

# User Guide for ACQ2xx Embedded Web Pages

## System Page: shows firmware versions and environment

home	sysmon	<b>system</b>	signals	events	phases	burst	vin	dlo	cal	AO	DIO32
acq	acq-timing	acq-histo	ints	fblocks	regs	fpga	tweaks	dmac	ppmu	mu	AZ

```

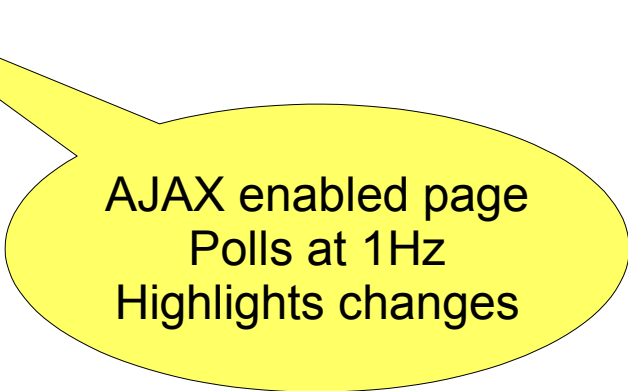
Capture Buffer Length:      402653184 0x18000000 384M
Linux version 2.6.11.11-acqX00
  (pgm@islay) (gcc version 3.4.1)
  #75 Sun Sep 18 18:42:27 BST 2005
Linux Version:
Initrd Version:          version 211 date:200512082214
Extra Version:          version 1317 date:200512091442
Driver Version:
  $Id: acq200-fifo.c,v 1.14 2005/11/05 22:34:08 pgm Exp $ Build 1156 Dec 6 2005 22:39:10$Id:
  acq196-fifo.c,v 1.6 2005/10/03 15:01:35 pgm Exp $ $Id: acq200-fifo-procfs.c,v 1.11 2005/12/09
  14:40:59 pgm Exp $ Build 1078 Dec 9 2005 14:41:07
  serialnum=d30001
  MODULES=/usr/local/lib/modules
  AICHAN=96
  acq100=acq196
Bootloader Environment:
  TERM=vt102
  gEmac0=16:01
  hostname=acq196_001
  ip0=dhcp
  eth0:                   192.168.0.156
  
```

10411	acq196_001	Thu Dec 29 15:46:28 UTC 2005	<a href="http://acq196_001/cgi-bin/system.cgi">http://acq196_001/cgi-bin/system.cgi</a>
-------	------------	------------------------------	---

# sysmon Page: temperature monitoring.

home	<b>sysmon</b>	system	signals	events	phases	burst	vin	dio	cal	AO	DIO32
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	AZ

```
Temp C:41.5 ( 166) 487 0 0 319 488 hex: 00a6 01e7 0000 0000 013f 01e8  
Temp C:36.8 ( 147) -491 -5 0 -512 -490 hex: 0093 fe15 fffb 0000 fe00 fe16
```



AJAX enabled page  
Polls at 1Hz  
Highlights changes

10400	acq196_001	Thu Dec 29 15:46:17 UTC 2005	http://acq196_001/cgi-bin/sysmon.cgi
-------	------------	------------------------------	--------------------------------------

# Signals Page: view and assign signals

home	sysmon	system	signals	events	phases	burst	vin	dio	cal	AO	DIO32
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	AZ

Signal	Setting	Signal	Line
ext_clk	DIO falling inactive	ext_clk	d0 d1 d2 d3 d4 d5 none
		rising	<input type="radio"/>
		falling	<input type="radio"/>
int_clk_src	DIO falling inactive	int_clk	d0 d1 d2 d3 d4 d5 none
		rising	<input type="radio"/>
		falling	<input type="radio"/>
ao_clk	DIO falling inactive	ao_clk	d0 d1 d2 d3 d4 d5 none
ao_trig	DI3 falling	ao_trig	d0 d1 d2 d3 d4 d5 none
		rising	<input type="radio"/>
		falling	<input type="radio"/>
sync_trig_src	DI3 falling inactive	sync_trig_src	d0 d1 d2 d3 d4 d5 none
counter_src	DI6 falling ACTIVE	counter_src	d0 d1 d2 d3 d4 d5 internal
		rising	<input type="radio"/>
		falling	<input type="radio"/>
sync_trig_mas	DO3 inactive	sync_trig_mas	d0 d1 d2 d3 d4 d5 none
mas_clk	none	mas_clk	d0 d1 d2 d3 d4 d5 none

Select Value. Use "logread" to view what the script command was

10425	acq196_001	Thu Dec 29 15:46:42 UTC 2005	<a href="http://acq196_001/cgi-bin/signals.cgi">http://acq196_001/cgi-bin/signals.cgi</a>
-------	------------	------------------------------	---

