

Agilent AgMD2 Driver, Software migration note

Introduction

The AgMD1 driver is compliant with both the *IviDigitizer* and *IviScope* class standards from the IVI Foundation. However, support for the *IviScope* class has not been continued into the new AgMD2 driver. The methods and properties of the *IviScope* class cannot be directly migrated from AgMD1 to AgMD2, and will require any existing code which uses this class to be rewritten using the *IviDigitizer* class.

The following sections detail how to perform the migration for the AgMD1 API to the AgMD2 API in specific programming languages:

C/C++ applications

1. In the project properties under 'Configuration Properties > Linker > Input', replace the additional dependency 'AgMD1.lib' by 'AgMD2.lib'.
2. In your code, replace the `#include <AgMD1.h>` statement(s) with `#include <AgMD2.h>`.
3. For each function call, replace the prefix: 'AgMD1_' with 'AgMD2_'.
4. For each attribute name, error code, and enum value, replace the prefix: 'AGMD1_' with 'AGMD2_'.
5. For certain functions, attributes, enum values, and repeated capability values you will need to refer to the tables below to find an equivalent.

C# applications

1. From the *Solution Explorer*, under the project references, replace the 'AgMD1' reference by a reference to 'Agilent.AgMD2.Interop.dll'.
2. In your code, replace all occurrences of 'Agilent.AgMD1.Interop' with 'Agilent.AgMD2.Interop'.
3. Replace all occurrences of the class 'AgMD1' with 'AgMD2'.
4. Replace all interfaces prefixes: 'IAgMD1' with 'IAgMD2'.
5. Replace all unknown methods, properties, enum values, and repeated capability values by their AgMD2 equivalent using the (IVI-C) tables below.

Visual Basic (VB) applications

1. From project properties under 'References', replace the reference to AgMD1 by a reference to Agilent.AgMD2.Interop.
2. In the code, replace all occurrences of 'AgMD1' with 'AgMD2'.
3. Replace all unknown methods, properties, enum values, and repeated capability values by their AgMD2 equivalent using the (IVI-C) tables below.

MATLAB applications

1. Replace the class of the driver instance: 'instrument.driver.AgMD1()' with 'instrument.driver.AgMD2()'.
2. Replace all unknown methods, properties, and repeated capability values by their AgMD2 equivalent using the (IVI-C) tables below.



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Reference Tables - Equivalent IVI-C signatures

The following tables list those those functions (methods), attributes (properties), enum values, and repeated capability values which require more than just a simple prefix change.

Functions (methods)

AgMD1 Function name	AgMD2 Equivalent	Note
AgMD1_ConfigureSampleMode	None	lviDigitizerSampleMode extension not supported
AgMD1_ConfigureDownConversion	None	lviDigitizerDownconversion extension not supported
AgMD1_ConfigureTVTriggerSource	None	lviDigitizerTVTrigger extension not supported
AgMD1_ConfigureMultiTrigger	None	lviDigitizerMultiTrigger extension not supported
AgMD1_ConfigureTriggerModifier	None	lviDigitizerTriggerModifier extension not supported
AgMD1_AcquisitionConfigureRecord	None	lviScope class not supported - use Configure Acquisition Record and Trigger Delay
AgMD1_MeasurementFetchWaveformMeasurement	None	lviScope class not supported
AgMD1_MeasurementReadWaveformMeasurement	None	lviScope class not supported
AgMD1_DigitalDownconversionConfigure	None	Specific to AgMD1
AgMD1_CounterRead	None	Specific to AgMD1
AgMD1_ReferenceLevelConfigure	None	lviScope class not supported
AgMD1_SystemPowerOnAll	None	Specific to AgMD1
AgMD1_SystemPowerOffAll	None	Specific to AgMD1
AgMD1_SystemSuspendControl	None	Specific to AgMD1
AgMD1_SystemResumeControl	None	Specific to AgMD1
AgMD1_CalibrationLoadCal	AgMD2_CalibrationLoadFromFile	
AgMD1_CalibrationSaveCal	AgMD2_CalibrationSaveToFile	
AgMD1_CalibrationCalRequired	AGMD2_ATTR_CALIBRATION_IS_REQUIRED	
AgMD1_CalibrationSelfCalibrate	AgMD2_SelfCalibrate	
AgMD1_TemperatureGetModuleTemperature	AgMD2_QueryBoardTemperature	
AgMD1_LoadLogicDeviceFromFile	AgMD2_LogicDeviceLoadFromFile	
AgMD1_ReadRegisterInt32	AgMD2_LogicDeviceReadRegisterInt32	
AgMD1_WriteRegisterInt32	AgMD2_LogicDeviceWriteRegisterInt32	
AgMD1_ReadIndirectInt32	AgMD2_LogicDeviceReadIndirectInt32	
AgMD1_WriteIndirectInt32	AgMD2_LogicDeviceWriteIndirectInt32	



