

AADE 1155 JSON ERP protocol

Overview

The EDPS JSON ECR communication protocol allows the control of an EFT/POS by an ECR application via JSON commands.

This is the adjusted for 1155 version, covering both connection types (provider or ecr with the erp)

Table Of Contents

- Overview
- Table Of Contents
- 1 Details
 - 1.1 Command Overview
 - 1.2 Message Breakdown
 - 1.2.1 PairingRequest
 - Example
 - Request Breakdown
 - 1.2.2 PairingResponse
 - Example
 - Response Breakdown
 - 1.2.3 SessionKeyRequest
 - Example
 - Request Breakdown
 - 1.2.4 SessionKeyResponse
 - Example
 - Response Breakdown
 - 1.2.5 Ping
 - Example
 - Request Breakdown
 - 1.2.6 PingResponse
 - Example
 - Response Breakdown
 - 1.2.7 TransactionRequest
 - Example
 - Request Breakdown
 - 1.2.8 TransactionResponse
 - Example
 - Response Breakdown
 - 1.2.9 AtomicLoyaltyRequest
 - 1.2.10 AtomicLoyaltyResponse
 - 1.2.11 CurrentBatchTotals Request
 - 1.2.12 CurrentBatchTotals Response
 - Response Breakdown
 - 1.2.13 BatchClose Request
 - Request Breakdown
 - 1.2.14 BatchClose Response
 - Response Breakdown
 - Batch Entry Breakdown
 - 1.3 Examples
 - 1.3.1 Sale TransactionRequest
 - Received request
 - Sent response
 - 1.3.2 Refund TransactionRequest
 - Received request
 - Sent response
 - 1.3.3 Void TransactionRequest
 - Received request
 - Sent response
 - 1.3.4 Preauth TransactionRequest
 - Received request
 - Sent response
 - 1.3.5 Postauth (Auth Completion) TransactionRequest
 - Received request
 - Sent response
 - 1.3.6 Loyalty Inquiry TransactionRequest
 - Received request
 - Sent response
 - 1.3.7 Batch Totals Response

- Received request
- Send response
- Batch totals breakdown
- 1.3.8 Batch Close Response
 - Received request
 - Send response
 - Batch entries breakdown
- Appendix
 - A1 Transaction Types
 - A2 Response Codes
 - A3 Loyalty Schemes

1 Details

1.1 Command Overview

Command Name	Description
Diagnostic Commands	
PairingRequest	Get the ECR ID and request the masterkey from Esend. (Masterkey As described in 1098.)
SessionKeyRequest	Get the encrypted - under the masterkey - sessionkey
PingRequest	Ping the EDPS Host
Transaction Commands	
TransactionRequest	Initiate a transaction. See appendix A1: Transaction Types
AtomicLoyaltyRequest	<i>Standalone Redemption etc. - RFU</i>
Batch Commands	
CurrentBatchTotals	Get current batch totals.
BatchClose	Close batch.

1.2 Message Breakdown

1.2.1 PairingRequest

Example

```
{
  "msgType": "PairingRequest",
  "ecrId": "ABC00112233"
}
```

Request Breakdown

	JSON Object	
Description	Key	Value
Message Type	msgType	PairingRequest
ECR ID	ecrId	Alphanumeric, length 11

1.2.2 PairingResponse

Example

```
{ "tid": "99980631" }
```

Response Breakdown

	JSON Object	
Description	Key	Value
Configuration Version	tid	Alphanumeric, 8 chars length

1.2.3 SessionKeyRequest

Example

```
{
  "msgType": "SessionKeyRequest",
  "encKey": "1ED9F7AE0B2509281BBC2DE38EF2A12B:CC5FFF"
}
```

Request Breakdown

	JSON Object	
Description	Key	Value
Message Type	msgType	PairingRequest
Encrypted Session Key	encKey	length 39, provided as described in 1098

1.2.4 SessionKeyResponse

Example

```
{ "rc": "00" }
```

Response Breakdown

	JSON Object	
Description	Key	Value
Response code	rc	See Appendix A2 (response codes)

1.2.5 Ping

Example

```
{ "msgType": "PingRequest" }
```

Request Breakdown

	JSON Object	
Description	Key	Value
Message Type	msgType	PingRequest

1.2.6 PingResponse

Example

```
{ "rc": "00" }
```

Response Breakdown

	JSON Object	
Description	Key	Value
Response code	rc	See Appendix A2 (response codes)

