

Vitec Group Communications Ltd



CellCom/FreeSpeak Firmware Update Procedures

Upgrade procedure for CellCom10/FreeSpeak10
system components to CellCom/FreeSpeak

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CellCom/FreeSpeak Firmware Update Procedures

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CellCom/FreeSpeak Firmware Update Procedures

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1 Introduction

This document replaces the following previously released documents on the CellCom/FreeSpeak release CDs :-

1. CellCom/FreeSpeak Active Antenna Firmware Upgrade Procedure
2. CellCom/FreeSpeak Active Antenna DECT Update Procedure
3. CellCom/FreeSpeak Beltpack Firmware Upgrade Procedure
4. CellCom/FreeSpeak Beltpack DECT Update Procedure
5. CellCom/FreeSpeak Upgrading Beltpacks Readme
6. CellCom/FreeSpeak Upgrading Splitters Procedure

It also includes details of installing and configuring the Flash Development Toolkit.

For Beltpack and Antenna upgrades the “FreeSpeak Upgrader” is required.

For DECT upgrades the “Flash Downloader” is required.

For Splitter upgrades the “Flash Development Toolkit” (FDT) is required.

For Base station upgrades the “Configuration Editor” and a valid passcode is required.

NOTE: This document may also be used to update the Wireless Beltpacks, Active Antennas and Splitters on the Eclipse System.

**YOU WILL NEED A VAILD SYSTEM PASSCODE TO USE
FREESPEAK/CELLCOM V2**

2 Beltpack Firmware Upgrade

2.1 Software and Hardware Required.

1. FreeSpeak Upgrader – supplied on CD
2. FreeSpeak Registration Serial Cable
3. Latest release of Bootloader and Beltpack – supplied on CD
4. PC with a serial connection

2.2 Beltpack Upgrades

To upgrade beltpack firmware, install the Beltpack Upgrader tool in the "PC Tools" directory of this CDROM. This program will be installed as "Freespeak Upgrader", and by default will be installed in the "Drake Electronics" program group. More help on the upgrade procedure is available from within this program.

The MKII can be quickly identified by the letter 'A' at the end of the unit's serial number or by the software version starting with the letters "3K". Alternatively you can enter programming mode on the beltpack and goto the software version menu.

Beltpack firmware can be found in the "Firmware\Beltpack" directory of the CD.

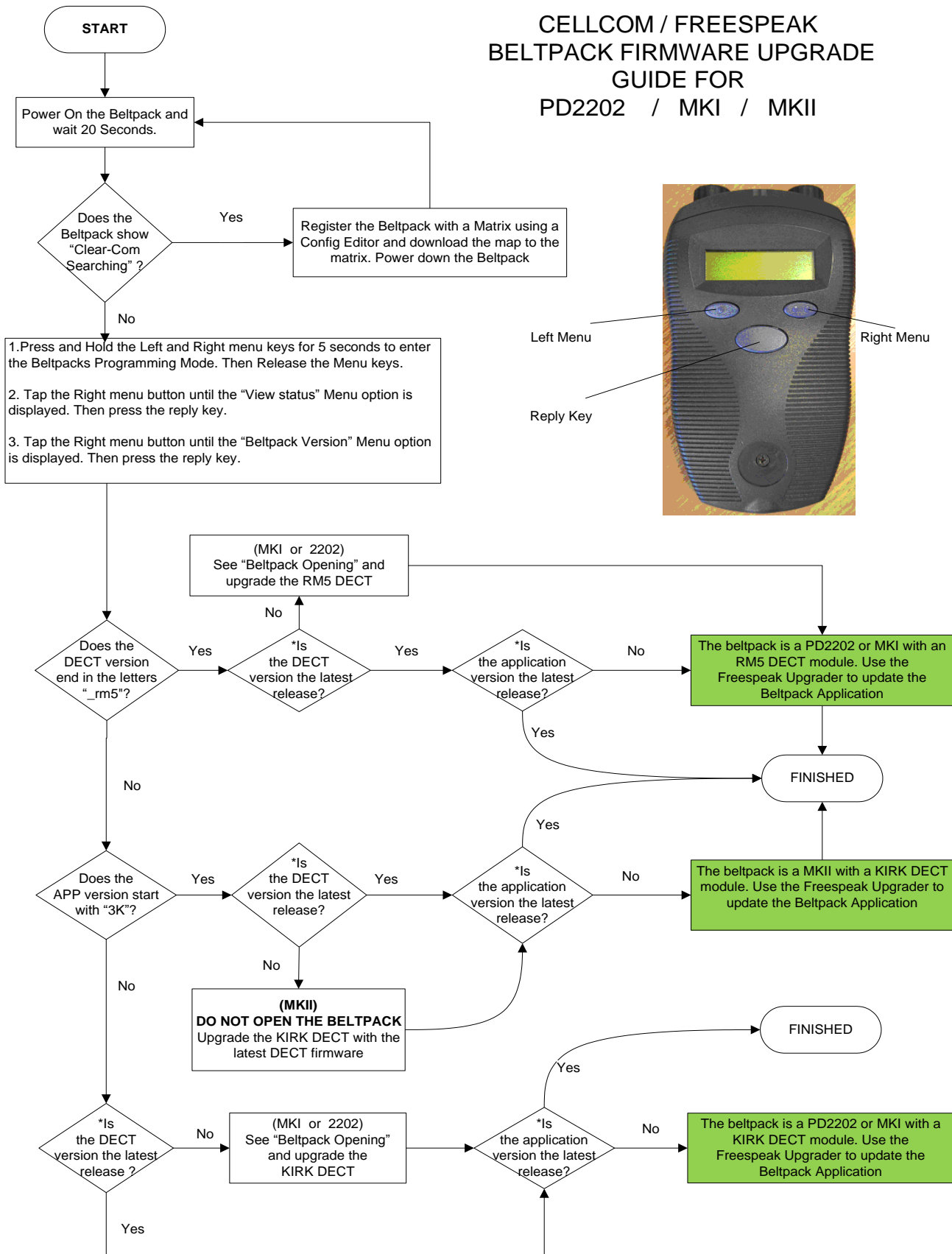
To upgrade the Beltpack, follow the flow chart on the next page.

CellCom/FreeSpeak Firmware Update Procedures

CELLCOM / FREESPEAK
BELTPACK FIRMWARE UPGRADE
GUIDE FOR
PD2202 / MKI / MKII



Left Menu
Reply Key
Right Menu



* See the release notes for latest version information.

CellCom/FreeSpeak Firmware Update Procedures

2.2.1 “FreeSpeak Upgrader” for Beltpack Updates

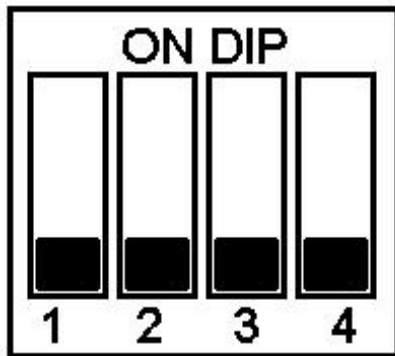
- 1) Run “FreeSpeak Upgrader” on the PC (make sure that the correct COM port is selected).
- 2) Make sure the selected Firmware File is the latest Beltpack release (e.g. xxxxx.mot) and is of the correct type (ie MKI KIRK or MKII KIRK). The flow diagram will help you to determine your hardware version. See the release notes for the latest version information.
- 3) Switch off the Beltpack.
- 4) Connect the Beltpack to the PC via the registration cable
- 5) Click Download.
- 6) Press the power button on the beltpack to begin the download. The “FreeSpeak Upgrader” progress bar will start progressing.
- 7) The “FreeSpeak Upgrader” status bar will indicate when the download has completed or failed. If the download failed, remove and reinsert the batteries, check the cables and try downloading again skip to step 5.
- 8) Once the firmware file has downloaded successfully (takes about 2.5 mins)
- 9) Remove the registration cable and power off the Beltpack.
- 10) If the unit is dissembled (**remove at least one battery**) fit the unit back together and replace the screws.
- 11) Replace the batteries and power up the unit and check for the correct version and operation.

2.2.2 Beltpack DECT Updates

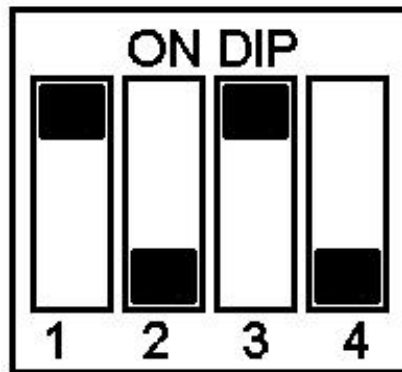
2.2.2.1 Preparing FS-BP MK I & PD2202 Beltpacks Only

To set a Beltpack into DECT download mode,

- 1) open the case (*see the section on opening beltpacks*) and set the DIP switches to the following positions:

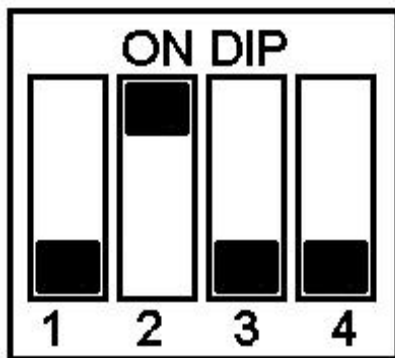


DIP Switch S5

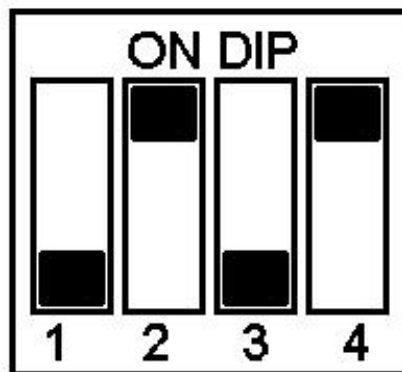


DIP Switch S6

- 2) Run the DECT Loader – see the DECT Loader section further in this chapter.
- 3) The default/normal operating DIP switch positions are as follows:



DIP Switch S5



DIP Switch S6

CellCom/FreeSpeak Firmware Update Procedures

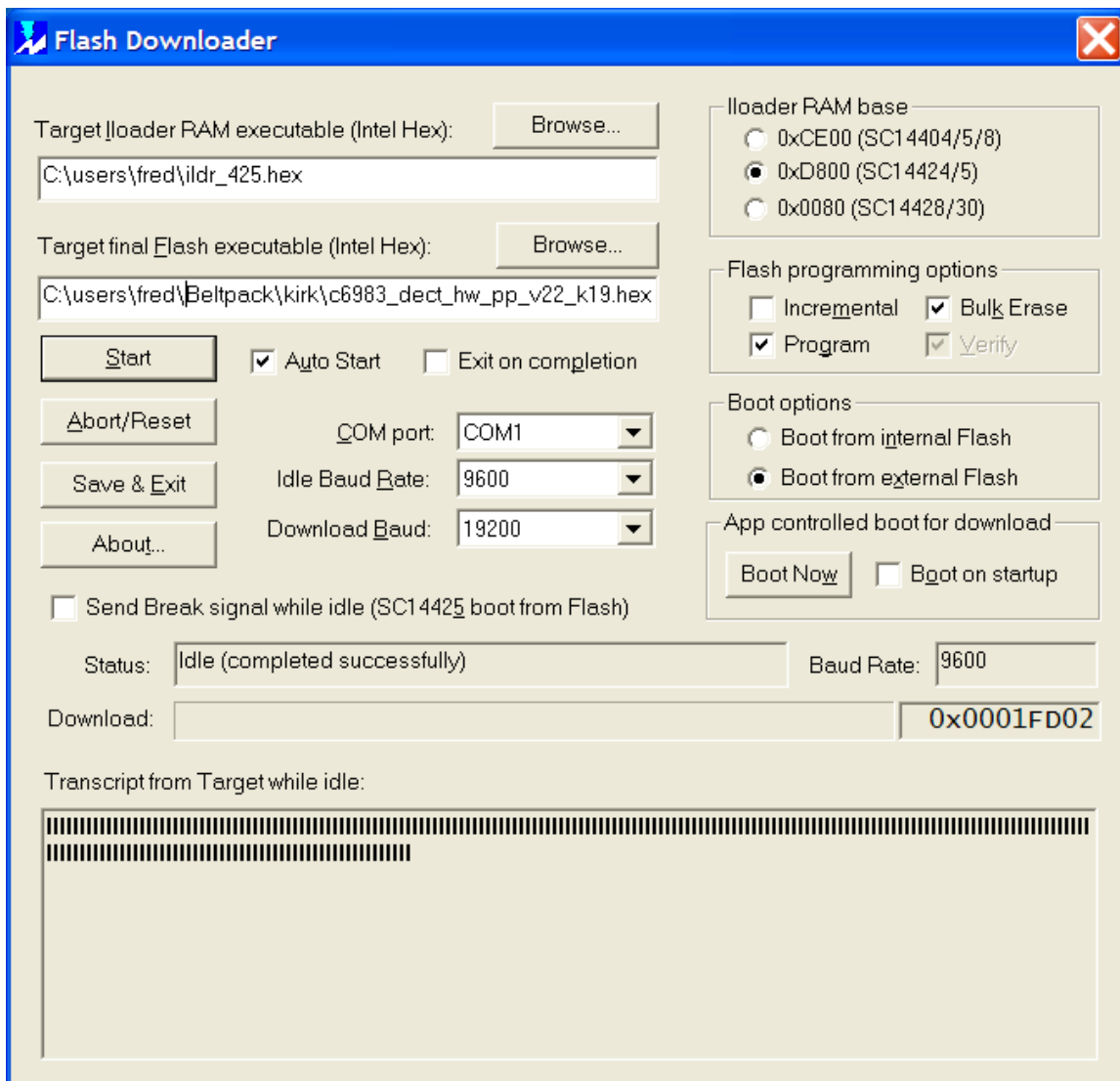
2.2.2.2 FS-BP MK II Beltpacks

- 1) Connect the PC to the beltpack using the beltpack registration cable.
- 2) Run Terminal Emulator on a Connection at baud 19200 8,N,1
- 3) Type “# 0174” note there is a space after the ‘#’. The DECT will reset and the terminal will start streaming characters. If characters are not seen, check cables, baud settings, hit return on the Terminal Emulator and type “# 0174” again.
- 4) Run the DECT Loader – see the DECT Loader section further in this chapter
- 5) Power cycle the Beltpack.