# Events Page: view and assign Events

home	sysmon	system	signals	<b>events</b>	phases	burst	vin	dio	cal	AO	DIO32
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	AZ

Func	Actual	Function	Line
trig	trig DI3 falling inactive	trig	d0 d1 d2 d3 d4 d5 none
		rising	<input type="checkbox"/>
		falling	<input type="checkbox"/>
event0	event0 DI3 falling inactive	event0	d0 d1 d2 d3 d4 d5 none
		rising	<input type="checkbox"/>
		falling	<input type="checkbox"/>
event1	event1 DI3 rising inactive	event1	d0 d1 d2 d3 d4 d5 none
		rising	<input type="checkbox"/>
		falling	<input type="checkbox"/>
		counter_update	smpl e0 e1
			<input type="checkbox"/>

Trigger: Optional Signal starts the capture process  
 Event0: Optional signal causes phase transition from PRE- to POST-  
 Event1: Second, special purpose Event

10435	acq196_001	Thu Dec 29 15:46:52 UTC 2005	<a href="http://acq196_001/cgi-bin/events.cgi">http://acq196_001/cgi-bin/events.cgi</a>
-------	------------	------------------------------	---

# Burst Page: controls multiframe streaming mode

The screenshot shows a web browser window titled "Burst - acq196\_001 - Mozilla Firefox". The address bar contains "http://acq196\_001/cgi-bin/burst.cgi". Below the browser window, there is a navigation menu with tabs: home, sysmon, system, signals, events, phases, **burst**, vin, dio, cal, AO, DIO32. Underneath, there is a sub-menu with tabs: acq, acq-filming, acq-histo, ints, tblocks, regs, fpga, tweaks, dmac, ppmu, mu, AZ.

The main content area is titled "Func" and contains several control sections:

- Delay**: 0. A sub-section "Delay samples" has four input fields: -1, 0, 100, 500. Below these are "m10", "m1", "p1", and "p10".
- Length**: 0. A sub-section "Burst Length" has four columns of input fields: 0, 64, 128, 192; 256, 512, 1024, 2048; 2688, 2880, 2944, 3200.
- es\_channel**: 0.
- pulse def**: c=0 ms=0 bit=1 active\_high=0 delay=20. A sub-section "Pulse Per Sec" has four columns of input fields: 1, 2, 3, 4; 5, 6, 7, 8.
- pulse number**: 0. A sub-section "Pulse Num" has four columns of input fields: 0, 1000, 2000, 3000.

At the bottom of the browser window, a status bar shows: 10546 | acq196\_001 | Thu Dec 29 15:48:43 UTC 2005 | http://acq196\_001/cgi-bin/burst.cgi

# Vin Page: view/control input voltage range selection

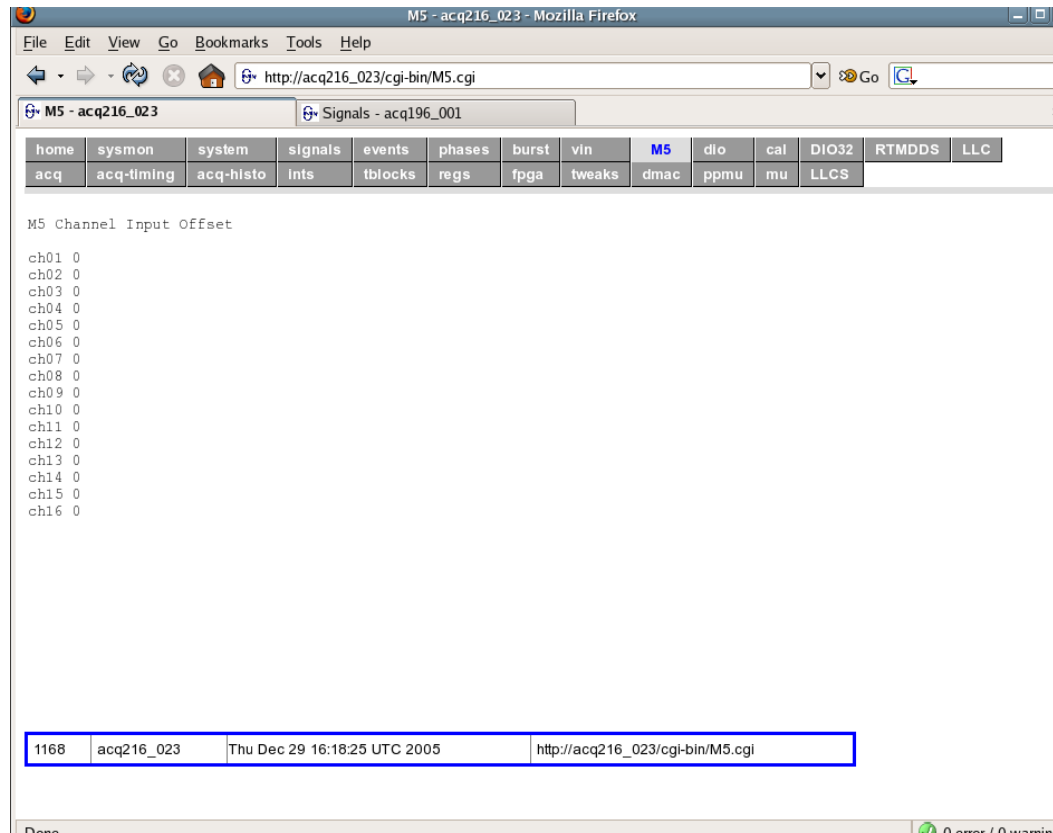
The screenshot shows a web browser window titled "Vin - acq216\_023 - Mozilla Firefox". The address bar contains "http://acq216\_023/cgi-bin/vin.cgi". A navigation menu at the top includes links for home, sysmon, system, signals, events, phases, burst, vin (highlighted), M5, dio, cal, DIO32, RTMDDS, LLC, acq, acq-timing, acq-histo, ints, tblocks, regs, fpga, tweaks, dmac, ppmu, mu, and LLCS.

