



AlsDload Software Download Program

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User's Manual
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PREFACE

NOTICE OF CONFIDENTIAL INFORMATION

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ABOUT THE MANUAL

This manual is intended to provide the basic information needed to understand how to use AlsDload, the software download program for VPI, WIU, iVPI, and PGK boards.

The information in this manual is arranged into sections. The title and a brief description of each section follow:

Section 1 – GENERAL: This section gives general information on manual intent, content, and conventions.

Section 2 – INTRODUCTION: This section introduces AlsDload and discusses its theory of operation.

Section 3 – PREPARING TO USE AlsDload: This section describes how to prepare data for AlsDload and how to set up the hardware.

Section 4 – USING AlsDload: This section describes how to use AlsDload.

Section 5 – REFERENCE: This section provides a summary of menu commands and icons.

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MANUAL SPECIAL NOTATIONS

In the Alstom manuals, there are three methods used to convey special informational notations to the reader. These notations are warnings, cautions, and notes. Both warnings and cautions are readily noticeable by boldface type two lines beneath the caption.

Warning

A warning is the most important notation to heed. A warning is used to tell the reader that special attention needs to be paid to the message because if the instructions or advice is not followed when working on the equipment then the result could be either serious harm or death. The sudden, unexpected operation of a switch machine, for example, or the technician contacting the third rail could lead to personal injury or death. An example of a typical warning notice follows:

WARNING

DISCONNECT MOTOR ENERGY WHENEVER WORKING ON SWITCH LAYOUT OR SWITCH MACHINE. UNEXPECTED OPERATION OF MACHINE COULD CAUSE INJURY FROM OPEN GEARS, ELECTRICAL SHOCK, OR MOVING SWITCH POINTS.

Caution

A caution statement is used when failure to follow the recommended procedure could result in loss or alteration of data. A typical caution found in a manual is as follows:

CAUTION

Changing session date and time to earlier values may affect the ability of the History Window to store data correctly.

Note

A note is normally used to provide minor additional information to the reader to explain the reason for a given step in a test procedure or to just provide a background detail. An example of the use of a note follows:

NOTE

A capacitor may be mounted on the circuit board with a RTV adhesive. Use the same color RTV.

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1. SECTION 1 – GENERAL

This manual contains the basic information needed to understand how to use AlsDload, the software download program for VPI®, WIU, iVPI, and PGK boards.

1.1. INTENDED AUDIENCE

This manual is written for signaling application engineers and others who wish to understand the operation of AlsDload.

Before reading this manual the reader should have a working knowledge of using the Microsoft Windows® operating system and running programs in that environment.

1.2. DOCUMENT CONVENTIONS

The following conventions are used in this manual:

- bold** Bold text used in command lines represents information that should be entered exactly as shown (keywords).
- bold italic*** Bold italic text indicates icons to activate or selections in the menu tree.
- italic* Italic text indicates a file name.
- [] In command lines, square brackets indicate an option. To enter the option, type only the information inside the brackets. Do not type the brackets themselves.
- | When describing a menu selection, this character is used to separate consecutive menu item choices. For example, ***File | Exit*** means to open the File drop-down menu and select the Exit item.

1.3. COMMON ABBREVIATIONS

CAA	Computer-Aided Application
CAAPE	Computer-Aided Application Programming Environment software
CPIB	Control Point in a Box – a combination of VPI and PGK typically used for small interlockings
CPU II	Vital processor board in a VPI II system
CPU2	Represents the CPU II board in software
CSEX4	Code System Emulator (Extended) 4
GTP	Genrakode Track Processor
iVPI	Integrated Vital Processor Interlocking
NVSP	Non-Vital System Processor
PGK	Programmable Genrakode board
PGK2	Programmable Genrakode board upgraded to support AC Genrakode
RAM	Random Access Memory
USB	Universal Serial Bus
VPI	Vital Processor Interlocking
VPI2	A Vital application for the CPU II processor board in VPI
VSP	Vital System Processor
WIU	Wayside Interface Unit

2. SECTION 2 – INTRODUCTION

2.1. WHAT IS ALSDLOAD?

AlSDload is a tool for programming application and system software on VPI, WIU, iVPI, and PGK boards.

AlSDload provides the following capabilities:

- Download of application and/or system software from files on the PC to the programmable memory on the board.
- Upload of application and/or system software from the programmable memory on the board to files on the PC.
- Verification that board configuration data is identical to that in selected files.
- Access to board diagnostics.
- Basic VT100 terminal emulation.

