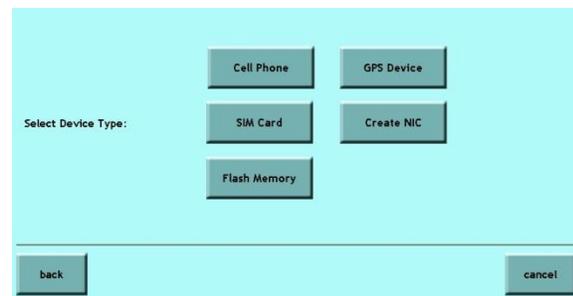
An explanation and summary for each method is included in the step-by-step instructions below.

Create from Existing SIM

CellXtract will clone the original SIM card ID. It will copy the ICCID and IMSI from original SIM card onto a NIC (SIM ID Card). The ICCID and IMSI on NIC must be identical to original SIM. NIC (SIM ID Card) ICCID and IMSI values can be checked by performing a SIM Card Extraction of NIC.

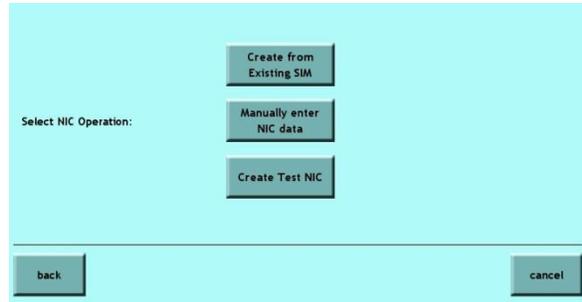
This method is useful when the original SIM card is available.

1. Tap **Read New Device** from the main menu. The device type selection screen will appear



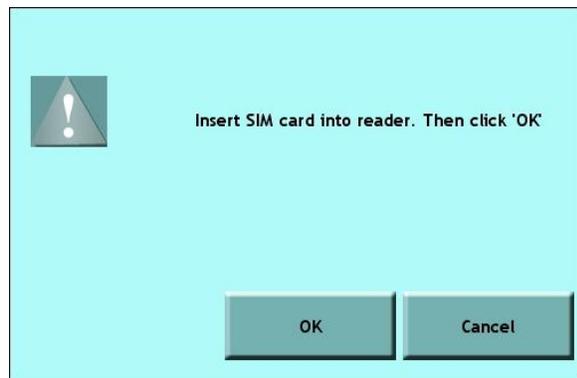
Device Type screen

2. From the NIC Operation screen, tap **Create from Existing SIM**.



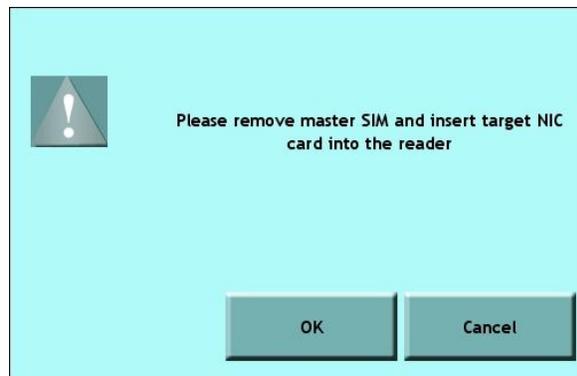
NIC/SIM ID Operation screen

- Place the SIM card into the SIM card adapter then insert the adapter into the reader. Tap **OK**.



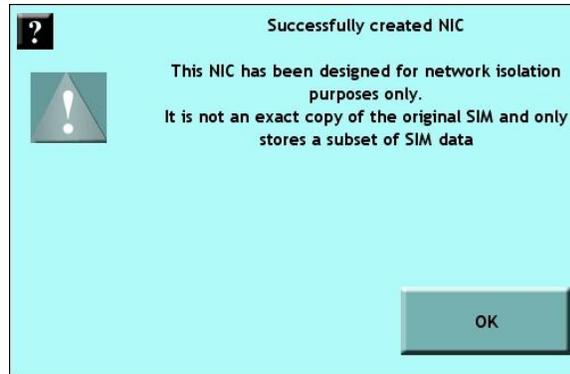
Insert SIM card screen

- CellXtract will read the inserted SIM card. After this process, the following screen will appear:



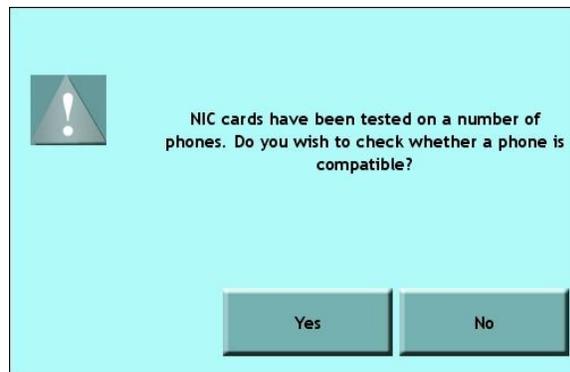
Remove master SIM

- Remove the SIM card from the adapter and place the NIC (SIM ID Card) into the same adapter. Insert the adapter into the reader then tap **OK**. CellXtract will create the NIC (SIMID Card). When this process finishes, the screen below will appear. Tap **OK**.



Successful NIC creation

6. CellXtract will prompt whether a phone is compatible with Network Isolation Cards. Selecting **No** will finish the process and bring the user back to the CellXtract main screen. Selecting **YES** to the screen below will prompt the user to identify the phone to be used with the NIC (SIM ID Card).



NIC compatibility screen

7. After selecting the phone, one of the following two screens will appear. Tap **OK** to finish the process and go back to the CellXtract main screen.



Supported NIC



Phone untested with NIC

Manually enter NIC data

CellXtract will create a NIC (SIM ID Card) by writing valid ICCID and IMSI values entered by the user.

This method is useful when the original SIM card is not available. To find out the correct ICCID or IMSI numbers, please contact the handset's network provider.

Valid ICCID numbers are 19 or 20 digits long and include the following:

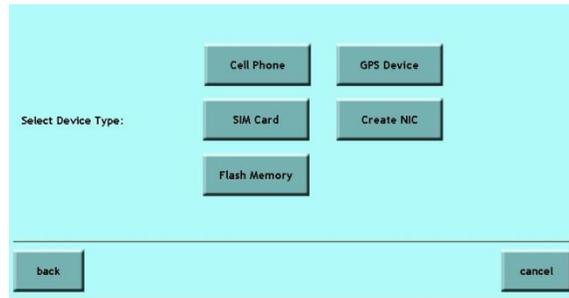
- The first 2 digits represent the Major Industry Identifier (89 for telecommunications)
- 1-3 digit Country Code
- 1-4 digit Issuer ID
- Variable length individual Account ID

Valid IMSI numbers are 15 digits long and include the following:

- The first 3 digits represent the Mobile Country Code (MCC)
- The next 2 or 3 digits represent the Mobile Network Code (MNC).
- The next digits represent the mobile station identification number. Normally there will be 10 digits but would be fewer in the case of a 3-digit MNC or if national regulations indicate that the total length of the IMSI should be less than 15 digits.

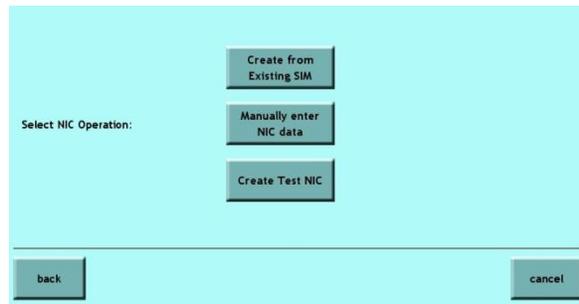
NIC (SIM ID Card) ICCID and IMSI values can be checked by performing a SIM Card Extraction of NIC.

1. Tap **Read New Device** from the main menu. The device type selection screen will appear



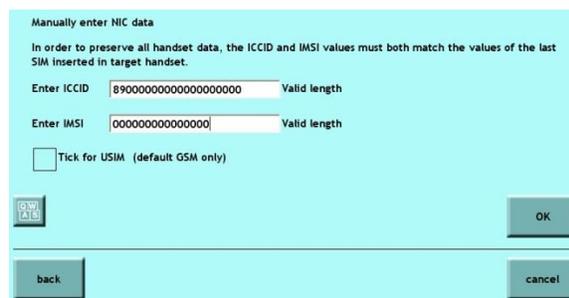
Device type screen

2. From the NIC Operation screen, tap **Manually enter NIC data**.



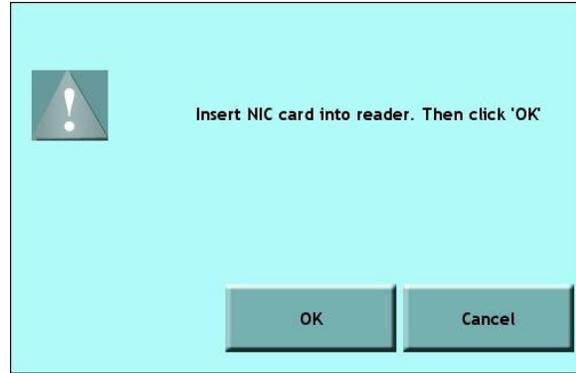
NIC/SIM ID Operation screen

3. The following screen will appear. Use the virtual keyboard (or an attached keyboard) and enter the ICCID and IMSI values. When finished, tap **OK**.



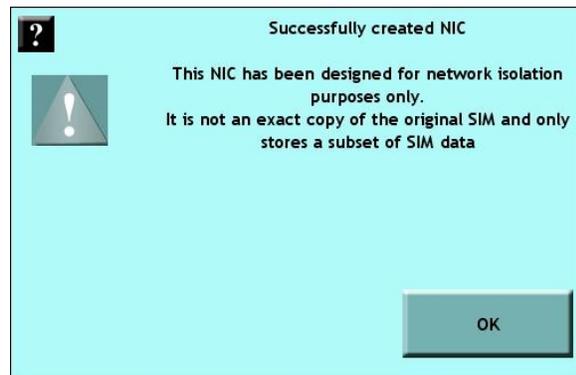
NIC/SIM ID data entry screen

4. Place the NIC (SIM ID Card) into the adapter and insert the adapter into the reader. Tap **OK**.



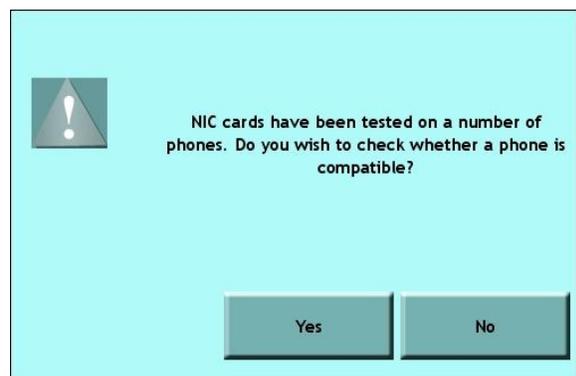
Insert NIC/SIM ID

- CellXtract will create the NIC (SIM ID Card). When this process finishes, the screen below will appear. Tap **OK**.



Successful NIC creation

- CellXtract will prompt whether a phone is compatible with Network Isolation Cards. Selecting No will finish the process and bring the user back to the CellXtract main screen. Selecting YES to the screen below will prompt the user to identify the phone to be used with the NIC (SIM ID Card).



NIC compatibility screen

- After selecting the phone, one of the following two screens will appear. Tap OK to finish the process and go back to the CellXtract main screen.



Supported NIC



Phone untested with NIC

Create a test NIC

CellXtract will attempt to write default ICCID and IMSI onto a NIC (SIM ID Card). The default values are:

ICCID = 894900050701001429

IMSI = 001010123456789

A warning will appear after creating a test NIC:

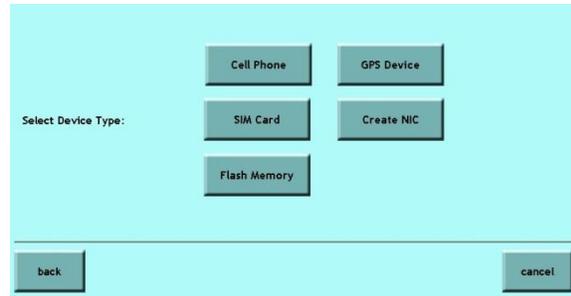
“A Test NIC can be used to access handset data but should only be used as a last resort. Inserting into a handset may cause data to be lost or changed”

NIC ICCID and IMSI values can be checked by performing a SIM Card Extraction of NIC.

This method should be used as a last resort if none of the previous methods work. It is important to understand that incorrect ICCID or

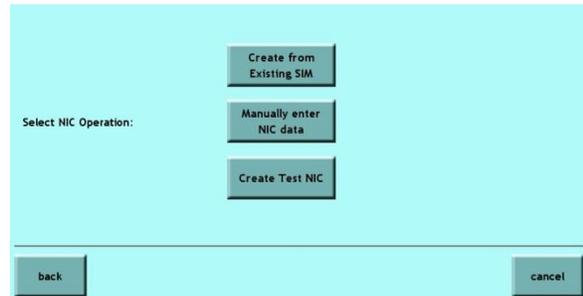
IMSI data may cause data on the handset to be lost or changed.

1. Tap **Read New Device** from the main menu. The device type selection screen will appear



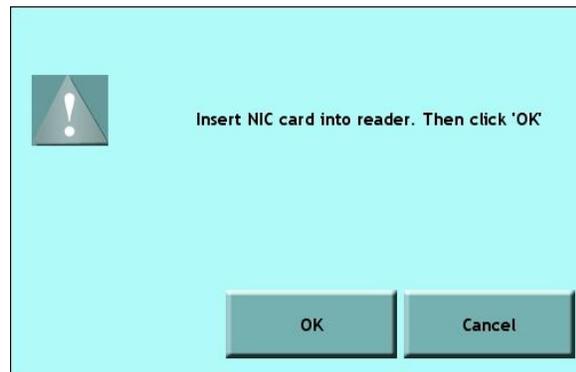
Device type screen

2. From the NIC Operation screen, tap **Create Test NIC**.



NIC/SIM ID Operation screen

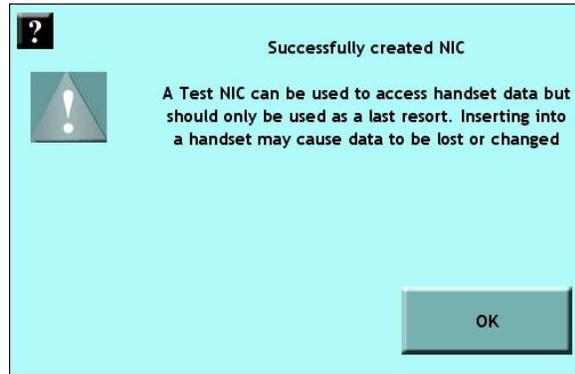
3. Place the NIC into the adapter and insert the adapter into the reader. Tap **OK**



Insert NIC/SIM ID

4. CellXtract will create the NIC (SIM ID Card). When this process finishes, the

screen below will appear. Tap **OK** to finish the process.



Successful Test NIC creation

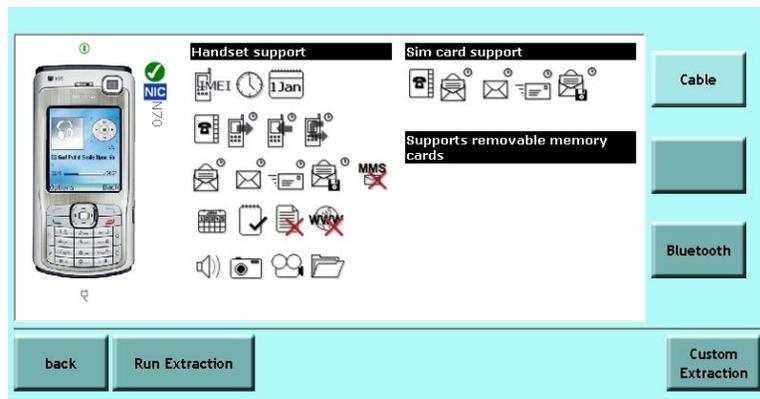
Connection Options

Once the correct target device has been chosen, the next screen will show the different connection options that are available. The three different methods of connection are **Cable**, **Infrared** or **Bluetooth**.

The Connectivity Option screen also shows the type of data that can be extracted from the target device. This information is shown as a series of icons that are listed at the end of this chapter. Any data types that cannot be extracted have a red "X" through the icon.

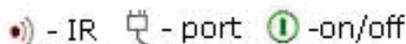
The Connectivity option Screen will also alert the user if the target device supports memory cards.

NOTE: The Connectivity Option screen will show items that can be downloaded from the SIM card if the chosen handset is a GSM phone.



Connectivity Option Screen

Helper Icons



The Connectivity Option Screen also has three "Helper Icons" that indicate the location of the

handset's On/Off switch, Cable Port and IR Port (if available).

Cable Connection

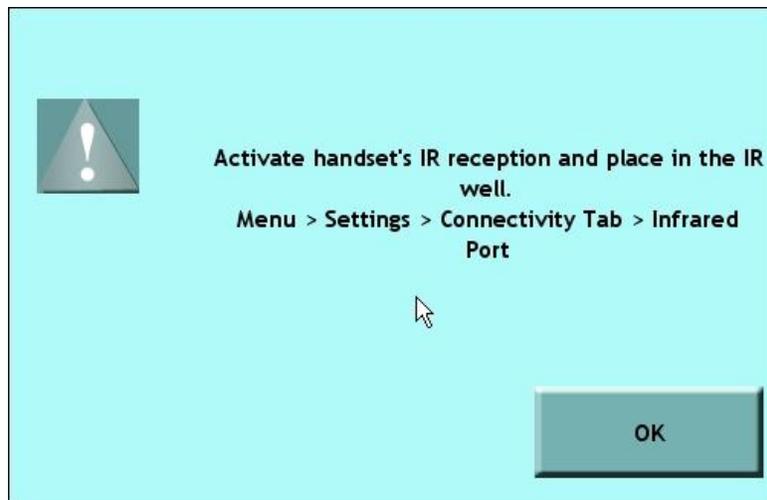
1. Select **Cable** from the Connectivity Option Screen.
2. Tap the "Run Extraction" button.
3. Attach the appropriate cable to one of the USB ports on the left panel.

NOTE: DO NOT attach the cell phone until prompted by CellXtract.

Infrared (IR) Connection

Some cell phones and PDAs have a built-in infrared (IR) port, which can be used to transfer data from the target device.

1. Select **Infrared** from the Connectivity Option Screen and tap the "Run Extraction" button.
2. A prompt will appear on the screen asking the user to set the target device to infrared. If the device is a recognized cell phone, CellXtract will display instructions to set it to infrared mode.



Instructions for Infrared Mode

3. Once the device is in infrared mode, place it across the Infrared emitter on the left side of the CellXtract. Make sure that the device's IR port is facing the CellXtract's emitter located on the left panel.
4. When an infrared connection is made, the Case Details screen will appear.

Bluetooth Connection

Many Cell Phones have Bluetooth capability, which can be used to transfer data from the target device. CellXtract has a range of 60 feet for Bluetooth connectivity.

Bluetooth extraction is a wireless communication link. On initiation, CellXtract will produce a list of all Bluetooth enabled devices. Caution is therefore required when selecting the correct device name list, particularly if two devices in the area have the same name. Any connection will require confirmation/acceptance on the handset in question before the extraction process can commence. This prevents accidental connection to other devices.

Bluetooth capability can only extract data once the handset has been 'paired' with the CellXtract unit. Pairing is when you enter a 4-digit code into the phone/handset to accept the connection. If the 4-digit code is incorrectly entered you cannot access any data from the device. Data can only be extracted over Bluetooth if the device is PAIRED FIRST.

1. Attach the included Bluetooth Adapter to any one of the available USB ports on the left panel.

NOTE: Do not attach the Bluetooth adapter to the USB ports on the right side of the CellXtract. Only the Bluetooth Adapter supplied by Logicube is supported.

2. Select **Bluetooth** from the Connectivity Option Screen and tap the “Run Extraction” button. If the device is a recognized cell phone, CellXtract will display instructions to set it to Bluetooth mode.
3. A prompt will appear asking the User to select “Discover devices” to begin.



Discover Device List Screen

4. Once the target device has Bluetooth enabled and is discoverable, tap the “Discover devices” button.

5. A Bluetooth Activity screen will appear as CellXtract searches for Bluetooth devices.
6. After 20-30 seconds, CellXtract will display a list of found devices. Select the name of the target device and tap the Select button.

NOTE: If the target device does not appear in the list, tap the “Discover devices” button again. It may take more than one attempt to access the device.

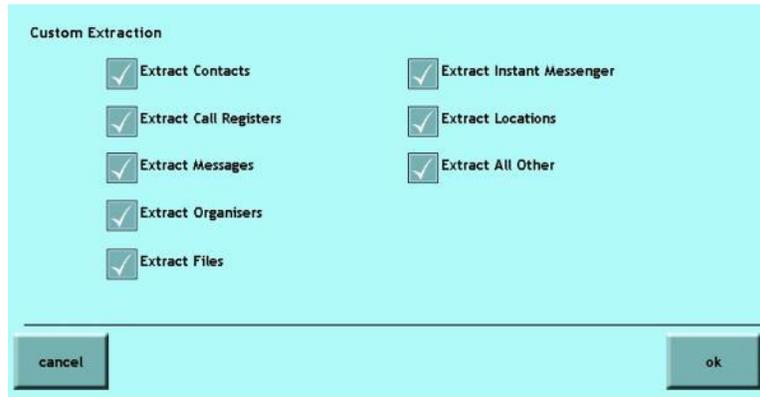
7. Once connected, the Target device will prompt the user to allow connection. When requested, enter the 4-digit code as **1234** on the target device. Once the pairing process is complete, data extraction will begin automatically.

NOTE: The target device screen must be monitored during this stage of the process. Some target devices require confirmation at various stages to continue extracting.

After data extraction, a reminder will appear for the user to remove the CellXtract from the Device’s Bluetooth History list.

Custom Extraction

Pressing the “Custom Extraction” instead of the “Run Extraction” button allows the user to decide what data is downloaded from a handset. This is handy when the user only needs the call log from a handset, for example.



Custom Extraction Screen

Tap the radio buttons to download or skip different data types. Press **OK** when finished.

Any data not read will appear in the capture report as “User chose not to extract _____”.

NOTE: “Extract Files” refers to all image, movie, sound and other files found in the Extended Data portion of a capture.

SIM Cards and Flash Memory Card Connection

SIM Cards and Flash Memory Cards require no special Connection procedures. Once the card is connected, data will begin to extract as outlined in **Chapter 3 – Capturing Data**.

Main Connectivity Icons

The Connectivity Option Screen uses distinct icons to show what data can be pulled from supported phones with different connection options.

ICON	DESCRIPTION	ICON	DESCRIPTION
	IMEI Number		Sent SMS Message
	Time		Saved SMS Message
	Date		Calendar Entries
	Contact List (ADN)		Tasks
	Dialed Calls		Audio Files
	Received Calls		Image Files
	Missed Calls		Video Files
	Read SMS Message		Other Files
	Unread SMS Message		NOTE: Presence of this symbol next to the icon denotes that the data is extracted with relevant timestamps.

<p>MMS</p> 	<p>Multimedia Message – SMS messages that can include attachments.</p>		<p>Other Files</p>
---	--	---	--------------------

Connectivity Icon Table

Other connectivity icons

The Connectivity Option Screen also tells whether a handset supports extraction through a NIC or if the handset can be accessed without its SIM card.

Network Isolation (NIC) Cards

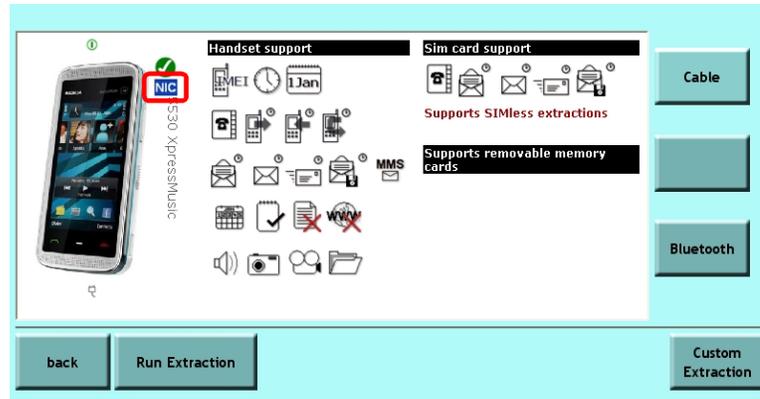
Some handsets require a SIM card to turn on and allow access to the handset and its data. The Network Isolation Card (NIC) allows the user to have access to the handset and its data without having to connect to the handset’s mobile network. CellXtract has the ability to isolate many handsets from the mobile network by using a NIC. NICs are placed in the SIM card slot of the handset.

There are three categories of support for this feature.

- Handsets that support this feature are displayed with a blue NIC icon.
- Handsets that do not support this feature are displayed with a blue NIC icon crossed with a red line.
- Handsets that are untested for this feature are displayed with no NIC icon.



Phone Model Selection Screen



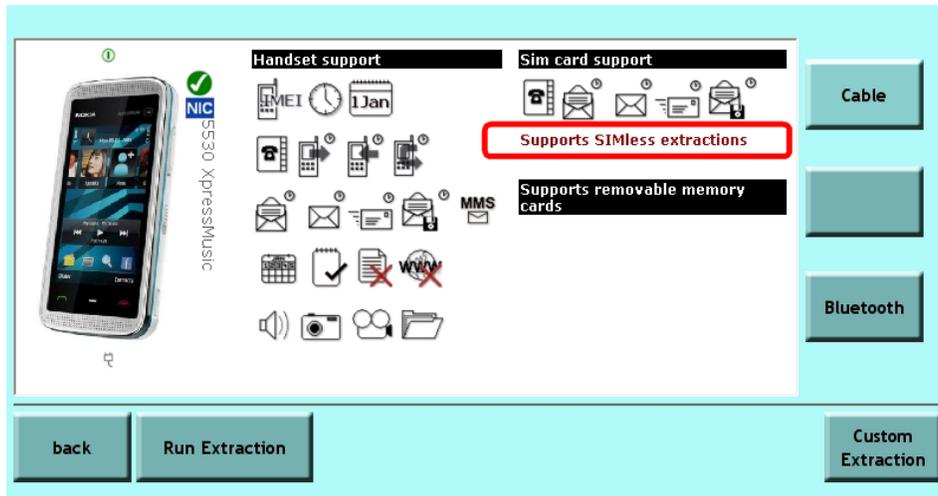
Connectivity Option Screen

To set the CellXtract to create a NIC after a SIM card extraction, follow these steps:

1. From the main menu, tap the **System Setup** button.
2. Tap the **Extraction** button.
3. Place a check mark on the **Create Network Isolation Card after SIM extraction**.
4. Tap the **Apply** button.
5. Tap the **OK icon**.
6. CellXtract will prompt and ask if you want to make these settings permanent or use them this time only. The changes will remain until CellXtract is restarted. Select one of the following choices:
 - a. No this time only
 - b. Yes save settings
7. At this time you may perform a SIM card extraction. After the SIM card extraction, CellXtract will prompt you to insert the NIC in the reader slot and proceed to create the Network Isolation Card.

Extraction without a SIM Card

CellXtract can extract data from many handsets with the SIM card removed. If a handset's SIM is PIN locked this feature allows an extraction of the handset with the SIM removed. If supported, this feature is displayed in the Connectivity Screen.



SIMless extraction

3. Capturing Data

Case Details

Once the target device has been successfully connected, the Case Details input form appears:

Case Reference Number	1234567890	Notes Please note: Time and date data displayed in this report may be subject to time-zone offsets and may differ from the time/date data that is displayed on the device. It is recommended that all time/date data is verified with the time-zone device settings. We recommend that any offsets are added to the case details section of this report for future reference.
Operator	Operator Name	
Investigating Officer	Investigator	
Exhibit ID	12345	
Bag Seal Number	54321	
Bag Reseal Number	321	
ICCID Printed on SIM		
Service Provider	Verizon	
IMEI Number Printed on	1234567890	
Time on Device	12:01:01	
Date on Device	01/01/2011	
Time of Extraction	07.40.07	
Date of Extraction	11-02-10	
<input type="button" value="Later"/> <input type="button" value="OK"/> 		

Case details screen

- If the report will be filled out later, tap the **Later** button to continue on to data extraction.
- If the report is to be filled out now, tap the first line that needs to be filled out. Use the virtual keyboard (or an attached keyboard) to fill out the case details.



NOTE: The keyboard is also accessible from any screen that displays the button to the left. The virtual keyboard below will appear.



Virtual Keyboard

NOTE: Alternatively, a PS2 or USB Keyboard can be attached to the CellXtract through the PS2 port or one of the available USB ports on the right panel.

Tap the **OK icon** once all of the information is filled out. The fields entered will be built into the final report, which is generated on completion of the extraction.

Other Notes

Certain fields will show users a list of previous entries. These entries can be dropped into the field without retyping them. The Case Details form will remember the last 20 entries for the following fields:

- Case Reference Number
- CellXtract Operator
- Investigating Officer
- Exhibit ID
- Service Provider

The Case Details Form can be opened and edited for previous extractions.

Data Extraction

Searching for Drivers

Sometimes, CellXtract may need to load new drivers for a handset that has never been attached before. A progress bar will appear briefly that indicates drivers are being loaded. The capture session will continue once the drivers are loaded.

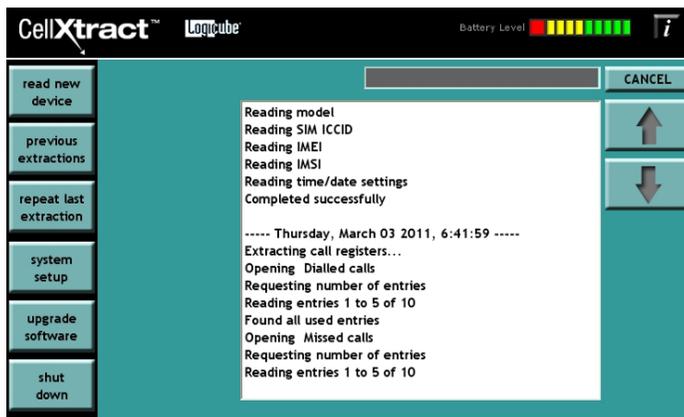
Note: Allow sufficient time for the driver to load.

