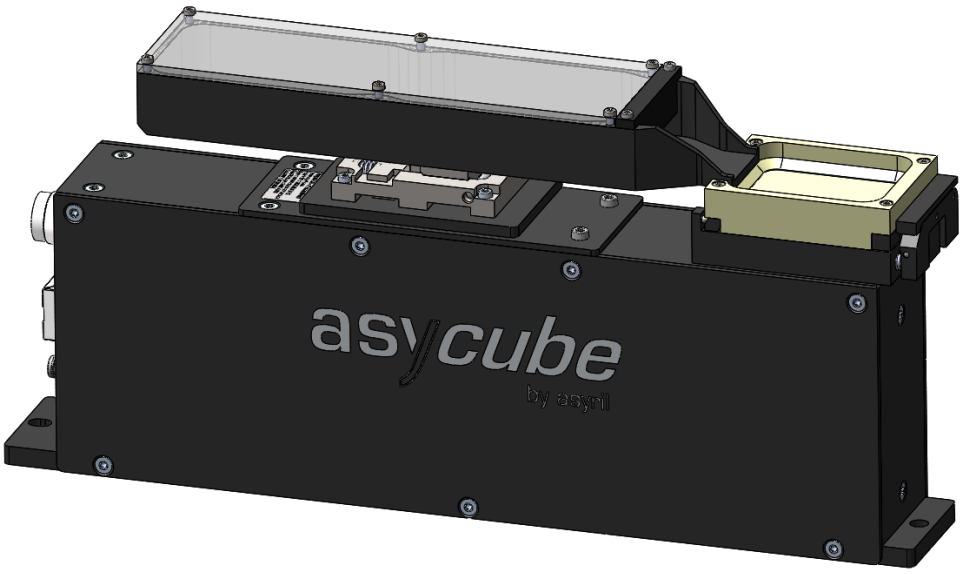
asyril Experts in Flexible Feeding Systems

Asycube

50 & 80

Programming Guide



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Version	B	**Date**	23.11.2016

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1. Introduction

1.1. Generalities

The following document is the property of Asyril S.A. and may not be copied or circulated without permission. The information contained in this document is subject to change without notice for the purpose of product improvement. Before operating your product, please read this document in order to ensure a correct use of the product. Nevertheless, if you meet difficulties during the operation or the maintenance, please, feel free to contact Asyril customer service.

In this manual, the safety precautions that you must respect are classified as: “Danger”, “Warning” and “Note”; the following symbols are used:

DANGER!

Failure to observe the instruction may result in death or serious injury.

DANGER!

Failure to observe the instruction may result in electrocution or serious injury due to electric shock

WARNING!

Failure to observe the instruction may result in injury or property damage.

NOTE :

The user should read carefully this information to ensure the correct use of the product, although failure to do so would not result in injury.

Refer to …

For more information on a specific subject, the reader should read other manual, or refer to other paragraph.

WARNING!

Asyril shall not be liable whatsoever for any loss or damage arising from a failure to observe the items specified in “Safety Precautions” of the OPERATING MANUAL. The customer is responsible to provide the necessary instruction to the persons concerned.

NOTE :

All dimensions in this document are expressed in millimeters

1.2. Related manuals

As described in Table 1-1, this manual is an integral part of the Asycube documentation set. This manual covers the information about how to use and integrate an Asycube 50 or 80.

Manual Title	Manual reference	Description of the content
Asycube Operating manual	ACUBE-50-80_Operating_Manual	Technical description, safety precautions, installation, maintenance and reparation information
Asycube User manual	ACUBE-50-80_User_Manual	Describes how to configure the Asycube.
HMI manual	HMI_User_Guide	Describes how to use the HMI (simply move the parts, and configure the Asycube's vibrations …)
Asycube Programming guide	ACUBE-50-80_Programming_Guide	THIS MANUAL
Asycube Plugin .NET	ACUBE_PLUGIN_.NET_Integration_Guide	Describes the Asycube dll's that are High-level libraries which helps to integrate Asycubes using .Net 3.5 environment.

Table 1-1: related manuals

2. General description of the Asycube

The Asycube contains its own intelligence and memories (one volatile for working and one flash memory for backup).

To use the Asycube, the user has access to vibrations parameters (called “Vibration Sets”) and sequences. The Asycube has also global parameters which are general parameters adjusted usually by Asyril technician.

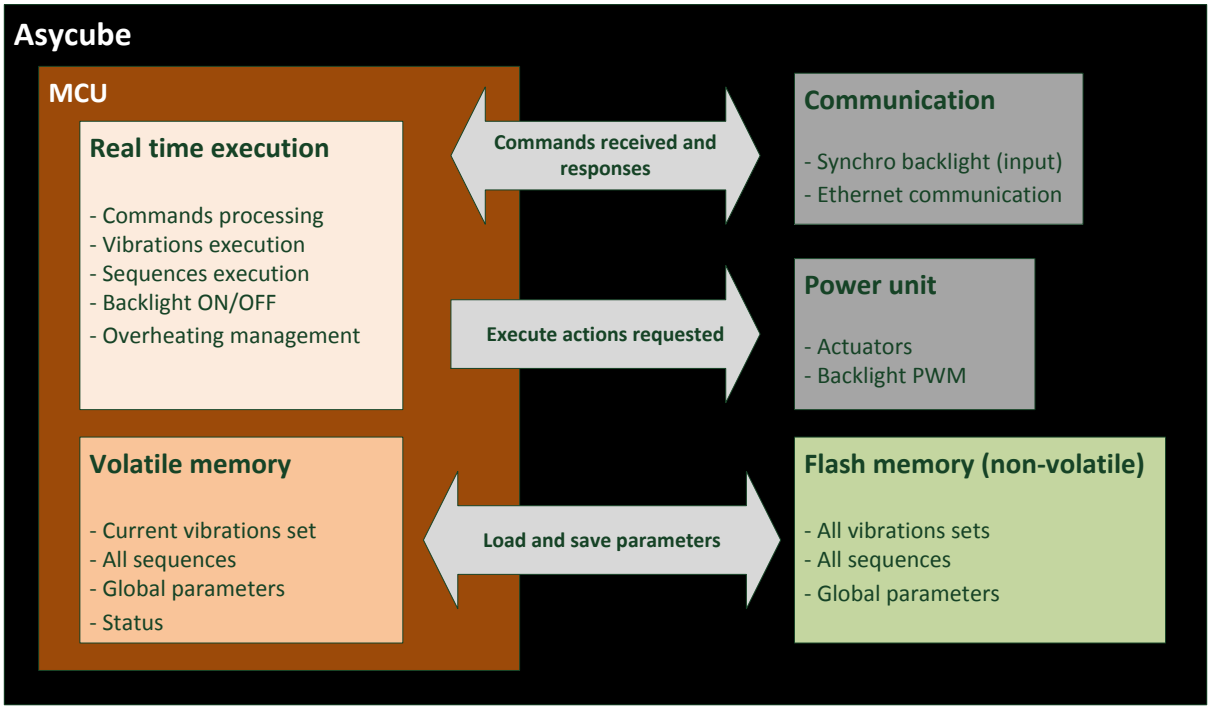


Figure 2-1 : description of Asycube

2.1. Vibration sets

The vibration parameters are organized in vibration sets. There are 26 different vibration sets (the 26th is reserved for Asyril technician).

Each of the vibration set contains 26 vibrations for the platform identified by letters A to Z and 26 vibrations for hopper identified by other letters A to Z.

For the platform, the 9 first vibrations (A to I) are by convention used for standard vibrations (movements forward, backward, left, right, flip, etc).

For the hopper, the first vibration is by convention used for standard vibration 'forward'.

The table below shows the organization of the vibration sets:

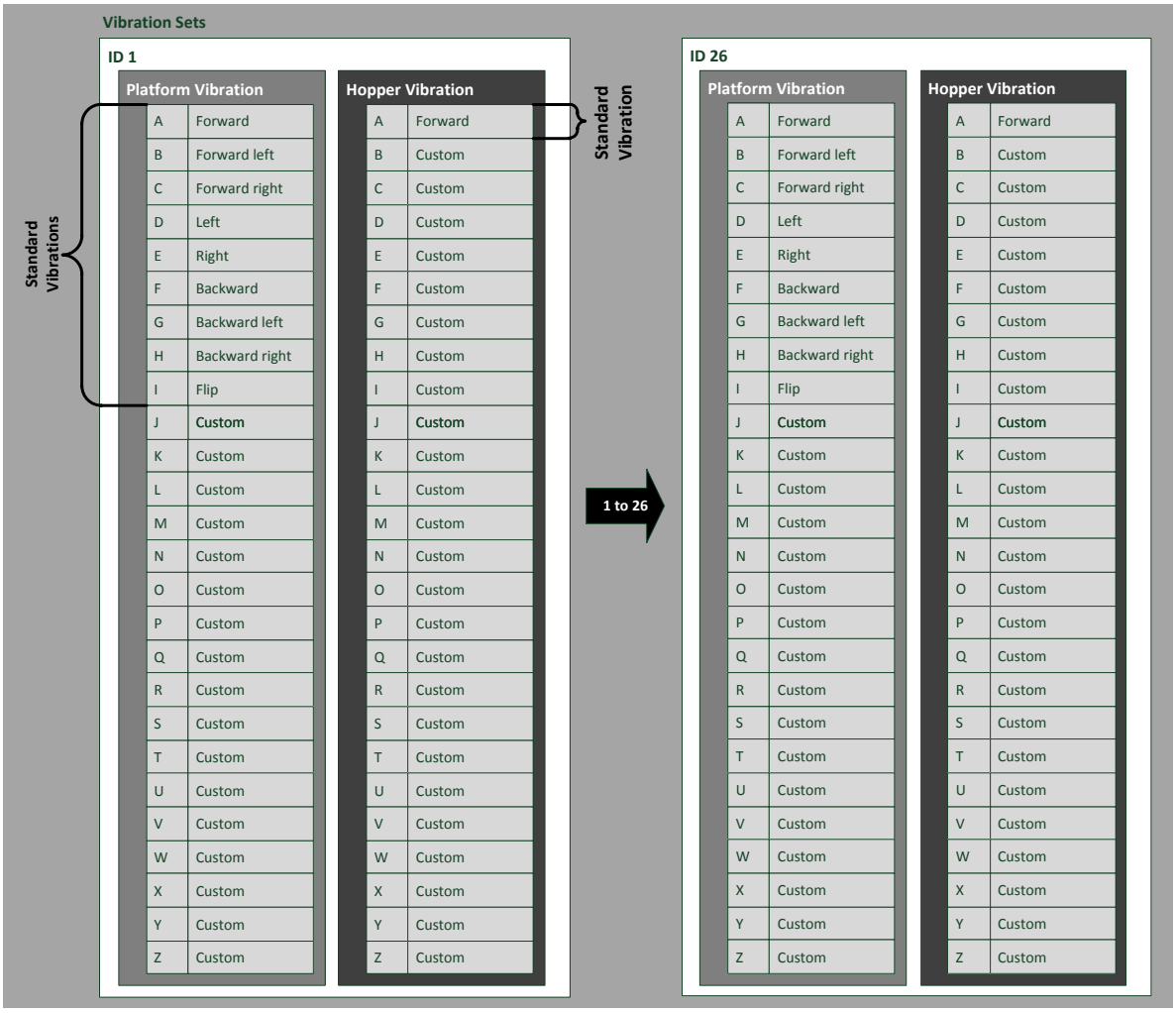


Figure 2-2 : description of vibration sets

2.2. Sequences

The Asycube contains 26 different sequences (the 26th is reserved for Asyril technician). Each sequence contains 7 customizable actions. It can be none (no action), platform vibration, hopper vibration and stabilization (a delay).

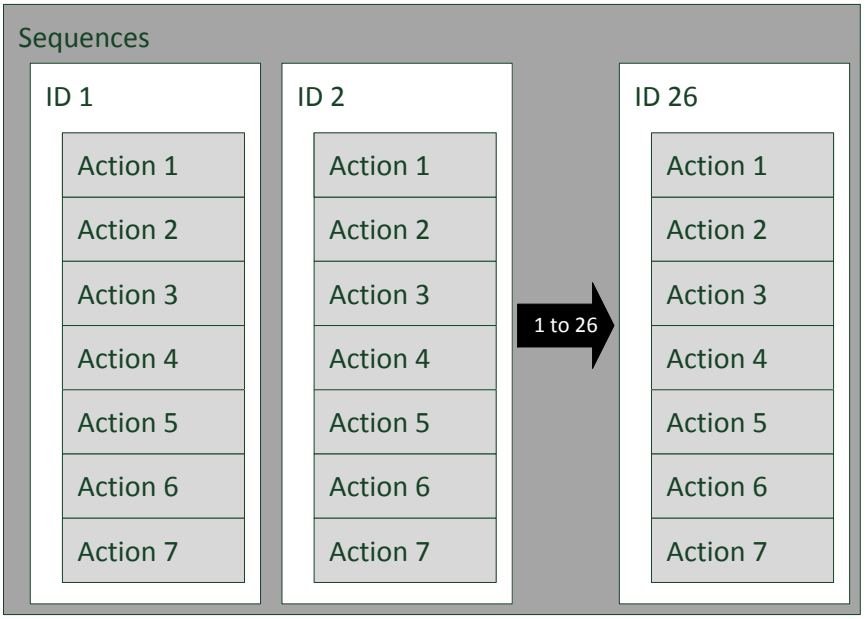


Figure 2-3 : description of sequences

More details in the commands descriptions.