1.2.7 TransactionRequest

Example

```
{  
  "msgType": "TransactionRequest",  
  "ecrRefNo": "1562",  
  "txnType": "1",  
  "amount": 100,  
  "tipAmount": 0,  
  "installments": "01",  
  "cashier": "abc",  
  "lpr": "T",  
  "token": "A/S321/F0190:978:2/D20231025115530/RSSS77880021/H133/T192/M0/QF7556B09",  
  "providerId": "001",  
  "input": "7BED034B3DF5FE405ADD17C35C65B568598CEF2F;;20240205053825;12400;10000;2400;12400;12345678",  
  "signature": "MEYCIQDIuVbyCxdhMV3MhUINtdvtHK5mfIS4jx/ws2GpEvzh1QIhAMvFv1dE8RmpcFhd4gmS4s2FRzu4wGVIT07KcoVaA//2"  
}
```

Request Breakdown

	JSON Object		
Description	Key	Value	
Message Type	msgType	TransactionRequest	Mandatory
A reference number generated by the cash register.	ecrRefNo	Numeric, max length 10	Optional (default value: empty String)
Receipt Number	receipt	Numeric, max length 6	Conditional (used in Cancel, Void, Adjust, Postauth)
The transaction type. See Appendix: TransactionTypes	txnType	Alphanumeric, 1 char	Mandatory
The amount in cents	amount	Numeric, max length 12	Conditional (not used in balance inquiry)
The tip amount in cents	tipAmount	Numeric, max length 12	Optional
Number of installments	installments	Numeric, 2 digit, eg. "02", "16"	Conditional (used in sale, refund, preauth)
Postdating (RFU)	postdating	Numeric, 2 digit, eg. "02", "22"	Reserved for future use
(RFU)	instPart	Numeric, 1 char	Reserved for future use
The cashier that operates the device	cashier	Alphanumeric, max length 4	Optional
The approval code returned from the bank.	authId	Alphanumeric, max length 6	Conditional (used in types Cancel, Void, Postauth)

Use printer	lpr	1 char, "T"/"F"	Optional (default value set by EDPS in the terminal configuration)
The ECR token provided by the electronic cash register	token	Alphanumeric	Conditional (under specific erp config) - Subject to changes
The MyAADE service provider ID, provides a unique signature for the transaction	providerId	Numeric, 3 digits	Conditional (if the erp is connected to a provider)
Provider's input to sign	input	Alphanumeric	Conditional (if the erp is connected to a provider)
Provider's signature	signature	Base64, 96 chars	Conditional (if the erp is connected to a provider)

1.2.8 TransactionResponse

Example

```
{
  "eid": "E000000101",
  "ecrRefNo": "1234",
  "txn": {
    "receipt": "823",
    "rc": "00",
    "bat": "13",
    "ts": "142019",
    "rrn": "109814570860",
    "au": "570860",
    "bid": "017",
    "ota": "00000000",
    "cardNo": "411111*****1111",
    "cardType": "VISA",
    "cardHolder": "-",
    "trm": "T@1",
    "loy": {
      "loyScheme": "G",
      "loyRC": "00",
      "awardedPoints": "1",
      "consumedPoints": "0",
      "balance": "1200",
      "merchantPoints": "000000000000",
      "masterMerchantPoints": "000000000001",
      "adjustedAmount": "10"
    }
  },
  "emv": {
    "aid": "A0000000031010",
    "app": "VISA",
    "tc": "ARQC: 3862006558F4218D"
  }
}
```

Response Breakdown

Response Data Object Description

	JSON Object	
Description	Key	Value
A reference number generated by the cash register	ecrRefNo	Numeric string, max length 10, or empty string
Terminal Identifier	eid	Alphanumeric, 10 chars length
TXN data	txn	

Receipt Number	receipt	Alphanumeric, variable length
Response Code See Appendix A2 (response codes)	rc	Alphanumeric, 2 chars length
Batch Number	batchNo	Variable length ASCII numeric
Timestamp of the transaction Format %M%D%Y%H%i%S eg 063014171912	ts	Numeric string, 12 digits length
Reference Number	rrno	Numeric, 12 digits length
Bank Authorization Code	authId	Alphanumeric, 6 chars length
Bank ID	bid	Alphanumeric, 3 chars length
On Top Amount (RFU)	ota	Numeric, 8 digits length
Masked card number. eg 496099*****0614	cardNo	Alphanumeric, 16 chars length
Cardholder name from credit card.	cardHolder	Alphanumeric, variable length
Card type	cardType	Alphanumeric, variable length
Terminal Risk Management	trm	Alphanumeric, 3 chars length
Loyalty Data	loy	Loyalty Data Object (see table below)
EMV Data	emv	
AID	aid	Alphanumeric, variable length
Label	app	Alphanumeric, variable length
TC / AC	tc	Alphanumeric, variable length

