



T2

INTELLIGENT DIGITAL DISK RECORDER

Users Manual –AMP Remote Control–

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Introduction

This manual describes AMP command control on T2 SP4.

Overview

For T2, the following operations are available with AMP command via Ethernet.

- ["External device control from T2 \(R1-VTR mode\)" on page 3](#)
- ["T2 Control from external device \(R1-Remote mode\)" on page 5](#)
- ["T2 Control from external device \(P1/P2-Remote mode\)" on page 7](#)

 **CAUTION:** *The AMP commands for T2 do not support operation via RS-422.*

For the available AMP commands, see the description in the following section.

- ["AMP commands" on page 9](#)

Additional functions of T2 SP4

The additional functions of T2 SP4 are as follows:

- Control with AMP commands from our product Kayak HD
- Playback of playlists with AMP commands
- Acquisition of playlist information with AMP commands (using In Preset, Preview In Preset, List First ID, List Next ID commands)
- Export of clips and playlists with AMP commands

External device control from T2 (R1-VTR mode)

R1-VTR mode controls an external device (VTR) using T2 as the controller (master).

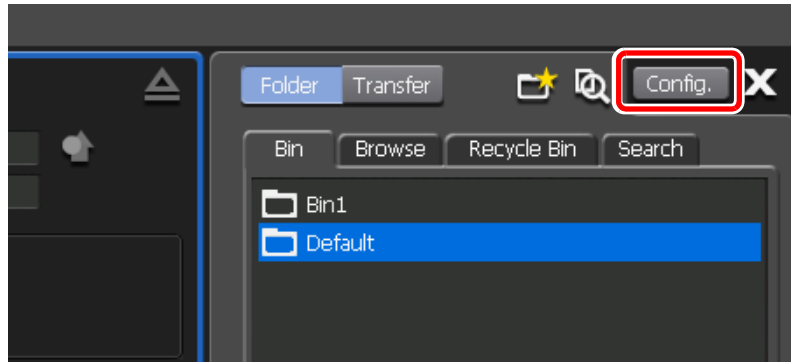
When T2 orders recording operation between In and Out points, the VTR records the specified range.

If you use AMP commands in the R1-VTR mode, connect T2 and VTR via Ethernet, and then configure T2 by the following procedure.

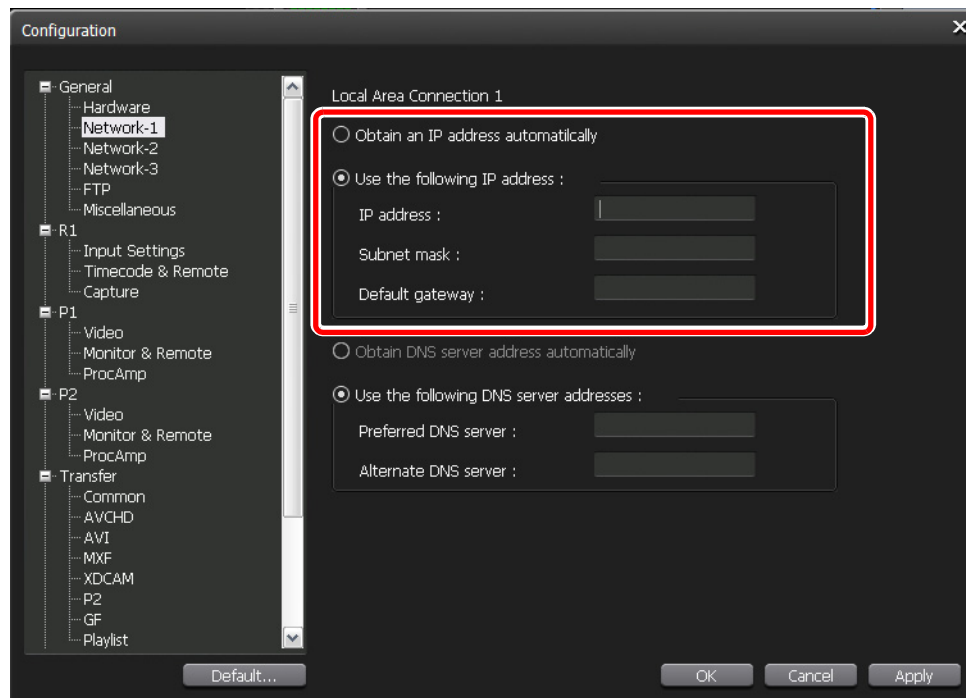
Configuration for using AMP commands

This section describes the procedure in which a user operates T2 in the workstation mode. The same procedure applies to the operation in the front panel mode.