Standard Data Extraction

Once a target device has been identified and connected, the CellXtract software will prompt the user to continue. Doing so starts the extraction process for “standard data”.

Standard data includes such information as Contacts, Call Logs, SMS Text Messages and Organizer data.

As the data is being extracted, CellXtract will show the progress in the Activity Log on the screen:



Activity Log

SMS Attached Content

SMS Messages can contain extra content other than standard text.

CellXtract notifies the user when any extra content appears within an SMS Message.

NOTE: This feature is currently only supported for SMS extracted through handsets supporting AT commands. Reporting of attached content functionality is not supported for BlackBerry, Symbian or Windows Mobile handsets.

Notifications appear within the body part of the message and describe the type of attached content.

Notifications appear in the following form:

[CONTAINS CLIPART REFER TO HANDSET]

SMS Messages may contain more than one type of attached content. CellXtract will display a notification for each piece of attached content within the message.

VCard and VCalendar Content

VCards and VCalendars are used to exchange information between application.

VCards store address book entries while VCalendars store organiser entries.

VCards and VCalendars can be attached to SMS Messages. CellXtract will display the raw data of attached VCards and VCalendars within the body of the SMS Message.

VCard and VCalendar data will appear between the tags

[ATTACHEMENT: CONTACT DATA]

Or

[ATTACHMENT: CALENDAR DATA]

And will end with

[END ATTACHMENT]

As SMS Messages have a limited size VCards and VCalendars may span several messages.

In this case each part of the VCard or VCalendar will start with the tag to indicate the content follows from a previous message.

[ATTACHMENT CONT..]

Each message part will also end with the tag below to indicate that more content will follow in the next message:

[...]

NOTE: VCard and VCalendar content is displayed in its raw format. Where VCards and VCalendars span more than one SMS Message, each part will need to be manually put together to form a valid VCard or VCalendar entry.

More information on VCards and VCalendars can be found at www.imc.org/pdi/

Cancel Capture

The capture process can always be aborted by tapping the **Cancel** button during the capture operation. This button is located towards the top right of the main screen.

This will allow the user to skip the current capture operation (i.e. downloading contacts) or abandon the whole capture session. Pressing the **Cancel** button will go back to the main screen.

Extended Data Extraction

“Extended Data” refers to such items as Image files, Video files, Audio files and any other files such as themes, screensavers, etc.

When the standard data has been extracted, the user is given the option to select and download other files from the target device.

1. Tap the **Images** Button at the bottom of the screen, CellXtract will display all supported Image files that were found in the target device's memory.
2. Select an Image file for download by tapping once on it. Tap a second time to deselect the file. Scroll through the list and tap any other files that are desired.
3. Repeat Steps 1 – 2 for the “Video”, “Audio” and “Other” buttons.
NOTE: Select all files of a particular type by tapping the “Select all <.ext> files” bar.
4. As files are selected, CellXtract shows the number and size of total files at the top of the screen.
5. Once all needed files have been selected, tap the Download button. The Download Manager will show progress as the files are downloaded to CellXtract.
6. At any time, press the **Change Selection** button to stop downloading and re-select the files to download.
7. As the files download, the Activity Log will indicate downloaded files in green, selected files not downloaded in gray and unselected files in white.

On completion of the download, a summary of all files, including listings for files not selected for download, will be displayed. The data received from the target device is written into an SQLite3 file, then stored in the case unique folder.

Support for Non-Latin Languages

All handsets supported by CellXtract have had full validation of each feature carried out for the full range of Latin character sets (ASCII programming language).

CellXtract has also been further developed to extract information from Unicode languages that provide non-Latin character sets such as Greek and Arabic characters.

These extractions have not been verified although tests indicate the following:

- SIM cards (supported natively)
- Windows (supported natively)
- Nokia (supported natively)
- Sony Ericsson (full support, Unicode development implemented: an option has been implemented to allow the user to extract in ASCII if required)
- Samsung (partial validated Unicode support - for messages only)
- Motorola (partial support, Unicode development implemented: an option has been implemented to allow the user to extract in ASCII if required)
- Siemens (partial i.e. validated Unicode support for handsets contacts and notes)

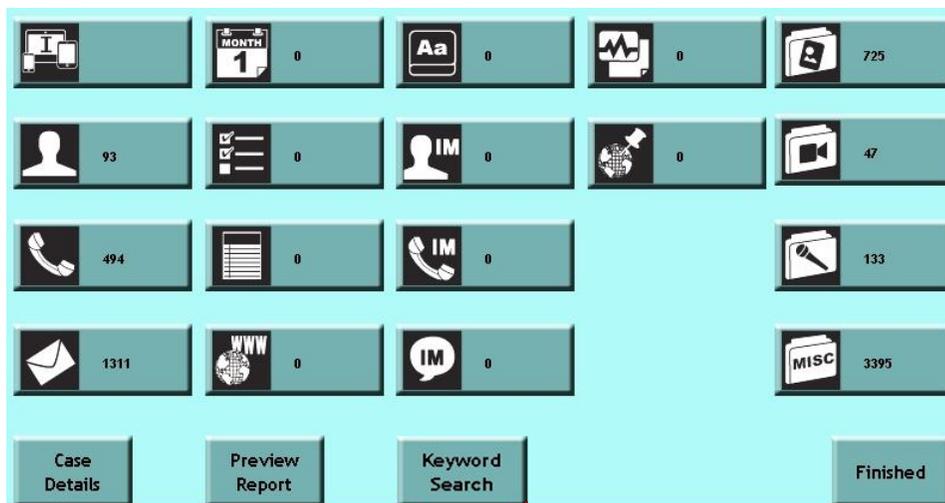
If CellXtract does not extract a character; it will appear as a square on the screen.

4. Analyzing Captured Data

Displaying Extracted Data

Once the extraction for standard and extended data is complete, the data is displayed onscreen and will also generate the CellXtract report in HTML format. All data is individually hashed using the MD5 algorithm to ensure that the data can be verified as unchanged.

As of CellXtract software 1.5.x.x, the extracted data is viewable in a new on-screen report:



Preview screen

The on-screen report can have different icons showing depending on the type of device extracted. Each button will have a number showing how much data was extracted. Here is a list of all available icons:



--- **Device information** – Shows information about the device including the Manufacturer, Model, IMEI/ESN, SIM Card information (if a SIM card is included), etc.



--- **Contacts** – This contains extracted contacts from the device.



--- **Call Logs** – This contains extracted call logs from the device.



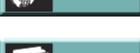
--- **Messages** – This contains extracted messages from the device.



--- **Calendars** – This contains extracted calendar entries from the device.



--- **Tasks** – This contains extracted tasks from the device.

-  --- **Notes** – This contains extracted notes from the device.
-  --- **URLs** – This contains extracted URLs from the device.
-  --- **Dictionaries** – This contains extracted dictionaries from the device.
-  --- **IM Contacts** – This contains extracted contacts from Instant Messengers.
-  --- **IM Call Logs** – This contains extracted call logs from Instant Messengers.
-  --- **IM Chat** – This contains extracted chat entries from Instant Messengers.
-  --- **Event Logs** – This contains extracted event logs from the device.
-  --- **Locations** – This contains extracted locations from the device.
-  --- **GPS Data** – This contains extracted GPS data from GPS devices.
-  --- **Image Files** – This contains extracted image files from the device.
-  --- **Video Files** – This contains extracted video files from the device.
-  --- **Audio Files** – This contains extracted audio files from the device.
-  --- **Other Files** – This contains any other extracted files from the device.

NOTE: Depending on the device, you may only see some of the icons above. For example:

- SIM Cards will only show the following buttons: Device Information, Contacts, Call Logs and Message.
- Memory Cards will only show the following buttons: Image Files, Audio Files, Video Files, and Other Files.
- Phones will show all buttons (except GPS)
- GPS will show all buttons.

There are also three icons located at the bottom of the screen:

 --- **Case Details** – This button opens the Case Details Input Form. Data can be edited or added to the form. Please refer back to **Chapter 3 – Capturing Data** for more information about this form.

 --- **Preview Extraction** – This button allows you to view the Examination Report in. Please see the section ‘The Examination Report’ later in this chapter for more information on the Examination Report.

Keyword Search

--- **Keyword Search** – Search for data from an imported keyword list stored on a USB thumb drive in the following folder: E:\CellXtract\Report Search.txt, where “E:” is a USB drive. Keywords can also be added to a custom list.

Finished

--- **Finished** – This button closes the data View Screen and goes back to the Main Application Menu.

Keyword Search

To perform a keyword search from the on-screen report, tap the **Keyword Search** button. A keyword search window will appear.



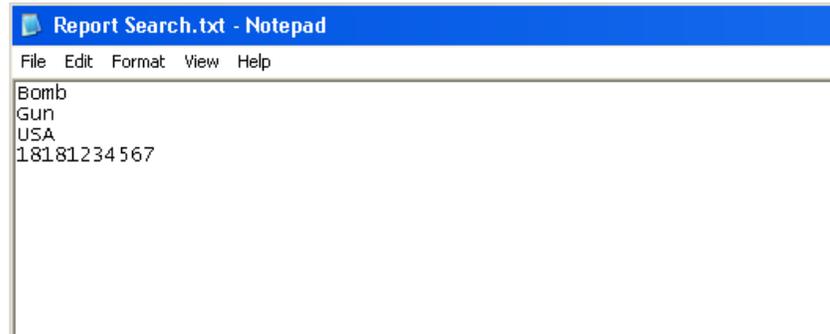
Tap the **Edit** button to edit the keyword search. Using the on-screen keyboard or an attached keyboard, add keywords to the custom list. As you tap the **Add** button, the keyword entered should appear on the right side. Tap the **Done** button when finished.



To use an imported keyword list, a keyword list file must first be created then saved on an external USB location (USB flash drive, USB external drive, etc.). Place a check mark on the **Use Imported Keyword List** box then tap the **Done** button.

To create the keyword list, on a computer, open Notepad or a similar text editor.

Type a simple list of words as shown in the next screen shot below. Words are not case sensitive so type in all lower-case.

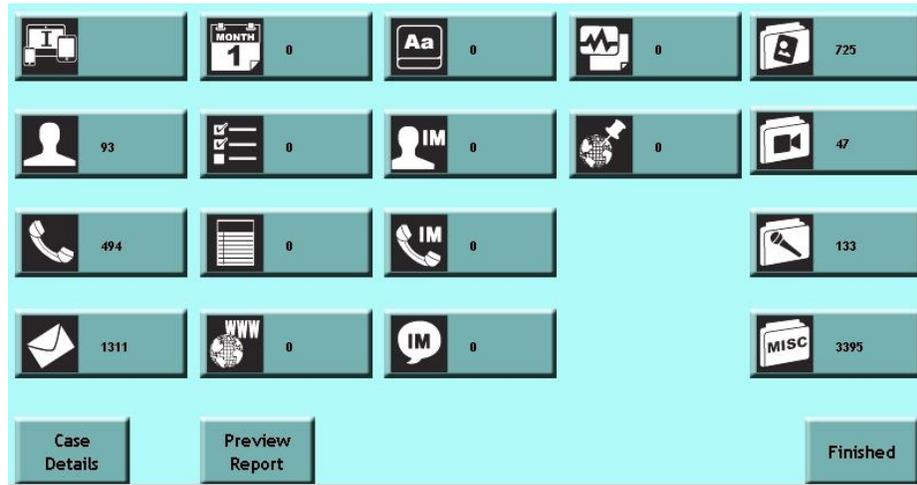


Save the file as “Report Search.txt” (case sensitive) and copy it to a USB storage device in a folder called CellXtract (for example, X:\CellXtract\Report Search.txt). Place this file on the same USB storage device that has your previous extractions or a USB storage device which will be used with CellXtract for future extractions.

After entering the keywords or selecting the imported keyword list, tap the **Search** button. CellXtract will now search all extracted records for the chosen keywords and display the results. To view the each individual record, highlight the record then tap the **Select** button.



Viewing Extracted Data



To view the extracted data, tap one of the icons on the report screen. CellXtract will display all the extracted data based on your selection.



Five buttons are available on each section viewed:



--- Tapping this icon scrolls up one page/entry.



--- Tapping this icon scrolls down one page/entry.



--- Tapping this icon scrolls up within the current page/entry.



--- Tapping this icon scrolls down within the current page/entry.



--- Brings you back to the previous screen to preview another section.

Displaying Previous Extractions

Previously extracted data files can be viewed by selecting “View Previous Extractions” from the main CellXtract window. Previous extractions are organized by date. Additionally, the user can search for a particular extraction by one of these choices:

- Case Reference Number
 - Exhibit ID
 - ICCID Number
 - IMEI Number
1. From the Main Application Screen, tap the **View Device History** button. A list of all previous capture sessions will appear.
 2. Choose the desired search criteria from the **View Detail** list on the side of the screen.
 3. Scroll to the desired capture session and tap it once to select.
 4. Tap the **Select** button. The Standard and Extended Data Screens for that capture session will appear.

The Audit Trail

The audit trail is a set of two files that are generated along with the capture session.

Log.dat records all commands sent to and received from the target device. This includes AT commands.

Audittrail.txt records all data received from the target device.

All three files are stored and moved with the extracted data. They can be accessed once the capture session has been backed up to a USB storage device. They cannot be accessed from within CellXtract

NOTE: Logicube Technical Support may ask the user to send a copy of **log.dat** for troubleshooting purposes.

The Examination Report

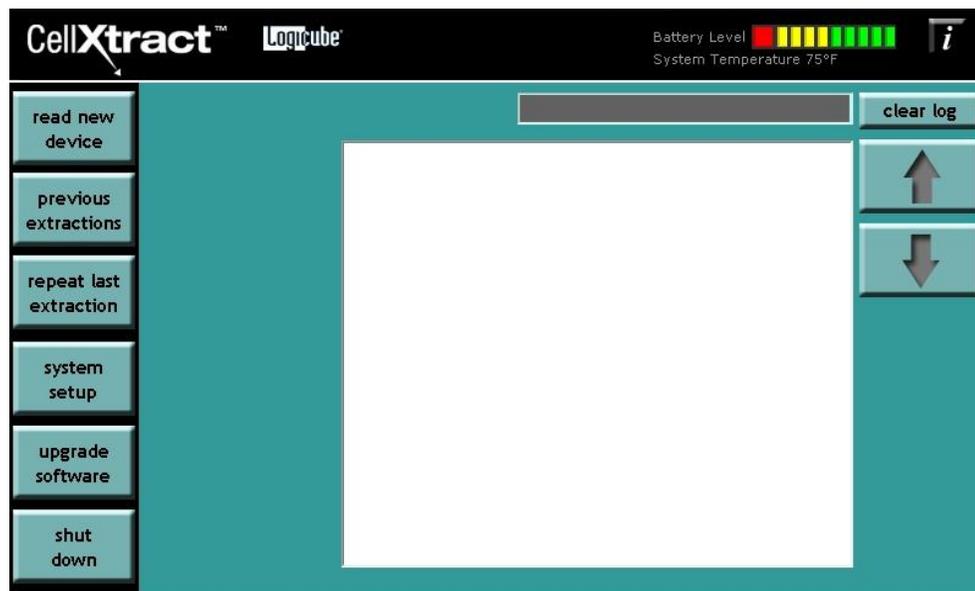
The Examination Report is generated as an SQLite3 file. This SQLite3 file is then translated and converted to an HTML file for easy viewing.

NOTE: XML format is available and can be selected in the CellXtract setup screen. See the section ‘System Setup’ in Chapter 5: Other Features.

5. Other Features

Main Application Screen

This chapter discusses those features of the CellXtract Application that were not covered in previous chapters.



Main Application Screen

Software Update Instructions

Logicube will provide software updates that will provide compatibility with new mobile devices. Optional software subscriptions are tied to the serial number of your CellXtract device. The software will automatically verify that your subscription is active and valid. Users will be notified when new software updates are available for download.

Requirements:

- A computer with Internet access and a working USB port
- A USB flash drive (the recommended format for the USB flash drive is the exFAT filesystem).
- The CellXtract/CellXtract-TNT with the AC adapter.

CellXtract & CellXtract-TNT Software Update Instructions

The instructions below describe how to update the software on the CellXtract and CellXtract-TNT:

1. Customers with an active software subscription will be notified via email when there is a new software update.
 2. Enter the following URL into your browser:
<http://www.logicube.com/knowledge/cellxtract>
 3. You will find links to the following:
 - a. CellXtract Software (for both CellXtract and CellXtract-TNT)
 - b. CellXtract Release Notes
 - c. Software Update Instructions
 - d. Handset Compatibility List
 - e. CellXtract/CellXtract-TNT User's Manual (in the Product Documentation section)
 4. Download CellXtract software and extract/unzip the files to the root of a USB flash drive. When the files are extracted/unzipped, a folder called "CellXtract Update" (case sensitive, without the quotes) should be found on the root of the USB storage device. This folder will contain the following files (not in any order):
 - a. Update.exe
 - b. CXTFiles.exe
 - c. BuildDate.txt
 - d. CellXtract_users_manual.pdf
 - e. License.lic
 5. Connect the AC adapter to the CellXtract and turn the CellXtract on. Accept the End User License Agreement when it appears on the screen.
 6. From the CellXtract Main Application Screen, tap the Upgrade Software button.
 7. You will be prompted to insert the USB storage device. Attach the USB storage device used in step 4 to an available USB port on the right panel. Wait 5 to 10 seconds then tap the OK button.
 8. The software update files will automatically download from the USB storage device and the CellXtract will restart.
 9. The software update will begin. When completed, the CellXtract will commit/save the changes then restart again.
- NOTE: The USB flash drive must be connected during the entire upgrade process.**
10. Validate the Software version by going to System Setup then Information.

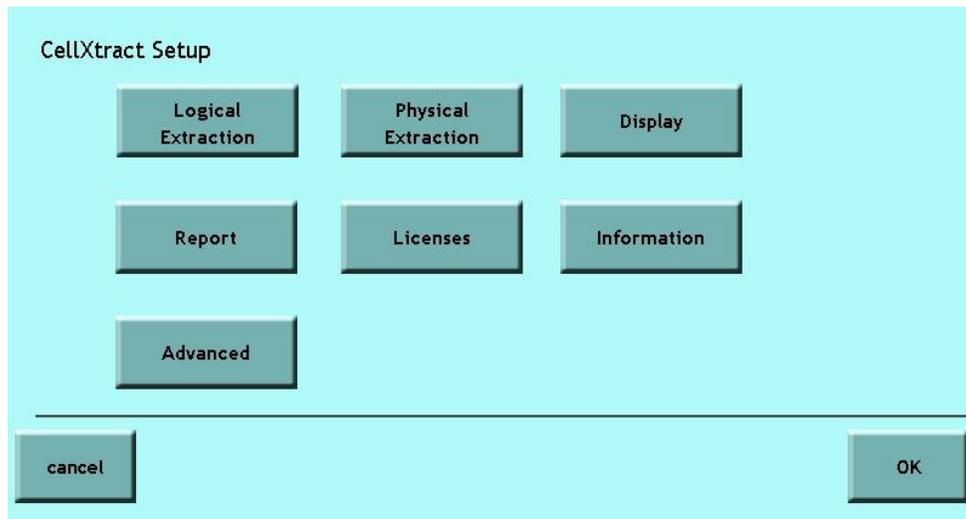
iTunes Update Instructions

Starting with software 1.5.x.x, iTunes will be automatically updated (if needed) during the CellXtract software update.

NOTE: If iTunes needs to be updated, the CellXtract software update can take up to 50 minutes to complete

System Setup

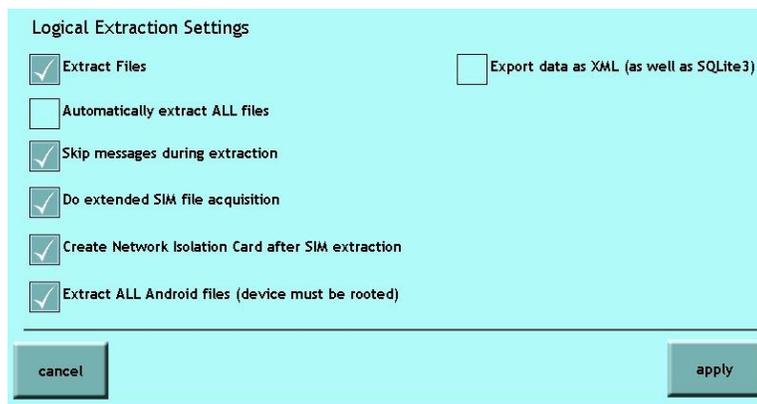
Tapping the **System Setup** button from the main screen brings up the CellXtract Setup Menu:



CellXtract Setup menu

Logical Extraction

Tapping this button brings up the Logical Extraction Settings screen.



Logical Extraction Settings

Extract Files – Checking this box will cause CellXtract to extract the target device’s files

Automatically Extract All Files – Checking this box will automatically download all Extended Data files without prompting the user. This includes all image, video, audio and other files.

Skip Messages During Extraction – Checking this box gives the option to skip unread SMS messages during extraction. During a capture session, a window will appear allowing you to choose whether to skip message extraction or not. The prompt gives the user 15 seconds to skip or download unread SMS messages. If none of the buttons are pressed, then the messages are skipped.

Do extended SIM file acquisition – This setting will pull all available data off of the SIM card and generate a SIMDAT file.

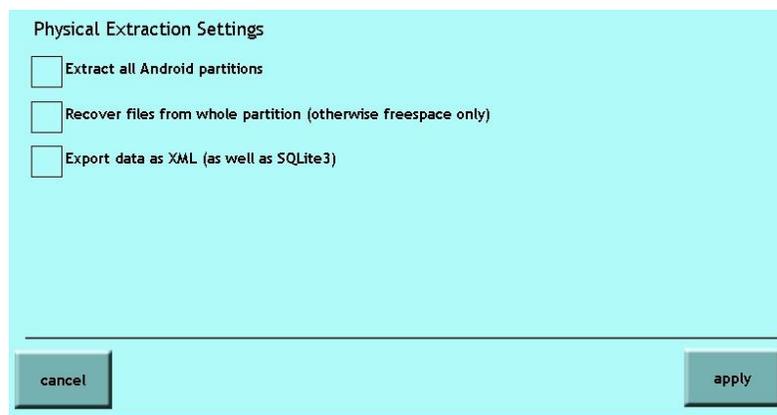
Create Network Isolation Card after SIM Capture – Checking this box will allow some SIM data to be copied post SIM extraction to a target Network Isolation Card (NIC). The newly created NIC installed in the handset and contains enough information to appear to be the original SIM card, but it will not have the necessary information to allow the handset to connect to the network. This effectively provides Network Isolation for the phone.

Extract ALL Android files – This setting, when checked, will extract all Android files in a logical extraction.

Export data as XML (as well as SQLite3) – When checked, this will export the data to an XML file. The SQLite3 file will still be generated.

Physical Extraction

Tapping this will allow you to change settings involving the physical extraction of devices.



Logical Extraction Settings

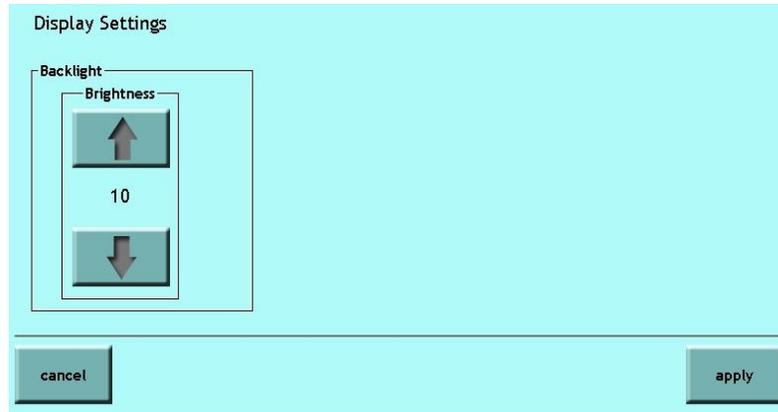
Extract all Android partitions – With this setting checked, all disk partitions on the Android handset will be extracted. Each partition will be extracted and can be seen on the external storage location in the User Files folder.

Recover files from whole partition - This option attempts to recover files from the different partitions.

Export data as XML (as well as SQLite3) – When checked, this will export the data to an XML file. The SQLite3 file will still be generated.

Display

Accessing this screen will allow you to increase or decrease the brightness of the screen.



Display Settings

Information

Tapping this button will bring up a screen that shows Logicube Technical Support contact information. The top of the screen will contain the CellXtract’s serial number (CellXtract Number), software subscription expiration date (license expiry), days remaining on the software subscription (Days Remaining), software and firmware versions. To ensure that you continue to receive software updates (for compatibility with new phones and new feature releases) contact Logicube sales or Technical Support to renew your subscription prior to the expiration date. Software subscription expiration does not affect the operation of CellXtract.



Information screen

It also allows the user to insert his or her company logo into the printed reports.

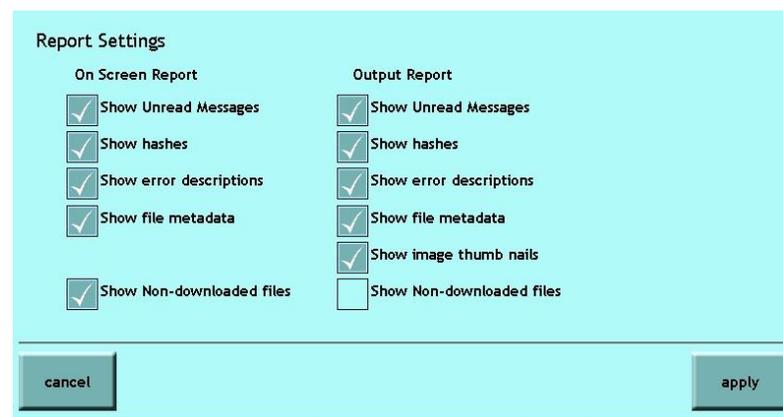
1. On the user's PC, rename the logo to **LOGO.jpg**. Make sure that it is less than 1MB in size.

NOTE: The logo's name is case sensitive, so it needs to be saved exactly as LOGO.jpg.

2. Copy the logo to the root directory of a USB storage device.
3. In the screen above, tap the "Change Logo" button.
4. Insert the USB storage device to an available USB port on the right panel.
5. Tap the OK icon.
6. The logo will be automatically copied to CellXtract and overwrite any existing logo.

Report

Tapping this button brings up the Report Settings screen. Checked items are represented by a blue box.



Report Settings menu

On Screen Report Settings

Show Unread Messages – Un-checking this box prevents CellXtract from showing any unread SMS messages on screen. This setting can be used for any phones that change extracted unread messages to read status.

Show Hashes – Checking this box will display the MD5 Hash Value for all extracted data files.

Show Error Descriptions – Checking this box will show detailed error descriptions for any failure to extract data. If unchecked, failure messages will read: "An error occurred during the extraction of this section of data".

Show Image Metadata – Checking this box will include metadata information with any downloaded images.

NOTE: All metadata may not be retrieved from every image extraction.

Show Non-downloaded Files – Un-checking this box replaces the list of non-downloaded files on the screen with a statement that the user has chosen not to show non-downloaded data.

Output Report Settings

Show Unread Messages – Un-checking this box prevents CellXtract from showing any unread SMS messages on the report.

Show Hashes – Checking this box will display the MD5 Hash Value for all extracted data files.

Show Error Descriptions – Checking this box will show detailed error descriptions for any failure to extract data. If unchecked, failure messages will read: "An error occurred during the extraction of this section of data".

Show Image Metadata – Checking this box will include metadata information with any downloaded images on the report.

Show Image Thumb Nails – Checking this box will show thumb nail images of any downloaded image files on the report.

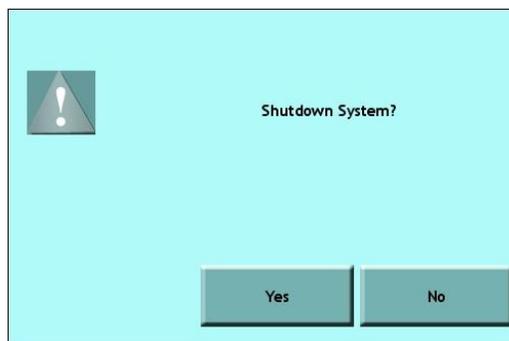
Show Non-downloaded Files – Un-checking this box replaces the list of non-downloaded files on the report with a statement that the user has chosen not to show non-downloaded data.

Advanced Button

This button is reserved for troubleshooting purposes only when directed by Logicube Technical Support.

Shutting Down CellXtract

The system can be shut down directly from the Main Application Screen. Tap the "Shut Down" button and confirm the action. CellXtract will automatically power itself down.



Shut Down screen

6. Reference

Extraction notes

This section contains extraction information and notes regarding specific handsets, phone Operating Systems, or devices.

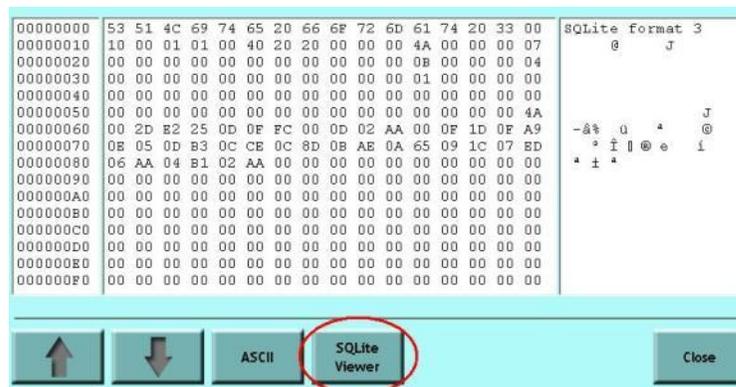
SQLite Viewer

CellXtract now includes an SQLite Viewer which allows SQLite databases to be explored – SQLite databases can be found in Apple, Android OS devices, BlackBerry and Symbian OS Series 60 smartphones. Apps such as Apple Safari and Opera store data in SQLite databases.

An SQLite database looks like the following screen when viewing extracted data.



Tap the link in the extracted data entry (in this example, tap “view file content as HEX/ASCII”). The following screen will appear:



Tap the **SQLite Viewer** button to open the SQLite Viewer.

call									Up	Down	Left	Right	Encodings	Close	
ROWID	address	date	duration	flags	id	name	country_code	network							
1	8182747754	1373568315	0	5	-1		310	410							
2	18772808418	1373775362	474	5	-1		310	410							
3	8002882020	1374012465	0	4	-1		310	410							
4	8185189761	1374177944	159	5	-1		310	410							
5	8182242030	1374179333	49	5	-1		310	410							
6	8183441130	1374251523	63	5	-1		310	410							

Type	Value
UTF-8 value	1373568315
Unix Epoch Time	7/11/2013 6:45:15 PM
Unix Epoch Time (ms)	1/16/1970 9:32:48 PM
Apple Time	7/11/2044 6:45:15 PM
BlackBerry Time	7/12/1943 6:45:15 PM
Base64 value	

Android Devices

CellXtract has the capacity to extract information from mobile devices that use Google’s Android operating system. Extracted data includes: Contact details, Call Logs, SMS messages, Calendar/Tasks and Files. CellXtract supports extraction of contacts database on handsets running on Android 2.2 operating system.

For physical extraction of Android devices, please refer to Chapter 7 – Physical extraction.

Before an extraction can be performed, users must:

1. Select “Unknown Sources” and “USB debugging” in the target devices application settings.
2. Ensure the target device has a formatted SD Card inserted.

The Android extraction process requires the use of an application (Agent) which is automatically installed onto the target device and executed. The Agent extracts data from the device and stores in a temporary file called ANDDAT on the devices SD Card. (**!sdcard!ANDDAT**). At the end of the extraction, the ANDDAT file is deleted from the card and the Agent is automatically uninstalled.

- Supports physical extraction and decoding of Android phones
- Supports Android O/S 1.6 through 2.3.4
- Supports Android file systems EXT3, EXT4 and RFS, and provides limited support for YAFFS2. YAFFS2 is expected to be fully supported in a future release
- Supports dumping and decoding of contacts, call logs, SMS, emails and user files
- Can extract deleted file items such as databases, images, video, audio and documents

It is expected that most Android phones using the above mentioned Android O/S and/or file systems will be supported.

Samsung Galaxy S3

The following Samsung Galaxy S3 devices can be rooted. Not all Samsung Galaxy S3 models have been validated, if your handset model is missing from the Android model list, please select Android Generic.

NOTE: Rooting Samsung Galaxy S3 requires permanently flashing a new insecure bootloader image onto the device. The device will remain permanently rooted.

NOTE: 100% successful rooting is not guaranteed. In rare instances rooting can render the handset inoperable. Proceed with caution.

- SAMSUNG I9300 4.0.4 build IMM76D
- SAMSUNG I9300 4.0.4 build IMM76D
- SAMSUNG I9300 4.0.4 build IMM76D
- SAMSUNG I9300 4.1.1 build JRO03C
- SAMSUNG I9300 4.1.1 build JRO03C
- SAMSUNG I9300 4.1.2 build JZO54K
- SAMSUNG I9300T 4.1.2
- SAMSUNG I9305 4.1.1 build JRO03C
- SAMSUNG I9305 4.1.2 build JZO54K
- SAMSUNG I9305 4.1.2 build JZO54K
- SAMSUNG I9305N 4.1.1 build JRO03C
- SAMSUNG I9305N 4.1.2
- SAMSUNG I9305T 4.1.2
- SAMSUNG SCH-I535 4.0.4 build IMM76D
- SAMSUNG SCH-I535 4.1.1 build JRO03C
- SAMSUNG SCH-I535 4.1.2
- SAMSUNG SCH-I939 4.1.2
- SAMSUNG SCH-R530 4.0.4 build IMM76D
- SAMSUNG SCH-R530 4.1.1 build JRO03C
- SAMSUNG SCH-R530 4.1.2
- SAMSUNG SCH-R530M 4.0.4 build IMM76D
- SAMSUNG SGH-I747 4.0.4 build IMM76D
- SAMSUNG SGH-I747 4.1.1 build JRO03C
- SAMSUNG SGH-I747 4.1.1 build JRO03L
- SAMSUNG SGH-I747M 4.0.4 build IMM76D
- SAMSUNG SGH-I747M 4.0.4 build IMM76D

- SAMSUNG SGH-I747M 4.1.1 build JRO03C
- SAMSUNG SGH-I747M 4.1.2
- SAMSUNG SGH-T999 4.0.4 build IMM76D
- SAMSUNG SGH-T999 4.1.1 build JRO03C
- SAMSUNG SGH-T999 4.1.2
- SAMSUNG SGH-T999V 4.0.4 build IMM76D
- SAMSUNG SGH-T999V 4.1.1 build JRO03C
- SAMSUNG SPH-L710 4.0.4 build IMM76D
- SAMSUNG SPH-L710 4.1.1 build JRO03C
- SAMSUNG SPH-L710 4.1.2

Android Ad-hoc device rooting

CellXtract can attempt ad-hoc rooting of Android Devices. This allows CellXtract to extract the complete file structure of the device. Ad-hoc rooting does not work with all Android devices. Rooting is removed after the device is restarted. Please check with local laws governing rooting prior to using.

- Android OS versions 1.6-2.3 are supported
- Gives access to the whole file system. After rooting/data/data and/data/misc folders of Android device internal memory are available for analysis. Without root permissions these folders are inaccessible.
- 100% successful rooting is not guaranteed

NOTE: 100% successful rooting is not guaranteed. In rare instances rooting can render the handset inoperable. Proceed with caution.

Ad-hoc rooting will provide the following features:

- Allows user to access the whole device file system
- Deleted data in database tables (deleted contacts, messages, etc.)
- Pre-installed and custom applications with user data
- Yahoo! Mail and Google Mail application data
- Google Maps, Google Talk and Google Calendar application data
- Dropbox application data

Ad-hoc device rooting is not required for the data extraction of Call Logs, Phonebook and Messages.

When performing an Android extraction, CellXtract will ask if you want to temporarily "Root" the Android device. If successful, the device will remain rooted until turned off.

If the device is not rooted, only the following file locations will be extracted:

/sdcard/

If the device is rooted and the checkbox for 'Extract ALL Android files' is not checked, only the following file locations will be extracted:

/sdcard/
/data/data/
/data/misc/

Android Email

CellXtract can extract data from the default email and Gmail databases.

- Device must be temporarily rooted
- Email attachments not supported
- Email body preview only

Android App Data

The Android extraction can extract data from the following apps:

- Dolphin Browser
- eBuddy Messenger
- Facebook Messenger
- Firefox Browser
- Google Maps, Google Calendar, Google Hangouts, Google Mail, and Google Talk application data
- Line
- Skype
- Skyfire Browser
- Tumblr
- Viber
- WhatsApp Messenger
- Yahoo Messenger

NOTE: The Android device must be rooted for the above data to be extracted.

eBuddy Messenger, Facebook Messenger, Google Hangouts, Google Talk, Line, Skype, Viber, WhatsApp Messenger, Tumblr, and Yahoo Messenger are categorized as IM Data and can be found in the following report sections: IM Contacts, IM Calls and IM Chat.

Dolphin Browser, Firefox Browser, and Skyfire Browser data can be found in the URLs report section.

Google Maps data can be found in the Locations report section.

Android Location Information

The Android extraction can extract Cell and WIFI connection location information which includes GPS coordinates and timestamps. This information is shown in the Location Information section of the report. CellXtract also generates a Google Earth .KML file called GPSTData.kml which is created in the extracted data files folder. This file can be imported into Google Earth. Note: The device must be rooted to acquire location information.

Android files of Interest

The Android extraction can extract system files *. Some of these files may contain useful information. These files are described below: -

C:\data\data\com.google.android.location\files\cache.wifi
Contains cached WIFI connection details.

C:\data\data\com.google.android.location\files\cache.cell
Contains cached Cell connection details.

C:\data\data\com.android.providers.userdictionary\databases\user_dict.db
Containing cached user entered text

C:\data\data\com.google.android.gm\databases\gmail.db
C:\data\data\com.google.android.gm\databases\mailstore.*.db
Contains Google email account and mailstore databases

C:\data\data\com.google.android.talk\shared_prefs\ BuddyList.xml
Contains Google Talk contact details

C:\data\data\com.android.providers.calendar\databases\calendar.db
Contains Google calendar details

C:\data\data\com.yahoo.mobile.client.android.mail\databases\mail.db
Contains Yahoo email details

NOTE: Device must be rooted to acquire some of these files.

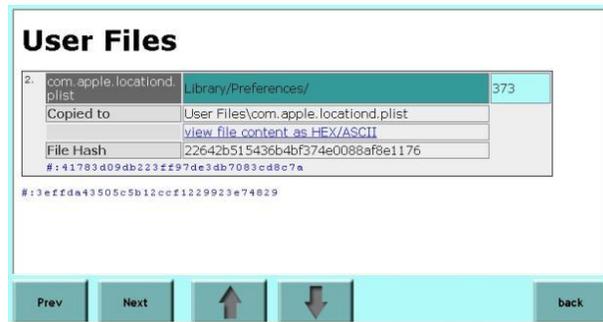
Apple iPhone Devices

Apple iOS 7 is supported with CellXtract software 1.7.x.x. iTunes will automatically be updated during the CellXtract 1.7.x.x software installation.

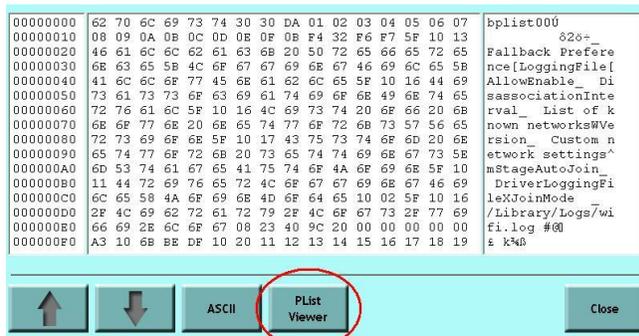
PList Viewer

CellXtract now includes a PList Viewer which allows Apple Property List binary XML files to be viewed. Plist files may contain a lot of valuable forensic information such as browser history, Wi-Fi access points, speed dials, Bluetooth settings, global applications settings, Apple Store settings etc.

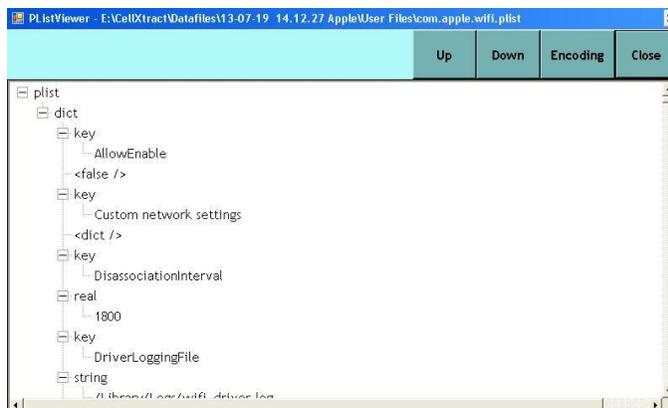
A PList database looks like the following screen when viewing extracted data.



Tap the link in the extracted data entry (in this example, tap "view file content as HEX/ASCII". The following screen will appear:

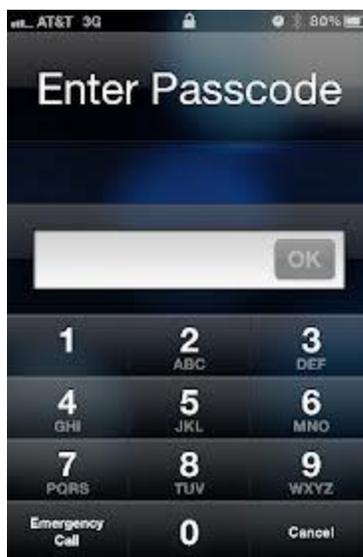


Tap the **PList Viewer** button to open the PList Viewer.



iPhone Passcode Bypass

CellXtract can extract data from a passcode locked iPhone if specific iTunes .plist files from a PC or Mac are available. The iPhone's passcode must have been enabled then synced with the PC or Mac after the passcode was enabled. The PList files will need to be copied from the PC or Mac to a specific folder/directory on a USB drive.



1. Locate iTunes .plist files from synced PC or Mac. These can be found in the following locations:

- Windows 98/ME/2000/XP iTunes Users:
C:\Documents and Settings\All Users\Application Data\Apple\Lockdown
- Windows Vista iTunes Users:
C:\Users\<User Name>\AppData\Roaming\Apple Computer\Lockdown
- Windows 7 iTunes Users:
C:\ProgramData\Apple\Lockdown

NOTE: Windows file locations are hidden by the Operating System by default. There are different ways of showing

hidden files depending on the Operating System. Please search the Internet or contact Microsoft support for instructions on how to show hidden files.

- Mac OS X iTunes Users:
**VolumeName\Users\\Library\Lockdown\
Or
/var/db/lockdown**
2. Copy all iTunes .plist files to the following directory on a USB drive (It is recommended that the USB drive is formatted before creating \CellXtract\Lockdown directory and copying .plist files):
 - **:\CellXtract\Lockdown\
3. Insert USB drive into CellXtract unit and perform a regular iPhone extraction. CellXtract will then search the USB drives for any .plist files and import them if found.**

iPhone App Data

The iPhone extraction can extract data from the following apps:

- Apple Maps (iOS 6 and above only)
- eBuddy Messenger
- FaceTime
- Line
- Skype
- Tumblr
- Viber
- WhatsApp Messenger
- Yahoo Messenger

Apple maps report will contain GPS coordinates and Google Maps hyperlinks (added to the "Locations" section of the report). Data is exported in KML format, which can be opened using Google Earth, Google Maps, and Google Maps for mobile.

eBuddy Messenger, Line, Skype, Yahoo Messenger, Viber, WhatsApp Messenger and Tumblr data is categorized as IM Data and can be found in the following report sections: IM Contacts, IM Calls and IM Chat.

FaceTime data can be found in the Calls report section.

iPhone files of Interest

During the iPhone extraction process a number of 'other' files can be extracted. Some of these files may contain useful information.

A selection of these files is shown below:

/library/cookies/cookies.plist

Contains web site cookies saved by the Safari browser.

/library/mail/accounts.plist

Contains details of the email server accounts that are configured on the device. Emails cannot be obtained by CellXtract.

/media/webclips

Contains a list of web page shortcuts assigned to the device's main screen. Each webpage is stored in a separate directory that contains a property list called Info.plist. This property list has details of the title and URL of each page.

/library/maps/history.plist

Contains a 'Google Maps' history file which includes addresses, route directions and other useful data.

/library/safari/history.plist

Contains the Safari web browser history from when it was last cleared.

/library/keyboard/dynamic-text.dat

A keyboard cache containing text entered by the user.

/Library/preferences/com.apple.maps.plist

Contains the last longitude/latitude coordinates viewed in the 'Google maps' application.

/library/preferences/com.apple.mobilesafari.plist

Contains a list of recent searches performed using the Safari browser

Note: The content of these files has not been verified.

Apple Location Information

The file GPSTData.kml is created when extracting an iPhone. This file can be opened using Google Earth.

iPhone Support – User Application Notes

iTunes

Do not install versions of iTunes that is not supported by the CellXtract software release. The CellXtract software will automatically update iTunes if necessary.

iPhone 5

The iPhone 5 is expected to work, but at this time has not been fully validated by Logicube.

Skype

CellXtract supports extraction of Skype data from Apple iPhones. Extracted data includes

- Voice/Video calls

In the extraction report, Skype voice/video calls are shown under the Call Register section

- Chat messages

In the extraction report, Skype chat messages are shown in the Messages section

- User profiles

In the extraction report, Skype user profiles are shown in the Contacts section

BlackBerry Devices

BlackBerry devices can only connect via Cable. BlackBerry devices that are password-protected will need to be unlocked before data can be extracted.

Unlocking a BlackBerry Device

The CellXtract allows the user to input the PIN lock for a BlackBerry device directly through the CellXtract interface rather than the device itself. The CellXtract will automatically detect if a PIN lock is enabled and bring up the Enter Password Prompt.



Enter Password Prompt

TIP: Tap “Hide Password” to turn it on or off. If Hide Password is on, the password will appear.



Hide Password Turned On

NOTE: The password or the PIN of the BlackBerry device will need to be entered. CellXtract cannot unlock the device without it.

BlackBerry Personal ID Numbers (PINs)

Each BlackBerry device is assigned a unique personal identification number (PIN), which allows identification of each device.

The PIN number of other BlackBerry users is stored in the devices phonebook with their contact information and allows direct PIN-to-PIN emailing and messaging.

CellXtract extracts each contact PIN number from the phonebook as well as the PIN numbers associated with messages sent from other BlackBerry users.

Windows Mobile Devices

Windows Mobile devices need to have Active Sync enabled before they can be set to Infrared mode. Please refer to the “**Connection Options**” section in Chapter 2.

Windows mobile 7 phones will be supported in a future release.

Various Windows Mobile Devices

The following mobile GPS software has been verified and can be extracted from supported devices using CellXtract:

- Google Maps Mobile on Various Windows Mobile devices

Symbian Devices

CellXtract will extract information from mobile handsets that use the Symbian operating system (Series 60 / Nokia Symbian OS V 8.1).

Extracted data includes Contact Details, Call Logs, SMS messages, Calendar, Tasks and Files.

This data capture is possible with the following caveats:

No SIM data is extracted from Symbian handsets.

“Nicknames” are not extracted.

Cannot extract any SMS messages stored in 'My Folders' directory or other user created folders.

To extract data, it is necessary for CellXtract to write temporary .dat files to the target phone. These files are removed at the end of capture.

Capture from Symbian UIQ 2nd & 3rd Edition OS

CellXtract will extract information from mobile handsets that use the Symbian UIQ 2nd and 3rd Edition OS. Extracted data includes Contact Details, Messages, Calendar, Tasks and Files.

Data capture requires a handset Agent and the use of a CellXtract UIQ memory card. This is a specially prepared card by CellXtract to temporarily store and transfer data.

WARNING: Do not create the UIQ memory card from the card used inside the handset. Always use a separate blank, formatted card that is not write-protected.

Follow these steps to capture data:

1. User inserts spare memory card into the memory card reader.
2. CellXtract generates and formats a UIQ card and installs the Agent.
3. User then inserts the UIQ card into handset.
4. User locates the Agent installer on the UIQ card using the file browser application and then installs the agent onto the device.
5. User locates and runs the Agent application, then waits for the data extraction to complete. **Extracted data is now stored on the UIQ card.**
6. User removes the UIQ card from the handset and inserts it back into the memory card reader.
7. CellXtract automatically copies and decodes all data from the UIQ card.
8. CellXtract formats the UIQ card.
9. CellXtract instructs the user to uninstall the agent from the handset.
10. CellXtract presents the results to the user.

This data capture is possible with the following caveats:

Extraction of Call Logs is not supported.

Extraction of SMS messages stored in user created folders is not supported.

Extraction of MMS / Email messages is not supported.

Memory cards within these phones need to be captured separately. (Please refer to “**Attaching a Flash Memory Card**” section in Chapter 2).

Symbian Event Logs

Symbian S60 2nd Edition and 3rd Edition handsets have the ability to record events which CellXtract will extract.

The following information can be extracted:

- Voice Call events – ID, Number, Date, Time, Direction and Duration
- SMS events – ID, Number, Date, Time, Direction, Message Fragment and Status
- MMS events – ID, Name, Date, Time, Direction and Duration

These events are normally accessed by the handset’s Log Viewer application. These events have a validity period set in the Log Viewer settings. Once this duration period has expired, events will no longer be accessible.

Points of Interest

- Timestamps extracted by CellXtract are always reported in Greenwich Mean Time (GMT) whereas the timestamps shown in the handset’s Log Viewer application are set to the handset’s current time zone.
- CellXtract is able to extract message fragments for SMS events. These are not displayed by the Log Viewer application. Only the first 64 characters of a message are reported any messages greater than 64 characters are truncated in the event log, including multipart messages where only the first 64 characters of the first message part are reported.
- Incoming MMS messages are shown as 2 separate events, 1 incoming SMS event and 1 outgoing MMS event. CellXtract extracts both of these events. The SMS event has a body fragment of *Data Message*

The following Symbian S60 handsets are verified on CellXtract:

NOKIA: 3230, 3250 5320XpressMusic, 5500 Sport, 5700, 6120, 6220 Classic, 6260, 6290, 6620, 6630, 7610, E50, E51, E61, E63, E65, E66, E70, E71, N70, N71, N72, N73, N76, N77, N79, N80, N81, N82, N85, N90, N91, N93, N93i, N95, N95 8GB

SAMSUNG: I8510, SGH-D720, SGH-G810

Palm OS Devices

Palm OS devices are supported with the following caveats:

- Extraction of SMS messages is currently not supported.
- Extraction of user files is currently not supported.
- CellXtract is able to collect the following information from Palm devices: Contact Details, Call Logs (if available), Calendars, Tasks, Notes and Palm Database (PDB) files. PDB files are where Palm OS keeps data stored in RAM. The data is kept in database format. These files can contain user data.

Motorola Devices

The extraction of Unicode characters for all data sets has not been verified for Motorola devices.

Before an extraction begins with one of these devices the CellXtract will offer the user a choice:

1. Extract validated data set only. This means that some Unicode data will not be extracted.
2. Attempt to extract all Unicode data. Software will try to extract Unicode characters for all data sets on the device. At this time the output in this case is not guaranteed by validation testing.

Time/Date Stamps from Motorola Phones

Users should note that Motorola timestamps / date stamps are not reported due to current limitations in how file "modified" and file "created" timestamps are reported in the Motorola OS.

Sony Ericsson Devices

The extraction of Unicode characters for all data sets has not been verified for Motorola devices.

Before an extraction begins with one of these devices the CellXtract will offer the user a choice:

1. Extract validated data set only. This means that some Unicode data will not be extracted.
2. Attempt to extract all Unicode data. Software will try to extract Unicode characters for all data sets on the device. At this time the output in this case is not guaranteed by validation testing.

Data Capture from Sony Ericsson Phones

If the User runs into trouble capturing data from a Sony Ericsson phone users should make sure that the “Default Contacts” setting on the target handset is set to “Phone Contact” before an extraction is performed.

This is done by navigating manually on the phone’s menus as follows:

Menu > Contacts > Options > Advanced > Default Contact > Select “Phone Contact”.

Once this setting is enabled, users should have no trouble extracting data from the handset.

Unlocking Sony Ericsson Handsets

CellXtract is able to deactivate Sony Ericsson handset lock codes of up to 8 digits.

Some handsets may not be able to establish a USB connection whilst the handset lock is active. In this case CellXtract will first attempt to locate device drivers then ask the user to confirm the handset is locked.

If yes the user is instructed to restart the handset and re-connect it before the unlock code screen appears.

Tap OK to unlock the handset.

NOTE: Depending on the code that has been set CellXtract may take some time to unlock the handset.

Below is a guide as to how long unlocking may take. To attempt to unlock:

- All 4 digit codes up to 4 mins
- All 5 digit codes up to 40 mins
- All 6 digit codes up to 7 hours
- All 7 digit codes up to 3 days
- All 8 digit codes up to 30 days

The Activity log will show the progress of the unlocking process.

NOTE: The unlocking process can be cancelled at any time. However data extraction cannot be performed on a locked handset. If the process is cancelled without finding the unlock code, it will need to be started again to unlock the handset.

Once the handset has been unlocked data extraction will be performed automatically. The unlock code is displayed in the Device Information section of the report.

NOTE: CellXtract only unlocks the handset; it DOES NOT remove the handset lock. If the handset is restarted after the extraction the code will need to be re-entered.

NOTE: CellXtract cannot unlock handsets that do NOT contain a SIM card.

Siemens Devices

Occasionally, Siemens handsets have been known to return a NULL response when asked for data of a particular type (i.e. SMS messages). If this happens, the following error message will appear under the relevant data type:

Handset has been known to occasionally return a null response. Please refer to handset and retry extraction.

Users should check the affected field(s) on the handset and retry the extraction.

Other Extraction Notes

CellXtract can playback W4A files that have been extracted from devices. W4A files are audio files that can be created on some mobile handsets.

GPS Extraction Notes

The following describe some extraction notes for specific GPS devices:

Tom Tom Devices

If a TomTom GO 720 is to be selected, choose "TomTom GO 720". After capture, you will get an opportunity to capture the memory card separately. If present, remove the memory card from the GPS device. This will be captured later.

WARNING: ALWAYS remove the Memory Card from a TomTom device prior to capture.

NOTE: TomTom can store the same information in the device and on the Memory Card. For that reason, the device and card may contain different sets of the same type of data (i.e. application info, favorite destinations, etc.)

The following information can be extracted from the supported TomTom Devices:

Device information - Manufacturer, Model, Serial Number

Owner information - Owner's Name, Owner's Street, Owner's Town, Owner's City

GPS location information - 'Home' address with GPS coordinate, 'Favorite' addresses with GPS coordinates, 'Destination' addresses with GPS coordinates, 'Recent' addresses with GPS coordinate, 'Miscellaneous' addresses with GPS coordinates

Telecommunication information (only on supported devices) - Telephone contact information stored on TomTom, Telephone numbers called via the TomTom, Telephone numbers of calls received via the TomTom, SMS messages received via the TomTom, SMS messages sent via the TomTom

Files (only on supported devices) - MP3 files, JPEG files

Garmin Devices

The following information can be extracted from Garmin devices: manufacturer, model, serial number, "favorite" addresses with GPS coordinates.

After the GPS Device is extracted, press "Memory Card" on the screen that appears. Follow the directions for Connecting a Memory Flash Card earlier in this chapter.

HP Satellite Navigation Devices

The following information can be extracted from HP satellite navigation devices:

GPS location information - 'Favorite' addresses with GPS coordinates, Route 'Waypoint' addresses with GPS coordinates, 'Search History' addresses with GPS coordinates.

Telecommunication information - Contact information, call registers.

Files - User files can also be retrieved from the device by performing a separate Flash Media extraction.

Generic GPS Extraction

CellXtract can search certain devices for GPS data generated by any of the following GPS Software:

- CoPilot 6
- Garmin
- Navman Smart ST
- NavNGo
- NDrive
- TomTom

The data files generated by this software can be stored on devices without any GPS software installed. This data can still be extracted using CellXtract.

Devices which GPS Data can be extracted from are:

- Sat-Nav GPS Devices
- Windows Mobile Devices
- Flash Media Cards
- Mass Storage Devices

NOTE: GPS Devices can be used to store data generated from other devices. Therefore, care must be taken when linking data to a specific device.

The following GPS Data can be extracted:

- 'Favorite Locations' - These are a list of addresses and/or coordinates which a user has chosen to store on the device. They can contain Home and Work locations.
- 'Recent Destinations' – These are a list of previous destinations the owner has selected to navigate to.
- 'Route Waypoint Data' – These are a list of addresses and/or coordinates which form set locations along a route that the user has created.
- 'History' - This is a list of addresses and/or coordinates that the owner has previously searched for or viewed. This list may also contain Favourite and Route Waypoint Locations. This list differs from Recent Destinations in that the owner may not have selected to navigate to the location.

NOTE: The presence of any of the above data on a device does not indicate that the owner has been to that location. Only that the owner chose to view and/or save that location on the device.

CellXtract will also extract Telecommunications data from some Sat-Nav GPS Devices.

The following Telecommunications data can be extracted:

- Contact information
- Telephone numbers called via the GPS Device
- Telephone numbers of calls received via the GPS Device
- SMS sent and received via the GPS device

This information is extracted from the data files created by the above software only. Mobile communication devices may have a separate store for this information.

NOTE: It is recommended that a separate PDA extraction be performed on all WinMobile devices to obtain Telecommunication Data

GPS Track Logs

CellXtract can extract GPS track logs from devices manufactured by:

- Garmin
- Navman
- HP

Track logs record the GPS coordinates of the device every 1-2 seconds giving an accurate description of where the device has been and when.

The CellXtract report shows only the start point of each stored track log, as each track can potentially store thousands of points.

Track log data is best viewed by importing the GPSTData.gpx into Google Earth.

NOTE: Some devices start logging as soon as they are turned on, however other devices require the user to initiate logging to record track log data.

Opening GPSTData.gpx Output Files in Google Earth

CellXtract generates an additional data file when extracting GPS Data. This file contains GPS data and can be imported into Google Earth to display the data.

The data file GPSTData.gpx is created within the extraction folder automatically when a GPS extraction is performed.

The data file stores all waypoints, routes and track log data in a format which can be used by Google Earth to display all of the GPS data in the report.

NOTE: Google Earth 5.0 will need to be installed on a PC to view the GPSTData.gpx file. This can be downloaded from: <http://earth.google.com>

Open Google Earth and tap the File menu.



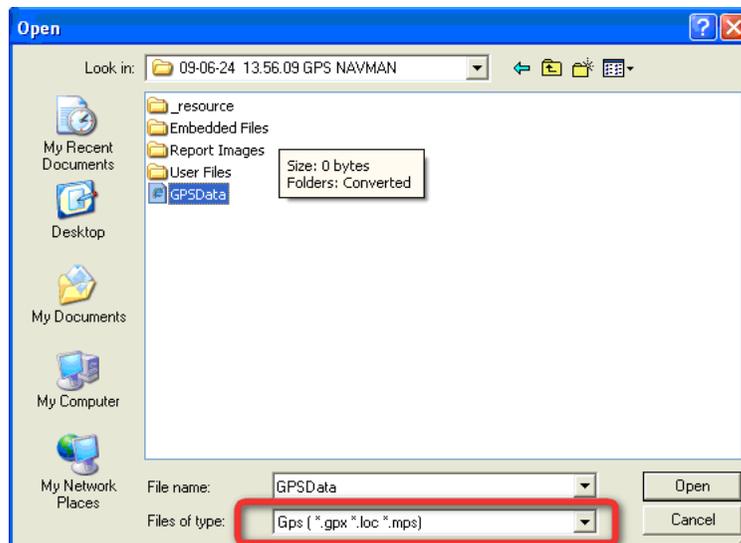
Google Earth (part 1)

Then select Open



Google Earth (part 2)

Navigate to the location where the extracted data files are stored.