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Attributes (properties)

AgMD1 Attribute name	AgMD2 Equivalent	Note
AGMD1_ATTR_SAMPLE_MODE	None	IviDigitizerSampleMode extension not supported
AGMD1_ATTR_DOWNCONVERSION_ENABLED	None	IviDigitizerDownConversion extension not supported
AGMD1_ATTR_DOWNCONVERSION_CENTER_FREQUENCY	None	IviDigitizerDownConversion extension not supported
AGMD1_ATTR_DOWNCONVERSION_IQ_INTERLEAVED	None	IviDigitizerDownConversion extension not supported
AGMD1_ATTR_TRIGGER_MODIFIER	None	IviDigitizerTriggerModifier extension not supported
AGMD1_ATTR_ACQUISITION_START_TIME	None	IviScope class not supported - use Trigger Delay
AGMD1_ATTR_ACQUISITION_TIME_PER_RECORD	None	IviScope class not supported
AGMD1_ATTR_ACQUISITION_NUMBER_OF_AVERAGES	None	IviScope class not supported
AGMD1_ATTR_ACQUISITION_REFERENCE_CHANNEL	None	Specific to AgMD1
AGMD1_ATTR_ACQUISITION_DITHER_ENABLED	None	Specific to AgMD1
AGMD1_ATTR_ACQUISITION_DITHER_RANGE	None	Specific to AgMD1
AGMD1_ATTR_ACQUISITION_AUTO_ARM_ENABLED	None	IviDigitizerArm extension not supported
AGMD1_ATTR_CHANNEL_INPUT_FREQUENCY_MAX	None	IviScope class not supported
AGMD1_ATTR_CHANNEL_PROBE_ATTENUATION	None	IviScope class not supported
AGMD1_ATTR_CHANNEL_ACTIVE_INPUTS	AGMD2_ATTR_TIME_INTERLEAVED_CHANNEL_LIST	
AGMD1_ATTR_CHANNEL_CONVERTERS_PER_CHANNEL	None	Specific to AgMD1
AGMD1_ATTR_MEASUREMENT_WAVEFORM_TYPE	None	Specific to AgMD1
AGMD1_ATTR_DIGITAL_DOWNCONVERSION_DATA_BANDWIDTH	None	Specific to AgMD1
AGMD1_ATTR_DIGITAL_DOWNCONVERSION_TRIGGER_BANDWIDTH	None	Specific to AgMD1
AGMD1_ATTR_DIGITAL_DOWNCONVERSION_FREQUENCY_SHIFT	None	Specific to AgMD1
AGMD1_ATTR_DIGITAL_DOWNCONVERSION_DOUBLE_DATA_RATE_ENABLED	None	Specific to AgMD1
AGMD1_ATTR_DIGITAL_DOWNCONVERSION_FLIP_BAND_ENABLED	None	Specific to AgMD1
AGMD1_ATTR_COUNTER_APERTURE_TIME	None	Specific to AgMD1
AGMD1_ATTR_COUNTER_MODE	None	Specific to AgMD1
AGMD1_ATTR_REFERENCE_LEVEL_HIGH	None	IviScope class not supported
AGMD1_ATTR_REFERENCE_LEVEL_LOW	None	IviScope class not supported