1. Start up T2 in the normal mode.
2. Click **Config**.

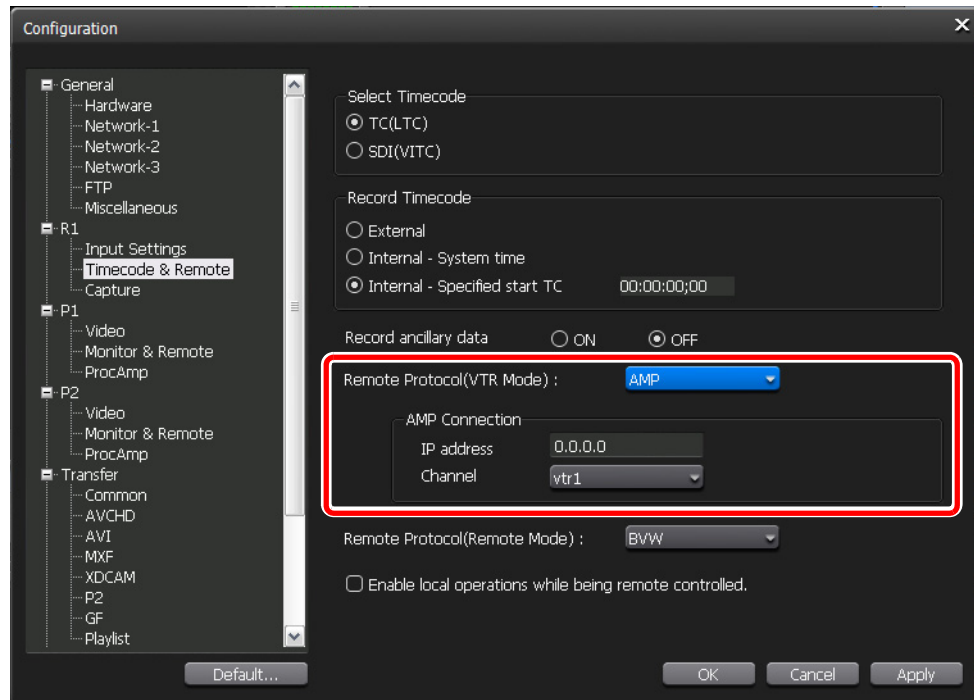


3. Click **Network-1** or **Network-2** in the "General" tree.
4. Set the IP address of T2.



5. Click **Timecode & Remote** in the "R1" tree.

6. Select **AMP** in the "Remote Protocol (VTR Mode):" list, set the IP address, and then click **OK**.



7. Switch the R1 channel to the VTR mode.

T2 Control from external device (R1-Remote mode)

R1-Remote mode controls the R1 channel of T2 from an external controller. T2 accepts commands from the external controller as a device (slave).

If you use AMP commands in the R1-Remote mode, connect T2 and an external controller via Ethernet, and then configure T2 by the following procedure.

