

Antec Scientific Industrieweg 12 2382 NV Zoeterwoude The Netherlands

FW upgrade user guide

171-7032 edition 7, 2017

		Events Sequence	FW loader	Scripts Log				
Monito	r Statu	us 12. Uploading co	ntrol board firmwa	are in process			Reset	Close
FW	wizard	Auto mode			Files			
	1. Export c	alibration settings	done 🗸		Erase New FW	DII_MEMTEST_ ROXYrev511.an	AND_CLEAR-13	3
	2. Load E	EEPROM erase	🗹 done			Elite FW		
	3. Format memory		🗹 done					
	4. Load	new firmware	🗌 done					
	5. Import c	alibration settings	done		Uploading	I		16 s
0118 0118 0118 0118 0118 0118 0118 0118	17:48:22 > 17:48:22 > 17:48:23 > 17:48:23 > 17:48:23 > 17:48:23 > 17:48:23 > 17:48:23 >	1098:C8771200BA 1098:C877DA0084 1098:C878A20061 1098:C878A20061 1098:C87A32000 1098:C87A320009 1098:C87A5A00F2 1098:C87BC200C4	8B018A11C4B8 2729028960A96 C4B89608FE3C0 8242914401F200 94740696F22E9 029A240001F20 6FAC088960892	C086900F36C F99200018C 1086AC428404 E96484200992 64842039908 499580000994 269839991800	28C370E8C2 2010430F3 28276682429 71388200F30 4801DB9914 00990811B7	70C8940866C420[C46EB20886AC42 07910431F30C911 14401F20784070[A964842039183] 0000F2029904000 290289358924C46	04200CA866C42 8A6C00997000 1432F31CFE230 8B110B93040242 8B48A11C42B1 12F20499580000 1274088C170A8	20D0A00CA9: 142F70D680(100F308C170(108C5FC8B69 8086100F210 0994801E299 IC0708862C4.



Symbols

The following symbol are used on the rear panel and oven compartment of the device™:



Consult the manual for further safety instructions



Frame or chassis ground terminal

The following pictograms are used in the device manual:





Caution, risk of electric shock or other electrical hazard (high voltage)

Safety practices

The following safety practices are intended to insure safe operation of the equipment.

Electrical hazards



The removal of protective panels on the instrument can result in exposure to potentially dangerous voltages. Therefore, disconnect the instrument from all power sources before disassembly. Untrained personnel should not open the instrument.



Replace blown fuses with fuses of proper type and rating as stipulated on the rear panel and specified in the installation section of this manual. The fuse holder is integrated in the mains connector. Ensure that the instrument is never put in operation with fuses of a different type. This could cause fire.



V ~ 100-240 V	FUSE RATING	🔨 WARNING - RISK OF FIRE
50 - 60 Hz		
000.14	0.547 (050)	AVERTISSEMENT - RISQUE DE FEU
260 VA	2.5AI / 25UV	REMPLACEZ LE FUSIBLE COMME INDIQUE

Connect the detector to a grounded AC power source, line voltage 100 - 240 VAC. The instrument should be connected to a protective earth via a ground

socket. The power source should exhibit minimal power transients and fluctuations. Replace faulty or frayed power cords. Place the detector on a flat and smooth surface. Do not block the fan located at the bottom of the detector. Blocking the fan will impair the cooling capability of the power supply.

Spare parts and service availability

Manufacturer provides operational spare parts of the instrument and current accessories for a period of five years after shipment of the final production run of the instrument. Spare parts will be available after this five years period on an 'as available' basis.

Manufacturer provides a variety of services to support her customers after warranty expiration. Repair service can be provided on a time and material basis. Contact your local supplier for servicing. Technical support and training can be provided by qualified chemists on both contractual or as-needed basis.

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CHAPTER 1

Installation

System Requirements

In order to be able to run Dialogue Elite[™] you must have a PC with Microsoft Windows 7 or newer.

Software

The Dialogue Elite software with integrated firmware upgrade wizard can be downloaded from <u>our internet site</u>. Always check for updates and use the most recent version of Dialogue to updating the firmware of your detector. The upgrade wizard is also available in the 'locked' demo version of Dialogue, so no dongle is required.