2.2. THEORY OF OPERATION

The programmable software on a processor board can include application data and/or system software. Generally speaking, application data consists of the data structures that customize the operation of a board for a particular customer installation. For example, the application data on a board may include logic equations that help control the operation of an interlocking. Application data is customer specific and may be revised as the configuration of a customer installation changes over time.

System software is the basic "operating system" of the board. It typically does not change from customer to customer, but new versions of system software may be introduced to fix bugs or add features.

Alstom provides software tools to create application data for customer installations. An example is the Computer-Aided Application Programming Environment software (CAAPE), Alstom's tool for creating VPI, WIU or iVPI applications. CAAPE creates application data from customer input and saves it as a set of files on the PC. CAAPE also provides the necessary system software. A given version of system software requires the correct format of application data to be able to run, and the application data in turn contains information which allows the board to verify that it is running the desired version of system software. In CAAPE, ensuring that the correct application data is produced for the desired system software is done by selecting a specific compiler version to create the application files. For example, using the 050B compiler version creates application data structures compatible with the 40025-394 version of Vital system software and puts data into the application files allowing the CPU II board to verify that it is actually running this version of system software. Programming the CPU II board in this case would consist of programming its application memory with the application data created by CAAPE and programming its system memory with the 40025-394 system software.

Application data and system software may be programmed onto a board by physically putting the memory chips into a programming device or, if the board supports it, by sending the file data directly to the board through a serial connection. The latter method is used by AlsDload. The serial connection can be made through a standard COM port on the PC, through a USB-to-serial conversion device, or through a virtual COM port using a direct USB connection to certain Alstom boards.

AlsDload supports various types of programmable Alstom boards, called devices by the program. It also provides VT100 terminal emulation through a VT100 Device type. Selecting a type of device such as the VPI CPU II board makes available one or more of the following operations:

- Upload
- Download
- Configuration Checks
- Terminal Mode

2.2.1. Download

During the download operation, application data, and/or system software is transferred from files on the PC to the programmable memory of the board. The user selects the file(s) containing the software and which application or system components to transfer. The program uses a special protocol to transfer the data to the board, where it is programmed into the appropriate memory chips.

2.2.2. Upload

During the upload operation, application data, and/or system software is read from the board and saved as files on the PC. This operation might be used to copy software from one board to another or to access application data from the board for Application Data Verification.

2.2.3. Configuration Checks

During the configuration checks operation, AlsDload can be used to view the configuration and version information of the software already programmed onto a board, and to determine whether it is the same as that in specified files on the PC. This might be done to determine whether the software on a board is actually what the user thinks it is and whether the board needs to be programmed with new software.

Configuration and revision data may consist of:

- Readable configuration data stored in the application software: the compiler version and compile date, the application's program number, the system software file name or part number, etc.
- CRC and checksum values which are calculated to give a unique numeric "signature" for the software.

AlsDload can be made to automatically compare the configuration and revision data on the board against that in the files to determine whether the board already has the correct software and therefore does not require download.

2.2.4. Terminal Mode

During terminal mode operation, the user can access board diagnostics through the serial connection.

3. SECTION 3 – PREPARING TO USE ALSDLOAD

3.1. INSTALLING CAAPE

When installing CAAPE for WIU or iVPI, or for VPI with CPU II boards, there is an option to pre-install USB bridge device driver software that allows download through a direct USB connection to the board. The pre-install operation copies device driver files to the PC and creates a registry entry for them; when a USB connection is made to the board, the drivers are installed through plug-and-play.

The pre-install only has to be done once: when multiple CAAPE installs are performed, the option should be selected for the first install only.

3.2. PREPARING APPLICATION DATA

Application data is prepared using the appropriate Alstom application programming tools:

- CAAPE for VPI CPU II (identified as CPU2 in this software program)
- CAAPE for WIU VSP
- CAAPE for iVPI VSP and NVSP
- PGK CAA for PGK

NOTE

AlsDload operation for WIU and iVPI VSP is very similar to that for VPI CPU II. Instructions for VPI CPU II also apply to WIU and iVPI VSP with minor changes in board and application type names.

3.2.1. VPI CPU II, WIU VSP, and iVPI VSP Boards

The following instructions have been written for VPI CPU II, but also apply to WIU and iVPI VSP.