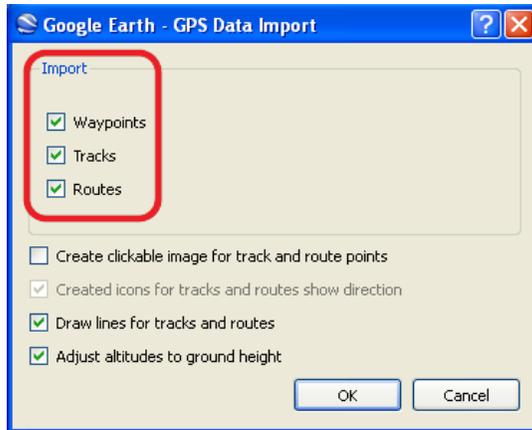


Opening GPSData files

In the Files of type drop down box select Gps (*.gpx *.loc *.mps) and then select the GPSData file and tap open.

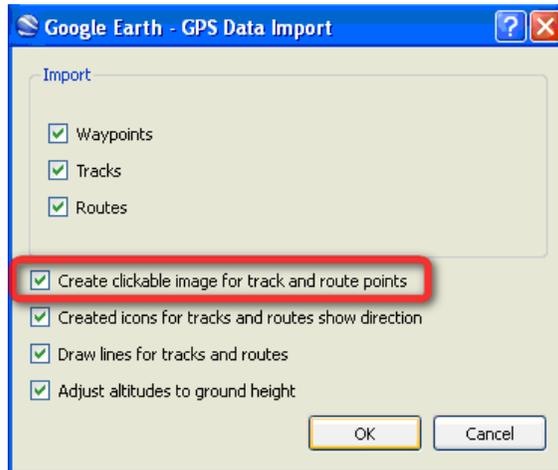
Alternatively you can drag the GPSData.gpx file into Google Earth.

The GPS Data Import window appears allowing you to choose what types of data you want to import.



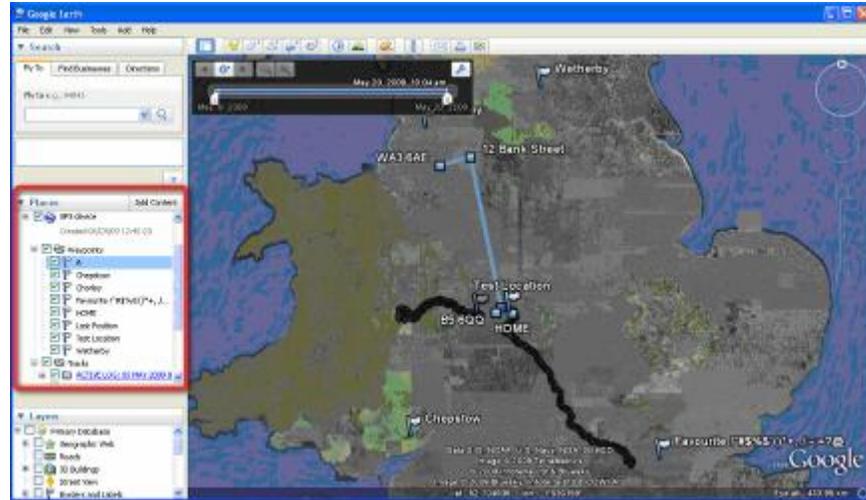
Google Earth data types

To display all GPS fixes along a saved track log make sure you check the Create clickable image for track and route points.



Google Earth import options

The data is then displayed on the map and can be selected using the Places navigation panel.



Google Earth view

A full Google Earth User Guide can be viewed at: <http://earth.google.com/intl/en/userguide/v5/>

NOTE: Google Earth imports GPS coordinates, Time and Date, Altitude and waypoint name data only. Any other information displayed in Google Earth has been inferred by the Google Earth software.

Geo-Tag Data from Images

CellXtract will display Geo-Tag data for images that have been captured using a device with a GPS receiver. A Geo-Tag consists of latitude and longitude coordinates and adds geographical identification to an image.

Geo-Tag information is automatically extracted and appears in the metadata section associated with an image.

Metadata *	Width x Height: 640 x 480	
6. IMG_0067.JPG	Media/DCIM/100APPLE/	605911
Copied to	User Files\IMG_0067.JPG	
Preview		
	view file content as HEX/ASCII	
Metadata *	Camera Make: Apple Camera Model: iPhone Date/Time: 2009:01:24 15:56:30 Width x Height: 1600 x 1200 GPS position: 32.629000, -116.993667	

Geo-Tag

NOTE: Geo-Tagging is only displayed if the image has been captured using a device that supports geo-tagging.

7. Physical Extraction

Introduction

Physical extraction is available on both CellXtract and CellXtract-TNT. This feature performs a physical extraction of Android phones. Android OS 1.6 through 2.3.4 are currently supported. The version of Android OS can be found on the handset by navigating to Settings, then About Phone.

Android physical extraction requires root access. If the phone is not already rooted, CellXtract will attempt to temporarily root the phone. This is not a permanent root and the device can be un-rooted by either turning the phone off then back on or by removing the phone battery.

CellXtract extracts a physical memory dump from each selected memory partition. For each memory dump CellXtract will:

- a. Attempt to reconstruct the file system and then search for contacts, call logs, SMS, emails and user files (audio, images, etc.) and
- b. Scan the dump for deleted and embedded data.

As well as the regular CellXtract report, the results from each extraction will include one or more memory dumps, one or more reconstructed file systems (stored in the User Files folder) and deleted and embedded data (stored in the Recovered Files folder).

Step by Step – Physical Extraction

The Physical Extraction process on the CellXtract or CellXtract-TNT is composed of the following steps:

- Attaching an external storage location
- Selecting Physical Extraction and the handset
- Connecting the handset
- Case Details screen
- Performing the extraction
- Report Preview

NOTES:

- Make sure the AC adapter is connected to the CellXtract when performing a physical extraction. The physical extraction process may take several hours.
- The storage capacity of the external storage location must be larger than the amount of memory on the phone itself (internal memory). This is not the capacity of the micro SD card. To find out the amount of memory on the phone, refer to the manufacturer's website.

Attaching an external storage location

1. Attach an external storage location such as a USB flash drive or USB external drive to one of the available USB ports on the right panel. This will allow CellXtract to save extracted files and the report to the selected external storage location.

NOTE: Some handsets may contain flash images that exceed 4GB. If the external storage (USB flash drive or USB external drive) is formatted to FAT32 the file size limitations (4GB) of the FAT32 format can cause unsuccessful extraction results. In these cases, the external storage media (USB flash drive or USB external drive) must be formatted to a file system which supports file sizes greater than 4GB such as NTFS.

Selecting Physical Extraction and the handset

2. From the main screen, tap **Read New Device**.



3. Select **Cell Phone**.



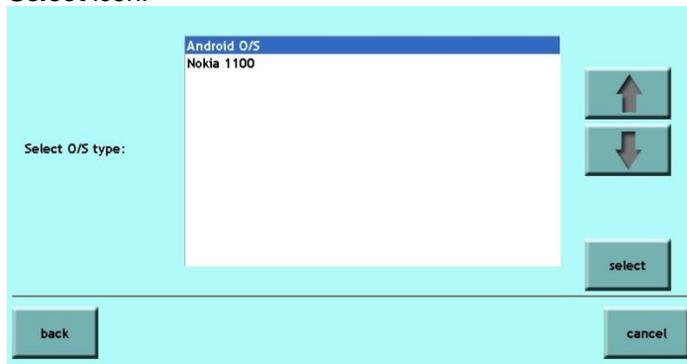
4. Select Physical Extraction.



5. Select **By O/S**.

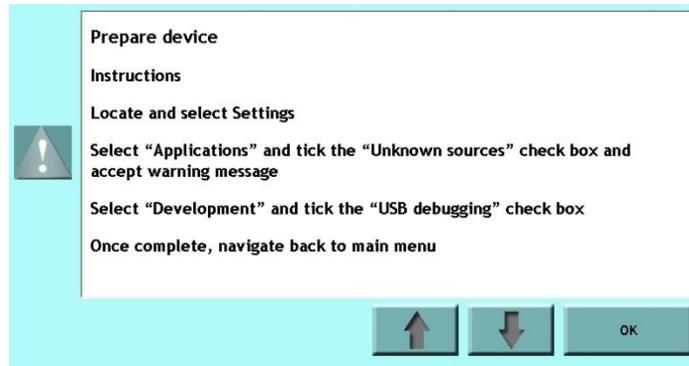


6. Select either **Android OS** or **Nokia 1100** then tap the **Select** icon.



Connecting the Handset

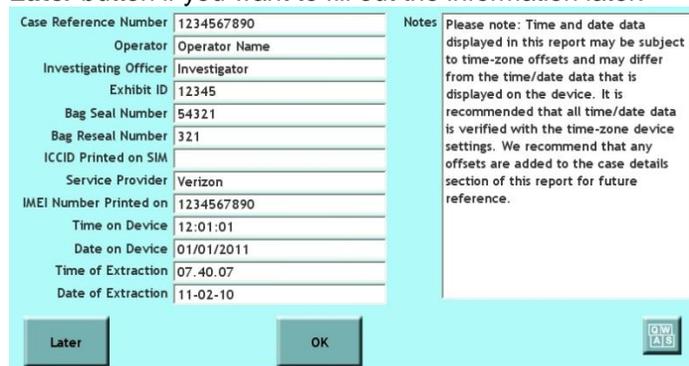
7. For Android devices, follow the on-screen instructions to enable **Unknown Sources** and **USB Debugging**.



8. Follow the on-screen instructions to connect the correct cable.
9. Follow any other on-screen instructions that may appear.

Case Details Screen

10. The Case details screen will appear. You can fill out the case details at this time then tap the **OK** icon or tap the **Later** button if you want to fill out the information later.



Performing the Extraction

11. The extraction process will begin. This process may take several hours to finish.



12. When the extraction is finished, a window will appear stating the extraction is complete. At this point, you can

disconnect the phone and cables. Tap the **OK** icon to continue.

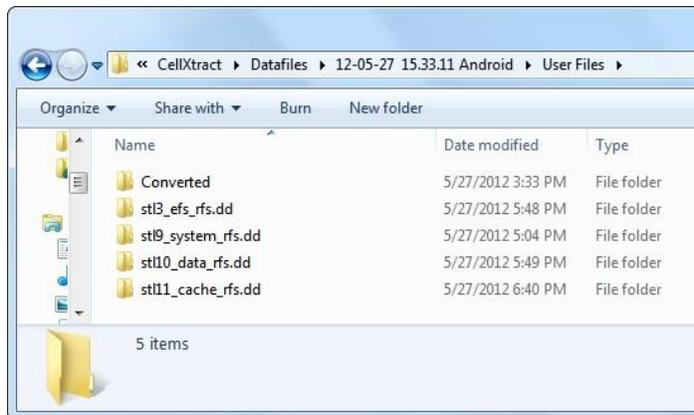
Report Preview

13. The report preview will appear. From this screen you can view the extracted data.

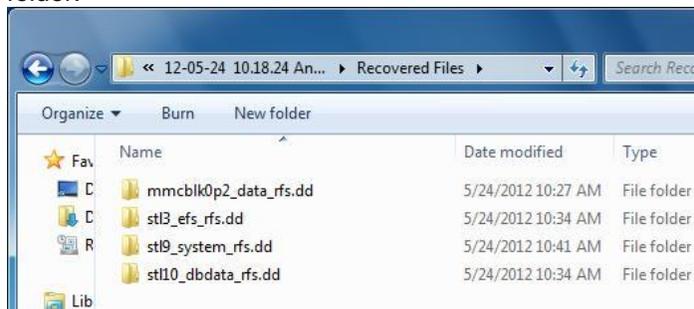
NOTE: The following data can be extracted from the phone and shown on the report:

- Device Info
- Contacts
- Call Registers
- Messages
- Other (Calendar, Tasks and Notes)
- Extended Data (Images, Audio, Video, and other files)
- Recovered Data (Deleted, Embedded & Extant files)

14. The external storage location will contain a copy of each of the phone's partitions and is located in the User Files folder.



15. The external storage location will contain a copy of the deleted, embedded and extant files recovered from each of the phone's partitions and is located in the Recovered Files folder.



Android Disk Partition Settings

By default CellXtract will only extract the handsets data partition. To extract all partitions you must tick the **“ALL Android disk partitions (physical)”** in the Physical Extraction Settings. Please note this may take a long time to complete the extraction.

Introduction

The CellXtract-TNT has all the capabilities of CellXtract plus the ability to extract data from major Chinese-manufactured chipsets: MediaTek (MTK), Infineon, Spreadtrum, MSTAR, and Cool Sand chipsets. It performs a physical extraction of the handset's memory, which is saved in a binary file and provides a report that is simple and easy to read and review. The report can be viewed directly on the CellXtract-TNT or be taken to another computer to be viewed. In addition, for MTK chipset, there is a logical extraction option. If logical is selected, CellXtract-TNT will attempt to extract data by physical and logical methods and report all the data recovered in one report.

There are several different bootloaders available for each chipset type. If the Auto bootloader option in CellXtract-TNT fails, then you will need to try each of the bootloaders available for each chipset (listed below) until successful.

MediaTek

- Boot 0 – Auto
- Boot 1 – Boot A (6223/25/26)
- Boot 2 – MTK_AllInOne_DA_V3.1004 (62xx)
- Boot 3 – Boot D (Dedicated to the MT6235 invalid IMEI)
- Boot 4 - MTK_AllInOne_DA_V3.1032 (62xx)
- Boot 5 - MTK_AllInOne_DA_V3.1108 (62xx)
- Boot 6 - MTK_AllInOne_DA_V2.1131(65xx Android)
- Boot 7 - MTK_AllInOne_DA_V5.1148 (62xx)
- Boot 8 - MTK_AllInOne_DA_V5.1205 (62xx)
- Boot 9 - MTK_AllInOne_DA_V7.1216 (65xx Android)
- Boot 10 - MTK_AllInOne_DA_V5.1232 (625A/62xx)
- Boot 11 - MTK_AllInOne_DA_V7.1304 (65xx Android)
- Boot 12 – MTK_6223 (Moto, Alcatel, TCL series)

Spreadtrum

- Boot 0 - Auto
- Boot 1 – Boot H (6600L/L2/L6/L7/USB/COM)
- Boot 2 – Boot J (6610/20)
- Boot 3 – Boot K (6800H)
- Boot 4 – Boot A (6600M/E/D Normal Speed)
- Boot 5 – Boot B (6600M/E/D High Speed)
- Boot 6 – Boot C (6600R)
- Boot 7 – Boot D (6600H/R2)
- Boot 8 – Boot E (6800)
- Boot 9 – Boot F (6600D – NOR)
- Boot 10 – Boot G (6600M/I/E-HOR)
- Boot 11 – Boot I (8800S/H/880xG)
- Boot 12 – Boot L (6530)
- Boot 13 – Boot M (6820/8810)

Infineon

- Boot 0 – Boot A
- Boot 1 – Boot B

MSTAR

- Boot 0 – Boot A (8535/8538/8533 NOR_FLASH)
- Boot 1 – Boot B (8528 NOR_FLASH)
- Boot 2 – Boot C (8535/8538 NAND_FLASH)
- Boot 3 – Boot D (8533C NOR_FLASH)
- Boot 4 – Boot E (8533x_family NOR_FLASH)
- Boot 5 – Boot F (8535N NAND_FLASH)
- Boot 6 – Boot G (8533x_family NAND_FLASH)
- Boot 7 – Boot H (Auto)

Cool Sand

- Boot 0 – Boot A
- Boot 1 – Boot B

Step by Step – Device Extraction for CellXtract-TNT

The Chinese-manufactured chipset extraction process is more complex than for other types of device. The process is shown below:

- Attaching an external storage location
- Selecting a chipset type
- Connecting the power clamps to the phone power terminals
- Identifying the data port on the phone and the correct cable tip.
- Connecting the data and power cables to the CellXtract-TNT
- Case Details screen
- Selecting the bootloader
- Performing the extraction
- Report Preview

Attaching an external storage location

1. Attach an external storage location such as a USB flash drive or USB external drive to one of the available USB ports on the right panel. This will allow CellXtract-TNT to save extracted files and the report to the selected external storage location.

Selecting a chipset

2. From the main screen, tap **Read New Device**.



3. Select **Cell Phone**



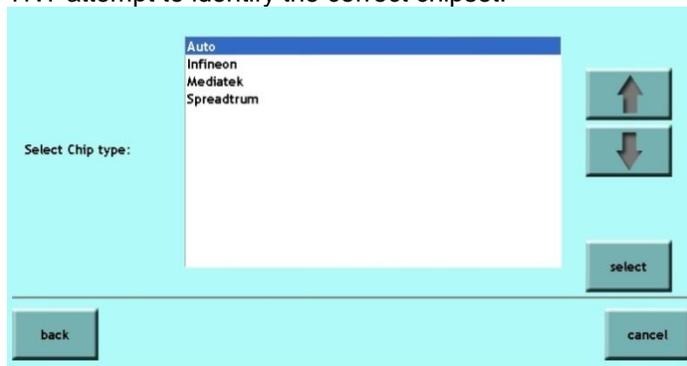
4. Select **Physical Extraction**.



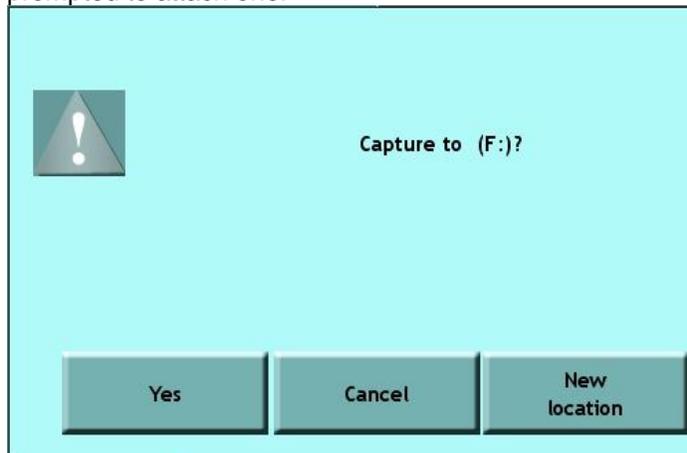
5. Select **By Chipset**.



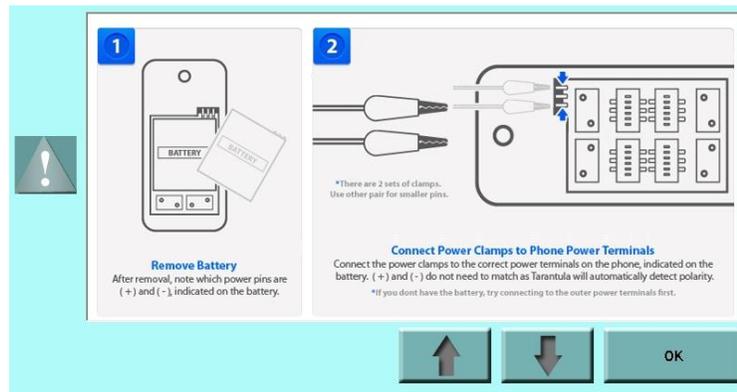
6. A list of supported chipsets will appear. If you know the chipset on the phone, tap the proper chipset from the list then tap the **Select** icon. If you are unsure what the chipset is, tap **Auto** then tap the **Select** icon to let the CellXtract-TNT attempt to identify the correct chipset.



7. A window will appear asking if you want to capture to the attached external storage location. Select **Yes** to continue. If no external storage location is attached, you will be prompted to attach one.



Connecting the power clamps to the phone power terminals

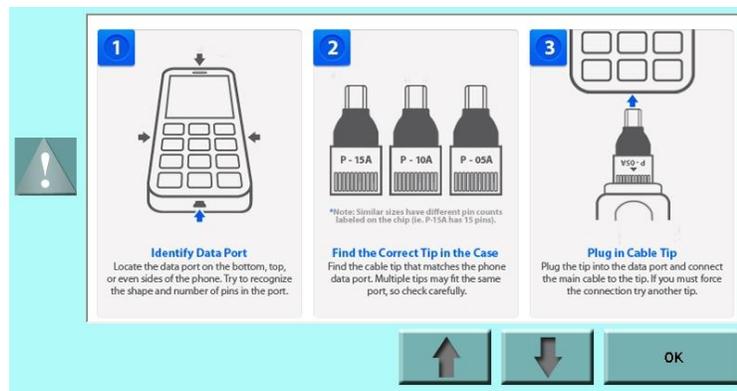


- The screen above will appear. Remove the battery from the handset. From the battery, note which power pins are positive (+) and negative (-). Connect the power clamps to the phone power terminals. It is not necessary to match polarity (the red and black clamps can connect to either positive or negative terminals).

NOTE: If you do not have the battery, try connecting to the outer power terminals first.

- Tap the **OK** icon to continue.

Identifying the data port on the phone and the correct Cable Tip



- The screen above will appear. Identify the data port on the phone. This should be on the top, bottom, or sides of the phone. Try to recognize the shape and the number of pins in the port.

- Find the correct cable tip in the case i.e. locate the cable tip that matches the phone data port.

NOTES:

- It may be difficult to match the correct cable tip with the phone's data port. Some cable tips may appear to fit the same data port, so care

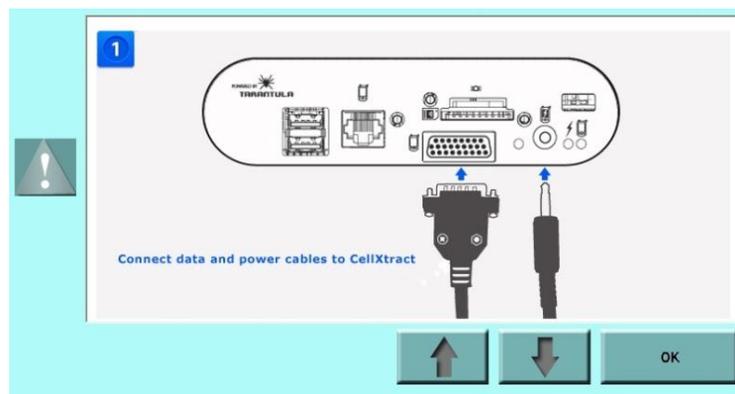
must be taken. Comparing the pin configuration in the phone's data port with the cable tip can help with the selection.

- Each Cable Tip is marked to with the number of pins on the Cable Tip. For example, P-5B is a micro-USB sized Cable Tip with 5 pins while P-7A is a micro-USB sized Cable Tip with 7 pins.

12. Plug in the appropriate cable tip into the phone's data port and connect the main data cable to the cable tip.

13. Tap the **OK** icon to continue.

Connecting the data and power cables to the CellXtract-TNT



14. Connect the data and power cables to CellXtract-TNT.

15. Tap the **OK** icon to continue.

Case Details screen

Case Reference Number	1234567890	Notes Please note: Time and date data displayed in this report may be subject to time-zone offsets and may differ from the time/date data that is displayed on the device. It is recommended that all time/date data is verified with the time-zone device settings. We recommend that any offsets are added to the case details section of this report for future reference.
Operator	Operator Name	
Investigating Officer	Investigator	
Exhibit ID	12345	
Bag Seal Number	54321	
Bag Reseal Number	321	
ICCID Printed on SIM		
Service Provider	Verizon	
IMEI Number Printed on	1234567890	
Time on Device	12:01:01	
Date on Device	01/01/2011	
Time of Extraction	07.40.07	
Date of Extraction	11-02-10	

Buttons: Later, OK, GWS

16. The Case details screen will appear. You can fill out the case details at this time then tap the **OK** icon or tap the **Later** button if you want to fill out the information later.

Selecting the bootloader

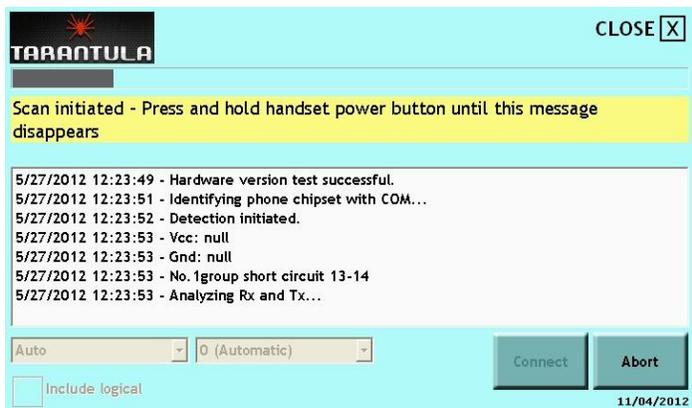


17. The Tarantula popup dialog will appear. The left drop-down selection will show the previously selected chipset (or Auto if it was selected). Choose a bootloader from the right drop-down selection or leave as Automatic (0) if you are unsure. Tap the **Connect** icon to continue.

NOTES:

- You can change the selected chipset on this screen.
- For MTK chipset, tap **Include logical** if you want to perform a logical extraction as well as physical extraction. The CellXtract-TNT will perform a logical extraction immediately after the physical extraction. Results from both physical and logical extractions will be shown in the final report. Note: there may be duplicate data contained in the final report.

Performing the extraction



18. CellXtract-TNT will perform the extraction. Watch the screen carefully as some extractions will require you to press and hold the power button on the phone. The yellow section above shows any messages and instructions for the user.

NOTES:

- If asked to press the handset power button, you may need to do this multiple times.
- If the screen shows “Scan failed” or “Connection failed”, check both the power and data connections between the CellXtract-TNT and the phone or try a different cable tip and then press Retry.
- If the screen shows “Physical extraction failed”, try selecting a different chipset / bootloader combination and then press Retry.

Report Preview

19. When the extraction is finished, a window will appear stating the extraction is complete. At this point, you can disconnect the phone and cables. Tap the **OK** icon to continue.
20. The report preview will appear. From this screen you can view the extracted data.

NOTE: See Chapter 4 for more information on viewing extracted data.

9. Glossary and Troubleshooting Guide

Glossary

SIM (Subscriber Identity Module) - Essentially a small computer on a card that sits within the mobile phone and controls various functions of call making. It also has enough memory to hold information such as ADN and SMS.

ADN (Abbreviated Dialing Numbers) - more commonly known as the phonebook or contacts.

SMS (Short Message Service) – SMS is a form of textual conversation permitted by a network carrier. The service allows a user to send and receive textual messages direct to their handsets. The storage capacity depends on the handset and SIM. The date and time of received messages is generated by the network, all other date and time stamps are generated from the handset time. The maximum character length is 160 per SMS. Some handsets allow longer messages to be compiled and therefore are split into relevant parts when sent, these messages are known as concatenated.

Deleted SMS (Short Message Service) - These are text messages that have been deleted from the SIM card by the cellphone user. However, most mobile phones do not remove the message, but mark the message to be overwritten by incoming messages from the network.

MMS (Multimedia Messaging Service) – A service which allows Multimedia messages to be sent from one mobile to another via one or more call centers or network providers. A Multimedia message is stored on the handset and can contain a combination of text, video clips, images and sound clips.

ICCID (Integrated Circuit Card Identifier) - The serial number of the SIM card stored electronically within the SIM. A similar number or shortened version is often found printed on the SIM card.

IMEI (International Mobile Equipment Identifier) - This is a unique number given to each handset. This is usually printed somewhere on the handset, (typically in the battery compartment) and stored electronically in the phone handset memory. It can be viewed typing `*#06#` on the keypad.

PIN (Personal Identification Number) - The SIM card has been locked against unauthorized access using the PIN number. When PIN security is activated, the correct PIN number must be entered in order to use any of the features of the handset (make calls, access ADN etc.) The only calls that can be made without a PIN are calls to the emergency services.

PUK (Personnel Unblocking Key) - If the PIN is unknown the PUK is used to unblock the SIM card and enable a new PIN code to be entered.

MSISDN (Mobile Station ISDN Number) - This number is the standard international number used to identify a given subscriber. However, the number stored in the MSISDN location on a SIM Card can be changed without affecting the actual telephone number. Therefore, the MSISDN number downloaded from the SIM card can only be used as an indicator.

IMSI (International Mobile Subscriber Identity) – This is a unique number allocated to each mobile phone subscriber, stored electronically within the SIM Card. It is used by the network to look up the telephone number associated to the SIM Card.

GSM (Global System for Mobile Communications) - a digital mobile telephone system that is widely used in Europe and other parts of the world. GSM uses a variation of time division multiple access (TDMA) and is the most widely used of the three digital wireless telephone technologies (TDMA, GSM, and CDMA).

CDMA (Code Division Multiple Access) - refers to any of several protocols used in so-called second-generation (2G) and third-generation (3G) wireless communications. As the term implies, CDMA is a form of multiplexing, which allows numerous signals to occupy a single transmission channel, optimizing the use of available bandwidth. The technology is used in ultra-high-frequency (UHF) cellular telephone systems in the 800-MHz and 1.9-GHz bands.

TDMA (Time Division Multiple Access) - is a technology used in digital cellular telephone communication that divides each cellular channel into three time slots in order to increase the amount of data that can be carried.

Cluster The smallest block of memory in a drive that can be written to individually by the file system.

Allocation table Table that keeps track of the contents of each cluster on the drive. The allocation table is used to combine clusters in the correct order to construct the files in the file system.

Allocated space Any cluster that is being used to store a file and has a written entry in the allocation table

Unallocated Space Any clusters that have an empty entry in the allocation table (i.e. are not assigned to any file) and are marked as being available for over writing by the file system.

Extant File A files that is still active in the file system and has appropriate entries in the allocation table to be reconstructed.

Contiguous File A file stored using clusters that are located next to each other in the drive's memory.

Troubleshooting Guide

CellXtract fails to power up	The CellXtract battery may be discharged. Try connecting the AC adapter.
CellXtract hangs or freezes during an extraction	Connect the included USB hub between the USB port (on the left panel) and the phone cable and perform the extraction again. If your CellXtract did not come with a USB hub, please contact Logicube Technical Support. Contact information can be found at the end of this document.
Dimensions entered do not display correct phone	Re-measure and re-enter dimensions by adjusting them slightly. NOTE: The phone may not yet be included in the identification module
Mobile device not listed or no image can be found.	Mobile device may not yet be supported by the identification module. Select a similar device from the listing and use IR or Bluetooth ONLY. Damage to the handset can occur by selecting the wrong cable for a device and is not recommended.