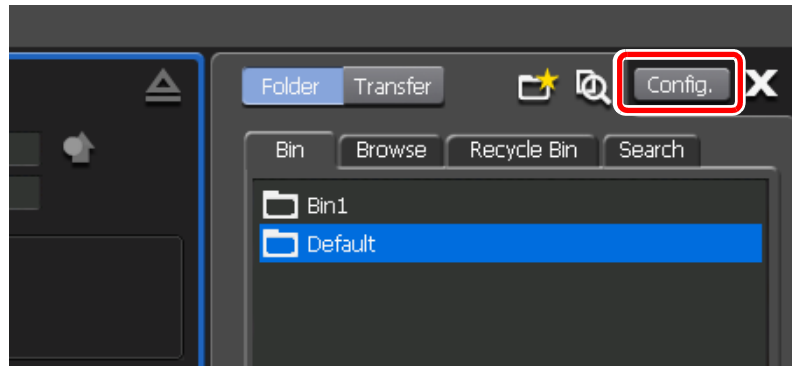
NOTE: For the available AMP commands in the R1-Remote mode, see "[AMP commands](#)" on page 9.

Configuration for using AMP commands

This section describes the procedure in which a user operates T2 in the workstation mode. The same procedure applies to the operation in the front panel mode.

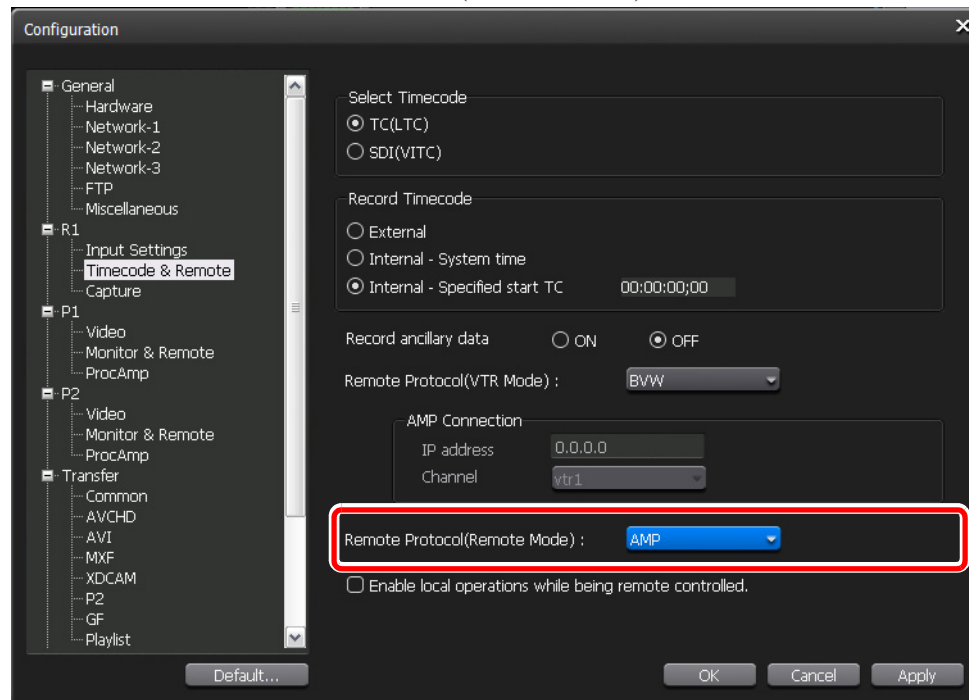
1. Start up T2 in the normal mode.

2. Click **Config.**



3. Click **Timecode & Remote** in the "R1" tree.

4. Select **AMP** in the "Remote Protocol (Remote Mode):" list and click **OK**.



- Check **Enable local operations while being remote controlled.** to operate T2 locally even in the remote mode. For more information, refer to T2 Users Manual –SP3/SP4–.

5. Switch the R1 channel to the remote mode.

T2 Control from external device (P1/P2-Remote mode)

P1/P2-Remote mode controls the P1/P2 channel of T2 from an external controller. T2 accepts commands from the external controller as a device (slave).

