

FAQ and Reference - Augusta Quick Chip Keyboard (QCKB)

Premise:

The Augusta is capable of outputting both chip card and swipe data in a keyboard emulation format.

This allows the product to be used in a plug & play situation!

This is a general FAQ for the Augusta when it is used in the QC KB format.

For more detailed support / questions, please email support@idtechproducts.com

Common Custom Configs / Output: 20 Apr 2018

For the most up to date list, all of these tags should be covered in the 80000503-001 ID TECH TLV Tag Reference Guide document.

Tag	Definition	Length	Recommended Default	Example	Description / Usage
DFEF 62	Controls whether MSR card with a chip on it can be swiped	1	00	DFEF620100	0: Allows swipe from chip card. 1: Disallows swipe from chip card.
DFED 0A	Outputs Fallback Reason	1	01	DFED0A0101	0: Switch is off, does not output fallback reason. 1: Switch is on, does output fallback reason
DFEF 65	Controls Error Reporting	1	01	DFEF650101	0: Switch is off, does not output errors / mutes. 1: Switch is on, does output errors
DFEF 62	Controls whether MSR card with a chip on it can be swiped	1	00	DFEF620100	0: Allows swipe from chip card. 1: Disallows swipe from chip card.
DFEF 7D	Controls the number of times the reader will allow another insert after a bad insert	1	03	DFEF7D0103	Configure up to 5 maximum times for the fallback. More information is available on the IDTECH KB: Product Integration Topic - Augusta QuickChip KeyBoard fallback behavior
DFEF 7E	Controls the status messages returned by the device while the device is in fallback.	6	50 01 50 05 50 36	DFEF7E06500150055036	Leave as the recommended default value.
DFEF 5A	Controls output of tags in QC KB mode	variable	See below	See below	This tag is utilized for the Augusta QC KB's output. The contents of the tag should include all tags that you'd like to see output on a successful dip. We recommend that you put only the bare minimum necessary, as each tag added will increase the time spent / amount of information to process.
DFED 20	Company Name	0-16	69 64 74 65 63 68	DFED2006696474656368	To use, Add this to the DFEF5A output (see further below) after you specify this in the terminal configurations. Use this TLV for meta data for company name - recommended to use this to store some identifier to track who configured the device.
DFED 21	Configure Date	3	042018	DFED2103042018	To use, Add this to the DFEF5A output (see further below) after you specify this in the terminal configurations. Use this TLV for tracking the configuration date - recommended to use this to track date of config if the key injection / config are done at separate dates. Note that the output in HEX is the actual value, does not need to be converted.

DFED 22	Current Configuration Version / Misc field	0-32	68 65 6C 6C 6F 2D 74 68 69 73 2D 69 73 2D 69 64 74 65 63 68 2D 63 6F 6E 66 69 67 75 72 65 64 21	DFED222068 65 6C 6C 6F 2D 74 68 69 73 2D 69 73 2D 69 64 74 65 63 68 2D 63 6F 6E 66 69 67 75 72 65 64 21	To use, Add this to the DFEF5A output (see further below) after you specify this in the terminal configurations. Use this TLV for anything that might help you uniquely identify the terminal and device.
DFEF 57	FW Version for QC KB	variable	N / A	DF EF 57 0A 56 31 2E 30 32 2E 30 30 32 2A	To use, Add this to the DFEF5A output (see further below). This value will be pulled from the device.
DFEE 17	Terminal Entry Mode output control	1	05	DFEE170105	This configured the output value for 9F39, which is the POS entry mode. If you include 9F39 in the DFEF5A tag, you can expect to see the contents of DFEE17 returned.

How do I configure Augusta QC KB? 12 Jul 2017

You can consult our guide on the IDTECH KB -

[How Do I Enable/Disable Quick Chip for Keyboard Emulation \(QCKB\) on the Augusta?](#)

Terminal entry mode (9F39) is returning the incorrect value. How come? How do I resolve this? 20 Apr 2018

We can modify this in our terminal configs - IDTECH defined tag DFEE17 to set the value of 9F39.

In your current terminal configs (example below), change the value of DFEE17 from 7 -> 5.

This tag was set to 7 in our default example as we have the same EMV L2 kernel being used across our contact/contactless family.

To modify this, just pull up your existing terminal configurations and edit the value of DFEE17.

That should cause all your transactions to be flagged correctly as 5 rather than 7.

I want particular tags to show up in the Augusta QC KB output. How do I go about doing this? 20 Apr 2018

IDTECH has defined tag **DFEF5A** to allow you to control which TLVs are returned during a transaction.

You can use this custom tag to specify the tags you want returned. You can read or write this tag when you read or write Terminal Settings. For example, consider the Terminal Settings block shown below.

DFEF5A is a TLV that defines ALL the output tags for the Augusta. The default value of DFEF5A is what comes out of the Augusta QC KB on an insert when this value has not been defined.