AGMD1_ATTR_REFERENCE_LEVEL_MID	None	IviScope class not supported
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AgMD1 Attribute name	AgMD2 Equivalent	Note
AGMD1_ATTR_SYSTEM_TRACE_ENABLED	None	Specific to AgMD1 - use Trace init option
AGMD1_ATTR_SYSTEM_NBR_INSTRUMENTS	None	Specific to AgMD1
AGMD1_ATTR_PXI_TRIG_OUT_ENABLED	None	Specific to AgMD1
AGMD1_ATTR_PXI_TRIG_SLOPE	None	Specific to AgMD1
AGMD1_ATTR_TRIGGER_OUTPUT_RESYNC_ENABLED	None	Specific to AgMD1
AGMD1_ATTR_TRIGGER_OUTPUT_MULTI_MODULE_SYNC_ENABLED	None	Specific to AgMD1
AGMD1_ATTR_EXT_TRIG_RANGE	None	Specific to AgMD1
AGMD1_ATTR_CONTROL_IO_SIGNAL_A	ControlIO repeated capability	
AGMD1_ATTR_CONTROL_IO_SIGNAL_B	ControlIO repeated capability	
AGMD1_ATTR_CONTROL_IO_SIGNAL_C	ControlIO repeated capability	
AGMD1_ATTR_INSTRUMENT_INFO_AQ_DRV_VERSION	AGMD2_ATTR_SPECIFIC_DRIVER_REVISION	
AGMD1_ATTR_INSTRUMENT_INFO_AQIO_VERSION	AGMD2_ATTR_INSTRUMENT_INFO_IO_VERSION	
AGMD1_ATTR_INSTRUMENT_INFO_CRATE_NUMBER	AGMD2_ATTR_INSTRUMENT_INFO_CHASSIS_NUMBER	
AGMD1_ATTR_INSTRUMENT_INFO_CPLD_FIRMWARE_REV	AGMD2_ATTR_INSTRUMENT_FIRMWARE_REVISION	
AGMD1_ATTR_INSTRUMENT_INFO_NBRADC_BITS	AGMD2_ATTR_INSTRUMENT_INFO_NBR_ADC_BITS	
AGMD1_ATTR_INSTRUMENT_INFO_BUS_NUMBER	None	Specific to AgMD1
AGMD1_ATTR_INSTRUMENT_INFO_DEVICE_ID	None	Specific to AgMD1
AGMD1_ATTR_INSTRUMENT_INFO_EEPROM_COMMON_SECTION_REV	None	Specific to AgMD1
AGMD1_ATTR_INSTRUMENT_INFO_EEPROM_DIGITIZER_SECTION_REV	None	Specific to AgMD1
AGMD1_ATTR_INSTRUMENT_INFO_HAS_HIGH_RES_SAMPLE_RATE	None	Specific to AgMD1
AGMD1_ATTR_INSTRUMENT_INFO_NBR_EXTERNAL_TRIGGERS	None	Specific to AgMD1
AGMD1_ATTR_INSTRUMENT_INFO_NBR_INTERNAL_TRIGGERS	None	Specific to AgMD1
AGMD1_ATTR_INSTRUMENT_INFO_NBR_MODULES_IN_INSTRUMENT	None	Specific to AgMD1
AGMD1_ATTR_INSTRUMENT_INFO_SERIAL_NUMBER	None	Specific to AgMD1 - use INSTRUMENT_INFO_SERIAL_NUMBER_STRING
AGMD1_ATTR_INSTRUMENT_INFO_SLOT_NUMBER	None	Specific to AgMD1
AGMD1_ATTR_INSTRUMENT_INFO_FUNDAMENTAL_HANDLE	None	Specific to AgMD1