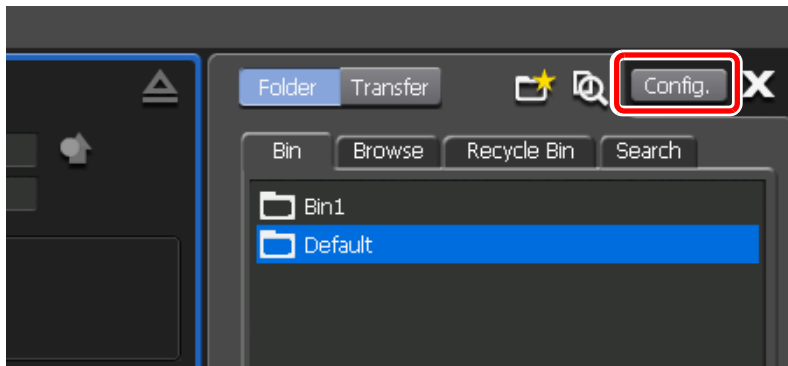
If you use AMP commands in the P1/P2-Remote mode, connect T2 and an external controller via Ethernet, and then configure T2 by the following procedure.

NOTE: For the available AMP commands in the P1/P2-Remote mode, see "[AMP commands](#)" on page 9.

Configuration for using AMP commands

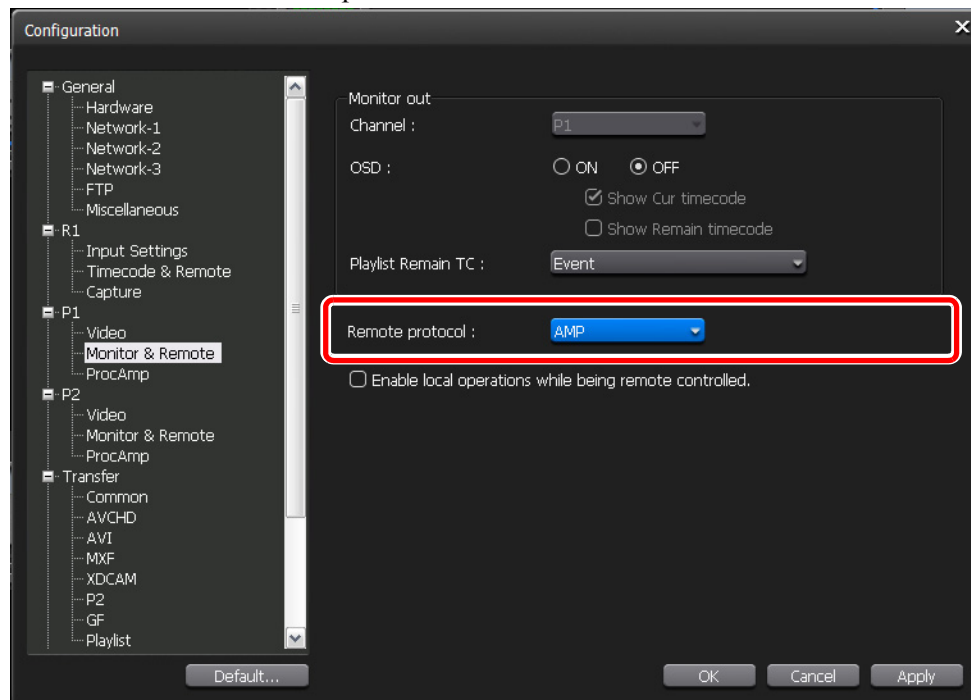
This section describes the procedure in which a user operates T2 in the workstation mode. The same procedure applies to the operation in the front panel mode.

1. Start up T2 in the normal mode.
2. Click **Config**.



3. Click **Monitor & Remote** in the "P1" or "P2" tree.

4. Select **AMP** in the "Remote protocol:" list and click **OK**.



- Check **Enable local operations while being remote controlled.** to operate T2 locally even in the remote mode. For more information, refer to T2 Users Manual –SP3/SP4–.


5. Switch the P1 channel or P2 channel to the remote mode.


NOTE: For Erase ID command, you can set whether or not to delete clips permanently. Click **AMP** of the "Miscellaneous" tree in the Config. screen, and then select the operation from the "EraseID:" list. Select **Recycle** to move the clip to the Trash, or select **Delete** to delete the clip permanently.

AMP commands

The AMP commands available in T2 are listed in the following tables. The commands with in the list are not supported by T2.

