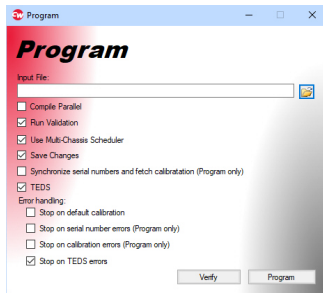


# STANDALONE COMPILER

Verifies and programs configuration data

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## Overview

The Standalone Compiler tool has two operating modes: Verify and Program.

Verify does not communicate with hardware. It verifies that the data throughput and sequencing specified in the configuration can be achieved.

Program verifies that the data throughput and sequencing specified in the configuration can be achieved and then programs the instrumentation.

Serial number synchronization and calibration retrieval can be run at the start of programming.

## Key Features

- Verifies that configuration can be realized in the hardware
- Programs hardware
- Uses XidML 3.0
- Calibration fetching
- Serial number synchronization
- Automatic creation of inter-chassis transport packages
- Automatic creation of packetizer packages
- TEDS sensor support

## Applications

- FTI
- Aircraft monitoring
- Flight data acquisition for crash recorders

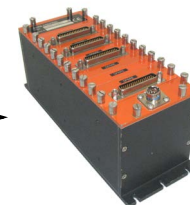
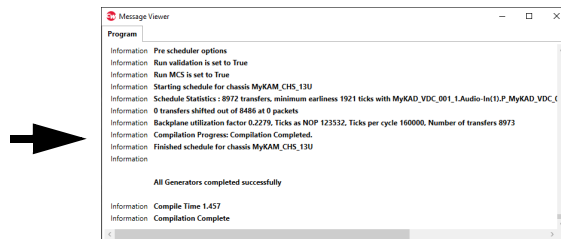
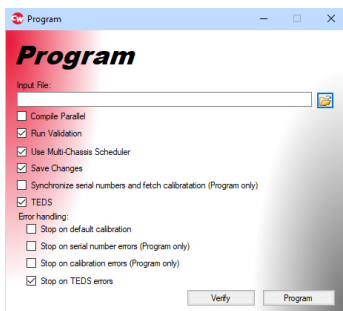


Figure 1: Standalone Compiler overview



## Minimum recommended hardware requirements

ITEM	DESCRIPTION
Processor	2.4 GHz Intel® Dual Core
Hard-disk	80 GB
RAM	8 GB <sup>1</sup>
Screen	1024 x 768 (if using GUIs)
Graphics card	Intel® G31/G33 Express Chipset Family <sup>2</sup>

1. For a project configuration with multiple chassis, a PC with Windows 10, 64-bit is recommended.
2. If using GS Works we recommend using one of the following graphics cards: nVidia GeForce 6xxx+; nVidia Quadro 3xxx Video (PCI Express16).

## Supported operating systems

OPERATING SYSTEM
Windows® 10 (with support for .NET 4.8 framework), 32-bit and 64-bit Professional or higher, in English

**NOTE:** SAM/DEC/007 cards are not supported on 64-bit operating systems and are not supported on any Windows 10 operating system.

Customers may install DAS Studio 3 on any number of machines without restriction.

Windows 10 version 1607 or higher supports .NET 4.8; see Microsoft.com for details.

## Using the Standalone Compiler

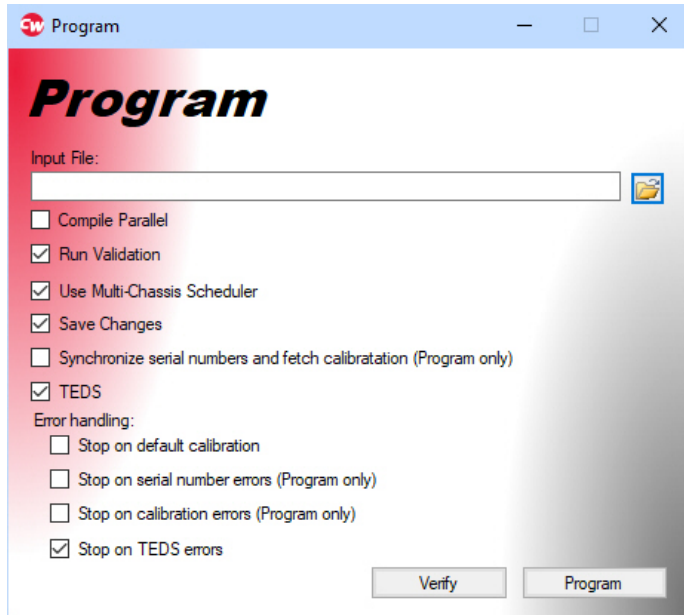
Use the Standalone Compiler when you only want to verify or program a system and have no need to change settings in your configuration file. The Standalone Compiler can be run from the command line or from the GUI Program dialog box.