The main content area is titled "Channel Input Voltage Range Selection" and contains a table with 13 columns (channels) and 6 rows (voltage ranges). The columns are color-coded: 01 (red), 02 (orange), 03 (yellow), 04 (green), 05 (blue), 06 (purple), 07 (pink), 08 (grey), 09 (white), 10 (grey), 11 (red), 12 (orange), 13 (yellow). The rows are: 30 mV, 50 mV, 625 mV, 1 V, 1.9 V, and 3 V. Each cell in the table contains a radio button. The 3 V row has radio buttons selected for channels 01 through 06.

A yellow callout bubble contains the text: "ACQ216 M5 mezzanine has 6 input voltage ranges, with per-channel selection".

At the bottom of the page, a status bar shows: 319 | acq216\_023 | Thu Dec 29 16:04:16 UTC 2005 | http://acq216\_023/cgi-bin/vin.cgi

# Personality Specific Page – displays M5 input offset





# DIO Specific Page – monitor, set DIO, set DIO routings

View and Set DIO States. Includes Handy "pulse" button when output

Activity Indicator Shows input is clocking

DIO Routing see 2GUG #9.1

A route has one source [IN] possibly more than one sink [OUT]. See set.route in 2GUG

**DIO Status**

	d0	d1	d2	d3	d4	d5
Output						
Input	H	H	H	H	H	H
Activity						

**Set DIO**

Set State: d0 d1 d2 d3 d4 d5

OUTPUT 1: [ ] [ ] [ ] [ ] [ ] [ ]

INPUT: [ ] [ ] [ ] [ ] [ ] [ ]

OUTPUT 0: [ ] [ ] [ ] [ ] [ ] [ ]