Main Subsystem

In CAAPE versions 007A and later, an application data file is created by compiling the VPI2 Main application. In CAAPE versions before 007A, there are no Main or Comm subsystems, only a VPI2 application. The file is displayed in the application's Outputs folder in CAAPE's user interface, and is physically in the same directory as the rest of the application files. Its name is

app-name.HEX

where *app-name* is the name of the application. For example, when the application called *MyApp* is compiled, the application data file *MyApp.HEX* is created.

The system software file also appears in the Outputs folder. Its name is

software-version.HEX

where *software-version* is a contraction of the Alstom part number of the software. For example, when an application is compiled with the 050B compiler, the system software file *4039400B.HEX* is copied to the application directory and displayed in the Outputs folder.

The CPU II board only works with this application data if the correct version of system software is also installed. The application data includes structures that are used to verify that the correct software is present. Note that a given version of system software does not vary from VPI to VPI; if the board already has software of the correct version, there is no need to program it again.

If these files must be used on a PC which does not have CAAPE installed, copy both of them to the same directory.

Comm Subsystem

A combined application data / system software file is created by compiling the VPI2 Comm application. The file is displayed in the application's Outputs folder in CAAPE's user interface, and is physically in the same directory as the rest of the application files. Its name is

app-name.HEX

where *app-name* is the name of the application. For example, when the application called *MyAppCP* is compiled, the application data file *MyAppCP.HEX* is created.

3.2.2. iVPI NVSP and VPI CSEX4 Boards

The following instructions have been written for iVPI NVSP, but also apply to VPI CSEX4.

The Main output file that is created by compiling an NVSP application contains both application data and main system software. It is displayed in the application's Outputs folder in CAAPE's user interface and is physically in the same directory as the rest of the application files. Its name is

app-name.NVE

where *app-name* is the name of the application. For example, when the application called *MyApp* is compiled, the file *MyApp.NVE* is created.

If the NVSP application includes networking features, the appropriate communications software file will be copied to the same directory and displayed in the Outputs folder. Its name is

comm-version.HEX

where *comm-version* is a contraction of the Alstom part number of the communications software. For example, if software version 40025-401-00 revision A was used, the file name would be 4040100A.HEX.

There is no application data for the NVSP communications processor.

3.2.3. PGK Boards

For PGK and PGK2 CPU software, the situation is similar to VPI2 Main: both the application and the system .HEX files are used. For a PGK Test Unit, only the test software is required.

3.3. CONNECTING THE PC TO THE BOARD

3.3.1. COM Port

Connect from one of the PC's COM ports to the appropriate serial connector on the board. Use a null modem cable:

Board 9-PinPin/Name	PC 25-PinPin/Name	PC 9-PinPin/Name
2/RX	2/TX	3/TX
3/TX	3/RX	2/RX
5/SG	7/SG	5/SG

WARNING

TO AVOID DAMAGING EQUIPMENT DO NOT CONNECT COMMON GROUND TO EARTH GROUND. WHEN CONNECTING AN AC OR DC POWERED COMPUTER TO THE PORT, BE CAREFUL TO OBSERVE WHETHER A VOLTAGE DIFFERENCE EXISTS BETWEEN THE RS-232 PORT OF THE COMPUTER (PIN 7 OF A 25-PIN CONNECTOR OR PIN 5 OF A 9-PIN CONNECTOR) AND PIN 5 OF THE BOARD'S PORT CONNECTOR. IF CONNECTION IS ATTEMPTED WHILE THERE IS A POTENTIAL DIFFERENCE, PERMANENT DAMAGE TO THE SERIAL INTERFACE MAY OCCUR. A BATTERY-OPERATED LAPTOP COMPUTER IS RECOMMENDED BY ALSTOM.

WARNING

A GROUND ISOLATION PLUG USED TO CONVERT 3-PRONG TO 2-PRONG IS REQUIRED ON THE COMPUTER'S 120 VOLT AC CONNECTION IN ORDER TO PREVENT MULTIPLE PATHS TO GROUND.

WARNING

SOME BOARDS CAN OPTIONALLY PROVIDE DC POWER AT ONE OF THE PINS ON THEIR DIAGNOSTIC PORT CONNECTOR IN ORDER TO POWER A HAND-HELD TERMINAL. IF UNSURE WHETHER THIS PIN CAN ACCIDENTALLY BE CONNECTED THROUGH THE CABLE TO A LIVE SERIAL PORT PIN ON THE PC, SET THE BOARD'S JUMPER SO THAT HAND-HELD TERMINAL POWER IS REMOVED FROM THE CONNECTOR. SEE THE BOARD'S MAINTENANCE MANUAL FOR MORE DETAILS.

