

race|result System Decoders can store passings online using their inbuilt 2G/3G Modems on race|result's servers. Once per minute the system also stores a status beacon online with statistics on the system's health. This document contains a list of functions available to developers to retrieve data from race|result's servers. Each are HTTP/GET requests, all of which require the user ID of the customer, which is keyed into the decoder, and the password of their race|result Online Account.

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0	22.04.2016	Initial publication	JL
1	17.05.2016	New call for Get Passings (getSystemPassings.php), minor corrections	JL

Server Address

<https://data.raceresult.com/interface/passings>

Error Responses

Response	Reason
USER ID MISSING	User ID is missing from request
PASSWORD MISSING	Password is missing from request
LOGIN INCORRECT	User ID and password do not match
DEVICE NAME MISSING	Serial Number is missing from request
BAD FORMAT	Format parameter is not as expected
FILE ID MISSING	File number for passings is missing from request
NO PASSINGS	No passings available from request
NO STATUS	No system status data available from request

Get Passings

```
/getSystemPassings.php?user=[user]&pw=[password]&device=[device]&file=[filenumber]&minid=[minid]
```

Returns the passings from the decoder. If `minid` is used, it will return passings starting with passing ID `minid`, to the last passing in the file.

Parameters:

<code>user:</code>	your customer number as specified in the upload settings
<code>password:</code>	password of your customer account
<code>device:</code>	serial number of your race result decoder, e.g. D-5001
<code>file_number:</code>	the current file number as shown on the display of the race result decoder.
<code>minid:</code>	(optional) the id of the passing you wish to start downloading from

Response:

For each passing, a new line is written in response in the following format.

```
[PassingNo];[Bib];[Date];[Time];[OrderID];[Hits];[MaxRSSI];[InternalData];[TranspCode];[InternalData];[IsActive];[Channel];[LoopID];[LoopOnly];[WakeupCounter];[Battery];[Temperature];[InternalActiveData]<CrLf>
```

<code>[PassingNo]</code>	Passings are numerated from 1 to n
<code>[Bib]</code>	Bib number, 0 if the passing is from a reusable tag, such as a Hu-Tag or Active Transponder.
<code>[Date]</code>	Format: yyyy-mm-dd If GPS is used, date of the detection, otherwise 0000-00-00 or 0000-00-01 after 24 hours and so on.
<code>[Time]</code>	Time of the detection in seconds.
<code>[OrderID]</code>	ID of the bib set. In case of multi use tags <code>[OrderID]</code> is 0 or empty.
<code>[Hits]</code>	Number of times the tag was detected
<code>[MaxRSSI]</code>	Maximum RSSI value found while determining <code>[Time]</code> .
<code>[InternalData]</code>	This field is only used for internal purposes and is optional.
<code>[TranspCode]</code>	The code of the transponder, if a re-usable Tag was used. The value is blank if a Bib Tag is used.
<code>[IsActive]</code>	1 if this passing is from an Active or ActivePro Transponder
<code>[Channel]</code>	Channel ID (1..8), empty if passive
<code>[LoopID]</code>	Loop ID (1..8), empty if passive
<code>[LoopOnly]</code>	1 if this detection was generated in Store Mode, empty if passive
<code>[WakeupCounter]</code>	Overall wakeup counter of the transponder (starts at 10000), empty if passive
<code>[Battery]</code>	Battery level in volts, empty if passive
<code>[Temperature]</code>	Temperature in degrees Celsius, empty if passive

[InternalActiveData]

Data transmission details of an Active Transponder. One byte. Lowest three bits: no channel access counter (number of times, the passing could not be transmitted because the transponder could not access the channel). Next three bits: no ACK counter (number of times the passing was transmitted, but no acknowledgement was received). Seventh bit: 1, if this passing could not be transmitted at all in a previous attempt (=“stored passing”, old passing), 0 otherwise. Highest bit: 1, if the transponder woke up from deep sleep, 0 otherwise. Hint: You can check if a passing is a stored passing using

[InternalData] & 0x40 == 0x40 (the seventh bit is set).

8	7	6	5	4	3	2	1
DS	ST	No ACK			Channel busy		

You can check if a passing is a stored passing using

<InternalData> & 0x40 == 0x40 (the seventh bit is set).

Example:

```
GET http://data.raceresult.com/interface/passings/getpassings.php?user=76131
&pw=karlsruhe&device=D-5079&file=12
```

This will return all passings from File 12, on Decoder D-5079, which have been uploaded using account number 76131.