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2.2.3 “Flash Downloader” for Beltpack DECT updates

- 1) Install the DECT loader onto a PC with a serial port.
- 2) Connect the PC to the Beltpack using the Beltpack registration cable.
- 3) Start up the Flashloader program, set as follows with the correct DECT update file selected in “Target Final Flash Executable”.
- 4) Ensure the “Send Break signal while idle” and “Boot on start up” is unchecked.
- 5) For **FS-BP MK I** and **PD2202** beltpacks only. Power up the BP and check that the black markers are appearing in the “transcript from target” window. On selecting the Start button the status will change from “idle” to “erasing flash”, etc.
- 6) For **FS-BP MKII** click the start button to begin the download.
- 7) The ildr_425.hex can be found in the DECT images directory.



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The auto start will begin on starting the flash downloader app with the BP connected and powered on.

After the DECT is upgraded:**2.2.3.1 FS-BP MK I & PD2202**

Turn off the BP, disconnect the power or **remove a battery** and set the Dipswitches back to their normal operating position.

Reassemble the BP (*see the section on opening beltpacks*) install the batteries, power up and check that the BP versions are correct in the version menu.

2.2.3.2 FS-BP MK II

Power cycle the beltpack and check that the BP versions are correct in the version menu.

If the BP is not connected to a system, the version can be displayed by tapping the up/right menu button from the "searching screen".

2.3 Beltpack Bootloader

ONLY UPDATE THE BOOTLOADER IF THE BELTPACK HAS NEVER HAD SOFTWARE INSTALLED PREVIOUSLY.

The bootloader is usually installed once at the factory production stage and is not required for routine system upgrades. Skip to the "Beltpack Application" if the beltpack already has ever had a version of software installed.

You will need to install the Flash Development Toolkit (FDT).- obtainable from [Renesas - Flash Development Toolkit Download](#).

Before you begin ensure that batteries are fully charged.

Beltpack firmware can be found in the "Firmware\Bootloader" directory of the CD.

2.3.1 Upgrade Procedure

1. Install the Flash Development Toolkit (FDT). Details on configuring the FDT are in appendix.
2. Remove at least one battery from the Beltpack.
3. Remove all the screws from the Beltpack, and remove the cover.
4. Slide main PCB assembly off and place to the side of the case.
5. Use a sharp implement to put the Beltpack into Boot mode by changing the following DIP switch settings – details show the DIP switch legends on the board:
 - a. ON/OFF to ON
 - b. MD2 to ON.
6. Power up the beltpack by replacing the battery(s).
7. Connect the beltpack registration cable supplied with your base station between the PC and the Beltpack.

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8. Run FDT on the PC - Configured to
 - c. Device - H8S/ 2318/f,
 - d. CPU Crystal Frequency - 10.36Mhz,
 - e. Boot mode,
 - f. 19200 baud
9. Select Bootloader01a.mot (or the latest version) and Download it to Device
10. When this is complete, close FDT and power off the Beltpack by removing at least one battery.
11. Put the Beltpack back into Normal Mode by changing the following jumpers:
 - g. ON/OFF to OFF
 - h. MD2 to OFF.
12. Replace the battery and power up the Beltpack. The Green status LED (LED2) should start blinking to indicate that the Bootloader is waiting for comms from the PC.

3 Active Antenna Firmware Upgrade

3.1 Software and Hardware Required.

1. FreeSpeak Upgrader – supplied on CD
2. FreeSpeak Registration Serial Cable
3. Latest release of Bootloader and Antenna App – supplied on CD

3.2 Antenna Upgrades

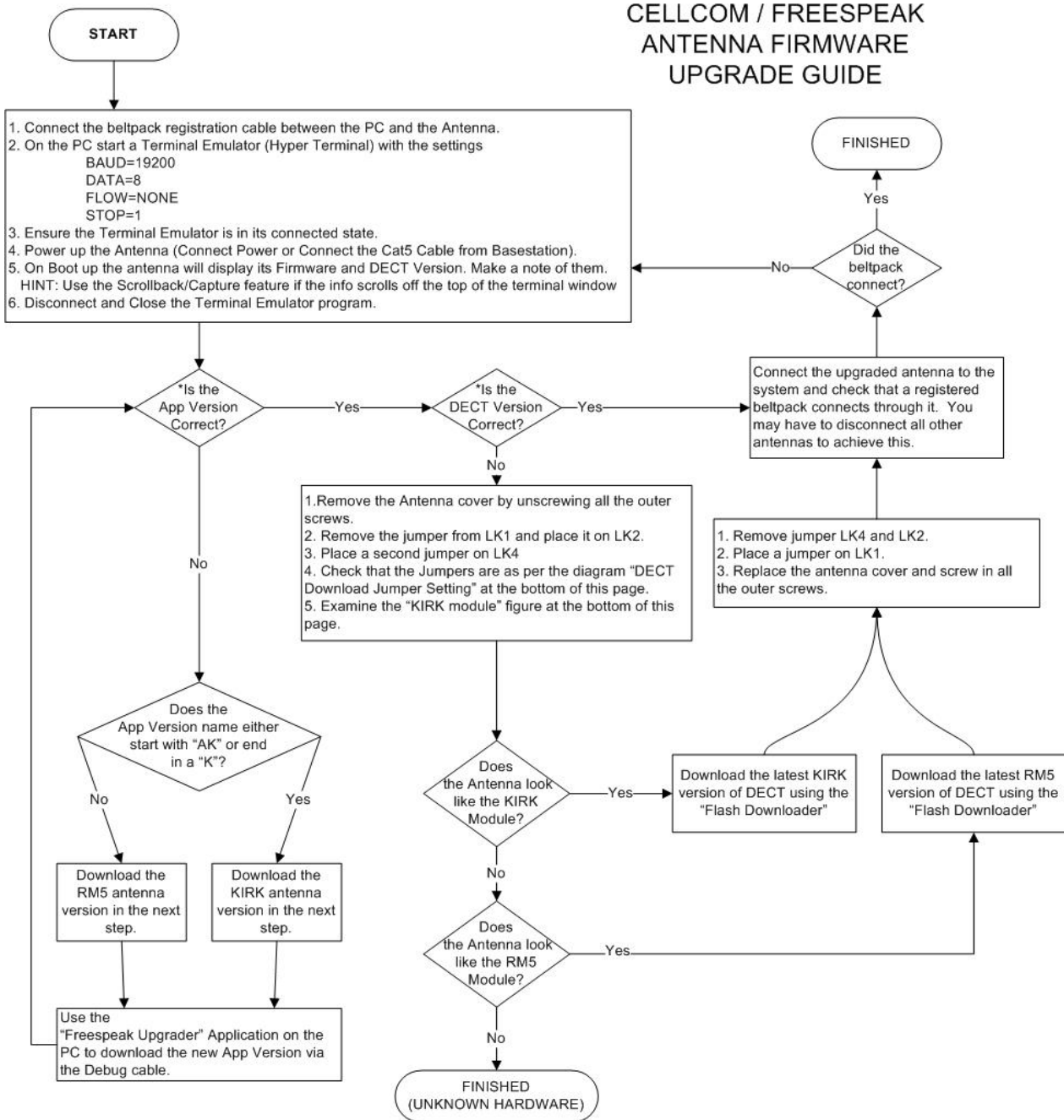
To upgrade antenna firmware, install the 'BeltpackUpgrader' tool in the "PC Tools" directory of this CDROM. This program will be installed as "Freespeak Upgrader", and by default will be installed in the "Drake Electronics" program group. More help on the upgrade procedure is available from within this program.

Antenna firmware can be found in the "Firmware\Antenna" directory of the CD.

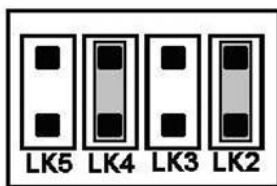
To upgrade the Antenna, follow the flow chart on the next page.

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CELLCOM / FREESPEAK
ANTENNA FIRMWARE
UPGRADE GUIDE



* See the release notes for latest version information.



DECT Download Jumper Setting



KIRK Module



RM5 Module

CellCom/FreeSpeak Firmware Update Procedures

3.2.1 “Freespeak Upgrader” for Antenna Updates

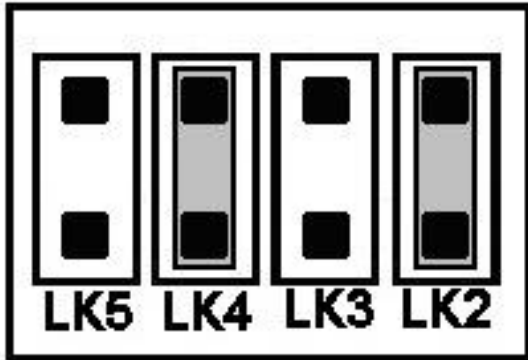
- 1) Run FreeSpeak Upgrader on the PC (make sure that the correct COM port is selected).
- 2) Make sure the selected Firmware File is the latest AA release
- 3) Click Download (the AA should still be connected to the PC via the beltpack registration cable).
- 4) When the firmware file is downloaded successfully (takes about 2 mins) the Green status LED should start flashing at about 1Hz.
- 5) If disassembled - remove the registration cable and power the AA down. Put the cover onto the AA and screw it together again.

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3.2.2 Active Antenna DECT Updates

3.2.2.1 Preparing Active Antenna

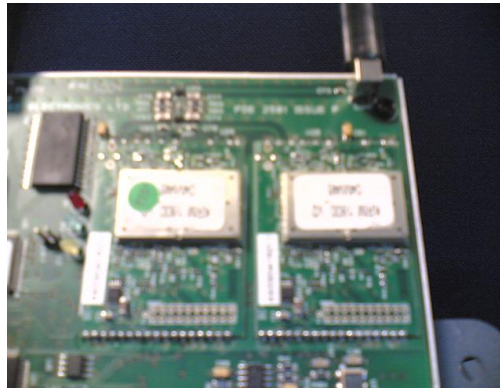
To set an Active Antenna into DECT download/debug mode, open the case and put links on LK4 and LK2, as shown below. These are the same links set to upgrade or debug the DECT firmware. These links should be removed for normal operation.



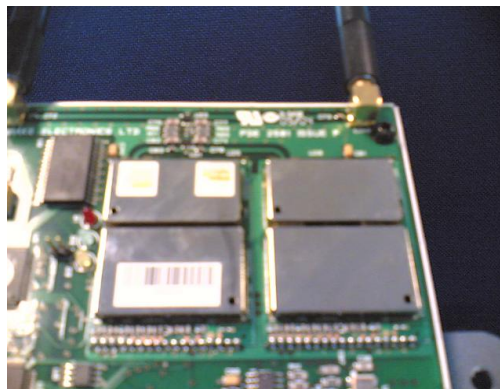
Care must be taken to use the correct version of the DECT firmware for your version of antenna - RM5 (older units) or Kirk (newer units, and the bulk of CellCom/FreeSpeak shipments). You can determine the type of the antenna by checking the current version of firmware.

1. Connect a terminal emulator (i.e. HyperTerminal) set at 19200,8,N,1 via the registration cable connection.
2. Power up the unit – the SW versions will be displayed.
3. Check that the SW versions are correct.
 - a. If the version number displayed contains a "k", e.g. " AA_AK", then you need to upgrade with the Kirk version of DECT firmware – e.g. c6983_dect_hw_fp_v15_k19.hex
 - b. If the version number does not contain a "k", e.g. " ActiveA02d", then you need to use the RM5 version of the DECT firmware – e.g. c6657_hw_fp_v14_rm5.hex
 - c. Or if the unit is open, compare your hardware with the images below.

