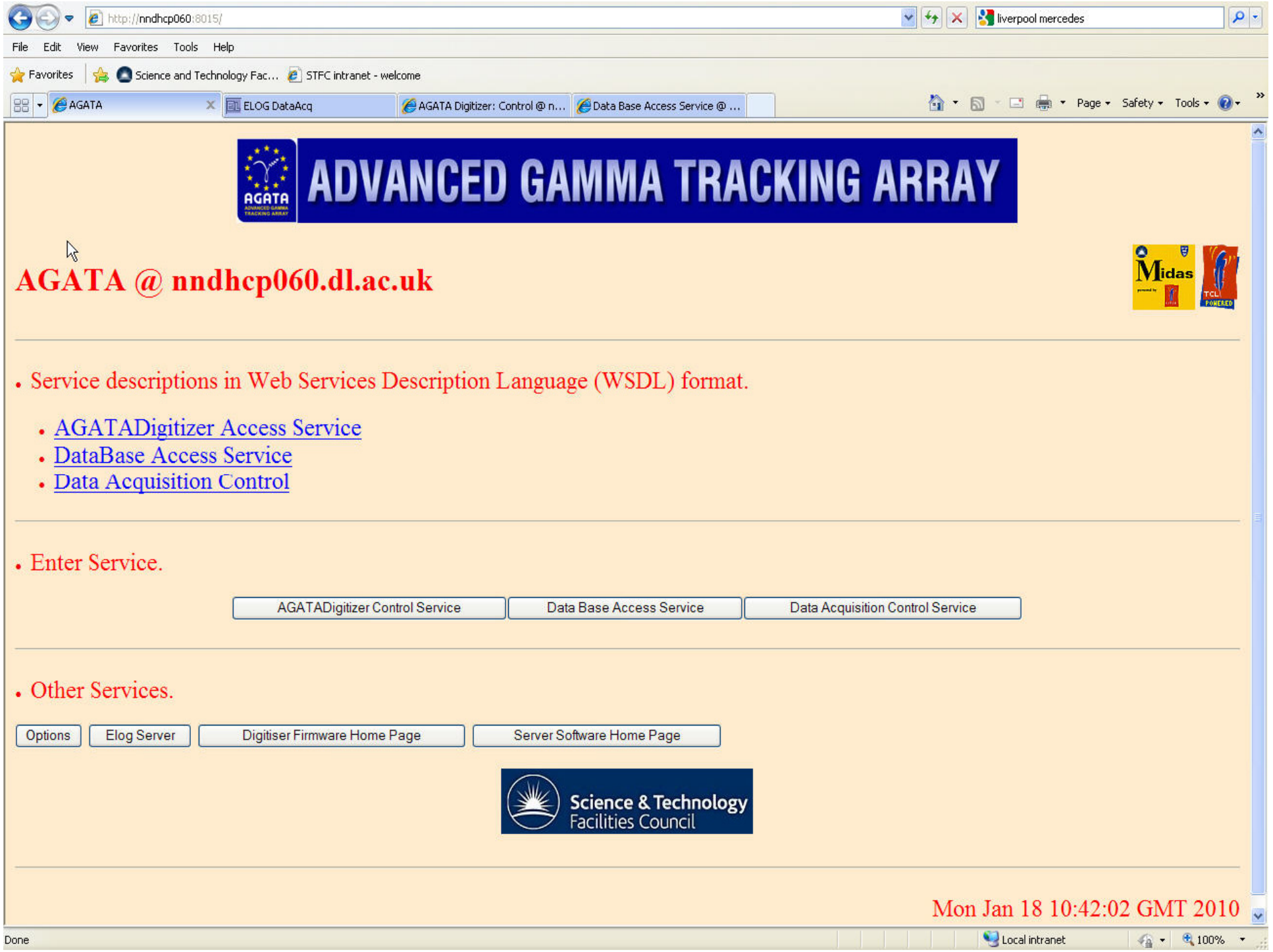
AGATA Digitizer Slow Control

Status 19th Jan 2010

changes

- All pages now using common style
- New option driven title page
- Most interactive widgets (menus, checkboxes,sliders etc) now apply parameter changes automatically
- Parameter save/restore now uses the DataBase server. Extension to parameters saved and restored.