For detailed information on AMP commands, refer to the AMP Specification document.

 **CAUTION:** *The latency in the number of frames from the time the command, such as Play or Stop, is issued until the operation actually starts is not fixed. The video loaded on multiple T2 cannot be synchronized in the accurate frames.*

 **CAUTION:** *Clips that are not allowed to play or that contain playback restriction are not loaded on T2.*

Device management

○: Supported

Command	Channel-less mode	R1	P1/P2 Normal mode	3D Sync mode	Fill/Key mode	Supplementary note on T2 operation
01.06 Set Drop Frame Mode	○	○	○	○	○	"DF mode" setting that is in Miscellaneous in the "General" tree from Config , will be changed. Since "DF mode" is a common setting for R1/P1/P2, the setting change will be applied to other channels.
00.0C Local Disable	No	○	○	○	○	Enabling and disabling of local control or remote control can be set for each channel.
0X.1D Local Enable	No	○	○	○	○	Enabling and disabling of local control or remote control can be set for each channel.
00.11 Device Type Request	○	○	○	○	○	0x20 and 0x50 are returned corresponding to the device category and the model number, respectively.
20.04 Standby Off	No	No	No	No	No	
20.05 Standby On	No	No	No	No	No	
20.60 EE Off	No	No	○	No	No	
20.61 EE On	No	No	○	No	No	
21.62 Set Mute Mode	No	No	○	○	○	It takes several seconds from the time the command has been issued until the setting is applied.
A8.20 Set Device ID	○	○	○	○	○	
A0.21 Device ID Request	○	○	○	○	○	
A0.2C Device Name Request	○	○	○	○	○	

Transport controls

○: Supported

Command		Channel-less mode	R1	P1/P2 Normal mode	3D Sync mode	Fill/Key mode	Supplementary note on T2 operation
2X.00	Stop	No	○	○	○	○	Specifying the timecode value on the command execution (Event Schedule) is not supported.
2X.01	Play	No	No	○	○	○	Specifying the timecode value on the command execution (Event Schedule) is not supported.
2X.02	Record	No	○	No	No	No	Specifying the timecode value on the command execution (Event Schedule) is supported only when the input type is LTC or VITC (SDI).
20.0F	Eject	No	○	○	○	○	
20.10	Fast Forward	No	No	○	No	No	Plays back the video at 32 times the normal play speed.
2X.11	Jog Forward	No	No	○	No	No ^{*1}	
2X.12	Variable Forward	No	No	○	No	No ^{*1}	
2X.13	Shuttle Forward	No	No	○	No	No ^{*1}	
20.20	Rewind	No	No	○	No	No	Plays back in reverse the video at 32 times the normal play speed.
2X.21	Jog Reverse	No	No	○	No	No ^{*1}	
2X.22	Variable Reverse	No	No	○	No	No ^{*1}	
2X.23	Shuttle Reverse	No	No	○	No	No ^{*1}	
2X.31	Cue Up With Data	No	No	○	○	○	Pseudo clip "<BLACK>" is not supported.
20.52	Tension Release	No	No	No	No	No	
44.05	User Bits Preset	No	No	No	No	No	Not supported on T2.
40.20	In Reset	No	No	○	○	○	
41.36	Timecode Mode Preset	No	○	No	No	No	For R1, the setting will be applied to the timecode that is recorded when video is recorded. For LTC, the timecode of TC input is recorded, and for VITC, the timecode of SDI input is recorded.
40.40	Auto Mode Off	No	No	○	○	○	
40.41	Auto Mode On	No	No	○	○	○	

