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[illegible]

This document outlines the transferring ONVIF commands from the MARIS server to a camera located at 127.0.0.1 port:2030 using UDP. The MARIS server acts as a mediator between an ONVIF client and the camera, facilitating the execution of various commands for PTZ control.

1. Header Message:

This is the structure of the message header, the message header should be at the beginning of every command.

BYTE	Field Name	Data Type	Field Length (bytes)	Description
0	Sync	Byte	1	Intended for checking the validity of a beginning of a message. The word for synchronization is: 0xA5 (165)
1	Counter	Byte	1	0 - 255
2	Command ID	Byte	1	Onvif command ID
3	Check Sum	Byte	1	Check Sum on the entire message including the header.
4-5	Data Length	Short	2	Data size only (Not including the header)

2. Continuous Move

Starts continuous movement of the PTZ unit. Movement will continue until a **Stop** command is sent.

Request Parameters:

- **Profile Token:** String (required)

- **Velocity:** Object (required) - The speed of pan, tilt, and zoom.
 - **PanTilt:** **x, y** values for pan and tilt.
 - **Zoom:** **x** value for zoom.
- **Timeout:** Duration (optional) - Time after which the movement should stop.

3. Absolute Move

Moves the PTZ unit to an absolute destination.

Request Parameters:

- **ProfileToken:** String (required)
- **Position:** Object (required) - The absolute position for pan, tilt, and zoom.
- **Speed:** Object (optional) - The speed of movement.

4. Relative Move

Moves the PTZ unit by a relative amount from the current position.

Request Parameters:

- **ProfileToken:** String (required)
- **Translation:** Object (required) - The relative movement required.
- **Speed:** Object (optional) - The speed of movement.

5. Set Preset

Sets a new preset at the current position of the PTZ unit.

Request Parameters:

- **ProfileToken:** String (required)
- **PresetName:** String (optional) - Name of the preset.
- **PresetToken:** String (optional) - Token for the preset.

6. Goto Preset

Moves the PTZ unit to a specified preset position.

Request Parameters:

- **ProfileToken:** String (required)
- **PresetToken:** String (required) - Token of the preset to go to.

7. Stop

Stops any ongoing movement or zoom.

Request Parameters:

- **ProfileToken:** String (required)
- **PanTilt:** Boolean (optional) - Stop pan/tilt movements.
- **Zoom:** Boolean (optional) - Stop zoom movements.

8. All Commands Table:

Command Name	Command ID
Get Status	1
Continuous Move Stop	2
Absolute Move	3
Relative Move	4
Set Preset	5
Remove Preset	6
Goto Preset	7
Go to Home Position	8
Set Home Position	9
Set Configuration	10
Get Preset Tour Options	11
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Modify Preset Tour	13
Operate Preset Tour	14
Remove Preset Tour	15
Send Auxiliary Command	16
Geo Move	17

9. PTZ.h file:

```
typedef struct
{
    uint32 TimeoutFlag      : 1;                // Indicates
whether the field Timeout is valid
    uint32 Reserved        : 31;

    char ProfileToken[ONVIF_TOKEN_LEN];        // required, A
reference to the MediaProfile

    onvif_PTZSpeed Velocity;                    //
required, A Velocity vector specifying the velocity of pan, tilt and zoom

    int Timeout;                               // optional, An optional Timeout parameter, unit is second
} ptz_ContinuousMove_REQ;

typedef struct
{
    uint32 PanTiltFlag      : 1;                // Indicates
whether the field PanTilt is valid
    uint32 ZoomFlag        : 1;                //
Indicates whether the field Zoom is valid
    uint32 Reserved        : 30;

    char ProfileToken[ONVIF_TOKEN_LEN];        // required, A
reference to the MediaProfile that indicate what should be stopped

    BOOL PanTilt;
    // optional, Set true when we want to stop ongoing pan and tilt
movements.If PanTilt arguments are not present, this command stops these
movements
    BOOL Zoom;
    // optional, Set true when we want to stop ongoing zoom movement.If
Zoom arguments are not present, this command stops ongoing zoom movement
} ptz_Stop_REQ;

typedef struct
{
    uint32 SpeedFlag        : 1;                //
Indicates whether the field Speed is valid
    uint32 Reserved        : 31;

    char ProfileToken[ONVIF_TOKEN_LEN];        // required, A
reference to the MediaProfile
```