Loyalty Data Object Description

Loyalty Data		
Description	Key	Value
Loyalty Scheme ID See Appendix A3	loyScheme	Alphanumeric, 1 char
Loyalty response codes See Appendix A2 (response codes)	loyRC	Alphanumeric, 2 chars length
Points Awarded	awardedPoints	Numeric string, variable length
Points Consumed	consumedPoints	Numeric string, variable length
Points Balance	balance	Numeric string, variable length
RFU	promoCode	RFU
Loyalty scheme specific value	merchantPoints	Numeric string, variable length
Loyalty scheme specific value	masterMerchantPoints	Numeric string, variable length
Adjusted Amount (Loyalty scheme specific)	adjustedAmount	Numeric string, variable length

1.2.9 AtomicLoyaltyRequest

Name	Data Type	Description
LOY.Scheme	Alphanumeric, 1 char	Loyalty Scheme ID Unknown: '?' Alpha Bonus: 'B' Eurobank Epistroti: 'F' or 'E' Go4More: 'G' Piraeus Yellow: 'Y'

Name	Data Type	Description
eTxnType	Alphanumeric, 1 char	See Appendix A1 (transaction types)
iECRRefNo	Numeric, max 10 digits	A reference number generated by the cash register.
lAmount	Numeric, max 12 digits	The amount in cents
iReceiptNo	Alphanumeric, 1 char	Receipt Number (used in void, loyalty void, adjust etc)
szCashier	Alphanumeric, 1 char	The cashier that operates the device
EID (for unattended terminals only)	10 bytes ASCII char	Terminal identification
bUseTermPrinter	01 byte ASCII 'T'/F'	Use printer (T for true, F for false)

1.2.10 AtomicLoyaltyResponse

Same as 1.2.8 Transaction Response

1.2.11 CurrentBatchTotals Request

```
{ "msgType": "CurrentBatchTotals" }
```

JSON Object		
Description	Key	Value
Message Type	MsgType	CurrentBatchTotals

1.2.12 CurrentBatchTotals Response

```
{
  "currentBatchNo": "001201",
  "batchTotals": "001000000000600001000000000100001000000000800000000000000000"
}
```

Response Breakdown

JSON Object		
Description	Key	Value
Current Batch Number	currentBatchNo	Alphanumeric 10 chars length
Batch Totals	batchTotals	<p>Alphanumeric, 60 chars</p> <p>This is a composite field. Composed of the following subfields appended (no delimiter)</p> <ul style="list-style-type: none"> sales count : 03 byte ASCII numeric - left padded with zero sales sum (in cents) : 12 byte ASCII numeric - left padded with zero void sales count : 03 byte ASCII numeric - left padded with zero void sales sum (in cents) : 12 byte ASCII numeric - left padded with zero refunds count : 03 byte ASCII numeric - left padded with zero refunds sum (in cents) : 12 byte ASCII numeric - left padded with zero void refunds count : 03 byte ASCII numeric - left padded

- with zero
- void refunds sum (in cents) :
12 byte ASCII numeric - left padded with zero

1.2.13 BatchClose Request

```
{ "msgType": "BatchClose" }
```

Request Breakdown

Description	JSON Object	
	Key	Value
Message Type	msgType	BatchClose
Use Printer	lpr	1 char "T" to use printer "F" to not use printer

1.2.14 BatchClose Response

Response Breakdown

Description	JSON Object	
	Key	Value
Current Batch Number	currentBatchNo	Numeric, 6 digits
Response Code	rc	Alphanumeric, 2 chars See Appendix A2 Response Codes
Batch Approval	authId	Numeric, 6 digits
Batch Entries Count	batchCount	Numeric, 3 digits The number of transactions appended in this batch
Batch Entries	batchEntries	Multiple entries, Variable length ASCII char A number of entries containing information about each transaction appended in this batch. See table below (Batch Entry)
Terminal Batch Totals	termBatchTotals	Alphanumeric, 60 chars see 1.4.12 CurrentBatchTotals Response for details
Host Batch Totals	hostBatchTotals	Alphanumeric, 60 chars see 1.4.12 CurrentBatchTotals Response for details

