ANT+ Common Data Pages

ANT+ Managed Network Document
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Revision History

Revision	Effective Date	Description
1.0	May 15, 2008	Official Customer Release
1.1	July 28, 2008	Updated Format, changed reserved fields to value = 0xFF
1.2	February 24, 2009	Added new Pages 70, 83,and 84
1.3	February, 2010	Extended Page 70 Use Added Dynamic Profile Pages
2.0	Mar 2010	Reformat Add ANT-FS beacon, ping, disconnect pages Request ANT-FS
2.1	February 2, 2011	Edited “Copyright Information and Usage Notice” section

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1 Overview of ANT+

The ANT+ Managed Network is comprised of a group of devices that use the ANT radio protocol and ANT+ Device Profiles to determine and standardize wireless communication between individual devices. This management of device communication characteristics provides interoperability between devices in the ANT+ network.

Developed specifically for ultra low power applications, the ANT radio protocol provides an optimal balance of RF performance, data throughput and power consumption.

ANT+ Device Profiles have been developed for devices used in personal area networks and can include, but are not limited to, devices that are used in sport, fitness, wellness, and health applications. Wirelessly transferred data that adheres to a given device profile will have the ability to interoperate with different devices from different manufacturers that also adhere to the same standard. Within each device profile, a minimum standard of compliance is defined. Each device adhering to the ANT+ Device Profiles must achieve this minimum standard to ensure interoperability with other devices.

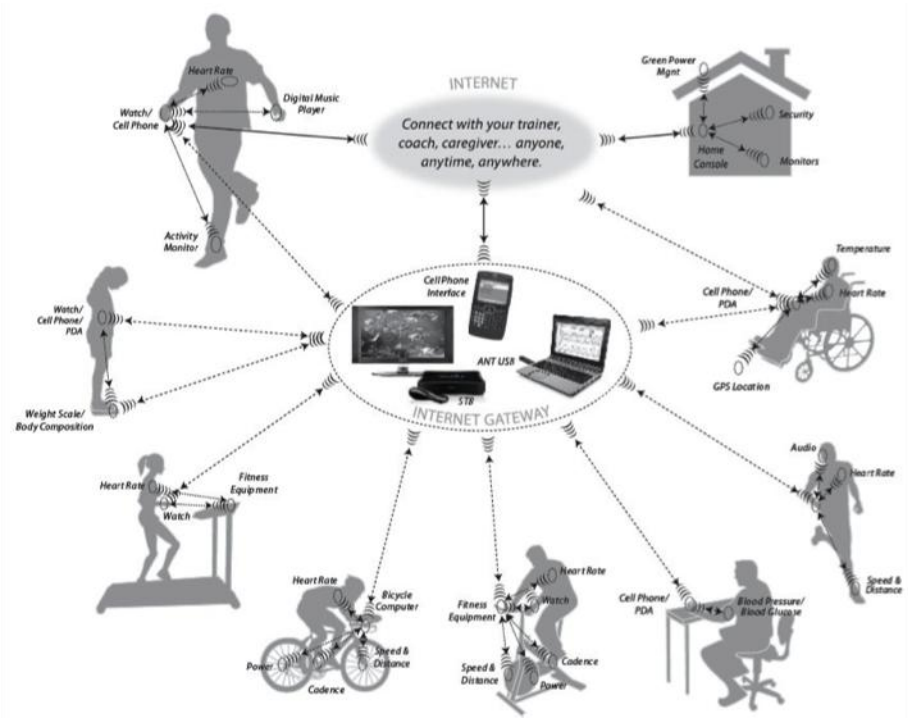

Figure 1-1. ANT+ Device Ecosystem

This document details the wireless communication between devices adhering to this ANT+ Device Profile. The typical use case of the device(s), wireless channel configuration, data format(s), minimum compliance for interoperability, and implementation guidelines are also detailed.

IMPORTANT:

If you have received this document you have agreed to, and signed, the ANT+ Managed Network license agreement and have received the ANT+ Managed Network Key. By signing the license agreement and receiving the ANT+ device profiles you agree to:

- **Implement and test your product to this specification in its entirety**
- **To implement only ANT+ defined messages on the ANT+ managed network**

2 Related Documents

Refer to current versions of the listed documents. To ensure you are using the current versions, check the website or contact your ANT+ representative.