3.3.2. USB-to-COM Converter

Connect from one of the COM ports on the converter to the appropriate serial connector on the board. Use a null modem cable as described in the previous section.

3.3.3. Direct USB Connection to Board

Direct USB connections can be made to some boards using a USB bridge software driver that can be pre-installed as part of the CAAPE install.

Make a connection to the appropriate USB connector on the board. The USB bridge driver software will be installed if necessary. When the driver is installed, it creates a virtual COM port using the next available port number. The assigned port number can be found when configuring device options in AlsDload: the new port will be included in the list of available serial ports.

4. SECTION 4 – USING ALSLOAD

4.1. USING ALSLOAD FROM CAAPE

If AlsDload is installed as part of CAAPE, its operation is integrated with CAAPE's operation. The operator can initiate a download, or just launch the program directly from CAAPE.

4.1.1. Starting a Download from CAAPE

Select a downloadable application in CAAPE's File View and go to **Actions | Utilities | Download** in the main menu. The operator can also use the **Download** toolbar button, or right click on the main application folder and select **Download** from its popup menu. AlsDload is launched and the application data file is automatically loaded.

If an iVPI NVSP application is loaded, AlsDload will automatically attempt to load the communications file as well.

4.1.2. Launching the AlsDload Program from CAAPE

Using the **Actions | Utilities | Download** main menu item or the **Download** toolbar button with anything other than a downloadable application selected causes the download program to be launched. No application file is loaded.

4.2. USING ALSLOAD STAND-ALONE

The AlsDload program can also be copied manually to a PC that does not have CAAPE installed. To do this the following files are required:

- AlsDload program: *AlsDload.exe*, contained in the main CAAPE directory.
- AlsDload help files (optional): *AlsDload.hlp* and *AlsDload.cnt*, found in the CAAPE's Help subdirectory. Copy the files to the same directory as the AlsDload program on the target PC.
- Windows system support DLLs: *mfc42.dll* and *msvcrt.dll*. Most PCs should already have these files in their system directories, but they can be copied into the same directory as the AlsDload program if there is any doubt.

CAUTION

Do not copy these.dll files into a system directory such as WINNT or System32. System files should only be replaced by an installation process that can ensure that newer files are not replaced by older ones.

For direct USB connections to a board, the USB bridge drivers must be installed. Run the driver installation executable in the USB directory of the CAAPE install disk.

Launch the program by double clicking on the .exe file, making a shortcut to the program and double clicking on it, etc.

4.3. CONFIGURING SERIAL PORTS

Each major device type can be assigned a different serial port.

Go to **Configure / Device Options** in the main menu. The Device Options dialog is displayed. Go to the appropriate tab for the device type desired. Click the **Settings** button to select a serial port and view serial port options for the device or one of its subsystems. AlsDload will display available serial ports. Select the desired port; the newly selected port will be opened the next time AlsDload starts an operation that requires it.

Serial port options such as baud rate are generally fixed for a given type of board.

NOTE

Some USB ports may become available only when a physical connection has been made to the device.

4.4. PERFORMING A DOWNLOAD

During the download operation, application data and/or system software is transferred from selected files to the board and is programmed into the board's memory. A download is required when some aspect of the application data has been changed or when a new version of system software is to be used.

4.4.1. Download Process

Click on **Device** in the main menu and select the desired device type.

Open the application file. Go to **File / Open** in the main menu or click the **Open** toolbar button. In the Open dialog browse to the file and click **OK**. AlsDload reads the file; if the application file is valid the program then uses its configuration data to find and open the system software file that goes with it. File configuration data is displayed on the main screen. If an iVPI NVSP application file is opened, AlsDload will automatically attempt to load the communications file as well.

Select which application and/or system elements are downloaded. Go to **Configure / Download Elements** in the main menu and select the desired entry. Available entries are:

- **Auto Detect:** the program queries the board for configuration data to determine which data is transferred from the files to the board.
- **Sys Only:** the program transfers system software from the system file to the board, whether or not the board is the same version as the file.
- **App Only:** the program transfers application data from the application file to the board, whether or not the board is the same version as the file.
- **Both Sys and App:** the program transfers both application data and system software to the board, whether or not the board is the same version as the file.
- **Test Unit:** the test software is to be transferred to the board.

Once the file(s) have been opened it is also possible to compare board and file configuration data to see what elements must be downloaded. Go to **Actions / Verify Files** in the main menu or click the **Verify** toolbar button. The board is queried for configuration data and a comparison of file versus board configuration data is displayed.