	NOTE: The device make and model reported is obtained from the phone not based on the device selected from the identification module.
Infrared discovery failed	Ensure infrared is active on target device and IR window is aligned with the CellXtract's pickup sensor.
Bluetooth extraction failed	Ensure Bluetooth adapter is inserted in one of the USB ports on the left panel. On the target device, ensure Bluetooth is active and is in discoverable mode. Also, target device may be asking for a 4-digit code number or file acceptance on screen during the extraction.
Connector not recognized or detected	Ensure cable is replaced correctly and retry then reboot the CellXtract if problem persists.
No cable connection method offered	A small number of handsets only offer Bluetooth or Infrared connectivity.
Battery is not charging	Discharge the battery completely then attach the AC adapter and charge the battery for 2.5 hours.
CellXtract application freezes continuously	Reboot the CellXtract and try a different phone to test along with a different external storage location.
SIM card read fail	Ensure SIM is correctly inserted and in the correct orientation.
'SIM PIN required' message	Enter PIN code. If entered incorrectly 3 times PUK will be required.
'SIM PUK required' message	Contact carrier/provider to obtain PUK code.
CellXtract fails to read memory card	Ensure card is inserted correctly. Reboot CellXtract. Try a different USB port.
SIM Card LED goes out	Try a different SIM card for testing purposes. If problems persist, press and hold the power button for 7 seconds to force the CellXtract to shut down.
CellXtract unit freezes or crashes	Press and hold the power button for 7 seconds to force the CellXtract to shut down

Validated phones: Testing and QA.

When a new software update for CellXtract is created the current market phones are added to the device listing in the software to enable the CellXtract operator to attempt an extraction on 'new market release' phones. These phones are added on the CellXtract's identification module as soon as we are aware of them and sometimes before we have been able to purchase and validate them on the software. This gives the CellXtract operator the added advantage of being able to read phones new to the market, as soon as they are released. Many of which will work in the same way as devices already validated and can then be used as intelligence in an investigation.

Validated phones, on the other hand, have been tested following Logicube quality assurance procedures and any phones that are identified by the operator that have a green tick next to the picture on CellXtract or show the extractable data icons to the right of the large image, show that the extraction is reliable and is repeatable.

CellXtract Start-up Problems

Logon details

The default username is 'CellXtract' and the password is not set. Note: the username and password are case sensitive.

Connected peripherals

Ensure all external peripherals are disconnected from the CellXtract on start-up particularly external screens or monitors.

Screen Freeze or System 'Crash' (Blank Screen)

System hardware reset

Press the power switch to perform a full system reset. The CellXtract should be rebooted normally following a full system reset.

The 'cannot find drivers' message

There are a few possible reasons for this message being displayed:

Untested handset

The device is not validated and does not use one of the standard device drivers. We have been unable to ensure that the correct driver is used because, at the time of this writing, we do not own a test phone of this type.

Connection error

The cable is not connected to the phone properly. Check the phone connection port and connector terminals for debris. If possible, confirm that there is no damage to the cable by running a test phone.

USB hub fault on pc

Windows cannot communicate with any USB devices due to a system fault within the PC - the system should be reset by shutting down and restarting CellXtract.

Mass storage mode

The phone is set as a mass storage device on connection. For the extraction to be successful it must appear as a data modem on connection. The setting will need to be changed in the connection settings menu on the phone.

Phone battery low

If the phone battery is very low then some of the circuitry inside the phone fails to switch on, even though the phone has powered up. Ensure that the phone has adequate charge before attempting an extraction on CellXtract.

Android USB Connection

Some Android handsets automatically connect to an unsupported USB mode. In this case, you must change the default USB connection mode to "Charge Only" or "Modem Mode". To do this, connect the phone to CellXtract via the USB cable, then pull down the Android notification bar (press the very top of the screen and pull down) and select USB Connection, then select "Charge Only" or "Modem Mode", and press OK.

Bluetooth Pairing problems

Discoverable mode

If the device is not present in the device list following a Bluetooth discovery check that the phone has Bluetooth switched on and it is in discoverable mode. Some devices can be in a hidden state even though the Bluetooth is switched on.

NOTE: Be sure that you know the correct identification name for a device before selecting it for pairing.

Pairing failure

Ensure that the correct pass code ('1234') was entered during the pairing process.

Win Mobile devices are not supported over a Bluetooth connection. This is because the connection has to be initiated by the handset only. The CellXtract cannot be discovered on Bluetooth by other devices.

Report Logo or Search file Upload problems

Fails to Upload Report Logo

The report logo has to be named 'LOGO.jpg' (in capital letters only) and stored on the root directory of a USB pen.

NOTE: .jpeg extensions are not supported.

USB hub fault on PC

If windows cannot communicate with any USB devices due to a system fault within the PC- the system should be reset by shutting down and restarting CellXtract.

Setting the System Time/Date

The system time and date must be set in the system BIOS.

Network Isolation Card problems

Missing SIM information

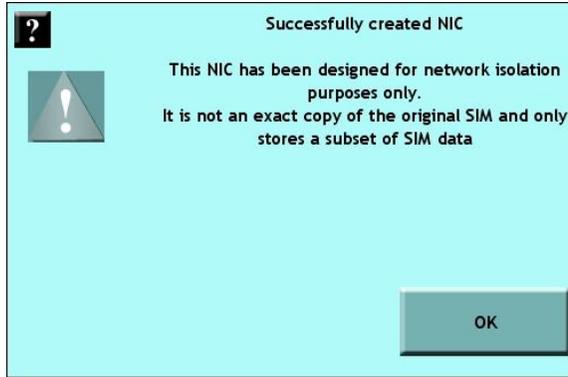
The NIC has been designed for network isolation purposes only. It is not an exact copy of the original SIM and only stores a subset of SIM data, including just the first 34 Abbreviated Dialed Numbers (ADNs) and 25 SMS messages. As a result not all SIM data will be visible, or reported after performing a Cell phone extraction, on a handset with a NIC inserted.

Failed to create NIC

There was a problem with the NIC creation process. CellXtract was unable to read or copy mandatory SIM data onto the NIC. If this message appears, then the NIC should not be inserted into the target handset as data including call registers may be lost.

Help Messages

Help messages can be seen by tapping the Help Icon (a question mark on the upper-left of the screen) on some windows. This will bring up a description of the error and possible solutions.



Help Icon Location

8. Supported Handsets

Support and Validation

Physical Extraction from Chinese Chipset Phones

CellXtract-TNT

- A full physical image (binary file) of the memory chip is extracted
- Extracts, decodes and reports deleted data on Chinese chipset phones (Coolsand decoding is currently not supported)
- User password extraction is supported on Chinese chipset phones
- Supports data extraction from the following Chinese-manufactured chipsets:
 - MediaTek (MTK)
 - Spreadtrum
 - Infineon
 - MSTAR
 - Cool Sand
- It is expected that most phones built with the above chipsets will be supported.

Physical Extraction from Android Phones

CellXtract* and CellXtract-TNT

A physical extraction from Android Operating Systems 1.6 through 2.3.4, and file systems EXT3, EXT4 and RFS is supported. Limited support of the YAFFS2 file system is available at this time, but is expected to be fully supported in a future release. It is expected that most Android phones using the above O/S and/or file systems will be supported.

Supports dumping and decoding of contacts, call logs, MS, emails and user files

Will extract deleted file items such as databases, images, video, audio and documents

**You must have the Physical Extraction feature activated on your CellXtract. All units shipped after 6/11/12 included Physical Extraction. If you are not sure whether your CellXtract has this feature please contact our technical support team at support@logicube.com to verify.*

**CellXtract and CellXtract-TNT
Logical Extraction – Supported Handsets**

The following handsets have been tested and the results verified on CellXtract and CellXtract-TNT using the standard validation procedures of Logicube. The results below display the data sets that can be extracted from CellXtract and CellXtract-TNT for the specific handset. There may be additional data sets available from handsets and these will require further examination. These handsets are assigned a green tick next to their image on CellXtract and CellXtract-TNT.

Key:

Phone ID		SMS	
Phone ID w timestamp		SMS w timestamp	
Contacts		MMS	MMS
Call Logs		Files	
Call Logs w timestamp		Organizer	

- Handsets that appear with no cable number assigned are supported via Infrared or Bluetooth methods.

No.	Manufacturer	Model	Phone ID	Contacts	Call Logs	Messages	Files	Organiser	Mobile Standard	Cable No.	Date Added
1	ACER	beTouch E101							GSM	2	10-Jan
2	ACER	F900							GSM	2	10-Jan
3	ACER	n50							GSM		6-Jul
4	ACER	X960							GSM	2	9-Oct
5	ALCATEL	OT-C707							GSM		8-Apr
6	AMOI	WP-S1							GSM	2	9-Apr
7	ANDROID	G1							GSM	2	8-Jul
8	APPLE	iPhone							GSM	3	8-Oct
9	APPLE	iPhone 3G							GSM	3	9-Oct
10	APPLE	iPhone 4							GSM	3	11-May
11	APPLE	iPhone 5							GSM	Mfg	Apr-13
12	APPLE	iPad							N/A	3	Sep-12
13	BENQ	E72							GSM	2	9-Jan

14	BENQ	P50							GSM	2	6-Jul
15	BENQ SIEMENS	EF81							GSM		7-Apr
16	BENQ SIEMENS	S68							GSM		6-Jul
17	BENQ SIEMENS	S88							GSM		7-Jul
18	BLACKBERRY	7230							GSM	2	8-Apr
19	BLACKBERRY	7250							GSM	2	7-Jul
20	BLACKBERRY	7290							GSM	2	7-Jan
21	BLACKBERRY	8100							GSM	2	7-Jul
22	BLACKBERRY	8120							GSM	2	9-Jan
23	BLACKBERRY	8300							GSM	2	9-Jan
24	BLACKBERRY	8310							GSM	2	8-Jul
25	BLACKBERRY	8320							GSM	2	8-Apr
26	BLACKBERRY	8330							CDMA	2	9-Jan
27	BLACKBERRY	8520							GSM	1	10-Jan
28	BLACKBERRY	8800							GSM	2	10-Jan
29	BLACKBERRY	8800							GSM	2	8-Oct
30	BLACKBERRY	8820							GSM	2	8-Apr
31	BLACKBERRY	8830							CDMA	2	8-Oct
32	BLACKBERRY	8900							GSM	1	9-Jul
33	BLACKBERRY	9000							GSM	2	9-Jan
34	BLACKBERRY	9500							GSM	1	9-Jul
35	BLACKBERRY	9530							GSM	1	9-Jul
36	BLACKBERRY	9700							GSM	1	10-Sep
37	BLACKBERRY	7100t							GSM	2	6-Apr
38	BLACKBERRY	7100v							GSM	2	6-Apr
39	BLACKBERRY	7100x							GSM	2	6-Apr
40	BLACKBERRY	8700f							GSM	2	7-Jan
41	BLACKBERRY	8700g							GSM	2	7-Jan
42	BLACKBERRY	8700v							GSM	2	7-Oct
43	BLACKBERRY	8707g							GSM	2	9-Oct
44	BLACKBERRY	8707v							GSM	2	7-Jul
45	BLACKBERRY	9780							GSM	1	11-Dec
46	BLACKBERRY	9800							GSM	1	11-Dec
47	BLACKBERRY	9650							GSM	1	11-Dec
48	DELL	AXIM X51v							GSM		6-Oct
49	E-TEN	P300B							GSM		7-Oct
50	GLOFIISH	M810							GSM	2	9-Oct
51	GLOFIISH	X600							GSM	2	8-Oct

52	HP	iPAQ 514							GSM	2	7-Oct
53	HP	iPAQ H5550							GSM		6-Jul
54	HP	iPAQ HW6915							GSM		6-Oct
55	HP	iPAQ rx1950							GSM		7-Jul
56	HP	iPAQ rz1710							GSM		6-Jul
57	HTC	Desire							GSM	1	11-May
58	HTC	EVO 4G							CDMA	1	11-May
59	HTC	Hero							GSM	2	9-Oct
60	HTC	Incredible							CDMA	1	11-May
61	HTC	Kaizer							GSM	2	8-Jan
62	HTC	Magic							GSM	2	9-Oct
63	HTC	NEXUS ONE							GSM	1	10-Dec
64	HTC	P3300							GSM	2	7-Oct
65	HTC	P3450							GSM	2	9-Jul
66	HTC	P3470							GSM	2	8-Oct
67	HTC	P5500							GSM	2	8-Oct
68	HTC	S310							GSM	2	7-Jul
69	HTC	S620							GSM	2	8-Oct
70	HTC	S710							GSM	2	8-Jul
71	HTC	S740							GSM	2	9-Jul
72	HTC	S743							GSM	8	10-Dec
73	HTC	Shadow							GSM	2	8-Oct
74	HTC	SMT5800							CDMA	2	10-Sep
75	HTC	Snap							GSM	2	9-Oct
76	HTC	Tattoo							GSM	2	10-Jan
77	HTC	Tornado							GSM	2	8-Jan
78	HTC	Touch							GSM	2	7-Oct
79	HTC	TOUCH CRUISE							GSM	2	9-Apr
80	HTC	TOUCH DIMOND							GSM	2	9-Jul
81	HTC	Inspire							GSM	1	11-Dec
82	HTC	ThunderBolt							CDMA	1	11-Dec
83	HTC	Sensation							GSM	1	Apr-12
84	HTC	Amaze 4G							GSM	1	Apr-12
85	HTC	Status							GSM	1	Apr-12
86	HUAWEI	U8150							GSM	1	11-Dec
87	HUAWEI	M735							CDMA	1	11-Dec
88	HUAWEI	U8800							GSM	1	Apr-12
89	HUAWEI	M860							CDMA	1	Sep-12

90	IMATE	JAM							GSM	2	6-Jul
91	IMATE	JAMin							GSM	2	6-Jul
92	IMATE	JASJAR							GSM	2	6-Oct
93	IMATE	K-JAM							GSM	2	6-Jul
94	IMATE	PDA2K							GSM		8-Jul
95	IMATE	SP3i							GSM	2	6-Jul
96	IMATE	SP5							GSM	2	6-Jul
97	IMATE	SPL							GSM	2	7-Jul
98	KYOCERA	K323							CDMA		9-Jan
99	KYOCERA	K342							CDMA		9-Jan
100	KYOCERA	K404							CDMA	22	6-Jul
101	KYOCERA	K9							CDMA	22	9-Jan
102	KYOCERA	KX1							CDMA	22	9-Jan
103	KYOCERA	KX160							CDMA	22	9-Jan
104	KYOCERA	KX5							CDMA		9-Jan
105	KYOCERA	KX9a							CDMA	22	9-Jan
106	KYOCERA	S1300							CDMA	1	10-Sep
107	KYOCERA	S4000							CDMA	1	10-Sep
108	KYOCERA	SE47							CDMA	21	6-Jul
109	KYOCERA	M1400							CDMA	1	Dec-11
110	LG	A7110							GSM	12	6-Jul
111	LG	AX380							CDMA	5	9-Jul
112	LG	C1300i							GSM	21	7-Jan
113	LG	C1500							GSM	21	7-Jan
114	LG	C2000							GSM	21	7-Jan
115	LG	C2500							GSM	2	10-Jul
116	LG	CE500							GSM	12	6-Jul
117	LG	CG225							GSM	21	7-Jan
118	LG	CG300							GSM	21	7-Jan
119	LG	F2500							GSM		8-Apr
120	LG	F9100							GSM	21	7-Jan
121	LG	F9200							GSM	21	7-Jan
122	LG	G4020							GSM	21	8-Apr
123	LG	G4050							GSM	21	7-Jan
124	LG	GD900							GSM	1	10-Jan
125	LG	GS170							GSM	1	10-Dec
126	LG	GT365							GSM	5	10-Sep
127	LG	GT950 (Arena)							GSM	1	11-May

128	LG	GW300							GSM	1	10-Jan
129	LG	GW520							GSM	1	10-Jan
130	LG	GW820 (Expo)							GSM	1	11-May
131	LG	KC550							GSM	5	8-Oct
132	LG	KC780							GSM	5	9-Oct
133	LG	KC910							GSM	5	9-Apr
134	LG	KE500							GSM	5	8-Oct
135	LG	KE770							GSM	5	8-Apr
136	LG	KE800							GSM	5	8-Apr
137	LG	KE820							GSM	5	8-Apr
138	LG	KE850							GSM	5	8-Apr
139	LG	KE970							GSM	5	8-Apr
140	LG	KF510							GSM	5	9-Jan
141	LG	KF600							GSM	5	9-Jan
142	LG	KG200							GSM	2	10-Sep
143	LG	KG300							GSM	2	10-Sep
144	LG	KG320							GSM	5	7-Jul
145	LG	KG800							GSM	5	6-Oct
146	LG	KG810							GSM	5	8-Apr
147	LG	KG920							GSM	12	6-Oct
148	LG	KM710							GSM	5	8-Oct
149	LG	KM900							GSM		10-Jan
150	LG	KP170							GSM	5	10-Jan
151	LG	KP500							GSM	5	9-Apr
152	LG	KU990							GSM	5	9-Apr
153	LG	L1150							GSM	21	8-Apr
154	LG	L1200							GSM	21	7-Jan
155	LG	L1400i							GSM	21	7-Jan
156	LG	LG6190							CDMA	19	10-Sep
157	LG	LX150							CDMA	5	8-Apr
158	LG	LX160							CDMA	5	8-Apr
159	LG	LX550							CDMA	19	8-Apr
160	LG	LX5550							CDMA	12	7-Oct
161	LG	MM535							CDMA	19	6-Apr
162	LG	MN240 (Imprint)							CDMA	1	11-May
163	LG	MT310							CDMA	1	10-Dec
164	LG	P7200							GSM	12	6-Apr
165	LG	PM225							CDMA	19	6-Apr

166	LG	PM325							CDMA	19	6-Apr
167	LG	S5200							GSM	12	6-Apr
168	LG	U8110							GSM	12	9-Apr
169	LG	U8120							GSM	12	9-Apr
170	LG	U8130							GSM	12	9-Apr
171	LG	U8138							GSM	12	9-Apr
172	LG	U8360							GSM	12	9-Apr
173	LG	U8380							GSM	12	9-Apr
174	LG	UN430							CDMA	1	10-Dec
175	LG	UX260							CDMA	5	9-Oct
176	LG	UX300							CDMA	1	10-Dec
177	LG	UX355							CDMA	19	7-Jul
178	LG	UX390							CDMA	19	7-Jul
179	LG	UX4750							CDMA	19	8-Jan
180	LG	UX5000							CDMA	19	8-Jan
181	LG	VI125							CDMA	19	6-Apr
182	LG	VX10000							CDMA	5	9-Jan
183	LG	VX4500							CDMA	21	6-Jul
184	LG	VX4600							CDMA	21	6-Jul
185	LG	VX4700							CDMA	19	6-Apr
186	LG	VX5200							CDMA	19	6-Apr
187	LG	VX5300							GSM	20	6-Oct
188	LG	VX5400							CDMA	5	9-Jan
189	LG	VX5500							CDMA	1	10-Sep
190	LG	VX5600							CDMA	1	10-Dec
191	LG	VX6000							CDMA	12	6-Jul
192	LG	VX6100							CDMA	19	6-Apr
193	LG	VX6190							CDMA	19	10-Sep
194	LG	VX7000							CDMA	19	6-Jul
195	LG	VX8000							CDMA	19	6-Jul
196	LG	VX8100							CDMA	19	6-Apr
197	LG	VX8300							CDMA	20	6-Oct
198	LG	VX8350							CDMA	5	8-Apr
199	LG	VX8500							CDMA	5	8-Oct
200	LG	VX8575							CDMA	1	10-Sep
201	LG	VX8610							CDMA	1	9-Oct
202	LG	VX8700							CDMA	5	9-Jan
203	LG	VX8800							CDMA	5	9-Jan

204	LG	VX9100							CDMA	1	9-Jan
205	LG	VX9200							CDMA	1	10-Dec
206	LG	VX9400							CDMA	5	8-Apr
207	LG	VX9700							CDMA	1	10-Dec
208	LG	VX9800							CDMA	19	7-Jan
209	LG	VX9900							CDMA	5	8-Oct
210	LG	P509							GSM	1	11-Dec
211	LG	KS20							GSM	5	11-Dec
212	LG	VS750							CDMA	1	11-Dec
213	LG	UX310							CDMA	1	11-Dec
214	LG	MT375							CDMA	1	11-Dec
215	LG	VN530							CDMA	1	11-Dec
216	LG	P505							GSM	1	Apr-12
217	LG	C729							GSM	1	Apr-12
218	LG	LG670							CDMA	1	Apr-12
219	LG	AX145							CDMA	21	Apr-12
220	LG	P925							GSM	1	Apr-12
221	LG	P930							GSM	1	Apr-12
222	LOBSTER	700TV							GSM	2	8-Jan
223	MIO	A501							GSM	2	9-Jul
224	MIO	A701							GSM	2	7-Apr
225	MOTOROLA	MB810 (DROID X)							CDMA	1	11-May
226	MOTOROLA	A555 (Devour)							CDMA	1	11-May
227	MOTOROLA	A835							GSM	9	5-Dec
228	MOTOROLA	A855							CDMA	1	10-Sep
229	MOTOROLA	C332							GSM	2	7-Jul
230	MOTOROLA	C343							CDMA	9	6-Apr
231	MOTOROLA	C350							GSM	2	6-Apr
232	MOTOROLA	C385							GSM	2	5-Dec
233	MOTOROLA	C390							GSM	2	5-Dec
234	MOTOROLA	C550							GSM	2	5-Dec
235	MOTOROLA	C650							GSM	2	5-Dec
236	MOTOROLA	C975							GSM	9	5-Dec
237	MOTOROLA	E1							GSM	9	6-Apr
238	MOTOROLA	E1000							CDMA	9	6-Oct
239	MOTOROLA	E1070							GSM	2	7-Jan
240	MOTOROLA	E398							GSM	9	5-Dec
241	MOTOROLA	E8							GSM		10-Jan

242	MOTOROLA	E815							CDMA		6-Oct
243	MOTOROLA	K1							GSM	2	7-Oct
244	MOTOROLA	K1m							CDMA		7-Apr
245	MOTOROLA	K3							GSM	2	7-Jul
246	MOTOROLA	L2							GSM	2	6-Oct
247	MOTOROLA	L6							GSM	2	6-Apr
248	MOTOROLA	L7							GSM	2	6-Apr
249	MOTOROLA	maxx Ve							CDMA		10-Jan
250	MOTOROLA	MPX200							GSM	2	6-Jul
251	MOTOROLA	MPX220							GSM	9	6-Jul
252	MOTOROLA	Q							GSM	2	8-Jan
253	MOTOROLA	Q9h							GSM	1	8-Apr
254	MOTOROLA	QA1							GSM	1	10-Sep
255	MOTOROLA	T280i							GSM		6-Oct
256	MOTOROLA	T300p							CDMA	9	5-Dec
257	MOTOROLA	U6							GSM	2	6-Apr
258	MOTOROLA	V1050							GSM	9	6-Oct
259	MOTOROLA	V120c							CDMA	9	6-Apr
260	MOTOROLA	V180							GSM	2	5-Dec
261	MOTOROLA	V188							GSM	2	6-Apr
262	MOTOROLA	V190							GSM	2	7-Jul
263	MOTOROLA	V195							GSM	2	6-Oct
264	MOTOROLA	V220							GSM	2	6-Apr
265	MOTOROLA	V235							GSM	2	7-Jan
266	MOTOROLA	V260							CDMA	9	8-Jan
267	MOTOROLA	V265							CDMA	9	8-Apr
268	MOTOROLA	V3							GSM	2	5-Dec
269	MOTOROLA	V300							GSM	9	5-Dec
270	MOTOROLA	V360							GSM	2	6-Apr
271	MOTOROLA	V3a							CDMA	2	11-May
272	MOTOROLA	V3c							CDMA		10-Jan
273	MOTOROLA	V3i							GSM	2	6-Apr
274	MOTOROLA	V3m							CDMA		8-Apr
275	MOTOROLA	V3x							GSM	2	6-Jul
276	MOTOROLA	V3xx							GSM	2	9-Oct
277	MOTOROLA	V400							GSM	9	8-Jan
278	MOTOROLA	V500							GSM	9	8-Jul
279	MOTOROLA	V525							GSM	9	5-Dec

280	MOTOROLA	V540							GSM	9	7-Jul
281	MOTOROLA	V550							GSM	9	6-Apr
282	MOTOROLA	V551							GSM	9	6-Apr
283	MOTOROLA	V6							GSM	2	7-Jul
284	MOTOROLA	V600							GSM		5-Dec
285	MOTOROLA	V60p							CDMA	9	5-Dec
286	MOTOROLA	V60v							CDMA	9	7-Jul
287	MOTOROLA	V620							GSM	9	6-Apr
288	MOTOROLA	V635							GSM	9	5-Dec
289	MOTOROLA	V65p							CDMA	9	8-Apr
290	MOTOROLA	V66i							GSM	9	5-Dec
291	MOTOROLA	V70							GSM	9	5-Dec
292	MOTOROLA	V710							CDMA	9	6-Apr
293	MOTOROLA	V8							GSM		10-Jan
294	MOTOROLA	V80							GSM	9	5-Dec
295	MOTOROLA	V860 (Barrage)							CDMA	1	11-May
296	MOTOROLA	V9							GSM	1	8-Apr
297	MOTOROLA	V950							CDMA		10-Jan
298	MOTOROLA	V975							GSM	9	8-Jul
299	MOTOROLA	V980							GSM	9	5-Dec
300	MOTOROLA	V9m							CDMA		8-Apr
301	MOTOROLA	VE240							CDMA	2	11-May
302	MOTOROLA	W385							CDMA		8-Apr
303	MOTOROLA	W450							GSM		9-Oct
304	MOTOROLA	W510							GSM	2	8-Jan
305	MOTOROLA	W755							CDMA		10-Jan
306	MOTOROLA	W840 (Quantico)							CDMA	1	11-May
307	MOTOROLA	Z3							GSM	2	7-Apr
308	MOTOROLA	Z6							GSM		10-Jan
309	MOTOROLA	Z6m							CDMA		8-Apr
310	MOTOROLA	Z6tv							CDMA		10-Sep
311	MOTOROLA	Z8							GSM		8-Jul
312	MOTOROLA	Z9							GSM	1	9-Apr
313	MOTOROLA	ZN4							CDMA		10-Jan
314	MOTOROLA	MB860							GSM	1	Dec-11
315	MOTOROLA	XT610							CDMA	1	Dec-11
316	MOTOROLA	MB865							GSM	1	Sep-12
317	NDRIVE	S300							GSM	2	9-Apr

318	NEO	808i							GSM		9-Jan
319	NOKIA	1100							GSM	28	7-Oct
320	NOKIA	1101							GSM	28	7-Oct
321	NOKIA	1110							GSM	25	7-Oct
322	NOKIA	1112							GSM	25	7-Oct
323	NOKIA	1200							GSM	28	8-Jan
324	NOKIA	1208							GSM	28	8-Jan
325	NOKIA	1209							GSM	28	9-Apr
326	NOKIA	1600							GSM	25	7-Oct
327	NOKIA	2100							GSM	29	7-Oct
328	NOKIA	2285							CDMA	24	6-Oct
329	NOKIA	2300							GSM	28	7-Oct
330	NOKIA	2310							GSM	25	7-Oct
331	NOKIA	2600							GSM		8-Jul
332	NOKIA	2610							GSM	25	7-Oct
333	NOKIA	2626							GSM	25	7-Oct
334	NOKIA	2630							GSM		8-Apr
335	NOKIA	2650							GSM	31	7-Oct
336	NOKIA	2652							GSM	31	7-Oct
337	NOKIA	2680							GSM		9-Jan
338	NOKIA	2760							GSM		8-Jan
339	NOKIA	3100							GSM	24	6-Oct
340	NOKIA	3109							GSM	2	7-Oct
341	NOKIA	3110							GSM	2	7-Jul
342	NOKIA	3120							GSM	24	8-Jul
343	NOKIA	3200							GSM	24	6-Apr
344	NOKIA	3210							GSM	34	7-Oct
345	NOKIA	3220							GSM	24	7-Apr
346	NOKIA	3230							GSM	7	7-Apr
347	NOKIA	3250							GSM	7	7-Apr
348	NOKIA	3310							GSM	32	7-Oct
349	NOKIA	3330							GSM	32	8-Jan
350	NOKIA	3410							GSM	32	7-Oct
351	NOKIA	3510							GSM	30	8-Jan
352	NOKIA	3555							CDMA	1	8-Oct
353	NOKIA	5000							GSM		8-Oct
354	NOKIA	5070							GSM	24	7-Jul

355	NOKIA	5100							GSM	24	5-Dec
356	NOKIA	5110							GSM	33	7-Oct
357	NOKIA	5140							GSM	24	8-Jul
358	NOKIA	5200							GSM	2	7-Apr
359	NOKIA	5210							GSM		7-Apr
360	NOKIA	5220							GSM	1	8-Oct
361	NOKIA	5230							GSM	1	10-Sep
362	NOKIA	5300							GSM	2	7-Apr
363	NOKIA	5310							GSM	1	8-Jan
364	NOKIA	5320							GSM	1	9-Jan
365	NOKIA	5500							GSM	7	7-Apr
366	NOKIA	5610							GSM	1	8-Apr
367	NOKIA	5700							GSM	2	7-Jul
368	NOKIA	5800							GSM	1	9-Jul
369	NOKIA	6010							GSM	30	7-Oct
370	NOKIA	6020							GSM	24	5-Dec
371	NOKIA	6021							GSM	24	6-Apr
372	NOKIA	6030							GSM	25	7-Oct
373	NOKIA	6060							GSM	25	7-Oct
374	NOKIA	6061							GSM	25	8-Apr
375	NOKIA	6070							GSM	24	6-Oct
376	NOKIA	6080							GSM	24	7-Jan
377	NOKIA	6085							GSM	7	7-Jul
378	NOKIA	6086							GSM	7	8-Apr
379	NOKIA	6100							GSM	24	5-Dec
380	NOKIA	6101							GSM	24	5-Dec
381	NOKIA	6103							GSM	24	6-Oct
382	NOKIA	6108							GSM	24	7-Oct
383	NOKIA	6111							GSM	7	6-Apr
384	NOKIA	6120							GSM	2	8-Jan
385	NOKIA	6125							GSM	7	6-Oct
386	NOKIA	6130							GSM	33	7-Oct
387	NOKIA	6131							GSM	7	6-Jul
388	NOKIA	6136							GSM	7	7-Jan
389	NOKIA	6150							GSM	33	7-Oct
390	NOKIA	6151							GSM	7	6-Oct
391	NOKIA	6170							GSM	7	5-Dec

