



Ohio VLT

Manufacturer Requirements

Version 1.9

Confidential | External

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1. Introduction

1.1 Purpose

This document provides an explanation of the VLT Manufacturer Requirements for technology providers who will provide VLTs to racetracks in the State of Ohio.

1.2 Intended Audience

This document is intended for the following users:

- Technology providers responsible for providing VLT machines to facility operators in the State of Ohio
- Technology providers responsible for certifying VLTs and systems to Ohio Lottery Commission regulatory requirements
- Video Lottery Sales Agents (VLSA) responsible for the implementation and operation of VLT facilities in the State of Ohio
- Ohio Lottery Commission employees responsible for the implementation and operation of the VLT-CMS
- Intralot staff responsible for the implementation and operation of the VLT-CMS

1.3 Overview

The requirements contained in this document must be met in order for VLTs to be monitored by the Intralot Video Lottery Terminal Central Monitoring System (VLT-CMS). This document contains details regarding required VLT functionality and information that must be provided by each VLT manufacturer in order for VLTs to be monitored by the VLT-CMS.

1.4 List of Relevant Documents

The following list provides reference to information for any external documents.

Relevant Document	
References	Document Title
R1	SAS to G2S SMIB Specification
R2	SAS Protocol Specification

Table 1: References

1.5 Acknowledgement

This document references the SAS Protocol Specification document. The SAS Protocol Specification document is property of Gaming Standards Association and International Game Technology.

1.6 Definitions

Below you may find the abbreviations and other definitions used in this document:

Abbreviation/Acronym	Description
CBI	Concatenated Binary Image File
CRC	Cyclical Redundancy Check
CTL	Certified Testing Labs
FTP	File Transfer Protocol
G2S	Game to System
OLC	Ohio Lottery Commission
SAS	Slot Accounting System
SMIB	Smart Machine Interface Board
SW	Software
VLSA	Video Lottery Sales Agent
VLT	Video Lottery Terminals
VLT-CMS	Video Lottery Terminal Central Monitoring System

Table 2: Abbreviations and Acronyms

2. Technical Requirements

The following technical requirements must be met in order for VLTs to be successfully monitored by the Intralot VLT-CMS.

2.1 SAS VLT Minimum Requirements

The following minimum requirements must be met in order for SAS VLTs to successfully interoperate with the Intralot VLT-CMS.

- VLT must remain enabled and playable when not connected to the VLT-CMS. When the VLT is not connected to the VLT-CMS the VLT must buffer as many events as possible. Preference is for the VLT to buffer all events when not connected to the VLT-CMS. Once the connection to the VLT-CMS is restored the VLT must communicate all buffered events to the VLT-CMS. If events have been overwritten the VLT must send event 70 (Exception buffer overflow) to the VLT-CMS along with all currently buffered events.
- VLT must support the ability to allow cash out when the VLT is disabled by the VLT-CMS, receives 0x01 Shutdown (lock out play).
- VLT to SMIB wiring harness is required, see SAS to G2S SMIB Specification
- SAS to G2S SMIB must be mounted within a locked area of the VLT cabinet.
- VLT must support configuring the base accounting denomination to \$.01 (pennies).
- SAS 6.01 or higher certified including support for the following:
 - 0x01 Shutdown (lock out play)
 - 0x02 Startup (enable play)
 - 0x09 Enable/disable game n
 - 0x0F Send meters \$10 through \$15
 - 0x1F Send Gaming Machine ID and Information

- 0x21 ROM signature verification
- 0x2F Send selected meters for game n
- 0x51 Send total number of games implemented
- 0x53 Send game n configuration
- 0x55 Send selected game number
- 0x56 Send enabled game numbers
- 0xA0 Send Enabled Features
- Multi-denomination support – A VLT that reports a denomination via the 1F and 53 long polls that is or could be different from some player denomination must always be considered a multi-denomination VLT. If the VLT is intended to be enabled for multi-denomination support the VLT must also support the following:
 - 0xB2
 - 0x56 with multi-denom preamble 0xB0
- VLT must update Total Restricted Amount Played and Total Non-Restricted Amount Played meters prior to or at exactly the same time as updating Total Coin In meter, when applicable.
- VLT must support the SAS meters defined below:
 - 0000 Total Coin In
 - 0003 Total hand paid canceled credits
 - 0005 Games Played
 - 000B Total credits from bill accepted
 - 000E Total cashable ticket out, including debit tickets
 - 000F Total Restricted Ticket In
 - 0010 Total restricted ticket out