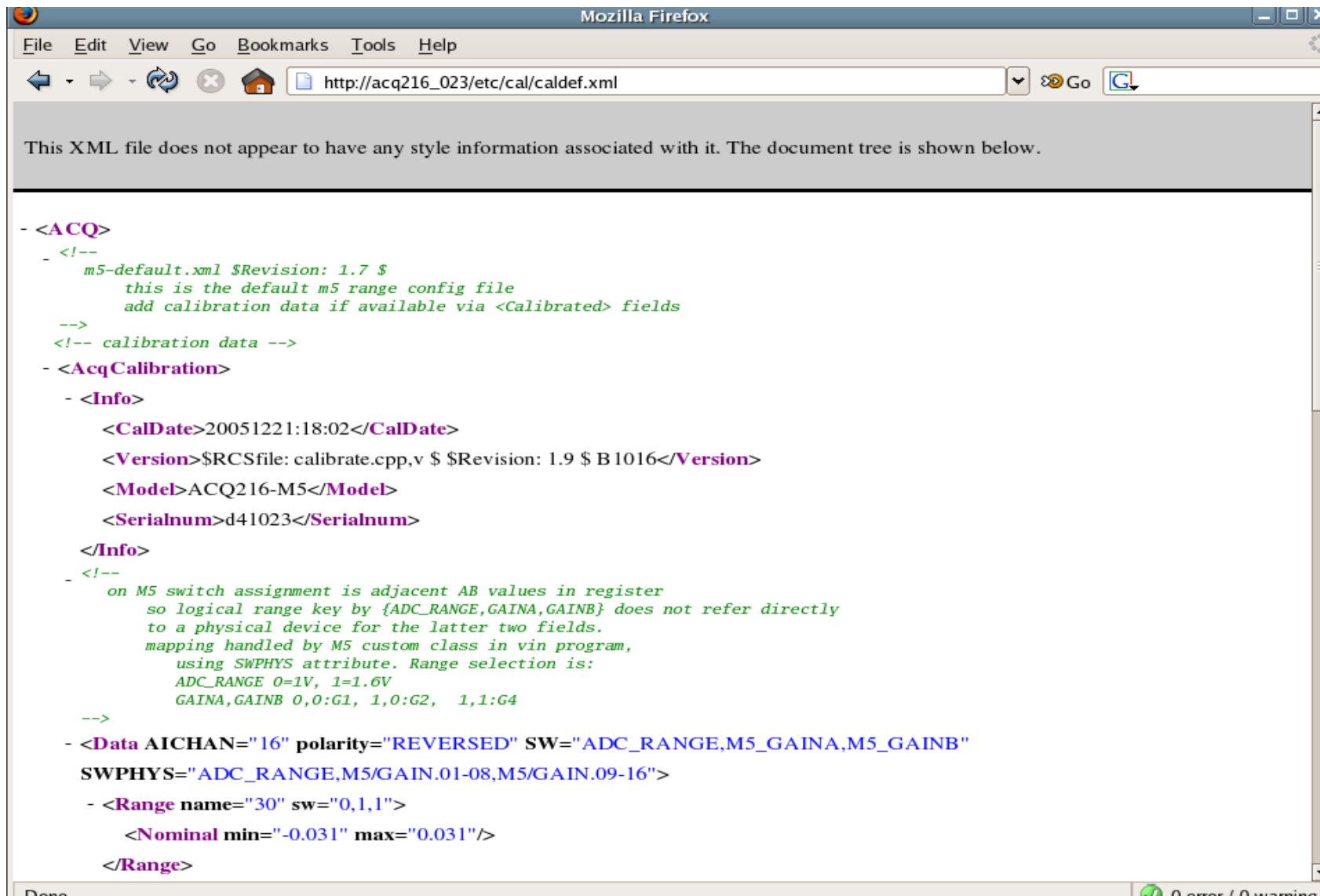
**Signal Routing by Function**

Dx	IN				OUT			
	fpga	lemo	rio	pxi	fpga	lemo	rio	pxi
d0	[ ]	[ ]	[ ]	[ ]	[x]	[ ]	[ ]	[ ]
d1	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d2	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d3	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d4	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d5	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

**Actual Routing**

Dx	--	IN	-->	OUT
d0	21	rio	-->	fpga
d1	00	fpga		
d2	00	fpga		
d3	00	fpga		
d4	00	fpga		
d5	00	fpga		

## Calibration and board specific details held in XML file:



```
- <ACQ>
- <!--
  m5-default.xml $Revision: 1.7 $
  this is the default m5 range config file
  add calibration data if available via <Calibrated> fields
-->
<!-- calibration data -->
- <AcqCalibration>
- <Info>
  <CalDate>20051221:18:02</CalDate>
  <Version>$RCSfile: calibrate.cpp,v $ $Revision: 1.9 $ B1016</Version>
  <Model>ACQ216-M5</Model>
  <Serialnum>d41023</Serialnum>
</Info>
- <!--
  on M5 switch assignment is adjacent AB values in register
  so logical range key by {ADC_RANGE,GAINA,GAINB} does not refer directly
  to a physical device for the latter two fields.
  mapping handled by M5 custom class in vin program,
  using SWPHYS attribute. Range selection is:
  ADC_RANGE 0=1V, 1=1.6V
  GAINA,GAINB 0,0:G1, 1,0:G2, 1,1:G4
-->
- <Data AICHAN="16" polarity="REVERSED" SW="ADC_RANGE,M5_GAINA,M5_GAINB"
  SWPHYS="ADC_RANGE,M5/GAIN.01-08,M5/GAIN.09-16">
- <Range name="30" sw="0,1,1">
  <Nominal min="-0.031" max="0.031"/>
</Range>
```

# AO Page – ACQ196-RTMAO – DC settings, simple AWG functionality

The screenshot shows a web browser window titled "AO - acq196\_001 - Mozilla Firefox". The address bar shows the URL "http://acq196\_001/cgi-bin/AO.cgi". The browser has two tabs: "FPGA Config - acq216\_023" and "AO - acq196\_001".