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Kirk Module

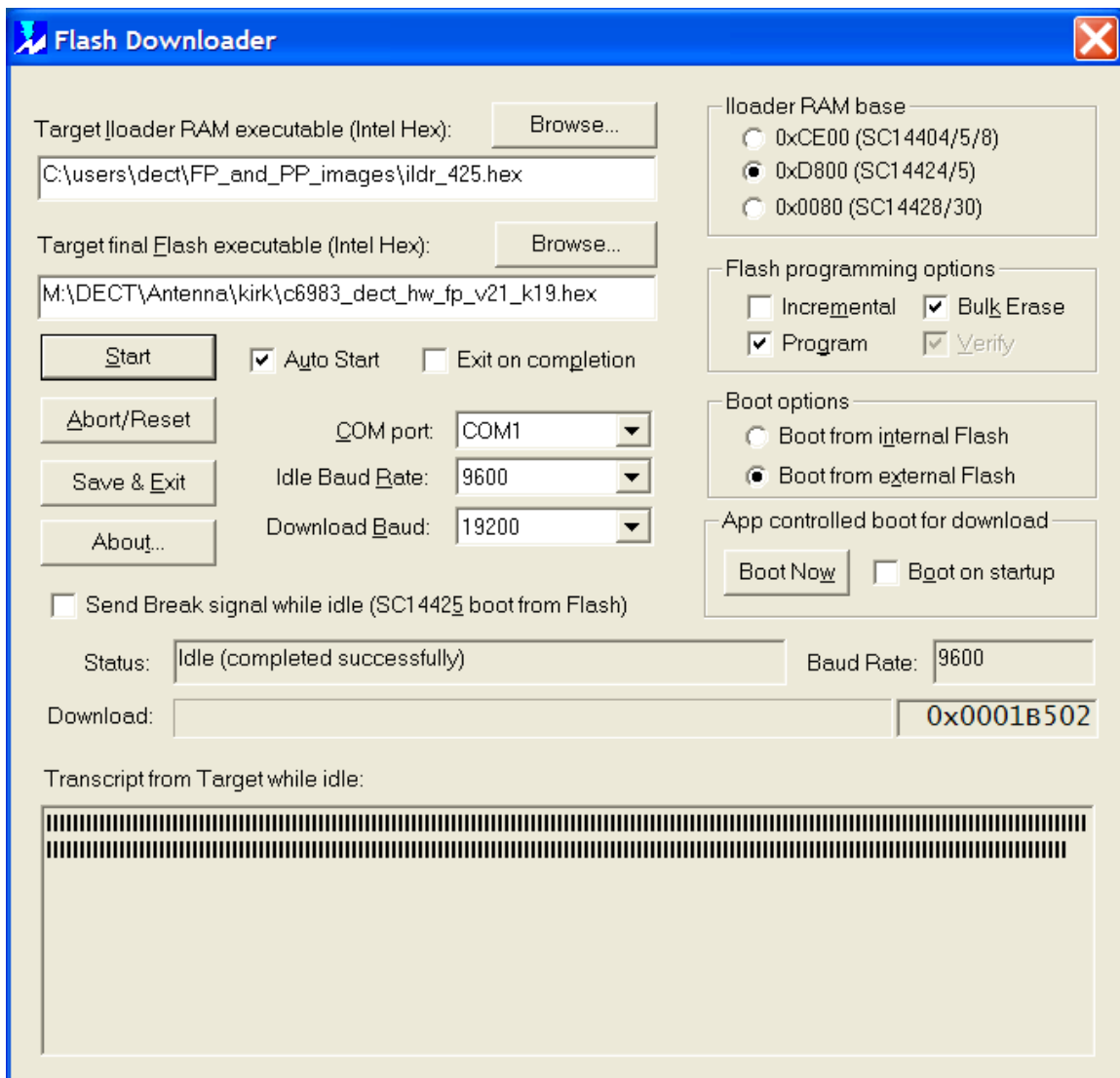


RM5 Module

3.2.3 “Flash Downloader” for Antenna DECT updates

- 1) Install the DECT loader onto a PC with a serial port.
- 2) Connect the PC to the Antenna using the Beltpack registration cable.
- 3) Start up the Flashloader program, set as follows with the correct DECT update file selected in “Target Final Flash Executable”.
- 4) Power up the Antenna select start. The DECT should start updating; the status will change from “idle” to “erasing flash”.
- 5) The ildr_425.hex can be found in the DECT images directory.
- 6) The “auto start” will begin if you save and restart the flash downloader application on your PC. Having previously saved the correct settings and the antenna is connected and power up.

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- 7) After the DECT is upgraded. Turn off the Antenna, disconnect the power and remove the jumpers from the LK2 and LK4.
- 8) Check that Jumper LK1 is shorted as this activates the watchdog.
- 9) Connect a terminal emulator (i.e. HyperTerminal) set at 19200,8,N,1.
- 10) Power up check that the SW versions are correct.

3.3 Active Antenna Bootloader

The active antenna bootloader is only required for Antennas that have never had an application loaded into it.

You will need to install the Flash Development Toolkit (FDT).- obtainable from [Renesas - Flash Development Toolkit Download](#).

3.3.1 Active Antenna Bootloader

Install the Flash Development Toolkit (FDT) Details on configuring the FDT are in appendix.

Details on configuring the FDT are in the appendix

To upgrade the antenna bootloader, connect it to the PC using the beltpack registration cable supplied with your base station.

Antenna firmware can be found in the "Firmware\Bootloader" directory of the CD.

3.3.1.1 Upgrade Procedure

1. Remove all the screws from the Active Antenna (apart from the bottom ones), then slide the cover off.
2. Put the Active Antenna (AA) into BootMode by putting a Jumper onto Link 3 (LK3, the 3rd from the edge).
3. The jumper could be moved here from LK1.
4. Power up the AA (or press the Red reset button. if already powered up).
5. Connect the beltpack registration cable between the PC and the AA.
6. Run FDT on the PC. - Configured to
 - a. Device - H8S/ 2318/f,
 - b. CPU Crystal Frequency - 10.36Mhz,
 - c. Boot mode,
 - d. 19200 baud
7. Right Click on Bootloader01a.mot (or whatever is the current version) and Download File to Device.
8. When this is complete, close FDT and power off the AA.
9. Put the AA into Normal Mode by removing the Jumper from Link 3. Put it back on LK1 if that's where you got it from.
10. Power up the AA. The Green status LED (next to LK7) should start blinking to indicate that the Bootloader is waiting for comms from the PC.

4 Splitter Firmware Update Procedure

4.1 How to Reprogram Splitters

Splitters do not have a bootloader. Upgrades are done using FDT.

4.2 Software and Hardware Required.

1. Flash Development Toolkit (FDT).- obtainable from [Renesas - Flash Development Toolkit Download](#).
2. FreeSpeak Registration Serial Cable
3. Latest release of Splitter Application– supplied on CD

4.3 Splitter Application

1. Remove all the screws from the unit, and remove the cover.
2. Move the jumper from LK1 to LK2.
3. Connect the beltback registration cable between the PC and the Splitter.
4. Run FDT on the PC. - Configured to
 - a. Device - H8S/ 2318/f,
 - b. CPU Crystal Frequency - 16.38Mhz,
 - c. Boot mode,
 - d. 19200 baud
5. Add the file to be downloaded to the project by right clicking on „Target Files“ in the left most window and selecting „add files to project“
6. Right Click on the file name and select 'Download File To Device'. (If this fails first try changing the baud rate to 38400)
7. When this is complete, power off the unit.
8. Move Jumper from LK2 back to LK1.
9. Power up the splitter, the status LED should flash at steady 1 second intervals.

5 Basestation Upgrade Procedure

Software and Hardware Required

- Ethernet/Ethernet Cross-over Cable
- Xilinx USB Programmer
- CellCom/FreeSpeak Registration Cable
- Memory SIMM (older units only)
- Boot PROM (older units only)
- Latest version of Application Code (found on CD)
- Latest version of Xilinx Code (found on CD)
- CellCom/FreeSpeak PC ToolKit
- Valid v2.0 Passcode

5.1 Basestation Application Upgrade

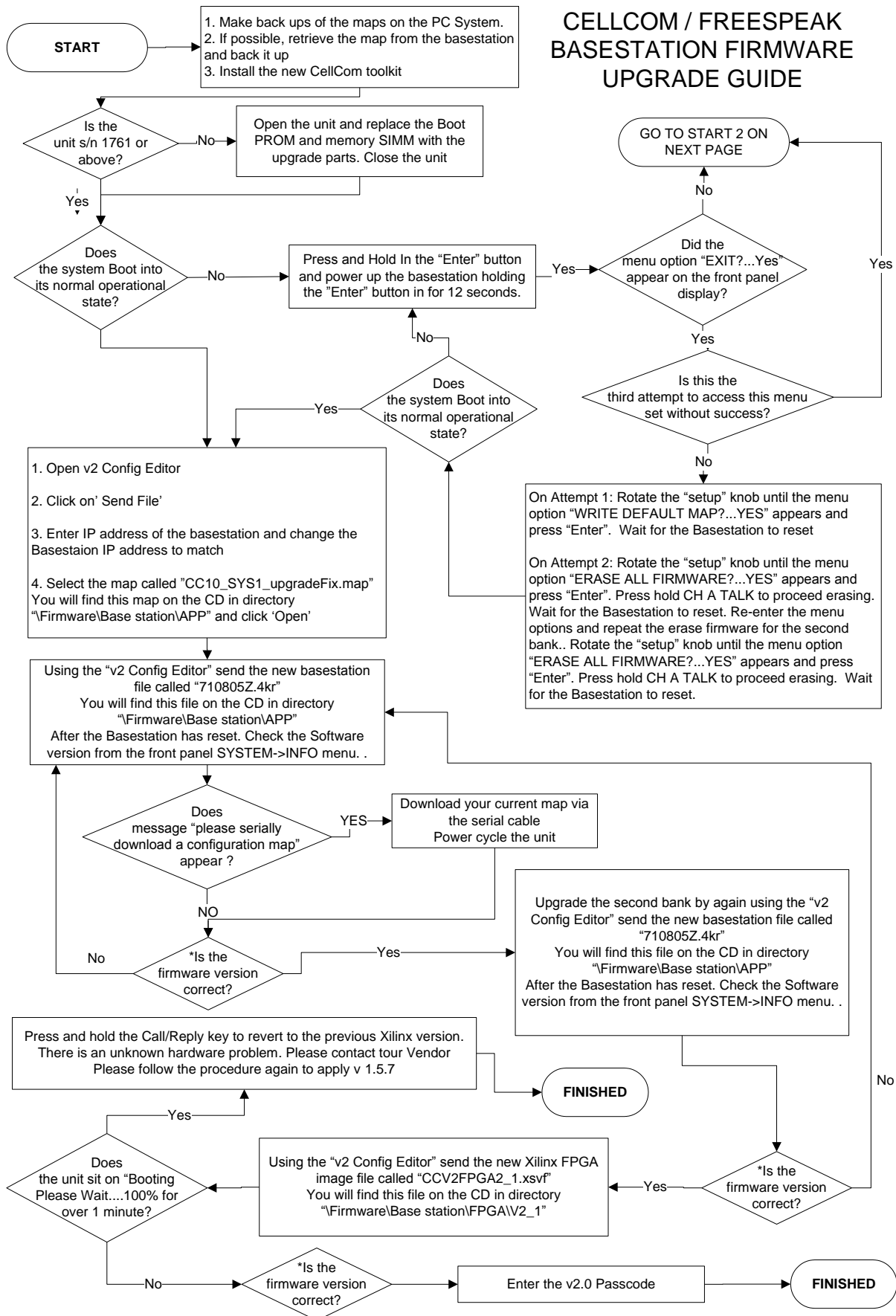
From v2, application code is upgraded using the Configuration Editor program, which be found on the release CD. This replaces the Ethernet Upgrader program.

If for some reason, the application code cannot be upgraded using the ethernet upgrade method (such as complete failure of the ethernet port), an alternative method can be employed serially using Hyperterminal, S4 driver or equivalent.

To upgrade the Basestation, follow the flow charts on the next two pages.

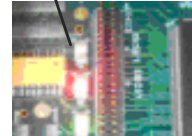
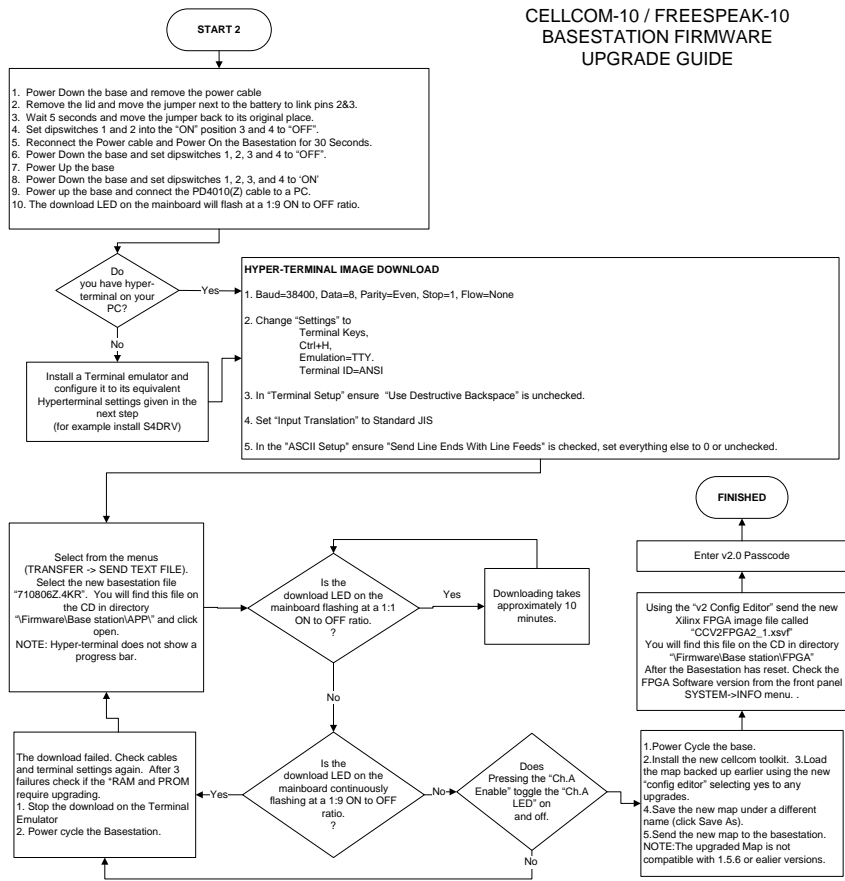
CellCom/FreeSpeak Firmware Update Procedures

CELLCOM / FREESPEAK BASESTATION FIRMWARE UPGRADE GUIDE



CellCom/FreeSpeak Firmware Update Procedures

CELLCOM-10 / FREESPEAK-10
BASESTATION FIRMWARE
UPGRADE GUIDE



5.1.1 Upgrade from Configuration Editor

- Connect the PC to the Basestation using an Ethernet Crossover cable or similar
- Open the Configuration Editor
- Click 'Send File'
- Enter the Basestation's IP address
- Edit the PC's IP address to be on the same subnet
- Select the File to be downloaded (this can be a utility file, such as the 'upgrade fix' map, or a firmware version). PLEASE CONSULT THE BASESTATION FIRMWARE UPGRADE GUIDE FLOW DIAGRAM FOR INFORMATION ON FILE LOADING ORDER
- Click on 'Open'

CellCom/FreeSpeak Firmware Update Procedures

The progress is indicated in the program. The basestation display will also display information on the download whilst continuing with the update.

