

Function of X431 Data Record

The powerful functions of X431 are well-known in auto service field, including Data record, Data save and data replay function which are developed newly by Launch. Maybe there are lots of users who are not familiar with this function, even they didn't use it. This function of data record is very useful and applicable in troubleshooting intermittent malfunction. Therefore, the use condition, operation and skill for this function are below as described.

First of all, user must download display program V14.10 or higher version on www.x431.com before using this function. Secondly, make sure there is enough free memory space in the CF card before recording data (Usually recording 100 items of data for an hour needs 2M.) For how to check the free memory space of CF card, please refer to the X431 Users' Manual.

Operation:

How to enter this function menu interface:

- Connect X-431 with ECU to communicate, and then enter the READ DATA STREAM interface, as shown in fig.1.
- Choose the data stream option to view, and then click OK, as shown in fig. 2. The operation is same as that for reading data stream normally.
- Click RECORD ,and then enter the interface as shown in fig.3. At this menu, there are 3 options.
Note: the RECORD here is actually the menu. Only enter this menu, can you save, display and clear data



Fig.1

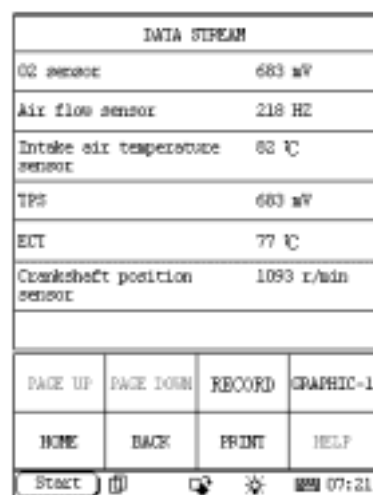


Fig. 2

1.SAVE

- Click SAVE to enter the interface as shown in fig.4. Now the data stream record is starting.
- Click STOP to terminate the recording. And the data stream will be automatically saved in the CF card.

Note: the name of the file will be named automatically, so there is no need to input by hand.

STREAM SAVE		
SAVE		
DISPLAY		
CLEAR		
HOME	BACK	HELP
Start		
07:21		

Fig. 3

DATA STREAM			
O2 sensor	664 mV		
Air flow sensor	212 HZ		
Intake air temperature sensor	83 °C		
TPS	664 mV		
ECT	78 °C		
Crankshaft position sensor	1062 r/min		
PAGE UP	PAGE DOWN	STOP	GRAPHIC-1
HOME	BACK	PRINT	HELP
Start			
07:21			

Fig. 4

2. DISPLAY

If you want to review the record before, you must first enter the READ DATA STREAM interface. There are two ways to review, display and replay the saved data:

- Reconnect the X-431 with the ECU to communicate, and enter the interface as shown in fig.3.
- Download DEMO program from www.x431.com to your X431, power X431 through DC, and start the DEMO program to enter the interface as shown in fig.3.

Click DISPLAY in the fig.3 to enter the fig.5, and the saved file will be displayed, including three items: the file's name, recording date and time.

Note: if there is more than one page in the file, you can click PAGE DOWN to view.

In the fig.5, choose the recorded file, and click DISPLAY to enter the interface as shown in fig.6. One frame of data will be displayed at the menu, and you can click [->] or [->] to view the previous frame or the latter frame. Fig.7 shows the latter frame. It is very useful for fault analysis and adjustment to check the variety trend, similarities and differences of the data before and after the fault occurs through replaying the data one frame by another.

STREAM DISPLAY			
toyota	2006.7.5	10:09:00	
toyota	2006.7.5	10:14:26	
toyota	2006.7.5	10:47:33	
benz	2006.7.5	11:09:37	
benz	2006.7.5	11:11:10	
benz	2006.7.5	11:11:24	
benz	2006.7.5	11:11:39	
benz	2006.7.5	11:14:49	
PAGE UP	PAGE DOWN	DELETE	DISPLAY
HOME	BACK	HELP	
Start			
07:22			

Fig. 5

STREAM RECORD			
O2 sensor	761 mV		
Air flow sensor	243 HZ		
Intake air temperature sensor	79 °C		
TPS	761 mV		
ECT	73 °C		
Crankshaft position sensor	1218 r/min		
PAGE UP	PAGE DOWN	<-	>-
HOME	BACK	HELP	
Start			
07:23			

Fig. 6

STREAM RECORD			
O2 sensor	761 mV		
Air flow sensor	250 HZ		
Intake air temperature sensor	76 °C		
TPS	761 mV		
ECT	72 °C		
Crankshaft position sensor	1250 r/min		
PAGE UP	PAGE DOWN	<-	>-
HOME	BACK	HELP	
Start			
07:24			

Fig. 7

The user can also buy another product X-431-PCLINK from LAUNCH. With X-431PCLINK, user can download data into PC to analyze and process the recorded data farther. Even you can develop special data analysis software to deal with recorded data..

For the introduction and usage of X-431-PCLINK, please refer to the user's manual.

3.CLEAR

The capacity of data is limited to the space of CF card. When there is not enough free space of CF card, or there is no need to store some data, the data would be cleared.

To clear data, you must enter fig.3 to run this function.

In fig.3, click CLEAR as shown in fig.5, choose the file to delete, and click DELETE. The recorded file will be deleted from the CF card.

All the functions of X431 are helpful for technician to troubleshooting, especially DATA record function is very helpful in troubleshooting intermittent fault, Why data stream record and save function are very important for intermittent fault diagnosis? As we know, data stream is real-time dynamic data, with high frequency of refresh. We can't catch the instantaneous change of the data, as we can't see one scene that has been played from TV. But if TV had record function, we can save the program and play back the program again and again. As the same principle, X431 record dynamic data stream and save them in the CF card, which is very helpful for us to analyse contrastively them when eliminating fault. For example, engine flames out suddenly in the running, but it starts up immediately and runs normally. It is very hard to analyse such a fault with normal diagnosis way. Because when there is a fault, engine flames out, and we can't find the fault. When checking, it runs normally, and the data must be normal. But if we can record and save the ignition signal, injection signal and engine speed signal, and stop recording after engine flames out. Then we can compare the data that occur before and after engine flames out, now we can find the fault.