- De-install previous versions of Dialogue before attempting an installation.
- Unzip the downloaded file and start the executable setupD2D_xxxxx.exe.
- Follow the installation instructions on the PC screen carefully.



After installation a new application group named "Antec Scientific" will appear in the Windows Start Menu containing a link named "Dialogue Elite".

Besides the Dialogue PC software a flash file containing the latest update of the embedded software (Firmware) is necessary. Such a FW file has a file name such as: DII-371.anl.

Always consult Antec Scientific when upgrading a device detector. Send an e-mail to: support@antecscientific.com

To obtain upgrade information and the flash file containing the latest update of the embedded software. Please include the serial number of the device detector which you want to upgrade in the e-mail.

Store the obtained flash file (*.anl) on your PC and remember the location.

After installation of Dialogue Elite software connect the device to the PC via RS232.



CHAPTER 2

Upgrading firmware

Follow the instructions in this chapter accurately to successfully update the flash FW on your detector. Switch on the device and start the Dialogue Elite software on your PC. Select the device and corresponding port. In case the device does not have valid firmware, the software must be started with the unit off. However, it is important to select the correct com port. Ignore the message, in such case, that the unit is not found.

1. Select devices			Х
Select devices	Devices	Port settings	port scan
	ROXY	COM9 ~	
Connect Elite via USB	Help Car	ncel OK	

Subsequently, go to the "Tools" pull down menu and select the FW upload. The FW selector will appear.

📕 1. Di File	alogue Elite - ROXY' Tools Options Events Sequ	ence Scripts Window Help	- 🗆 X
Moni	Events Scripts Sequence	pts Log ⊡ Enabled Mode DC ✓	Dev status
0	Firmware upload T calibration QC flow cells QC devices Connect devices F11 Disconnect Debug timers Ctrl+F12 ompensationOnPaulocia	Potential E -2.30 [V]	
Ter O	mperature ven ☑ On	Analysis time t 5.000 [min]	

1.	FW Selectio	'n				×
	Select devi	ce				
	DECADE	Ell family	,	Bite		
		ADE II	O DECADE SDC		CADE Elite	
	ROX	Ŷ	O ROXY HC			
	Files					
	FW	ROXYre	v511.anl			
	Eraser	DII_ME	MTEST_AND_CLEAR-130.a	nl		
	Path					
					Cancel	ОК

Select the correct device type. The firmware files and path appears. Click OK to continue. In case the path/file is wrong, it can be changed in the next main window. After clicking OK, the Firmware loader window appears. It is important that the FW file names on the right (top) text boxes refer to existing and correct FW files.

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1. Dialogue Elite - ROXY'						_		×
File Tools Options Events	Sequence	Scripts Wine	dow Hel	р				
Monitor Detector Events Sequence	e FW loader	Scripts Log]					
Monitor					Reset	Clos	se	_
FW wizard Auto mode			Files					
1. Export calibration settings	done 🗌		Erase New FW	DII_MEMTE ROXYrev51	ST_AND_CLEAF	R-13		
2. Load EEPROM erase	done 🗌			Elite FW				
3. Format memory	done done		IP power	switch Por	t 2 on	off		
4. Load new firmware	done done							
5. Import calibration settings	done							
0118 17:40:20 > :1215; 0118 17:40:20 > :1184; 0118 17:40:20 > :112E; 0118 17:40:20 > :1095 00000190 0118 17:40:20 > :1095 00000192 0118 17:40:20 > :1095 00000192 0118 17:40:20 > :1095 00000194	:						~	
Read from device ROXY: COM9 C send/receive						Sei de	nd to vice	.:

By default, uncheck the automode checkbox (left top). The IP powerswitch appears only when this device is installed (not needed).

During all steps of the upgrade procedure "FW wizards instruction windows will appear with important information. Always read these instructions carefully before clicking the OK button.