http://nndhcp060:8015/
liverpool mercedes
File Edit View Favorites Tools Help
Favorites
Science and Technology Fac...
STFC intranet - welcome
AGATA
ELOG DataAcq
AGATA Digitizer: Control @ n...
Data Base Access Service @ ...
Page
Safety
Tools
ADVANCED GAMMA TRACKING ARRAY
AGATA @ nndhcp060.dl.ac.uk
Midas
TCL POWERED
Service descriptions in Web Services Description Language (WSDL) format.
AGATADigitizer Access Service
DataBase Access Service
Data Acquisition Control
Enter Service.
AGATADigitizer Control Service
Data Base Access Service
Data Acquisition Control Service
Other Services.
Options
Elog Server
Digitiser Firmware Home Page
Server Software Home Page
Science & Technology Facilities Council
Mon Jan 18 10:42:02 GMT 2010
Done
Local intranet
100%

AGATA Digitizer: Control @ nndhcp060.dl.ac.uk client address is 193.62.115.68

Select Hardware

Digitizer 10 FPGA Segment: Virtex for Segment ADC card 2 Select Probe Digitizer Hardware Read PROM

Select Detector/Crystal/Segment

Detector 02 Crystal B Segment D Select

Set Required Offsets

Offset Ch1:	0	Offset Ch3:	5461	Offset Ch5:	0
Offset Ch2:	0	Offset Ch4:	6068	Offset Ch6:	0
				Offset Ch7:	0

Re-Write Current FPGA Offsets

Restore settings for detector 02_B from the DataBase | Save settings from detector 02_B to the DataBase

Setup

SetUp Current FPGA | SetUp Current Digitizer | SetUp All Digitizers | ReSync Current Digitizer Optical Link | ReSync All Digitizer Optical Links

Check Current Digitizer | Check All Digitizers

Show Session Options

Empty Log Window | Send Log Window to ELog | Reload | Reset | Show Variables | Show Log Window | Enable Logging

Core Preamp Pulser Control | Core Trigger Block Control | Data Communications Control | Temperature Monitoring | Digitizer Diagnostics

Hardware Configuration

Last Updated: January 15, 2010 11:44:57

AGATA Digitizer: Core Preamp Pulser Control

Digitizer 10 Detector 02_B_C

Attenuation 30 dB

Frequency 200 Hz

Mode rectangular

CFD front panel output: ☑

Enable pulser function in preamp: ☐

Enable FPGA pulser: ☐

Fine Gain DAC 18811

Empty Log Window | Send Log Window to ELog | Reload | Reset | Show Variables | Show Log Window | Enable Logging

Close Window

Last Updated: January 15, 2010 11:36:01

AGATA Digitizer: Core Trigger Block Control

Digitizer 10 Detector 02_B_C

Trigger Type: Digital | Trigger Gain: x(1/2) | Trigger Slope: Positive | CFD Trigger Delay: 7

CFD Trigger Shift: 0 | Trigger Differentiation Constant: 2 | Trigger Integration Constant: 4

Trigger Enable: ☑ | Force Trigger Enable: ☐

Rectify: 65528

Trigger Threshold: 1000

Set Default Values

Empty Log Window | Send Log Window to ELog | Reload | Reset | Show Variables | Show Log Window | Enable Logging

Close Window

Last Updated: January 15, 2010 11:36:52

AGATA Digitizer: Data Communications Control

Digitizer:- 10

Fpga:- Segment: Virtex for Segment ADC card 1

Current FADC Channel 1

Global Registers

Global Control =	0x5
Global Status =	0xe001
Inspection A =	0x0
Inspection B =	0x0
Inspection Enables =	0x0
Spare Allocation =	0x0
Optical Offset =	0x4000
Gain & Buffer Control =	0xff00
Analogue Channel Select =	0x0
Inter-Board Link Status =	0x7f
RX Rocket I/O General Status =	0x0
SYNC Control =	0xe057
SYNC Status =	0xe057
Clock Control #1 =	0xe057
Pulser Control =	0xe057
Pulser DAC =	0xe057
Firmware =	0x0

Channel Registers

Channel Status =	0x0
Channel Control =	0x0
Rocket I/O Status =	0x10
Rocket I/O Control =	0x0
Test Data Source Select =	0x0
Insert Error =	0x0
rx_status =	0xaa00
rx_current =	0xaa00
err_count =	0xaa00
9 =	0xaa00
10 =	0xaa00
11 =	0xaa00
12 =	0xaa00
13 =	0xaa00
14 =	0xaa00
15 =	0xaa00

