https://verifone.cloud/docs/sca-functional-specification/protocol_spec/device_transaction/display_message
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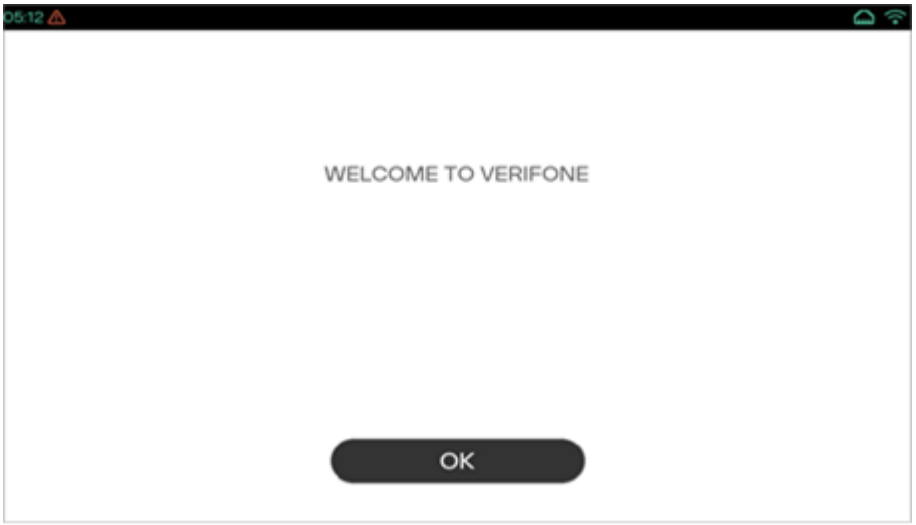
# DISPLAY_MESSAGE

This command displays a text message box on the screen for a given time frame.
Using DISPLAY MESSAGE command, the user can also insert new line or line break, by using line feed or carriage, like  or 
, return in POS request.

#### Device UI Required

| Display | User Action | Terminal Action |
|---|---|---|
|  | No action | The device displays the provided message. |

#### Request Packet

| Field | Rule | Type | Minimum | Maximum | Value(s) | Description |
|---|---|---|---|---|---|---|
| FUNCTION_TYPE | Required | Static value | N/A | N/A | DEVICE | Type of function. |
| COMMAND | Required | Static value | N/A | N/A | DISPLAY_MESSAGE | Command name |

| Field | Rule | Type | Minimum | Maximum | Value(s) | Description |
|---|---|---|---|---|---|---|
| DISPLAY_TEXT | Required | Character | 1 | 4000 | | Display Text. Exampl for inserting new line line break in DISPLAY_MESSAG command: <DISPLAY_TEXT>Summary Line1 Line Line3 &#13 Line4  Line5 Line Line3 Line Line8</DISPLAY_TEXT>. **NOTE:** Using the above inputs, the user can also scroll the screen. **Example:** WELCOME TO VERIFONE |
| BUTTON_DISPLAY | Optional | Numeric | 1 | 1 | • 0 – Button will not be displayed<br>• 1 – Button will be displayed (Default value) | When BUTTON_DISPLAY is set to 0, button will not be displayed. Eve if this field is not sent from POS, Button wi be displayed. BUTTON_DISPLAY functionality is not applicable for e235 device since it is a no touch device. |

| Field | Rule | Type | Minimum | Maximum | Value(s) | Description |
|---|---|---|---|---|---|---|
| BUTTON_LABEL | Optional | Character | 1 | • 20 (for M400, M424 and M440)<br>• 8 (for other small screen devices) | Default value is OK. | This label should be displayed on the singl button. If it is not sen from POS, then “OK” text will be shown on screen. If BUTTON_LABEL is sent from POS, then t same text will be displayed on the butto Maximum length of t text can be sent from POS is 20 characters. For M400, M424 and M440, 20 characters can be shown on the button. For small scre devices, if text length more than 8 character it may go hidden/overlap. |
| DISPLAY_TEXT_TOP | Optional | Character | 1 | • 65<br>• 30 (for e280/e285) | | Top section display text. Maximum size limit is 65 characters. In e280/e285 devices, the maximum size lim is 30 characters. This will override and replace the title logo image. DISPLAY_TEXT_TO functionality is not applicable on e235 device due to space constraints. |