Response:

```
1;0;2016-04-25;19819.5340;;1;9;0;XKXQE80;63bfad;1;6;4;1;1570;2.9;27;72<CrLf>
2;0;2016-04-25;19820.8910;;1;9;0;XKXQE80;247abc;1;6;4;1;1570;2.9;27;72<CrLf>
3;0;2016-04-25;19822.3110;;1;9;0;XKXQE80;bf63ad;1;6;4;1;1570;2.9;27;72<CrLf>
...
```

```
GET http://data.raceresult.com/interface/passings/getpassings.php?user=76131
&pw=karlsruhe&device=D-5079&file=12&minid=57
```

This will return all passings from passing ID 57 to the last passing in the file, from File 12, on Decoder D-5079, which have been uploaded using account number 76131.

Response:

```
57;0;2016-04-25;19851.5370;;1;9;0;XKXQE80;73b21d;1;6;4;1;1570;2.9;27;72<CrLf>
58;0;2016-04-25;19855.8210;;1;9;0;XKXQE80;2463bc;1;6;4;1;1570;2.9;27;72<CrLf>
```

Usage:

- After initially requesting all data, new passings can be requesting by asking for the ID of the last passing plus 1.
- When minid is greater than the number of passings recorded, NO PASSINGS will be returned.
- Requests should be sent no more frequent than once every 2 seconds.

Get System Status

`/getSystemStatus.php?user=[user]&pw=[password]&device=[device]&format=[format]`

Returns statistics for each decoder listed. Decoders send a status update to the race result Servers once every minute. If a system does not return a status update within three minutes of the current server time, no data will be returned in the request. If multiple devices are listed, it returns an array listing passing files for device which has uploaded files to the account specified.

Parameters:

user: your customer number as specified in the upload settings
password: password of your customer account
device: Serial number of race result decoder, e.g. D-5001. Multiple serial numbers can be requested by separating the serial numbers by commas
format: (Optional) Output data format, defaults to JSON. Formats available: JSON.

Response:

[StatusDateTime]	Time and date (in "yyyy-mm-dd hh:mm:ss") of when the status was received
[Version]	Firmware version number of the decoder
[TimingMode]	1 if the device is recording times, 0 if not
[Time]	Current time of the decoder, format "hh:mm:ss.kkk"
[FileNo]	Current passing file number of the system
[Count]	Current number of passings in the current file
[MainsPower]	1 if the device is connected to mains power, 0 if not
[Battery]	Percentage battery level of the system, reported as (100, 75, 50, 25, 10)
[BoardTemp]	Temperature of the processor
[UHFTemp]	Temperature of the UHF module
[UHFHealth]	1 if the UHF module is reporting as healthy, 0 if not
[UHFAntennas]	Each digit represents an antenna port, 1 if it is connected, 0 if not
[UHFFreq]	EU: 0 if frequency is set to Auto, 1=A, 2=B; JP: 0-3; All other regions: 0
[ActiveExt]	1 if an Active Extension is connected, 0 if not
[Uptime]	System uptime in seconds
[Load]	Average CPU load, as a decimal number. 1 is 100% Load
[Memory]	Free memory available on the system
[PassingSpace]	Free storage available on the system for passings
[UploadRetries]	Count of number of times the system has tried to reconnect to servers
[GprsRssi]	Signal strength from 2G/3G module, -1 if no connection to 2G/3G
[GpsFix]	1 if GPS module has a fix on it's position
[Longitude]	Latitude position of the system, in degrees
[Latitude]	Longitude position of the system, in degrees
[ShuttingDown]	1 if the system is currently shutting down
[StandbyEnabled]	1 if the system has a Standby routine activated, 0 if not
[StandbyActive]	1 if the system is in Standby mode, 0 if not
[Active]	Statistics of any Active Systems that are connected to the system. Entry not returned if no active system connected.
[ActiveDeviceX]	Serial number of the Active System connected
[ActiveIsExtX]	1 if the Active System is the Active Extension, 0 if not
[ActiveChNoX]	The channel number the Active System
[ActiveLoopNoX]	The loop number the Active System is using
[ActivePowerX]	The power setting the system is set to
[ActiveLoopConX]	1 if a loop is connected to the Active System
[ActiveLoopErrX]	1 if Loop Error occurs, (ie. Loop is too long), 0 if not
[ActiveBatt]	1 is the Active System is using battery power, 0 if not

[ActiveBattLifeX]	Remaining battery life in hours, 0 if connected to power
[ActiveBattVoltX]	Voltage supplied to Active System
[ActiveNoiseAvgX]	Average noise level of channel for Active System
[ActiveNoisePkX]	Peak noise level of channel for Active System