Register Global Control Value 0x0

Register Channel Control Value 0x0

Act on All FADC channels

Empty Log Window | Send Log Window to ELog | Reload | Reset | Show Variables | Show Log Window | Enable Logging

Close Window

Last Updated: January 15, 2010 11:37:26

AGATA Digitizer: Temperature Monitoring

Digitizer 10 Detector 02_B

Segment at January 15, 2010 11:38:05

Seg1 Virtex	29.3C
Seg1 Analog	29.4C
Seg2 Virtex	27.8C
Seg2 Analog	26.5C
Seg3 Virtex	28.9C
Seg3 Analog	28.1C
Seg4 Virtex	26.9C
Seg4 Analog	25.6C
PSU 1	22.8C
PSU 2	21.0C

Core at January 15, 2010 11:38:05

Seg1 Virtex	30.4C
Seg1 Analog	29.7C
Seg2 Virtex	30.8C
Seg2 Analog	27.5C
Core Virtex	24.8C
Core Analog	23.6C
PSU 1	28.0C
PSU 2	23.0C
PSU 3	23.1C

Log Temperatures | Start AutoUpdate | Period (Secs): 30

Empty Log Window | Send Log Window to ELog | Reload | Reset | Show Variables | Show Log Window | Enable Logging

Close Window

Last Updated: January 15, 2010 11:38:08

AGATA Digitizer: Diagnostics

Digitizer 5 | Probe Hardware | FPGA Use Probe Hardware | Select | Address Modifier A16

Address/Command: 0x0000

Set Data: 0x0000

Read Block Length: 1

Write Block Data: 0x0000

Do Get | Do Set | Do Read Block | Do Write Block

SYNC period: 0 | Set | SYNC missed counter: 0 | Update

Shutdown Power | Show Status Registers | Select Internal Clock | Select External Clock

Empty Log Window | Send Log Window to ELog | Reload | Reset | Show Variables | Show Log Window | Enable Logging

Close Window

Last Updated: January 15, 2010 11:38:43

AGATA Digitizer: Hardware Configuration

#	Detector	Address	Port	Active
0				☐
1				☐
2				☐
3				☐
4				☐
5	00_R	10.0.1.1	10001	☑
6	00_G	10.0.1.2	10001	☑
7	00_B	10.0.1.7	10001	☐
8				☐
9				☐
10	02_B	10.0.1.7	10001	☑
11				☐
12	99_Z	193.62.115.242	10001	☑
13				☐
14				☐
15				☐

Update Configuration | Save Configuration to disc

Empty Log Window | Send Log Window to ELog | Reload | Reset | Show Variables | Show Log Window | Enable Logging

Close Window

Last Updated: January 15, 2010 11:39:24

Getting more information

- Enable logging = true but Log Window = false

- Enable logging = true and Log Window = true

AGATA Digitizer: Control @ nndhcp060.dl.ac.uk

client address is 193.62.115.68

Select Hardware

Digitizer 10 FPGA Segment: Virtex for Segment ADC card 1 Select Probe Digitizer Hardware Read PROM

Select Detector/Crystal/Segment

Detector 02 Crystal B Segment C Select

Set Required Offsets

Offset Ch1:

Offset Ch2:

Offset Ch5: 0

Offset Ch6: 0

Offset Ch7: 0

Message from webpage

Digitizer Server = nndhcp060.dl.ac.uk
Digitizer Server ConfigFile = /MIDAS/config/TclHttpd/nndhcp060.dl.ac.uk/AGATADigitizerConfig.tcl
Digitizer Server LayoutFile = /MIDAS/config/TclHttpd/nndhcp060.dl.ac.uk/AGATADigitizerLayout.tcl
DataBase Root = /MIDAS/DB
DataBase RootName = EXPERIMENTS
DataBase NodeBase = AGATA/Digitizers/2010

OK

Restore settings for detector 02_B from the DataBase

Save settings from detector 02_B to the DataBase

Setup

SetUp Current FPGA | SetUp Current Digitizer | SetUp All Digitizers | ReSync Current Digitizer Optical Link | ReSync All Digitizer Optical Links

Check Current Digitizer | Check All Digitizers

Show Session Options

Empty Log Window | Send Log Window to ELog | Reload | Reset | Show Variables | Show Log Window | Enable Logging