392	NOKIA	6200							GSM	24	7-Jul
393	NOKIA	6210							GSM	1	9-Jul
394	NOKIA	6210							GSM	33	7-Oct
395	NOKIA	6220							GSM	24	5-Dec
396	NOKIA	6225							CDMA	24	7-Jul
397	NOKIA	6230							GSM	7	6-Apr
398	NOKIA	6233							GSM	7	6-Oct
399	NOKIA	6234							GSM	7	7-Jul
400	NOKIA	6260							GSM	7	7-Jan
401	NOKIA	6263							CDMA	2	8-Oct
402	NOKIA	6267							GSM	2	8-Jan
403	NOKIA	6270							GSM	7	6-Jul
404	NOKIA	6280							GSM	7	6-Apr
405	NOKIA	6282							GSM	7	7-Jul
406	NOKIA	6288							GSM	7	7-Jul
407	NOKIA	6290							GSM	2	7-Oct
408	NOKIA	6300							GSM	2	7-Jul
409	NOKIA	6301							GSM	2	9-Jan
410	NOKIA	6310							GSM		6-Apr
411	NOKIA	6360							CDMA	33	7-Oct
412	NOKIA	6510							GSM		7-Apr
413	NOKIA	6555							GSM	1	8-Jan
414	NOKIA	6610							GSM	24	6-Apr
415	NOKIA	6620							GSM	7	7-Apr
416	NOKIA	6630							GSM		8-Jan
417	NOKIA	6650							GSM	1	9-Jul
418	NOKIA	6670							GSM	7	7-Jan
419	NOKIA	6680							GSM	7	7-Jan
420	NOKIA	6790							GSM	1	10-Sep
421	NOKIA	6800							GSM	24	7-Oct
422	NOKIA	6810							GSM	24	7-Jul
423	NOKIA	6820							GSM	24	6-Apr
424	NOKIA	6822							GSM	24	5-Dec
425	NOKIA	7020							GSM	1	10-Dec
426	NOKIA	7110							GSM	33	7-Oct
427	NOKIA	7200							GSM	24	6-Oct
428	NOKIA	7210							GSM	1	9-Jan

429	NOKIA	7210							GSM	24	5-Dec
430	NOKIA	7260							GSM	24	6-Apr
431	NOKIA	7270							GSM	7	5-Dec
432	NOKIA	7280							GSM		5-Dec
433	NOKIA	7360							GSM	24	6-Apr
434	NOKIA	7370							GSM	7	6-Apr
435	NOKIA	7373							GSM	7	7-Apr
436	NOKIA	7380							GSM		6-Apr
437	NOKIA	7390							GSM	2	7-Apr
438	NOKIA	7500							GSM	2	8-Jan
439	NOKIA	7510							GSM	1	9-Jul
440	NOKIA	7600							GSM	7	5-Dec
441	NOKIA	7610							GSM	7	7-Jan
442	NOKIA	7900							GSM	1	8-Apr
443	NOKIA	8210							GSM	29	7-Apr
444	NOKIA	8310							GSM		7-Apr
445	NOKIA	8800							GSM		5-Dec
446	NOKIA	8850							GSM		7-Apr
447	NOKIA	8910							GSM		5-Dec
448	NOKIA	1110i							GSM	25	7-Oct
449	NOKIA	2323 Classic							GSM		9-Oct
450	NOKIA	2330 Classic							GSM		9-Oct
451	NOKIA	2700 Classic							GSM	1	9-Oct
452	NOKIA	2720 Fold							GSM		10-Jan
453	NOKIA	2730 Classic							GSM	1	10-Jan
454	NOKIA	2865i							CDMA	7	8-Jan
455	NOKIA	3120 Classic							GSM	1	9-Apr
456	NOKIA	3155i							CDMA	7	8-Apr
457	NOKIA	3500 classic							GSM	2	8-Jan
458	NOKIA	3510i							GSM	30	7-Oct
459	NOKIA	3600 Slide							GSM	1	8-Oct
460	NOKIA	3720 Classic							GSM	1	10-Jan
461	NOKIA	5130 Xpress Music							GSM	1	9-Oct
462	NOKIA	5140i							GSM	24	5-Dec
463	NOKIA	5530 Xpress Music							GSM	1	9-Oct
464	NOKIA	5630 Xpress Music							GSM	1	9-Oct
465	NOKIA	5730 Xpress Music							GSM	1	9-Oct

466	NOKIA	6015i							CDMA	24	6-Oct
467	NOKIA	6030b							GSM	25	10-Jan
468	NOKIA	6110 Navigator							GSM	2	7-Oct
469	NOKIA	6124c							GSM	2	9-Jan
470	NOKIA	6155i							CDMA	7	8-Apr
471	NOKIA	6165i							CDMA	7	7-Jan
472	NOKIA	6208 Classic							GSM	1	9-Oct
473	NOKIA	6212 Classic							GSM	1	9-Oct
474	NOKIA	6220 Classic							GSM	1	9-Apr
475	NOKIA	6230i							GSM	7	6-Apr
476	NOKIA	6235i							CDMA	7	6-Apr
477	NOKIA	6255i							CDMA	7	6-Apr
478	NOKIA	6260 Slide							GSM	1	9-Oct
479	NOKIA	6265i							CDMA	7	8-Jan
480	NOKIA	6275i							GSM	7	8-Apr
481	NOKIA	6303 Classic							GSM	1	9-Oct
482	NOKIA	6310i							GSM		7-Apr
483	NOKIA	6500 classic							GSM	1	8-Jan
484	NOKIA	6500 Slide							GSM	1	8-Apr
485	NOKIA	6600 fold							GSM	1	9-Jan
486	NOKIA	6600 slide							GSM	1	9-Jan
487	NOKIA	6600i Slide							GSM	1	10-Jan
488	NOKIA	6610i							GSM	24	5-Dec
489	NOKIA	6700 Classic							GSM	1	10-Jan
490	NOKIA	6720 Classic							GSM	1	9-Oct
491	NOKIA	6730 Classic							GSM	1	9-Oct
492	NOKIA	6760 Slide							GSM	1	10-Jan
493	NOKIA	7100 Supernova							GSM		9-Apr
494	NOKIA	7250i							GSM	24	5-Dec
495	NOKIA	7310 Supernova							GSM	1	8-Oct
496	NOKIA	7610 Supernova							GSM	1	8-Oct
497	NOKIA	8600 Luna							GSM	1	8-Oct
498	NOKIA	8910i							GSM		5-Dec
499	NOKIA	E50							GSM	7	7-Apr
500	NOKIA	E51							GSM	2	8-Apr
501	NOKIA	E55							GSM	1	10-Jan
502	NOKIA	E60							GSM	7	7-Apr

503	NOKIA	E61							GSM	7	7-Apr
504	NOKIA	E63							GSM	1	9-Apr
505	NOKIA	E65							GSM	7	7-Apr
506	NOKIA	E66							GSM	1	8-Oct
507	NOKIA	E70							GSM	7	7-Apr
508	NOKIA	E71							GSM	1	8-Oct
509	NOKIA	E75							GSM	1	9-Jul
510	NOKIA	N70							GSM	7	7-Jan
511	NOKIA	N71							GSM	7	7-Jul
512	NOKIA	N72							GSM	7	7-Jan
513	NOKIA	N73							GSM	7	7-Apr
514	NOKIA	N76							GSM	2	7-Jul
515	NOKIA	N77							GSM	7	8-Oct
516	NOKIA	N79							GSM	1	9-Jan
517	NOKIA	N80							GSM	7	7-Apr
518	NOKIA	N81 8GB							GSM	1	8-Apr
519	NOKIA	N82							GSM	1	8-Jul
520	NOKIA	N85							GSM	1	9-Apr
521	NOKIA	N90							GSM	7	7-Jan
522	NOKIA	N91							GSM	2	7-Apr
523	NOKIA	N93							GSM	7	8-Apr
524	NOKIA	N93i							GSM	7	7-Jul
525	NOKIA	N95							GSM	2	8-Jan
526	NOKIA	N95 8GB							GSM	2	8-Jul
527	NOKIA	N96							GSM	1	8-Oct
528	NOKIA	N97							GSM	1	9-Oct
529	NOKIA	N97 mini							GSM	1	10-Sep
530	NOKIA	X3							GSM	1	10-Dec
531	NOKIA	X6							GSM	1	11-May
532	NOKIA	6350							GSM	1	Dec-11
533	NOKIA	X2-01							GSM	1	Dec-11
534	O2	ICE							GSM	12	7-Oct
535	O2	XDA							GSM		6-Jul
536	O2	XDA Ili							GSM		6-Jul
537	ORANGE	SPV C500							GSM	2	6-Jul
538	ORANGE	SPV C550							GSM	2	6-Jul
539	ORANGE	SPV C600							GSM	2	6-Jul
540	PALM	700P							CDMA	23	10-Jan

541	PALM	Centro							GSM	23	9-Jan
542	PALM	Treo 500							GSM	2	9-Jan
543	PALM	Treo 680							GSM	23	8-Apr
544	PALM	Treo 750							GSM		7-Jul
545	PALM	Treo Pro							GSM	2	9-Jan
546	PANTECH	P8000							GSM	1	Apr-12
547	SAGEM	my302X							GSM		7-Apr
548	SAGEM	my401C							GSM		8-Jan
549	SAGEM	my401V							GSM		7-Apr
550	SAGEM	my401X							GSM		7-Apr
551	SAGEM	my411C							GSM		8-Jan
552	SAGEM	my411Cv							GSM		8-Jan
553	SAGEM	my411X							GSM		8-Jan
554	SAGEM	my501C							GSM		7-Apr
555	SAGEM	my511X							GSM		8-Jan
556	SAGEM	my600v							GSM		7-Jul
557	SAGEM	my700X							GSM		7-Apr
558	SAGEM	myV-55							GSM		8-Jan
559	SAGEM	myV-65							GSM		8-Jan
560	SAGEM	myX5-2							GSM		8-Jan
561	SAGEM	myX-6							GSM		8-Jan
562	SAMSUNG	B2100							GSM	4	9-Jul
563	SAMSUNG	B2700							GSM	4	9-Apr
564	SAMSUNG	B3310							GSM	1	9-Oct
565	SAMSUNG	B5702							GSM	4	9-Oct
566	SAMSUNG	B7300							GSM	1	10-Jan
567	SAMSUNG	C3050							GSM	4	9-Jul
568	SAMSUNG	C6625							GSM	4	9-Oct
569	SAMSUNG	E1360							GSM		9-Oct
570	SAMSUNG	E2210							GSM		9-Oct
571	SAMSUNG	I8000							GSM	1	10-Jan
572	SAMSUNG	i8510							GSM		9-Apr
573	SAMSUNG	M3200							GSM	4	10-Jan
574	SAMSUNG	M7500							GSM	1	9-Jul
575	SAMSUNG	M7600							GSM	1	9-Jul
576	SAMSUNG	M8800							GSM	4	9-Apr
577	SAMSUNG	S3030							GSM	4	9-Oct
578	SAMSUNG	S3100							GSM	4	10-Jan

579	SAMSUNG	S3500							GSM	4	9-Apr
580	SAMSUNG	S3600							GSM		10-Jan
581	SAMSUNG	S3650							GSM	4	10-Jan
582	SAMSUNG	S5050							GSM	4	9-Oct
583	SAMSUNG	S5230							GSM	4	9-Oct
584	SAMSUNG	S5600							GSM	1	9-Oct
585	SAMSUNG	S7220							GSM	1	9-Jul
586	SAMSUNG	S7330							GSM	4	9-Apr
587	SAMSUNG	S8000							GSM	1	9-Oct
588	SAMSUNG	S8300							GSM	1	9-Jul
589	SAMSUNG	SCH-A310							CDMA	11	6-Apr
590	SAMSUNG	SCH-A530							CDMA	11	6-Apr
591	SAMSUNG	SCH-A570							CDMA	11	6-Oct
592	SAMSUNG	SCH-A630							CDMA	10	6-Oct
593	SAMSUNG	SCH-A650							CDMA	11	6-Apr
594	SAMSUNG	SCH-A670							CDMA	11	6-Apr
595	SAMSUNG	SCH-A795							CDMA	10	8-Apr
596	SAMSUNG	SCH-A850							CDMA	10	8-Apr
597	SAMSUNG	SCH-A870							CDMA	10	8-Apr
598	SAMSUNG	SCH-A930							CDMA	10	8-Apr
599	SAMSUNG	SCH-A950							CDMA	10	8-Apr
600	SAMSUNG	SCH-A990							CDMA	10	8-Apr
601	SAMSUNG	SCH-i220							CDMA	1	11-May
602	SAMSUNG	SCH-i600							GSM		6-Jul
603	SAMSUNG	SCH-i730							CDMA		6-Jul
604	SAMSUNG	SCH-i760							GSM	18	8-Jul
605	SAMSUNG	SCH-i920							CDMA	1	10-Dec
606	SAMSUNG	SCH-R450							CDMA	4	9-Jul
607	SAMSUNG	SCH-U340							CDMA	10	9-Jul
608	SAMSUNG	SCH-U350							CDMA	4	10-Dec
609	SAMSUNG	SCH-U410							CDMA	10	8-Apr
610	SAMSUNG	SCH-U650							CDMA	4	9-Jul
611	SAMSUNG	SCH-U740							CDMA	6	10-Jan
612	SAMSUNG	SCH-U820							CDMA	1	10-Dec
613	SAMSUNG	SCH-U940							CDMA	4	9-Jul
614	SAMSUNG	SGH-A177							GSM	4	10-Jan
615	SAMSUNG	SGH-A300							GSM	16	5-Dec
616	SAMSUNG	SGH-A517							GSM	4	8-Apr

617	SAMSUNG	SGH-A687							GSM	4	10-Dec
618	SAMSUNG	SGH-A707							GSM	6	8-Jan
619	SAMSUNG	SGH-A717							GSM	6	8-Jan
620	SAMSUNG	SGH-A727							GSM	6	8-Jan
621	SAMSUNG	SGH-A737							GSM	4	8-Oct
622	SAMSUNG	SGH-A747							GSM	4	8-Oct
623	SAMSUNG	SGH-A767							GSM	4	9-Jul
624	SAMSUNG	SGH-A777							GSM	4	10-Dec
625	SAMSUNG	SGH-A827							GSM	4	8-Oct
626	SAMSUNG	SGH-A837							GSM	4	9-Jul
627	SAMSUNG	SGH-A877							GSM	4	10-Dec
628	SAMSUNG	SGH-A887							GSM	4	10-Dec
629	SAMSUNG	SGH-C100							GSM	16	5-Dec
630	SAMSUNG	SGH-C207							GSM	16	6-Jul
631	SAMSUNG	SGH-C225							GSM	16	5-Dec
632	SAMSUNG	SGH-C300							GSM	16	8-Jan
633	SAMSUNG	SGH-D307							GSM	11	6-Jul
634	SAMSUNG	SGH-D357							GSM	11	7-Jul
635	SAMSUNG	SGH-D407							GSM		7-Oct
636	SAMSUNG	SGH-D410							GSM	16	5-Dec
637	SAMSUNG	SGH-D500							GSM	11	5-Dec
638	SAMSUNG	SGH-D520							GSM	6	7-Apr
639	SAMSUNG	SGH-D600							GSM	11	6-Apr
640	SAMSUNG	SGH-D720							GSM	12	7-Jul
641	SAMSUNG	SGH-D780							GSM	4	9-Jan
642	SAMSUNG	SGH-D800							GSM	6	6-Oct
643	SAMSUNG	SGH-D807							GSM	6	8-Apr
644	SAMSUNG	SGH-D820							GSM	6	6-Oct
645	SAMSUNG	SGH-D830							GSM	6	7-Apr
646	SAMSUNG	SGH-D840							GSM	6	7-Jul
647	SAMSUNG	SGH-D880							GSM	4	8-Jul
648	SAMSUNG	SGH-D900							GSM	6	7-Apr
649	SAMSUNG	SGH-D900i							GSM	6	7-Oct
650	SAMSUNG	SGH-D980							GSM	4	9-Apr
651	SAMSUNG	SGH-E105							GSM	16	6-Apr
652	SAMSUNG	SGH-E210							GSM		8-Jan
653	SAMSUNG	SGH-E250							GSM	6	7-Apr
654	SAMSUNG	SGH-E330							GSM	17	6-Oct

655	SAMSUNG	SGH-E335							GSM	17	6-Oct
656	SAMSUNG	SGH-E350							GSM	11	5-Dec
657	SAMSUNG	SGH-E370							GSM	11	7-Jan
658	SAMSUNG	SGH-E390							GSM	6	7-Apr
659	SAMSUNG	SGH-E530							GSM		5-Dec
660	SAMSUNG	SGH-E570							GSM	6	7-Apr
661	SAMSUNG	SGH-E590							GSM	6	7-Oct
662	SAMSUNG	SGH-E600							GSM	16	7-Jul
663	SAMSUNG	SGH-E630							GSM	17	6-Apr
664	SAMSUNG	SGH-E700							GSM	17	5-Dec
665	SAMSUNG	SGH-E715							GSM	16	6-Oct
666	SAMSUNG	SGH-E720							GSM	12	5-Dec
667	SAMSUNG	SGH-E730							GSM	11	5-Dec
668	SAMSUNG	SGH-E740							GSM	6	8-Jan
669	SAMSUNG	SGH-E760							GSM	11	5-Dec
670	SAMSUNG	SGH-E770							GSM	11	6-Apr
671	SAMSUNG	SGH-E800							GSM	17	5-Dec
672	SAMSUNG	SGH-E830							GSM	6	8-Apr
673	SAMSUNG	SGH-E840							GSM	6	7-Oct
674	SAMSUNG	SGH-E870							GSM	6	6-Oct
675	SAMSUNG	SGH-E880							GSM		7-Jul
676	SAMSUNG	SGH-E900							GSM	6	7-Jan
677	SAMSUNG	SGH-E950							GSM	6	8-Jan
678	SAMSUNG	SGH-F110							GSM	4	8-Oct
679	SAMSUNG	SGH-F210							GSM		8-Jan
680	SAMSUNG	SGH-F250							GSM	4	9-Jan
681	SAMSUNG	SGH-F300							GSM	6	7-Jul
682	SAMSUNG	SGH-F330							GSM	4	8-Jul
683	SAMSUNG	SGH-F400							GSM	4	8-Jul
684	SAMSUNG	SGH-F480							GSM	4	9-Jan
685	SAMSUNG	SGH-F490							GSM	4	8-Jul
686	SAMSUNG	SGH-F500							GSM	6	7-Oct
687	SAMSUNG	SGH-F700							GSM	4	9-Apr
688	SAMSUNG	SGH-G400							GSM	4	9-Apr
689	SAMSUNG	SGH-G600							GSM		8-Jan
690	SAMSUNG	SGH-G800							GSM	4	8-Jul
691	SAMSUNG	SGH-G810							GSM	1	9-Apr
692	SAMSUNG	SGH-i200							GSM	4	9-Jan

693	SAMSUNG	SGH-i300							GSM	12	7-Oct
694	SAMSUNG	SGH-i320							GSM		7-Jan
695	SAMSUNG	SGH-i325							GSM	4	9-Jan
696	SAMSUNG	SGH-i600							CDMA	2	7-Oct
697	SAMSUNG	SGH-i607							GSM	6	7-Jul
698	SAMSUNG	SGH-i617							GSM	4	8-Oct
699	SAMSUNG	SGH-i620							GSM	6	9-Jan
700	SAMSUNG	SGH-i710							GSM	6	7-Oct
701	SAMSUNG	SGH-i780							GSM	4	9-Jul
702	SAMSUNG	SGH-i900							GSM	4	9-Jan
703	SAMSUNG	SGH-J600							GSM	6	8-Jan
704	SAMSUNG	SGH-J610							GSM	4	8-Oct
705	SAMSUNG	SGH-J700							GSM	4	8-Jul
706	SAMSUNG	SGH-L700							GSM	4	10-Jan
707	SAMSUNG	SGH-L760							GSM	4	8-Oct
708	SAMSUNG	SGH-L770							GSM		9-Jan
709	SAMSUNG	SGH-M150							GSM	4	8-Oct
710	SAMSUNG	SGH-M610							GSM	4	8-Oct
711	SAMSUNG	SGH-P207							GSM	11	6-Oct
712	SAMSUNG	SGH-P300							GSM	6	6-Apr
713	SAMSUNG	SGH-P310							GSM	6	7-Apr
714	SAMSUNG	SGH-P400							GSM	16	5-Dec
715	SAMSUNG	SGH-P510							GSM		5-Dec
716	SAMSUNG	SGH-P520							GSM	4	8-Apr
717	SAMSUNG	SGH-P735							GSM	12	5-Dec
718	SAMSUNG	SGH-P777							GSM		6-Jul
719	SAMSUNG	SGH-P850							GSM	11	6-Oct
720	SAMSUNG	SGH-S300M							GSM	16	6-Oct
721	SAMSUNG	SGH-S307							GSM	16	5-Dec
722	SAMSUNG	SGH-S400i							GSM	11	7-Apr
723	SAMSUNG	SGH-S401i							GSM	11	7-Apr
724	SAMSUNG	SGH-T301							GSM	4	10-Jan
725	SAMSUNG	SGH-T309							GSM	11	6-Jul
726	SAMSUNG	SGH-T349							GSM		10-Jan
727	SAMSUNG	SGH-T369							GSM	1	11-May
728	SAMSUNG	SGH-T429							GSM	4	8-Jul
729	SAMSUNG	SGH-T439							GSM	4	8-Oct
730	SAMSUNG	SGH-T469							GSM		10-Sep

731	SAMSUNG	SGH-T509							GSM	6	7-Jan
732	SAMSUNG	SGH-T539							GSM	4	8-Apr
733	SAMSUNG	SGH-T609							GSM	11	7-Jan
734	SAMSUNG	SGH-T639							GSM	4	8-Oct
735	SAMSUNG	SGH-T719							GSM	11	7-Jan
736	SAMSUNG	SGH-T729							GSM	4	8-Apr
737	SAMSUNG	SGH-T739							GSM	4	8-Oct
738	SAMSUNG	SGH-T749							GSM	4	10-Dec
739	SAMSUNG	SGH-T809							GSM	6	6-Jul
740	SAMSUNG	SGH-T819							GSM	4	8-Oct
741	SAMSUNG	SGH-T919							GSM	4	9-Jul
742	SAMSUNG	SGH-U100							GSM		7-Jul
743	SAMSUNG	SGH-U600							GSM	6	7-Jul
744	SAMSUNG	SGH-U700							GSM	6	8-Jan
745	SAMSUNG	SGH-U800							GSM	4	9-Jan
746	SAMSUNG	SGH-U900							GSM	4	8-Jul
747	SAMSUNG	SGH-X100							GSM	17	7-Oct
748	SAMSUNG	SGH-X427m							GSM	16	6-Apr
749	SAMSUNG	SGH-X450							GSM	16	5-Dec
750	SAMSUNG	SGH-X460							GSM	17	7-Apr
751	SAMSUNG	SGH-X475							GSM	17	6-Oct
752	SAMSUNG	SGH-X495							GSM	17	8-Jul
753	SAMSUNG	SGH-X497							GSM	17	8-Jul
754	SAMSUNG	SGH-X500							GSM	11	8-Apr
755	SAMSUNG	SGH-X507							GSM	11	7-Apr
756	SAMSUNG	SGH-X530							GSM	16	7-Apr
757	SAMSUNG	SGH-X600							GSM	17	6-Oct
758	SAMSUNG	SGH-X640							GSM	17	6-Oct
759	SAMSUNG	SGH-X650							GSM	17	7-Jul
760	SAMSUNG	SGH-X660							GSM	11	7-Apr
761	SAMSUNG	SGH-X680							GSM	11	8-Jul
762	SAMSUNG	SGH-X700							GSM		7-Oct
763	SAMSUNG	SGH-X820							GSM	6	6-Oct
764	SAMSUNG	SGH-X830							GSM	6	7-Apr
765	SAMSUNG	SGH-Z240							GSM	6	8-Jul
766	SAMSUNG	SGH-Z320i							GSM	18	9-Apr
767	SAMSUNG	SGH-Z510							GSM	6	6-Jul
768	SAMSUNG	SGH-Z720							GSM	6	8-Jul

769	SAMSUNG	SPH-A513							CDMA	4	9-Jul
770	SAMSUNG	SPH-A580							CDMA	11	7-Jan
771	SAMSUNG	SPH-A600							CDMA	11	7-Jul
772	SAMSUNG	SPH-A620							CDMA	11	6-Oct
773	SAMSUNG	SPH-A640							CDMA	11	7-Jul
774	SAMSUNG	SPH-A660							CDMA	11	6-Apr
775	SAMSUNG	SPH-A680							CDMA	11	7-Jul
776	SAMSUNG	SPH-A740							CDMA	11	6-Apr
777	SAMSUNG	SPH-A760							CDMA	11	6-Apr
778	SAMSUNG	SPH-A820							CDMA	11	7-Apr
779	SAMSUNG	SPH-A840							CDMA	11	6-Apr
780	SAMSUNG	SPH-A900							CDMA	11	8-Jul
781	SAMSUNG	SPH-A920							CDMA	11	8-Jul
782	SAMSUNG	SPH-A960							CDMA	11	8-Jul
783	SAMSUNG	SPH-M500							CDMA	11	8-Jul
784	SAMSUNG	SPH-M540							CDMA	1	9-Jul
785	SAMSUNG	SPH-M610							CDMA	6	10-Dec
786	SAMSUNG	SGH-T959V							GSM	1	Dec-11
787	SAMSUNG	SGH-T249							GSM	1	Dec-11
788	SAMSUNG	SCH-i400							CDMA	1	Apr-12
789	SAMSUNG	SPH-D700							CDMA	1	Apr-12
790	SAMSUNG	SGH-T589							GSM	1	Apr-12
791	SAMSUNG	SPH-M910							CDMA	1	Apr-12
792	SAMSUNG	SCH-R350							CDMA	1	Apr-12
793	SAMSUNG	SGH-i727							GSM	1	Apr-12
794	SAMSUNG	SGH-i897							GSM	1	Apr-12
795	SAMSUNG	SGH-i997							GSM	1	Apr-12
796	SAMSUNG	SGH-T499							GSM	1	Apr-12
797	SAMSUNG	SCH-i515							CDMA	1	Sep-12
798	SAMSUNG	GT-I9100							GSM	1	Sep-12
799	SHARP	FX PLUS							GSM	1	Apr-12
800	SIEMENS	A60							GSM	13	8-Jul
801	SIEMENS	A65							GSM	13	5-Dec
802	SIEMENS	A75							GSM	13	6-Apr
803	SIEMENS	C35							GSM	14	5-Dec
804	SIEMENS	C35i							GSM	14	6-Oct
805	SIEMENS	C55							GSM	13	6-Apr
806	SIEMENS	C60							GSM	13	6-Apr

807	SIEMENS	C61							GSM	13	6-Apr
808	SIEMENS	C62							GSM	13	5-Dec
809	SIEMENS	C65							GSM	13	5-Dec
810	SIEMENS	C72							GSM	13	6-Jul
811	SIEMENS	CF110							GSM	13	6-Apr
812	SIEMENS	CF75							GSM	13	6-Apr
813	SIEMENS	CL75							GSM	13	6-Apr
814	SIEMENS	CT66							GSM	13	6-Apr
815	SIEMENS	CX65							GSM	13	5-Dec
816	SIEMENS	M55							GSM	13	6-Jul
817	SIEMENS	M65							GSM	13	5-Dec
818	SIEMENS	M75							GSM	13	6-Apr
819	SIEMENS	MC60							GSM	13	5-Dec
820	SIEMENS	ME45							GSM	14	8-Jul
821	SIEMENS	ME75							GSM	13	6-Apr
822	SIEMENS	S55							GSM	13	6-Apr
823	SIEMENS	S65							GSM	13	5-Dec
824	SIEMENS	S75							GSM	13	6-Apr
825	SIEMENS	SF65							GSM		6-Jul
826	SIEMENS	SK65							GSM	13	5-Dec
827	SIEMENS	SL55							GSM	13	5-Dec
828	SIEMENS	SL65							GSM	13	5-Dec
829	SIEMENS	SP65							GSM		9-Jul
830	SONIM	XP3							GSM		9-Oct
831	SONY ERICSSON	C510							GSM	8	9-Apr
832	SONY ERICSSON	C702							GSM		8-Oct
833	SONY ERICSSON	C901							GSM	8	9-Oct
834	SONY ERICSSON	C902							GSM		8-Oct
835	SONY ERICSSON	C903							GSM	8	9-Oct
836	SONY ERICSSON	C905							GSM	8	9-Apr
837	SONY ERICSSON	D750i							GSM	8	6-Apr
838	SONY ERICSSON	F305							GSM		9-Oct
839	SONY ERICSSON	F500i							GSM	15	5-Dec
840	SONY ERICSSON	G502							GSM	8	8-Oct
841	SONY ERICSSON	G700							GSM	8	9-Jan
842	SONY ERICSSON	G705							GSM	8	9-Apr
843	SONY ERICSSON	G900							GSM	8	9-Jan
844	SONY ERICSSON	J105i							GSM	8	10-Sep