After running the Standalone Compiler, a log file **Program\_MsgML.xml** is saved to the following default location:

C:\ACRA\StandaloneCompiler\3.x.x\Program\MsgML

### Using the Standalone Compiler through the GUI

1. Click **Start** and then click **Standalone Compiler**.  
The compiler **Program** dialog box opens.



2. In the **Input File** field, browse to the configuration file you want.

3. Select the options you want.

The following options are available:

**Compile Parallel** - This is only recommended for large multi-chassis systems. Each chassis is compiled in parallel, reducing the overall compilation time. The recommended PC requirements for parallel compilation are a quad core processor and 8 GB of RAM.

**Run Validation** - Checks for clashing IP addresses, DAU IDs, Ethernet packet stream identifiers, and DAUs missing controllers.

**Use Multi-Chassis Scheduler** - When selected, Multi-Chassis Scheduler (MCS) runs before programming or verifying. The MCS automatically creates or regenerates the inter-chassis transport packages and packetizer packages.

**Save Changes** - When selected, changes made by the MCS and serial number synchronizer are saved to the XidML file. **Synchronize serial number and fetch calibration (Program only)** - When selected, Serial Number Synchronizer and Calibration Fetcher are run before programming.

**TEDS** - Read TEDS sensor data from channels with their Enable TEDS setting enabled.

**Stop on default calibration** - When selected, programming or verifying stops if default calibration is used for the module.

**Stop on serial number errors (Program only)** - When selected, programming stops if there are synchronizer errors.

**Stop on calibration errors (Program only)** - When selected, programming stops if there are calibration errors.

**Stop on TEDS errors** - Stops verification and programming once a TEDS sensor status or read error occurs.

4. Click **Verify** or **Program** as appropriate.

## Using the Standalone Compiler from the command line

To view the list of commands that are supported from the command line for the Standalone Compiler, open a Command Prompt window and then type "program.exe -?"

Refer to the following table for details on each command.

SETTING	DEFAULT	COMMAND LINE	OPTIONAL	DESCRIPTION
CustomXDefML Path:	None	-O <Alternative path for custom XDefML files>	Yes	Alternative path for custom XdefML files.
Verbosity	H	-V <Verbosity level>	Yes	The following Verbosity mode options are available: H = High M = Medium L = Low
CompileInParallel	N	-P <Compile the Chassis(s) in Parallel>	Yes	Compile Chassis(s) in Parallel.
Display	A	-G <Display mode>	Yes	The following Display mode options are available: A = Full UI P = Progress bar only N = None
Task	None	-T[Task file]	No	The name of the XidML file to be programmed.
CmdMLFilePath	None	-C [CmdML File Path]	Yes	Specifies the CmdML file the tool uses. <sup>1</sup>
ProgramMode	V	-M <Program mode>	Yes	The following program options are available: V = Verifies the task only P = Verifies the task and programs the hardware B = Programs the hardware only
RunValidation	Y	-A <Run validation before schedulers>	Yes	Run validation before compilation.
UseMCS	Y	-U <Use MCS during compilation>	Yes	When enabled, the Multi-Chassis Scheduler (MCS) is used during compilation.
SaveMCS	Y	-R <Save the changes made by the MCS and serial number synchronizer to the task file>	Yes	MCS changes to the Flight Test Instrument (FTI) are saved to the task file.
FetchCalibration	N	-F <Synchronize serial numbers and fetch calibration>	Yes	Retrieves serial numbers from the discovered modules and fetches calibration information from them.
CalibrationRepositoryPath	None	-K <Alternative path for calibration repository location>	Yes	Allows you to specify an alternative location for previously fetched calibration. The default location is C:\ACRA\StandaloneCompiler\3.x.x\kProgram\Calibration
BasePath	None	-L <Alternative base path where all files are written to>	Yes	Allows you to specify an alternative location for compilation files (cache) or any files that can be written to disc such as log files. The default cache location is: C:\ACRA\StandaloneCompiler\3.x.x\kProgram The default logging location is: C:\ACRA\StandaloneCompiler\3.x.x\Program\MsgML
StopOnDefaultCalibration	N	-D <Stop on default calibration>	Yes	Does not program if calibration cannot be found for one or more modules in the task file.
StopOnCalibrationErrors	N	-E <Stop on calibration errors>	Yes	Does not program if any calibration errors occurred when fetching calibration.
StopOnSerialNumberErrors	N	-N <Stop on serial number errors>	Yes	Does not program if an error occurs retrieving serial numbers from the modules in the task file.