Core Preamp Pulser Control | Core Trigger Block Control | Data Communications Control | Temperature Monitoring | Digitizer Diagnostics

Hardware Configuration

Last Updated: January 15, 2010 11:40:18

AGATA Digitizer: Control @ nndhcp060.dl.ac.uk **client address is 193.62.115.68**

Select Hardware

Digitizer 10 FPGA Segment: Virtex for Segment ADC card 2 Select Probe Digitizer Hardware Read PROM

Select Detector/Crystal/Segment

Detector 02 Crystal B Segment D Select

Set Required Offsets

Offset Ch1:	0	Offset Ch3:	5461	Offset Ch5:	0
Offset Ch2:	0	Offset Ch4:	6068	Offset Ch6:	0
				Offset Ch7:	0

Re-Write Current FPGA Offsets

Restore settings for detector 02_B from the DataBase Save settings from detector 02_B to the DataBase

Setup

SetUp Current FPGA SetUp Current Digitizer SetUp All Digitizers ReSync Current Digitizer Optical Link ReSync All Digitizer Optical Links

Check Current Digitizer Check All Digitizers

Show Session Options

```
Set Offset 5 = 0
Set Offset 4 = 6068
Set Offset 3 = 5461
Set Offset 2 = 0
Set Offset 1 = 0
cgidata= (28) Widget OFFSET0 Digitizer 10 Fpga {Segment: Virtex for Segment
ADC card 2} Detector 02 Crystal B Segment D Offset1_value 0 Offset2_value 0
Offset3_value 5461 Offset4_value 6068 Offset5_value 0 Offset6_value 0
Offset7_value 0 MainLog {Offset(3) = 5461
cgidata= (28) Widget {Offset3 5461} Digitizer 10 Fpga {Segment: Virtex for
Segment ADC card 2} Detector 02 Crystal B Segment D Offset1_value 0
Offset2_value 0 Offset3_value 5461 Offset4_value 6068 Offset5_value 0
```

Empty Log Window Send Log Window to ELog Reload Reset Show Variables Hide Log Window Disable Logging

Core Preamp Pulser Control Core Trigger Block Control Data Communications Control Temperature Monitoring Digitizer Diagnostics

Hardware Configuration

Last Updated: January 15, 2010 11:42:55

Parameter Data Base

- Parameters are now saved and restored using the DataBase Service
- The database files are text
- Parameters can also be browsed (changed!) using web page
- Saves offsets, trigger settings, pulser settings, inspection settings + selected other settings

Data Base Access Service @ http nndhcp060.dl.ac.uk 8015

client address is 193.62.115.68

root EXPERIMENTS node AGATA/Digitizers/2010/02_B_D 02_B_D Create Node Delete Node Show Nodes Show Values

match pattern NULL Show Matching Nodes Show Matching Values

value name Offset3 Offset3 Get Value Delete Value Get Type

data 5461 type short Set Value

Empty Log Window | Send Log Window to ELog | Reload | Reset | Show Variables | Show Log Window | Enable Logging

Last Updated: January 15, 2010 11:50:27

Home Service Definition

External services

- The control software sends summary information to an Elog server
- When logging is enabled the log window can be sent to an Elog server (use to report faults/features)
- New FPGA firmware