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```

onvif_PTZVectorPosition; //
required, A Position vector specifying the absolute target position //
    onvif_PTZSpeed Speed; //
optional, An optional Speed
} ptz_AbsoluteMove_REQ;

typedef struct
{
    uint32 SpeedFlag : 1; //
    Indicates whether the field Speed is valid
    uint32 Reserved : 31;

    char ProfileToken[ONVIF_TOKEN_LEN]; // required, A
    reference to the MediaProfile

    onvif_PTZVector Translation; // required, A
    positional Translation relative to the current position
    onvif_PTZSpeed Speed; //
    optional, An optional Speed parameter
} ptz_RelativeMove_REQ;

typedef struct
{
    uint32 PresetTokenFlag : 1; // Indicates
    whether the field PresetToken is valid
    uint32 PresetNameFlag : 1; // Indicates
    whether the field PresetName is valid
    uint32 Reserved : 30;

    char ProfileToken[ONVIF_TOKEN_LEN]; // required, A
    reference to the MediaProfile where the operation should take place
    char PresetToken[ONVIF_TOKEN_LEN]; // optional, A
    requested preset token
    char PresetName[ONVIF_NAME_LEN]; // optional, A
    requested preset name
} ptz_SetPreset_REQ;

typedef struct
{
    char ProfileToken[ONVIF_TOKEN_LEN]; // required, A
    reference to the MediaProfile where the operation should take place
    char PresetToken[ONVIF_TOKEN_LEN]; // required, A
    requested preset token
} ptz_RemovePreset_REQ;

typedef struct
{
    uint32 SpeedFlag : 1; //
    Indicates whether the field Speed is valid
    uint32 Reserved : 31;

    char ProfileToken[ONVIF_TOKEN_LEN]; // required, A
    reference to the MediaProfile where the operation should take place
    char PresetToken[ONVIF_TOKEN_LEN]; // required, A
    requested preset token
}

```

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```
        onvif_PTZSpeed Speed; //
optional, A requested speed.The speed parameter can only be specified when
Speed Spaces are available for the PTZ Node
} ptz_GotoPreset_REQ;

typedef struct
{
    uint32 SpeedFlag : 1; //
Indicates whether the field Speed is valid
    uint32 Reserved : 31;

    char ProfileToken[ONVIF_TOKEN_LEN]; // required, A
reference to the MediaProfile where the operation should take place

    onvif_PTZSpeed Speed; //
optional, A requested speed.The speed parameter can only be specified when
Speed Spaces are available for the PTZ Node
} ptz_GotoHomePosition_REQ;

typedef struct
{
    onvif_PTZConfiguration PTZConfiguration; // required,

    BOOL ForcePersistence; //
required,
} ptz_SetConfiguration_REQ;

typedef struct
{
    char ProfileToken[ONVIF_TOKEN_LEN]; // required, Contains the
token of an existing media profile the configurations shall be compatible
with
} ptz_GetCompatibleConfigurations_REQ;

typedef struct
{
    char ProfileToken[ONVIF_TOKEN_LEN]; // required
} ptz_GetPresetTours_REQ;

typedef struct
{
    PresetTourList * PresetTour;
} ptz_GetPresetTours_RES;

typedef struct
{
    char ProfileToken[ONVIF_TOKEN_LEN]; // required
    char PresetTourToken[ONVIF_TOKEN_LEN]; // required
} ptz_GetPresetTour_REQ;

typedef struct
{
    onvif_PresetTour PresetTour;
} ptz_GetPresetTour_RES;

typedef struct
{

```

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```
uint32_t PresetTourTokenFlag : 1;           // Indicates whether
the field PresetTourToken is valid
uint32_t Reserved : 31;

char ProfileToken[ONVIF_TOKEN_LEN];         // required
char PresetTourToken[ONVIF_TOKEN_LEN];      // optional
} ptz_GetPresetTourOptions_REQ;

typedef struct
{
    onvif_PTZPresetTourOptions Options;      // required
} ptz_GetPresetTourOptions_RES;

typedef struct
{
    char ProfileToken[ONVIF_TOKEN_LEN];      // required
} ptz_CreatePresetTour_REQ;

typedef struct
{
    char PresetTourToken[ONVIF_TOKEN_LEN];    // required,
} ptz_CreatePresetTour_RES;

typedef struct
{
    char ProfileToken[ONVIF_TOKEN_LEN];      // required

    onvif_PresetTour PresetTour;             // required
} ptz_ModifyPresetTour_REQ;

typedef struct
{
    char ProfileToken[ONVIF_TOKEN_LEN];      // required
    char PresetTourToken[ONVIF_TOKEN_LEN];   // required

    onvif_PTZPresetTourOperation Operation;  // required
} ptz_OperatePresetTour_REQ;

typedef struct
{
    char ProfileToken[ONVIF_TOKEN_LEN];      // required
    char PresetTourToken[ONVIF_TOKEN_LEN];   // required
} ptz_RemovePresetTour_REQ;

typedef struct
{
    char ProfileToken[ONVIF_TOKEN_LEN];      // required,
    char AuxiliaryData[64];                  // required,
} ptz_SendAuxiliaryCommand_REQ;

typedef struct
{
    char AuxiliaryResponse[256];              // required,
} ptz_SendAuxiliaryCommand_RES;

typedef struct
{

```

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```
    uint32    SpeedFlag        : 1;                // Indicates whether the
field Speed is valid
    uint32    AreaHeightFlag   : 1;                // Indicates whether the
field AreaHeight is valid
    uint32    AreaWidthFlag    : 1;                // Indicates whether the
field AreaWidth is valid
    uint32    Reserved        : 29;

    char      ProfileToken[ONVIF_TOKEN_LEN];        // required, A reference
to the MediaProfile

    onvif_GeoLocation Target;                        // required, The
geolocation of the target position
    onvif_PTZSpeed    Speed;                        // optional, An optional
Speed

    float      AreaHeight;                          // optional, An
optional indication of the height of the target/area
    float      AreaWidth;                          // optional, An optional
indication of the width of the target/area
} ptz_GeoMove_REQ;
```

```
typedef struct
{
    uint32    spaceFlag : 1;                // Indicates
whether the field space is valid
    uint32    reserved  : 31;

    float      x;                          // required

    char      space[256];                  // optional
} onvif_Vector1D;

typedef struct
{
    uint32    PanTiltFlag      : 1;
    // Indicates whether the field PanTilt is valid
    uint32    ZoomFlag        : 1;
    // Indicates whether the field Zoom is valid
    uint32    Reserved        : 30;

    onvif_Vector    PanTilt;
    // optional, Pan and tilt position. The x component corresponds
to pan and the y component to tilt
    onvif_Vector1D Zoom;
    // optional, A zoom position
} onvif_PTZVector;
```

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```
typedef struct
{
    uint32 PanTiltFlag      : 1;
        // Indicates whether the field PanTilt is valid
    uint32 ZoomFlag        : 1;
        // Indicates whether the field Zoom is valid
    uint32 Reserved        : 30;

    onvif_Vector    PanTilt;
        // optional, Pan and tilt speed. The x component corresponds to
        pan and the y component to tilt. If omitted in a request, the current (if
        any) PanTilt movement should not be affected
    onvif_Vector1D Zoom;
        // optional, A zoom speed. If omitted in a request, the current
        (if any) Zoom movement should not be affected
} onvif_PTZSpeed;

typedef struct
{
    uint32 PTZPositionFlag: 1; // Indicates whether the field
PTZPosition is valid
    uint32 Reserved          : 31;

    char    Name[ONVIF_NAME_LEN]; // required, A list of preset
position name
    char    token[ONVIF_TOKEN_LEN];
        // required

    onvif_PTZVector PTZPosition; //
optional, A list of preset position
} onvif_PTZPreset;

typedef struct
{
    onvif_FloatRange    XRange;
        // required
    onvif_FloatRange    YRange;
        // required
} onvif_PanTiltLimits;

typedef struct
{
    onvif_FloatRange    XRange;
        // required
} onvif_ZoomLimits;
```