The navigation menu includes the following items:

home	sysmon	system	signals	events	phases	burst	vin	dio	cal	AO	DIO32
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	AZ

The main content area is titled "DC Values" and contains a table with 16 columns (01-16) and 6 rows (Actual, 10 V, 1 V, 0 V, -1 V, -10 V). All values are currently set to 0.

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 V	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1 V	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0 V	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
-1 V	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-10 V	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

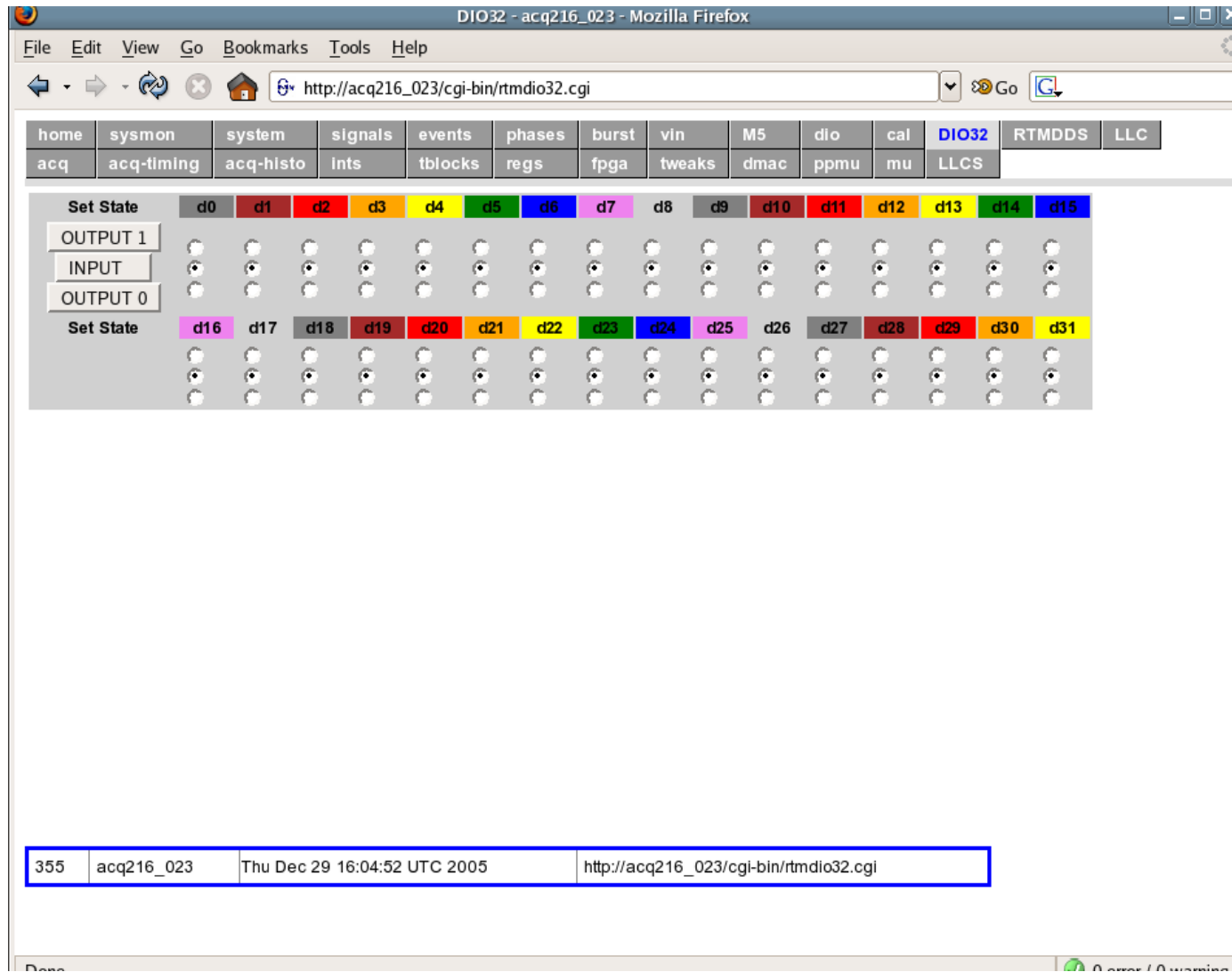
Below the DC Values table, there are several control panels:

- DC Ident**: A green button.
- HAWG**: A panel with buttons for "01 sin", "01 saw", "02 sin", "02 saw", "01 arb", and "02 arb".
- FAWG**: A panel with buttons for "Test Pat 16", "Test Pat 64", "Test Pat 512", and "producer sample rate" buttons for "1KHz", "10KHz", and "40KHz". It also includes a "Sample clock divider" field set to "1" and a link "Set clock and trig using [signals](#)".
- Generate Sinewave**: A panel with a "Generate" button and dropdown menus for "cycles" (1), "CH" (01), "dc" (0), "amp" (1), and "nsam" (64). Below it, the text "Generate first, then commit" is displayed.