2.3. Load/save in memories

Because of the size of the volatile memory, it can only contain one of the 26 vibration sets. At startup, the Asycube loads from flash memory the last selected vibration set, the 26 sequences and the global parameters.

When the user selects another vibration set, the parameters are loaded from the flash memory and overwrite the previously selected vibration set (all modifications made before selecting another vibration set are lost if the user did not save the vibration set with the command {DV}, which saves the vibration parameters in the flash memory). A status indicates if a value has been modified and can be read with command {?50}. The time needed to load a new vibration set from the flash memory to the volatile memory is approximatively 0.3 seconds.

Every 20 minutes, the global parameters are automatically saved. If the user tries to save during this ongoing process, his command will be refused until the automatic saving is finished.

3. How to use the Asycube 50 and 80

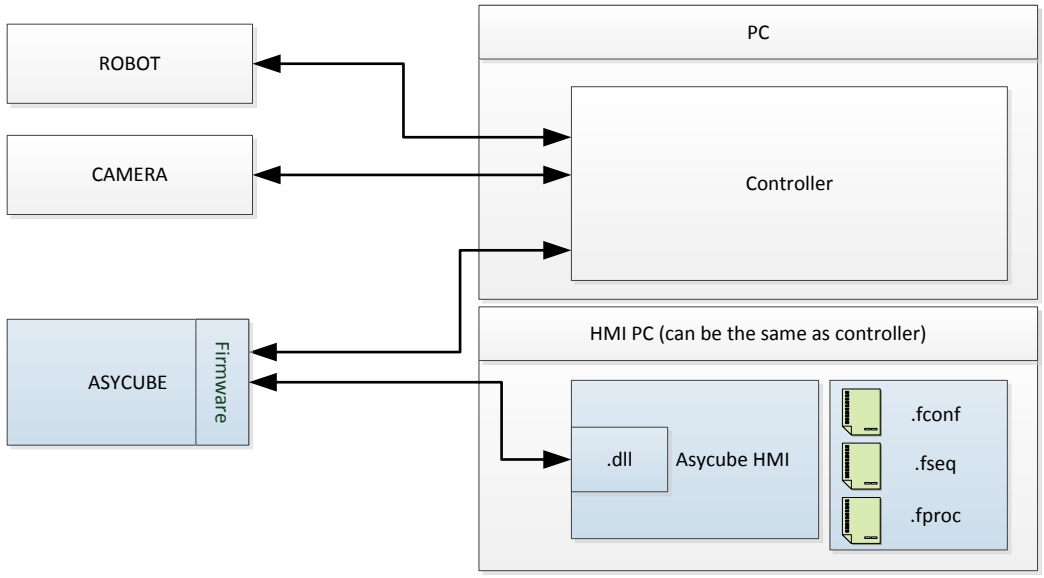
This chapter gives the main information about the use and tuning of the Asycube. It shows general information and behavior, presents the main procedure from setup to running in production with an Asycube 50 or 80 and describes then each step. The next chapters will detail the chosen working mode.

3.1. Integration modes

Different ways of integration are available. Here below is a brief description of the main ones. More information is then available in the corresponding section. The main tasks necessary to use, configure and integrate the Asycube are described depending the chosen integration mode. The next tables and figures describe the tasks in charge of the Asycube and the ones due to the integrator. The light blue color represents the levels offered by Asyril, the white one the levels in charge of the integrator.

3.1.1. Direct connection to the Asycube, configuring with Asycube HMI

In this integration mode, the integrator uses the Asycube HMI (installed on a computer, the same as the integrator's system or another one) to configure the Asycube and to communicate with the Asycube from his own system in order to execute the vibrations. All the configurations are made with the Asycube HMI and can be exported in different types of files (fconf, fseq and fproc files).

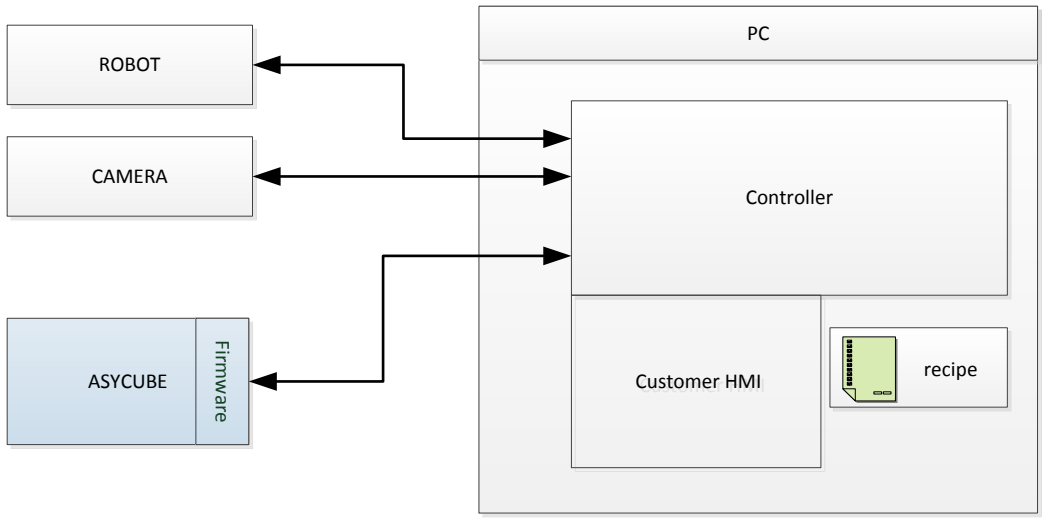


LEVEL	TASKS
Asycube	• Generation and synchronization of the desired vibration • Execute sequences • Save and reload 25 vibration sets (26 for the reload) • Save and reload 25 sequences (26 for the reload) • Activation of the outputs and backlight • Choice/Management of the optimal sequence based on the vision feedback
Asycube HMI	• Configuration and optimization of the feeding (vibration) parameters • Configuration and optimization of the sequences
Integrator	• Communication with the Asycube • Recipe management (memorize vibration set ID and sequence ID for each component). • Synchronization of the feeder and the machine
Optional	• Treatment of the recipe (read/write parameters) • Configuration of the process (Asycube HMI)

Table 3-1: Integration mode: Asycube only

3.1.2. Direct connection to the Asycube

In this integration mode, the integrator develops his own HMI to configure the Asycube and to communicate with the Asycube from his own system in order to execute the vibrations.

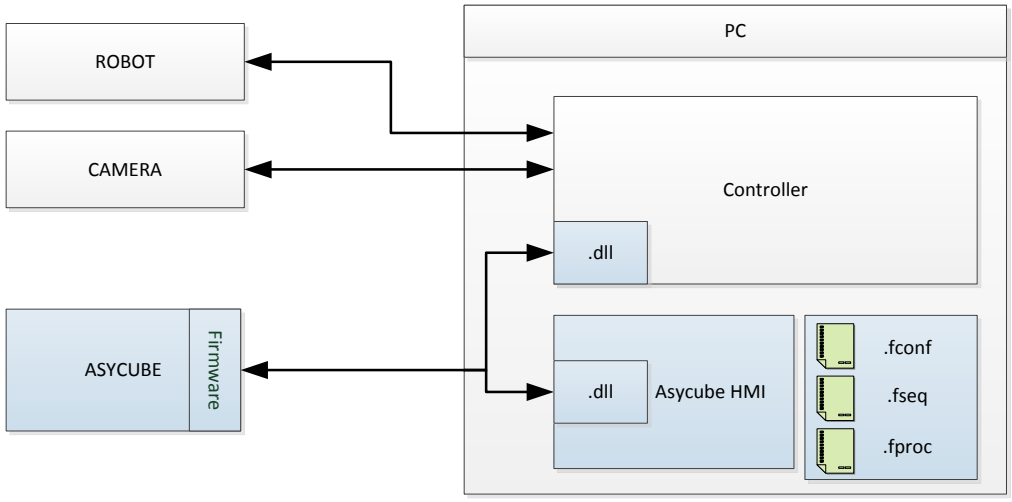


LEVEL	TASKS
Asycube	• Generation and synchronization of the desired vibration • Execute sequences • Save and reload 25 vibration sets (26 for the reload) • Save and reload 25 sequences (26 for the reload) • Activation of the outputs and backlight • Choice/Management of the optimal sequence based on the vision feedback
Integrator	• Communication with the Asycube • Recipe management (memorize vibration set ID and sequence ID for each component). • Configuration and optimization of the feeding (vibration) parameters (customer HMI) • Configuration and optimization of the sequences (customer HMI) • Synchronization of the feeder and the machine
Optional	• Treatment of the recipe (read/write parameters) • Configuration of the process (customer HMI)

Table 3-2: Integration mode: Asycube only

3.1.3. Connection to the Asycube with the Plugin .NET and configuration with Asyril HMI

In this integration mode, the integrator uses the Asycube HMI (installed on a computer, the same as the integrator's system or not) to configure the Asycube and communicates with the Asycube from his own system to execute the vibrations in production by using the Asycube Plugin .NET. This Plugin provides simplification to the development and allow to export and import the same recipe files as in the Asycube HMI

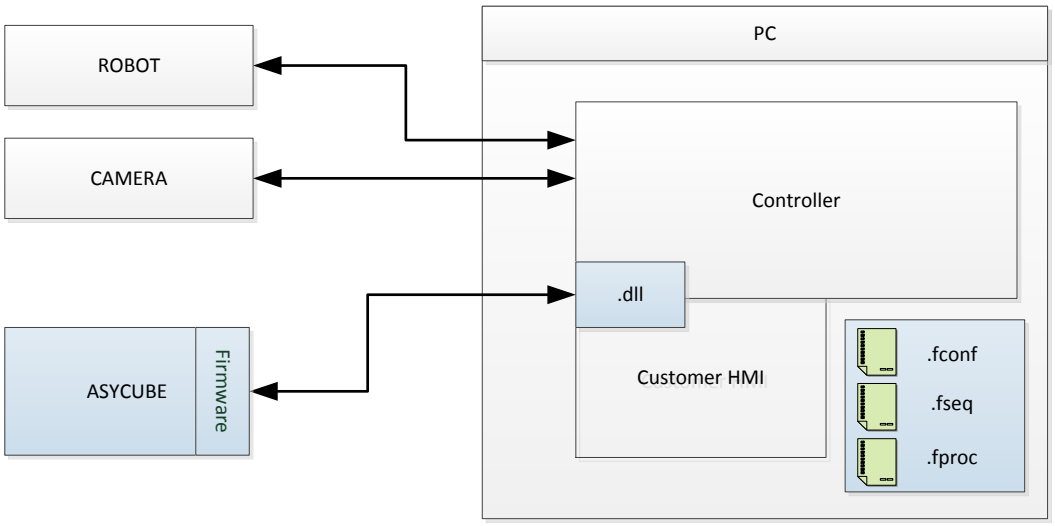


LEVEL	TASKS
Asycube	• Generation and synchronization of the desired vibration • Execute sequences • Save and reload 25 vibration sets (26 for the reload) • Save and reload 25 sequences (26 for the reload) • Activation of the outputs and backlight • Choice/Management of the optimal sequence based on the vision feedback
Asycube Plugin .NET	• Communication with the Asycube (access to the parameters of the vibrations, sequences and process, vibrations and sequences execution, etc) • Treatment of the recipe (read/write parameters)
Asycube HMI	• Configuration and optimization of the feeding (vibration) parameters • Configuration and optimization of the sequences
Integrator	• Synchronization of the feeder and the machine • Recipe management (memorize vibration set ID and sequence ID for each component).
Optional	• Configuration of the process (HMI)

Table 3-3: Integration mode: Asycube with Plugin .NET and HMI

3.1.4. Connection to the Asycube with the Plugin .NET and configuration with the customer user interface using the Plugin .NET

In this integration mode, the integrator uses the Asycube Plugin .NET to communicate with the Asycube and create his own HMI to configure the vibrations, the sequences, etc. By this way of work, the integrator can have his own design of HMI and benefits of the simplification of the integration of the Plugin .NET.



LEVEL	TASKS
Asycube	• Generation and synchronization of the desired vibration • Execute sequences • Save and reload 25 vibration sets (26 for the reload) • Save and reload 25 sequences (26 for the reload) • Activation of the outputs and backlight • Choice/Management of the optimal sequence based on the vision feedback
Asycube Plugin .NET	• Communication with the Asycube (access to the parameters of the vibrations, sequences and process, vibrations and sequences execution, etc) • Treatment of the recipe (read/write parameters)
Integrator	• Configuration and optimization of the feeding (vibration) parameters (HMI) • Configuration and optimization of the sequences • Synchronization of the feeder and the machine • Recipe management (memorize vibration set ID and sequence ID for each component).
Optional	• Configuration of the process (HMI)

Table 3-4: Integration mode: Asycube Plugin .NET

3.2. Production cycle with sequences

Follow this diagram to work with Asycube and sequences in direct communication.