The upgrade procedure consists of 5 steps:

- 1. Export the device calibration settings to PC.
- 2. Loading the EEPROM erase software
- 3. Erasing and checking all memory.
- 4. Uploading the new FW upgrade to the device
- 5. Importing the device calibration settings to the device

Each step will be explained in detail in the following paragraphs.

STEP 1 Exporting the device calibration settings to PC

Click "Export calibration settings". The calibration data will be saved in a text file with the following file name format: " ~cal_data_xxx-xxx.ecd". Where xxx-xxx is the serial number of the device.

🥘 ~cal_data_171002	11.ecd - Notepad —		
<u>F</u> ile <u>E</u> dit F <u>o</u> rmat	<u>V</u> iew <u>H</u> elp		
Dialogue Elite	<pre>settings file - C:\Users\nico.reinhoud.antec\Documents\Dialogue</pre>	Elite\D	^
[settings cell	1] cb 05-842 sb 05-877 ECD 17100211		
+1	1B oven type		
+0.4°C	2D temperature offset correction factor LM35		
+0.5°C	48 temperature offset correction factor SMT-160		
+9	60 LCD contrast		
-5	61 offset value for zero IE calibration Rmeas = 1k		
+387	62 ADC value for zero IE calibration Rmeas = 1k		
-5	63 offset value for zero IE calibration Rmeas = 100k	_	
+314	64 ADC value for zero IE calibration Rmeas = 100k		
-5	65 offset value for zero IE calibration Rmeas = 1M		
+325	66 ADC value for zero IE calibration Rmeas = 1M		
-5	67 offset value for zero IE calibration Rmeas = 10M		
+359	68 ADC value for zero IE calibration Rmeas = 10M		
-4	69 offset value for zero IE calibration Rmeas = 100M		
+325	70 ADC value for zero IE calibration Rmeas = 100M		
+1	72 data acquisition filter on/off		
+0	75 data acquisition type		
+1.0031	82 10V full scale adjustment factor for BNC		
+1.0000	93 gain adjustment factor for clamp		
+5	94 offset adjustment factor for clamp		
1			Υ.

Perform the following steps:

- Check file contents. Calibration data such as ADC & offset values for zero IE calibration should typically be ≠ 0. If all these values are 0 this could be an indication that the sensor board was not calibrated or lost its calibration settings for some reason. Contact Antec for the original data.
- Always make an safety copy of the calibration file and save it at a different location using the "save as" function.
- Do not overwrite the first saved settings file during a second attempt to export the settings file (rename file). In the case (factory) that calibration settings are lost, please contact the supplier for further instructions: support@antecscientific.com

STEP 2 Loading the EEPROM erase software

The second step in the process is uploading the EEPROM erase software to the device. Click "Load EEPROM erase". Follow the instructions: switch off the device - click OK - switch on.

1. Dialogu e Tools	e Elite - ROX Options	/ Events	Sequence Scr	ipts Window	Help		_	
lonitor Det	ector Events	Sequenc	e FW loader Sc	ripts Log				
Monitor	Format men ROXY/DEC	iory: Memory ADE II) or 'I	y eraser files are nar MemClear_SDC.anl'	ned 'MemClear.anl' (for SDC).	(for	Reset	Close	
FW wi	zard 🗸	Auto mode		Files	3			
1. E	xport calibration	on settings	🗹 done	l Nev	Erase DII_N v FW ROX	MEMTEST_AND_CL Yrev511.anl	.EAR-13	
2.	Load EEPRO	M erase	done 🗌		08	ite FW		
	3. Format me	mory	done	IP p	ower switch	h Port 2 or	n off	
4	4. Load new fir	mware	done			Port status – C)	
5. In	mport calibrati	Dialogue E	lite Detector must be	e switched off. Cl	ick 'Yes' to c	ontinue firmware (upload	
0118 17:4 0118 17:4 0118 17:4	40:20 > :1215 40:20 > :1184 40:20 > :112E		procedure.					^
0118 17:4 0118 17:4 0118 17:4 0118 17:4	10:20 > :1095 10:20 > :1196 10:20 > :1095					Yes	No	
0118 17:4	10:21 > :1095	00000194	:					~
Read fr devic	rom						Send devic	to e