Make sure the PC is connected to the board, then start the download process. Go to **Actions / Download** in the main menu or click the **Download** toolbar button. The program transfers data from the file(s) to the board, and displays its progress until the data transfer is done.

The download may be aborted at any time, but if the abort is done while data is being transferred the board may become unusable until it has been reprogrammed by another download or by physically programming the memory chips.

4.5. PERFORMING AN UPLOAD

During the upload operation, application data, and/or system software is transferred from the board to selected files on the PC. An upload might be used to transfer application data from one board to another, or to get application data for use in Application Data Verification. Not all board types support Upload.

4.5.1. Upload Process

Click on **Device** in the main menu and select the desired device type.

Select which application and/or system elements are uploaded. Go to **Configure / Upload Elements** in the main menu and select the desired entry. Available entries are:

- **Sys Only:** the program transfers system software from the board to a file.
- **App Only:** the program transfers application data from the board to a file.
- **Both Sys and App:** the program transfers both application data and system software from the board to files.

Make the sure the PC is connected to the board, then start the upload process. Go to **Actions / Upload** in the main menu or click the **Upload** toolbar button. The program prompts for files in which to store the data. When the file paths have been entered, the program starts to transfer data from the board. Progress is displayed until the data transfer is done.

The upload process can be aborted at any time without affecting the usability of the board.

4.6. CHECKING BOARD CONFIGURATION

AlsDload can query the board for configuration data and, if application and/or system files are identified, compare board configuration to file configuration and highlight the differences. These features might be used to determine what version of software is on the board or to decide whether a download is needed.

4.6.1. Getting Board Configuration

Go to **Actions | Configuration Data | View Device Data** in the main menu. The board is queried for configuration data and the data is displayed on the main screen. What kind of configuration data is displayed may vary depending on what mode the board is in when the query is done.

4.6.2. Verifying Board Configuration Against Files

Open the application file using **File | Open** or the **Open** toolbar button. When the file(s) have been read, go to **Actions | Verify Files** in the main menu or click the **Verify** toolbar button. The board is queried for configuration data and this configuration data is displayed side by side with the corresponding file data. Any differences between board and file are identified.

4.6.3. Restoring File Configuration Display

Once file(s) have been loaded, their configuration data can be displayed by going to **Actions | Configuration Data | View File Data** in the main menu.

4.7. PERFORMING BOARD DIAGNOSTICS

4.7.1. File and Terminal Modes

AlsDload has two modes when connected to a board:

- File Mode: where the download, upload, and configuration operations are performed
- Terminal Mode: where the program becomes a terminal for accessing board diagnostics

To enter Terminal Mode, go to **Actions / Terminal Mode** in the main menu or click the **Terminal Mode** toolbar button. The main screen is blanked and a flashing “caret” symbol appears. The caret is visible whenever the screen is active in Terminal Mode. If the caret is not visible, click the mouse to make sure the caret is active. When the screen is active, any character typed by the user is sent to the board and text returned by the board is displayed on the screen.

The Terminal Mode screen has a limited number of display lines. As extra lines are returned by the board, earlier lines are lost. The maximum number of lines can be set on a per-device basis by going to the **Device Options** dialog and setting the Terminal Lines amount. The advantage of increasing the number of lines is that more data can be captured on the screen. The disadvantage of increasing the number of lines is that it may be more difficult to scroll through the extra lines.

It is also possible to capture the diagnostic data in a log file as it is received. Go to **Actions / Log Diagnostics to File** in the main menu or click the **Log to File** toolbar button. Enter a file path. As diagnostic data is received, it is stored in the file. Click the menu item again or the toolbar button to turn logging off.

To exit Terminal Mode and return to File Mode, use **Actions / File Mode** in the main menu or click the **File Mode** toolbar button.

4.7.2. VT100 Device

The VT100 Device can be used to perform VT100 terminal emulation for boards such as CSEX3 and CSEX4 that output their diagnostics in VT100-compatible format and are not listed specifically in AlsDload’s device list. Setting the Device Options for the VT100 Device allows the serial port to be selected and port data such as baud rate to be set.

4.8. CAPTURING DISPLAY DATA

It is possible to print the current contents of the main screen or save it to a file. To print, go to **File / Print** in the main menu or click the **Print** toolbar button. To save to a file, use **Actions / Save Display Snapshot** in the main menu.