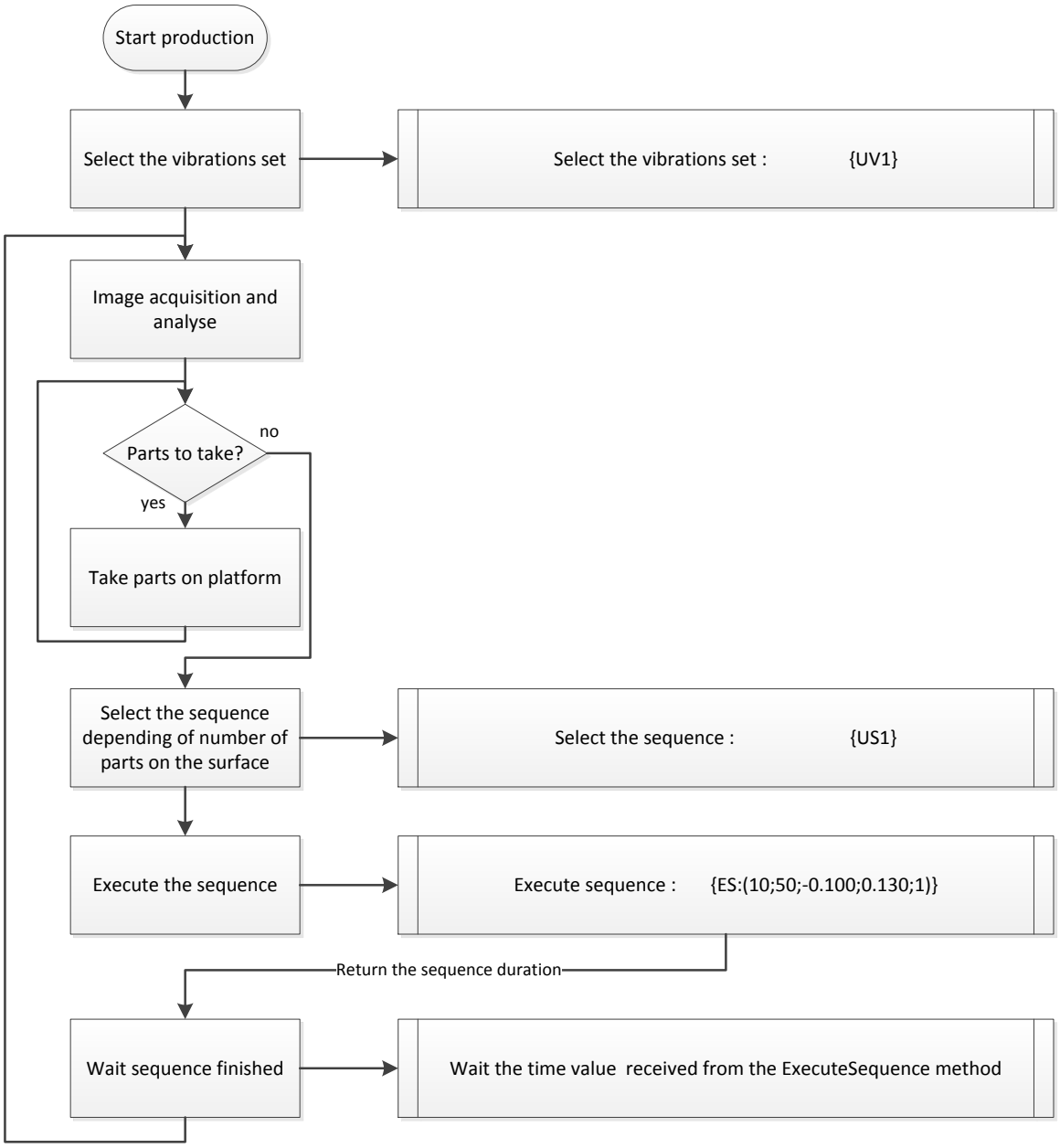


Figure 3-1 : description of sequences

For details of the different parameters, see the complete description of the commands below in this documentation.

3.3. Questions and answers

Here are some recurrent questions and their answers.

3.3.1. Which vibration set or sequence is currently selected?

To know which vibration set is selected, use the command {UV?}.
For the selected sequence, use the command {US?}.

3.3.2. How do I know if some parameters of the current vibration set have been modified?

To obtain the state of the selected vibration set, use the command {?50}. If the returned value is 1, parameters have been modified.

3.3.3. What is the duration of a specific sequence?

The duration of a sequence (or a centering and feeding) is returned by the execution function. For example, the command {ES:(10;20;-0.1;0.8;1)} will receive as answer the string {ES:(10;20;-0.1;0.8;1;1830)} and 1830 is the duration of the sequence in milliseconds.

3.3.4. How do I know when a vibration or a sequence is finished?

For the vibration, the remaining time of the platform vibration is given by the answer of the command {?42}. For the hopper, use the command {?44} and for the sequence {?46}. The value returned indicates the remaining time in milliseconds.

3.3.5. How do I backup all vibration set on the computer?

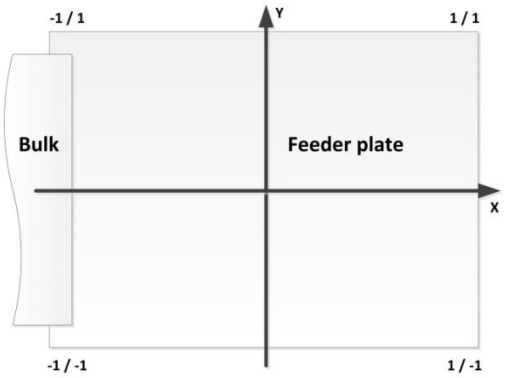
If you do not use the Asycube HMI, you have to read all the vibration parameters vibration by vibration and save the received data in a file. For example, use the command {LCA} for the vibration A. The returned values correspond to the parameters of this vibration (amplitude of actuator 1, frequency of actuator 1, etc)

For the hopper vibration A, the corresponding command is {LBA}.

3.3.6. How is the center of mass of the components on the platform transferred to the command ES ?

The positions on the platform are normalized between -1 and +1 in both directions in order to be independent of the resolution of the camera or of the choice of the camera manufacturer image orientation and origin.

This figure explains the standardized range:



Check in your camera specifications to find the correspondence between the camera positions and the Asycube standardized range.

4. Communication with Asycube

4.1. Ethernet

The host computer communicates with the Asycube using protocol Ethernet TCP/IP. The Asycube is the tcp server and the host computer is the tcp client. The server (the Asycube) sends packets only in response to a client request.

Default TCP/IP parameters are:

IP Address	192.168.127.254
Subnet Mask	255.255.255.0
TCP port	4001

These parameters can be changed in configuration page of the Asyril HMI. If parameters are unknown (connection cannot be established), use the “Recover IP address using default IP address” procedure described in Operating Manual. Using this procedure enables the connection to the Asycube with the default parameters and modification of the lost parameters.

4.2. Asycube communication protocol

The host controller communication protocol uses only ASCII characters and is designed for communication networks. The host computer is always the master node. Slave nodes transmit only after receiving a message from the master.

Command / Response Format	Command: Begin, Command , Data, End Response: Begin, Response, Data, End + Return Line
Begin	The ASCII char “{“ must be the first byte of the packet to allow detection of a new packet.
Command	This field will contain two ASCII letter characters followed by the parameter number. These two letters specify the purpose of the message packed (for instance Read or Write Parameter). The value in this field that is sent in response by the Asycube will specify the command to which the Asycube is responding to. The available commands are listed in Chapter 5.
Response	This field contains a fixed format that specifies the validation of the instruction. The Asycube gives a response message for each corresponding instruction.
Data	This field contains from 0 to 5 ASCII chars that will be interpreted in various ways, depending on the parameter that appears in the command field.
End	The ASCII char “}” must be the last byte of the packet
+ Return Line	The ASCII char “carriage return 0x0D” and “line feed 0x0A” are the last two bytes returned by the Asycube to allow the detection of the end of a packet. (Typically using on cursor return line with a remote like “hyper terminal”)

" 0 " to " 9 ", " a " to " z ", " A " to " Z "	not case sensitive
" { "	begin of packet
" : "	specifies read operation
" = "	specifies write operation
" } "	end of packet
CR	0x0D Carriage Return
LF	0x0A Line Feed

Table 4-1: ASCII Character

Examples:

1) In this example we want to know the actual parameter of register 300 (amplitude of first actuator of Platform Vibration A) on the Asycube.

   Command: {rp300}

   Response: {rp300:00100}CR LF

2) In this example we want to modify the amplitude of the first actuator (value=90) of the Platform Vibration A (301) from the Asycube.

   Command: {wp301=90}

   Response: {wp301=00090} CR LF

4.3. Communication error code (Serial bit)

The serial response gives an error code in the form of an integer value. You have to convert the value to binary to obtain the error bit affected. For example a response {Er00004} means that the system doesn't recognized the first character of the command.

Binary	Error Bit	Message
[00001]	0	Message string syntax error!
[00002]	1	String to integer data convert error! , even/off according to read/write
[00004]	2	Unknown first Character of Command!
[00008]	3	Unknown second Character of Command!
[00016]	4	Parameter value error!
[00032]	5	Sequence vibration duration value 0 error !
[00064]	6	Access to the vibration set or sequence ID 26 error!
[00128]	7	*« not used »*
[00256]	8	Receive buffer is full!
[00512]	9	Receive end of message "}" but receive buffer is full!
[01024]	10	Receive end of message "}" but missing begin of message "{"!
[02048]	11	
[04096]	12	Framing error detected!
[08192]	13	Parity error detected!
[16384]	14	Overflow error detected!
[32768]	15	Receive complete message timeout control!

Table 4-2: communication error code

5. Commands

All existing commands are described in the overview below.

5.1. Description and ranges of parameters

The following table describes the parameters used by the different commands and their ranges.

Parameter	Description	Commands	Range	Unit
Amplitude	Amplitude of the vibration	LC, LB, SC, SB	[0…100]	%
Frequency	Frequency of the vibration	LC, LB, SC, SB	[0…255]	Hz
Waveform	Waveform of the vibration	LC, LB, SC, SB	[0…3]	
Phase	Phase of the vibration	LC, SC	[0…360]	°
Duration	Duration of the vibration or output activation	LC, LB, SC, SB	[0…32767]	ms
Action number	Number of the action in the sequence (7 actions in a sequence)	LS, SS	[1…7]	
Type	Type of action in the sequence (None, Platform, Hopper, Wait)	LS, SS	[0…3]	
Vibration	Vibration used by the action in the sequence (for Platform and Hopper types)	LS, SS	[A…Z] 0 for centering	
Duration Mode	Duration mode of the action in the sequence (Fixed, QuantityAdjusted and VibrationRatio)	LS, SS	[0…2]	
Duration Value	Duration value of the action in the sequence	LS, SS	[0…32767] [1] [0…100] [2]	ms %
Nb Parts on the platform	Number of parts on platform used by the Asycube to execute the sequence	ES, EF	[0…32767]	parts
Nb Limit Parts for Vibration	Limit number of parts on platform in the sequence to have a vibration with QuantityAdjusted duration mode (if the number of parts exceeds this value the hopper will not be vibrated)	LS, SS, ES, EF	[0…32767]	parts
Center of mass	Center of mass of the parts on the platform. This value is used by the Centering vibration.	ES, EC	[-1.000…1.000]	
Sequence ID	ID of the sequence	LS, SS, US	[1…26]	
Vibration Set ID	ID of the vibration set	UV	[1…26]	

[1] For all duration modes except the “vibration ratio”

[2] Only for duration mode “vibration ratio”

5.2. Level access

The system has three different levels to access parameters or to execute some commands. The actual selected access level can be obtained using the command {?6}.

Level	Description	Response to query	Select the level
User	User access allows to access to simple commands and parameters to use the Asycube.	{?6:00001}	{WP7=0}
Integrator	Integrator access allows changing some special parameters for advanced configuration.	{?6:00002}	{WP7=1234}
Developer	Developer access allows to change all parameters but is exclusively used by Asyril	{?6:00004}	*Reserved for Asyril*

Table 5-1: level access description

5.3. Access Single Parameters

Code	Label	Command	Response	Remark
WP	Write Parameter	{WP303=90}	{WP303=90}	
RP	Read Parameter	{RP302}	{RP302:90}	

Table 5-2: read and write commands

NOTE :

The even numbered registers are readable parameters and the odd numbered registers are the writable parameters. E.g. the register 302 and 303 stand for the first actuator frequency of the platform vibration "A". If the frequency of the first actuator signal needs to be changed, register 303 needs to be overwritten. If the information of the frequency of the first actuator signal needs to be returned, register 302 has to be read.