Command	Channel-less mode	R1	P1/P2 Normal mode	3D Sync mode	Fill/Key mode	Supplementary note on T2 operation	
41.42	Set Loop Playback Mode	No	No	○	○	○	If you want to change the setting during playback, send the command approximately four seconds or more before it comes to the position to set loop.
41.43	Set Widescreen Mode	No	○	No	No	No	
41.44	Set Stop Mode	No	No	○	○	○	If you want to change the setting during playback, send the command approximately four seconds or more before it comes to the position to set stop.
40.45	Get Stop Mode	No	No	○	○	○	
60.0B	State Change Latency Request	No	No	No	No	No	Not supported on T2.
61.0C	Current Time Sense	○	○	○	○	○	Since obtaining User Bits is not supported, 00000000 will always be returned. The response is always the same value regardless of the type of LTC or VITC. If LTC source or VITC source has been specified, R1 input timecode is returned. 1:LTC, 4:Timer, 8:WindowsTime, 40:LTC (Src) (LTC input of R1) are only supported.
61.20	Status Sense*2	○	○	○	○	○	
AX.02	Record Cue Up With Data	No	○	No	No	No	Only specifying the clip name is available.

*1 Operates only when the specified speed is 0 (Stop).

*2 Supported status flag

Data0	Busy, Remote+Local, Local
Data1	Play, Record, FFW, REW, Stop
Data2	Still, TapeDirection, Var, Shuttle
Data3	InPreset, OutPreset, AutoMode, FolderalreadyExist, InvalidFolderName, FolderDeletionFail, SourceMissing
Data4	EEOn, LoopPlayBack
Data9	FolderNotFound, OutPresetFail, PreviewInPreset, PreviewOutPreset
DataA	IDNotFound, MovieDeleteComplete, MovieDeleteFail
DataD	TapeTop, TapeEnd, LTC, Timer, VITC, TimeOfDay, DropFrame

Managing clips on the timeline

○: Supported

Command		Channel-less mode	R1	P1/P2 Normal mode	3D Sync mode	Fill/Key mode	Supplementary note on T2 operation
4X.14	In Preset	No	No	○	○	○	Pseudo clip "<BLACK>" is not supported.
4X.15	Out Preset	No	No	○	○	○	If you want to set an Out point during playback, send the command approximately four seconds or more before it comes to the position to set the Out point.
4F.16	Append Preset	No	No	○	○	○	If you want to execute the command during playback, send the command approximately four seconds or more before it comes to the end point of Preset Timeline.
4X.21	Out Preset	No	No	○	○	○	If you want to set an Out point during playback, send the command approximately four seconds or more before it comes to the position to set the Out point.
A0.06	Preview In Reset	No	No	○	○	○	
AX.07	Preview Out Reset	No	No	○	○	○	If you want to set an Out point during playback, send the command approximately four seconds or more before it comes to the position to set the Out point.
44.31	Pre-roll	No	No	No	No	No	Not supported on T2.
AX.04	Preview In Preset	No	No	○	○	○	If you want to execute the command during playback, send the command approximately four seconds or more before it comes to the end point of Preset Timeline. Pseudo clip "<BLACK>" is not supported.
AX.05	Preview Out Preset	No	No	○	○	○	If you want to set an Out point during playback, send the command approximately four seconds or more before it comes to the position to set the Out point.
AF.0A	Append Preview Preset	No	No	○	○	○	If you want to execute the command during playback, send the command approximately four seconds or more before it comes to the end point of Preset Timeline.
A1.32	Set Ganging	No	No	○	○	No	Only switching on/off of the 3D Sync mode by Instant Ganging is available on T2. (P1 only) Send Data 1: 0 3D Sync Off 6 3D Sync On (Channel 2 (bit 1) and Channel 3 (bit 2) ganged)
A0.33	Get Ganging	No	No	○	○	No	
AX.34	Set Ganging Information	No	No	No	No	No	Not supported on T2.
A0.35	Get Ganging Information	No	No	No	No	No	Not supported on T2.