1. ANT Message Protocol and Usage
2. ANT File Share (ANT-FS) Technical Specification
3. ANT-FS Reference Design User Manual

3 Introduction

The ANT protocol supports three different types of networks: public, private, and managed. In each of these networks the data payload, channel parameters, and network keys are defined differently. In all of these networks there are certain data messages that most devices want to send that are not specific to a given device. For example, most battery operated devices need to be able to send the state of the battery in use and have the ability to transmit alerts when the battery gets into critical state.

ANT and the ANT+ Alliance have created common data formats, called common data pages, which can be used by any device on any of the ANT networks. The ability to send and receive these common pages is defined in the transmission type of the ANT channel. For more information on the definition of transmission type, please refer to the ANT Message Protocol and Usage document. Whether the channel parameters are defined by the ANT+ Alliance for managed networks, or defined by a private company on a private network, common pages may be used if desired.

This document describes the different types of common data pages have been defined: device/sensor specific pages, global pages common to any ANT/ANT+ device, future data pages for FIT data, as well as data pages for manufacturer specific information. In particular, this document describes the common pages used by ANT+ devices. As such, not all defined global data pages (i.e. for non ANT+ specific ANT devices) are described in this document.

If additional data page formats are desired, please contact the ANT+ Alliance at ANTAlliance@thisisant.com to discuss development and future inclusion in this document.

4 Numbering of Common Data Pages

Common data pages use the first byte of the 8 byte ANT data payload to indicate a page number. Page numbers have been assigned to enable their use in all ANT+ or ANT networks (Table 4-1).

Table 4-1. Common Data Page Numbers

Page Number	Description
0x00 – 0x3F (0 – 63)	**ANT+ Alliance Device Type Specific** These pages are reserved for specific device types to be defined by the ANT+ Alliance. Each device type will define its own data pages in this range.
0x40 – 0x5D (64 – 93)	**Global Data Pages** The global data pages will have their formats defined and use of these pages is defined by the transmission type of the ANT channel parameter. All unused pages in this section are undefined and are not to be used.
0x5E – 0x7F (94 – 127)	**Reserved for future ANT+ Broadcast FIT Pages**
0x80 – 0xEF (128 – 239)	**Reserved for future use** Do not use these page values.
0xF0 – 0xFF (240 – 255)	**Manufacturer Specific** Pages in this range can be used by any manufacturer and can use these bytes as they desire. This range of pages does not insist on interoperability and will allow device manufacturers to transmit unpublished data formats in this range.

The first 64 page numbers have been reserved for the ANT+ Alliance managed networks. The next 30 data pages are reserved for global page definitions that may be used within any ANT network; followed by 34 data pages specifically reserved for allowing the broadcasting of data formatted according to the Flexible and Interoperable Data Transfer (FIT) Protocol. Another 112 pages have been reserved for future use.

Finally, 16 pages are available for the transmission of manufacturer specific data, allowing proprietary data to be sent on globally defined pages.

5 ANT Common Page Formats

The first byte for all common data pages contains the data page number (Table 5-1). The data contained in the remaining 7 bytes is defined in the relevant ANT+ device profile, or as described in this document.

Table 5-1. Generic Common Data Page Format

Byte	Description	Length
0	Data Page Number	1 Byte
1-7	Data	7 Bytes

5.1 Global Data Page Format

Global data pages used by ANT devices are formatted according to Table 5-2 below. The first byte of all global data pages contains the page number. The page numbers reserved for the global data pages range from 0x40 – 0x5D.

Table 5-2. Generic Global Data Format

Byte	Description	Length	Value	Units	Rollover
0	Data Page Number	1 Byte	Range 0x40 – 0x5D	N/A	N/A
1	Reserved	1 Byte	Value = 0xFF	N/A	N/A
2	Reserved	1 Byte	Value = 0xFF	N/A	N/A
3 – 7	Data	5 Bytes	These fields will contain the data to be interpreted by the receiver	As per data page description	As per data page description

Bytes 1 and 2 are reserved for future applications involving shared channels. For more information on shared channels and the addressing requirements please see the ANT Message Protocol and Usage document.

Bytes 3 – 7 will be formatted with data according to the specific data page that is being sent. Each data page contains different data. The receiver shall implement the appropriate global page definitions in order to decode all incoming data. Data received with an unrecognized data page number shall not be interpreted.

5.2 Broadcast FIT Data Page Format

Broadcast FIT data pages will allow for the transmission of data formatted according to the FIT protocol (Table 5-3). The page numbers reserved for the global data pages range from 0x5E – 0x7F.