5.4. Access to parameters

For all explanations below, the parameters ranges are described in this generic chapter.

5.4.1. Platform Vibration Parameters

Code	Label	Command	Response	Remark
SCA..Z	Save Platform Vibration A…Z parameters	{SCA=(p1; p2;etc)}	{SCA=(p1;p2;etc)}	
LCA..Z	Load Platform Vibration A…Z parameters	{LCA}	{LCA:(p1;p2;etc)}	

Table 5-3: platform vibration commands

P1, P2 are parameters given in a specific order and separate with a semicolon. The order of the parameters is as follows:

Amplitude1; Frequency1; Phase1; Waveform1;
Amplitude2; Frequency2; Phase2; Waveform2;
Amplitude3; Frequency3; Waveform3;
Duration

Examples:

- Write platform vibration A:
  - Command : {SCA=(90;70;0;1;88;71;90;2;85;72;3;1200)}
  - Response: {SCA=(90;70;0;1;88;71;90;2;85;72;3;1200)}
- Read platform vibration A :
  - Command : {LCA}
  - Response: {LCA:(90;70;0;1;88;71;90;2;85;72;3;1200)}

NOTE :

To access vibration parameters (platform and hopper), the order of the parameters has to be strictly respected. These commands are useful to access all parameters of a vibration in only one message.

5.4.2. Hopper Vibration Parameters

Code	Label	Command	Response	Remark
SBA..Z	Save Hopper Vibration A…Z parameters	{SBA=(p1; p2;etc)}	{SBA=(p1;p2;etc)}	
LBA..Z	Load Hopper Vibration A…Z parameters	{LBA}	{LBA:(p1;p2;etc)}	

Table 5-4: hopper vibration commands

P1, P2 are parameters given in a specific order and separate with a semicolon. The order of the parameters is as follows:

Amplitude; Frequency; Waveform; Duration

Examples:

- Write hopper vibration A:
  - Command: {SBA=(80;70;3;1200)}
  - Response: {SBA=(80;70;3;1200)}
- Read hopper vibration A:
  - Command: {LBA}
  - Response: {LBA:(80;70;3;1200)}

NOTE :

To access vibration parameters (platform and hopper), the order of the parameters has to be strictly respected. These commands are useful to access all parameters of a vibration in only one message.

5.4.3. Sequence Parameters

Code	Label	Command	Response	Remark
SS	Save a sequence	{SS=(p1; p2;etc)}	{SS=(p1;p2;etc)}	
LS	Load a sequence	{LS=(p1,p2)}	{LS:(p1;p2;etc)}	

Table 5-5: hopper vibration commands

P1, P2 are parameters given in a specific order and separate with a semicolon.

NOTE :

To access sequence parameters, the order of the parameters has to be strictly respected.

5.4.3.1. Load

The order of the parameters for the command is as follows:

Action number; Sequence ID

The order of the parameters for the response is as follows:

Action number; Type; Vibration; Duration Mode; Duration Value;
Nb Limit Parts for Vibration; SequenceID

Example:

Command: {LS:(1;1)}

Response: {LS:(1;2;B;1;1000;120;1)}

NOTE :

The sequenceID is optional, if missing, the Asycube will send back parameters for the currently selected sequence (command {US?} allows to ask the selected sequence ID).

If no action is used the "Duration Mode" "QuantityAdjusted", the "Nb Limit Parts for Vibration" value has no impact on the action.

5.4.3.2. Save

The order of the parameters for the command and the response is as follows:

Action number; Type; Vibration; Duration Mode; Duration Value;
Nb Limit Parts for Vibration; Sequence ID

Example:

Command: {SS=(1;2;B;1;1000;120;1)}
Response: {SS=(1;2;B;1;1000;120;1)}

NOTE :

The sequenceID is optional, if missing, the Asycube will write parameters on the parameters for the selected sequence (command {US?} allows to ask the selected sequence ID).
The "Nb Limit Parts for Vibration" is optional, if missing, the Asycube will use the value currently in the memory.

5.5. Vibration set and sequence selection

Code	Label	Command	Response	Remark
UV#	Use Vibration Set	{UV1}	{UV1}	UV# command select the vibration set to use
US#	Use Sequence	{US1}	{US1}	US# command select the sequence to use
UV?	Get selected Vibration Set	{UV?}	{UV?:1}	UV? asks for the selected vibration set
US?	Get selected Sequence	{US?}	{US?:1}	US? asks for the selected sequence
U??	Get selected Vibration Set and Sequence	{U??}	{U??:01:01}	U?? asks for the selected vibration set and sequence

Table 5-6: Vibration set and sequence selection commands

5.6. Backlight

Code	Label	Command	Response	Remark
K1	Backlight On	{K1}	{K1}	After response received, the backlight is considered ON, but it depends if raising time of the backlight.
K0	Backlight Off	{K0}	{K0}	
K?	Backlight State	{K?}	{K?:0} {K?:1}	0: Backlight is off 1: Backlight is on
KF	Backlight is flashing	{KF}	{KF}	Duration = Parameter 100

Table 5-7: backlight commands

5.7. System States

The Asycube has two different working states:

- Service mode is the normal mode, to work with the Asycube.
- Standby mode is a special mode. In this mode the power of vibrations, outputs, backlight, etc. are off. Operator can send commands without any physical action on the Asycube. This mode can be useful for tests and debug.

Code	Label	Command	Response	Remark
HC	Halt Platform Vibrations	{HC}	{HC}	Stop all actuators
HB	Halt Outputs Activation	{HB}	{HB}	Stop outputs
H1	System in service	{H1}	{H1}	Set system in service
H0	System in standby	{H0}	{H0}	Set system in standby
H?	System State	{H?}	{H?:0} {H?:1}	0: System in standby 1: System in service

Table 5-8: system states commands

5.8. Platform Vibrations (C for Cube)

Code	Label	Command	Response	Remark
CA..Z	Platform vibrate for a time [ms]	{CF100}	{CF100}	Vibration F vibrates for 100ms
CA0..Z0	Platform vibrate forever	{CF0}	{CF0}	Vibration F vibrate forever. Stop vibration with command HC.
CA..Z	Platform vibrate for a pre-defined delay	{CF}	{CF}	Delay depends on selected Vibration. In this case the delay is equal the register 950 value. If value = 0 -> forever
C?	Read selected Platform vibration	{C?}	{C?:F}	Vibration F is selected. The selected vibration is the last vibration executed.
C??	Read selected Platform vibration and state	{C??}	{C??:F3}	Vibration F is selected and the state is 3. States: 0: Actuator disabled 1: Actuator enable but stopped 3: Vibrating 5: Actuator stopped over temperature !: Undefined actuator state
CA..Z ?	Read Platform vibration state	{CF?}	{CF:0}	State of Vibration F is 0. States: 0: Actuator disabled 1: Actuator enable but stopped 3: Vibrating 5: Actuator stopped over temperature !: Undefined actuator

Table 5-9: platform vibrations commands

The value sent back indicates the duration of the vibration (communication time is not included).

NOTE :

The duration answered can change depending of the conditions when the vibration is requested.

- *If the amplifiers are in the switching OFF process (automatically 5s after the end of the last vibration), the Asycube needs to wait the end of the switching OFF process (max 150ms) before to be able to start a new vibration. Then the time answered to the command will be: the time requested + the 60ms of switching ON amplifiers + max 150ms of switching OFF process. The 150ms is the worst situation, because if the request appears in the middle of the switching OFF process, the delay will be only 75ms.This delay depends of the moment when the request appears during the switching OFF process.*

5.9. Hopper Vibrations (B for Bulk)

Code	Label	Command	Response	Remark
BA..Z	Hopper vibrate for a time [ms]	{BF100}	{BF100}	Vibration F vibrates for 100ms
BA0..Z0	Hopper vibrate forever	{BF0}	{BF0}	Vibration F vibrates forever. Use the command HB to stop the vibration.
BA..Z	Hopper vibrate for a pre-defined delay	{BF}	{BF}	Delay depends on selected Vibration. In this case the delay is equal the register 1250 value. If value = 0 -> forever
B?	Read selected Hopper vibration	{B?}	{B?:F}	Vibration F is selected. The selected hopper vibration is the last vibration executed.
B??	Read selected Hopper vibration and state	{B??}	{B??:F3}	Vibration F is selected and the state is 3. States: 0: Actuator disabled 1: Actuator enabled but stopped 3: Vibrating 5: Actuator stopped over temperature !: Undefined actuator state
BA..Z ?	Read Hopper vibration state	{BF?}	{BF:0}	State of Vibration F is 0. States: 0: Actuator disabled 1: Actuator enabled but stopped 3: Vibrating 5: Actuator stopped over temperature !: Undefined actuator state

Table 5-10: hopper vibrations commands

The value sent back indicates the duration of the vibration (communication time is not included).

NOTE :

The duration answered can change depending of the conditions when the vibration is requested.

- *If the amplifiers are in the switching OFF process (automatically 5s after the end of the last vibration), the Asycube needs to wait the end of the switching OFF process (max 150ms) before to be able to start a new vibration. Then the time answered to the command will be: the time requested + the 60ms of switching ON amplifiers + max 150ms of switching OFF process. The 150ms is the worst situation, because if the request appears in the middle of the switching OFF process, the delay will be only 75ms.This delay depends of the moment when the request appears during the switching OFF process.*

5.10. Sequence, centering and feeding execution

Code	Label	Command	Response	Remark
ES	Execute Sequence	{ES:(p1;p2;etc)}	{ES:(p1;p2;etc)}	Execute the sequence depending of given parameters.
EC	Execute Centering	{EC:(p1;p2;etc)}	{EC:(p1;p2;etc)}	Execute centering depending of given parameters.
EF	Execute Feeding	{EF:(p1;p2;etc)}	{EF:(p1;p2;etc)}	Execute feeding depending of given parameters.

Table 5-11: Execute commands

P1, P2 are parameters given in a specific order and separate with a semicolon. The ranges of parameters are described in this generic chapter.

NOTE :

To execute a sequence, a centering or a feeding, the order of the parameters has to be strictly respected.

5.10.1. Sequence

The order of the parameters for the **command** is as follows:

Number of parts on the platform; Nb Limit Parts for Vibration; Center of mass X; Center of mass Y; SequenceID

The order of the parameters for the **response** is as follows:

Number of parts on the platform; Nb Limit Parts for Vibration;
Center of mass X, Center of mass Y; SequenceID; Duration of the sequence

The duration sent back indicates the duration of the sequence (communication time is not included).

NOTE :

The duration answered can change depending of the conditions when the vibration is requested.

- *If the amplifiers are in the switching OFF process (automatically 5s after the end of the last vibration), the Asycube needs to wait the end of the switching OFF process (max 150ms) before to be able to start a new vibration. Then the time answered to the command will be: the time requested + the 60ms of switching ON amplifiers + max 150ms of switching OFF process. The 150ms is the worst situation, because if the request appears in the middle of the switching OFF process, the delay will be only 75ms.This delay depends of the moment when the request appears during the switching OFF process.*

Example:

Command: {ES:(55;100;0.33;-0.33;1)}
Response: {ES:(55;100;0.33;-0.33;1;1560)}

In this example, the sequence will take 1.56 seconds.

NOTE :

- *The 'Sequence ID' is optional, if missing, the Asycube will execute the currently selected sequence (command {US?} allows to ask the selected sequence ID).*
- *The 'center of mass' is optional if the sequence doesn't contain a centering vibration.*
- *The 'number limit of parts for vibration' must have the value 0 to use the value already in the Asycube memory.*

5.10.1.1. Various formats of the command ES

Command sent	Command executed	Remark
ES	**ES:(0;nbMax;0;0;ID)**	**nbMax** : value in memory previously given. **ID** : Selected sequence
ES:(nbParts)	**ES:(nbParts;nbMax;0;0;ID)**	**nbParts** : number of parts on the platform given in the command. **nbMax** : value in memory previously given. **ID** : Selected sequence
ES:(nbParts;nbMax)	**ES:(nbParts;nbMax;0;0;ID)**	**nbParts** : number of parts on the platform given in the command. **nbMax** : max number of parts given in the command. **ID** : Selected sequence
ES:(nbParts;nbMax;X)	**ES:(nbParts;nbMax;X;0;ID)**	**nbParts** : number of parts on the platform given in the command. **nbMax** : max number of parts given in the command. **X** : X coordinate of the center of mass given in the command. **ID** : Selected sequence
ES:(nbParts;nbMax;X;Y)	**ES:(nbParts;nbMax;X;Y;ID)**	**nbParts** : number of parts on the platform given in the command. **nbMax** : max number of parts given in the command. **X** : X coordinate of the center of mass given in the command. **Y** : Y coordinate of the center of mass given in the command. **ID** : Selected sequence
ES:(nbParts;nbMax;X;Y;ID)	ES:(nbParts;nbMax;X;Y;ID)	**nbParts** : number of parts on the platform given in the command. **nbMax** : max number of parts given in the command. **X** : X coordinate of the center of mass given in the command. **Y** : Y coordinate of the center of mass given in the command. **ID** : Sequence ID given in the command.