Enum values

AgMD1 enum value name	AgMD2 Equivalent	Note
AGMD1_VAL_IMMEDIATE_TRIGGER	Immediate TriggerSource repeated capability instance	
AGMD1_VAL_MAGNITUDE_TRIGGER	None	Specific to AgMD1
AGMD1_VAL_REFERENCE_OSCILLATOR_SOURCE_AXIE_CLK100	None	Specific to AgMD1
AGMD1_VAL_REFERENCE_OSCILLATOR_SOURCE_PXI_CLK10	None	Specific to AgMD1
AGMD1_VAL_REFERENCE_OSCILLATOR_SOURCE_PXIE_CLK100	None	Specific to AgMD1
AGMD1_VAL_TRIGGER_SOURCE_OPERATOR_NAND	None	Specific to AgMD1
AGMD1_VAL_TRIGGER_SOURCE_OPERATOR_NOR	None	Specific to AgMD1
AGMD1_VAL_SAMPLE_MODE_REAL_TIME	None	lviDigitizerSampleMode extension not supported
AGMD1_VAL_SAMPLE_MODE_EQUIVALENT_TIME	None	lviDigitizerSampleMode extension not supported
AGMD1_VAL_MEASUREMENT_RISE_TIME	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_FALL_TIME	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_FREQUENCY	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_PERIOD	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_VOLTAGERMS	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_VOLTAGE_PEAK_TO_PEAK	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_VOLTAGE_MAX	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_VOLTAGE_MIN	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_VOLTAGE_HIGH	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_VOLTAGE_LOW	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_VOLTAGE_AVERAGE	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_WIDTH_NEG	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_WIDTH_POS	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_DUTY_CYCLE_NEG	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_DUTY_CYCLE_POS	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_AMPLITUDE	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_VOLTAGE_CYCLERMS	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_VOLTAGE_CYCLE_AVERAGE	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_OVER_SHOOT	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_PRESHOOT	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_DC_OFFSET	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_PHASE_ANGLE	None	lviScope class not supported
AGMD1_VAL_MEASUREMENT_PULSE_REPETITION_FREQUENCY	None	lviScope class not supported
AGMD1_VAL_CALIBRATE_TYPE_FULL	None	Specific to AgMD1
AGMD1_VAL_CALIBRATE_TYPE_CHANNEL_CONFIGURATION	None	Specific to AgMD1
AGMD1_VAL_CALIBRATE_TYPE_EXT_CLOCK_TIMING	None	Specific to AgMD1
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AgMD1 enum value name	AgMD2 Equivalent	Note
AGMD1_VAL_CALIBRATE_TYPE_CURRENT_FREQUENCY	None	Specific to AgMD1
AGMD1_VAL_CALIBRATE_TYPE_FAST	None	Specific to AgMD1
AGMD1_VAL_MEASUREMENT_WAVEFORM_TYPE_UNKNOWN	None	Specific to AgMD1
AGMD1_VAL_MEASUREMENT_WAVEFORM_TYPE_SINE	None	Specific to AgMD1
AGMD1_VAL_MEASUREMENT_WAVEFORM_TYPE_SQUARE	None	Specific to AgMD1
AGMD1_VAL_MEASUREMENT_WAVEFORM_TYPE_RAMP	None	Specific to AgMD1
AGMD1_VAL_MEASUREMENT_WAVEFORM_TYPE_PULSEDCC	None	Specific to AgMD1
AGMD1_VAL_MEASUREMENT_WAVEFORM_TYPE_STEP	None	Specific to AgMD1
AGMD1_VAL_ACQUISITION_MODE_DOWNCONVERTER	None	Specific to AgMD1
AGMD1_VAL_ACQUISITION_MODE_COUNTER	None	Specific to AgMD1
AGMD1_VAL_COUNTER_MODE_FREQUENCY	None	Specific to AgMD1
AGMD1_VAL_COUNTER_MODE_PERIOD	None	Specific to AgMD1
AGMD1_VAL_COUNTER_MODE_TOTALIZE_TIME	None	Specific to AgMD1
AGMD1_VAL_COUNTER_MODE_TOTALIZE_GATE	None	Specific to AgMD1

Repeated capability physical identifiers

Repeated capability	AgMD1 value	AgMD2 value	Note
TriggerSource	Channel <i>i</i>	Internal <i>i</i>	<i>i</i> = 1 to (number of channels)



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