SETTING	DEFAULT	COMMAND LINE	OPTIONAL	DESCRIPTION
EthProgConnect ionChassis	0	-X <Ethernet to PROG programming link chassis>	Yes	Ethernet to program a link chassis. Options are 0 to 63.
TEDS:	Y	-S [TEDS sensor support]	Yes	Read TEDS sensor data from channels with their Enable TEDS setting enabled
TEDSSynchronize:	Y	-Y [Synchronize TEDS sensors]	Yes	Update the configuration with the TEDS sensor information read back from enabled channels
TEDSStopOnErrors:	Y	-Q [Stop on TEDS sensor errors]	Yes	Stops verification and programming once a TEDS sensor status or read error occurs

1. This is an XML file with the start-up options and can be used instead of specifying all individual options on the command line.

Example:

```

<ACRA>
  <CmdML>
    <Program>
      <Verbosity>High</Verbosity>
      <Display_Next_Time>All</Display_Next_Time>
      <UseMCS>Yes</UseMCS>
      <SaveMCS>Yes</SaveMCS>
      <AutoFetchCalibration>No</AutoFetchCalibration>
      <StopOnDefaultCalibration>No</StopOnDefaultCalibration>
      <StopOnCalibrationErrors>No</StopOnCalibrationErrors>
      <StopOnSerialNumberErrors>No</StopOnSerialNumberErrors>
      <SaveSerialNumberChanges>Yes</SaveSerialNumberChanges>
    </Program>
  </CmdML>
</ACRA>
    
```

## Ordering information

PART NUMBER	DESCRIPTION
SWP/DAS/003	Standalone Compiler ships with DAS Studio 3 setup software for DAUs, network switches, and recorders

## Revision history

REVISION	DIFFERENCES	STATUS
3.4.24	Includes bug fixes.	Recommended for new programs
3.4.23	Includes bug fixes.	Not recommended for new programs
3.4.22	TEDS sensor support added; Includes bug fixes	Not recommended for new programs
3.4.21	Removed references to ground station cards as no longer supported in DAS Studio 3; Includes bug fixes	Not recommended for new programs
3.4.20	Programming report listing improved to show what was successfully programmed and what was not; Message Server replaced by Message Viewer; Includes bug fixes	Not recommended for new programs
3.4.19	Includes bug fixes	Not recommended for new programs
3.4.18	Includes bug fixes	Not recommended for new programs
3.4.17	New pre-compilation validation	Not recommended for new programs
3.4.16	Includes bug fixes	Not recommended for new programs
3.4.15	Hardware and license requirements updated; Parallel compilation functionality added	Not recommended for new programs
3.4.14	Save changes check box added to UI, allowing changes made by the MCS and serial number synchronizer to be saved to the task file; custom XdefML path added as a command line	Not recommended for new programs
1.0	First release	Not recommended for new programs

## Related documentation

DOCUMENT	DETAILS
DOC/MAN/030	DAS Studio 3 User Manual
XidML wall chart	Overview of key concepts and components in XidML