In the example above - following TLV structure, we have DFEF5A 62 XXXX .. etc. 62 defines the length of the tag names.

You can see tag 4F, 50, 56, 57... in this example. Here is where you can customize all the output tags you might need for your certification / operational use cases!

In the example above, the total length of the tags sum up to 62 hex nibbles.

For another example - let's say we only wanted a single tag (9F1E) output in the return tags.

We'd do the following for our terminal config: (sample)

```
5F3601029F1A0208409F3501219F33036028C89F4005F000F0A0019F1E085465726D696E616C9F150212349F160F30303030303030303030309F1C0838373635343332319F4E2231303732312057616C6B65722053742E20437970726573732C204341202C5553412EDF260101DF1008656E667265737A68DF110100DF270100DFEE150101DFEE160100DFEE170107DFEE180180DFEE1E08D09C20D0C41E1600DFEE1F0180DFEE1B083030303135313030DFEE20013CDFEE21010ADFE2203323C3CDFEF4B037F000DFEF620101DFEF7D0103DFEF7E06500150055036DFEF5A029F1E
```

Our output from the Augusta QC KB would now only have 9F1E.

The length of DFEF5A depends on the TLVs you are including.

So if you wanted to include 3 tags in the output, you'd add DFEF5A as follows:

9F02 is returning the wrong amount / 0. What should I do? 12 Jul 2017

9F02 indicates the pre-agreed upon amount. This value is typically discussed between you and your acquirer.

9F02 is set to 00 00 00 00 00 00 by default. You can add this to your terminal configs to update the default amount to a non-zero amount, or the amount that you need.

Add this to your terminal config: So you can add this to your terminal config for (\$1): 9F02 06 0000000000100

What are all these proprietary tags? Where do I find more information about these? 26 Jun 2017

Proprietary tags are documented in ID TECH document 800000503-001, the [TLV Tag Reference Guide](#).

Can I have IDTECH create a custom part number reader, with my custom tags, to save me time, or can I order this custom configuration from distribution? 30 Jun 2017

Either way is possible. However, your sales rep and our support engineers will have to work with you to ensure that we understand exactly what your requirements are.

The process can be made simpler by creating your own configurator tool (using ID TECH's freely available Universal SDK) to scale your production pipeline and also afford you much more control in the long run.

We additionally have a configuration utility that we equip our distribution partners with! Contact your sales rep to learn more about this, or email support@idtechproducts.com

I swiped a card on the Augusta QC KB, and I'm getting no response from the reader. Why? 26 Jun 2017

Couple of reasons why this behavior could be happening.

Scenario A:

Provided you set your terminal configurations for DFEF61 to 1, default behavior for swiping a chip card is no output (regardless of card brand).

If the card does not have a chip on it, the reader should allow the swipe.

Scenario B:

MSR Auto Mode needs to be enabled. This can be done with the Universal Demo utility or by issuing a low level command to the device.

Scenario C:

Your device is in USB HID mode. If you are expecting output as if you typed on a keyboard, your device needs to be in USB-KB mode for it to function as so, along with being set to Auto Mode.

In USB HID mode, you would 'start MSR' and get a response back with data.

Scenario D:

You have an Augusta S device with no key injected. A SRED product (denoted by 'S') for the Augusta will not function properly until the device has a DEK injected (data encryption key).

Scenario E:

DF EF 62 is either not set, or set to 0

How do I allow fallback when the device is missing an AID, or has no matching AID, or if the card fails to read? 26 Jul 2017

The followings tags and implementation are heavily covered in: [Product Integration Topic - Augusta QuickChip KeyBoard fallback behavior](#)

At a high level, you need to specify the following terminal configurations:

- DF EF 62 01 01
- DF EF 7D 01 03
- DF EF 7E 06 50 01 50 05 50 36

If the card fails to read (bad ICC card), what does the device do? How do I allow a swipe (with same chip card) as a backup method? 26 Jul 2017

On the first bad insert, the Augusta is allowing a swipe OR another insert. (provided your terminal configurations are set up correctly according to the above question)

We validated this behavior is acceptable (AMEX / MasterCard had to weigh in) as the original intent behind an older test case / requirement was that the device had to prompt for 3 times before fallback to MSR.

They mentioned that it was more of a way to get people to try to insert cards rather than swiping as they were accustomed to.

So to answer your question - the device will allow a swipe or insert the first 3 times. On the last time, the transaction will terminate. For the status codes, we return F2 22 on the 3rd try so your application can return a different code.

The length of the fallback output doesn't match up with BER-TLV standard? 19 Jul 2017

Due to the Augusta returning ASCII embedded in the return MSR data (as how our other readers function), we had to figure out the best way to move forwards.

The length you see is a character count rather than the actual length, including a carriage return.