In green, the values given in the command.

In red, the values used by the Asycube when the value is missing in the command.

Special case for nbMax:		
ES:(nbParts;0;X;Y;ID)	ES:(nbParts;nbMax;X;Y;ID)	**nbParts** : number of parts on the platform given in the command. **nbMax** : value in memory previously given. **X** : X coordinate of the center of mass given in the command. **Y** : Y coordinate of the center of mass given in the command. **ID** : Sequence ID given in the command.

NOTE :

If the value 0 is given in the command for the nbMax, the value used for the execution is the value in memory. This use of the 0 value for this parameter can be done in all formats of the command ES.

5.10.2. Centering

The parameters order for the **command** is as follows:

Center of mass X; Center of mass Y

The parameters order for the **response** is as follows:

Center of mass X, Center of mass Y; Duration of the centering

The duration sent back indicates the duration of the centering (communication time is not included).

NOTE :

The duration answered can change depending of the conditions when the vibration is requested.

- *If the amplifiers are in the switching OFF process (automatically 5s after the end of the last vibration), the Asycube needs to wait the end of the switching OFF process (max 150ms) before to be able to start a new vibration. Then the time answered to the command will be: the time requested + the 60ms of switching ON amplifiers + max 150ms of switching OFF process. The 150ms is the worst situation, because if the request appears in the middle of the switching OFF process, the delay will be only 75ms.This delay depends of the moment when the request appears during the switching OFF process.*

Example :

Command: {EC:(0.33;-0.33)}

Response: {EC:(0.33;-0.33;560)}

In this example, the centering will take 0.56 seconds.

5.10.3. Feeding

The order of the parameters for the **command** is as follows:

Vibration; Number of parts on the platform; Nb Limit Parts for Vibration

The order of the parameters for the **response** is as follows:

Vibration; Number of parts on the platform; Nb Limit Parts for Vibration; Duration of the feeding

The duration sent back indicates the duration of the feeding (communication time is not included).

NOTE :

The duration answered can change depending of the conditions when the vibration is requested.

- *If the amplifiers are in the switching OFF process (automatically 5s after the end of the last vibration), the Asycube needs to wait the end of the switching OFF process (max 150ms) before to be able to start a new vibration. Then the time answered to the command will be: the time requested + the 60ms of switching ON amplifiers + max 150ms of switching OFF process. The 150ms is the worst situation, because if the request appears in the middle of the switching OFF process, the delay will be only 75ms.This delay depends of the moment when the request appears during the switching OFF process.*

Example :

Command: {EF:(A;55;110)}

Response: {EF:(A;55;110;1210)}

In this example, the feeding will take 1.21 seconds.

5.11. Flash Operation

Code	Label	Command	Response	Remark
DF	Data Flash All in memory	{DF}	{DF}	100'000 Program Cycles
DG	Data Flash Global Parameters	{DG}	{DG}	
DS	Data Flash Sequences	{DS}	{DS}	
DV	Fata Flash Vibration Set	{DV}	{DV}	Save only the current vibration set
DE	Data Erase Memory	{DE}	{DE}	** only developer (Asyril)
DR	Data Restore Memory	{DR}	{DR}	* only integrator
DY	Restore Data with Factory values	{DY}	{DY}	* only integrator
DP	Restore current vibration set data and all sequences data with Factory values	{DP?}	{DP?:0}	* only integrator
D..?	Data Flash Memory State	{DF?}	{DF?:0}	States: 0: Operation completed 1: Operation in progress 3: Sector erase timeout 4: Page program timeout 5: Flash erase timeout 6: Checksum error 7: Nothing to flash restore 16: Flash operation busy 128: Operation need password

Table 5-12: flash operations commands

When something is saved in the flash memory, the status led flashes quickly during the whole saving process. If the user tries to save in flash during this time, an error answer is sent (error 80).
The duration of the saving process is 8s or 16s alternating.
During the saving process, the user can use the product, but cannot change any value or select another vibration set.

NOTE :

The Asycube saves automatically the global parameters every 20 minutes (equivalent to {DG} command). This automatic saving process has no impact on the functionning of the Asycube.

5.12. States

Code	Label	Command	Response	Remark
?0	NOP	{?0}	{?0}	
?2	RS485 Node Info	{?2}	{?2:1}	Return node info
?6	Login State	{?6}	{?6}	State: 1: User 2: Integrator 4: Developer (Asyril)
?8	Soft High Version	{?8}	{?8:2}	Return highest value of the software version.
?10	Soft Middle Version	{?10}	{?10:2}	Return middle value of the software version.
?12	Soft Low Version	{?12}	{?12:0}	Return lowest value of the software version.
?40	Backlight Flash Remain Time	{?40}	{?40:00010}	Answer gives the remaining time until the end of the flash of the backlight. The value is in ms.
?42	Platform Remain Time	{?42}	{?42:00010}	Answer gives the remaining time until the end of the platform vibration. The value is in ms
?44	Hopper Remain Time	{?44}	{?44:00010}	Answer gives the remaining time until the end of the hopper vibration. The value is in ms
?46	Sequence Remain Time	{?46}	{?46:00010}	Answer gives the remaining time until the end of the sequence. This value is in ms.
?50	Vibration Set Changed	{?50}	{?50:00001}	Answer indicates if a parameter of the current selected vibration set has been modified. It is useful for avoiding the loss of modified parameters.

Table 5-13: states commands

5.13. General

Code	Label	Command	Response	Remark
V?	Read Software Version	{V?}	{(c) Asycube VX.X.X}	
#	Change the command timeout to 10 sec	{#}	{}	After that the timeout to enter a manual command is delayed to 10 sec. This is used to work with another software (p.e. hyperterminal)

Table 5-14: general commands

5.14. Warnings

To read the warnings, send {rp2} command.

Define	Value	Comment
WARNING_PLATFORM	0x0001	Above max temperature platform
WARNING_HOPPER	0x0002	Above max temperature hopper
WARNING_3	0x0004	Not used
WARNING_4	0x0008	Not used
WARNING_5	0x0010	Not used
WARNING_6	0x0020	Not used
WARNING_LED	0x0040	Not used
WARNING_FLASH	0x0080	Flash operation fail

Table 5-15: warnings list

5.15. Alarms

To read the alarms, send {rp4} command.

Define	Value	Comment
ALARM_1	0x0001	
ALARM_2	0x0002	
ALARM_3	0x0004	
ALARM_4	0x0008	
ALARM_5	0x0010	
ALARM_6	0x0020	
ALARM_BACK_LT	0x0040	Backlight timeout reached
ALARM_8	0x0080	

Table 5-16: alarms list

6. Parameters

6.1. Configuration

*: integrator write; **: developer write

Register	Parameters	Command	Comment
0	NOP	rd/wr	
2	warning	rd & clear	
4	alarm	rd & clear	
6	password	wr	
…			
22	life time [day]	**	if auto-flashing enabled
24	life time [hour]	**	if auto-flashing enabled
26	life time [second]	**	if auto-flashing enabled
28	auto-flashing 20Min.	*	default: enable
30	actuators life time [hour]	**	
32	actuators life time [sec]	**	
34	actuators life time [msec]	**	
36	actuators number of vibrations [nb] – 0-32767	**	first 2 bytes
38	actuators number of vibrations [nb] – i*32768	**	bytes 3 and 4
40	IP address first byte	*	default: 192
42	IP address second byte	*	default: 168
44	IP address third byte	*	default: 127
46	IP address fourth byte	*	default: 254
48	IP subnet mask first byte	*	default: 255
50	IP subnet mask second byte	*	default: 255
52	IP subnet mask third byte	*	default: 255
54	IP subnet mask fourth byte	*	default: 0
56	TCP port	*	default: 4001
…			
60	number of flash in ROM [nb] – 0-32767	**	number of flashing data in ROM
62	number of flash in ROM [nb] – i*32768	**	number of flashing data in ROM for more than 32767
64	average number of flash in ROM [nb/day]	**	number of flashing data in ROM per day
…			
72	Synchro backlight logic	*	0 : logic positive / 1 : logic negative

...			
80	DIP switch 1 ON	**	switch state: 1 : IP default value
82	DIP switch 2 ON	**	
84	DIP switch 3 ON	**	
86	DIP switch 4 ON	**	
92	Type 1: Asycube	**	0 : Unknown 1: Asycube 50 2: Asycube 80 3: Asycube 130 4: Asycube 240
94	Type 2: Asycube	**	
96	Color of Backlight	**	0: Green 1: Red 2: Blue 3: IR 4: UV 5: White 99: None
...			
100	Backlight Flash Time		[ms]
102	Backlight PWM		[%]
...			
110	Vibration Set ID	**	Selected Vibration Set ID [1...26]
112	Sequence ID	**	Selected Sequence ID [1...26]
...			
122	Platform integral limit time	**	Default 6000cs = 60s
124	Hopper integral limit time	**	Default 6000cs = 60s
...			
144	UART1 rx timeout RS485	*	Default: 1'000 [ms]
146	UART2 rx timeout RS232		Default: 1'000 [ms]
148	UART1 tx timeout RS485	*	Default: 2 [ms]
150	UART2 tx timeout RS232	*	Default: 0 [ms]
152	Backlight timeout	**	0= disable timeout function 30 = 30 sec with PWM 100%, 60 sec with PWM 50%, etc.
...			
158	Gain amplitude actuator 1	*	(int) [2.55]
160	Gain amplitude actuator 2	*	(int) [2.55]
162	Gain amplitude actuator 3	*	(int) [2.55]

164	Gain amplitude actuator 4	*	(int) [2.55]
166	Offset amplitude actuator 1	*	(int) +/- n 1/256
168	Offset amplitude actuator 2	*	(int) +/- n 1/256
170	Offset amplitude actuator 3	*	(int) +/- n 1/256
172	Offset amplitude actuator 4	*	(int) +/- n 1/256
174	Offset frequency actuator 1	*	(int) +/- n 0.25 Hz
176	Offset frequency actuator 2	*	(int) +/- n 0.25 Hz
178	Offset frequency actuator 3	*	(int) +/- n 0.25 Hz
180	Offset frequency actuator 4	*	(int) +/- n 0.25 Hz

Table 6-1: configuration parameters

6.2. Platform Vibrations

Register	Define	Vibration	Units	Range
300	Amplitude 1	Platform "A"	[%]	0 to 100 %
302	Frequency 1		[Hz]	0 to 350 Hz
304	Phase 1		[°deg.]	0 to 360 degrees
306	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
308	Amplitude 2		[%]	0 to 100 %
310	Frequency 2		[Hz]	0 to 350 Hz
312	Phase 2		[°deg.]	0 to 360 degrees
314	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
316	Amplitude 3		[%]	0 to 100 %
318	Frequency 3		[Hz]	0 to 350 Hz
320	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
940	Duration		[ms]	
324	Amplitude 1	Platform "B"	[%]	0 to 100 %
326	Frequency 1		[Hz]	0 to 350 Hz
328	Phase 1		[°deg.]	0 to 360 degrees
330	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
332	Amplitude 2		[%]	0 to 100 %
334	Frequency 2		[Hz]	0 to 350 Hz
336	Phase 2		[°deg.]	0 to 360 degrees
338	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
340	Amplitude 3		[%]	0 to 100 %
342	Frequency 3		[Hz]	0 to 350 Hz
344	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
942	Duration		[ms]	
348	Amplitude 1	Platform "C"	[%]	0 to 100 %
350	Frequency 1		[Hz]	0 to 350 Hz
352	Phase 1		[°deg.]	0 to 360 degrees
354	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
356	Amplitude 2		[%]	0 to 100 %
358	Frequency 2		[Hz]	0 to 350 Hz
360	Phase 2		[°deg.]	0 to 360 degrees
362	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
364	Amplitude 3		[%]	0 to 100 %
366	Frequency 3		[Hz]	0 to 350 Hz

Register	Define	Vibration	Units	Range
368	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
944	Duration		[ms]	
372	Amplitude 1	Platform "D"	[%]	0 to 100 %
374	Frequency 1		[Hz]	0 to 350 Hz
376	Phase 1		[°deg.]	0 to 360 degrees
378	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
380	Amplitude 2		[%]	0 to 100 %
382	Frequency 2		[Hz]	0 to 350 Hz
384	Phase 2		[°deg.]	0 to 360 degrees
386	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
388	Amplitude 3		[%]	0 to 100 %
390	Frequency 3		[Hz]	0 to 350 Hz
392	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
946	Duration		[ms]	
396	Amplitude 1	Platform "E"	[%]	0 to 100 %
398	Frequency 1		[Hz]	0 to 350 Hz
400	Phase 1		[°deg.]	0 to 360 degrees
402	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
404	Amplitude 2		[%]	0 to 100 %
406	Frequency 2		[Hz]	0 to 350 Hz
408	Phase 2		[°deg.]	0 to 360 degrees
410	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
412	Amplitude 3		[%]	0 to 100 %
414	Frequency 3		[Hz]	0 to 350 Hz
416	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
948	Duration		[ms]	
420	Amplitude 1	Platform "F"	[%]	0 to 100 %
422	Frequency 1		[Hz]	0 to 350 Hz
424	Phase 1		[°deg.]	0 to 360 degrees
426	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
428	Amplitude 2		[%]	0 to 100 %
430	Frequency 2		[Hz]	0 to 350 Hz
432	Phase 2		[°deg.]	0 to 360 degrees
434	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn

Register	Define	Vibration	Units	Range
436	Amplitude 3		[%]	0 to 100 %
438	Frequency 3		[Hz]	0 to 350 Hz
440	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
950	Duration		[ms]	
444	Amplitude 1	Platform "G"	[%]	0 to 100 %
446	Frequency 1		[Hz]	0 to 350 Hz
448	Phase 1		[°deg.]	0 to 360 degrees
450	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
452	Amplitude 2		[%]	0 to 100 %
454	Frequency 2		[Hz]	0 to 350 Hz
456	Phase 2		[°deg.]	0 to 360 degrees
458	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
460	Amplitude 3		[%]	0 to 100 %
462	Frequency 3		[Hz]	0 to 350 Hz
464	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
952	Duration		[ms]	
468	Amplitude 1	Platform "H"	[%]	0 to 100 %
470	Frequency 1		[Hz]	0 to 350 Hz
472	Phase 1		[°deg.]	0 to 360 degrees
474	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
476	Amplitude 2		[%]	0 to 100 %
478	Frequency 2		[Hz]	0 to 350 Hz
480	Phase 2		[°deg.]	0 to 360 degrees
482	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
484	Amplitude 3		[%]	0 to 100 %
486	Frequency 3		[Hz]	0 to 350 Hz
488	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
954	Duration		[ms]	
492	Amplitude 1	Platform "I"	[%]	0 to 100 %
494	Frequency 1		[Hz]	0 to 350 Hz
496	Phase 1		[°deg.]	0 to 360 degrees
498	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
500	Amplitude 2		[%]	0 to 100 %
502	Frequency 2		[Hz]	0 to 350 Hz

Register	Define	Vibration	Units	Range
504	Phase 2		[°deg.]	0 to 360 degrees
506	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
508	Amplitude 3		[%]	0 to 100 %
510	Frequency 3		[Hz]	0 to 350 Hz
512	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
956	Duration		[ms]	
516	Amplitude 1	Platform "J"	[%]	0 to 100 %
518	Frequency 1		[Hz]	0 to 350 Hz
520	Phase 1		[°deg.]	0 to 360 degrees
522	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
524	Amplitude 2		[%]	0 to 100 %
526	Frequency 2		[Hz]	0 to 350 Hz
528	Phase 2		[°deg.]	0 to 360 degrees
530	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
532	Amplitude 3		[%]	0 to 100 %
534	Frequency 3		[Hz]	0 to 350 Hz
536	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
958	Duration		[ms]	
540	Amplitude 1	Platform "K"	[%]	0 to 100 %
542	Frequency 1		[Hz]	0 to 350 Hz
544	Phase 1		[°deg.]	0 to 360 degrees
546	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
548	Amplitude 2		[%]	0 to 100 %
550	Frequency 2		[Hz]	0 to 350 Hz
552	Phase 2		[°deg.]	0 to 360 degrees
554	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
556	Amplitude 3		[%]	0 to 100 %
558	Frequency 3		[Hz]	0 to 350 Hz
560	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
960	Duration		[ms]	
564	Amplitude 1	Platform "L"	[%]	0 to 100 %
566	Frequency 1		[Hz]	0 to 350 Hz
568	Phase 1		[°deg.]	0 to 360 degrees
570	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn

Register	Define	Vibration	Units	Range
572	Amplitude 2		[%]	0 to 100 %
574	Frequency 2		[Hz]	0 to 350 Hz
576	Phase 2		[°deg.]	0 to 360 degrees
578	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
580	Amplitude 3		[%]	0 to 100 %
582	Frequency 3		[Hz]	0 to 350 Hz
584	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
962	Duration		[ms]	
588	Amplitude 1	Platform "M"	[%]	0 to 100 %
590	Frequency 1		[Hz]	0 to 350 Hz
592	Phase 1		[°deg.]	0 to 360 degrees
594	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
596	Amplitude 2		[%]	0 to 100 %
598	Frequency 2		[Hz]	0 to 350 Hz
600	Phase 2		[°deg.]	0 to 360 degrees
602	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
604	Amplitude 3		[%]	0 to 100 %
606	Frequency 3		[Hz]	0 to 350 Hz
608	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
964	Duration		[ms]	
612	Amplitude 1	Platform "N"	[%]	0 to 100 %
614	Frequency 1		[Hz]	0 to 350 Hz
616	Phase 1		[°deg.]	0 to 360 degrees
618	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
620	Amplitude 2		[%]	0 to 100 %
622	Frequency 2		[Hz]	0 to 350 Hz
624	Phase 2		[°deg.]	0 to 360 degrees
626	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
628	Amplitude 3		[%]	0 to 100 %
630	Frequency 3		[Hz]	0 to 350 Hz
632	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
966	Duration		[ms]	
636	Amplitude 1	Platform "O"	[%]	0 to 100 %
638	Frequency 1		[Hz]	0 to 350 Hz

Register	Define	Vibration	Units	Range
640	Phase 1		[°deg.]	0 to 360 degrees
642	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
644	Amplitude 2		[%]	0 to 100 %
646	Frequency 2		[Hz]	0 to 350 Hz
648	Phase 2		[°deg.]	0 to 360 degrees
650	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
652	Amplitude 3		[%]	0 to 100 %
654	Frequency 3		[Hz]	0 to 350 Hz
656	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
968	Duration		[ms]	
660	Amplitude 1	Platform "P"	[%]	0 to 100 %
662	Frequency 1		[Hz]	0 to 350 Hz
664	Phase 1		[°deg.]	0 to 360 degrees
666	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
668	Amplitude 2		[%]	0 to 100 %
670	Frequency 2		[Hz]	0 to 350 Hz
672	Phase 2		[°deg.]	0 to 360 degrees
674	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
676	Amplitude 3		[%]	0 to 100 %
678	Frequency 3		[Hz]	0 to 350 Hz
680	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
970	Duration		[ms]	
684	Amplitude 1	Platform "Q"	[%]	0 to 100 %
686	Frequency 1		[Hz]	0 to 350 Hz
688	Phase 1		[°deg.]	0 to 360 degrees
690	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
692	Amplitude 2		[%]	0 to 100 %
694	Frequency 2		[Hz]	0 to 350 Hz
696	Phase 2		[°deg.]	0 to 360 degrees
698	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
700	Amplitude 3		[%]	0 to 100 %
702	Frequency 3		[Hz]	0 to 350 Hz
704	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
972	Duration		[ms]	

Register	Define	Vibration	Units	Range
708	Amplitude 1	Platform "R"	[%]	0 to 100 %
710	Frequency 1		[Hz]	0 to 350 Hz
712	Phase 1		[°deg.]	0 to 360 degrees
714	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
716	Amplitude 2		[%]	0 to 100 %
718	Frequency 2		[Hz]	0 to 350 Hz
720	Phase 2		[°deg.]	0 to 360 degrees
722	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
724	Amplitude 3		[%]	0 to 100 %
726	Frequency 3		[Hz]	0 to 350 Hz
728	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
974	Duration		[ms]	
732	Amplitude 1	Platform "S"	[%]	0 to 100 %
734	Frequency 1		[Hz]	0 to 350 Hz
736	Phase 1		[°deg.]	0 to 360 degrees
738	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
740	Amplitude 2		[%]	0 to 100 %
742	Frequency 2		[Hz]	0 to 350 Hz
744	Phase 2		[°deg.]	0 to 360 degrees
746	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
748	Amplitude 3		[%]	0 to 100 %
750	Frequency 3		[Hz]	0 to 350 Hz
752	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
976	Duration		[ms]	
756	Amplitude 1	Platform "T"	[%]	0 to 100 %
758	Frequency 1		[Hz]	0 to 350 Hz
760	Phase 1		[°deg.]	0 to 360 degrees
762	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
764	Amplitude 2		[%]	0 to 100 %
766	Frequency 2		[Hz]	0 to 350 Hz
768	Phase 2		[°deg.]	0 to 360 degrees
770	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
772	Amplitude 3		[%]	0 to 100 %
774	Frequency 3		[Hz]	0 to 350 Hz
776	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn

Register	Define	Vibration	Units	Range
978	Duration		[ms]	
780	Amplitude 1	Platform "U"	[%]	0 to 100 %
782	Frequency 1		[Hz]	0 to 350 Hz
784	Phase 1		[°deg.]	0 to 360 degrees
786	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
788	Amplitude 2		[%]	0 to 100 %
790	Frequency 2		[Hz]	0 to 350 Hz
792	Phase 2		[°deg.]	0 to 360 degrees
794	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
796	Amplitude 3		[%]	0 to 100 %
798	Frequency 3		[Hz]	0 to 350 Hz
800	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
980	Duration		[ms]	
804	Amplitude 1	Platform "V"	[%]	0 to 100 %
806	Frequency 1		[Hz]	0 to 350 Hz
808	Phase 1		[°deg.]	0 to 360 degrees
810	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
812	Amplitude 2		[%]	0 to 100 %
814	Frequency 2		[Hz]	0 to 350 Hz
816	Phase 2		[°deg.]	0 to 360 degrees
818	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
820	Amplitude 3		[%]	0 to 100 %
822	Frequency 3		[Hz]	0 to 350 Hz
824	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
982	Duration		[ms]	
828	Amplitude 1	Platform "W"	[%]	0 to 100 %
830	Frequency 1		[Hz]	0 to 350 Hz
832	Phase 1		[°deg.]	0 to 360 degrees
834	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
836	Amplitude 2		[%]	0 to 100 %
838	Frequency 2		[Hz]	0 to 350 Hz
840	Phase 2		[°deg.]	0 to 360 degrees
842	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
844	Amplitude 3		[%]	0 to 100 %

Register	Define	Vibration	Units	Range
846	Frequency 3		[Hz]	0 to 350 Hz
848	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
984	Duration		[ms]	
852	Amplitude 1	Platform "X"	[%]	0 to 100 %
854	Frequency 1		[Hz]	0 to 350 Hz
856	Phase 1		[°deg.]	0 to 360 degrees
858	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
860	Amplitude 2		[%]	0 to 100 %
862	Frequency 2		[Hz]	0 to 350 Hz
864	Phase 2		[°deg.]	0 to 360 degrees
866	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
868	Amplitude 3		[%]	0 to 100 %
870	Frequency 3		[Hz]	0 to 350 Hz
872	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
986	Duration		[ms]	
876	Amplitude 1	Platform "Y"	[%]	0 to 100 %
878	Frequency 1		[Hz]	0 to 350 Hz
880	Phase 1		[°deg.]	0 to 360 degrees
882	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
884	Amplitude 2		[%]	0 to 100 %
886	Frequency 2		[Hz]	0 to 350 Hz
888	Phase 2		[°deg.]	0 to 360 degrees
890	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
892	Amplitude 3		[%]	0 to 100 %
894	Frequency 3		[Hz]	0 to 350 Hz
896	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
988	Duration		[ms]	
900	Amplitude 1	Platform "Z"	[%]	0 to 100 %
902	Frequency 1		[Hz]	0 to 350 Hz
904	Phase 1		[°deg.]	0 to 360 degrees
906	Waveform 1		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
908	Amplitude 2		[%]	0 to 100 %
910	Frequency 2		[Hz]	0 to 350 Hz
912	Phase 2		[°deg.]	0 to 360 degrees

Register	Define	Vibration	Units	Range
914	Waveform 2		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
916	Amplitude 3		[%]	0 to 100 %
918	Frequency 3		[Hz]	0 to 350 Hz
920	Waveform 3		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
990	Duration		[ms]	

Table 6-2: platform vibrations parameters

6.3. Hopper Vibrations

Register	Define	Vibration	Units	Range
1000	Amplitude	Bulk "A"	[%]	0 to 100%
1002	Frequency		[Hz]	0 to 350 Hz
1004	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1240	Delay		[ms]	
1008	Amplitude	Bulk "B"	[%]	0 to 100%
1010	Frequency		[Hz]	0 to 350 Hz
1012	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1242	Delay		[ms]	
1016	Amplitude	Bulk "C"	[%]	0 to 100%
1018	Frequency		[Hz]	0 to 350 Hz
1020	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1244	Delay		[ms]	
1024	Amplitude	Bulk "D"	[%]	0 to 100%
1026	Frequency		[Hz]	0 to 350 Hz
1028	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1246	Delay		[ms]	
1032	Amplitude	Bulk "E"	[%]	0 to 100%
1034	Frequency		[Hz]	0 to 350 Hz
1036	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1248	Delay		[ms]	
1040	Amplitude	Bulk "F"	[%]	0 to 100%
1042	Frequency		[Hz]	0 to 350 Hz
1044	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1250	Delay		[ms]	
1048	Amplitude	Bulk "G"	[%]	0 to 100%
1050	Frequency		[Hz]	0 to 350 Hz
1052	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1252	Delay		[ms]	