At the bottom of the page, there is a status bar with the following information:

661	acq196_001	Thu Dec 29 16:10:58 UTC 2005	http://acq196_001/cgi-bin/AO.cgi
-----	------------	------------------------------	----------------------------------

# DIO32 – set direction and value for 32bit DIO registers



# Capture Stats – information about last shot

Browser window: Capture Stats - acq196\_001 - Mozilla Firefox

Address bar: http://acq196\_001/cgi-bin/acq.cgi

Navigation: Lektora, Auto-discovery

home	sysmon	system	signals	events	phases	burst	vin	dio	cal	AO	DIO32
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	AZ

```

open_count: 2
  ifill: 0
dma_handle: 0x00000000
direction: 2
  fiferr: 0x00000000
  FIFERR: 0x00000060
  head: 0xffc44c20
finished_with_engines: 752
  stats.starve_line: 0
  stats.starve_fifcon: 00000000
stats.burst_events_too_fast: 0
stats.local_pulse_count: 0
  errflags: 0x00000000 ...
  DG: 9e8c0400
ipc: buffers len put get nQ nput nget lt ht
empties: 9d8d0000 16384 8192 543 7649 8192 543 8192 8192
active: 9d8e0000 16384 542 480 62 542 480 0 67
endstops: 9d8f0000 16384 8224 8192 32 8224 8192 32 32
direction: 2
  buf: 82000000
  pa: 0xc2000000
  wo_len: 1966080
next_empty: 39845888
next_load: 0
    
```

10522	acq196_001	Thu Dec 29 15:48:19 UTC 2005	http://acq196_001/cgi-bin/acq.cgi
-------	------------	------------------------------	-----------------------------------

# Capture Timing – information about last shot

shot: 2

```
----- Setting -----
  caplen (bytes): 196608
  caplen (samples): 1024
  channel mask: 0007
----- Result -----
  status: OK
  samples: 10240
  buffer lap count: 0
  phase lap count: 0
  refill_blocks: 480
  num_fifo_ints: 542
  num_eoc_ints: 136
  num_eoc_bh: 8
  num_eoc_bh2: 0
  num_dmc_run: 8
  num_eoc_nomatches: 0
  busy_pollcat: 1
  cdog_trips: 0
  blocklen: 4096
  blocks: [ 542 0 0 0 0 0 0 0]
  process msec: 50
  fifo ints/msec: 10
  eoc ints/msec: 2
  process usecs: 46181
  fifo usecs/int: 85
  measured sample rate: 219 kHz
```

10514	acq196_001	Thu Dec 29 15:48:10 UTC 2005	http://acq196_001/cgi-bin/acq_timing.cgi
-------	------------	------------------------------	--

# Capture Histogram – a measure of system real time performance

Capture Histogram - acq196\_001 - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://acq196\_001/cgi-bin/acq\_histo.cgi

Lektora Auto-discovery

home	sysmon	system	signals	events	phases	burst	vin	dlo	cal	AO	DIO32
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	AZ

```

488 :      *           123 : *           0 :
434 :      *           109 : *           0 :
380 :      *           95 : *            0 :
325 :      *           82 : *            0 :
271 :      *           68 : *            0 :
217 :      *           54 : *            0 :
162 :      *           41 : *            0 :
108 :      *           27 : *            0 :
 54 :      *           13 : *            0 :
  0 :      *            0 : **           0 :
-----
:0123456789abcdef      :0123456789abcdef      :0123456789abcdef
:hot fifo isr           :hot fifo eoc           :FAWG isr
    
```

- **HITIDE at HOT 7**
- *Histogram of HOT FIFO POINTER at HITIDE*
- *First snapshot taken at the fifo isr, triggered in response to HITIDE*
- *Second snapshot taken after DMA complete.*
- *Empty bins to the right of COLD indicate safety margin.*

detail..