- 0012 Total count of cashable ticket out, including debit tickets
- 0013 Total count of restricted ticket in
- 0014 Total count of restricted ticket out
- 0019 Total Restricted Amount Played
- 001A Total Non-Restricted Amount Played
- 001C Total machine paid payable win, not including progressive or external bonus
- 001D Total machine paid progressive win
- 001E Total machine paid external bonus win
- 001F Total attendant paid payable win, not including progressive or external bonus
- 0020 Total attendant paid progressive win
- 0021 Total Attendant Paid External Bonus
- 0023 Total Hand paid credits
- 0029 Total Cashable Ticket In, not including non restricted promotional tickets
- 002B Total nonrestricted promotional ticket in
- 002E Electronic cashable transfers to gaming machine, not including non-restricted, debit ticket or external bonus
- 002F Electronic restricted promotional transfers to gaming machine, not including external bonus
- 0030 Electronic nonrestricted promotional transfers to gaming machine, not including external bonus
- 0032 Electronic cashable transfers to host

- 0033 Electronic restricted promotional transfers to host
- 0034 Electronic non-restricted promotional transfers to host
- 0035 Total regular cashable ticket in
- 0037 Total nonrestricted promotional ticket in

- VLT must support both events in the event pairs below if one of the events in the pair is supported. For example for every 'Game has started (7E)' the corresponding dual event, 'Game has ended (7F)' must also be supported.
 - 11 Slot door was opened
 - 12 Slot door was closed

 - 13 Drop door was opened
 - 14 Drop door was closed

 - 15 Card cage was opened
 - 16 Card cage was closed

 - 17 AC power was applied to gaming machine
 - 18 AC power was lost from gaming machine

 - 19 Cashbox door was opened
 - 1A Cashbox door was closed

 - 1B Cashbox was removed
 - 1C Cashbox was installed

 - 1D Belly door was opened
 - 1E Belly door was closed

 - 51 Handpay is pending
 - 52 Handpay was reset

 - 71 Change lamp On
 - 72 Change lamp Off

- 7E Game has started
- 7F Game has ended

- 82 Display meters or attendant menu has been entered
- 83 Display meters or attendant menu has been exited

- 84 Self test or operator menu has been entered
- 85 Self test or operator menu has been exited

- VLT events, if applicable:
 - Power Resets or power failure:
 - 17 AC power was applied to gaming machine
 - 18 AC power was lost from gaming machine
 - RAM corruption of the VLT:
 - 31 CMOS RAM error (data recovered from EEPROM)
 - 32 CMOS RAM error (no data recovered from EEPROM)
 - 33 CMOS RAM error (bad device)
 - 34 EEPROM error (data error)
 - 35 EEPROM error (bad device)
 - 36 EPROM error (checksum – version changed)
 - 37 EPROM error (bad checksum compare)
 - 38 Partitioned EPROM error (checksum – version changed)
 - 39 Partitioned EPROM error (bad checksum compare)
 - 3A Memory error reset (operator used self test switch)
 - Handpay conditions (VLT jackpot, Cancelled credit handpay, Progressive Jackpot):
 - 51 Handpay is pending
 - 52 Handpay was reset
 - Door Openings (any door that accesses a critical area of the VLT)
 - 11 Slot door was opened
 - 12 Slot door was closed
 - 13 Drop door was opened
 - 14 Drop door was closed
 - 15 Card cage was opened
 - 16 Card cage was closed
 - 19 Cashbox door was opened
 - 1A Cashbox door was closed
 - 1D Belly door was opened
 - 1E Belly door was closed
 - Bill Validator errors:
 - 1B Cashbox was removed
 - 1C Cashbox was installed

- 27 Cashbox full detected
- 28 Bill jam
- 29 Bill acceptor hardware failure
- 2A Reverse bill detected
- 2B Bill rejected
- 2C Counterfeit bill detected
- VLT Low RAM Battery:
 - 3B Low backup batter detected
- Reel Spin Errors:
 - 40 Reel Tilt (Which reel is not specified)
 - 41 Reel 1 tilt
 - 42 Reel 2 tilt
 - 43 Reel 3 tilt
 - 44 Reel 4 tilt
 - 45 Reel 5 tilt
 - 46 Reel mechanism disconnected
- Printer Errors:
 - 60 Printer communications error
 - 61 Printer paper out error
 - 74 Printer paper low
 - 75 Printer power off
 - 76 Printer power on
 - 77 Replace printer ribbon
 - 78 Printer carriage jammed
- Buffer Overflow:
 - 70 Exception buffer overflow

2.2 VLT Signature Verification

VLT signature verification will be completed using the CRC calculation defined in the SAS Protocol specification. SAS long poll \$21 will be used to request the CRC value from the VLTs using an initial seed value defined by the VLT-CMS.