DataAcq

MIDAS Data Acquisition Systems Message Elogger, Page 1 of 118

ELOG

ID	Date	Author	Source	Category	Subject	Text
2358	Fri Jan 15 11:17:26 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	11:17:25 digitizer INFORMATION nndhcp060.dl.ac.uk Offsets for digitizer 10 updated in DataBase
2357	Fri Jan 15 11:17:24 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	11:17:24 digitizer INFORMATION nndhcp060.dl.ac.uk Settings for digitizer 10 updated in DataBase
2356	Fri Jan 15 11:14:56 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	11:14:56 digitizer INFORMATION nndhcp060.dl.ac.uk Offsets for digitizer 10 updated in DataBase
2355	Fri Jan 15 11:14:55 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	11:14:55 digitizer INFORMATION nndhcp060.dl.ac.uk Settings for digitizer 10 updated in DataBase
2354	Fri Jan 15 11:11:44 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	11:11:44 digitizer INFORMATION nndhcp060.dl.ac.uk
2352	Fri Jan 15 10:18:31 2010	MIDAS	nndhcp177.dl.ac.uk	INFORMATION	digitizer	10:18:31 digitizer INFORMATION nndhcp177.dl.ac.uk Web Service Installed Using Digitizer with Xport at 10.0.1.1:10001
2353	Fri Jan 15 10:18:31 2010	MIDAS	nndhcp177.dl.ac.uk	INFORMATION	daqcontrol	10:18:31 daqcontrol INFORMATION nndhcp177.dl.ac.uk /DataAcquisitionControlServer Web Service Installed
2350	Fri Jan 15 10:14:39 2010	MIDAS	nndhcp177.dl.ac.uk	INFORMATION	digitizer	10:14:39 digitizer INFORMATION nndhcp177.dl.ac.uk Web Service Installed Using Digitizer with Xport at 10.0.1.1:10001
2351	Fri Jan 15 10:14:39 2010	MIDAS	nndhcp177.dl.ac.uk	INFORMATION	daqcontrol	10:14:39 daqcontrol INFORMATION nndhcp177.dl.ac.uk /DataAcquisitionControlServer Web Service Installed
2348	Fri Jan 15 10:08:27 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	10:08:27 digitizer INFORMATION nndhcp060.dl.ac.uk Web Service Installed Using Digitizer with Xport at 10.0.1.1:10001
2349	Fri Jan 15 10:08:27 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	daqcontrol	10:08:27 daqcontrol INFORMATION nndhcp060.dl.ac.uk /DataAcquisitionControlServer Web Service Installed
2346	Thu Jan 14 17:37:08 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	17:37:08 digitizer INFORMATION nndhcp060.dl.ac.uk Web Service Installed Using Digitizer with Xport at 10.0.1.1:10001
2347	Thu Jan 14 17:37:08 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	daqcontrol	17:37:08 daqcontrol INFORMATION nndhcp060.dl.ac.uk /DataAcquisitionControlServer Web Service Installed
2344	Thu Jan 14 17:25:27 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	17:25:27 digitizer INFORMATION nndhcp060.dl.ac.uk Web Service Installed Using Digitizer with Xport at 10.0.1.1:10001
2345	Thu Jan 14 17:25:27 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	daqcontrol	17:25:27 daqcontrol INFORMATION nndhcp060.dl.ac.uk /DataAcquisitionControlServer Web Service Installed
2342	Thu Jan 14 17:21:56 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	17:21:55 digitizer INFORMATION nndhcp060.dl.ac.uk Web Service Installed Using Digitizer with Xport at 10.0.1.1:10001
2343	Thu Jan 14 17:21:56 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	daqcontrol	17:21:56 daqcontrol INFORMATION nndhcp060.dl.ac.uk /DataAcquisitionControlServer Web Service Installed
2340	Thu Jan 14 17:14:53 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	17:14:53 digitizer INFORMATION nndhcp060.dl.ac.uk Web Service Installed Using Digitizer with Xport at 10.0.1.1:10001
2341	Thu Jan 14 17:14:53 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	daqcontrol	17:14:53 daqcontrol INFORMATION nndhcp060.dl.ac.uk /DataAcquisitionControlServer Web Service Installed
2339	Thu Jan 14 16:46:18 2010	MIDAS	nndhcp060.dl.ac.uk	INFORMATION	digitizer	16:46:18 digitizer INFORMATION nndhcp060.dl.ac.uk Restored offsets for digitizer 10 from DataBase

AGATA Digitiser FPGA Pages

The information available through these pages is intended for users of the AGATA Digitisers who wish to ensure they have the latest versions of the firmware. Each programmable logic device has a page with details of current and previous versions with information about the changes made between them.

To download the firmware files for a board open the relevant page and click the link for the version you require. Then use a JTAG programmer with appropriate software (Impact from Xilinx is recommended) to program the serial proms with the .mcs files after they are extracted from the .zip file download.

Core ADC Board | Segment ADC Board | Core Control Board | Segment Control Board

Date:	**15/01/2010**	Notes:	Segment has the Inhibit signal transmission disabled by default.
Date:	**24/06/2009**	Notes:	Core FPGA has had the Trigger block added.
Date:	**24/06/2009**	Notes:	This file distribution system started.

For further information please e-mail Patrick.Coleman-Smith@stfc.ac.uk

Nuclear Physics Group

Science & Technology Facilities Council