Table 5-3. Generic Global Data Format

Byte	Description	Length	Value	Units
0	Data Page Number	1 Byte	94 (0x5E) to 127 (0x7F)	N/A
1-7	Data	7 Bytes	Data formatted according to the FIT definition message associated to the same local message type	As per associated definition message Refer to FIT File Protocol document

Bytes 1-7 are formatted according to the FIT Protocol. Refer to the Flexible & Interoperable Data Transfer (FIT) Protocol document for more details. These pages will be added in the near future.

6 Global Data Pages

The following sections describe the defined global data pages relevant to ANT+ devices.

6.1 ANTFS Common Pages

ANT File Share (ANT-FS) provides a mechanism for authenticated, wireless file transfers between devices. There are two global data pages associated with the ANT-FS protocol: Beacon and the Command/Response data pages. For information and details on ANT-FS refer to the ANT File Share (ANT-FS) Technical Specification and ANT-FS Reference Design User Manual. These pages shall only be used within a complete implementation of the ANT-FS specification.

Please Note: ANT-FS makes use of burst messaging and is intended for point to point file transfer. As such, there are no reserved bytes and will not work on shared channels.

6.1.1 ANT-FS Client Beacon

The ANT-FS client beacon is used by an ANT-FS client device to inform an ANT-FS host device of the available authentication modes supported, as well as the client device's current state. Any client response from a host command is appended to the beacon as a burst message.

Table 6-1. ANT-FS Client Beacon Description

Byte #	Field	Length	Description
0	ANT-FS Beacon ID (0x43)	1 byte	This ID is used to identify how to interpret the command below
1	Status Byte 1	1 byte	This is a bit field indicating client device state information
2	Status Byte 2	1 byte	This is a bit field indicating client device state information
3	Authentication Type	1 byte	The authentication type supported by this device
4..7	ANT-FS Device Descriptor /Host serial Number	4 bytes	This field is used to identify a particular manufacturer and device for the purposes of message decoding/encoding. When in Authentication mode, this field is filled in with the host's serial number

6.1.1.1 Status Byte 1

The status byte 1 field indicates if the client device has data for download, if data can be uploaded is able to be uploaded, whether pairing is enabled, and indicates the current operating channel period (i.e. the beacon rate).

Refer to the ANT File Share (ANT-FS) Technical Specification document for details.

6.1.1.2 Status Byte 2

The status byte 2 field indicates the client's current ANT-FS state. This field is used by the host device to verify that requested state transitions have occurred.

Refer to the ANT File Share (ANT-FS) Technical Specification document for details.

6.1.1.3 Authentication Type

The authentication type indicates the type of authentication that is required to establish an ANT-FS session.

Refer to the ANT File Share (ANT-FS) Technical Specification document for details and more information on pairing.

6.1.1.4 ANT-FS Device Descriptor / Host Serial Number

The ANT-FS descriptor field broadcasts device information. In the LINK state, this field contains a device descriptor which indicates the types of communication, and data that this device will support. While in the Authentication or Transport layer, this field broadcasts the serial number of the host device that it is connected to.

Refer to the ANT File Share (ANT-FS) Technical Specification document for details and more information on pairing.

6.1.2 ANT-FS Host Command/Response

The ANT-FS Host Command/Response is used to request an action and/or information from an ANT-FS client device, or to respond to a command from a client device. The host command/response may require additional information which is appended to the host/command page as a burst message.

Table 6-2. ANT-FS Host Command/Response Description

Byte #	Field	Length	Description
0	ANT-FS Command/Response ID (0x44)	1 byte	This ID identifies the message as an ANT-FS Command/Response Message
1	Command	1 byte	The ID of the Command/Response byte
2..7	Parameters	6 byte	The parameters depend on the Command/Response sent

A list of commands and responses used by the ANT-FS Protocol are shown below. Note, some commands are only available during certain states of the ANT-FS protocol.

- Commands: Link, Disconnect, Authenticate, Ping, Download, Upload and Erase Requests
- Responses: Authenticate, Download, Upload and Erase Requests

Refer to the ANT File Share (ANT-FS) Technical Specification document for details.

6.1.2.1 Ping Command (0x05)

Once an ANT-FS session has been established, and both devices are in the transport state, the ping command can be sent by the host to maintain the connection. Typically, a client device will time out after not receiving any commands within a specified duration, and return to the unconnected link layer. Sending a Ping command (Table 6-3) within this specified time will reset the client devices' connection timer.