Register	Define	Vibration	Units	Range
1056	Amplitude	Bulk "H"	[%]	0 to 100%
1058	Frequency		[Hz]	0 to 350 Hz
1060	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1254	Delay		[ms]	
1064	Amplitude	Bulk "I"	[%]	0 to 100%
1066	Frequency		[Hz]	0 to 350 Hz
1068	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1256	Delay		[ms]	
1072	Amplitude	Bulk "J"	[%]	0 to 100%
1074	Frequency		[Hz]	0 to 350 Hz
1076	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1258	Delay		[ms]	
1080	Amplitude	Bulk "K"	[%]	0 to 100%
1082	Frequency		[Hz]	0 to 350 Hz
1084	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1260	Delay		[ms]	
1088	Amplitude	Bulk "L"	[%]	0 to 100%
1090	Frequency		[Hz]	0 to 350 Hz
1092	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1262	Delay		[ms]	
1096	Amplitude	Bulk "M"	[%]	0 to 100%
1098	Frequency		[Hz]	0 to 350 Hz
1100	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1264	Delay		[ms]	
1104	Amplitude	Bulk "N"	[%]	0 to 100%
1106	Frequency		[Hz]	0 to 350 Hz
1108	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1266	Delay		[ms]	
1112	Amplitude	Bulk "O"	[%]	0 to 100%
1114	Frequency		[Hz]	0 to 350 Hz

Register	Define	Vibration	Units	Range
1116	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1268	Delay		[ms]	
1120	Amplitude	Bulk "P"	[%]	0 to 100%
1122	Frequency		[Hz]	0 to 350 Hz
1124	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1270	Delay		[ms]	
1128	Amplitude	Bulk "Q"	[%]	0 to 100%
1130	Frequency		[Hz]	0 to 350 Hz
1132	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1272	Delay		[ms]	
1136	Amplitude	Bulk "R"	[%]	0 to 100%
1138	Frequency		[Hz]	0 to 350 Hz
1140	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1274	Delay		[ms]	
1144	Amplitude	Bulk "S"	[%]	0 to 100%
1146	Frequency		[Hz]	0 to 350 Hz
1148	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1276	Delay		[ms]	
1152	Amplitude	Bulk "T"	[%]	0 to 100%
1154	Frequency		[Hz]	0 to 350 Hz
1156	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1278	Delay		[ms]	
1160	Amplitude	Bulk "U"	[%]	0 to 100%
1162	Frequency		[Hz]	0 to 350 Hz
1164	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1280	Delay		[ms]	
1168	Amplitude	Bulk "V"	[%]	0 to 100%
1170	Frequency		[Hz]	0 to 350 Hz
1172	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1282	Delay		[ms]	

Register	Define	Vibration	Units	Range
1176	Amplitude	Bulk "W"	[%]	0 to 100%
1178	Frequency		[Hz]	0 to 350 Hz
1180	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1284	Delay		[ms]	
1184	Amplitude	Bulk "X"	[%]	0 to 100%
1186	Frequency		[Hz]	0 to 350 Hz
1188	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1286	Delay		[ms]	
1192	Amplitude	Bulk "Y"	[%]	0 to 100%
1194	Frequency		[Hz]	0 to 350 Hz
1196	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1288	Delay		[ms]	
1200	Amplitude	Bulk "Z"	[%]	0 to 100%
1202	Frequency		[Hz]	0 to 350 Hz
1204	Figure		[0..3]	0=no signal, 1=sinus, 2=rp up, 3= rp dn
1290	Delay		[ms]	

Table 6-3: hopper vibrations parameters

6.4. Sequences

Register	Define	Action nb	Sequence ID	Range	Comment
1300	Type	1	1	[0..3]	0=None, 1=Platform 2=Hopper, 3=Stabilisation
1302	Vibration			[A..Z + 0]	0 = Centering
1304	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1306	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1308	Type	2	1	[0..3]	0=None, 1=Platform 2=Hopper, 3=Stabilisation
1310	Vibration			[A..Z + 0]	0 = Centering
1312	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1314	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1316	Type	3	1	[0..3]	0=None, 1=Platform 2=Hopper, 3=Stabilisation
1318	Vibration			[A..Z + 0]	0 = Centering
1320	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1322	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1324	Type	4	1	[0..3]	0=None, 1=Platform 2=Hopper, 3=Stabilisation
1326	Vibration			[A..Z + 0]	0 = Centering
1328	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1330	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1332	Type	5	1	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1334	Vibration			[A..Z + 0]	0 = Centering
1336	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
1338	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1340	Type	6	1	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1342	Vibration			[A..Z + 0]	0 = Centering
1344	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1346	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1348	Type	7	1	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1350	Vibration			[A..Z + 0]	0 = Centering
1352	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1354	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1356	Nb Limit Parts		1	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1358	Type	1	2	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1360	Vibration			[A..Z + 0]	0 = Centering
1362	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1364	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1366	Type	2	2	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1368	Vibration			[A..Z + 0]	0 = Centering
1370	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1372	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1374	Type	3	2	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1376	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
1378	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1380	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1382	Type	4	2	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1384	Vibration			[A..Z + 0]	0 = Centering
1386	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1388	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1390	Type	5	2	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1392	Vibration			[A..Z + 0]	0 = Centering
1394	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1396	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1398	Type	6	2	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1400	Vibration			[A..Z + 0]	0 = Centering
1402	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1404	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1406	Type	7	2	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1408	Vibration			[A..Z + 0]	0 = Centering
1410	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1412	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1414	Nb Limit Parts		2	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.

Register	Define	Action nb	Sequence ID	Range	Comment
1416	Type	1	3	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1418	Vibration			[A..Z + 0]	0 = Centering
1420	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1422	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1424	Type	2	3	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1426	Vibration			[A..Z + 0]	0 = Centering
1428	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1430	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1432	Type	3	3	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1434	Vibration			[A..Z + 0]	0 = Centering
1436	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1438	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1440	Type	4	3	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1442	Vibration			[A..Z + 0]	0 = Centering
1444	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1446	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1448	Type	5	3	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1450	Vibration			[A..Z + 0]	0 = Centering
1452	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1454	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
1456	Type	6	3	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1458	Vibration			[A..Z + 0]	0 = Centering
1460	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1462	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1464	Type	7	3	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1466	Vibration			[A..Z + 0]	0 = Centering
1468	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1470	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1472	Nb Limit Parts		3	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1474	Type	1	4	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1476	Vibration			[A..Z + 0]	0 = Centering
1478	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1480	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1482	Type	2	4	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1484	Vibration			[A..Z + 0]	0 = Centering
1486	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1488	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1490	Type	3	4	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1492	Vibration			[A..Z + 0]	0 = Centering
1494	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
1496	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1498	Type	4	4	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1500	Vibration			[A..Z + 0]	0 = Centering
1502	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1504	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1506	Type	5	4	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1508	Vibration			[A..Z + 0]	0 = Centering
1510	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1512	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1514	Type	6	4	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1516	Vibration			[A..Z + 0]	0 = Centering
1518	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1520	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1522	Type	7	4	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1524	Vibration			[A..Z + 0]	0 = Centering
1526	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1528	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1530	Nb Limit Parts		4	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1532	Type	1	5	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1534	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
1536	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1538	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1540	Type	2	5	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1542	Vibration			[A..Z + 0]	0 = Centering
1544	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1546	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1548	Type	3	5	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1550	Vibration			[A..Z + 0]	0 = Centering
1552	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1554	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1556	Type	4	5	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1558	Vibration			[A..Z + 0]	0 = Centering
1560	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1562	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1564	Type	5	5	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1566	Vibration			[A..Z + 0]	0 = Centering
1568	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1570	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1572	Type	6	5	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1574	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
1576	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1578	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1580	Type	7	5	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1582	Vibration			[A..Z + 0]	0 = Centering
1584	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1586	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1588	Nb Limit Parts		5	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1590	Type	1	6	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1592	Vibration			[A..Z + 0]	0 = Centering
1594	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1596	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1598	Type	2	6	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1600	Vibration			[A..Z + 0]	0 = Centering
1602	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1604	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1606	Type	3	6	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1608	Vibration			[A..Z + 0]	0 = Centering
1610	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1612	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
1614	Type	4	6	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1616	Vibration			[A..Z + 0]	0 = Centering
1618	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1620	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1622	Type	5	6	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1624	Vibration			[A..Z + 0]	0 = Centering
1626	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1628	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1630	Type	6	6	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1632	Vibration			[A..Z + 0]	0 = Centering
1634	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1636	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1638	Type	7	6	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1640	Vibration			[A..Z + 0]	0 = Centering
1642	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1644	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1646	Nb Limit Parts		6	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1648	Type	1	7	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1650	Vibration			[A..Z + 0]	0 = Centering
1652	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
1654	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1656	Type	2	7	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1658	Vibration			[A..Z + 0]	0 = Centering
1660	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1662	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1664	Type	3	7	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1666	Vibration			[A..Z + 0]	0 = Centering
1668	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1670	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1672	Type	4	7	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1674	Vibration			[A..Z + 0]	0 = Centering
1676	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1678	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1680	Type	5	7	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1682	Vibration			[A..Z + 0]	0 = Centering
1684	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1686	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1688	Type	6	7	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1690	Vibration			[A..Z + 0]	0 = Centering
1692	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
1694	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1696	Type	7	7	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1698	Vibration			[A..Z + 0]	0 = Centering
1700	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1702	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1704	Nb Limit Parts		7	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1706	Type	1	8	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1708	Vibration			[A..Z + 0]	0 = Centering
1710	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1712	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1714	Type	2	8	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1716	Vibration			[A..Z + 0]	0 = Centering
1718	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1720	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1722	Type	3	8	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1724	Vibration			[A..Z + 0]	0 = Centering
1726	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1728	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1730	Type	4	8	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1732	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
1734	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1736	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1738	Type	5	8	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1740	Vibration			[A..Z + 0]	0 = Centering
1742	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1744	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1746	Type	6	8	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1748	Vibration			[A..Z + 0]	0 = Centering
1750	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1752	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1754	Type	7	8	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1756	Vibration			[A..Z + 0]	0 = Centering
1758	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1760	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1762	Nb Limit Parts		8	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1764	Type	1	9	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1766	Vibration			[A..Z + 0]	0 = Centering
1768	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1770	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
1772	Type	2	9	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1774	Vibration			[A..Z + 0]	0 = Centering
1776	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1778	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1780	Type	3	9	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1782	Vibration			[A..Z + 0]	0 = Centering
1784	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1786	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1788	Type	4	9	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1790	Vibration			[A..Z + 0]	0 = Centering
1792	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1794	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1796	Type	5	9	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1798	Vibration			[A..Z + 0]	0 = Centering
1800	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1802	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1804	Type	6	9	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1806	Vibration			[A..Z + 0]	0 = Centering
1808	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1810	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
1812	Type	7	9	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1814	Vibration			[A..Z + 0]	0 = Centering
1816	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1818	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1820	Nb Limit Parts		9	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1822	Type	1	10	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1824	Vibration			[A..Z + 0]	0 = Centering
1826	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1828	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1830	Type	2	10	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1832	Vibration			[A..Z + 0]	0 = Centering
1834	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1836	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1838	Type	3	10	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1840	Vibration			[A..Z + 0]	0 = Centering
1842	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1844	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1846	Type	4	10	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1848	Vibration			[A..Z + 0]	0 = Centering
1850	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
1852	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1854	Type	5	10	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1856	Vibration			[A..Z + 0]	0 = Centering
1858	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1860	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1862	Type	6	10	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1864	Vibration			[A..Z + 0]	0 = Centering
1866	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1868	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1870	Type	7	10	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1872	Vibration			[A..Z + 0]	0 = Centering
1874	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1876	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1878	Nb Limit Parts		10	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1880	Type	1	11	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1882	Vibration			[A..Z + 0]	0 = Centering
1884	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1886	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1888	Type	2	11	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1890	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
1892	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1894	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1896	Type	3	11	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1898	Vibration			[A..Z + 0]	0 = Centering
1900	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1902	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1904	Type	4	11	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1906	Vibration			[A..Z + 0]	0 = Centering
1908	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1910	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1912	Type	5	11	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1914	Vibration			[A..Z + 0]	0 = Centering
1916	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1918	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1920	Type	6	11	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1922	Vibration			[A..Z + 0]	0 = Centering
1924	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1926	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1928	Type	7	11	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1930	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
1932	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1934	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1936	Nb Limit Parts		11	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1938	Type	1	12	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1940	Vibration			[A..Z + 0]	0 = Centering
1942	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1944	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1946	Type	2	12	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1948	Vibration			[A..Z + 0]	0 = Centering
1950	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1952	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1954	Type	3	12	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1956	Vibration			[A..Z + 0]	0 = Centering
1958	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1960	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1962	Type	4	12	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1964	Vibration			[A..Z + 0]	0 = Centering
1966	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1968	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
1970	Type	5	12	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1972	Vibration			[A..Z + 0]	0 = Centering
1974	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1976	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1978	Type	6	12	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1980	Vibration			[A..Z + 0]	0 = Centering
1982	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1984	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1986	Type	7	12	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1988	Vibration			[A..Z + 0]	0 = Centering
1990	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
1992	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
1994	Nb Limit Parts		12	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
1996	Type	1	13	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
1998	Vibration			[A..Z + 0]	0 = Centering
2000	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2002	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2004	Type	2	13	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2006	Vibration			[A..Z + 0]	0 = Centering
2008	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
2010	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2012	Type	3	13	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2014	Vibration			[A..Z + 0]	0 = Centering
2016	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2018	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2020	Type	4	13	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2022	Vibration			[A..Z + 0]	0 = Centering
2024	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2026	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2028	Type	5	13	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2030	Vibration			[A..Z + 0]	0 = Centering
2032	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2034	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2036	Type	6	13	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2038	Vibration			[A..Z + 0]	0 = Centering
2040	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2042	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2044	Type	7	13	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2046	Vibration			[A..Z + 0]	0 = Centering
2048	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
2050	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2052	Nb Limit Parts		13	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2054	Type	1	14	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2056	Vibration			[A..Z + 0]	0 = Centering
2058	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2060	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2062	Type	2	14	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2064	Vibration			[A..Z + 0]	0 = Centering
2066	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2068	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2070	Type	3	14	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2072	Vibration			[A..Z + 0]	0 = Centering
2074	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2076	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2078	Type	4	14	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2080	Vibration			[A..Z + 0]	0 = Centering
2082	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2084	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2086	Type	5	14	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2088	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
2090	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2092	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2094	Type	6	14	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2096	Vibration			[A..Z + 0]	0 = Centering
2098	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2100	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2102	Type	7	14	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2104	Vibration			[A..Z + 0]	0 = Centering
2106	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2108	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2110	Nb Limit Parts		14	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2112	Type	1	15	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2114	Vibration			[A..Z + 0]	0 = Centering
2116	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2118	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2120	Type	2	15	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2122	Vibration			[A..Z + 0]	0 = Centering
2124	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2126	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
2128	Type	3	15	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2130	Vibration			[A..Z + 0]	0 = Centering
2132	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2134	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2136	Type	4	15	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2138	Vibration			[A..Z + 0]	0 = Centering
2140	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2142	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2144	Type	5	15	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2146	Vibration			[A..Z + 0]	0 = Centering
2148	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2150	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2152	Type	6	15	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2154	Vibration			[A..Z + 0]	0 = Centering
2156	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2158	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2160	Type	7	15	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2162	Vibration			[A..Z + 0]	0 = Centering
2164	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2166	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
2168	Nb Limit Parts		15	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2170	Type	1	16	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2172	Vibration			[A..Z + 0]	0 = Centering
2174	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2176	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2178	Type	2	16	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2180	Vibration			[A..Z + 0]	0 = Centering
2182	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2184	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2186	Type	3	16	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2188	Vibration			[A..Z + 0]	0 = Centering
2190	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2192	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2194	Type	4	16	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2196	Vibration			[A..Z + 0]	0 = Centering
2198	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2200	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2202	Type	5	16	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2204	Vibration			[A..Z + 0]	0 = Centering
2206	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
2208	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2210	Type	6	16	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2212	Vibration			[A..Z + 0]	0 = Centering
2214	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2216	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2218	Type	7	16	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2220	Vibration			[A..Z + 0]	0 = Centering
2222	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2224	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2226	Nb Limit Parts		16	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2228	Type	1	17	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2230	Vibration			[A..Z + 0]	0 = Centering
2232	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2234	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2236	Type	2	17	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2238	Vibration			[A..Z + 0]	0 = Centering
2240	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2242	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2244	Type	3	17	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2246	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
2248	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2250	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2252	Type	4	17	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2254	Vibration			[A..Z + 0]	0 = Centering
2256	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2258	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2260	Type	5	17	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2262	Vibration			[A..Z + 0]	0 = Centering
2264	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2266	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2268	Type	6	17	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2270	Vibration			[A..Z + 0]	0 = Centering
2272	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2274	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2276	Type	7	17	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2278	Vibration			[A..Z + 0]	0 = Centering
2280	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2282	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2284	Nb Limit Parts		17	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.