845	SONY ERICSSON	J300i							GSM	15	5-Dec
846	SONY ERICSSON	K300i							GSM	15	5-Dec
847	SONY ERICSSON	K310i							GSM	8	6-Oct
848	SONY ERICSSON	K320i							GSM	8	9-Jan
849	SONY ERICSSON	K500i							GSM	15	5-Dec
850	SONY ERICSSON	K510i							GSM	8	7-Jan
851	SONY ERICSSON	K530i							GSM	8	8-Jan
852	SONY ERICSSON	K550i							GSM	8	7-Jul
853	SONY ERICSSON	K550im							GSM	8	7-Jul
854	SONY ERICSSON	K600i							GSM	15	5-Dec
855	SONY ERICSSON	K608i							GSM	15	6-Oct
856	SONY ERICSSON	K610i							GSM	8	6-Oct
857	SONY ERICSSON	K630i							GSM	8	8-Jul
858	SONY ERICSSON	K660i							GSM	8	8-Jul
859	SONY ERICSSON	K700i							GSM	15	5-Dec
860	SONY ERICSSON	K750i							GSM	8	5-Dec
861	SONY ERICSSON	K770i							GSM	8	8-Jan
862	SONY ERICSSON	K800i							GSM	8	6-Jul
863	SONY ERICSSON	K810i							GSM	8	7-Jul
864	SONY ERICSSON	K850i							GSM	8	8-Jan
865	SONY ERICSSON	M600							GSM	8	9-Jan
866	SONY ERICSSON	P1i							GSM	8	9-Jan
867	SONY ERICSSON	P800							GSM		8-Apr
868	SONY ERICSSON	P900i							GSM		8-Jul
869	SONY ERICSSON	P990i							GSM	8	9-Jan
870	SONY ERICSSON	S302							GSM		9-Oct
871	SONY ERICSSON	S312							GSM		10-Jan
872	SONY ERICSSON	S500i							GSM	8	7-Oct
873	SONY ERICSSON	S700i							GSM	15	5-Dec
874	SONY ERICSSON	S710a							GSM	15	6-Apr
875	SONY ERICSSON	T230							GSM	15	7-Jul
876	SONY ERICSSON	T290i							GSM	15	5-Dec
877	SONY ERICSSON	T300							GSM	15	5-Dec
878	SONY ERICSSON	T310							GSM	15	5-Dec
879	SONY ERICSSON	T610							GSM	15	5-Dec
880	SONY ERICSSON	T630							GSM	15	5-Dec
881	SONY ERICSSON	T650i							GSM	8	8-Jan
882	SONY ERICSSON	T68							GSM	15	5-Dec

883	SONY ERICSSON	T68i							GSM	15	6-Oct
884	SONY ERICSSON	T700							GSM	8	9-Jan
885	SONY ERICSSON	T707							GSM	8	9-Oct
886	SONY ERICSSON	T715							GSM	8	10-Jan
887	SONY ERICSSON	TM506							GSM	8	10-Dec
888	SONY ERICSSON	U100i Yari							GSM	8	10-Jan
889	SONY ERICSSON	U10i Aino							GSM	8	10-Jan
890	SONY ERICSSON	U1i Satio							GSM		10-Jan
891	SONY ERICSSON	U5i (Vivaz)							GSM	1	11-May
892	SONY ERICSSON	V600i							GSM	15	6-Apr
893	SONY ERICSSON	V630i							GSM	8	7-Jul
894	SONY ERICSSON	V640i							GSM	8	8-Jul
895	SONY ERICSSON	V800							GSM	15	5-Dec
896	SONY ERICSSON	W200i							GSM	8	7-Jul
897	SONY ERICSSON	W300i							GSM		6-Jul
898	SONY ERICSSON	W302							GSM		9-Oct
899	SONY ERICSSON	W350							GSM	8	8-Oct
900	SONY ERICSSON	W380i							GSM	8	8-Jul
901	SONY ERICSSON	W395							GSM		9-Oct
902	SONY ERICSSON	W508							GSM	8	9-Oct
903	SONY ERICSSON	W518A							GSM	8	10-Dec
904	SONY ERICSSON	W550i							GSM	8	5-Dec
905	SONY ERICSSON	W580i							GSM	8	7-Oct
906	SONY ERICSSON	W595							GSM	8	9-Jan
907	SONY ERICSSON	W610i							GSM	8	7-Jul
908	SONY ERICSSON	W660i							GSM	8	8-Jan
909	SONY ERICSSON	W705							GSM	8	9-Apr
910	SONY ERICSSON	W710i							GSM	8	6-Oct
911	SONY ERICSSON	W760							GSM		8-Oct
912	SONY ERICSSON	W800i							GSM	8	5-Dec
913	SONY ERICSSON	W810i							GSM	8	6-Jul
914	SONY ERICSSON	W850i							GSM	8	6-Oct
915	SONY ERICSSON	W880i							GSM	8	7-Apr
916	SONY ERICSSON	W890i							GSM	8	8-Jul
917	SONY ERICSSON	W900i							GSM	8	6-Apr
918	SONY ERICSSON	W902							GSM	8	9-Apr
919	SONY ERICSSON	W910i							GSM	8	8-Jan
920	SONY ERICSSON	W950i							GSM	8	9-Jan

921	SONY ERICSSON	W960							GSM	8	9-Jan
922	SONY ERICSSON	W980							GSM	8	9-Jan
923	SONY ERICSSON	W995							GSM	8	9-Oct
924	SONY ERICSSON	X1							GSM	2	9-Jan
925	SONY ERICSSON	X10							GSM	1	11-May
926	SONY ERICSSON	Z1010							GSM	15	7-Jul
927	SONY ERICSSON	Z310i							GSM	8	7-Jul
928	SONY ERICSSON	Z500a							GSM	15	6-Apr
929	SONY ERICSSON	Z520a							GSM	8	6-Oct
930	SONY ERICSSON	Z520i							GSM	8	5-Dec
931	SONY ERICSSON	Z530i							GSM	8	6-Jul
932	SONY ERICSSON	Z550i							GSM	8	6-Oct
933	SONY ERICSSON	Z555i							GSM	8	8-Jul
934	SONY ERICSSON	Z600							GSM	15	5-Dec
935	SONY ERICSSON	Z610i							GSM	8	7-Apr
936	SONY ERICSSON	Z710i							GSM	8	7-Apr
937	SONY ERICSSON	Z770							GSM		8-Oct
938	SONY ERICSSON	Z800i							GSM	15	5-Dec
939	T-MOBILE	MDA Vario II							GSM	2	8-Jul
940	TOSHIBA	G810							GSM	2	9-Jul
941	TOSHIBA	G910							GSM	2	9-Jul
942	TOSHIBA	Portege G500							GSM	2	7-Jul
943	TOSHIBA	Portege G710							GSM	2	9-Apr
944	UBIQUIO	401							GSM	2	7-Jul
945	UBIQUIO	501							GSM	2	7-Jul
946	VERIZON	XV6700							GSM	2	7-Oct
947	VISOA	Spiderphone							GSM		10-Jan
948	VODAFONE	527							GSM		9-Jul
949	VODAFONE	533							GSM		9-Jul
950	VODAFONE	710							GSM		7-Oct
951	VODAFONE	725							GSM		9-Jul
952	VODAFONE	810							GSM		8-Jul
953	VODAFONE	830							GSM		9-Jul
954	ZTE	C78							CDMA		10-Sep

Handsets – Expected Support

The following handsets have not been verified on CellXtract however their appearance or technology indicates that data extraction will be possible as shown by the icons on CellXtract. These handsets are assigned an amber tick. It is recommended that all data is treated as a minimum extraction as there may be additional data sets available that require further examination.

Data can be extracted from these handsets as normal by selecting the device from the Manufacturers list and extracting over Bluetooth, Infrared or Cable as required.

All Windows Mobile devices can be extracted using the PDA option and selecting Windows. All Windows Mobile devices are supported by Infrared and/or Cable.

MFG	MODEL	MFG	MODEL	MFG	MODEL
ACER	beTouch E100	ASUS	H502	AT&T	2125
ACER	beTouch E200	ASUS	M530W	AT&T	3125
ACER	c510	ASUS	M356	AT&T	5700
ACER	c530	ASUS	M930	AT&T	8125
ACER	c531	ASUS	Mars II	AT&T	8500
ACER	DX650	ASUS	Mypal A626	AT&T	8525
ACER	DX900	ASUS	MyPal A632	AT&T	SX56
ACER	Liquid	ASUS	MyPal A636	AT&T	SX66
ACER	M900	ASUS	MyPal A636N	AUDIOVOX	5050
ACER	n10	ASUS	MyPal A639	AUDIOVOX	5600
ACER	n30	ASUS	MyPal A686	AUDIOVOX	6601
ACER	n35	ASUS	P305	AUDIOVOX	XV6600
ACER	n300	ASUS	P320	AUDIOVOX	XV6700
ACER	n310	ASUS	P505	BENQ- SIEMENS	P51
ACER	n311	ASUS	P525	BLACKBERR Y	8110
ACER	n320	ASUS	P526	BLACKBERR Y	8130 (Pearl)
ACER	n321	ASUS	P527	BLACKBERR Y	8220
ACER	neoTouch	ASUS	P535	BLACKBERR Y	8230 (Pearl)
AIRIS	T610	ASUS	P550	BLACKBERR Y	Pearl 3G 9100
AIRIS	T620	ASUS	P552	BLACKBERR Y	9105 (Pearl 3G)
AIRO	A25	ASUS	P560	BLACKBERR Y	Curve 3G 9300
AMOI	E72	ASUS	P565	BLACKBERR	9520

				Y	
				BLACKBERR	
				Y	9550
				BLACKBERR	
				Y	9630
				BLACKBERR	
				Y	9650 (Bold)
				BLACKBERR	
				Y	9670 (Style)
				BLACKBERR	
				Y	Torch 9800
				BLACKBERR	
				Y	9900
				CINGULAR	2125
				CINGULAR	3125
				CINGULAR	8100
				CINGULAR	8125
				CINGULAR	SX66
				CINGULAR	
				iPAQ	h6320
				FUJITSU	
				SIEMENS	C550
				FUJITSU	
				SIEMENS	N100
				FUJITSU	
				SIEMENS	N110
				FUJITSU	
				SIEMENS	N500
				FUJITSU	
				SIEMENS	N520
				FUJITSU	
				SIEMENS	N520c
				FUJITSU	
				SIEMENS	N520e
				FUJITSU	
				SIEMENS	N520p
				FUJITSU	
				SIEMENS	N560
				FUJITSU	
				SIEMENS	N560c
				FUJITSU	
				SIEMENS	N560e
				FUJITSU	
				SIEMENS	T810
				FUJITSU	
				SIEMENS	T830
				FUJITSU	
				SIEMENS	V70
				GARMIN-	
				ASUS	Garminfone
AMOI	E75	ASUS	P735		
AMOI	E76	ASUS	P750		
AMOI	E78	ASUS	P835		
AMOI	E850	ASUS	V88i		
AMOI	E860	ASUS	Z801		
AnexTEK	moboDA 3160	ASUS	Z810		
AnexTEK	moboDA 3360	ASUS	ZX1		
AnexTEK	moboDA 3380	AT Mobile	AT Bear		
AnexTEK	SP310	AT Mobile	AT Cobra		
Apple	iPod Touch	AT Mobile	AT Eagle		
Apple	iPhone 4S				
Apple	iPhone 5S	AT Mobile	AT Falcon		
ASUS	A696	AT Mobile	AT Pelican		
ASUS	J501				
CINGULAR					
R iPAQ	h6325	DOPOD	CHT 9100		
COMPAQ					
iPAQ	3800	DOPOD	D600		
COMPAQ					
iPAQ	3830	DOPOD	D802		
COMPAQ					
iPAQ	3835	DOPOD	D8110		
COMPAQ					
iPAQ	3850	DOPOD	M700		
COMPAQ					
iPAQ	3870	DOPOD	P100		
COMPAQ					
iPAQ	3875	DOPOD	P800W		
COMPAQ					
iPAQ	3900	DOPOD	S300		
COMPAQ					
iPAQ	3950	DOPOD	U1000		
COMPAQ					
iPAQ	3955	E-PLUS	PDA III		
COMPAQ					
iPAQ	3970	E-PLUS	PDA IV		
COMPAQ					
iPAQ	3975	ETEN	600		
DAXIAN	CU928	ETEN	600e		
DELL	AXIM	ETEN	DX900		
DELL	Pocket DJ 20GB	ETEN	E500		

	Pocket DJ				
DELL	30GB	ETEN	E900	GIGABYTE	g-Smart
DELL	X3	ETEN	G500	GIGABYTE	g-Smart i
DELL	X3i	ETEN	G500+	GIGABYTE	g-Smart i+
					g-Smart
DELL	X30	ETEN	M500	GIGABYTE	i120
					g-Smart
DELL	X5	ETEN	M550	GIGABYTE	i128
					g-Smart
DELL	X50	ETEN	M600	GIGABYTE	i300
					g-Smart
DELL	X50v	ETEN	M600+	GIGABYTE	i350
					g-Smart
DELL	X51	ETEN	M700	GIGABYTE	MS800
					g-Smart
DOCOMO	htc Z	ETEN	M800	GIGABYTE	MS802
					g-Smart
DOPOD	310	ETEN	M810	GIGABYTE	MS804
					g-Smart
DOPOD	515	ETEN	N100	GIGABYTE	MS808
					g-Smart
DOPOD	535	ETEN	P100	GIGABYTE	MS820
					g-Smart
DOPOD	565	ETEN	P100w	GIGABYTE	MW700
					g-Smart
DOPOD	566	ETEN	P120	GIGABYTE	MW702
					g-Smart
DOPOD	575	ETEN	P300	GIGABYTE	MW998
DOPOD	585	ETEN	P600	GIGABYTE	g-Smart q60
					g-Smart
DOPOD	586	ETEN	P603	GIGABYTE	S1200
					g-Smart
DOPOD	595	ETEN	P610	GIGABYTE	t600
DOPOD	686	ETEN	P700	GOOGLE	NEXUS 7
DOPOD	696	ETEN	P700i	HP iPAQ	114
DOPOD	699	ETEN	T470	HP iPAQ	214
DOPOD	700	ETEN	T500	HP iPAQ	500
DOPOD	710	ETEN	V900	HP iPAQ	510
DOPOD	818	ETEN	X500	HP iPAQ	512
DOPOD	830	ETEN	X500+	HP iPAQ	610c
DOPOD	838	ETEN	X600	HP iPAQ	614
DOPOD	900	ETEN	X610	HP iPAQ	614c
DOPOD	577W	ETEN	X650	HP iPAQ	9120c
DOPOD	586W	ETEN	X800	HP iPAQ	Glisten
DOPOD	696i	EVEREX	NEON	HP iPAQ	h1900
DOPOD	818 Pro	FITH MEDIA	A308	HP iPAQ	h1910
DOPOD	828+	FLY	IQ-110	HP iPAQ	h1915
		FUJITSU			
DOPOD	838 Pro	SIEMENS	410	HP iPAQ	h1920
		FUJITSU			
DOPOD	C500	SIEMENS	420	HP iPAQ	h1930
		FUJITSU			
DOPOD	C720W	SIEMENS	600	HP iPAQ	h1935
DOPOD	C730	FUJITSU	710	HP iPAQ	h1937

DOPOD	C800	SIEMENS		HP iPAQ	h1940
		FUJITSU			
DOPOD	C858	SIEMENS	718	HP iPAQ	h1945
		FUJITSU			
DOPOD	CHT 9000	SIEMENS	610BT	HP iPAQ	h2200
		SIEMENS			
HP iPAQ	h2210	HP iPAQ	hx2490	HTC	Galaxy
HP iPAQ	h2215	HP iPAQ	hx2495	HTC	Gene
HP iPAQ	h3630	HP iPAQ	hx2700	HTC	Harrier
HP iPAQ	h3670	HP iPAQ	hx2750	HTC	HD2
HP iPAQ	h3800	HP iPAQ	hx2790	HTC	Herald
HP iPAQ	h3830	HP iPAQ	hx2795	HTC	Hermes
HP iPAQ	h3835	HP iPAQ	hx4700	HTC	Himalaya
HP iPAQ	h3850	HP iPAQ	hx4705	HTC	Hurricane
HP iPAQ	h3870	HP iPAQ	hx4710	HTC	Imagio
HP iPAQ	h3875	HP iPAQ	K3 Obsidian	HTC	Inspire 4G
HP iPAQ	h3900	HP iPAQ	rw6815	HTC	Libra
HP iPAQ	h3950	HP iPAQ	rw6818	HTC	Love
HP iPAQ	h3955	HP iPAQ	rw6828	HTC	Magician
HP iPAQ	h3970	HP iPAQ	rx1700	HTC	MAX 4G
HP iPAQ	h3975	HP iPAQ	rx1950	HTC	Monet
HP iPAQ	h4140	HP iPAQ	rx1955	HTC	MTeoR
HP iPAQ	h4150	HP iPAQ	rx3100	HTC	Nike
HP iPAQ	h4155	HP iPAQ	rx3110	HTC	Oxygen
HP iPAQ	h4350	HP iPAQ	rx3115	HTC	Ozone
HP iPAQ	h4355	HP iPAQ	rx3400	HTC	P3350
HP iPAQ	h5100	HP iPAQ	rx3415	HTC	P3400
HP iPAQ	h5150	HP iPAQ	rx3417	HTC	P3600
HP iPAQ	h5155	HP iPAQ	rx3700	HTC	P4000
HP iPAQ	h5400	HP iPAQ	rx3710	HTC	P4350
HP iPAQ	h5450	HP iPAQ	rx3715	HTC	P4450
HP iPAQ	h5455	HP iPAQ	rx4240	HTC	P4500
HP iPAQ	h5500	HP iPAQ	rx5700	HTC	P6300
HP iPAQ	h5555	HP iPAQ	rx5900	HTC	P6500
HP iPAQ	h6310	HP iPAQ	rz1700	HTC	Panda
HP iPAQ	h6315	HP iPAQ	rz1715	HTC	Polaris
			Advantage		
HP iPAQ	h6320	HTC	X7500	HTC	Prophet
			Advantage		
HP iPAQ	h5325	HTC	X7501	HTC	Pure
			Advantage		
HP iPAQ	h6340	HTC	A7510	HTC	Robbie
HP iPAQ	h6365	HTC	Alphine	HTC	S320
HP iPAQ	h6500	HTC	Amadeus	HTC	S630
HP iPAQ	hw6510	HTC	Apache	HTC	S720
HP iPAQ	hw6515	HTC	Aria	HTC	S730
					Sensation
HP iPAQ	h6515a	HTC	Artemis	HTC	4G
					Shadow
HP iPAQ	h6710	HTC	Athena	HTC	Hotspot

HP iPAQ	h6715	HTC	Atlas	HTC	Shift
HP iPAQ	hw6900	HTC	Blue Angel	HTC	Sirius
HP iPAQ	hw6910	HTC	Breeze	HTC	Sonata
HP iPAQ	hw6920	HTC	Canary	HTC	Star Trek
HP iPAQ	hw6925	HTC	Cavalier	HTC	Surround
HP iPAQ	h6940	HTC	Charmer	HTC	Tanager
HP iPAQ	hw6945	HTC	Dash 3G	HTC	Thunderbolt
HP iPAQ	h6965	HTC	Dream	HTC	Tilt2
HP iPAQ	hx2000	HTC	Elf	HTC	Touch2
HP iPAQ	hx2090	HTC	EVO View 4G (Tablet)	HTC	Touch 3G Touch
HP iPAQ	nx2110	HTC	Excalibur	HTC	Cruise 09
HP iPAQ	hx2190	HTC	Falcon	HTC	Touch Dual
HP iPAQ	hx2400	HTC	Faraday	HTC	Touch HD
HP iPAQ	hx2410	HTC	Feeler	HTC	Touch Pro
HP iPAQ	hx2415	HTC	Flyer (tablet)	HTC	Touch Pro 2
HTC	Touch Viva	IZENMOBILE	KRMA KSMT	MITAC	8380
HTC	Tilt	KINPO	iDO S601	MITAC	8390
HTC	Trinity	KINPO	IDO S630	MITAC	8870
HTC	Typhoon	KINPO	SP70	MITAC	168RS
HTC	TyTN	KINPO	SP70R	MITAC	336BT
HTC	Universal	KINPO	SP90	MITAC	338 Plus
HTC	Volans	KROME	Intellekt iQ200	MITAC	A201
HTC	Vox	KROME	Intellekt iQ700	MITAC	A501
HTC	Voyager	KROME	Mega M900i	MITAC	A700
HTC	Wallaby	KROME	Navigator F1	MITAC	A701
HTC	Wizard	KROME	Spy	MITAC	A702
HTC	XV6900	KYOCERA	E1100	MITAC	P3400
IMATE	JAM Black	LENOVO	ET960	MITAC	P350
IMATE	JAMA	LENOVO	ET980	MITAC	P550
IMATE	JAMA101	LENOVO	i921	MITAC	OP550m
IMATE	JAMA 201	LG	Incite	MITAC	P560 Trium
IMATE	JAQ	LG	AX145	MITSUBISHI	Mondo
IMATE	JAQ3	LG	KB770	MOTOROLA	A845
IMATE	JAQ4	LG	KC1	MOTOROLA	A3100
IMATE	JASJAM	LG	KE990	MOTOROLA	C250
IMATE	PDA-2	LG	KF300	MOTOROLA	C343a
IMATE	EDVO	LG	KF310	MOTOROLA	C353
IMATE	PDAL	LG	KF350	MOTOROLA	C353t
IMATE	PDA-N Phone	LG	KF700	MOTOROLA	C380
IMATE	Edition	LG	KF750	MOTOROLA	E550
IMATE	Pocket PC	LG	KF755	MOTOROLA	i275
IMATE	Smartflip Smartphon e	LG	KF770	MOTOROLA	i720
IMATE	Smartphon e	LG	KF900	MOTOROLA	i733
IMATE	e2	LG	KP100	MOTOROLA	i740
IMATE	SP2	LG	KP501	MOTOROLA	i920

IMATE	SP3	LG	KS20	MOTOROLA	i920
IMATE	SP4m	LG	KT610	MOTOROLA	i930
IMATE	SP5m	LG	KU380	MOTOROLA	MC35
IMATE	SPJAS	LG	Optimus GT540	MOTOROLA	MPx
IMATE	Ultimate 5150	LG	P509 (Optimus T)	MOTOROLA	MPx100
IMATE	Ultimate 6150	LG	U8100	MOTOROLA	T720i
IMATE	Ultimate 7150	LG	U8150	MOTOROLA	V1150
IMATE	Ultimate 8150	LG	U8180	MOTOROLA	V120e
IMATE	Ultimate 8502	LG	U8210	MOTOROLA	V120t
IMATE	Ultimate 9150	LG	U8290	MOTOROLA	V120x
IMATE	9502	LG	U8300	MOTOROLA	V186
IMATE	810-F	LG	Quantum	MOTOROLA	V191
INTERME C	730	MIO	A502	MOTOROLA	V330
INTERME C	730B	MIO	A702	MOTOROLA	V505
INTERME C	741B	MIO	P3600	MOTOROLA	V535
INTERME C	751B	MIO	P560	MOTOROLA	V545
INTERME C	761B	MITAC	168	MOTOROLA	V547
INTERME C	CN2B	MITAC	169	MOTOROLA	V555
INTERME C	CN3	MITAC	180	MOTOROLA	V557
INTERME C	CN30	MITAC	336	MOTOROLA	V60
INTERME C	Mercury	MITAC	338	MOTOROLA	V60c
i-teq	Bond	MITAC	339	MOTOROLA	V60g
i-teq	Laser	MITAC	558	MOTOROLA	V60i
i-teq	X-Bond	MITAC	728	MOTOROLA	V60s
MOTORO LA	V60t	NOKIA	N8	ORANGE	SPV C220
MOTORO LA	V60x	NOKIA	N75	ORANGE	SPV C700
MOTORO LA	V66	NOKIA	N78	ORANGE	SPV Classic
MOTORO LA	Z10	NOKIA	N81	ORANGE	SPV E100
MOTORO LA	Backflip	NOKIA	N92	ORANGE	SPV E200
MOTORO LA	Bravo	NOKIA	X5	ORANGE	SPV E600
MOTORO LA	Charmer	O2	Cosmo	ORANGE	SPV E610

MOTOROLA	Cliq 2	O2	Pocket PC	ORANGE	SPV E650
MOTOROLA	Defy	O2	XDA Argon	ORANGE	SPV F600
MOTOROLA	Flipout	O2	XDA Atom	ORANGE	SPV M1000
MOTOROLA	Flipside	O2	XDA Atom Exec	ORANGE	SPV M2000
MWG	Atom Life	O2	XDA Atom Life	ORANGE	SPV M2500
MWG	Atom V	O2	XDA Atom Pure	ORANGE	SPV M3000
MWG	Zinc II	O2	XDA Comet	ORANGE	SPV M3100
NEONODE	N1	O2	XDA Cosmo	ORANGE	SPV M500
NEONODE	N1m	O2	XDA Exec	ORANGE	SPV M5000
NEONODE	N2	O2	XDA Flame	ORANGE	SPV M600
NEXIO	S160	O2	XDA Graphite	ORANGE	SPV M650
NEXIO	XP40	O2	XDA Guide	ORANGE	SPV M700
	2320				SPV
NOKIA	Classic	O2	XDA Ignito	ORANGE	Smartphone
NOKIA	2605	O2	XDA II	ORSiO	G735
	2705				
NOKIA	Shade	O2	XDA ii mini	ORSiO	GN725
NOKIA	3205	O2	XDA iis	ORSiO	N725 GPS
NOKIA	3606	O2	XDA mini S	ORSiO	P745
NOKIA	3711	O2	XDA NEO	PALM	Treo 700w
NOKIA	5030	O2	XDA Nova	PALM	Treo 700wx
NOKIA	5250	O2	XDA Orbit	PALM	Treo 750V
NOKIA	6012	O2	XDA Orbit II	PALM	Treo 755p
NOKIA	6102	O2	SDA Orion	PALM	Treo 800w
					Tungsten
NOKIA	6121	O2	XDA Phone	PALM	E2
					Tungsten
NOKIA	6126	O2	XDA Stealth	PALM	T5
NOKIA	6205	O2	XDA Serra	PANASONIC	X700
NOKIA	6350	O2	XDA Stellar	PANASONIC	X800
NOKIA	6560	O2	XDA Terra	PANTECH	PN820
				PARAGON	
NOKIA	6590	O2	XDA Trion	WIRELESS	HIPI-2200
					600 GPS
NOKIA	6600	O2	XDA Zest	PHAROS	Phone
					Traveller
NOKIA	6681	O2	XDA Zinc	PHAROS	GPS 525
				POCKET	
NOKIA	6682	O2	Xphone	NAVIGATOR	PN-3550
	6710			POCKET	
NOKIA	Navigator	O2	Xphone ii	NAVIGATOR	PN-3560
				POCKET	
NOKIA	6750	O2	Xphone iim	NAVIGATOR	PN-P201
				POCKET	
NOKIA	7205	OKWAP	K728	NAVIGATOR	PN-P550 A
NOKIA	7250	OKWAP	K868	POCKET	PN-P550 A

NOKIA	8801	OKWAP	K860	NAVIGATOR	
NOKIA	8890	OKWAP	K871	PSION	Workabout
NOKIA	6236i	OKWAP	S868	TEKLOGIX	PRO
NOKIA	C5	OPTICON	H-16B	PSION	Workabout
NOKIA	C6	OPTICON	H-19A	TEKLOGIX	PRO G2
NOKIA	E5	OPTICON	H-19-B	QOOL LABS	QDA Icon
NOKIA	E52	OPTICON	PHL-5400	QOOL LABS	QDA Lite
NOKIA	E61i	OPTICON	PHL-7111	QOOL LABS	Twins 178
NOKIA	E62	OPTICON	PHL-7114	QTEK	1010
NOKIA	E66	OPTICON	PHL-7142	QTEK	2020
NOKIA	E72	ORANGE	SPV C100	QTEK	2060
NOKIA	E90	ORANGE	SPV C200	QTEK	7070
				QTEK	8010
				QTEK	8020
				QTEK	8060
				SONY	
QTEK	8080	SAMSUNG	S5230W	ERICSSON	K610im
QTEK	8100	SAMSUNG	S5233	SONY	
QTEK	8200	SAMSUNG	S5600v Blade	ERICSSON	K700c
QTEK	8300	SAMSUNG	S5603	SONY	
QTEK	8310	SAMSUNG	S7350	ERICSSON	K750c
QTEK	8500	SAMSUNG	SCH-i830	SONY	
QTEK	8600	SAMSUNG	SCH-M400	ERICSSON	K758c
QTEK	9000	SAMSUNG	SGH-A257	SONY	
QTEK	9090	SAMSUNG	SGH-A877	ERICSSON	K790a
QTEK	9100	SAMSUNG	SGH-A887	SONY	
QTEK	9600	SAMSUNG	SGH-D300	ERICSSON	K790c
QTEK	2020i	SAMSUNG	SGH-D730(Symbian)	SONY	
QTEK	G100	SAMSUNG	SGH-E808	ERICSSON	K790i
QTEK	S100	SAMSUNG	SGH-i250	SONY	
QTEK	S110	SAMSUNG	SGH-i300x	ERICSSON	M608i
QTEK	S200	SAMSUNG	SGH-i400(Symbian)	SONY	
QTEK	S310	SAMSUNG	SGH-i450(Symbian)	ERICSSON	S700c
QUEST	PC6700	SAMSUNG	SGH-i718	SONY	
ROVER	C6	SAMSUNG	SGH-i750	ERICSSON	T226
ROVER	E5	SAMSUNG	SGH-i760	SONY	T237
				ERICSSON	T290a
				SONY	
				ERICSSON	T616
				SONY	
				ERICSSON	T637
				SONY	
				ERICSSON	W300c
				SONY	
				ERICSSON	W550c
				SONY	
				ERICSSON	W600
				SONY	
				ERICSSON	W600c
				SONY	
				ERICSSON	W710c
				SONY	
				ERICSSON	W715a