	Tools Options Events	Sequence Scripts	Window Help		
Aonite	or Detector Events Sequence	e FW loader Scripts	s Log		
Mor	nitor Status 12. Uploading co	ontrol board firmware in	process	Reset	Close
	FW wizard Auto mode		Files		
	1. Export calibration settings	☑ done	Erase DII_MEM1 New FW ROXYrev5	EST_AND_CLEAF	
	2. Load EEPROM erase	🗌 done	Elite FV	V	
	3. Format memory	done	IP power switch	ort 2 on	off
	4. Load new firmware	done	P	ort status - 1	
	5. Import calibration settings	done	Uploading		2 s
01 01 01 01 01 01	118 17:44:03 > :1098:C8107400B 118 17:44:03 > :1098:C8113C000 118 17:44:03 > :1197: 118 17:44:03 < :1197 12 : 118 17:44:03 > :1098:C81204004 118 17:44:03 > :1098:C81202000 118 17:44:03 > :1098:C813940007	5401F96485DA596485 803A508033787344299 7080021C50036081021 80833AA0803AB08033 800C0080021FE0BEB2	E5A96486A120813A40813A50813 0820009648420C822087144208 C50033C50044080021C5002E08 78734428734030812190F029918 005000299080080081021FE0408	3A6080021C502C0 13370813A597801 1021C5002BC5003 40009648420C820 1021990800C0000	9648934296489. 003910809D680 3DB1109108380i 192F0287140387 901B11091080E V

The device should start uploading the firmware, and progress is shown.

Depending on the device, the next step will start automatically (DECADE Elite family) or after switching off/on the device (ROXY, DECADE II family).

STEP 3 Formatting device EEPROM memory

In the third step all memory locations on the EEPROM IC's in the device will be formatted and tested. The display of the device shows what is going on. It will take a couple of minutes. The Dialogue software window will not show much.

🧵 1. Di	ialogue Elite - RO	XY'							_		×
File	Tools Options	Events	Sequence	Scripts	Wind	low Help	0				
Monito	r Detector Ever	nts Sequence	FW loader	Scripts	Log						
Mon	itor Switch on	detector, form	atting will start	automatio	cally.			Reset	Clos	e	
F	FW wizard 🗸	Auto mode				Files					
	1. Export calibra	tion settings	done 🗹			Erase New FW	DII_ME ROXYre	MTEST_AND_CLEAI ev511.anl	R-13		
	2. Load EEPR	OM erase	🗹 done				Elite	9 FW			
	3. Format n	nemory	🗹 done			IP power	switch	Port 2 on	off		
	4. Load new	firmware	done done					Port status - 1			
	5. Import calibrat	tion settings	done done								
01 01 01 01 01 01 01	18 17:44:24 > :109(18 17:44:24 > :119) 18 17:44:24 < :119) 18 17:44:24 < :119) 18 17:44:24 < :119) 18 17:44:24 < :119) 18 17:44:25 < :119)	3:0000001FF; 7 22 ; 7 22 ; 7 22 ; 7 22 ; 7 23 ;									
	Read from device								Ser dev	nd to vice	

When done, a confirmation will follow.



STEP 4 Upload of the new FW update to the device

The fourth step in the process is uploading the new FW update to the device. Click "Load new firmware". Follow the instructions: switch off the device click OK - switch on.

