

Ligo Data Catalogue

Welcome to the Experimental LIGO Data Archive Web Services

The URL for this page is <http://www.cacr.caltech.edu/ligo>

The Username is ligo

Ask for the password

→ Ask for this

Try it!

This page explains how to get customized multichannel time-series data from the LIGO data archive that is housed at the Center for Advanced Computing Research at Caltech. The archive is stored on a 30-Terabyte IBM tape robot running the High Performance Storage System (HPSS)

If you don't want to read anything, go straight on to the data by clicking the link at the bottom of the page.

The archive consists of a catalog hosted by the Access database. The Wizard below is driven by the WebBase middleware. The archive consists of a collection of **Datasets**. Each of these represents a run of an interferometer over a compact time period, with the machine parameters remaining constant. The first page of the wizard asks you to select one of these from a list.

Next you are asked to select the output format for the data you are requesting. For more information, see the web page on LIGO Data Formats. Choices are **Frame**, **SDF**, **netCDF** (not yet implemented), and **audio**. For the latter, you will need to set up your browser to accept audio files such as this one.

If you choose Frame format, there is no choice about which channels you want -- you get them all. Otherwise, you get a page listing all the available channels corresponding to the Dataset that you chose. The SDF and netCDF formats contain several channels which are *all the same frequency*, and the audio output contains only one channel. Select the channel(s) that you want and click the "Next" button to continue.

Next you get a list of data segments to choose from, each a few minutes long. Select one of these, then choose which part of that segment that you would like, by typing in the offset, in seconds, from the beginning of the segment, and the number of seconds you would like sent to you. Click the "Next" button to continue.

The final page shows the structure of the query that you have generated. When you click on the "Get Data" button, the server is activated and data will begin to flow. Since the data is on a tape robot, it may take a couple of minutes to start. The data will come with a MIME type that depends on the format you chose:

Frame	application/x-ligo-frame
SDF	application/x-SDF
netCDF	application/x-netcdf
audio	audio/basic

Of course, your browser may not know what to do with MIME type "application/x-SDF", and you will be asked if you want to save the data to disk. Now you can read it with your favourite software.

The database structure and referential integrity that is used in this catalog is shown [in this image](#).

We should point out that the wizard is intended as a first step for connecting users with the archive. There are plans to extend it to an API in C or Tcl that can deliver the data you want, filtered in the way you want, in the formats that you want.

We welcome your comments and suggestions. Do not complain about data access five years from now. Your suggestions will be taken very seriously **today**, while these systems are still plastic. Please send mail to data@ligo.caltech.edu.

Enough with the preliminaries:

Begin Data Access Wizard

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Available Datasets

Select one of the datasets, then click the "Next" button.

Next			
Select	Description	Start Time	End Time
<input type="radio"/>	May 1997 dataset	05/18/97 03:28:14	05/18/97 11:30:00
<input checked="" type="radio"/>	September 1997 dataset	09/03/97 15:40:10	09/04/97 10:40:29

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Available Output Formats

Select an output format, then click "Next".

Next	
<input type="radio"/>	Virgo/Ligo Frame <i>All channels</i>
<input checked="" type="radio"/>	SDF (Self Describing Format) <i>Multiple isofrequency channels</i>
<input type="radio"/>	netCDF format <i>Multiple isofrequency channels</i>
<input type="radio"/>	Audio .au Format <i>Single channel</i>

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Please select a set of channels that you would like in the output. All the channels must be fast, or all the channels must be slow. If you have selected fast channels, click the adjacent button labelled "Next" to continue. If you have selected slow channels, click that button.

Available Fast Channels for September 1997 dataset

Next		
Select	Channel Name	Description
<input type="checkbox"/>	IFO_BSRO	Beam splitter readout
<input type="checkbox"/>	IFO_Calib	Calibration signal
<input type="checkbox"/>	IFO_CMRO	Common mode readout
<input type="checkbox"/>	IFO_DMRO	Differential mode readout
<input checked="" type="checkbox"/>	IFO_Mag_x	Magnetometer x
<input checked="" type="checkbox"/>	IFO_Mag_y	Magnetometer y
<input checked="" type="checkbox"/>	IFO_Mag_z	Magnetometer z
<input type="checkbox"/>	IFO_Seis_1	Seismometer east end y
<input type="checkbox"/>	IFO_Seis_2	Seismometer
<input type="checkbox"/>	IFO_Seis_3	Seismometer
<input checked="" type="checkbox"/>	IFO_SPDC	Symmetric PD DC light
<input type="checkbox"/>	IFO_SPZT	PSL slow PZT