Command		Channel-less mode	R1	P1/P2 Normal mode	3D Sync mode	Fill/Key mode	Supplementary note on T2 operation
AX.11	Erase Segment	No	No	No	No	No	Not supported on T2.
A0.16	ID Loaded Request	No	○	○	○	○	
AX.01	Auto Skip	No	No	○	○	○	

Managing stored clips

○: Supported

Command		Channel-less mode	R1	P1/P2 Normal mode	3D Sync mode	Fill/Key mode	Supplementary note on T2 operation
A0.26	ID Count Request	○	○	○	○	○	
AX.14	List First ID	○	○	○	○	○	
AX.15	List Next ID	○	○	○	○	○	
AX.18	ID Status Request	○	○	○	○	○	
A2.0E	Set Working Folder Request	○	○	○	○	○	
A0.0F	Get Working Folder Request	○	○	○	○	○	
A0.12	IDs Changed List Request	○	○	○	○	○	In and Out points are changed simultaneously, and you cannot recognize which point has been changed.
AX.10	Erase ID	○	○	○	○	○	
A0.2A	List First Folder	○	○	○	○	○	
A0.2B	List Next Folder	○	○	○	○	○	
AX.1C	Total/ Available Storage Request	○	○	○	○	○	
A4.1D	Set Record Duration	No	○	No	No	No	Record duration cannot be changed during the recording operation.
A2.31	Create Folder	○	○	○	○	○	
A2.28	Rename Folder	○	○	○	○	○	
A2.29	Delete Folder	○	○	○	○	○	

Command		Channel-less mode	R1	P1/P2 Normal mode	3D Sync mode	Fill/Key mode	Supplementary note on T2 operation
A2.25	ID Start Time Request	○	○	○	○	○	
A2.17	ID Duration Request	○	○	○	○	○	
AE.30	Replace Edit	No	No	No	No	No	Not supported on T2.
AX.2D	Stripe Timecode	○	○	○	○	○	The properties for the clip and playlist will be set to Specify Start Time .
AX.2E	Set Mark In	○	○	○	○	○	This setting cannot be applied to the playlists.
AX.2F	Set Mark Out	○	○	○	○	○	If you want to set an Out point during playback, send the command approximately four seconds or more before it comes to the position to set the Out point. This setting cannot be applied to the playlists.
AX.1A	Get Aspect Ratio Conversion Override	No	No	No	No	No	Not supported on T2.
A2.1B	Set Aspect Ratio Conversion Override	No	No	No	No	No	Not supported on T2.
AE.1E	Set Audio Gain	○	○	○	○	○	It takes several seconds from the time the command has been issued until the setting is applied on a loaded clip.
AA.1F	Get Audio Gain	○	○	○	○	○	
C0.28	Abort Transfer ID	○	○	○	○	○	
CX.27	Transfer ID Status Request	○	○	○	○	○	This setting will be applied only to the transfer that has started when Extended Transfer ID command is issued. (Not applied to the transfer that has started in the workstation mode/front panel mode of T2.) type 2 (data containing number of bytes transferred), 3 (data containing number of fields transferred) are not supported.
C2.26	Transfer ID	No	No	No	No	No	Not supported on T2.

Command	Channel-less mode	R1	P1/P2 Normal mode	3D Sync mode	Fill/Key mode	Supplementary note on T2 operation	
C2.25	Extended Transfer ID	○	○	○	○	○	<p>Export of clips/playlists is only supported. (Import operation is not supported.) Setting of In and Out points is only supported for FFFFFFFF. (The range for the transfer cannot be set.) The setting for the transfer type will be ignored. The transfer type follows the settings in Config. "Transfer" tree → AVI and Playlist. The recommended transfer type is 0x03 (Profile), which is described in "K2_Protocol_developers_Guide" as a sample of transfer via Grass Valley server. Set the clip/playlist name for the transfer source.</p> <p>Set the transfer destination as follows.</p> <ul style="list-style-type: none"> • Network Drive: localhost/[n]:/[dir]/[file name] For "n", specify the network drive allocated by Config. "General" tree → Network-3 or with the drive connected via USB. Example) localhost/z:/Export/Clip1 • FTP server: [address]/v:/[bin name]/[file name] For "address", specify the address registered as "Host Name/IP Address" in "FTP Export List" from Config. "General" tree → FTP. Example) 169.254.138.3/v:/Default/Clip1
C2.29	Network Delete	No	No	No	No	No	Not supported on T2.
AX.19	New Copy	○	○	○	○	○	<p>Deep copy is not supported. Setting In and Out points to playlists is not available. Only Shallow and Move are supported.</p>
AX.22	Get Audio Track Labels	No	No	No	No	No	Not supported on T2.
AX.23	Set Audio Track Labels	No	No	No	No	No	Not supported on T2.
A0.36	Get Audio Input Tags	No	No	No	No	No	Not supported on T2.
AA.37	Set Audio Input Tags	No	No	No	No	No	Not supported on T2.
A0.38	Get Audio Output Tags	No	No	No	No	No	Not supported on T2.
AA.39	Set Audio Output Tags	No	No	No	No	No	Not supported on T2.
A2.3A	Get AFD Setting	No	No	No	No	No	Not supported on T2.
A2.3B	Set AFD Setting	No	No	No	No	No	Not supported on T2.