10502	acq196_001	Thu Dec 29 15:47:59 UTC 2005	http://acq196_001/cgi-bin/acq_histo.cgi
-------	------------	------------------------------	---

# Ints : dynamic display of Linux interrupts status page

The screenshot shows a Mozilla Firefox browser window with the address bar containing `http://acq196_001/cgi-bin/interrupts.cgi`. The page content includes a navigation menu with the following items:

home	sysmon	system	signals	events	phases	burst	vin	dio	cal	AO	DIO32
acq	acq-timing	acq-histo	Ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	AZ

Below the navigation menu, the interrupt status for CPU0 is displayed as follows:

```
0:      0      dma 0 eot
1:     272     dma 0 eoc
2:      0      dma 1 eot
3:      0      dma 1 eoc
9:  1049319   IOP321 Timer Tick
10:      0      timer1
11:     1129   IOP3xx-I2C
12:      10     IOP3xx-I2C
13:      0      acq200-mu
20:      0      dma 0 err
21:      0      dma 1 err
27:      0      fpga_fifo
28:  218372   eth0_
29:     159     serial
Err:      0
```

A status bar at the bottom of the browser window is highlighted with a blue border, showing the following information:

10493	acq196_001	Thu Dec 29 15:47:50 UTC 2005	http://acq196_001/cgi-bin/interrupts.cgi
-------	------------	------------------------------	--



# Tblocks: summary of capture data buffer usage.

## Main Memory Buffer Blocking

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
144	145	146	147	148											

Buffer memory is divided into 6MB "Tblocks" and acquisition proceeds cyclically round the buffer. During capture, the "RAW" blocks show the current data set with data in raw format. Post shot, data is transformed into "COOKED" format for fast data access. Data may also be reserved during the shot as part of a "PREP", this is indicated as a "SHARED" block"

588	acq216_023	Thu Dec 29 16:08:45 UTC 2005	http://acq216_023/cgi-bin/tblocks.cgi
-----	------------	------------------------------	---------------------------------------

Done ✔ 0 error / 0 warning

# Dumpregs : diagnostic dump of FPGA registers

**Dump Regs - acq196\_001 - Mozilla Firefox**

File Edit View Go Bookmarks Tools Help

http://acq196\_001/cgi-bin/dumpregs.cgi

Lektora Auto-discovery

home	sysmon	system	signals	events	phases	burst	vin	dio	cal	AO	DIO32
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	AZ

int clk 250000 250kHz 0MHz Hz

**Immediate Count 1**  
**Latched Count 1**

```

ACQ196_BDR:[00] 0xDEADBEEF
ACQ196_FIFCON:[04] 0x00000007
ACQ196_FIFSTAT:[08] 0x00000014
ACQ196_SYSCON_ADC:[0c] 0x00000000
ACQ196_SYSCON_DAC:[18] 0x00000008
ACQ196_CLKCON:[1c] 0x000000F0
ACQ200_CLKDAT:[20] 0x0000010A
ACQ200_DIOCON:[24] 0x000000FF
ACQ196_OFFSET_DACS:[28] 0x80000000
ACQ196_WAVLIMIT:[2c] 0x000001FF
ACQ196_TCR_IMMEDIATE:[44] 0x00FFF001
ACQ196_TCR_LATCH:[48] 0xFFFFF000
    
```

debug level 0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
simulate 0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
show event 0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
coding signed	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
ABORT					<input checked="" type="checkbox"/>

10483	acq196_001	Thu Dec 29 15:47:40 UTC 2005	http://acq196_001/cgi-bin/dumpregs.cgi
-------	------------	------------------------------	--

# FPGA Config – information about fpga image

The screenshot shows a Mozilla Firefox browser window titled "FPGA Config - acq216\_023". The address bar displays the URL "http://acq216\_023/cgi-bin/fpga\_config.cgi". Below the address bar, there are two tabs: "FPGA Config - acq216\_023" and "Capture Stats - acq196\_001". A navigation menu contains the following items: home, sysmon, system, signals, events, phases, burst, vln, M5, dlo, cal, DIO32, RTMDDS, LLC, acq, acq-timing, acq-histo, lnts, tblocks, regs, fpga, tweaks, dmac, ppmu, mu, LLCS. The "fpga" item is highlighted in blue. The main content area displays the following text:

```
Xilinx ASCII Bitstream  
Created by Bitstream H.42  
Design name:   acq216cpci_top_2vp4.ncd  
Architecture: virtex2p  
Part:         2vp4ff672  
Date:        Thu Sep 22 09:24:56 2005  
Bits:        3006496
```

At the bottom of the browser window, a status bar shows the following information:

1350	acq216_023	Thu Dec 29 16:21:27 UTC 2005	http://acq216_023/cgi-bin/fpga_config.cgi
------	------------	------------------------------	---