| Field | Rule | Type | Minimum | Maximum | Value(s) | Description |
|---|---|---|---|---|---|---|
| DISPLAY_IMG_TOP | Optional | Base64 Encoded Data | 1 | 30000 | | Top section display image. Value is base6 encoded string (maximum 30000) to be converted to an image. Displays imag on top of the screen. This will override and replace the title logo image. DISPLAY_TEXT_TO will be ignored if DISPLAY_IMG_TO data is present. This field is supported for devices which has titl logo support. DISPLAY_IMG_TO functionality is not applicable on e235 device due to space constraints. |
| TIMEOUT_DATA | Required | Numeric | 1 | 9 | • 0 - indicates an infinite timeout.<br>• 1 - 999 seconds | Timeout duration in seconds. When the TIMEOUT_DATA value is sent as 0, Application should keep the display message visible until the next command (requiring UI) is received from the PO |
| POS_RECON | Optional | Character | 1 | 30 | | POS reconciliation. POS Reconciliation field to be echoed bac in response to POS. **Example:** RetailPOS |
| COUNTER | Required | Numeric | 1 | 10 | | COUNTER is used fo a given MAC label. Each COUNTER should be higher than the last one. This is used to authenticate t POS. **Example:** 100 |

| Field | Rule | Type | Minimum | Maximum | Value(s) | Description |
|---|---|---|---|---|---|---|
| MAC | Required | Base64 Encoded Data | N/A | N/A | N/A | Message Authentication Code. This is used to authenticate the POS. |
| MAC_LABEL | Required | Character | 1 | 50 | | Associated label that tells the device which MAC_KEY to use to decrypt the value of MAC. This is used to authenticate the POS. **Example:** REG1 |

#### Example

Following is an example of request packet

```
<TRANSACTION>
    <FUNCTION_TYPE>DEVICE</FUNCTION_TYPE>
    <COMMAND>DISPLAY_MESSAGE</COMMAND>
    <DISPLAY_TEXT>WELCOME TO VERIFONE</DISPLAY_TEXT>
    <TIMEOUT_DATA>10</TIMEOUT_DATA>
    <COUNTER>1</COUNTER>
    <MAC> … </MAC>
    <MAC_LABEL>REG2</MAC_LABEL>
    </TRANSACTION>
```

#### Response Packet

| Field | Type | Value | Description |
|---|---|---|---|
| RESPONSE_TEXT | Character | | Processor response text. **Example:** Operation SUCCESSFUL |
| RESULT | Character | | This indicates the Result details. **Example:** OK |
| RESULT_CODE | Numeric | Expected result code: -1, 59001, 59006, 59040 | This indicates the result code. Refer to Result/Error Codes for details. |
| TERMINATION_STATUS | Character | SUCCESS or FAILURE | This indicates the transaction termination status. This is the overall status of the transaction irrespective of approved or declined. Like, if the output is generated then the status is SUCCESS and if no output is generated then the status will be FAILURE. |

| Field | Type | Value | Description |
|---|---|---|---|
| TIMEOUT_RESULT | Character | • SUCCESS (if OK selected)<br>• TIMEOUT (if message box times out) | Return the timeout result with value mentioned in Value column. Not included in response for Classic implementation as of this publication. |
| POS_RECON | Character | | POS reconciliation field echoed back if sent in request. **Example:** RetailPOS1 |
| COUNTER | Numeric | | Echoes counter sent in the request. **Example:** 100 |

**Transaction Performance Metric**

Note

These fields are returned, if SCAPERFMETRIC parameter (Application Parameters) is enabled.