Batch Entry Breakdown

Batch Entry (Content separated by SEP #)		
Name	Data Type	Description
Receipt	Numeric, variable length	Receipt Number
Transaction Type	Alphanumeric, 1 char	See Appendix A1 (transaction types)
Amount	Numeric, variable length	The amount in cents
Tip	Numeric, variable length	The tip amount in cents
Installments	Numeric, variable length	Installments
Postdating	Numeric, variable length	Postdating (not in use), always 0

InstPart	Numeric, variable length	InstPart (not in use), always 0
OTA	Numeric, variable length	0
STAN	Numeric, variable length	System Trail Audit Number
Approval	Alphanumeric, 6 chars	Bank Authorization Code
BID	Alphanumeric, 3 chars	Bank ID
RRNO	Numeric, 12 chars	Reference Number
Cardno	Alphanumeric, 16 chars	Masked card number. eg 496099*****0614
Card Type	Alphanumeric, variable length	Card Type
TRM	Alphanumeric, 3 chars	Terminal Risk Management
Cashier	Alphanumeric, 4 chars	The cashier that operates the device

1.3 Examples

1.3.1 Sale TransactionRequest

Received request

With ERP-ECR connection

```
{ "msgType": "TransactionRequest", "ecrRefNo": "1562", "txnType": "1", "amount": 100, "tipAmount": 0, "installments": "01", "cashier": "abc", "lpr": "T", "token": "A/S321/F0190:978:2/D20231025115530/RSSS77880021/H133/T192/M0/QF7556B09" }
```

With Provider

```
{ "msgType": "TransactionRequest", "ecrRefNo": "1562", "txnType": "1", "amount": 100, "tipAmount": 0, "installments": "01", "cashier": "abc", "lpr": "T", "providerId": "001", "input": "7BED034B3DF5FE405ADD17C35C65B568598CEF2F;;20240205053825;12400;10000;2400;12400;12345678", "signature": "MEYCIQDluVbyCxdhMV3MhUINtdvtHK5mflS4jx/ws2GpEvzh1QlhAMvFvldE8RmpcFhd4gmS4s2FRzu4wGVIT07KcoVaA//2" }
```

Sent response

```
{ "eid": "E000000101", "ecrRefNo": "", "txn": { "receipt": "832", "rc": "00", "batchNo": "13", "ts": "101757", "rrno": "110200605965", "authId": "432974", "bid": "026", "ota": "00000000", "cardNo": "510099*****6005", "cardType": "MASTERCARD", "cardHolder": "-", "trm": "P-1", "emv": { "aid": "A0000000041010", "app": "MASTERCARD", "tc": "ARQC: D727F6F9DA9B9C37" } }
```

1.3.2 Refund TransactionRequest

Received request

With ERP-ECR connection

```
{ "msgType": "TransactionRequest", "ecrRefNo": "1563", "txnType": "2", "amount": 100, "tipAmount": 0, "installments": "01", "cashier": "abc", "lpr": "T", "token": "A/S321/F0190:978:2/D20231025115530/RSSS77880021/H133/T192/M0/QF7556B09" }
```

With Provider

```
{ "msgType": "TransactionRequest", "ecrRefNo": "1563", "txnType": "2", "amount": 100, "tipAmount": 0, "installments": "01", "cashier": "abc", "lpr": "T", "providerId": "001", "input": "7BED034B3DF5FE405ADD17C35C65B568598CEF2F;;20240205053825;12400;10000;2400;12400;12345678", "signature": "MEYCIQDluVbyCxdhMV3MhUINtdvtHK5mflS4jx/ws2GpEvzh1QlhAMvFvldE8RmpcFhd4gmS4s2FRzu4wGVIT07KcoVaA//2" }
```

Sent response

```
{ "eid": "E000000101", "ecrRefNo": "", "txn": { "receipt": "834", "rc": "00", "batchNo": "13", "ts": "101904", "rrno": "110200611967", "authId": "370480", "bid": "026", "ota": "00000000", "cardNo": "510099*****6005", "cardType": "MASTERCARD", "cardHolder": "-", "trm": "P-1", "emv": { "aid": "A0000000041010", "app": "MASTERCARD", "tc": "AAC: 146AEB9B7AE4D1C3" } }
```