2.2.1 Long Poll \$21 Response Time

VLT must respond to long poll \$21 request within 7 minutes.

2.2.2 Concatenated Binary Image (CBI)

A CBI must be provided for each unique VLT software configuration to be deployed in Ohio. The VLT software configuration typically consists of operating system software, game software and jurisdiction software. The specific contents of each manufacturer's CBI will be based on what each manufacturer supports. If a manufacturer supports multiple methods for defining the contents of the CBI the Ohio Lottery Commission will specify the method to be used for Ohio. The CBI and associated data will be considered a Software Set in the VLT-CMS. The SW Set consists of the CBI and the data specified in section 3 of this document. The data specified in section 3 must be provided for each SW Set.

2.2.3 CBI Creation

The CBI must be created by an independent test lab that is a licensed technology provider by the Ohio Lottery Commission.

2.3 Interoperability Certification

VLTs must be certified by an independent test lab that is a licensed technology provider by the Ohio Lottery Commission. VLTs must be certified to be interoperable with the Intralot VLT-CMS.

3. Licensing Requirements

All information specified in section 3 must be verified by an independent test lab that is a licensed technology provider by the Ohio Lottery Commission. Data and import files must be provided to the independent test lab for verification.

In order for VLTs to be licensed in the VLT-CMS the information contained in the following sections must be provided.

3.1 New VLT Model Requirements

The following information must be provided for each VLT to be defined in the VLT-CSM.

New VLT Model					
Note: Each VLT model record will start on a new line. See example on page 19.					
Field Name	Description	Format	Validation	Comments	Example Data
Manufacturer Name	Manufacturer Name	String	Maximum 32 Characters		Intralot
Manufacturer GSA ID	GSA Manufacturer ID	String	3 characters	Manufacturer GSA ID, if manufacturer does not have a GSA ID the ID will be Intralot assigned	ITL

VLТ Model Name	VLТ Model Name - Unique per Manufacturer	String	Maximum 32 characters		microLOT
VLТ Model ID	VLТ Model Identifier - Unique per manufacturer	String	Maximum 32 alphanumeric (no spaces)		microLOTx2Plus

3.1.1 Software Set Import File

An import file must be provided for VLT models. The import file must be provided as a comma delimited file (CSV file format). The name of the file will be 'Manufacturer GSA ID'_VLTmodels and the import file will have a '.csv' file extension. Example: ITL_VLTmodels.csv

Example file contents based on the example data column in the table above:

```
Intralot,ITL,microLOT,microLOTx2Plus  
Intralot,ITL,Photon,Photon1600XP
```


3.2 Software Set Requirements

The following information must be provided for each software set that will be defined in the VLT-CSM.

SW Set Data					
Name	Description	Format	Validation	Comments	Example Data
Action	New	String	Must be 'New'	New – new software sets sent to Intralot	New
Manufacturer GSA ID	GSA Manufacturer ID	String	3 characters - manufacturer GSA ID, if manufacturer does not have a GSA ID the ID will be Intralot assigned		ITL
Logical Version Number	Software set version number	Numeric	Maximum 6 digits		1
Replacement/Revocation Period	Unused	Numeric	Maximum 3 digits	Unused, no value should be defined	
SW set alias	Unique identifier for each software set per manufacturer, assigned by the software manufacturer for this software set	String	Maximum 30 alphanumeric (no spaces)	SW set alias is the unique key	LottoMagic
Software Description	Description of SW set. If single game, it would be the game description. If multigame, it would be an overall description of the games included in the SW set.	String	Maximum 64 characters		LottoMagic



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Filename	Filename of the concatenated binary image file. Filename must be unique. File will be used to compare to the results returned from LP 21.	String	Must have a '.bin' file extension. Maximum 64 alphanumeric including file extension	Example: LottoMagic.bin	LottoMagic.bin
Test Seed 1	seed for testing signature calculation	String	4 characters (0000-FFFF)	Randomly selected seed by the manufacturer	1234
Test Seed 2	seed for testing signature calculation	String	4 characters (0000-FFFF)	Randomly selected seed by the manufacturer, cannot be the same as Test Seed 1	3421
Test Signature 1	test signature for seed 1	String	4 characters (0000-FFFF)	As returned from LP 21 using seed 1	0C65
Test Signature 2	test signature for seed 2	String	4 characters (0000-FFFF)	As returned from LP 21 using seed 2	19E5
Number of Games	'1' for single game, 'N' for N-game multigame. The number of games included in the SW set.	Numeric	Maximum 4 digits		1
Game Theme Unique ID	The unique ID provided by Ohio Lottery. Multiple unique IDs are separated by #	Alphanumeric	Maximum 1024 digits		ITL050819_005#ITL050819_006
Game Information	see below	see below			