Table 6-3. ANT-FS Host Ping Command Description

Byte #	Field	Value	Description
0	ANT-FS Command/Response ID	0x44	Identifies message as an ANT-FS Command/Response Message
1	Command	0x05	Ping Command ID
2..7	Reserved	0x00	

6.1.2.2 Disconnect Command (0x03)

An ANT-FS session can be disconnected at any time. The disconnect command is sent from the host and will cause the client to go back to the unconnected link state (standard ANT-FS session), or return to broadcast mode (broadcast ANT-FS session).

Table 6-4. ANT-FS Host Disconnect Command Description

Byte #	Field	Value	Description
0	ANT-FS Command/Response ID	0x44	Identifies message as an ANT-FS Command/Response Message
1	Command	0x03	Disconnect Command ID
2..7	Reserved	0x00	

6.2 Common Data Page 70: Request Data Page

The request data page allows a device to request a specific data page from another device. This is typically done from the display (slave device) to the sensor (master device), and allows the display to request a missed data page, or required data.

The request data page must be sent using an acknowledged message.

Not all sensors will support the ability to respond to a Request Data Page. In this case, the sensor will not respond at all and will continue to send data according to its device profile. For this reason, data page 70 must be sent as an acknowledged message. This will allow the requesting device to determine if the sensor received the request, even if the sensor is unable to respond with the appropriate page. Any display device that plans to use this data page should be able to handle this "No Response" case elegantly (i.e. without negative effects).

Table 6-5. Global Data Page 70 - Request Data Page

Byte	Description	Length	Value	Units
0	Command ID	1 Byte	70 (0x46) – Data Page Request	N/A
1	Reserved	1 Byte	Value = 0xFF	N/A
2	Reserved	1 Byte	Value = 0xFF	N/A
3	Descriptor Byte 1	1 Byte	Allows data specification within the requested data page. Valid Values: 0 – 254 Invalid: 255 (0xFF)	N/A
4	Descriptor Byte 2	1 Byte	Allows data specification within the requested data page. Valid Values: 0 – 254 Invalid: 255 (0xFF)	N/A
5	Requested Transmission Response	1 Byte	Describes transmission characteristics of the data requested. Bit 0-6: Number of times to transmit requested page. Bit 7: Setting the MSB means the device replies using acknowledged messages if possible. Special Values: 0x80 - Transmit until a successful acknowledge is received. 0x00 – Invalid	N/A
6	Requested Page Number	1 Byte	Page number to transmit.	N/A
7	Command Type	1 Byte	Value = 1 (0x01) for Request Data Page Value = 2 (0x02) for Request ANT-FS Session	N/A

6.2.1 Descriptor Bytes 1 & 2

The descriptor bytes allow for the requesting of data pages that have subfields associated with them, such as the Subfield Data Page. See section 6.7 for examples of using these fields/pages.

When requesting any data page that does not have subfield data these values shall be set to Invalid (0xFF).

6.2.2 Requested Transmission Response

Bits 0 – 6 of this field represent the number of times the requested data page should be transmitted. Setting bit 7 indicates that the requested data page should be sent using Acknowledged data messages. **Any device that is able to decode a request page must be able to support all requested transmission response types.**

6.2.2.1 Special Values

A value of 128 (0x80) is used in byte 5, the responding device shall transmit the requested data page using acknowledged messages, and until a successful acknowledgement (i.e. EVENT_TRANSFER_TX_COMPLETED) has occurred.

The value 0x00 has been reserved to indicate this field is invalid.

6.2.3 Command Type

The command type value shall be set to indicate whether the request is for a specific data page, or an ANT-FS session. All other values in this data field are reserved. Examples of a request data page and request ANT-FS session are show in Figure 6-1 and Figure 6-2 respectively.

6.2.4 Request Data Page Example

Figure 6-1 shows an example of an established connection between an ANT+ sensor broadcasting data and a display device. The display requires data that is provided in common data page "0xXX". The display device sends the request for common page 0xXX using common data page 70. The request data page shall specify the request is for a data page (command type = 1), the requested data page number (0xXX), and the number of times the data page shall be transmitted (N). Descriptor bytes will be set to invalid, unless requesting subfield data.

Common Data Page 70 will be sent using an acknowledged message. If the request was not successfully received (i.e. EVENT_TRANSFER_TX_FAILED), the display can decide whether to retry. Once the request has been received, the sensor will transmit the requested data page "N" times and then return to the standard broadcast rotation (as defined by its ANT+ device profile).