Format: JSON

For each device, a JSON is returned with the following format:

```
{ "Created": [StatusDateTime],
  "Version": [Version],
  "IsInTimingMode": [TimingMode],
  "Time": [Time],
  "PassingsFileNumber": [FileNo],
  "CurrentPassingsCount": [Count],
  "PowerSupply": [MainsPower],
  "BatteryLevel": [Battery],
  "BoardTemperature": [BoardTemp],
  "UhfTemperature": [UHFTemp],
  "UhfHealthy": [UHFHealth],
  "UhfAntennas": [UHFAntennas],
  "UhfFrequency": [UHFFreq],
  "IsActiveExtensionConnected": [ActiveExt],
  "SysUptime": [Uptime],
  "SysLoadAvg": [Load],
  "SysFreeMemory": [Memory],
  "SysFreePassingsSpace": [PassingSpace],
  "UploadReconnectCount": [UploadRetries],
  "GprsLatestRssiValue": [GprsRssi],
  "GpsHasFix": [GpsFix],
  "GpsLatitude": [Latitude],
  "GpsLongitude": [Longititude],
  "ShuttingDown": [ShuttingDown],
  "AutomaticStandbyEnabled": [StandbyEnabled],
  "IsInStandby": [StandbyActive],
  "Active":
    { [ActiveDeviceX]:
      { "IsActiveExtension": [ActiveIsExtX],
        "Channel": [ActiveChNoX],
        "LoopID": [ActiveLoopNoX],
        "Power": [ActivePowerX],
        "IsLoopConnected": [ActiveLoopConX],
        "IsLoopUnderPower": [ActiveLoopErrX],
        "IsOnBattery": [ActiveBatt],
        "RemainingHours": [ActiveBattLifeX],
        "SupplyVoltage": [ActiveBattVoltX],
        "NoiseAvg": [ActiveNoiseAvgX],
        "NoisePeak": [ActiveNoisePkX] }
      }
    }
}
```

For each device, a new element in a JSON response is created with the following format:

```
{ [Device]: [DeviceStatusJSON] }
```

[Device]	The device ID
[DeviceStatusJSON]	The device status JSON returned for the individual device

Format: text

For each device, a plain text line is returned with the following format:

```
[StatusDateTime];[Version];[TimingMode];[Time];[FileNo];[Count];
[MainsPower];[Battery];[BoardTemp];[UHFTemp];[UHFHealth];[UHFAntennas]
;[UHFFreq];[ActiveExt];[Uptime];[Load];[Memory];[PassingSpace];
[UploadRetries];[GprsRssi];[GpsFix];[Longitude];[Latitude];
[ShuttingDown];[StandbyEnabled];[StandbyActive];[ActiveDevice1],
[ActiveIsExt1],[ActiveChNo1],[ActiveLoopNo1],[ActivePower1],
[ActiveLoopCon1],[ActiveLoopErr1],[ActiveBatt],[ActiveBattLife1],
[ActiveBattVolt1],[ActiveNoiseAvg1],[ActiveNoisePk1];[ActiveDevice2],
[ActiveIsExt2],...;<CrLf>
```

Example:

```
GET http://data.raceresult.com/interface/passings/getSystemStatus.php?user=76131
&pw=karlsruhe&device=D-5079&format=JSON
```

This will return the status of decoder D-5079, which has been uploaded using account number 76131.

Response:

```
{"Created":"2016-04-25 12:11:47","Version":"1.87",...}
```

```
GET http://data.raceresult.com/interface/passings/getSystemStatus.php?user=76131
&pw=karlsruhe&device=D-5079,D-5080,D-5081&format=JSON
```

This will return the status of decoders D-5079, D-5080 and D-5081, which has been uploaded using account number 76131.

Response:

```
{"D-5079": {"Created":"2016-04-25 12:11:47","Version":"1.87",...},
"D-5080": "NO STATUS",
"D-5081": {"Created":"2016-04-25 12:12:12","Version":"1.87",...}
}
```

Usage:

- The RRS sends a status update every minute to race result servers.
- Requests should be sent no more frequent than once every 30 seconds.

List of Passing Files

```
/listPassingFiles.php?user=[user]&pw=[password]&device=[device]&format=[format]
```

Returns a list of passing files, and their statistics, that have been uploaded to the server. If no device is specified or multiple devices are listed, it returns an array listing passing files for device which has uploaded files to the account specified.

Parameter:

user: your customer number as specified in the upload settings
password: password of your customer account
device: (Optional) Serial number of race result decoder, e.g. D-5001. Multiple serial numbers can be requested by separating the serial numbers by commas.
format: (Optional) Output data format, options are "text" or "JSON", defaults to plain text. Formats available: text, JSON.

Response:

[FileNo] File number of the passing file
[DateTime] Date and time of when the passing file was created
format: yyyy-mm-dd hh:mm:ss
[Count] Number of passings in the file

Format: text

For each passing file, a new line is created with the following format:

```
[FileNo];[DateTime];[Count]<CrLf>
```

Format: JSON

For each passing file, a new JSON entry is created with the following format:

```
{ [FileNo] : { "FileNo": [FileNo], "TimeStamps": [DateTime], "Count": [Count] } }
```

Multiple Device Request

For each device, a new element in a JSON response is created with the following format:

```
{ [Device]: [PassingFileStats] }
```

[Device] The device ID
[PassingFileStats] Text or JSON containing information on the devices passing files

Example:

```
GET http://data.raceresult.com/interface/passings/listPassingFiles.php?user=76131&pw=karlsruhe&device=D-5079
```

This will return a list of passing files, for decoder D-5079, which have been uploaded using account number 76131.

Response:

```
83;2016-04-25 09:57:08;250<CrLf>  
82;2016-04-22 12:06:26;0<CrLf>  
64;2016-03-15 15:08:04;1<CrLf>  
56;2016-03-11 15:54:28;0<CrLf>
```



```
GET http://data.raceresult.com/interface/passings/listPassingFiles.php?user=76131
&pw=karlsruhe&device=D-5079,D-5080,D-5081&format=text
```

This will return a list of passing files, for decoders D-5079, D-5080 and D-5081, which have been uploaded using account number 76131.

Response:

```
{"D-5079": "83;2016-04-25 09:57:08;250<CrLf>
82;2016-04-22 12:06:26;0<CrLf>
64;2016-03-15 15:08:04;1<CrLf>
56;2016-03-11 15:54:28;0<CrLf>",
"D-5080": "NO PASSINGS",
"D-5081": "6;2016-04-25 09:57:50;264<CrLf>
5;2016-04-22 12:54:28;0<CrLf>"}
```

```
GET http://data.raceresult.com/interface/passings/listPassingFiles.php?user=76131
&pw=karlsruhe&device=D-5079,D-5080,D-5081&format=JSON
```

This will return a list of passing files, for decoders D-5079, D-5080 and D-5081, which have been uploaded using account number 76131.

Response:

```
{"D-5079": { "83": {"FileNo": "83", "TimeStamps": "2016-04-25 09:57:08", "Count": "250"},
"82": {"FileNo": "82", "TimeStamps": "2016-04-22 12:06:26", "Count": "0"},
"64": {"FileNo": "64", "TimeStamps": "2016-03-15 15:08:04", "Count": "1"},
"56": {"FileNo": "56", "TimeStamps": "2016-03-11 15:54:28", "Count": "0"}},
"D-5080": "NO PASSINGS",
"D-5081": { "6" : {"FileNo": "6" , "TimeStamps": "2016-04-25 09:57:50", "Count": "264"},
"5" : {"FileNo": "5" , "TimeStamps": "2016-04-22 12:54:28", "Count": "0"} } }
```

```
GET http://data.raceresult.com/interface/passings/listPassingFiles.php?user=76131
&pw=karlsruhe
```

This will return a list of passing files, for all decoders, which have been uploaded using account number 76131.

Response:

```
{"D-5079": "83;2016-04-25 09:57:08;250<CrLf>
82;2016-04-22 12:06:26;0<CrLf>
64;2016-03-15 15:08:04;1<CrLf>
56;2016-03-11 15:54:28;0<CrLf>",
"D-5081": "6;2016-04-25 09:57:50;264<CrLf>
5;2016-04-22 12:54:28;0<CrLf>"}
```

Maximum Passing File ID

`/passingMaxFileID.php?user=[user]&pw=[password]&device=[device]`

Returns the highest passing file number available, as a number. Returns zero (0) if there are no passing files for that decoder online.

Parameters:

<code>user:</code>	your customer number as specified in the upload settings
<code>password:</code>	password of your customer account
<code>device:</code>	Serial number of race result decoder, e.g. D-5001

Example:

```
GET http://data.raceresult.com/interface/passings/passingMaxFileID.php?user=76131
&pw=karlsruhe&device=D-5079
```

This will return the ID of the latest passing file uploaded from decoder D-5079, which has been uploaded using account number 76131.

Response:

83