# RTM\_DDS – Custom RTM frequency and routing control

The screenshot shows a Mozilla Firefox browser window titled "RTM-DDS - acq216\_023". The address bar shows the URL "http://acq216\_023/cgi-bin/rtdmdds.cgi". The page features a navigation menu with buttons for "home", "sysmon", "system", "signals", "events", "phases", "burst", "vin", "M5", "dio", "cal", "DIO32", "RTMDDS", and "LLC". Below the menu is a table of settings:

home	sysmon	system	signals	events	phases	burst	vin	M5	dio	cal	DIO32	RTMDDS	LLC
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	LLCS		

The main content area displays a configuration table for "Signal" and "Setting":

<b>Signal</b>	<b>Setting</b>
clksrc	REFCLK
refclk_mult	4
clkdst	DO0
rio_outputs	1
FTW1:	09b26c9b26ca

Below this is a green "Signal Line" matrix:

Signal	Line						
clksrc	DI0	DI1	DI2	DI3	DI4	DI5	REFCLK
refclk_mult	4	8	20				
clkdst	DO0	DO1	DO2	DO3	DO4	DO5	
rio_outputs	DO0	DO1	DO2	DO3	DO4	DO5	none
FTW1							

Instructions for controlling frequency are provided:

```
To control frequency, run
java -jar ccc.jar acq216_023
or run dt100rc --bsh bsh/enable_all.bsh
or run "dds " on the ACQ216
```

A status bar at the bottom shows: 367 | acq216\_023 | Thu Dec 29 16:05:04 UTC 2005 | http://acq216\_023/cgi-bin/rtdmdds.cgi

# LLC Settings – controls for custom kernel module

LLC Setup - acq216\_023 - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://acq216\_023/cgi-bin/lc\_setup.cgi

home	sysmon	system	signals	events	phases	burst	vin	M5	dio	cal	DIO32	RTMDDS	LLC
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	LLCS		

IODD

block\_len

debug

emergency\_stop

fifo\_th

lmask

mode

undefined

press REFRESH to cancel

383	acq216_023	Thu Dec 29 16:05:20 UTC 2005	http://acq216_023/cgi-bin/lc_setup.cgi
-----	------------	------------------------------	--

# LLC Status – status report for custom control module

Low Latency Control - acq216\_023 - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://acq216\_023/cgi-bin/llc.cgi

Low Latency Control - acq216\_023 Capture Stats - acq196\_001

home	sysmon	system	signals	events	phases	burst	vin	M5	dio	cal	DIO32	RTMDDS	LLC
acq	acq-timing	acq-histo	ints	tblocks	regs	fpga	tweaks	dmac	ppmu	mu	LLCS		

**Version:**  
acq200-llc  
D-TACQ Low Latency Control Device  
\$Revision: 1.14 \$ build B1015 Dec 23 2005 Features:  
GTSR

**Settings:**  
Copyright (c) 2004 D-TACQ Solutions Ltd  
decim:1 target:0x00000000 auto\_inc:0

**Channel Mask:**  
ffff

**Status:**  
channels: 16 shot 0  
block\_len 0x8000 32768 HT:0xf CT:0x2  
samples per block 1024  
TRIGGER\_STATE: TS\_IDLE trigger\_state: 0  
sample\_count: 0  
t0: 0  
tlatch: 0  
tinst: 0  
tprocess: 0  
report: ""  
errline: 0  
iter: 0  
fifo\_poll\_count: 0  
dmac\_poll\_count[0]: 0  
dmac\_poll\_count[1]: 0  
waiting\_for\_permission\_to\_quit: 0

1387 acq216\_023 Thu Dec 29 16:22:04 UTC 2005 http://acq216\_023/cgi-bin/llc.cgi

# Example CGI form for capture control, followed by ftp upload.

home sysmon system signals events phases burst vin dlo cal AO DIO32  
acq acq-timing acq-histo ints tblocks regs fpga tweaks dmac ppmu mu AZ

Shot: 2

Capture Script: 

```
# sample capture template
acqcmd setMode SOFT_TRANSIENT 10240
acqcmd setInternalClock 250000
acqcmd setArm
sleep 1
acqcmd getNumSamples
```

HOST:

FTP Script: 

```
lcd /dev/acq200/data
prompt
cd SHOTS
mkdir $HN
mkdir $HN/$SHOT
mkdir $HN/$SHOT/comb
cd $HN/$SHOT/comb
!set.sample_read_ssl 1 100 0
mput [0-9][0-9]
cd ..
mkdir init
cd init
!set.sample_read_ssl 1 1 100
mput [0-9][0-9]
cd ..
quit
```

Samples: 10240 0 10240 10080

State:

10366	acq196_001	Thu Dec 29 15:45:42 UTC 2005	http://acq196_001/cgi-bin/wsftp.cgi
-------	------------	------------------------------	-------------------------------------