Register	Define	Action nb	Sequence ID	Range	Comment
2286	Type	1	18	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2288	Vibration			[A..Z + 0]	0 = Centering
2290	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2292	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2294	Type	2	18	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2296	Vibration			[A..Z + 0]	0 = Centering
2298	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2300	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2302	Type	3	18	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2304	Vibration			[A..Z + 0]	0 = Centering
2306	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2308	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2310	Type	4	18	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2312	Vibration			[A..Z + 0]	0 = Centering
2314	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2316	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2318	Type	5	18	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2320	Vibration			[A..Z + 0]	0 = Centering
2322	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2324	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
2326	Type	6	18	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2328	Vibration			[A..Z + 0]	0 = Centering
2330	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2332	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2334	Type	7	18	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2336	Vibration			[A..Z + 0]	0 = Centering
2338	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2340	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2342	Nb Limit Parts		18	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2344	Type	1	19	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2346	Vibration			[A..Z + 0]	0 = Centering
2348	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2350	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2352	Type	2	19	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2354	Vibration			[A..Z + 0]	0 = Centering
2356	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2358	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2360	Type	3	19	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2362	Vibration			[A..Z + 0]	0 = Centering
2364	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
2366	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2368	Type	4	19	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2370	Vibration			[A..Z + 0]	0 = Centering
2372	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2374	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2376	Type	5	19	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2378	Vibration			[A..Z + 0]	0 = Centering
2380	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2382	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2384	Type	6	19	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2386	Vibration			[A..Z + 0]	0 = Centering
2388	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2390	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2392	Type	7	19	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2394	Vibration			[A..Z + 0]	0 = Centering
2396	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2398	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2400	Nb Limit Parts		19	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2402	Type	1	20	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2404	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
2406	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2408	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2410	Type	2	20	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2412	Vibration			[A..Z + 0]	0 = Centering
2414	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2416	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2418	Type	3	20	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2420	Vibration			[A..Z + 0]	0 = Centering
2422	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2424	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2426	Type	4	20	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2428	Vibration			[A..Z + 0]	0 = Centering
2430	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2432	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2434	Type	5	20	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2436	Vibration			[A..Z + 0]	0 = Centering
2438	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2440	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2442	Type	6	20	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2444	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
2446	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2448	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2450	Type	7	20	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2452	Vibration			[A..Z + 0]	0 = Centering
2454	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2456	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2458	Nb Limit Parts		20	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2460	Type	1	21	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2462	Vibration			[A..Z + 0]	0 = Centering
2464	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2466	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2468	Type	2	21	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2470	Vibration			[A..Z + 0]	0 = Centering
2472	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2474	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2476	Type	3	21	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2478	Vibration			[A..Z + 0]	0 = Centering
2480	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2482	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
2484	Type	4	21	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2486	Vibration			[A..Z + 0]	0 = Centering
2488	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2490	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2492	Type	5	21	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2494	Vibration			[A..Z + 0]	0 = Centering
2496	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2498	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2500	Type	6	21	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2502	Vibration			[A..Z + 0]	0 = Centering
2504	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2506	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2508	Type	7	21	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2510	Vibration			[A..Z + 0]	0 = Centering
2512	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2514	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2516	Nb Limit Parts		21	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2518	Type	1	22	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2520	Vibration			[A..Z + 0]	0 = Centering
2522	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
2524	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2526	Type	2	22	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2528	Vibration			[A..Z + 0]	0 = Centering
2530	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2532	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2534	Type	3	22	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2536	Vibration			[A..Z + 0]	0 = Centering
2538	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2540	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2542	Type	4	22	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2544	Vibration			[A..Z + 0]	0 = Centering
2546	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2548	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2550	Type	5	22	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2552	Vibration			[A..Z + 0]	0 = Centering
2554	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2556	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2558	Type	6	22	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2560	Vibration			[A..Z + 0]	0 = Centering
2562	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
2564	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2566	Type	7	22	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2568	Vibration			[A..Z + 0]	0 = Centering
2570	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2572	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2574	Nb Limit Parts		22	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2576	Type	1	23	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2578	Vibration			[A..Z + 0]	0 = Centering
2580	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2582	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2584	Type	2	23	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2586	Vibration			[A..Z + 0]	0 = Centering
2588	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2590	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2592	Type	3	23	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2594	Vibration			[A..Z + 0]	0 = Centering
2596	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2598	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2600	Type	4	23	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2602	Vibration			[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
2604	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2606	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2608	Type	5	23	[0..3]	0=None, 1=Platform 2= Hopper Hopper, 3=Stabilisation
2610	Vibration			[A..Z + 0]	0 = Centering
2612	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2614	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2616	Type	6	23	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2618	Vibration			[A..Z + 0]	0 = Centering
2620	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2622	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2624	Type	7	23	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2626	Vibration			[A..Z + 0]	0 = Centering
2628	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2630	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2632	Nb Limit Parts		23	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2634	Type	1	24	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2636	Vibration			[A..Z + 0]	0 = Centering
2638	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2640	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
2642	Type	2	24	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2644	Vibration			[A..Z + 0]	0 = Centering
2646	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2648	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2650	Type	3	24	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2652	Vibration			[A..Z + 0]	0 = Centering
2654	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2656	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2658	Type	4	24	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2660	Vibration			[A..Z + 0]	0 = Centering
2662	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2664	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2666	Type	5	24	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2668	Vibration			[A..Z + 0]	0 = Centering
2670	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2672	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2674	Type	6	24	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2676	Vibration			[A..Z + 0]	0 = Centering
2678	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2680	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode

Register	Define	Action nb	Sequence ID	Range	Comment
2682	Type	7	24	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2684	Vibration			[A..Z + 0]	0 = Centering
2686	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2688	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2690	Nb Limit Parts		24	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2692	Type	1	25	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2694	Vibration			[A..Z + 0]	0 = Centering
2696	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2698	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2700	Type	2	25	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2702	Vibration			[A..Z + 0]	0 = Centering
2704	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2706	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2708	Type	3	25	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2710	Vibration			[A..Z + 0]	0 = Centering
2712	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2714	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2716	Type	4	25	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2718	Vibration			[A..Z + 0]	0 = Centering
2720	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio

Register	Define	Action nb	Sequence ID	Range	Comment
2722	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2724	Type	5	25	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2726	Vibration			[A..Z + 0]	0 = Centering
2728	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2730	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2732	Type	6	25	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2734	Vibration			[A..Z + 0]	0 = Centering
2736	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2738	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2740	Type	7	25	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2742	Vibration			[A..Z + 0]	0 = Centering
2744	Duration Mode			[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2746	Duration Value			[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2748	Nb Limit Parts		25	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.
2750	Type	1	26 **	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2752	Vibration		**	[A..Z + 0]	0 = Centering
2754	Duration Mode		**	[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2756	Duration Value		**	[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2758	Type	2	26 **	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2760	Vibration		**	[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
2762	Duration Mode		**	[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2764	Duration Value		**	[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2766	Type	3	26 **	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2768	Vibration		**	[A..Z + 0]	0 = Centering
2770	Duration Mode		**	[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2772	Duration Value		**	[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2774	Type	4	26 **	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2776	Vibration		**	[A..Z + 0]	0 = Centering
2778	Duration Mode		**	[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2780	Duration Value		**	[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2782	Type	5	26 **	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2784	Vibration		**	[A..Z + 0]	0 = Centering
2786	Duration Mode		**	[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2788	Duration Value		**	[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2790	Type	6	26 **	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2792	Vibration		**	[A..Z + 0]	0 = Centering
2794	Duration Mode		**	[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2796	Duration Value		**	[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2798	Type	7	26 **	[0..3]	0=None, 1=Platform 2= Hopper, 3=Stabilisation
2800	Vibration		**	[A..Z + 0]	0 = Centering

Register	Define	Action nb	Sequence ID	Range	Comment
2802	Duration Mode		**	[0..2]	0=Fixed, 1=QuantityAdjusted, 2=VibrationRatio
2804	Duration Value		**	[0..32767ms] [0..100%]	Unit change depending of selected duration mode
2806	Nb Limit Parts		26 **	[0..32767ms]	Nb limit of parts for the QuantityAdjusted vibration.

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Table 6-4: sequences parameters

7. Technical support

7.1. For better service …

You have read the the related manuals without finding answers to your questions? Before calling the support service, note the following information for your system:

- serial number and product key of your material
- software version
- alarm or error message displayed on the screen

7.2. Contact

You can find lot of information on our website: www.asyril.com

You can also contact us by mail or call our support service:

support@asyril.com

+41 26 653 71 90

Review history

Rev.	Date	Author	Comments
A	24.07.2015	HsJ	Initial Version copied from ACUBE-MEZ_FOR-2
A1	30.06.2016	HsJ	Remove spaces in some command examples
B	23.11.2016	HsJ	Add elements for vibration sets and sequences

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