Game Information (repeated <Number of Games > times)	Note: Each game information record will start on a new line. See example on page 24.			
---	--	--	--	--

Manufacturer GSA ID	GSA Manufacturer ID	String	3 characters - manufacturer GSA ID, if manufacturer does not have a GSA ID the ID will be Intralot assigned		ITL
Game Alias	Unique game identifier assigned by the manufacturer. Must be unique across all game themes per manufacturer.	Alphanumeric	Minimum 8 characters, maximum 18 characters, alphanumeric, no spaces and no underscores		TEST014-000009-001
Game Description	Game description - if single game, it would be the same as the overall SW set Software Description	String	Maximum 64 characters		LottoMagic
SAS Game ID	SAS Game ID	String	2 characters	Game ID as returned by LP 53 for game N	EX
Number of Paytables	The number of implemented paytables for this game theme	Numeric	Maximum 4 digits		6
Paytable Information	see below	see below			

Paytable Information (repeated <Number of Paytables> times)	Note: Each payable record will start on a new line. See example on page 23.				
Game Alias	Unique game identifier assigned by the manufacturer. Same as the Game Alias in the Game Information above.	Alphanumeric	Minimum 8 characters, maximum 18 characters, alphanumeric, no		TEST014-000009-001

			spaces and no underscores		
SAS Slot Number	The SAS slot of this game (Game Number N)	Numeric	Maximum 4 digits	SAS Game Number	1
SAS Paytable ID	The SAS Paytable ID as returned by LP 53 for Game N	String	6 characters (positions) required, if Paytable ID is less than 6 characters insert the necessary spaces to equate to 6 positions	SAS Paytable ID as returned by LP 53 for Game N	ITL028
Base Percentage RTP	Base Percentage as returned by LP 53 for Game N (RTP – Return to Player percentage)	Numeric	4 digits, no decimal	Base Percentage as returned by LP 53 for Game N	9253
Theme Name	Theme description	String	Maximum 32 characters	Not required, field can be blank	LottoMagic

3.2.1 Software Set Import File

An import file must be provided for each Software Set. The import file must be provided as a comma delimited file (CSV file format). The name of the file will be 'Manufacturer GSA ID'_SW set alias and the import file will have a '.csv' file extension. Example: ITL_LottoMagic.csv

Single game example file contents based on the example data column in the table above:

```
New,ITL,1,,LottoMagic,LottoMagic,LottoMagic.bin,1234,3412,0C65,19E5,1,  
ITL050819_005#ITL050819_006  
ITL,TEST014-000009-001,LottoMagic,EX,6  
TEST014-000009-001,1,ITL028,9253,  
TEST014-000009-001,2,ITL028,9352,  
TEST014-000009-001,3,ITL028,9455,  
TEST014-000009-001,4,ITL028,9552,  
TEST014-000009-001,5,ITL028,9651,  
TEST014-000009-001,6,ITL028,9753,
```

Multi-game example file contents:

```
New,ITL,1,,LottoCat,LottoMagicCatInTheHat,LottoCat.bin,1234,3412,0C65,19E5,2,ITL050819_005#ITL050819_006
ITL,TEST014-000009-001,LottoMagic,EX,6
ITL,TEST014-004AX6-001,CatInTheHat,EX,9
TEST014-000009-001,1,ITL028,9253,LottoMagic
TEST014-000009-001,2,ITL028,9352,LottoMagic
TEST014-000009-001,3,ITL028,9455,LottoMagic
TEST014-000009-001,4,ITL028,9552,LottoMagic
TEST014-000009-001,5,ITL028,9651,LottoMagic
TEST014-000009-001,6,ITL028,9753,LottoMagic
TEST014-004AX6-001,7,ITL032,8500,CatInTheHat
TEST014-004AX6-001,8,ITL033,8501,CatInTheHat
TEST014-004AX6-001,9,ITL033,8750,CatInTheHat
TEST014-004AX6-001,10,ITL033,8850,CatInTheHat
TEST014-004AX6-001,11,ITL033,8990,CatInTheHat
TEST014-004AX6-001,12,ITL033,9191,CatInTheHat
TEST014-004AX6-001,13,ITL033,9350,CatInTheHat
TEST014-004AX6-001,14,ITL033,9491,CatInTheHat
TEST014-004AX6-001,15,ITL033,9600,CatInTheHat
```