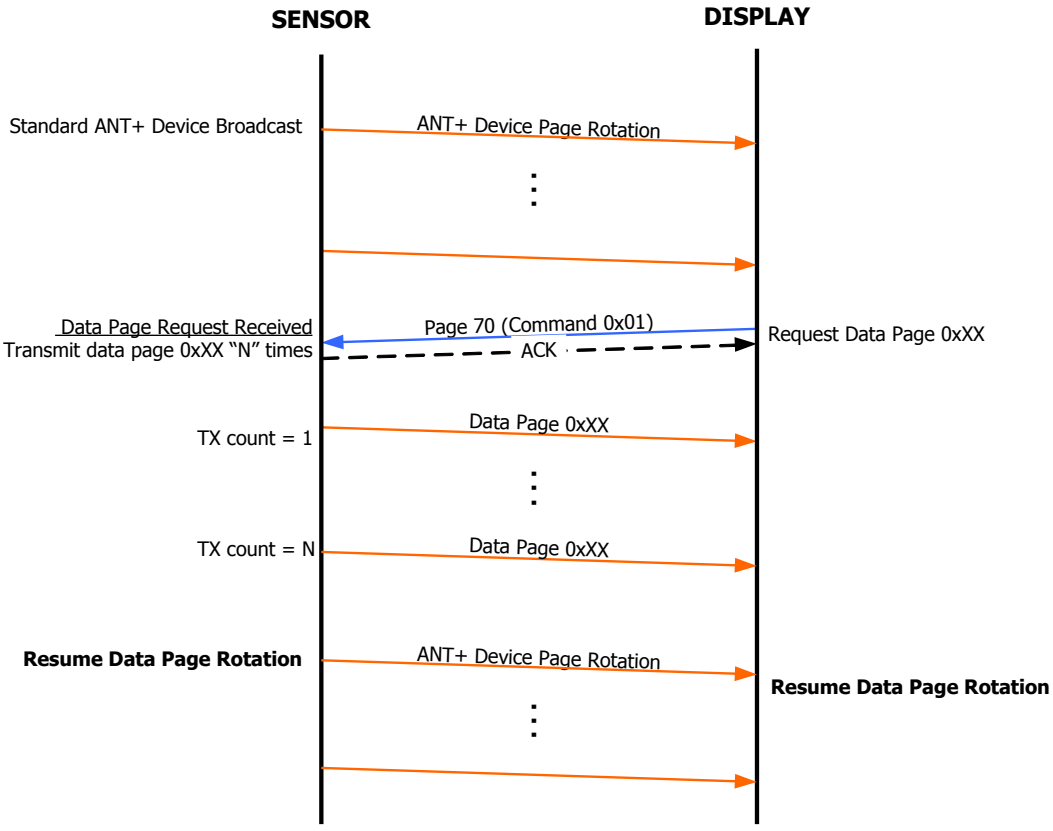

Figure 6-1. Example Request Data Page Command

6.2.5 Requested Broadcast ANT-FS Session Example

Requesting a broadcast ANT-FS session is very similar to requesting a data page, as illustrated in Figure 6-2. The display device sends common data page 70, with the command type set to 2, indicating the request is for an ANT-FS session. The requested data page number shall be set to 0x43, requesting the ANT-FS beacon. The requested transmission response shall be set as desired, indicating the maximum number of ANT-FS beacons that should be transmitted before returning to broadcast mode (i.e. in the case where the link command is not received). Descriptor bytes will be set to invalid.

Common Data Page 70 will be sent using an acknowledged message. If the request was not successfully received (i.e. EVENT_TRANSFER_TX_FAILED), the display can decide whether to retry. Once the request has been received, the sensor will start the ANT-FS session by transmitting the link beacon.

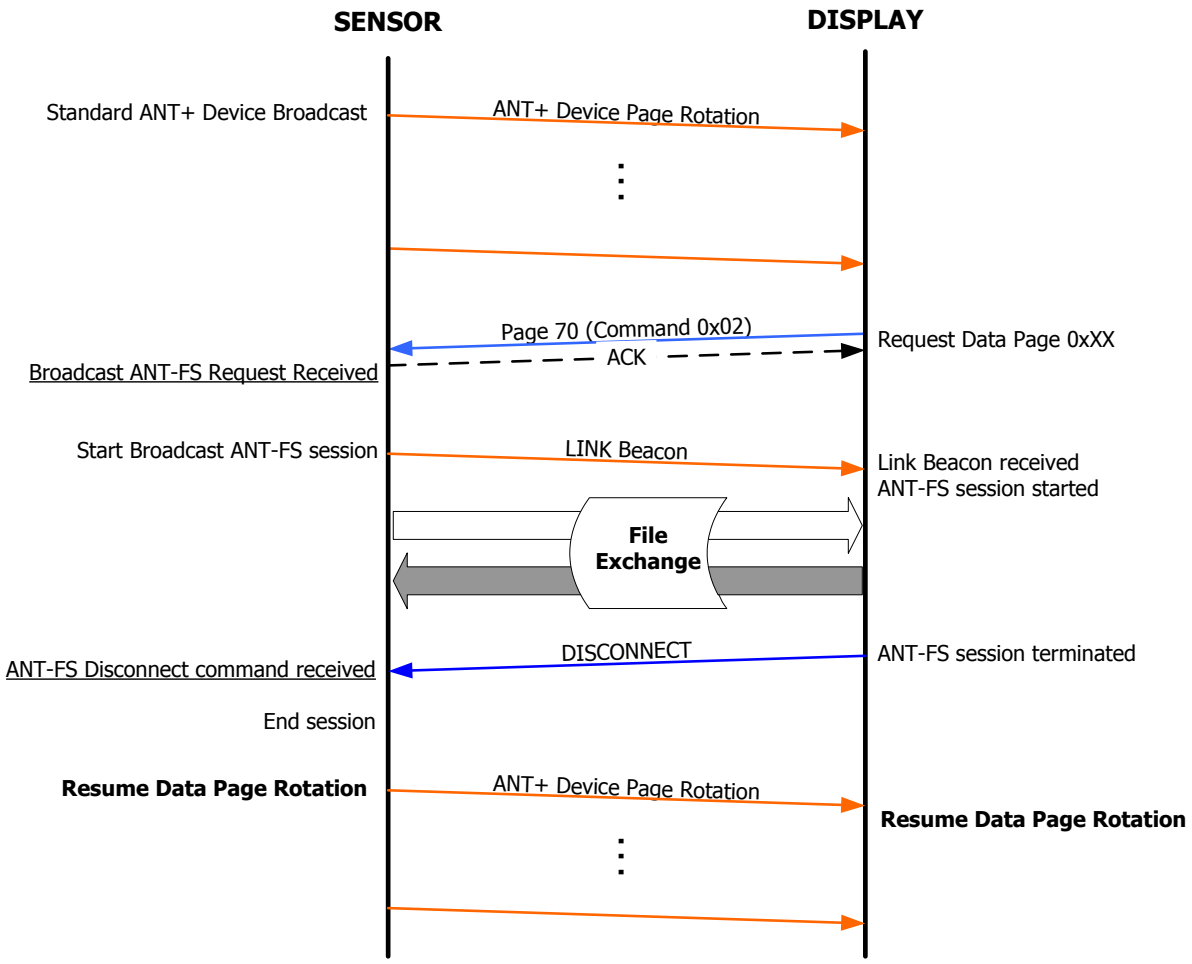

Figure 6-2. Example Request ANT-FS Session

6.3 Common Data Page 80: Manufacturer's Information

This global data page allows for a manufacturer to transmit a hardware revision, manufacturer ID and a model number.

Table 6-6. Global Data Page 80 – Manufacturer's Information

Byte	Description	Length	Value	Units
0	Data Page Number	1 Byte	80 (0x50) – Manufacturer's Information	N/A
1	Reserved	1 Byte	Value = 0xFF	N/A
2	Reserved	1 Byte	Value = 0xFF	
3	HW Revision	1 Byte	To be set by the manufacturer.	N/A
4	Manufacturer ID LSB	2 Bytes	Contact the ANT+ Alliance for a current list of manufacturing IDs, or to be added to be assigned a manufacturing ID.	N/A
5	Manufacturer ID MSB			
6	Model Number LSB	2 Bytes	To be set by the manufacturer.	N/A
7	Model Number MSB			

6.3.1 Manufacturer ID

The list of manufacturer identification values is maintained by the ANT+ Alliance. To receive the list of manufacturer identification values please contact the ANT+ Alliance at ANTAlliance@thisisant.com.

6.3.2 Example of Manufacturer's Information

The 8 byte packet of manufacturer's information as shown in Figure 6-3 below is interpreted to represent the hardware revision = 10, the manufacturer ID = 2 and the model number = 292.

```
ANT Serial Data = [50][FF][FF][0A][02][00][24][01]
```

Figure 6-3. Example of Manufacturer's Information

6.4 Common Data Page 81: Product Information

Global data page 0x51 is similar to the manufacturer's information page (0x50) as this allots one byte for software revision number as well as the ability to transmit the lowest four bytes of the device's serial number.

Table 6-7. Global Data Page 81 – Product Information

Byte	Description	Length	Value	Units
0	Data Page Number	1 Byte	81 (0x51) – Product Information	N/A
1	Reserved	1 Byte	Value = 0xFF	N/A
2	Reserved	1 Byte	Value = 0xFF	N/A
3	SW Revision	1 Byte	To be set by the manufacturer	N/A
4	Serial Number (Bits 0 – 7)	4 Bytes	The lowest 32 bits of the serial number. Value 0xFFFFFFFF to be used for devices without serial numbers	N/A
5	Serial Number (Bits 8 – 15)			
6	Serial Number (Bits 16 – 23)			
7	Serial Number (Bits 24 – 31)			

6.4.1 Example of Product Information

The 8 byte packet of product information as shown in Figure 6-4 below is interpreted to represent the software revision = 26, and the lowest 32 bits of the serial number of the transmitting device = 19136514.

```
ANT Serial Data = [51][FF][FF][1A][02][00][24][01]
```

Figure 6-4. Example of Product Information

6.5 Common Data Page 82: Battery Status

This page is sent to allow the battery voltage and status of device to be transmitted. Bytes 3 – 5 allow for an hour meter to be defined allowing a device to transmit the amount of time that it has been running on a given battery. This is a required field for this data page.

Devices with advanced circuitry can utilize byte 6 to give the fractional voltage and byte 7 to use the descriptive bit field that gives the coarse battery voltage, the battery status, and the units of the hour meter.

Table 6-8. Global Data Page 82 - Battery Status

Byte	Description	Length	Value	Units	Rollover
0	Data Page Number	1 Byte	82 (0x52) – Battery Status		
1	Reserved	1 Byte	Value = 0xFF	N/A	N/A
2	Reserved	1 Byte	Value = 0xFF	N/A	N/A
3	Cumulative Operating Time (bits 0 – 7)	3 bytes	This will give the cumulative operating time of the device and shall be reset on insertion of a new battery. Range = 0 – 16777215 ticks	2 seconds 16 seconds	1.1 years 8.5 years
4	Cumulative Operating Time (bits 8 – 15)				
5	Cumulative Operating Time (bits 16 - 23)				
6	Fractional Battery Voltage	1 Byte	Value = 0 – 255 (0x00 – 0xFF)	1/256 (V)	N/A
7	Descriptive Bit Field	1 Byte	Battery Status, Cumulative Operating Time Resolution, and Coarse Battery Voltage See Table 6-9 for more details.	Binary	N/A

6.5.1 Descriptive Bit Field

The coarse battery voltage can be found easily by using the bit mask of 0x0F on byte 7 as it requires no bit shifting.

Table 6-9. Battery Voltage Descriptive Bit Field

Bits	Value	Description
0 – 3	0 – 14 Volts 0xF (15): Invalid	Coarse Battery Voltage Use bit mask of 0x0F
4 – 6	0 (0x00)	Reserved for future use
	1 (0x01)	Battery Status = New
	2 (0x02)	Battery Status = Good
	3 (0x03)	Battery Status = Ok
	4 (0x04)	Battery Status = Low
	5 (0x05)	Battery Status = Critical
	6 (0x06)	Reserved for future use
	7 (0x07)	Invalid
7	0 – 16 second resolution 1 – 2 second resolution	The resolution used for the cumulative operating time

6.5.2 Invalid Battery Voltage

If the battery voltage is unable to be measured and transmitted by the device a value of of 15 (0x0F) shall be used in bits 0 – 3 of the descriptive bit field and a value of 255 (0xFF) shall be used in the fractional battery voltage data field.

However a value of 255 (0xFF) does not indicate that the voltage data field is invalid. This can only be determined by the value in the descriptive bit field.

6.5.3 Example of Battery Voltage Page Data

The 8 byte packet of battery voltage is shown in Figure 6-5. Starting at byte 7 with the descriptive bit field = 0x32 = 00110010. The lowest four bits indicate the value of the coarse battery voltage = 0010 = 2 Volts. The next three bits indicate the battery status = 011 = 3, which is interpreted to be "Ok".

```
ANT Serial Data = [52][FF][FF][1A][2C][03][8B][32]
```

Figure 6-5. Example of Battery Voltage Data

The highest bit of the descriptive bit field denotes what resolution the hour meter is updating at. With this bit = 0 it is interpreted that the hour meter is using a 16 second resolution. Therefore the cumulative operating time is found to be = 0x32C1A * 16s = 3118470s / 3600s/hr = 923.99 hours.

Byte 6 of this message gives the fractional battery voltage = 0x8B = 139 / 256 V = 0.543 Volts. Adding this to the coarse voltage of 2V the battery voltage is determined to be 2.543 Volts.

6.6 Common Data Page 83: Time and Date

The time and date data page allows a time stamp to be sent from a time keeping device. All data fields of this page are required, with the exception of the Day of Week field. Time values used shall reference to UTC time. To use this page all fields must be correctly populated. **Note: This data page only has a single reserved byte and will therefore only work on shared channels that have less than 256 other participating nodes.**

Table 6-10. Global Data Page 83 – Time and Date

Byte	Description	Length	Value	Units
0	Page Number	1 Byte	83 (0x53) – Time and Date	NA
1	Reserved	1 Byte	0xFF	NA
2	Seconds	1 Byte	The number of seconds. Valid data range = 0 – 59	1 second
3	Minutes	1 Byte	The number of minutes. Valid data range = 0 - 59	1 minute
4	Hours	1 Byte	The current hour of the day in a 24 hour clock. Valid data range = 0 - 23	1 Hour
5	Day of Week	3 bits (bits 7-5 of Byte 6)	Sunday = 0, Monday = 1, …, Saturday = 6 Invalid = 7	1 Day
	Day	5 Bits (bits 4-0 of Byte 6)	The day of the month. Valid data range = 1 - 31	1 Day
6	Month	1 Byte	The month of the year. Valid data range = 1 - 12	1 Month
7	Year	1 Byte	The year since the year 2000. Valid data range = 0 - 255	1 Year

6.6.1 Example of Time and Date Page Data

Figure 6-6 shows an example of a common data page that is communicating time and date information. Properly decoding this serial data message will yield a time of 17:27:13 on Thursday June 18, 2009 UTC.

```
ANT Serial Data = [53][FF][0D][1B][11][92][06][09]
```

Figure 6-6. Example of Time and Date Data

6.7 Common Data Page 84: Subfield Data

The subfield common data page allows for two subfields of data to be sent within a single data message. These data subfields are defined in Table 6-12. This data page allows for a variety of common data elements to be transmitted in a single page. **Note: This data page only has a single reserved byte and will therefore only work on shared channels that have less than 256 other participating nodes.**

Table 6-11. Global Data Page 84 - Subfield Data

Byte	Description	Length	Value	Units
0	Page Number	1 Byte	84 (0x54) – Subfield Data	NA
1	Reserved	1 Byte	0xFF	NA
2	Subpage 1	1 Byte	Indicates the page value for bytes 4 & 5 Value range: 1 – 254 Invalid = 255 (0xFF)	NA
3	Subpage 2	1 Byte	Indicates the page value for bytes 6 & 7 Value range: 1 – 254 Invalid = 255 (0xFF)	NA
4	Data Field 1 LSB	2 Bytes	As per description in Table 6-12.	
5	Data Field 1 MSB			
6	Data Field 2 LSB	2 Bytes	As per description in Table 6-12.	
7	Data Field 2 MSB			

Table 6-12. Valid Subpages for Global Page 84

Sub Page Number	Description	Length	Value	Units	Valid Range
1	Temperature LSB Temperature MSB	2 Bytes	A signed value using two's complement system measuring temperature in ºC.	0.01 ºC	Valid Range: -326.67 - +326.67
2	Barometric Pressure LSB Barometric Pressure MSB	2 Bytes	Pressure ranging from 0kPa to 655.35kPa.	0.01 kPa	Valid Range: 0 - 655.35
3	Humidity LSB Humidity MSB	2 Bytes	Percent humidity of the air.	0.01%	Max Value = 100%
4	Wind Speed LSB Wind Speed MSB	2 Bytes	The speed of the wind measured in km/hr.	0.01km/h	Max Value = 655.35km/h
5	Wind Direction LSB Wind Direction LSB	2 Bytes	The direction of the wind in degrees.	0.005º	Max Value = 359.995º
6 – 254	Reserved for future use				

6.7.1 Example of a Subfield Data Message

Figure 6-7 shows an example of the data transmitted using the subfield data page. The first subfield of this data page communicates temperature and the value given in this message is 26.67° C. The second subfield of this data page communicates percent humidity. The value of the humidity field is 66.34%.

```
ANT Serial Data = [54][FF][01][03][6B][0A][EA][19]
```

Figure 6-7. Subfield Data Message