Clip data information

○: Supported

Command	Channel-less mode	R1	P1/P2 Normal mode	3D Sync mode	Fill/Key mode	Supplementary note on T2 operation
AA.08	Set Clip Data	No	No	No	No	Not supported on T2.
AA.13	Clip Data Request	○	○	○	○	If Send Data 1 is 'C', Compression Type and Video Format are not supported. If Send Data 1 is 'E', this setting is not available.
A2.09	Get Thumbnail	○	○	○	○	A JPEG data with the size of 160 x 90 will be returned.

Flags

○: Supported

Flags	Command	Availability	Note
Status byte 0			
bit0:	Local	○	
bit1:	Remote+Local	○	
bit2:	Hard Error	○	
bit3:	General Error	○	
bit4:		–	
bit5:	Cassette Out	○	Always 0
bit6:		–	
bit7:	Busy	○	
Status byte 1			
bit0:	Play	○	
bit1:	Record	○	
bit2:	Fast Forward	○	
bit3:	Rewind	○	
bit4:	Eject	○	Always 0
bit5:	Stop	○	
bit6:	Tension Release	○	Always 0
bit7:	Standby On	○	Always 1
Status byte 2			
bit0:	Cue Complete	○	
bit1:	Still	○	
bit2:	Direction	○	
bit3:	Variable Play	○	
bit4:	Jog	○	
bit5:	Shuttle	○	
bit6:		–	
bit7:	Servo Lock	○	

Flags	Command	Availability	Note
Status byte 3			
bit0:	In Preset	○	
bit1:	Out Preset	○	
bit2:	Specified Folder Exist	○	
bit3:	Invalid Folder Name	○	
bit4:	Folder Deletion Failed	○	
bit5:	Jog Reject	○	
bit6:	Source Missing	○	
bit7:	Auto Mode	○	
Status byte 4			
bit0:	Preroll	○	
bit1:	Event Schedule Failed	○	
bit2:		–	
bit3:		–	
bit4:	Mute	○	
bit5:	Loop Playback Mode	○	
bit6:	EE On	○	
bit7:		–	
Status byte 9			
bit0:	Preview In Preset	○	
bit1:	Preview Out Preset	○	
bit2:	Folder Not Found	○	
bit3:	Disk Overflow	○	
bit4:	Metadata Not Found	No	
bit5:	Clips Dropped	○	
bit6:	Out Preset Failed	○	
bit7:	Overwrite Clip Name	○	
Status byte A			
bit0:	ID Not Found	○	
bit1:	Timecode Not Found	○	
bit2:	Transfer ID Complete	○	
bit3:	Transfer ID Abort Complete	○	
bit4:	Movie Delete Complete	○	
bit5:	Transfer ID Failed	○	
bit6:	Transfer ID Abort Failed	○	
bit7:	movie Delete Failed	○	

Flags	Command	Availability	Note
Status byte D			
bit0:	Time Of Day	○	
bit1:	Widescreen Mode	○	
bit2:	Drop Frame	○	
bit3:	VITC	○	
bit4:	Timer	○	
bit5:	LTC	○	
bit6:	Tape End	○	
bit7:	Tape Top	○	