Available Slow Channels for September 1997 dataset

Next		
Select	Channel Name	Description
<input type="checkbox"/>	ASC_BSG_Refl_s	Beam splitter green reflected quad photodiode sum
<input type="checkbox"/>	ASC_BSG_Refl_x	Beam splitter green reflected quad photodiode X position
<input type="checkbox"/>	ASC_BSG_Refl_y	Beam splitter green reflected quad photodiode Y position
<input type="checkbox"/>	ASC_BSG_Tran_s	Beam splitter green transmitted quad photodiode sum
<input type="checkbox"/>	ASC_BSG_Tran_x	Beam splitter green transmitted quad photodiode X position
<input type="checkbox"/>	ASC_BSG_Tran_y	Beam splitter green transmitted quad photodiode Y position
<input type="checkbox"/>	ASC_EE_shark_HV	East end Shark high voltage monitor
<input type="checkbox"/>	ASC_EE_shark_pos	East end Shark position voltage

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Here you select the start time and duration that you would like. First choose a data segment from the table, then choose which part of that segment that you would like, by typing in the offset, in seconds, from the beginning of the segment, and the number of seconds you would like sent to you. When you click on the "Get Data" button, the server is activated and data will begin to flow. Since the data is on a tape robot, it may take a couple of minutes to start.

Available Data Segments for September 1997 dataset

 Offset from beginning of Data Segment

 Number of seconds of data required

Select	Start Time	Duration (seconds)	Number of Frames	Frame Number	Run
<input type="radio"/>	09/03/97 15:40:10	255.06834	255	2581200	970704
<input type="radio"/>	09/03/97 15:44:50	296.079328	296	2581480	970704
<input type="radio"/>	09/03/97 15:49:47	600.1608	600	2581776	970704
<input type="radio"/>	09/03/97 15:59:47	223.059764	223	2582376	970704
<input type="radio"/>	09/03/97 16:09:47	89.023852	89	2582976	970704
<input checked="" type="radio"/>	09/03/97 16:11:16	510.13668	510	2583065	970704
<input type="radio"/>	09/03/97 16:19:46	600.1608	600	2583575	970704
<input type="radio"/>	09/03/97 16:29:46	600.1608	600	2584175	970704
<input type="radio"/>	09/03/97 16:39:46	600.1608	600	2584775	970704
<input type="radio"/>	09/03/97 16:49:46	600.1608	600	2585375	970704
<input type="radio"/>	09/03/97 16:59:47	600.1608	600	2585975	970704
<input type="radio"/>	09/03/97 17:09:47	198.053064	198	2586575	970704
<input type="radio"/>	09/03/97 17:13:05	401.107468	401	2586773	970704
<input type="radio"/>	09/03/97 17:19:46	600.1608	600	2587174	970704
<input type="radio"/>	09/03/97 17:29:46	600.1608	600	2587774	970704
<input type="radio"/>	09/03/97 17:39:46	101.027068	101	2588374	970704
<input type="radio"/>	09/03/97 17:41:48	174.046632	174	2588496	970704
<input type="radio"/>	09/03/97 17:49:46	348.093264	348	2588974	970704
<input type="radio"/>	09/03/97 17:55:44	243.065124	243	2589331	970704
<input type="radio"/>	09/03/97 17:59:47	600.1608	600	2589574	970704
<input type="radio"/>	09/03/97 18:09:47	140.03752	140	2590174	970704
<input type="radio"/>	09/03/97 18:12:16	98.026264	98	2590323	970704
<input type="radio"/>	09/03/97 18:13:54	352.094336	352	2590421	970704

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Execute the Query

By clicking the link below, this Query:

FILE = **laborday97/C1-97_09_03_15_11_30_510_**
CHANNEL = **IFO_Mag_x,IFO_Mag_y,IFO_Mag_z,IFO_SPDC**
FORMAT = **sdf**
NFRAME = **10**
START = **103**

Will be executed on the Server:

http://hpss.cacr.caltech.edu:1080/cgi-bin//ligo_frame_server

Click the link to get the data:

http://hpss.cacr.caltech.edu:1080/cgi-bin//ligo_frame_server?FILE=laborday97/C1-97_09_03_15_11_30_510_

Note that you can construct this kind of data access query in any way you like, not only with this wizard procedure, and use a C or Tcl API to get data from within a program.

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Note 1, Linda Turner, 04/21/98 09:46:35 AM
LIGO-G980049-36-M