On completion the basestation will reset.

5.1.2 Serial Upgrade

- Power down the basestation, remove the mains cable and remove the case lid
- Move the LK2 jumper across 1 pin away from the power supply, wait 5 seconds, then move the jumper link back to its original position (towards the power supply)
- Set dipswitches 1 & 2 to the ON position. Set dipswitches 3 & 4 to the OFF position
- Reconnect the power, power on the basestation and wait 30 seconds
- Switch off the basestation, remove the power connector and set dipswitches 1, 2, 3 & 4 to OFF
- Power up the basestation and connect to a PC running S4 driver. The download LED will flash with a 1:9 ON:OFF ratio
- Serial settings are:
 - Baud Rate: 38400
 - Data Bits: 8
 - Parity: Even
 - Stop Bits: 1
 - Flow Control: None
- Download the application file to the basestation. The download LED will flash with a 1:1 ON:OFF ratio
- Wait for the download to finish (Download LED will flash 1:9 ON:OFF) and check to see if the download completed successfully by seeing if the 'CH A Enable' button on the basestation toggles the corresponding LED
- Power cycle the base station

5.2 Xilinx Upgrade

If the Basestation Application and Configuration Editor software are running at v2.0, the Xilinx FPGA can be upgraded from the Configuration Editor. This will allow you to upgrade the unit without opening it although it will increase the power up from cold time of the basestation by approximately 30 seconds.

The Xilinx FPGA can also be upgraded using the iMPACT Xilinx software and associated USB programmer (ie. Model DLC9G programmer). This requires the case to be opened. The iMPACT software can be found at the following web address:

http://www.xilinx.com/xlnx/xil_sw_updates_home.jsp

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Note: a license agreement will need to be accepted before download. The download is large (approx 1Gb).

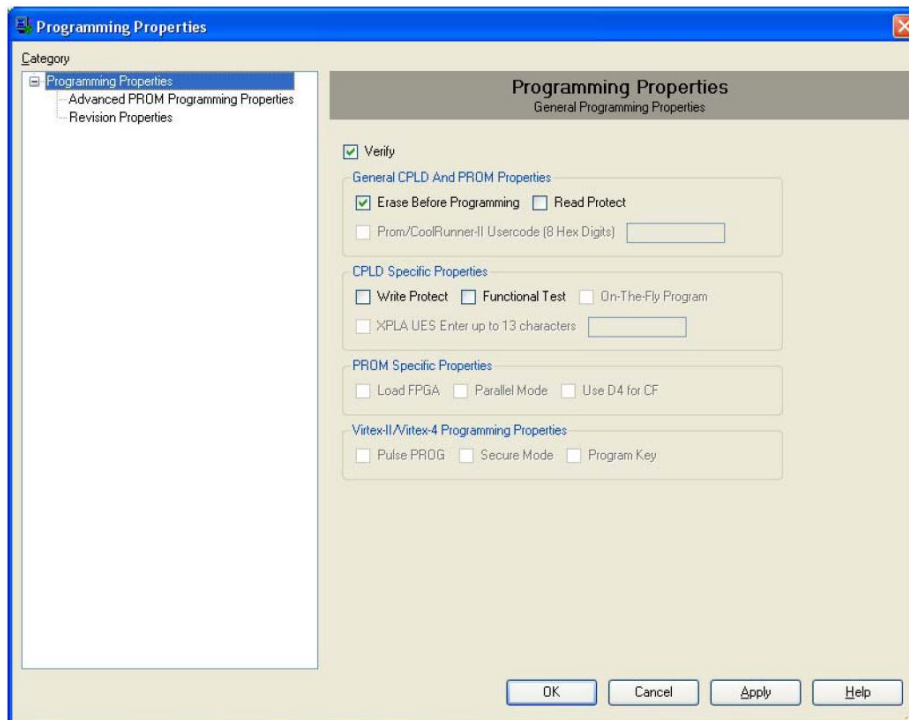
5.2.1 Steps to upgrade the Xilinx FPGA using v2.0

- Connect the Basestation and PC via Ethernet
- Open the Configuration Editor software
- Click on 'Send File'
- Enter the Basestation IP address
- Find the *.XSVF file to be applied (this can be found on the Release CD)
- As soon as you click Open, the download will start and a progress bar will display
- Once the download is complete, the progress bar will say Done and the Basestation will restart automatically, running the new Xilinx software

5.2.2 Steps to upgrade the Xilinx FPGA using the iMPACT software

- Remove the case lid from the basestation. **WARNING – EXPOSED VOLTAGES**
- Connect the USB connector of the download cable to the Computer USB port. Connect the 14way IDC header into CON12 of the basestation unit
- Start the iMPACT programming tool
- Select 'Cancel' in the Load Project dialogue
- In the 'Flows' window, double click on 'Boundary Scan'
- Right click in the main window area and select 'Initialize Chain'. If the cable is correctly connected, the chip chain will be displayed. The chain should appear to contain 2 devices
- The selected devices are displayed as green in the program. Click 'Bypass' the first device to ignore it
- On the second device, select the file image that is to be used, and click 'open'. (The latest Xilinx image can be found on the CellCom/FreeSpeak release CD)
- Right click on the second device, and select 'Program' from the drop down list. 'Verify' and 'Erase Before Programming' should be selected

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- Click 'OK' to begin programming
- Restart the Basestation
- XiLINUX versions can be checked from v2.0 onwards from the INFO display on the Basestation

5.3 Boot PROMs and Memory SIMMs

A number of the older CellCom/FreeSpeak units have incorrect boot PROMs and memory SIMMs. This can cause the basestation to fail the application upgrade process. Both the memory SIMM has been removed from later iterations of the hardware design, so if this is not present in your basestation you will not be able (or be required) to change the hardware parts.

Non-RoHS basestations can be identified by their Serial Number. All units before **1760 and below are non-RoHS units and will require a new boot PROM and 8Mb memory SIMM.**

A Boot PROM and memory SIMM pack are listed as part of the upgrade package.

6 Appendix A – Flash Development Toolkit Set-Up

Due to licensing restrictions a copy of the flash development toolkit (FDT) cannot be included on the CellCom/FreeSpeak release CD.

A freeware version of the FDT may be downloaded from the following site:-

[Renesas - Flash Development Toolkit Download](#)

This is a direct link to the latest version at the time of publishing (Renesas Flash Development Toolkit V.3.07 Release 02).

This FDT may be downloaded and used but may not be distributed under the licence provided.

If the above link does not work – please go to the Renesas download site

[Renesas FDT Download Site](#)

Or go to the Renesas global site homepage below and navigate to the FDT download page through the support links (enter FDT into the search field).

<http://www.renesas.com/homepage.jsp>

Select the latest version of the FDT to be downloaded and follow the instructions.

As a guide the installation and set-up of Renesas Flash Development Toolkit V.3.07 Release 02 is outlined below but please note that this may change through the Renesas web site changes.

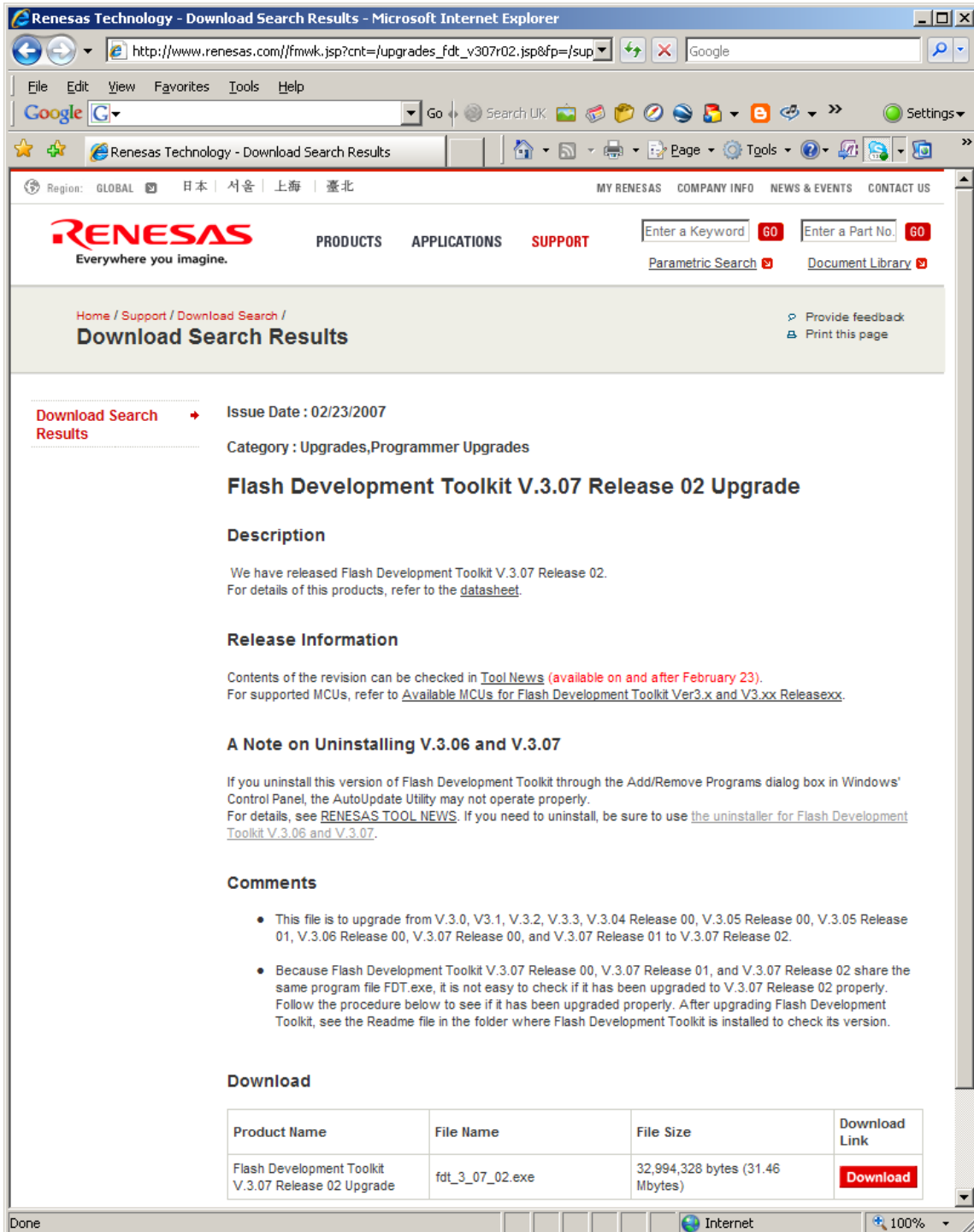
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6.1 Flash Development Toolkit Installation

After selecting the tool to download – read and accept the licence agreement.

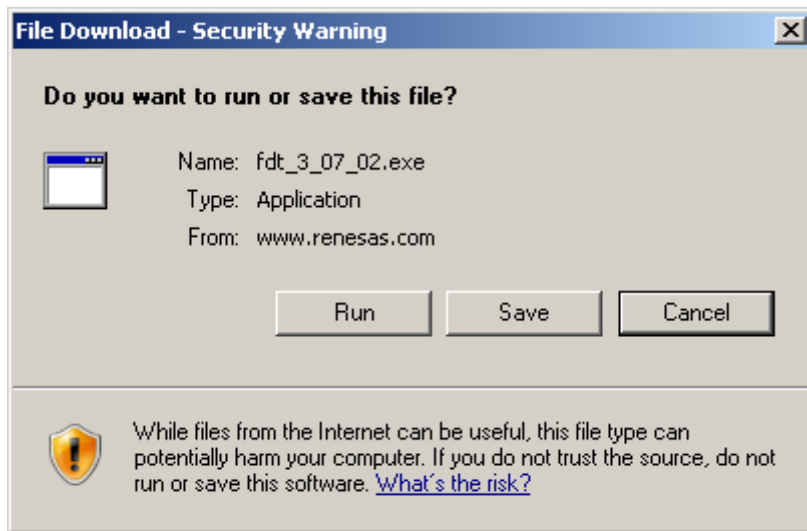
The download page is displayed.

Select the Download button

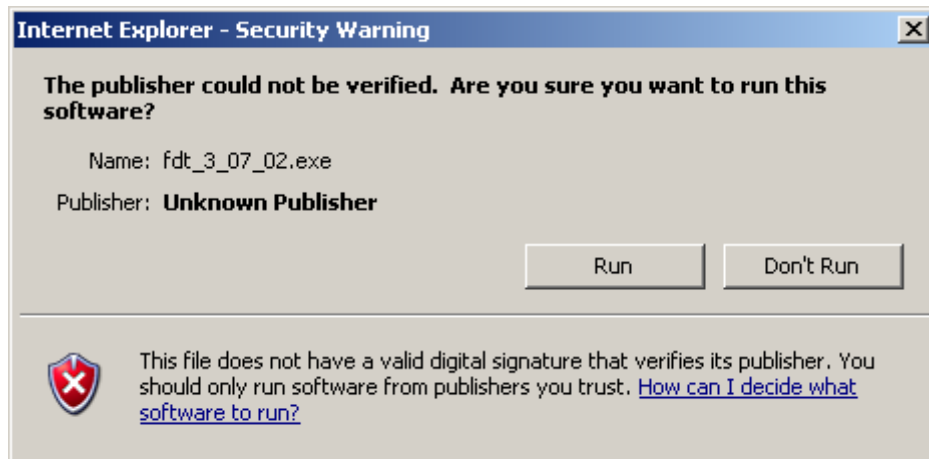


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Run (or save and run later) the installer

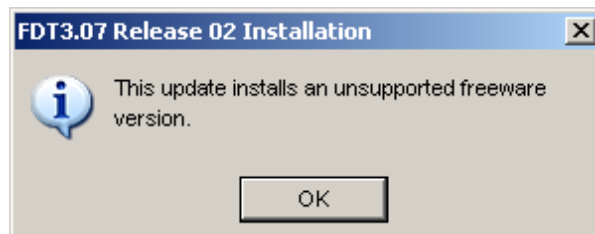


The installation will be downloaded – this may take a while depending on the speed of your internet connection



Select Run.