PC				ERICSSON	
ROVER				SONY	
PC	G5	SAMSUNG	SGH-i770	ERICSSON	W800c
ROVER				SONY	
PC	G6	SAMSUNG	SGH-i897	ERICSSON	W810c
ROVER				SONY	
PC	M5	SAMSUNG	SGH-i917	ERICSSON	W830
ROVER				SONY	
PC	N6	SAMSUNG	i9000 (Galaxy S 4G)	ERICSSON	W880c
ROVER				SONY	
PC	N7	SAMSUNG	i9100 (Galaxy S 2)	ERICSSON	W888c
ROVER				SONY	
PC	P6	SAMSUNG	SGH-L870(Symbian)	ERICSSON	W900c
ROVER				SONY	
PC	P745	SAMSUNG	SGH-P730	ERICSSON	Xperia X10
ROVER				SONY	Xperia X10 mini
PC	Q5	SAMSUNG	SGH-T929	ERICSSON	
ROVER				SONY	
PC	Q6	SAMSUNG	SGH-T589 (Gravity Smart)	ERICSSON	Xperia X8
ROVER				SONY	
PC	R5	SAMSUNG	SGH-T759 (Exhibit 4G)	ERICSSON	Z502a
ROVER				SONY	
PC	S5	SAMSUNG	SGH-T959	ERICSSON	Z520c
ROVER				SONY	
PC	S6	SAMSUNG	SGH-Z600	ERICSSON	Z525a
ROVER				SONY	
PC	S7	SHARP	W-ZERO3	ERICSSON	Z525i
ROVER				SONY	
PC	W5	SIEMENS	A62	ERICSSON	Z530c
SAMSUN G	GALAXY S3	SIEMENS	C6620	SONY	
SAMSUN G	GALAXY S4	SIEMENS	L56	ERICSSON	Z550a
SAMSUN G	B7320	SIEMENS	S56	SONY	Z550c
SAMSUN G	B7330, OmniaPRO	SIEMENS	S66	ERICSSON	Z710c
SAMSUN G	B7610 OmniaPRO	SIEMENS	SX45	SONY	Z712a
SAMSUN G	C6620	SIEMENS	SX45i	SPRINT	Ace
SAMSUN G	C3010	SIEMENS	SX56	SPRINT	PPC-6600
SAMSUN G	C3110	SIEMENS	SX66	SPRINT	PPC-6601
SAMSUN G	E1310	SOCKET MOBILE	SoMo 650	SPRINT	PPC-6700
SAMSUN G	i520(Symbian)	SONY	C901	SPRINT	PPC-6800
SAMSUN G	i550(Symbian)	ERICSSON	GreenHeart	SPRINT	XV6600
SAMSUN G	i560(Symbian)	SONY	G900	Nomad	800B
SAMSUN G	i640	ERICSSON	J300a	TDS	Nomad 800L
SAMSUN	i7110(Symb	SONY	J300c	TDS	Nomad 800LC
			K300a	TDS	Nomad

G	ian)	ERICSSON			800LE
SAMSUN	i7500(Andr	SONY			Ranger
G	oid)	ERICSSON	K300c	TDS	300X
SAMSUN		SONY			Ranger
G	i8910	ERICSSON	K310a	TDS	500X
SAMSUN		SONY			
G	i907	ERICSSON	K310c	T-MOBILE	Ameo
SAMSUN		SONY			
G	M7610	ERICSSON	K500c	T-MOBILE	Comet
SAMSUN		SONY			
G	Propel Pro	ERICSSON	K506c	T-MOBILE	Dash
SAMSUN		SONY			
G	S3110	ERICSSON	K510a	T-MOBILE	G2
SAMSUN		SONY			
G	S3310	ERICSSON	K510c	T-MOBILE	G2x
T-MOBILE	MDA	T-MOBILE	h6315	VODAFONE	VDA V
	MDA				VPA
T-MOBILE	Compact	TOSHIBA	G900	VODAFONE	Compact
	MDA				VPA II
T-MOBILE	Compact II	TOSHIBA	TG01	VODAFONE	Compact
	MDA				
T-MOBILE	Compact III	UBIQUIO	601	VODAFONE	VPA III
T-MOBILE	MDA II	UBIQUIO	503G	VOXTEL	W210
		VELOCITY			
T-MOBILE	MDA III	MOBILE	103	VOXTEL	W420
		VELOCITY			
T-MOBILE	MDA Mail	MOBILE	111	VOXTEL	W520
		VERIZON			
T-MOBILE	MDA Pro	WIRELESS	PN-820	VOXTEL	W740
	MDA	VERIZON			
T-MOBILE	Pocket PC	WIRELESS	XV6600		
		VERIZON			
T-MOBILE	MDA Touch	WIRELESS	XV6800		
T-MOBILE	MDA Vario	VODAFONE	v1210		
	MDA Vario				
T-MOBILE	III	VODAFONE	v1240		
	myTouch				
T-MOBILE	3G slide	VODAFONE	v1415		
	myTouch				
T-MOBILE	4G	VODAFONE	v1605		
T-MOBILE	SDA	VODAFONE	v1620		
T-MOBILE	SDA II	VODAFONE	v1640		
T-MOBILE	SDA Music	VODAFONE	VDA		
			VDA Compact		
T-MOBILE	Shadow 2	VODAFONE	GPS		
			VDA Compact		
T-MOBILE	Sidekick 4G	VODAFONE	IV		
T-MOBILE	Wing	VODAFONE	VDA II		

Handsets – Other

Other handsets can be tested on CellXtract, however the amount of data extracted has not been assessed and all information should be treated as a minimum data extraction.

GPS Device – Verified CellXtract Support

The following GPS Devices have been tested on CellXtract using the standard verification procedures of Logicube. The results below display the data sets that can be extracted from CellXtract for the specific handset. There may be additional data sets available from handsets and these will require further examination.

Key:

Phone ID		Home		Routes	
Contacts		Favourites	★	Routes with Waypoints	
Call Logs		Recent Destinations		Track Logs	
Call Logs w timestamp		Location History		Track Logs with Waypoints	
SMS					
SMS w timestamp					

	Manufacturer	Model	GPS ID	Contacts	Call Logs	Incoming SMS	Outgoing SMS	Home	Favourite	Recent Destinations	Location History	Routes	Tracks	
1	ACER	P610							★					Apr 2009
2	GARMIN	nuvi 250W							★					Oct 2008
3	GARMIN	nuvi 300							★					Oct 2008
4	GARMIN	nuvi 760							★					Apr 2009
5	HP	iPAQ 314							★					Jan 2009
6	NAVIGON	7210							★					Jul 2009
7	NAVMAN	S50 3D							★					Jul 2009
8	NAVMAN	S70							★					Jul 2009
9	NAVMAN	S70 3D							★					Jul 2009

1 0	NDRIVE	S300								★	⊕					Apr 2009
1 1	TOMTOM	GO 720								★	⊕					Jul 2008
1 2	TOMTOM	ONE								★	⊕					Jul 2008
1 3	TOMTOM	ONE XL								★	⊕					Jan 2010
1 4	VIAMICHEL IN	X970								★						Jan 2010

GPS Device – Expected Support

The following GPS Devices have not been verified on CellXtract however their appearance or technology indicates that data extraction will be possible. It is recommended that all data is treated as a minimum extraction as there may be additional data sets available that require further examination.

Data can be extracted from these handsets as normal by selecting either Mass Storage Device or Windows PDA from the GPS Device list.

GARMIN nuvi: 200, 200W, 205, 205W, 250, 255W, 260, 260W, 265T, 265WT, 270, 275T, 350, 360, 370, 500, 550, 600, 610, 650, 660, 670, 680, 750, 755T, 765T, 770, 775T, 780, 785T, 850, 855, 855T, 880, 885T, 1200, 1250, 1260T, 1300, 1350T, 1370T, 1390T, 1490T, 5000

NAVIGON: 1200, 1210, 2100 max, 2110 max, 2150 max, 2200, 2310, 3300 max, 3310 max, 4310 max, 4350 max, 7310, 8110, 8310

NAVMAN: S30, S30 3D, S50, S80, S90i

NDRIVE: G280R, G280S, G400, G800R, S400, Touch, Touch XL

TOMTOM: GO, GO 300, GO 500, GO 510, GO 520, GO 530, GO 540 LIVE, GO 700, GO 710, GO 730, GO 740 LIVE, GO 910, GO 920, GO 940 LIVE, XL

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10. CellXtract Software License

CellXtract Software License - EU

EU CUSTOMER LICENCE

BETWEEN LOGICUBE, INC. (the “Licensor”); and the End User (“You”).

RECITAL

- (A) The Licensor is engaged in creating and is the owner of the Software (as hereinafter defined).
- (B) The Licensor has agreed to grant You a non-exclusive licence to use the Software (as hereinafter defined) upon the terms and conditions of this Agreement.
- (C) The Licensor has provided You with a copy of the End User Software License (as hereinafter defined) which grants You a license to use the Microsoft and related software contained within the PC embedded in the CellXtract device.

OPERATIVE PROVISIONS

1 DEFINITIONS AND INTERPRETATION

1.1 In this Agreement including the Schedule hereto the following words shall have the following meanings:

“Agreement”

means this agreement, including its Schedule;

“Business Day”

means any day other than Saturdays, Sundays or public holidays in England;

“Commencement Date”

means the date of the Contract;

“Contract”

means the contract between the Parties for the purchase of the Goods in which the Software is embedded;

“Customer”

means a third party who is licensed by the Licensor to use the Software when it is installed into the Goods;

“End User License”

means the paper license provided with the CellXtract device for software within the embedded PC;

“Executable Code”

means the fully compiled version of a software programme that can be executed by a computer and used by a Customer without further compilation;

“Force Majeure”

means the following:

- (a) Acts of God;
- (b) outbreak of hostilities, riot, civil disturbance, acts of terrorism;
- (c) an act of any government or authority (including refusal or revocation of any licence or consent);

- (d) fire, explosion, flood, fog or bad weather;
- (e) power failure, failure of telecommunication lines, failure or breakdown of plant, machinery or vehicles;
- (f) default of suppliers or sub-contractors;
- (g) theft, malicious damage, strike, lock-out or industrial action of any kind; and
- (h) any cause or circumstance whatsoever beyond the reasonable control of a Party;

“Goods”

means CellXtract mobile phone and PDA data extraction kit;

“Intellectual Property Rights”

means all inventions (whether patentable or not), patents, utility models, designs (both registered and unregistered and including rights in semiconductor topographies), copyright, database rights, trade and service marks (both registered and unregistered) together with all applications for, right to the grant of and extensions of the same, and all other intellectual and industrial property including but not limited to all similar or analogous rights throughout the world, in each case for the full term of the relevant right;

“Licensed Software Materials”

means the Software, the Software Documentation, the Periodic New Releases, any Releases and any fixes created and which are provided to You pursuant to the Contract;

“Periodic New Releases”

means a release of the Software that is made available to all Customers and that corrects errors or changes or improves the Software’s utility, efficiency or capability and associated cable upgrade specifications and which is provided to You pursuant to the Contract;

“Party”

means each of the persons identified as parties to this Agreement and jointly **“the Parties”**;

“Release”

means the most recent standard version of the Software made available to all Customers and which is provided to You pursuant to the Contract;

“Software”

means the software programs in Executable Code only and which are listed in the Schedule;

“Software Documentation”

means the instruction manuals, user guides and other information and any modifications or additions thereto to be made available by the Licensor at its discretion to You in either printed or machine readable form;

“Software Specifications”

means the technical specifications from time to time published by the Licensor in respect of the Software; and

“Use”

means the copying or transmission of the Software or (where in machine readable form) the Software Documentation for use in accordance with the instructions contained in the Software or (as the case may be) the Software Documentation.

- 1.2 In this Agreement unless the context requires otherwise:
 - 1.2.1 the singular includes the plural and vice versa and any gender includes any other gender;
 - 1.2.2 references to Clauses and Schedules are to Clauses of, and schedules to, this Agreement;

1.2.3 any reference to an enactment, order, regulation or other similar instrument includes a reference to that enactment, order, regulation or instrument as from time to time amended, extended or re-enacted;

1.2.4 references to persons include bodies corporate, unincorporated associations and partnerships, and any reference to the Parties include their respective successors, permitted assigns and personal representatives; and

1.2.5 any reference to “company”, “subsidiary” and “holding company” shall be as defined in section 736 of the Companies Act 1985.

1.3 The headings of this Agreement are for ease of reference only and shall not affect its interpretation or construction.

1.4 In the event of a conflict between any of the terms of this Agreement including its Schedules and appendices, the conflict shall be resolved according to the following order of priority:

1.4.1 the Clauses of this Agreement;

1.4.2 the Schedules of this Agreement; and

1.4.3 the Recitals.

2 GRANT OF LICENCE

2.1 The Licensor hereby grants to You a non-exclusive non-transferable licence to Use the Software (and where appropriate the Software Documentation, any Periodic New Releases and any Releases) and to possess and refer to the Software Documentation (the “**Licence**”) in accordance with and subject to the terms and conditions of this Agreement.

2.2 The Licensor has provided a copy of the the End User License to You. By using the Software You are granted a license to the software in PC embedded in the CellXtract device and You agree to be bound by the terms of the End User License agreement.

3 TERM

This Agreement shall commence on the Commencement Date and shall continue in force unless or until terminated by either Party in accordance with the provisions of Clause 10.

4 PROPERTY AND CONFIDENTIALITY IN THE LICENSED SOFTWARE MATERIALS

4.1 The Licensed Software Materials contain Confidential Information (as defined in Clause 9.1 below) of the Licensor and all Intellectual Property Rights in the Licensed Software Materials are the exclusive property of or are licensed to the Licensor.

4.2 You shall not:

4.2.1 save as provided in Clause 5 below copy the whole or any part of the Licensed Software Materials;

4.2.2 save as required to be permitted by law modify, merge or combine the whole or any part of the Licensed Software Materials with any other software or documentation;

4.2.3 remove or tamper with any proprietary notice contained in the Licensed Software Materials;

4.2.4 assign, license, transfer, sell, lease, rent, charge or otherwise deal in or encumber the Licensed Software Materials nor use on behalf of or make available the same to any third party; or

4.2.5 save as required to be permitted by law reverse compile the whole or any part of the Licensed Software Materials from object code into source code.

4.3 You shall:

4.3.1 keep confidential the Licensed Software Materials and limit access to the same to those of its employees, agents and sub-contractors who either have a need to know or who are engaged in the Use of the Software (including where appropriate the Software Documentation);

4.3.2 reproduce on any copy of the Software or Licensed Software

Materials the Licensor's copyright and trade mark notices;

4.3.3 maintain an up-to-date record of the number of copies of the Licensed Software Materials and their location and upon request forthwith produce such record to the Licensor;

4.3.4 only use the Software in accordance with the number of copies licensed to You (and as set out in the Schedule);

4.3.5 without prejudice to the foregoing take all such other steps as shall from time to time be necessary to protect the Confidential Information (as defined in Clause 9.1 below) and Intellectual Property Rights of the Licensor in the Licensed Software Materials;

4.3.6 in its Use of the Licensed Software Materials comply with all present and future statutes, laws, ordinances, regulations and/or guidelines of any applicable jurisdiction or agency;

4.3.7 ensure that its personnel are, at all times, educated and trained in the proper Use and operation of the Licensed Software Materials;

4.3.8 ensure that the Licensed Software Materials are used in accordance with any and all applicable Software Documentations; and

4.3.9 indemnify and hold harmless the Licensor from and against all claims, damages, losses, judgments, fees, expenses and costs, including legal costs, arising out of or resulting from Your acts, negligence or failure to comply with this Clause 4 or any other provision of this Agreement.

4.4 You shall inform all relevant employees, agents and sub-contractors that the Licensed Software Materials constitute Confidential Information (as defined below) of the Licensor and that all Intellectual Property Rights therein are the property of or are licensed to the Licensor and the You shall take all such steps as shall be necessary to ensure compliance by its employees agents and sub-contractors with the provisions of this Clause 4.

5 **COPYING OF THE LICENSED SOFTWARE MATERIALS**

5.1 You shall be entitled to make one back-up copy of the Software. Any such copy shall in all respects be subject to the terms and conditions of this Agreement and shall be deemed to form part of the Software.

5.2 You shall not be entitled to copy in whole or in part the Software Documentation.

6 **WARRANTY**

6.1 Subject to the exceptions set out in Clause 6.3 below and the limitations upon its liability in Clause 7 below the Licensor warrants that:

6.1.1 it has the right, power and authority to license the Licensed Software Materials upon the terms and conditions of this Agreement; and

6.1.2 the Software will for a period of twelve (12) months from the date it is delivered to You conform to the Software Specifications.

6.2 You shall give notice to the Licensor as soon as it is reasonably able upon becoming aware of a breach of warranty. If no such notice is given within 30 days of You becoming aware of a breach of warranty, the Licensor shall not be liable for such breach of warranty.

6.3 The Licensor shall have no liability to remedy a breach of warranty where such breach arises:

6.3.1 in respect of Software that is not properly licensed pursuant to Clause 2 of this Agreement;

6.3.2 in circumstances where You is not in conformity with the minimum technical requirements and prerequisites set out in the Software Specifications; or

6.3.3 as a result of:

a) the improper use, operation or neglect of either the Software or the Goods upon which the Software is installed or used;

- b) the modification of the Software or its merger (in whole or in part) with any other software;
- c) the failure by You to implement recommendations in respect of or solutions to faults previously advised by the Licensor;
- d) any repair, adjustment, alteration or modification of the Software by any person other than the Licensor without the Licensor's prior consent;
- e) failure by You adequately to back-up the Software;
- f) any breach by You of any of its obligations under any maintenance agreement in respect of the Goods upon which the Software is installed or used;
- g) any failure, accident, neglect or misuse of equipment, software or media not supplied by the Licensor;
- h) Your failure to install and Use in substitution for the previous release any New Release of the Software within ninety (90) days of receipt of the same; or
- i) the use of the Software for a purpose for which they were not designed.

6.4 Without prejudice to the foregoing the Licensor does not warrant that the Use of the Software will meet Your requirements or that the operation of the Software (including where in machine-readable form the Software Documentation) will be uninterrupted or error free.

6.5 Nothing in this Agreement shall obligate the Licensor to improve or otherwise support the Licensed Software Materials.

6.6 Subject to the foregoing all conditions, warranties, terms, representations (unless fraudulent) and undertakings express or implied, statutory or otherwise in respect of the Licensed Software Materials are hereby excluded to the fullest extent permissible by law.

7 LIMITATION OF LIABILITY

7.1 Where any sustainable claim is made by You in respect of any breach of the warranties given by the Licensor pursuant to clause 6 above, the Licensor shall be entitled at its option either to replace or repair the Software free of charge. This shall be Your sole and exclusive remedy and the Licensor shall have no further liability to You for breach of such warranties.

7.2 Subject to Clause 7.1 above and without prejudice to Clause 7.4, and except as otherwise provided in this Agreement, the total liability of the Licensor in contract, tort (including negligence or breach of statutory duty) or otherwise arising by reason of or in connection with this Agreement shall be limited in aggregate to the total price paid and payable by You for the Goods under the Contract.

7.3 Without prejudice to Clause 7.4, in no event shall the Licensor be liable to You for loss of revenue, loss of anticipated savings, loss of profits, loss of data, damage to goodwill, loss of reputation or for any type of indirect, economic or consequential loss or damage whatsoever or howsoever caused.

7.4 Neither party excludes or limits liability to the other for death or personal injury caused by its negligence or for fraud.

7.5 Save as expressly stated in this Agreement, all conditions, warranties and representations (unless fraudulent) expressed or implied by statute, common law or otherwise in relation to the Licensed Software Materials are hereby excluded to the fullest extent permissible by law.

8 RISK IN THE LICENSED SOFTWARE MATERIALS

Risk in the Licensed Software Materials will pass to You upon

the date of delivery of the Licensed Software Materials to You. If subsequently the Licensed Software Materials are (in whole or in part) destroyed, damaged or lost the Licensor will upon written request replace the same subject to You paying its then prevailing charges.

9 CONFIDENTIALITY

9.1 Neither Party shall use, copy, adapt, alter, disclose or part with possession of any information or data of the other Party which is disclosed or otherwise comes into its possession directly or indirectly as a result of this Agreement and which is of a confidential nature (“**Confidential Information**”) without the prior written consent of the disclosing Party except as strictly necessary to perform its obligations or exercise its rights under this Agreement.

9.2 The receiving Party undertakes not to disclose any Confidential Information of the disclosing Party to any third party other than employees, professional advisors and approved sub-contractors of the receiving Party on a “need to know” basis only and to whom disclosure is necessary for the proper performance of their duties under this Agreement.

9.3 The foregoing obligations shall not apply to Confidential Information that:

9.3.1 was known to the receiving Party prior to receipt from the disclosing Party; or

9.3.2 is received from a third party without breach of any other confidentiality arrangements; or

9.3.3 is or becomes public knowledge other than by breach of this Clause or is independently developed by or for the receiving Party; or

9.3.4 is required to be disclosed by any applicable law or by order of any Court of competent jurisdiction or any government body, agency or regulatory body, provided that the receiving Party shall use all reasonable endeavours to give the other Party not less than two business days’ written notice of the disclosure.

9.4 The Parties shall ensure that their respective employees, agents and sub-contractors comply with the provisions of this Clause and are bound by terms and conditions of use and non-disclosure at least as onerous as those contained in this Clause.

9.5 The obligations in this Clause shall continue in force notwithstanding termination of this Agreement for any reason.

9.6 If this Agreement is terminated, the receiving Party shall return or destroy at the request of the disclosing Party all Confidential Information of the disclosing Party.

10 TERMINATION

10.1 This Agreement may be terminated:

10.1.1 by either Party upon giving not less than sixty (60) days written notice to the other;

10.1.2 forthwith by either Party upon giving written notice to the other if the other commits any material breach of this Agreement and which (in the case of a breach capable of remedy) shall not have been remedied within thirty (30) days of a written request to remedy the same (and non-payments of sums when due to the Licensor shall be a material breach);

10.1.3 forthwith by either Party upon giving written notice to the other Party if the other Party makes or proposes to make any arrangement or composition with its creditors or has a receiver, administrative receiver, administrator, liquidator, manager or similar officer appointed in respect of all or any part of its assets or passes a resolution for winding-up (otherwise than for the purpose of a solvent amalgamation or reconstruction where the resulting entity assumes all of the obligations of the relevant party under this Agreement), or (in the case of an individual)

commits any act of bankruptcy or dies, or (in the case of a partnership) is dissolved, or undergoes or suffers any analogous acts or proceedings under any foreign law;

10.1.4 if the other Party shall commit any act of bankruptcy, shall have a receiving order made against it, shall make or negotiate for any composition or arrangement with or assignment for the benefit of its creditors or if the other party being a body corporate, shall present a petition or have a petition presented by a creditor for its winding up or shall enter into any liquidation (other than for the purpose of reconstruction or amalgamation), shall call any meeting of its creditors, shall have a receiver of all or any of its undertakings or assets appointed, shall be deemed by virtue of section 123 of the Insolvency Act 1986 to be unable to pay its debts, or shall cease to carry on business; or

10.1.5 forthwith by either Party upon giving written notice to the other if the other shall cease to carry on its business or substantially the whole of its business.

10.2 Any termination of this Agreement (however occasioned) shall not operate so as to affect any accrued rights or liabilities of either Party.

10.3 Within fourteen (14) days of the termination of this Agreement (howsoever and by whomsoever occasioned) You shall return or destroy (as the Licensor shall instruct) all copies of the Licensed Software Materials in its possession and a duly authorised officer of You shall certify in writing to the Licensor that You has complied with such obligation.

11 FORCE MAJEURE

11.1 Neither Party shall be liable to the other Party for any delay or non-performance of its obligations under this Agreement to the extent that its performance is interrupted or prevented by Force Majeure.

11.2 Such delay or failure shall not constitute a breach of this Agreement and the time for performance shall be extended by a period equivalent to that during which performance is so prevented provided that if such delay or failure persists for sixty (60) days or more, the Party not affected may, at its option and if it is reasonable for it to do so, terminate this Agreement by giving fourteen (14) days written notice to the other Party.

12 WAIVER

Any failure or delay on the part of either Party to exercise any power or right under this Agreement shall not operate as a waiver of it, nor shall any single or partial exercise of any such right or power preclude any other or further exercise of the right or power. Any of the rights and remedies of either Party under this Agreement may at any time be enforced separately or concurrently with any other rights and remedies, whether under this Agreement or arising by operation of law with the effect that the rights and remedies are cumulative and not exclusive of each other.

13 NOTICES

13.1 Any notices required to be given under this Agreement shall be in writing and delivered personally or by first class post or transmitted by facsimile to the Parties as set out below:

13.1.1 The Licensor:

Address: Logicube, Inc.
19755 Nordhoff Place
Chatsworth, CA 91311 USA

For attention of: COO

- 13.1.2 You:
 - to the address or facsimile number that You provided for Your purchase of the Software.
- 13.2 Any notice served by:
 - 13.2.1 personal delivery, shall be deemed served at the time of delivery;
 - 13.2.2 first class post, shall be deemed served at the start of the fifth business day after posting; and
 - 13.2.3 facsimile, shall be deemed served on the day of transmission (or the next following business day if transmitted outside the Party's normal working hours) provided that the sender shall have received a transmission report indicating that all the pages of the notice have been transmitted to the correct facsimile number.
- 13.3 Any Party may change any details of its address or facsimile number by notice in the manner described above.

14 SEVERABILITY

If any term or provision of this Agreement or its application to any Party or circumstances shall, to any extent, be invalid or unenforceable, the remainder of this Agreement or the application of the term or provision to any other Party or circumstances, other than those as to which it is already invalid or unenforceable, shall not be affected, and each term and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law. The Parties shall negotiate in good faith to replace any invalid or unenforceable provisions by substitute provisions.

15 ENTIRE AGREEMENT

- 15.1 This Agreement and the Contract constitute the entire agreement between the Parties with respect to the subject matter hereof and supersede and invalidate all prior oral or written communications, understandings, representations or warranties relating to the subject matter hereof.
- 15.2 Each Party warrants to the other that it has not relied on any such communications, understandings, representations or warranties in entering into this Agreement.
- 15.3 Notwithstanding anything contained herein to the contrary, the provisions of Clauses 4, 7, 9 and any other Clauses which are intended to survive termination shall survive termination of the Agreement and shall continue in full force and effect thereafter.

16 ASSIGNMENT/SUB-CONTRACTING/AGENCY

- 16.1 You shall not be entitled to assign, sub-contract or otherwise transfer your rights or obligations under this Agreement whether in whole or in part without the Licensor's prior written consent.
- 16.2 The Licensor shall be entitled to assign its rights hereunder (in whole or in part) to any person, partnership or company.
- 16.3 This Agreement shall be binding upon and inure for the benefit of the Parties and their respective permitted successors and assigns.

17 THIRD PARTY RIGHTS

A person who is not a Party to this Agreement has no rights under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Agreement but this does not affect any right or remedy of a third party which exists or is available apart from that Act.

18 PUBLICITY

The Parties agree to keep confidential the terms of this Agreement, and neither Party shall make any announcement in relation to this Agreement or otherwise publicise its existence or its contents or use or refer to the name, trade mark or trade name of the other Party in any disclosure without the prior written consent of the other Party such consent not to

be unreasonably withheld or delayed. A Party shall be entitled to withhold such consent and shall be under no obligation to provide any explanation for such action.

19 **AMENDMENTS**

No amendment to this Agreement whether oral or written shall be binding on either Party unless in writing and signed on behalf of the Parties.

20 **GOVERNING LAW AND JURISDICTION**

20.1 This Agreement shall be governed by and construed in accordance with English law.

20.2 It is irrevocably agreed that the English courts shall have non-exclusive jurisdiction as regards any claim or matter arising out of or in connection with this Agreement.

21 **NO PARTNERSHIP/AGENCY**

Nothing in this Agreement is intended to or shall operate to create a partnership or joint venture of any kind between the Parties, or to authorise either Party to act as agent for the other.

22 **THIRD PARTY SOFTWARE**

22.1 CellXtract software uses libraries and other components from the LibUSB-Win32 project. The library is distributed under the terms of the GNU Lesser General Public License (LGPL).

The other components are distributed under the terms of the GNU General Public License (GPL).

These licenses are available to read at the LibUSB-Win32 project home-page www.libusb-win32.sourceforge.net.

22.2.1 The End User License is provided as a paper license along with the CellXtract device. By using the Software You agree to be bound by the terms of the End User License Agreement.

Additional copies of this license are also available from Logicube.

CellXtract Software License - US

THIS AGREEMENT shall be binding on installation of the Software and is by and between

LOGICUBE, INC. ("Licensor") and the End User ("You").

1. Grant of License. So long as You shall be in compliance with the terms hereof, You shall have a limited, perpetual, non-exclusive and non-transferable license ("License") to use the Software solely in the course of lawfully operating the device with which the Software is integrated, and for no other purpose. You are also granted a license to use the Microsoft and related software contained within the PC embedded in the CellXtract device and by using such software You agree to be bound by the terms of the End User License agreement, a copy of which is provided to You with the device. Additional copies of the End User License are also available from Logicube.

2. Title. No title or ownership in the Software is transferred to You. Title to all applicable rights in patents, copyrights, trademarks and trade secrets in the Software shall remain in Licensor. Software licensed hereunder is property of Licensor, and You shall be bound by and observe such nature thereof as herein provided. You shall take appropriate action by instruction to and agreement with its employees, agents, consultants or any other end users who are permitted access to the Software to fulfill its obligations hereunder. Without limiting the foregoing, You shall ensure that any end user license agreement provided with the Software is brought to the reasonable attention of all such end users. You shall not provide, or otherwise make available, the Software or copies thereof to any third party. All ownership rights to any developments or improvements to the Software made by You shall belong solely to Licensor.

3. Copying.

(a) You shall be entitled to make one copy the Software for back-up and archival purposes.

You shall include in each such copy the Licensor's copyright notice(s) and trademark(s).

(b) In no event shall You be entitled to remove or tamper with any such proprietary notices contained in the Software.

(c) Software shall not be reverse compiled, disassembled, reverse assembled, or otherwise reverse engineered. All rights in or to the Software not expressly granted to You under this Agreement are retained by Licensor.

4. Warranty.

(a) Subsection 4(b) hereof provides Licensor's twelve month limited warranty for the Software.

(b) Licensor warrants that for a period of twelve (12) months from installation of the Software, the Software will perform in accordance with the Software documentation. In the event the Software does not perform in accordance with such documentation, then during such twelve month period, Licensor shall at its option: (i) correct any variance between the Software performance and its documentation; or (ii) replace the Software media. The foregoing shall be Your sole and exclusive remedy with respect to the Software or otherwise hereunder.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse

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- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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