3.3 Game Theme Data Requirements

Manufacturers that support dynamic payable game number (SAS Slot ID) assignment based on the software packages installed on the VLT must provide a tool. The tool must allow selection of the software packages (game themes) that will be installed on the VLT, the tool must sort the paytables in the correct order based on the software packages selected and the tool must create the necessary import file. The tool must be verified by an independent test lab that is a licensed technology provider by the Ohio Lottery Commission.

The following data must be provided by the tool.

Game Theme Data					
Field Name	Description	Format	Field Validation	Comments	Example Data
Game Information (repeated <Number of Games > times)	Note: Each game information record will start on a new line. See example on page 29.				
Manufacturer GSA ID	GSA Manufacturer ID	String	3 characters - manufacturer GSA ID, if manufacturer does not have a GSA ID the ID will be Intralot assigned		ITL
Game Alias	Unique game identifier assigned by the manufacturer. Must be unique across all game themes per manufacturer.	Alphanumeric	Minimum 8 characters, maximum 18 characters, alphanumeric, no		TEST014-000009-001

			spaces and no underscores		
Game Description	Game description.	String	Maximum 64 characters		Magic
SAS Game ID	SAS Game ID	String	2 characters	Game ID as returned by LP 53 for game N	EX
Number of Games	'1' for single game, 'N' for N-game multigame. The total number of games (packages) included in the game theme file.	Numeric	Maximum 4 digits	Value must be the same for each game information record. See example in section 3.3.1	2
Number of Paytables	The number of implemented paytables for this game theme	Numeric	Maximum 4 digits		6
Paytable Information	see below	see below			

Paytable Information (repeated <Number of Paytables> times)	Note: Each payable record will start on a new line. See example on page 29.				
Game Alias	Unique game identifier assigned by the manufacturer. Same as the Game Alias in the Game Information above.	Alphanumeric	Minimum 8 characters, maximum 18 characters, alphanumeric, no spaces and no underscores		TEST014-000009-001

SAS Slot Number	The SAS slot of this game (Game Number N)	Numeric	Maximum 4 digits	SAS Game Number	1
SAS Paytable ID	The SAS Paytable ID as returned by LP 53 for Game N	String	6 characters (positions) required, if Paytable ID is less than 6 characters insert the necessary spaces to equate to 6 positions	SAS Paytable ID as returned by LP 53 for Game N	ITL033
Base Percentage RTP	Base Percentage as returned by LP 53 for Game N (RTP – Return to Player percentage)	Numeric	4 digits, no decimal	Base Percentage as returned by LP 53 for Game N	8501
Theme Name	Theme description	String	Maximum 32 characters	Not required, field can be blank	Magic

3.3.1 Game Theme Data Import File

The import file must be provided as a comma delimited file (CSV file format). The name of the file will be the 'Manufacturers GSA ID' and a description provided by the manufacturer (no more than 32 total characters). The import file name will end with '.theme' and have a '.csv' file extension. Example: ITL_MagicCat.theme.csv

Example file, contents based on the example data column in the table above:

```
ITL,TEST014-000009-001,Magic,EX,2,6
ITL,TEST014-004AX6-001,CatDog,EX,2,10
TEST014-000009-001,1,ITL033,8501,Magic
TEST014-000009-001,2,ITL033,8750,Magic
TEST014-000009-001,3,ITL033,8850,Magic
TEST014-000009-001,4,ITL033,8990,Magic
TEST014-000009-001,5,ITL028,9253,Magic
TEST014-000009-001,6,ITL028,9352,Magic
TEST014-004AX6-001,7,ITL032,9009,Cat
TEST014-004AX6-001,8,ITL032,9009,Dog
TEST014-004AX6-001,9,ITL033,9191,Cat
TEST014-004AX6-001,10,ITL033,9191,Dog
TEST014-004AX6-001,11,ITL033,9350,Cat
TEST014-004AX6-001,12,ITL033,9350,Dog
TEST014-004AX6-001,13,ITL033,9491,Cat
TEST014-004AX6-001,14,ITL033,9491,Dog
TEST014-004AX6-001,15,ITL033,9600,Cat
TEST014-004AX6-001,16,ITL033,9600,Dog
```