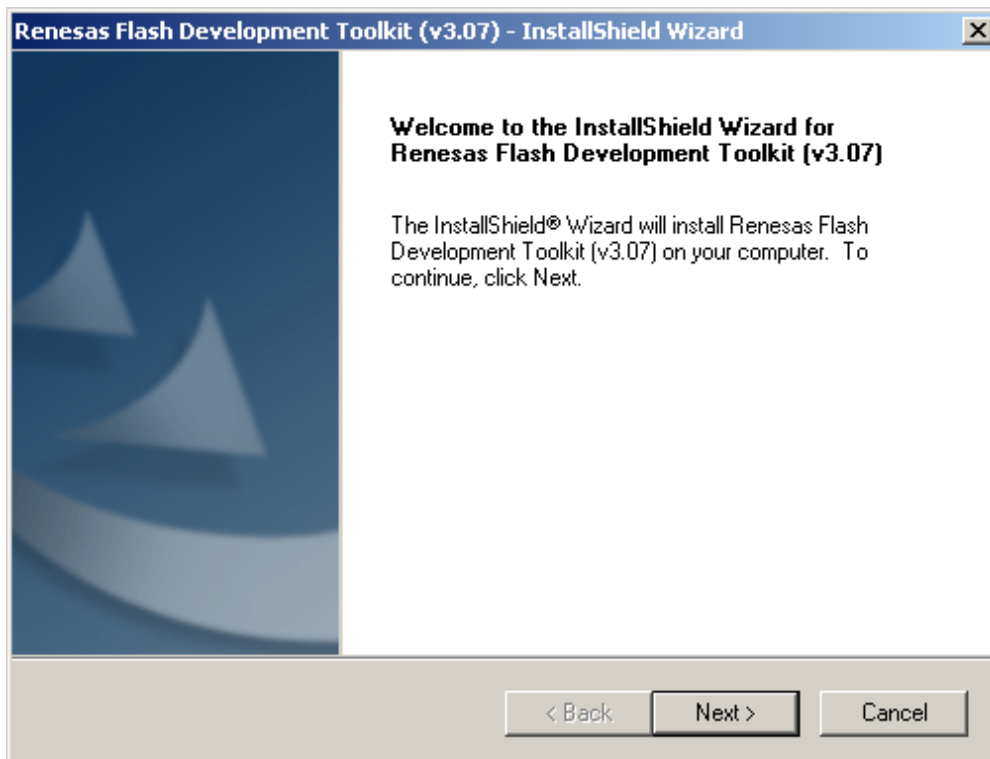
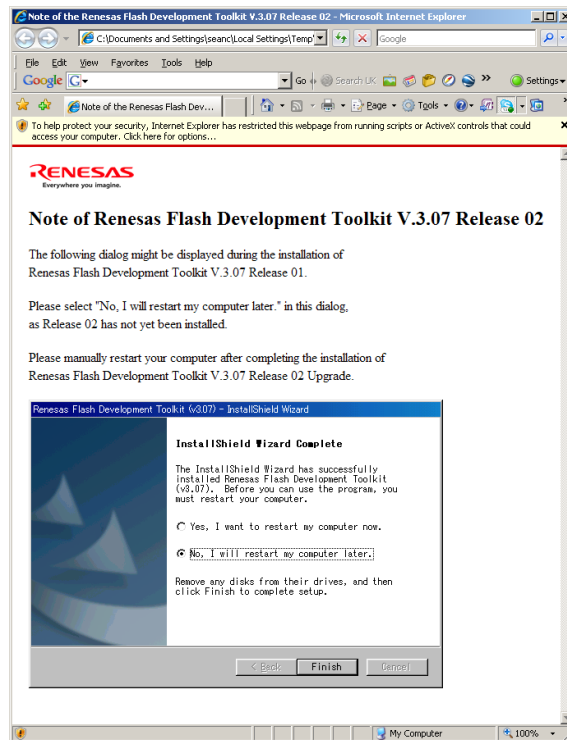
The installation will start.



Hit OK

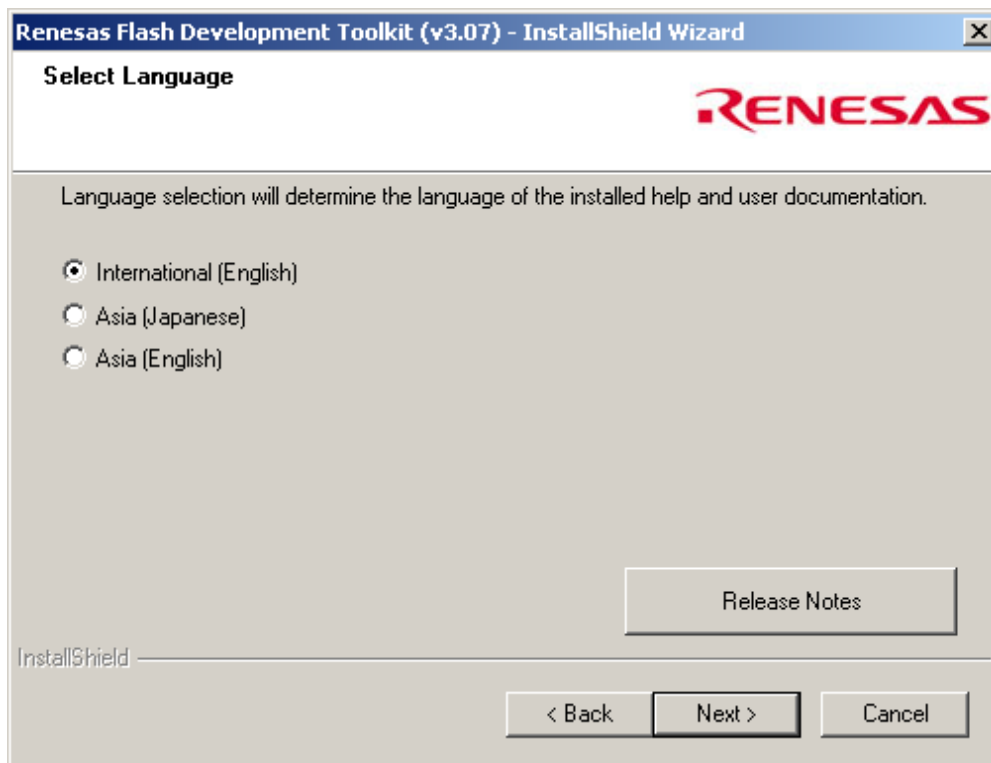
CellCom/FreeSpeak Firmware Update Procedures

A warning webpage may be displayed.

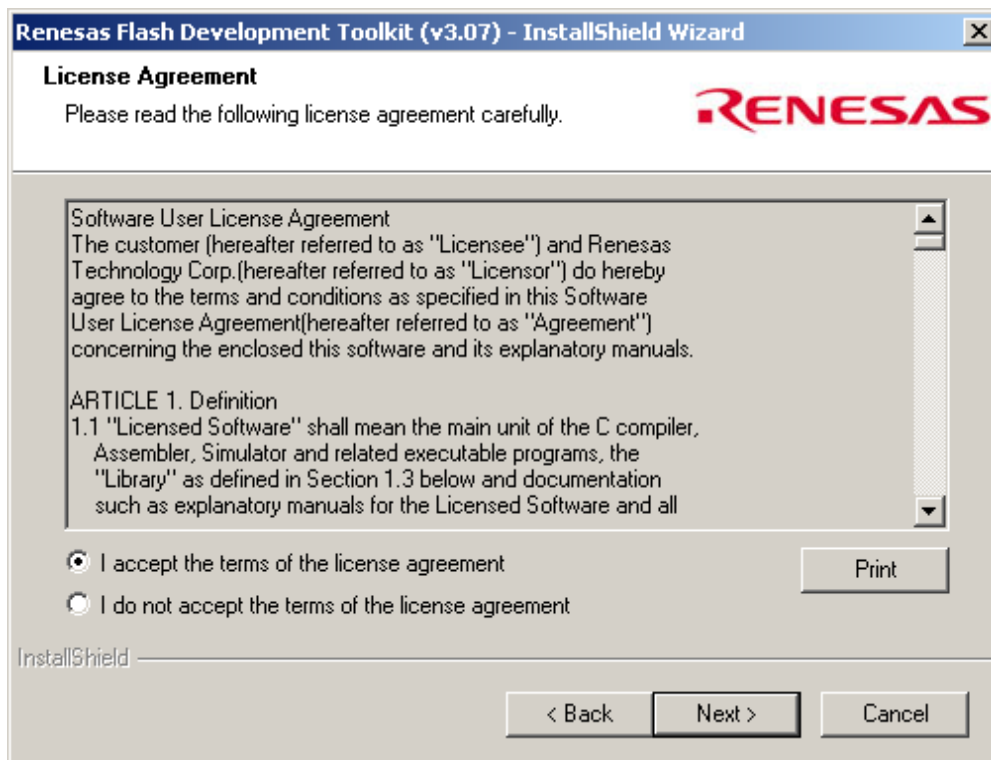


Follow the instructions

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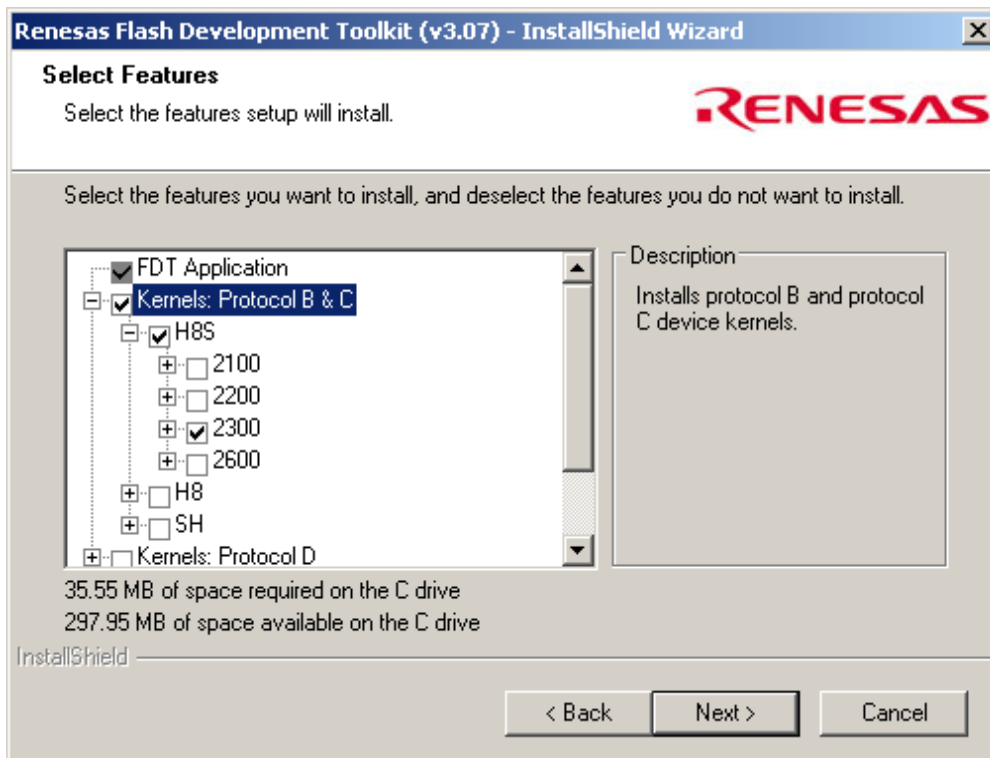
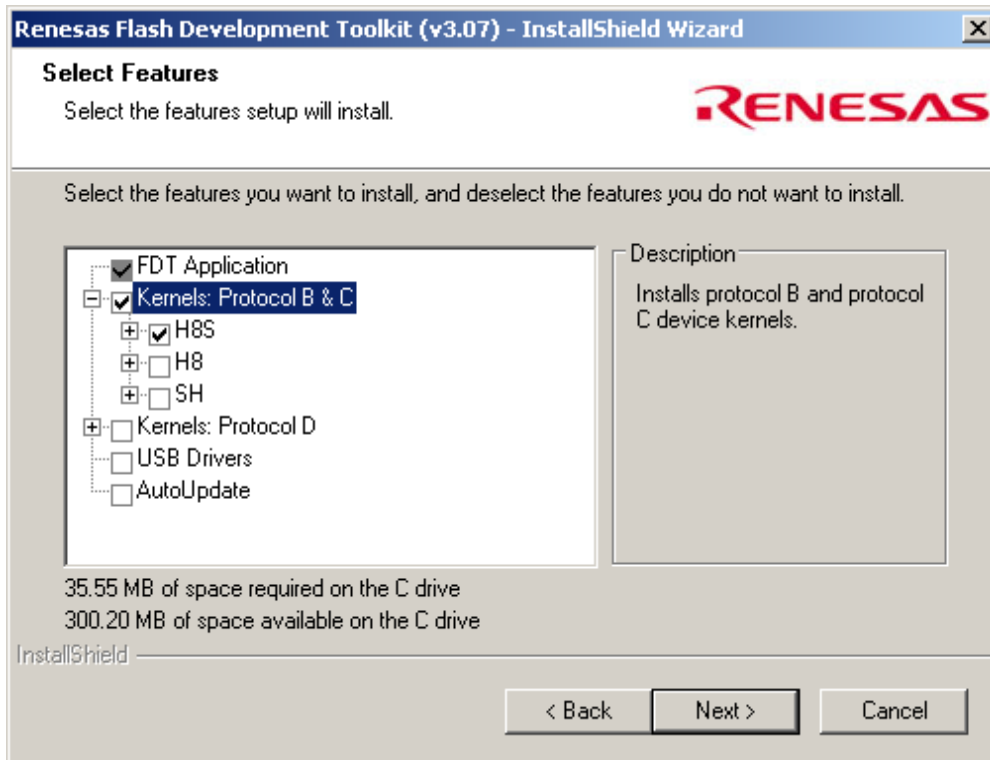