5. SECTION 5 – REFERENCE

5.1. MAIN MENU

5.1.1. File Menu

Open	Open application / system file(s)
Print	Print current screen contents
Print Preview	Preview current screen printing
Print Setup	Select and configure printer
(MRU list)	Previously opened files
Exit	Exit the program

5.1.2. Device Menu

VPI

CPU2

Main	CPU II board Application/System Processor
Comm	CPU II board Communications Processor
Comm Test	CPU II board Communications Processor test software

CSEX4

Main	CSEX4 board Application/System Processor
Comm	CSEX4 board Communications Processor
Comm Test	CSEX4 board Communications Processor test software

WIU

WIU VSP

Main	WIU VSP board Application/System Processor
Comm	WIU VSP board Communications Processor
Comm Test	WIU VSP board Communications Processor test software

iVPI

iVPI VSP

Main	iVPI VSP board Application/System Processor
Comm	iVPI VSP board Communications Processor

Comm Test	iVPI VSP board Communications Processor test software
iVPI NVSP	
Main	iVPI NVSP board Application/System Processor
Comm	iVPI NVSP board Communications Processor
Comm Test	iVPI NVSP board Communications Processor test software
GTP	iVPI GTP board
PGK	
PGK	PGK CPU board
PGK2	PGK NCB board
Test Unit	PGK test board
PGK2	
PGK2	PGK2 board
VT100	VT100 terminal emulator

5.1.3. Actions Menu

File Mode	Go to File Mode
Terminal Mode	Go to Terminal Mode
Download	Perform a download
Upload	Perform an upload
Verify Files	Compare board and file configuration data
Configuration Data	
View File Data	View configuration data of open file
View Device Data	View configuration data of board
Log Diagnostics to File	Toggle diagnostics save to file
Save display snapshot	Save current screen contents to file

5.1.4. Configure Menu

Download Elements

Auto Detect	Automatically determine whether download is needed
Sys Only	Download system software
App Only	Download application software
Both Sys and App	Download both system and application software
Test Unit	Download test software

Upload Elements

Sys Only	Upload system software
App Only	Upload application software
Both Sys and App	Upload both system and application software

Device Options	Setup device options
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5.1.5. View Menu

Toolbar	Show or hide the main toolbar
Status Bar	Show or hide the status bar
Clear Display	Clear the display window for the current device

5.1.6. Help Menu

Contents	Open help file
About Alsdload	Display program information

5.2. TOOLBAR

-  Open File
-  Enable / Disable Diagnostic Data Logging
-  Download
-  Upload
-  Verify
-  File Mode
-  Terminal Mode
-  Print
-  About AlsDload

5.3. COMMAND LINE

Commands consist of a dash ("-") followed by a letter which identifies the command type, possibly followed by additional data depending on the type:

-dTYPE [-fFILEPATH -cCOMPONENT]

-dTYPE: select device type, required.

-dCpu2Main: CPU II Main System/Application Processor

-dCpu2Comm: CPU II Communications Processor

-dCpu2CommTest: CPU II Communications Processor test software

-diCSEX4Main: CSEX4 Main System/Application Processor

-dCSEX4Comm: CSEX4 Communications Processor

-dCSEX4CommTest: CSEX4 Communications Processor test software

-dVspMain: WIU VSP Main System/Application Processor

-dVspComm: WIU VSP Communications Processor

-dVspCommTest: WIU VSP Communications Processor test software

-diVpiVspMain: iVPI VSP Main System/Application Processor

-diVpiVspComm: iVPI VSP Communications Processor

-diVpiVspCommTest: iVPI VSP Communications Processor test software

-diVpiNvspMain: iVPI NVSP Main System/Application Processor

-diVpiNvspComm: iVPI NVSP Communications Processor

-diVpiNvspCommTest: iVPI NVSP Communications Processor test software

-dPgkCpu: PGK CPU

-dPgkCpu2: PGK NCB (CPU II)

-dPgkTest: PGK test board

-fFILEPATH: path of the file, enclose in quotes if there are spaces; required to do download.

example: -f"e:\caape\apps\test app\testapp.hex"

-cCOMPONENT: perform a download; optional.

-cAUTO: auto-detect

-cSYS: system only

-cAPP: application only

-cBOTH: system and application

-cTEST: test unit

Example: for CPU II main processor, download application only from specified file

```
AlsDload -dCpu2Main -f"e:\caape\apps\test app\testapp.hex" -cAPP
```


**FOR QUESTIONS AND INQUIRIES, CONTACT CUSTOMER SERVICE AT
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