onitor Status 12. Uploading o	ontrol board firmware in p	rocess F	Reset Close
FW wizard 🗸 Auto mode		Files	
1. Export calibration settings	🗹 done	Erase DII_MEMTEST_AN New FW ROXYrev511.anl	ID_CLEAR-13
2. Load EEPROM erase	✓ done	Elite FW	
3. Format memory	done	IP power switch Port 2	on off
4. Load new firmware	done	Port status	-1
5. Import calibration settings	done	Uploading	16 s
0118 17:48:22 > :1098:C8771200E 0118 17:48:22 > :1098:C877DA00 0118 17:48:23 > :1098:C878A200 0118 17:48:23 > :1098:C878A200 0118 17:48:23 > :1098:C8743200 0118 17:48:23 > :1098:C8745A00 0118 17:48:23 > :1098:C87BC200	A8B018A11C4B8FC0869 3A2729028960A96F9920 11C4B89608FE3C0086AC 38242914401F20E96484 1994740696F22E964842 2029A240001F2049958 2029A240001F2049583 246FAC08896089269839	00F36C8C370E8C270C8940866C420D4; 00018C17058C0704C46EB20886AC428 42840402910430F307910431F30C9104; 200992827668242914401F2078407068 13990871388200F30A964842039918368; 0009948011099140000F202990400025 99180000990811B7290289358924C46E7	200CA866C420D0A00CA94 46C0099700142F700680(32F31CFE23000F308C1704 106930402708C5FC3863 48A11C42B18086100F210 2049958000094801E299 4088C170A8C0708862C4

The progress of the upload is shown on screen.

STEP 5 Importing the calibration settings to the device

The last step in the process is uploading the calibration settings back into device memory. This is necessary because during formatting of the EEPROM memory all the calibration settings are deleted.

Normally, the device is switched off and on. Then the import settings is clicked and the procedure will reload the calibration settings.

If for some reason this is not possible, the settings can be loaded from the main menu. Select File\import settings and select the ~cal_data_ file.

1	. Dialogue Elite - ROXY	– 🗆 X		
File	Tools Options Events	Sequence Scripts Window Help		
	New Method Ctrl+N Open Method Ctrl+O Save Method Ctrl+S	e Soripts Log		
	Save Method As			
	Export data	Potential		
	Export settings	2		
	Import settings	E Onen		×
	Exit Alt+F4	open		
		$\leftarrow \rightarrow \checkmark \uparrow$ — « Documents > Dialogue Elite > D1 > Data $\checkmark \circlearrowright$ Search Data		P
	Polarity + - Compensation On Autoz	Organize 🔻 New folder		?
		Screen Capture Out 🖈 ^ Name Date modified	Туре	
	Temperature	info 🖈 📝 ∼cal_data_17100211.ecd 18-01-17 12:08 PM	ECD File	
		E Pictures 🖈 📝 ~cal_data_17520007.ecd 05-01-17 4:50 PM	ECD File	
		sync 🖈 📝 ∼cal_data_21020054.ecd 18-01-17 7:05 PM	ECD File	
	Set off ['C]	Templates 🖈 🗹 001.ecd 17-01-17 2:20 PM	ECD File	
	Measured 23.6 [°C]	SUPPORT-5 🖈 🖉 002.ecd 18-01-17 12:08 PM	ECD File	
		Data		
		oldDOC		
		Screenshots		
		Templates		
	Read from	🤣 Dropbox 🗸 🧹		>
	device	File name: ~cal_data_21020054.ecd ~ Import setting	gs (*.ecd)	\sim
C R	OXY: COM9 🔲 send/receive	<u>Open</u>	Cancel	

CHAPTER 3

Trouble shooting

If during the upload procedure for any reason a power interruption occurs, please repeat the upload procedure as described in this user guide. If something goes wrong during or after the firmware upgrade, the device will display an error message on the LCD screen of the detector. The following error messages can occur during or after an upload:

Error	Message
02	Control board error
03	Sensor board 1 error
04	Firmware program error
05	Record error
06	Incompatible FW version
07	Incompatible FW
08	Control board FW erase failed
09	Sensor board 1 FW erase failed
10	Upload checksum error.
11	Checksum error.

In case of error 02, 03, 06 and 10 please repeat the upload procedure as described in this user guide. If the error persists please contact your supplier. In case of error 04, 05, 07, 08, 09 or 11 please contact your supplier.

Be careful with the calibration settings files. They are necessary to assure that the detector operates properly after the software update. Take the following precautions.

- Do not overwrite the first saved settings file during a second attempt to export the settings file (rename file).
- Always make a safety copy of the calibration file and save it at a different location using the "save as" function. When (factory) calibration settings are lost, please contact the supplier for further instructions: support@antecscientific.com