1.3.3 Void TransactionRequest

Received request

With ERP-ECR connection

```
{ "msgType": "TransactionRequest", "ecrRefNo": "1564", "txnType": "4", "amount": "100", "receipt": "835", "authId": "311011", "cashier": "abc", "lpr": "T", "token": "A/S321/F0190:978:2/D20231025115530/RSSS77880021/H133/T192/M0/QF7556B09" }
```

With Provider

```
{ "msgType": "TransactionRequest", "ecrRefNo": "1564", "txnType": "4", "amount": "100", "receipt": "835", "authId": "311011", "cashier": "abc", "lpr": "T", "providerId": "001", "input": "7BED034B3DF5FE405ADD17C35C65B568598CEF2F;;20240205053825;12400;10000;2400;12400;12345678", "signature": "MEYCIQDluVbyCxdhMV3MhUINtdvtHK5mflS4jx/ws2GpEvzh1QlhAMvFvldE8RmpcFhd4gmS4s2FRzu4wGVIT07KcoVaA//2" }
```

Sent response

```
{ "eid": "E000000101", "ecrRefNo": "", "txn": { "receipt": "835", "rc": "00", "batchNo": "13", "ts": "103904", "rrno": "110200604969", "authId": "327039", "bid": "026", "ota": "00000000", "cardNo": "411111*****1111", "cardType": "MASTERCARD", "cardHolder": "-", "trm": "P-1", "emv": { "aid": "A0000000041010", "app": "MASTERCARD", "tc": "AAC: 146AEB9B7AE4D1C3" } }
```


Batch entries breakdown

receipt: 838
txn type: 1
amount: 100
tip amount: 0
installments: 1
postdating: 0
inst partner: 0
on top amount: 0
stan: 1174
auth ID: 805840
bid: 026
timestamp: 0412105930
pan: 510099*****6005
card type: MASTERCARD
trm: P-1
cashier: abc

--

receipt: 839
txn type: 1
amount: 100
tip amount: 0
installments: 1
postdating: 0
inst partner: 0
on top amount: 0
stan: 1175
auth ID: 452741
bid: 026
timestamp: 0412105943
pan: 510099*****6005
card type: MASTERCARD
trm: P-1
cashier: abc

--

receipt: 840
txn type: 1
amount: 100
tip amount: 0
installments: 1
postdating: 0
inst partner: 0
on top amount: 0
stan: 1176
auth ID: 115881
bid: 026
timestamp: 0412105951
pan: 510099*****6005
card type: MASTERCARD
trm: P-1
cashier: abc

--

receipt: 841
txn type: 2
amount: 300
tip amount: 0
installments: 1
postdating: 0
inst partner: 0
on top amount: 0
stan: 1177
auth ID: 630907
bid: 026
timestamp: 0412110027
pan: 510099*****6005
card type: MASTERCARD
trm: P-1
cashier: abc

Appendix

A1 Transaction Types

Transaction Type	Value
Sale	1
Refund	2
Cancel	4

Transaction Type	Value
Preauth	6
Postauth	7
Offline Sale	8
Preloaded Sale	9
Adjust Sale	A
Loyalty Inquiry	I

A2 Response Codes

General rule of thumb: Only "00" means that a transaction is approved.

Response Code	Description
00	OK
05	GENERIC_ERROR
57	TXN_NOT_PERMITTED
58	TXN_VALIDATION_FAILED
59	TXN_SIGNED_AMOUNT_ERROR
76	TXN_NOT_FOUND
C1	CARD_NOT_ENTERED
C2	CARD_DECLINED
C3	CARD_EXPIRED
C4	TXN_ABORTED
Z1	HOST_CONNECT_FAILED
Z2	HOST_CONNECT_TIMEOUT
Z3	HOST_REPLY_TIMEOUT
Z7	ICC_REJECTED_ARPC
Z9	BATCH_EMPTY
ZE	HOST_COMM_FAILED
P1	PRINTER_FAILURE
BZ	TERMINAL_BUSY
XX	GENERIC_ECR_ERROR

A3 Loyalty Schemes

Loyalty Sceme Id	Loyalty Scheme
Unknown	?
Alpha Bonus	B
Eurobank Epistrofi	F or E
NBG Go4More	G
Piraeus Yellow	Y