Select the desired installation language



Accept the licence agreement

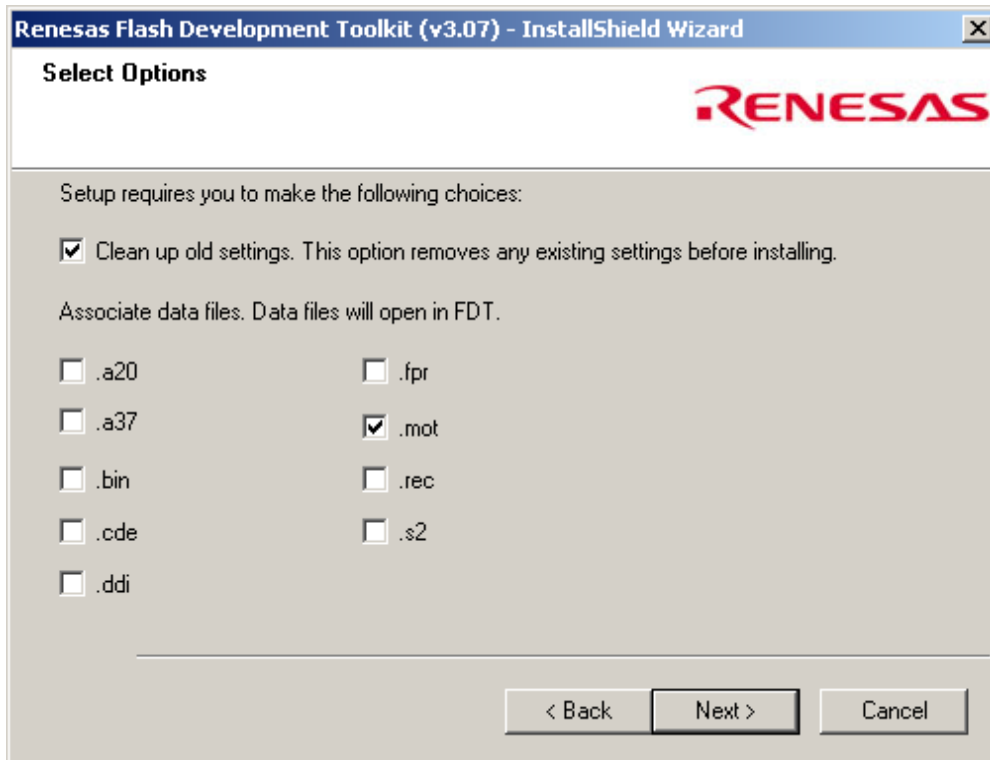
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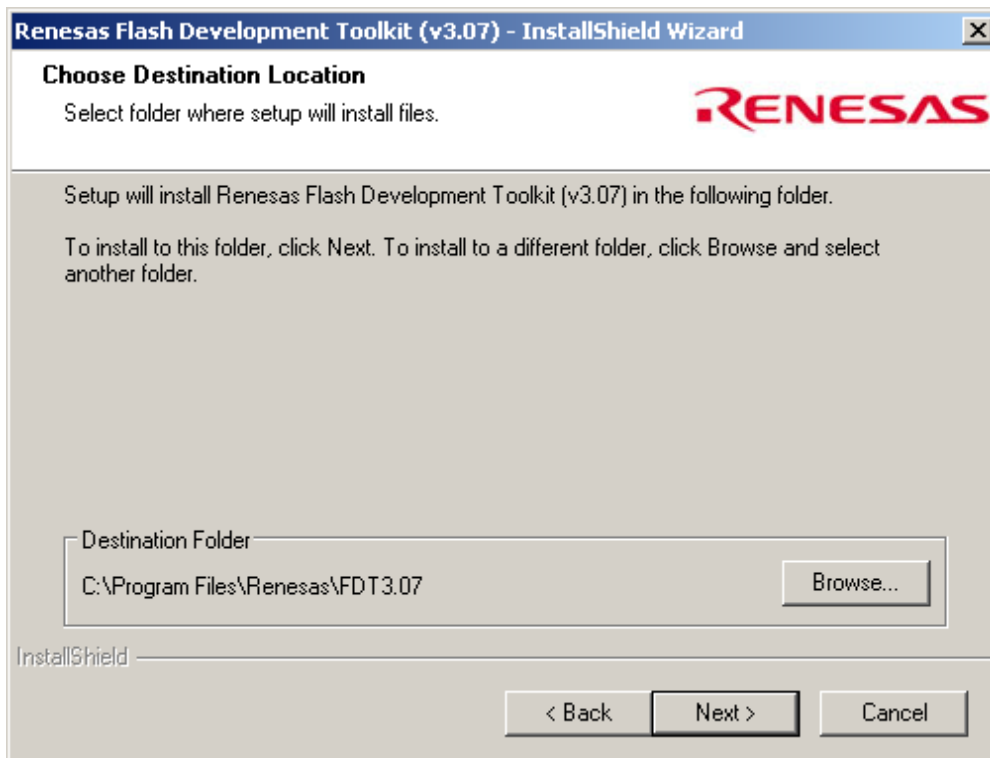
Enable installation of Kernel: Protocol B – H8S-2300 family feature drivers. All other feature can be installed but they are not needed. It is recommended that you do not install 'AutoUpdates'

Select Next

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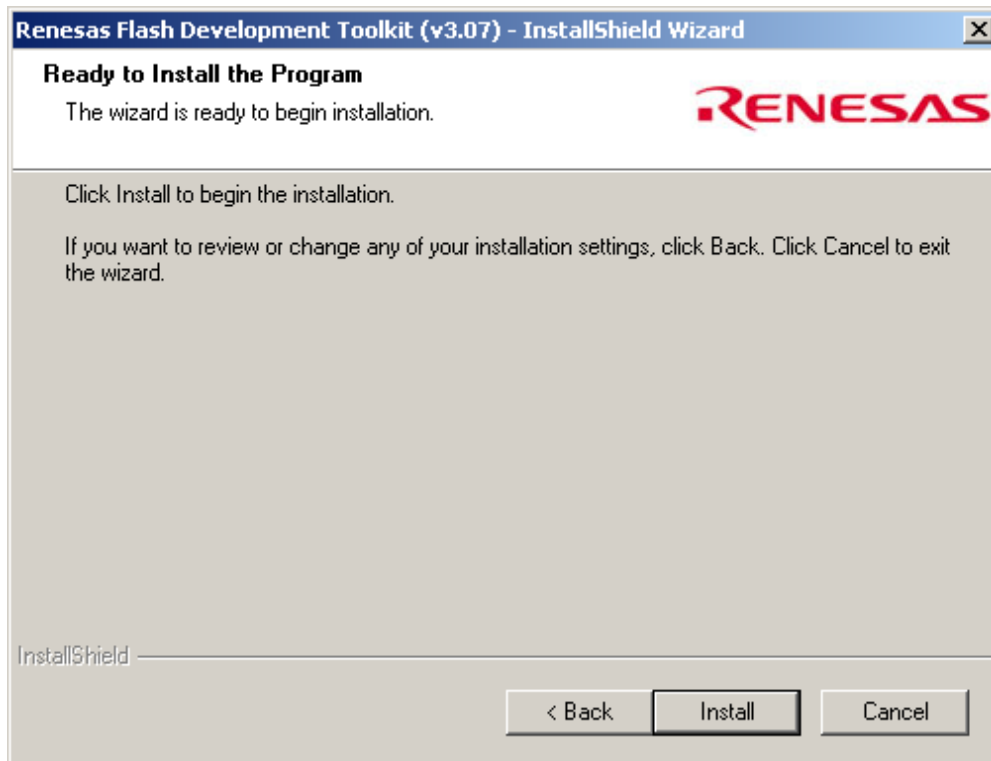


Support for .MOT data files only is required – it will not affect anything if the other file supports are installed.

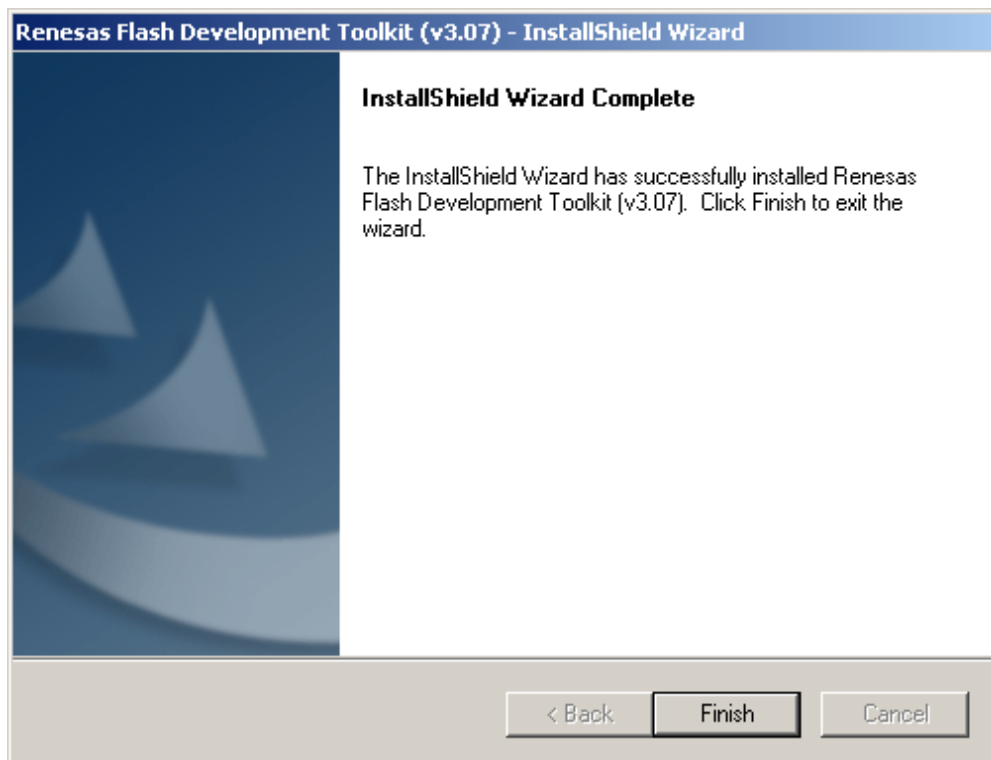


Accept or change the installation directory

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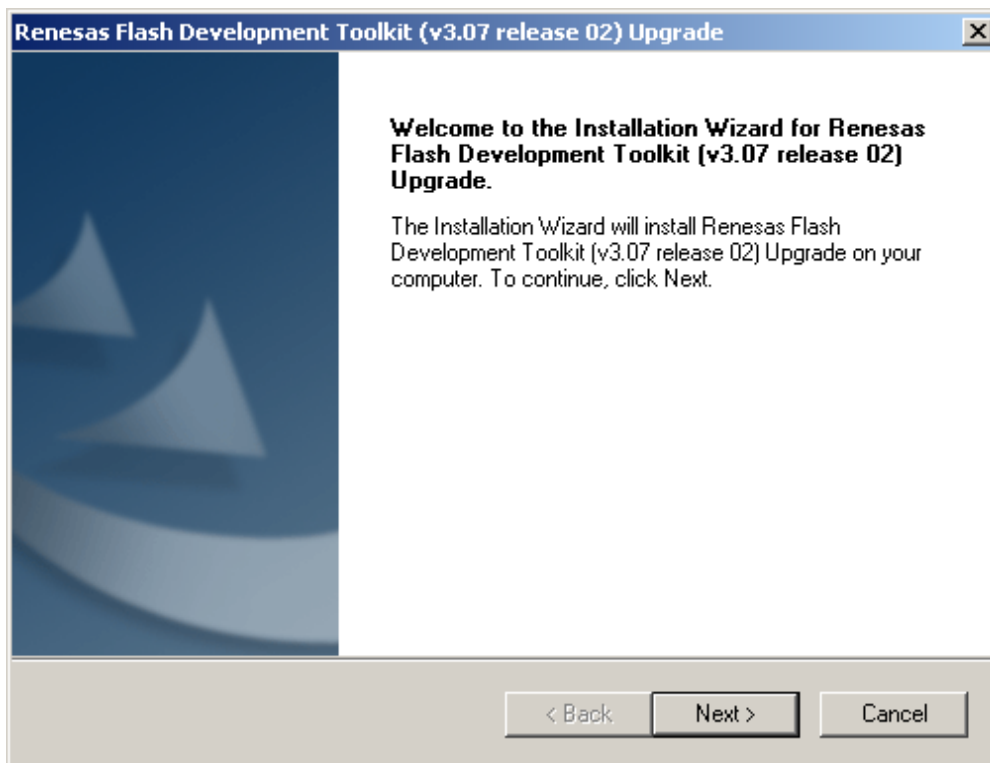


Install the application.



Accept finish when available

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Note after accepting finish on the installation – the installer may start an additional installation – this may be cancelled without affecting the FDT.

The tool is now installed and ready to use.

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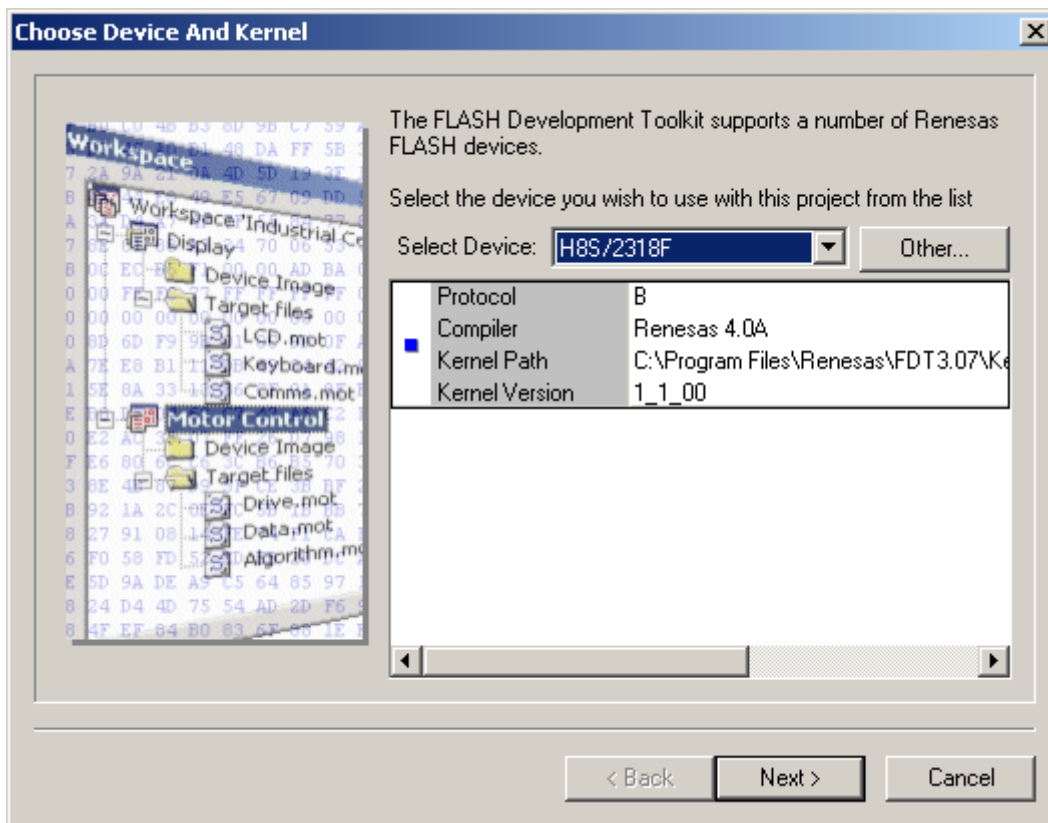
6.2 Running and Configuring and using the FDT

From the start menu – select

Renesas\Flash Development Toolkit 3.07\Flash Development Toolkit 3.07 Basic

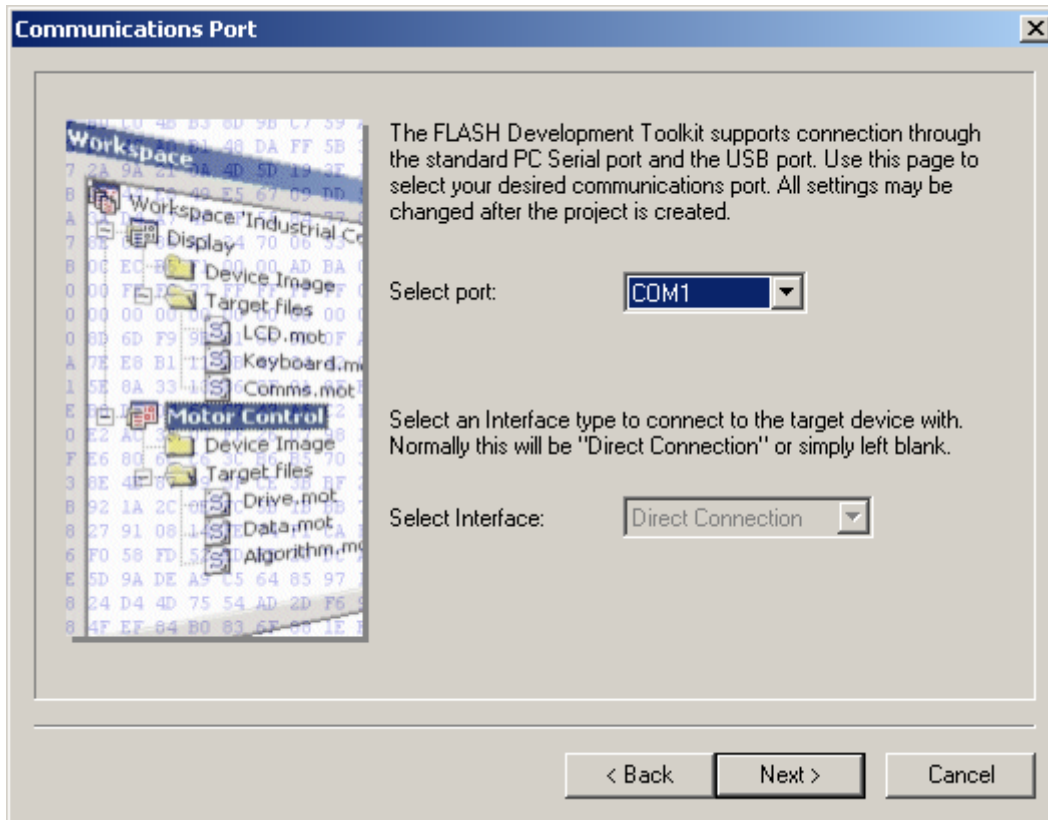
This will start the tool as below

Note: you could run the full tool and save the setting under project – please see the documentation installed with the tool if you will to so this.

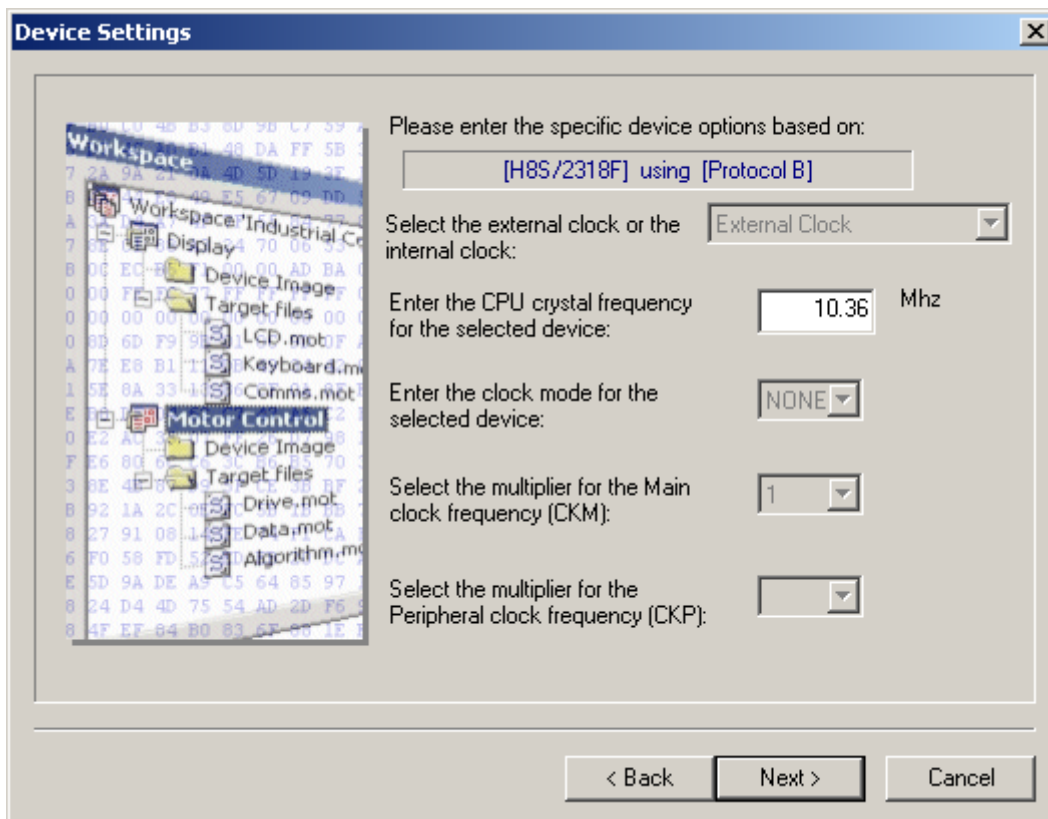


Select the device as specified in the instructions (currently this is only H8S/2318F)

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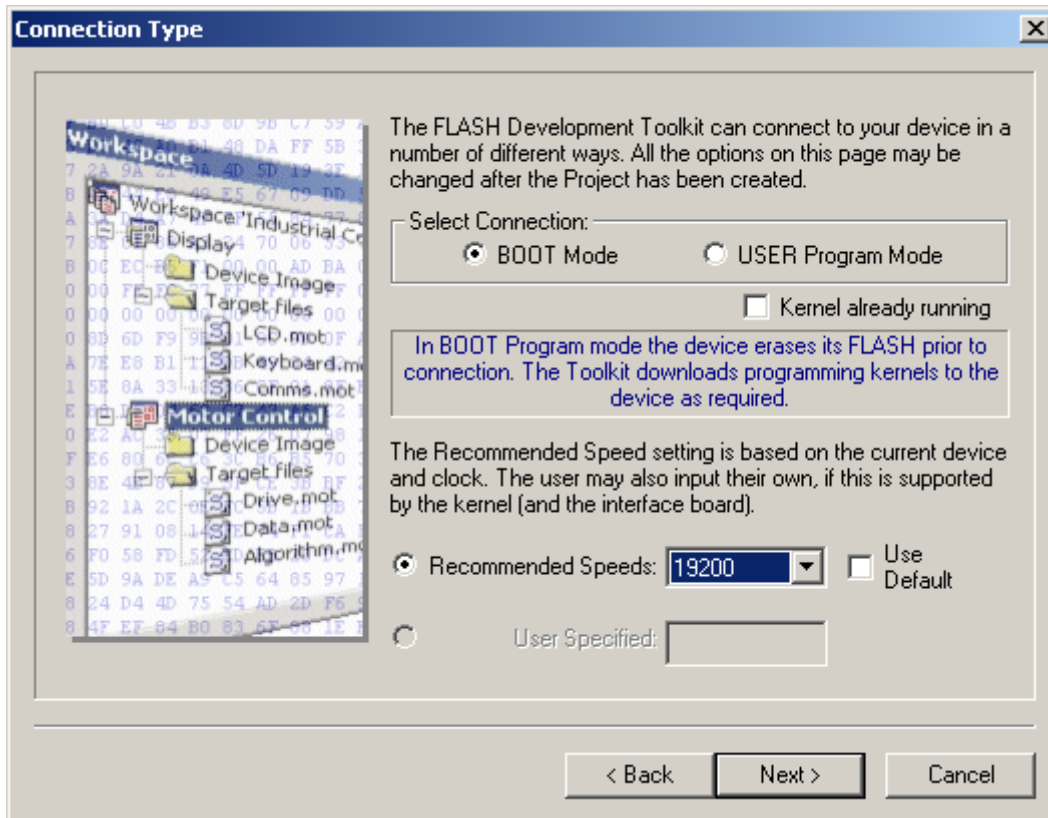
Select the serial port you are using



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Select the CPU Crystal Frequency as specified in the instructions – current settings shown below.

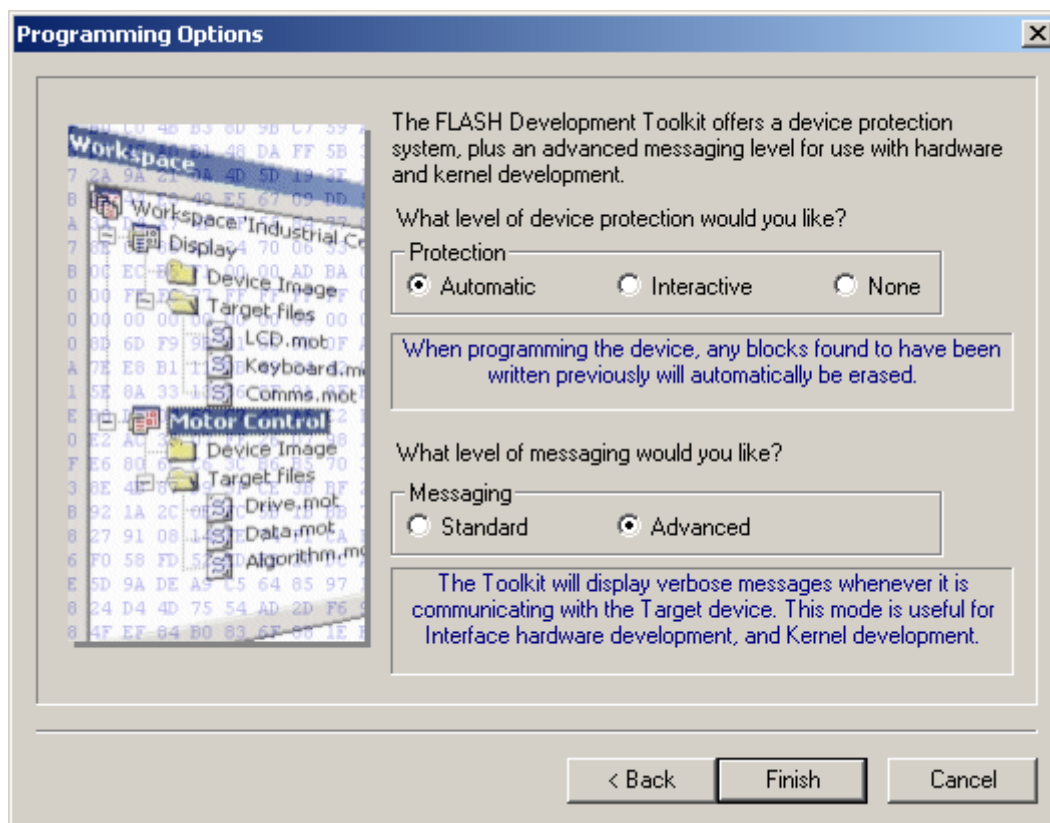
- Belpack – 10.36MHz
- Antenna – 10.36MHz
- Splitter – 16.38MHz



Set connection mode as specified in the instructions – BOOT mode for all applications

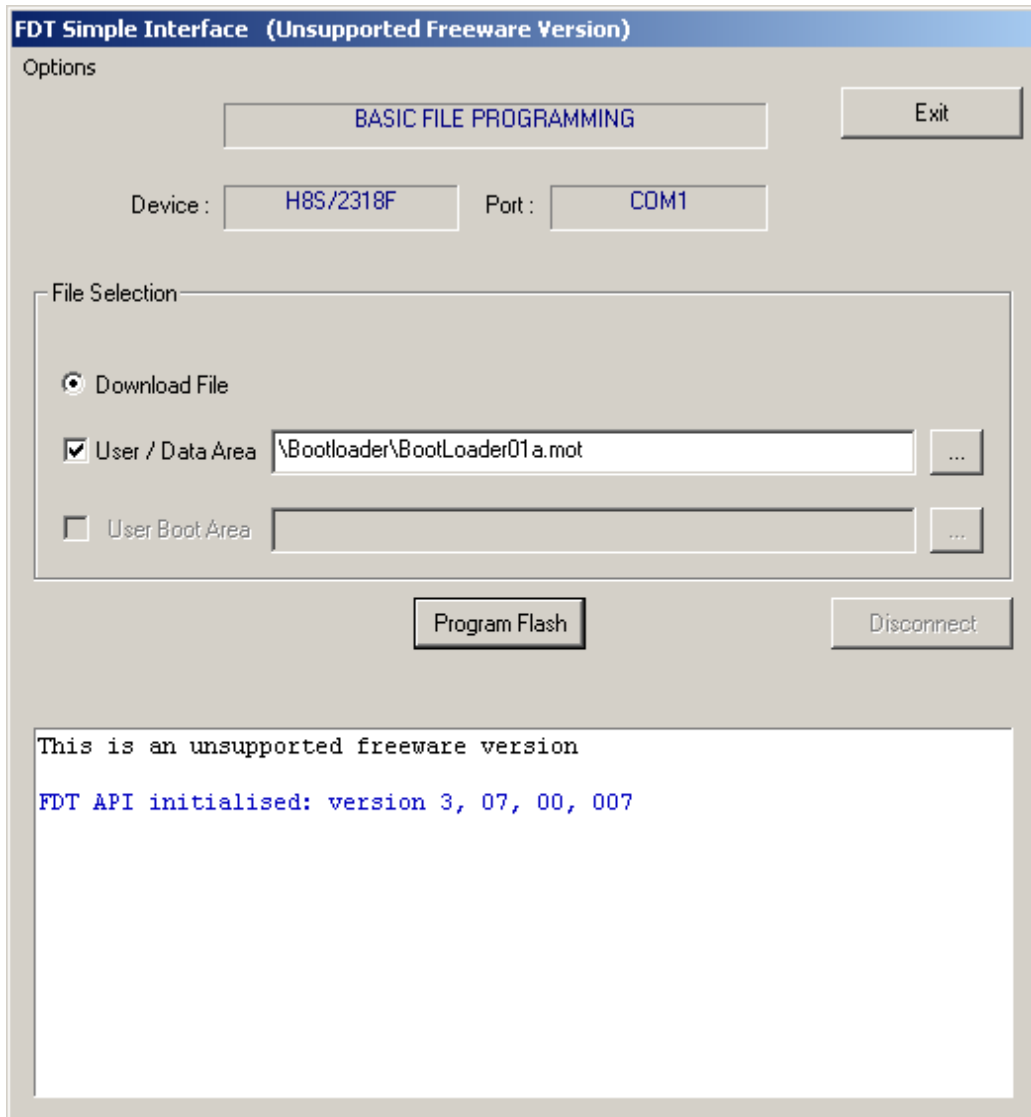
Set the recommended speed as specified in the instructions – currently 19200 for all applications (note you will need to deselect the ‘use default’ check box allow this to be set).

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Leave protection and Messaging to the default settings above

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FDT Simple Interface (Unsupported Freeware Version)

Options

BASIC FILE PROGRAMMING Exit

Device : H8S/2318F Port : COM1

File Selection

Download File

User / Data Area \\Bootloader\\BootLoader01a.mot ...

User Boot Area ...

Program Flash Disconnect

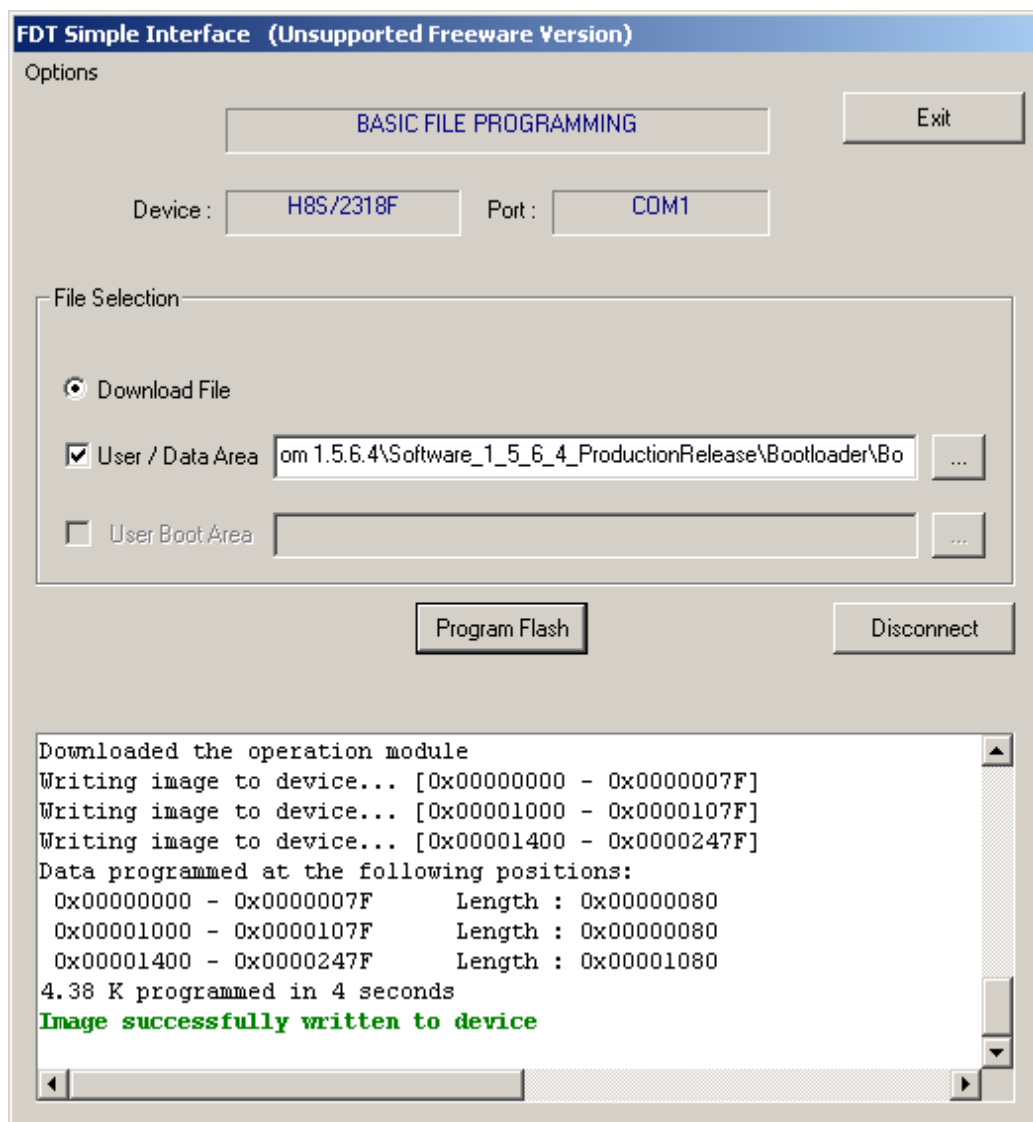
This is an unsupported freeware version
FDT API initialised: version 3, 07, 00, 007

Check the User/Data Area check box and select the file to be downloaded.

Ensure that the beltack registration cable is connected to the unit and the unit is configured as per the instructions.

Select Program Flash and the download should start.

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If the download is successful the appropriate message is displayed in the application window.

The download is complete – follow the rest of the instructions.

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7 Appendix B – Beltpack Opening

7.1 Disassembling a MKI Beltpack For a DECT Upgrade

<p>1</p>		<ul style="list-style-type: none"> • Remove the Belt clip • Remove the Battery clip • Remove the 7 screws from the rear of the unit
<p>2</p>		<ul style="list-style-type: none"> • Remove the ClearCom badge from the front of the unit and remove the screw below

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<p>3</p>		<ul style="list-style-type: none"> Remove the front cover by pulling it forward. Apply pressure towards the table on the top (encoder part) of the chassis to keep the PCBs from lifting as you remove the front bodywork Remove the 2 screws holding the PCB by the XLR connector
<p>4</p>		<ul style="list-style-type: none"> Separate the front and rear parts of the beltpack enough for the connectors to clear by lifting the boards vertically. Be aware that there are 3 boards loosely connected together. If possible lift all 3 without separating them. Once you have cleared the connectors, open the unit like a clamshell around the wiring as not to stress the cables, and rest on a work surface The XLR may rest loose

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<p>5</p>		<ul style="list-style-type: none"> Adjust the dip switches as required <p>See Preparing FS-BP MK I & PD2202 Beltpacks Only for download mode dipswitch settings</p>
<p>6</p>		<ul style="list-style-type: none"> Should the lower board become separated, reconnect it before attempting to reassemble the unit. There is a single connector that if misaligned will damage the unit.

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<p>7</p>		<ul style="list-style-type: none"> • Ensure that the connector is aligned as shown in this picture. Failure to do so will result in damage to the unit.
<p>8</p>		<ul style="list-style-type: none"> • Should the upper board and assembly become separated, reconnect before attempting to reassemble the unit. There are 2 connectors which can be misaligned if care is not taken

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<p>9</p>		<ul style="list-style-type: none"> • Fold the connected upper boards over towards the rear of the unit. • Place the XLR connector so that it straddles the lower board • Line up the connector between the top and bottom halves. This can be mis-connected without due care • Adjust the XLR connector and the two halves together
<p>10</p>		<ul style="list-style-type: none"> • Replace battery clip • Power • Program the DECT as required • Repeat steps 4 – 9 changing the dip switches back to the default. <p>See Preparing FS-BP MK I & PD2202 Beltpacks Only for the default dipswitch settings</p>

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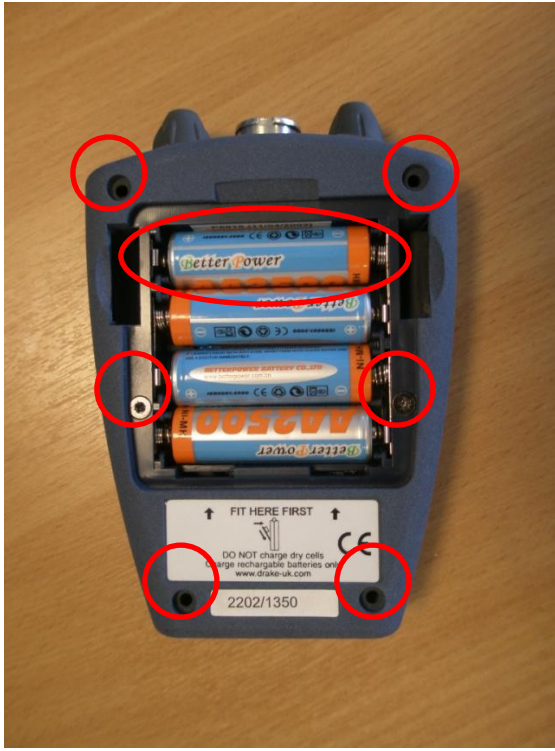
10



- Replace screws and badge

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7.2 Disassembling a 2202 Beltpack For a DECT Upgrade

	<ul style="list-style-type: none">• Remove the battery cover• Remove the 6 screws fastening the unit• Remove at least 1 battery.
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- Open the unit like a clamshell.
- Separate the case by lifting the back up, while attempting to keep the front of the unit and PCB together
- Take care when moving two halves apart as the cables to the battery are often tight
- Adjust the dip switches as required
- Close the unit and replace the battery without the screws
- Power up and run the DECT loader to upgrade the DECT

NOTE: *For dip switch settings*
See Preparing FS-BP MK I & PD2202 Beltpacks Only.

- Remove a battery and set the dipswitches back to the default.



- When reassembling the unit, take care as to not crush the battery cables with the case. Use a small screwdriver (or similar) to try to keep the cables clear of the case until it is sealed.
- Screw up the unit