| Field | Type Value | Description |
|---|---|---|
| UI_TIME | Time | This indicates the time duration, for which the device screen is displayed (like error message, prompt screen, remove card screen) till any user action is performed in the command execution flow. This field is not applicable to capture the time for the Processing, Authorizing and transaction status screen. The format of the returned value would be S.sss, where S is seconds (this can be 0 to any positive integer) and sss is milliseconds. In case of any insignificant time or 0.000 value, will not be returned in the response. **Example:** `<UI_TIME>44.028</UI_TIME>` |
| HOST_TIME | Time | This indicates the time taken for the Connection to the host, sending request and receives data from the host. This field also take the cumulative time for multiple requests which may sent to the host during the transaction including two legged transactions, timeout requests, Auto Last Tran requests, DCC, Credit app proxy. The format of the returned value would be S.sss, where S is seconds (this can be 0 to any positive integer) and sss is milliseconds. In case of any insignificant time or 0.000 value, will not be returned in the response. **Example:** `<HOST_TIME>1.389</HOST_TIME>` |
| CMD_TIME | Time | This field indicates the total amount of time for a command, which is executed by the application from request received to the response sent. The format of the returned value would be S.sss, where S is seconds (this can be 0 to any positive integer) and sss is milliseconds. In case of any insignificant time or 0.000 value, will not be returned in the response. **Example:** `<CMD_TIME>70.765</CMD_TIME>` |

**Example**

Following is an example of response packet

```
<RESPONSE>
    <TERMINATION_STATUS>SUCCESS</TERMINATION_STATUS>
    <RESULT_CODE>-1</RESULT_CODE>
    <RESULT>OK</RESULT>
    <RESPONSE_TEXT>Operation SUCCESSFUL</RESPONSE_TEXT>
    <TIMEOUT_RESULT>SUCCESS</TIMEOUT_RESULT>
    </RESPONSE>
```

```
<TRANSACTION>
<FUNCTION_TYPE>SAF</FUNCTION_TYPE>
<COMMAND>EDIT</COMMAND>
<SAF_NUM>0001</SAF_NUM>
<SET_SAF_STATUS>ELIGIBLE</SET_SAF_STATUS>
<SET_TRANS_AMOUNT>5.00</SET_TRANS_AMOUNT>
<COUNTER>1</COUNTER>
<MAC> … </MAC>
<MAC_LABEL>REG2</MAC_LABEL>
</TRANSACTION>
```

**If the transaction is already processed or Maximum number of EDIT exceeded:**

```
<TRANSACTION>
<FUNCTION_TYPE>SAF</FUNCTION_TYPE>
<COMMAND>EDIT</COMMAND>
<SAF_NUM>0017</SAF_NUM>
<SET_SAF_STATUS>ELIGIBLE</SET_SAF_STATUS>
<MAC_LABEL>P_UWSQPX</MAC_LABEL>
<COUNTER>58</COUNTER>
<MAC>I1XaWqAELXO5Wbi2CZ/dXxcAX4h04u3WiT8jwme88Gg=</MAC>
</TRANSACTION>
```

**When a Transaction with particular SAF_NUM is not present in device:**

```
<TRANSACTION>
<FUNCTION_TYPE>SAF</FUNCTION_TYPE>
<COMMAND>EDIT</COMMAND>
<SAF_NUM>0019</SAF_NUM>
<SET_SAF_STATUS>ELIGIBLE</SET_SAF_STATUS>
<MAC_LABEL>P_UWSQPX</MAC_LABEL>
<COUNTER>59</COUNTER> <MAC>VfJk40oDKtPJdxkEpXVYMl3a3DR1m7f64maNT6MLJlk=</MAC>
</TRANSACTION>
```

**Editing Multiple transactions using SAF Edit:**

<TRANSACTION>
<FUNCTION_TYPE>SAF</FUNCTION_TYPE>
<COMMAND>EDIT</COMMAND>
<SET_SAF_STATUS>ELIGIBLE</SET_SAF_STATUS>
<SAF_NUM_BEGIN>25</SAF_NUM_BEGIN>
<SAF_NUM_END>29</SAF_NUM_END>
<MAC_LABEL>P_0HNIMC</MAC_LABEL>
<COUNTER>46</COUNTER>
<MAC>hymEGwd4lkxfRzrsGv0316lAKsn/qhvzEO//Rsuqhus=</MAC>
</TRANSACTION>