We performed a bit of a proof below on this guide - [Product Integration Topic - Augusta QuickChip KeyBoard fallback behavior](#)

How do I parse out DFEE23 when it is returned in a fallback swipe? 19 Jul 2017

For the chip error swipe and the candidate list swipe, you want to just look for the data contained between the start sentinel '02' to the end '03'. The way to properly parse DFEE23 following BER-TLV format-

If you see a 80, that denotes the length. (in hex, which is ~128 in decimal)

Anything above 80 (ex: 81 or 82) denotes how many additional nibbles need to be read for the length.

82 (80 + 2) indicates how many bytes after it are used for the length.

Chip Error fallback swipe:

9F390180DFEE238201F9 - 01 F9 is length, which is 505.

If you look at the MSR payload, the length is 01 ed, which is 493.

Empty candidate list swipe:

9F390180DFEE2381DF - DF is length, which is 223.

MSR payload indicates that the length is 00 d3, which is 211.

For your use case - if you see 80 (or lower), that is your length.

If you see 81, the next byte is your length.

If you see 82, the next 2 bytes is your length.

If you see 83, the next 3 bytes is your length.

For example:

For your empty candidate list swipe example, DFEE23 length was 81 DF - DF evaluates to 223 (in decimal). We read 1 additional nibble.
For the chip error swipe, DFEE23 was 82 01 F9 - 01 F9 evaluates to 505 (in decimal). We read 2 additional nibbles.

I'm seeing a '80' come back as the value of 9F39. What does that mean? 12 Jul 2017

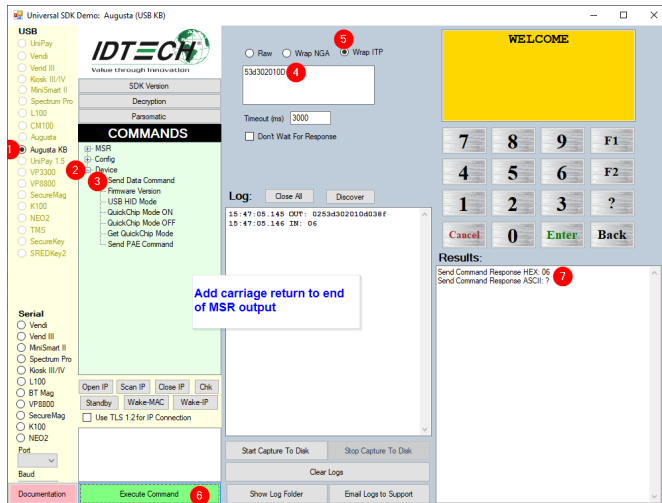
'80' is Fallback to Magnetic Stripe.

Other values of 9F39 can be found here: [What are the 'PAN Entry Modes' of tag 9F39?](#)

I'd like to configure my device to add a carriage return after the data on swipe and/or dip. How do I do that? 18 Dec 2017

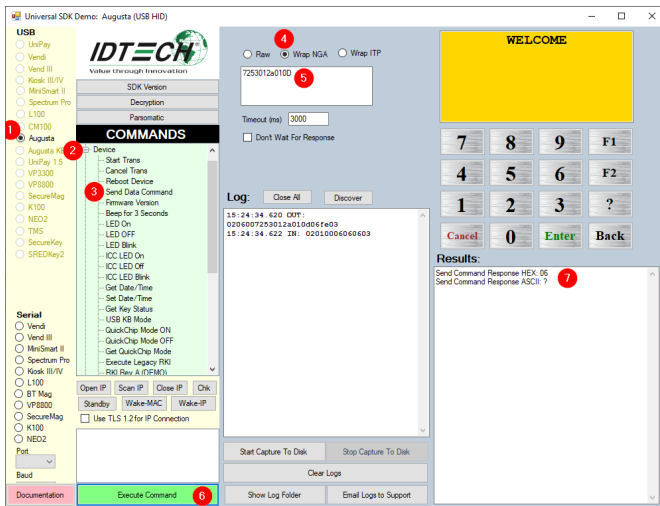
Use uDemo to send these commands

To Enable ICC Carriage return:



Send "7253012a010D" command via uDemo with the Augusta in the **HID mode** using "Wrap NGA" option (Check the setting with 7252012a)

To enable MSR Carriage return:



Send "53d302010D" command via uDemo with the Augusta in the KB mode using the "Wrap ITP" option. (check the setting with 52d3)

 To Disable ICC Carriage return:

Send "7253012a0100" command via uDemo with the Augusta in the HID mode using "Wrap NGA" option. (Check the setting with 7252012a)

To disable MSR Carriage return:

Send "53d30100" command via uDemo with the Augusta in the KB mode using the "Wrap ITP" option. (check the setting with 52d3)

I'm seeing only HEX data or I'm only seeing HEX + ASCII data in my MSR swipes and fallback swipes. What is going on? 14 Jul 2017

If the masked data for any of the tracks is enabled, the data will be returned in HEX + ASCII format (the masked portions will be denoted by the * character)

Typically, you might need the masked data to display on a terminal.
 You can enable this or disable this using our Universal Demo Utility:

