

SONY®

VIDEO CASSETTE RECORDER/PLAYER

BVW Series

DVW Series

DNW Series

HDW Series

J Series

MSW Series

SRW Series

BETACAMTM

BETACAM SPTM

Digital BETACAMTM

BETACAM SX

HDCAM

MPEG IMX

HDCAM SRTM

PROTOCOL OF REMOTE (9-pin) CONNECTOR
2nd Edition (Revised 11)

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Any Connector Panel of BETACAM, BETACAM SP, DIGITAL BETACAM, BETACAM SX, MPEG IMX, HDCAM, and HDCAM SR VTR series implements a 9-pin connector for REMOTE. This section explains the contents of serial signals processed through this 9-pin connector.

Note

There are a model that equips two connectors of IN and OUT.

The definition of CONTROLLER and DEVICE is shown in the follows,

“CONTROLLER” means the unit which controls VTR.

“DEVICE” means the unit (VTR) which is controlled.

Example 1)

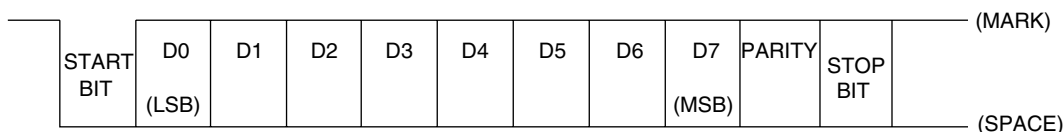
When two sets of VTR of the Betacam series are connected by REMOTE-1 (9-pin) connector, the VTR as the recorder means CONTROLLER and the VTR as the player means DEVICE.

Example 2)

When the editing controller is connected with one or more Betacam series VTR (s), this editing controller is CONTROLLER and all VTRs are DEVICES.

1. Interface System Overview

- Conforming to EIA RS-422A.
- Full duplex communications channel is utilized.
- Data is transmitted asynchronously, bit serial, word serial with data exchange between devices.
- Standard transmission rate on the interface bus is 38.4 kilobits per second (kbps).
- The data word utilized by the interface system is as follows :



- 1 START BIT + 8 DATA BITS + 1 PARITY BIT + 1 STOP BIT.
- ODD parity : The total of “1”s in D0+D1+ . . . D7+PARITY equals an odd number.

Note

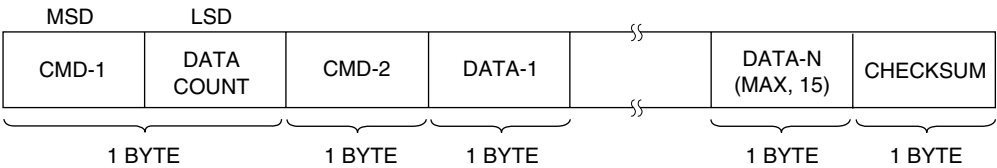
The contents of this manual are adapted to PAL, PAL-M and SECAM models.

2. Command Block Format (CMD BLOCK)

The communication between the CONTROLLER and the DEVICE is composed of CMD-1 + DATA COUNT, CMD-2 + DATA and CHECKSUM, and is transmitted from CMD-1 + DATA COUNT in order.

When DATA COUNT is zero, the data is not transmitted.

When it is not zero, the data corresponding to the value is inserted between CMD-2 and CHECKSUM.



CMD-1 : CMD-1 classifies commands into the main groups which indicates the function and direction of commands as follows.

CMD-1	FUNCTION	DIRECTION	
		CONTROLLER	DEVICE
0	SYSTEM CONTROL		→
1	SYSTEM CONTROL RETURN	←	
2	TRANSPORT CONTROL		→
4	PRESET & SELECT CONTROL		→
6	SENSE REQUEST		→
7	SENSE RETURN	←	

DATA COUNT : DATA COUNT indicates the number of data words attached to the command.
(0 to FH)

CMD-2 : CMD-2 is the designated command to the DEVICE or the command return from the DEVICE.

DATA : The number of data words and their contents are defined by the specific CMD-2.

CHECKSUM : The CHECKSUM is the sum of the DATA (D0 to D7) contained in each data word, from CMD-1/DATA COUNT to last data word before CHECKSUM.
The CHECKSUM is used to verify data accuracy and reject communication sequence when the bit error is contained.

3. Connector Pin Assignment

Interface connector : 9 pin D-sub miniature female (D-9S)

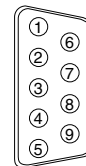
The pin assignment of the CONTROLLER and the DEVICE is shown in the following table.

The function as CONTROLLER (BVW-40/75, DVW-A500/500, DNW-75/A75, HDW-500/F500 etc.) is become pin assignment of CONTROLLER when RECORDER or PLAYER indicator on the control panel is lit.

In other cases, pin assignment of DEVICE is valid.

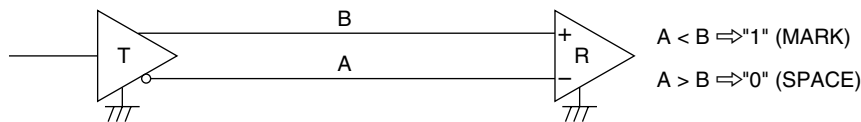
The VTR not had the function as CONTROLLER (BVW-10/15/35/50/60/65/D265, DVW-510/A510, DNW-65/A65 etc.) is always become pin assignment of DEVICE.

Pin	Signal	CONTROLLER	DEVICE
1		Frame Ground	Frame Ground
2		Receive A	Transmit A
3		Transmit B	Receive B
4		Transmit Common	Receive Common
5		Spare	Spare
6		Receive Common	Transmit Common
7		Receive B	Transmit B
8		Transmit A	Receive A
9		Frame Ground	Frame Ground



External View

A and B are defined as shown below.



4. Communication Protocol

- 1) All communications between the CONTROLLER and the DEVICE will be under the direct supervision of the CONTROLLER.

When the DEVICE (VTR) receives the COMMAND from CONTROLLER, the following COMMAND is returned.

- ACK : In case that the DEVICE receives a COMMAND not requiring data
- COMMAND + DATA : In case that the DEVICE receives a COMMAND requiring data
- NAK + ERROR DATA : In case that a communication error is detected or an undefined COMMAND is received

- 2) The CONTROLLER must not transmit additional COMMAND blocks to a DEVICE (VTR) prior to response to a previous COMMAND block.

- 3) The CONTROLLER must transmit bytes in a COMMAND block for with intervals less than 10 milliseconds. If a DEVICE (VTR) detects an interruption of a byte in a COMMAND BLOCK that exceeds 10 milliseconds, it executes a TIME-OUT error sequence, voids the receiving COMMAND block, and transmits a NAK (TIME OUT).

- 4) When a DEVICE (VTR) receives a COMMAND block from the CONTROLLER, the DEVICE must transmit a response within 9 milliseconds.

Therefore if the CONTROLLER cannot receive the appropriate response from the DEVICE within 10 milliseconds after transmitting the COMMAND block, the CONTROLLER detects a communication error, and must execute an appropriate process.

- 5) When the DEVICE (VTR) detects a communication error, it must immediately transmit a NAK to the CONTROLLER. (The contents of an error is shown on the COMMAND tables.)

When the CONTROLLER receives a NAK, it must immediately stop transmission of the COMMAND block. The DEVICE must not accept a subsequent command within 10 milliseconds after that (except NAK-UNDEFINED command) and must execute a necessary process.

5. Command Table

The marks shown in the tables mean the following contents.

- 1) Commands marked ○ support the unit as the DEVICE.
When there is a description in the “RETURN” column, the content and DATA must be returned, and if not (blank), ACK will be returned.
- 2) Each model returns a ACK or a STATUS as a RETURN in response to the commands marked △ with no action.
- 3) Each model does not support the commands marked ×, and returns NAK UNDEFINED command.
- 4) When the model works as a CONTROLLER, the commands marked * can be sent to the DEVICE.

BVW series

COMMAND	RETURN	BVW-10	BVW-11	BVW-15	BVW-35	BVW-40	BVW-50	BVW-60	BVW-65	BVW-70/D75	BVW-75	BVW-85P	BVW-95	BVW-96	BVW-D265	BVW-9000				
00•0C : LOCAL DISABLE	10•01 : ACK ⇐○ 11•12 : NAK ⇐×	×	○	○	×	○*	×	○	○	○*	○*	○*	○	○*	○	○				
00•11 : DEVICE TYPE REQUEST	12•11 : DEVICE TYPE RETURN	○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
00•1D : LOCAL ENABLE	10•01 : ACK ⇐○/△ 11•12 : NAK ⇐×	×	○	○	×	○*	×	○	○	○*	○*	○*	○	○*	○	○				
20•00 : STOP		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
20•01 : PLAY		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
20•02 : REC		×	×	×	○	○	○	△	△	○*	○*	○*	△	○*	△	○				
20•04 : STANDBY OFF		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
20•05 : STANDBY ON		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
20•0D : DMC START		×	×	×	×	×	×	△	○	△	○	○	○	○	○	△				
20•0F : EJECT		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
20•10 : FAST FWD		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
2X•11 : JOG FWD		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
2X•12 : VAR FWD		○	○	○	○	○	○	○	○	○*	○*	○*	○	○*	○	○				
2X•13 : SHUTTLE FWD		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
20•20 : REWIND		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
2X•21 : JOG REV		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
2X•22 : VAR REV		○	○	○	○	○	○	○	○	○*	○*	○*	○	○*	○	○				
2X•23 : SHUTTLE REV		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
20•30 : PREROLL		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
24•31 : CUE UP WITH DATA		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
20•34 : SYNC PLAY		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×				
21•38 : PROGRAM PLAY +		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	△				
21•39 : PROGRAM PLAY –		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	△				
20•3C : DMC PREROLL		×	×	×	×	×	×	△	○	△	○	○	○	○	○	△				
20•40 : PREVIEW		×	×	×	×	×	×	△	△	○	○	○	○	○	○	△				
20•41 : REVIEW		×	×	×	×	×	×	△	△	○	○	○	○	○	○	△				
20•42 : AUTO EDIT		×	×	×	×	×	×	△	△	○	○	○	○	○	△	△				
20•4B : DMC RUN		×	×	×	×	×	×	△	○	△	○	○	○	○	△	△				
20•4C : DMC PREVIEW		×	×	×	×	×	×	△	○	△	○	○	○	○	△	△				
20•52 : TENSION RELEASE		×	○	×	×	×	×	○	○	○	○	○	○	○	○	○				

COMMAND	RETURN	BVW-10	BVW-11	BVW-15	BVW-35	BVW-40	BVW-50	BVW-60	BVW-65	BVW-70	BVW-75/D75	BVW-85P	BVW-95	BVW-96	BVW-D265	BVW-9000				
20•54 : ANTI-CLOG TIMER DISABLE	10•01 : ACK ⇐○/△ 11•12 : NAK ⇐×	○	○	○	×	○*	×	○	○	○*	○*	○*	○	○*	○	○				
20•55 : ANTI-CLOG TIMER ENABLE		○	○	○	×	○*	×	○	○	○*	○*	○*	○	○*	○	○				
2X•5C : DMC SET FWD		×	×	×	×	×	×	△	○	△	○	○	○	○	○	△				
2X•5D : DMC SET REV		×	×	×	×	×	×	△	○	△	○	○	○	○	○	△				
20•60 : FULL EE OFF		×	×	×	○	○	○	△	△	○*	○*	○*	△	○*	△	○				
20•61 : FULL EE ON		×	×	×	○	○	○	△	△	○*	○*	○*	△	○*	△	○				
20•63 : SELECTED EE ON		×	×	×	○	○	○	△	△	○	○	○	△	○	△	△				
20•64 : EDIT OFF		×	×	×	○	○	○	△	△	○	○	○	△	○	△	△				
20•65 : EDIT ON		×	×	×	○	○	○	△	△	○	○	○	△	○	△	△				
20•6A : FREEZE OFF		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×				
20•6B : FREEZE ON		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×				
44•00 : TIMER-1 PRESET		×	×	×	○	○	○	○	○	○	○	○	○	○	○	○				
44•04 : TIME CODE PRESET		×	×	×	○	○	○	△	△	○*	○*	○*	△	○*	△	○				
44•05 : USER'S BIT PRESET		×	×	×	○	○	○	△	△	○*	○*	○*	△	○*	△	○				
45•05 : USER'S BIT WITH FLAG PRESET		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×				
40•08 : TIMER-1 RESET		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•10 : IN ENTRY		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•11 : OUT ENTRY		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•12 : A IN ENTRY		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•13 : A OUT ENTRY		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
44•14 : IN PRESET		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
44•15 : OUT PRESET		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
44•16 : A IN PRESET		×	×	×	×	×	×	○	○	○	○	○	○	○	○	○				
44•17 : A OUT PRESET		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•18 : IN SHIFT +		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•19 : IN SHIFT –		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•1A : OUT SHIFT +		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•1B : OUT SHIFT –		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•1C : A IN SHIFT +		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•1D : A IN SHIFT –		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•1E : A OUT SHIFT +		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•1F : A OUT SHIFT –		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•20 : IN RESET		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•21 : OUT RESET		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•22 : A IN RESET		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•23 : A OUT RESET		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•24 : IN RECALL		○	○	○	○	○	○	○	○	○*	○*	○*	○	○*	○	○				
40•25 : OUT RECALL		○	○	○	○	○	○	○	○	○*	○*	○*	○	○*	○	○				
40•26 : A IN RECALL		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•27 : A OUT RECALL		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				

COMMAND	RETURN	BVW-10	BVW-11	BVW-15	BVW-35	BVW-40	BVW-50	BVW-60	BVW-65	BVW-70	BVW-75/D75	BVW-85P	BVW-95	BVW-96	BVW-D265	BVW-9000				
40•2D : LOST LOCK RESET	10•01 : ACK ⇐○/△ 11•12 : NAK ⇐×	×	×	×	×	×	×	○	○	○	○	○	○	○	○	○				
4X•30 : EDIT PRESET		×	×	×	○	○	○	△	△	○	○	○	△	○	△	△				
44•31 : PREROLL TIME PRESET		○	○	○	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
41•32 : TAPE AUTO SELECT		×	×	×	○	×	○	△	△	○	○	○	△	○	△	○				
41•33 : SERVO REFERENCE SELECT		×	×	×	×	×	×	△	△	○	○	○	△	○	△	○				
41•34 : HEAD SELECT		×	×	×	×	×	×	△	△	△	○	○	△	○	△	△				
41•35 : COLOR FRAME SELECT		×	○	○	×	×	○	○	○	○	○	○	○	○	○	○				
41•36 : TIMER MODE SELECT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
41•37 : INPUT CHECK		×	×	×	○	○	○	△	△	○	○	○	△	○	△	○				
40•40 : AUTO MODE OFF		×	×	×	○	○	○	○	○	○	○	○	○	○	○	○				
40•41 : AUTO MODE ON		×	×	×	○	○*	○	○	○	○*	○*	○*	○	○*	○	○				
40•44 : AUDIO SPLIT OFF		×	×	×	×	×	×	○	○	○	○	○	○	○	○	○				
40•45 : AUDIO SPLIT ON		×	×	×	×	×	×	○	○	○*	○*	○*	○	○*	○	○				
40•46 : VARIABLE MEMORY OFF		×	×	×	×	×	×	△	○	△	○	○	○	○	○	△				
40•47 : VARIABLE MEMORY ON		×	×	×	×	×	×	△	○	△	○	○	○	○	○	△				
40•48 : VIDEO REFERENCE DISABLE OFF		×	×	×	×	○	×	△	△	○	○	○	△	○	△	○				
40•49 : VIDEO REFERENCE DISABLE ON		×	×	×	×	○	×	△	△	○	○	○	△	○	△	○				
61•0A : TC GEN DATA SENSE	74•08 : GEN TC DATA	×	×	×	○	○	○	×	×	○	○	○	×	○	×	○				
	78•08 : GEN TC & UB DATA	×	×	×	○	○	○	×	×	○	○	○	×	○	×	○				
	74•09 : GEN UB DATA	×	×	×	○	○	○	×	×	○	○	○	×	○	×	○				
61•0C : CURRENT TIME SENSE	74•00 : TIMER-1 DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
	74•04 : LTC TIME DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
	78•04 : LTC TIME & UB DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
	74•05 : LTC UB DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
	74•06 : VITC TIME DATA	×	×	×	○	×	○	○	○	○	○	○	○	○	○	○				
	78•06 : VITC TIME & UB DATA	×	×	×	○	×	○	○	○	○	○	○	○	○	○	○				
	74•07 : VITC UB DATA	×	×	×	○	×	○	○	○	○	○	○	○	○	○	○				
	70•0D : REQUEST TIME MISSING	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
	74•14 : LTC INTERPOLATED TIME DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
	78•14 : LTC INTERPOLATED TIME & UB DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
	74•16 : VITC HOLD TIME DATA	×	×	×	×	×	×	○	○	○	○	○	○	○	○	○				
	78•16 : VITC HOLD TIME & UB DATA	×	×	×	×	×	×	○	○	○	○	○	○	○	○	○				

COMMAND	RETURN	BVW-10	BVW-11	BVW-15	BVW-35	BVW-40	BVW-50	BVW-60	BVW-65	BVW-70	BVW-75/D75	BVW-85P	BVW-95	BVW-96	BVW-D265	BVW-9000				
60•10 : IN DATA SENSE	74•10 : IN DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
60•11 : OUT DATA SENSE	74•11 : OUT DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
60•12 : A IN DATA SENSE	74•12 : A IN DATA	×	×	×	×	×	×	○	○	○	○	○	○	○	○	○				
60•13 : A OUT DATA SENSE	74•13 : A OUT DATA	×	×	×	×	×	×	○	○	○	○	○	○	○	○	○				
61•20 : STATUS SENSE	7X•20 : STATUS DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
60•2E : COMMAND SPEED SENSE	71•2E : COMMAND SPEED DATA	×	×	×	×	×	×	○	○	○	○	○	○	○	○	○				
60•2F : VAR MEMORY SPEED SENSE	71•2F : VAR MEMORY SPEED DATA	×	×	×	×	×	×	○	○	×	○	○	○	○	○	○				
6X•30 : EDIT PRESET SENSE	7X•30 : EDIT PRESET DATA	×	×	×	○	○	○	○	○	○	○	○	○	○	○	○				
60•31 : PREROLL TIME SENSE	74•31 : PREROLL TIME DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
60•36 : TIMER MODE SENSE	71•36 : TIMER MODE DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				

DVW/DNW/HDW/J/MSW/SRW series

COMMAND	RETURN	DVW-500/A500	DVW-510/A510	DVW-250	DNW-A45/A50/A100	DNW-30/A30	DNW-A25/A28/A220	DNW-75/A75	DNW-65/A65	HDW-500/F500	HDW-250	HDW-2000/D2000/M2000/S2000	HDW-A2100/M2100	HDW-S280	MSW-2000/A2000/M2000/M2000E, DVW-2000/M2000	MSW-M2100/M2100E	SRW-5000/5500	J-1/2/3/H3 J-10/10SDI/30/30SDI
00•0C : LOCAL DISABLE	10•01 : ACK ⇐O/△	○*	○	△	○*	○	○*	○*	○	○	△	○*	○	○	○*	○	○*	△
00•11 : DEVICE TYPE REQUEST	12•11 : DEVICE TYPE RETURN	○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○*	○
00•1D : LOCAL ENABLE	10•01 : ACK ⇐O/△ 11•12 : NAK ⇐X	○*	○	△	○*	○	○*	○*	○	○	△	○*	○	○	○*	○	○*	△
20•00 : STOP		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
20•01 : PLAY		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
20•02 : REC		○*	△	○	○*	△	○*	○*	△	○*	○	○*	△	○	○*	△	○*	△
20•04 : STANDBY OFF		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
20•05 : STANDBY ON		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
20•0D : DMC START		○	○	△	X	X	X	○	○	○	△	○	○	△	○	○	○*	△
20•0F : EJECT		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
20•10 : FAST FWD		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
2X•11 : JOG FWD		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
2X•12 : VAR FWD		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
2X•13 : SHUTTLE FWD		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
20•20 : REWIND		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
2X•21 : JOG REV		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
2X•22 : VAR REV		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
2X•23 : SHUTTLE REV		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
20•30 : PREROLL		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
24•31 : CUE UP WITH DATA		○*	○	○	○*	○	○*	○*	○	○*	○	○*	○	○	○*	○	○*	○
20•34 : SYNC PLAY		○*	○	△	○*	○	○*	○*	○	○*	△	○*	○	○	○*	○	○*	△
21•38 : PROGRAM PLAY +		○*	○	△	○*	○	○*	○*	○	○*	△	○*	○	△	○*	○	○*	△
21•39 : PROGRAM PLAY –		○*	○	△	○*	○	○*	○*	○	○*	△	○*	○	△	○*	○	○*	△
20•3C : DMC PREROLL		○	○	△	△	△	△	○	○	○	△	○	○	△	○	○	○	△
20•40 : PREVIEW		○	△	○	○*	△	○*	○	△	○	○	○	△	○	○	△	○	△
20•41 : REVIEW		○	△	○	○*	△	○*	○	△	○	○	○	△	○	○	△	○	△
20•42 : AUTO EDIT		○	△	○	○*	△	○*	○	△	○	○	○	△	○	○	△	○	△
20•4B : DMC RUN		○	○	△	△	△	△	○	○	○	△	○	○	△	○	○	○	△
20•4C : DMC PREVIEW		○	○	△	△	△	△	○	○	○	△	○	○	△	○	○	○	△
20•52 : TENSION RELEASE		○	○	△	○*	○	○*	○	○	○	△	○	○	○	○	○	○	△
20•54 : ANTI-CLOG TIMER DISABLE		○*	○	△	○*	○	○*	○*	○	○*	△	○*	○	○	○*	○	○*	△
20•55 : ANTI-CLOG TIMER ENABLE		○*	○	△	○*	○	○*	○*	○	○*	△	○*	○	○	○*	○	○*	△
2X•5C : DMC SET FWD		○	○	△	△	△	△	○	○	○	△	○	○	△	○	○	○	△
2X•5D : DMC SET REV		○	○	△	△	△	△	○	○	○	△	○	○	△	○	○	○	△
20•60 : FULL EE OFF		○*	△	○	○*	△	○*	○*	△	○*	○	○*	△	○	○*	△	○*	△
20•61 : FULL EE ON		○*	△	○	○*	△	○*	○*	△	○*	○	○*	△	○	○*	△	○*	△
20•63 : SELECTED EE ON		○	△	○	○*	△	○*	○	△	○	○	○	△	○	○	△	○	△

COMMAND	RETURN	DVW-500/A500	DVW-510/A510	DVW-250	DNW-A45/A50/A100	DNW-30/A30	DNW-A25/A28/A220	DNW-75/A75	DNW-65/A65	HDW-500/F500	HDW-250	HDW-2000/D2000/M2000/S2000	HDW-A2100/M2100	HDW-S280	MSW-2000/A2000/M2000/M2000E, DVW-2000/M2000	MSW-M2100/M2100E	SRW-5000/5500	J-1/2/3/H3 J-10/10SDI/30/30SDI
20•64 : EDIT OFF	10•01 : ACK ⇐O/△ 11•12 : NAK ⇐X	○	△	○	○*	△	○*	○	△	○	○	○	△	○	○	△	○	△
20•65 : EDIT ON		○	△	○	○*	△	○*	○	△	○	○	○	△	○	○	△	○	△
20•6A : FREEZE OFF		○	○	○	△	△	△	○*	○	○	○	○*	○	△	○*	○	○	△
20•6B : FREEZE ON		○	○	○	△	△	△	○*	○	○	○	○*	○	△	○*	○	○	△
44•00 : TIMER-1 PRESET		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
44•04 : TIME CODE PRESET		○*	△	○	○*	△	○*	○*	△	○	○	○*	△	○	○*	△	○	△
44•05 : USER'S BIT PRESET		○*	△	○	○*	△	○*	○*	△	○	○	○*	△	○	○*	△	○	△
45•05 : USER'S BIT WITH FLAG PRESET		○	△	△	○	△	○	△	△	△	△	○	△	○	○	△	△	△
40•08 : TIMER-1 RESET		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
40•10 : IN ENTRY		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
40•11 : OUT ENTRY		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
40•12 : A IN ENTRY		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
40•13 : A OUT ENTRY		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
44•14 : IN PRESET		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
44•15 : OUT PRESET		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
44•16 : A IN PRESET		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
44•17 : A OUT PRESET		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
40•18 : IN SHIFT +		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
40•19 : IN SHIFT –		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
40•1A : OUT SHIFT +		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
40•1B : OUT SHIFT –		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
40•1C : A IN SHIFT +		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
40•1D : A IN SHIFT –		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
40•1E : A OUT SHIFT +		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
40•1F : A OUT SHIFT –		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
40•20 : IN RESET		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
40•21 : OUT RESET		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	○
40•22 : A IN RESET		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
40•23 : A OUT RESET		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	○	○
40•24 : IN RECALL		○*	○	○	○*	○	○*	○	○	○	○	○	○	○	○	○	○	○
40•25 : OUT RECALL		○*	○	○	○*	○	○*	○	○	○	○	○	○	○	○	○	○	○
40•26 : A IN RECALL		○*	○	△	○*	○	○*	○	○	○	△	○	○	△	○	○	○	○
40•27 : A OUT RECALL		○*	○	△	○*	○	○*	○	○	○	△	○	○	△	○	○	○	○
40•2D : LOST LOCK RESET		○*	○	○	○*	○	○*	○	○	○	○	○	○	○	○	○	○	△
4X•30 : EDIT PRESET		○	△	○	○	△	○	○*	△	○	○	○*	△	○	○*	△	○	△
44•31 : PREROLL TIME PRESET		○	○	○	○	○	○	○*	○	○	○	○*	○	○	○*	○	○	○
41•32 : TAPE AUTO SELECT		○	△	△	○	△	○	○	△	○	△	○	△	○	○	△	○	△
41•33 : SERVO REFERENCE SELECT		○	△	△	○	△	○	○	△	○	○	○	△	○	○	△	○	△

COMMAND	RETURN	DVW-500/A500	DVW-510/A510	DVW-250	DNW-A45/A50/A100	DNW-30/A30	DNW-A25/A28/A220	DNW-75/A75	DNW-65/A65	HDW-500/F500	HDW-250	HDW-2000/D2000/M2000/S2000	HDW-A2100/M2100	HDW-S280	MSW-2000/A2000/M2000/M2000E, DVW-2000/M2000	MSW-M2100/M2100E	SRW-5000/5500	J-1/2/3/H3 J-10/10SDI/30/30SDI
41•34 : HEAD SELECT	10•01 : ACK ⇐○/△ 11•12 : NAK ⇐×	○	△	△	△	△	○	○	△	△	△	○	△	○	○	△	○	△
41•35 : COLOR FRAME SELECT		○	○	○	○	○	○	○	○	○	○	○	○	△	○	○	△	△
41•36 : TIMER MODE SELECT		○	○	○	○	○	○	○*	○	○	○	○*	○	○	○*	○	○	○
41•37 : INPUT CHECK		○	△	△	○	△	○	○	△	○	○	○	△	○	○	△	○	△
41•38 : PB FIELD/FRAME SEL		×	×	×	×	×	×	×	×	○	△	×	×	×	×	×	○	×
41•3A : EDIT FIELD SELECT		○	△	△	×	×	×	△	△	○	△	○	△	△	○	△	○	△
41•3B : FREEZE MODE SELECT		×	×	×	×	×	×	×	×	○	△	×	×	×	×	×	○	×
41•3C : POSTROLL TIME		×	×	×	×	×	×	×	×	○	△	×	×	×	×	×	○	×
41•3D : PRE READ MODE SELECT		○	△	△	△	△	○	○	△	○	△	○	△	△	○	△	○	△
4X•3E : REC INH PRESET		×	×	×	×	×	×	×	×	○	△	×	×	×	×	×	○	×
4X•3F : Δt PLAY PRESET		×	×	×	△	△	△	○	○	△	△	×	×	×	○	○	△	×
40•40 : AUTO MODE OFF		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	△
40•41 : AUTO MODE ON		○*	○	○	○*	○	○*	○*	○	○	○	○*	○	○	○*	○	○	△
40•44 : AUDIO SPLIT OFF		○	○	△	○	○	○	○	○	○	△	○	○	△	○	○	○	○
40•45 : AUDIO SPLIT ON		○*	○	△	○*	○	○*	○*	○	○	△	○*	○	△	○*	○	△	○
40•46 : VARIABLE MEMORY OFF		○	○	△	×	×	×	○	○	○	△	○	○	△	○	○	○	△
40•47 : VARIABLE MEMORY ON		○	○	△	×	×	×	○	○	○	△	○	○	△	○	○	○	△
40•48 : VIDEO REFERENCE DISABLE OFF		○	○	△	○	○	○	△	△	△	△	△	△	△	△	△	△	△
40•49 : VIDEO REFERENCE DISABLE ON		○	△	△	○	△	○	△	△	△	△	△	△	△	△	△	△	△
4X•50 : DA INPUT SELECT		○	△	△	○	△	○	○	△	△	△	○	△	○	○	△	○	×
42•51 : DA SYS EMPHASIS PRESET		○	△	△	○	△	○	○	△	○	△	○	△	○	○	△	△	×
4X•54 : EXTENDED DA INPUT SELECT		○	△	△	○	△	○	○	△	○	△	○	△	○	○	△	○	×
41•60 : VITC BYPASS		○	△	△	○	△	○	○	△	○	△	○	△	△	○	△	△	×
42•61 : LTC GENERATOR MODE SELECT		○	△	△	○	△	○	○	△	○	△	○	△	○	○	△	○	×
41•63 : RECORD LTC SELECT		○	△	△	○	△	○	○	△	○	△	○	△	○	○	△	○	×
42•70 : VIDEO INPUT SELECT		○	△	△	○	△	○	○	△	○	△	○	△	○	○	△	○	×
4X•91 : OUTPUT VIDEO LEVEL		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•92 : OUTPUT SETUP LEVEL		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•93 : OUTPUT CHROMA LEVEL		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
47•95 : EXTENDED OUTPUT VIDEO CONTROL		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•98 : OUTPUT H PHASE		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•99 : OUTPUT SC PHASE		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•9A : OUTPUT VIDEO HUE		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
44•9C : OUTPUT SYSTEM PHASE		○	○	△	○	○	○	○	○	△	△	×	×	×	○	○	△	×

COMMAND	RETURN	DVW-500/A500	DVW-510/A510	DVW-250	DNW-A45/A50/A100	DNW-30/A30	DNW-A25/A28/A220	DNW-75/A75	DNW-65/A65	HDW-500/F500	HDW-250	HDW-2000/D2000/M2000/S2000	HDW-A2100/M2100	HDW-S280	MSW-2000/A2000/M2000/M2000E, DVW-2000/M2000	MSW-M2100/M2100E	SRW-5000/5500	J-1/2/3/H3 J-10/10SDI/30/30SDI
41•9E : SUPERIMPOSE	10•01 : ACK ⇐○/△ 11•12 : NAK ⇐×	○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
42•9F : VIDEO CONTROL DATA SET		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•A0 : AUDIO INPUT LEVEL		○	△	△	○	△	○	○	△	○	△	○	△	○	○	△	○	×
4X•A1 : AUDIO OUTPUT LEVEL		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•A3 : EXTENDED AUDIO INPUT LEVEL		○	△	△	○	△	○	○	△	○	△	○	△	○	○	△	○	×
4X•A4 : EXTENDED AUDIO OUTPUT LEVEL		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•A8 : AUDIO OUTPUT PHASE		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•AA : CROSS FADE TIME PRESET		×	×	×	×	×	×	×	×	○	△	×	×	×	×	×	○	×
4X•AE : AUDIO MONITOR CHANNEL SELECT		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•AF : AUDIO CONTROL DATA SET		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
4X•B8 : LOCAL KEY MAP CONTROL		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
42•F8 : STILL OFF TIME		×	×	×	×	×	×	×	×	○	△	×	×	×	×	×	○	×
42•FA : STANDBY OFF TIME		○	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	×
61•0A : TC GEN DATA SENSE	74•08 : GEN TC DATA	○	×	○	○	△	○	○	△	○	○	○	△	○	○	△	○	△
	78•08 : GEN TC & UB DATA	○	×	○	○	△	○	○	△	○	○	○	△	○	○	△	○	△
	74•09 : GEN UB DATA	○	×	○	○	△	○	○	△	○	○	○	△	○	○	△	○	△
61•0C : CURRENT TIME SENSE	74•00 : TIMER-1 DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	74•04 : LTC TIME DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	78•04 : LTC TIME & UB DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	74•05 : LTC UB DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	74•06 : VITC TIME DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	78•06 : VITC TIME & UB DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	74•07 : VITC UB DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	70•0D : REQUEST TIME MISSING	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	74•14 : LTC INTERPOLATED TIME DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	78•14 : LTC INTERPOLATED TIME & UB DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	74•16 : VITC HOLD TIME DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	78•16 : VITC HOLD TIME & UB DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

COMMAND	RETURN	DVW-500/A500	DVW-510/A510	DVW-250	DNW-A45/A50/A100	DNW-30/A30	DNW-A25/A28/A220	DNW-75/A75	DNW-65/A65	HDW-500/F500	HDW-250	HDW-2000/D2000/M2000/S2000	HDW-A2100/M2100	HDW-S280	MSW-2000/A2000/M2000/M2000E, DVW-2000/M2000	MSW-M2100/M2100E	SRW-5000/5500	J-1/2/3/H3 J-10/10SDI/30/30SDI
60•10 : IN DATA SENSE	74•10 : IN DATA	○	○	○	○	○	○	○	○	○	○	○*	○	○	○*	○	○	○
60•11 : OUT DATA SENSE	74•11 : OUT DATA	○	○	○	○	○	○	○	○	○	○	○*	○	○	○*	○	○	○
60•12 : A IN DATA SENSE	74•12 : A IN DATA	○	○	×	○	○	○	○	○	○	△	○*	○	△	○*	○	○	○
60•13 : A OUT DATA SENSE	74•13 : A OUT DATA	○	○	×	○	○	○	○	○	○	△	○*	○	△	○*	○	○	○
61•20 : STATUS SENSE	7X•20 : STATUS DATA	○	○	○	○	○	○	○	○	○	○	○*	○	○	○*	○	○	○
61•21 : EXTENDED VTR STATUS SENSE	7X•21 : EXTENDED VTR STATUS	○	○	×	○	○	○	○	○	○	○	○	○	○	○	○	○	×
6X•23 : SIGNAL CONTROL DATA SENSE	7X•23 : SIGNAL CONTROL DATA	○	○	×	○	○	○	○	○	○	△	○	○	○	○	○	○	×
61•24 : SUPPORTED SIGNAL SENSE	7X•24 : SUPPORTED SIGNAL	○	○	×	○	○	○	○	○	○	○	○	○	○	○	○	○	×
62•25 : VIDEO CONTROL DATA SENSE	7X•25 : VIDEO CONTROL DATA	○	○	×	○	○	○	○	○	○	△	○	○	○	○	○	○	×
62•26 : AUDIO CONTROL DATA SENSE	7X•26 : AUDIO CONTROL DATA	○	○	×	○	○	○	○	○	○	△	○	○	○	○	○	○	×
6X•28 : LOCAL KEY MAP SENSE	7X•28 : LOCAL KEY MAP DATA	○	○	×	○	○	○	○	○	○	△	○	○	○	○	○	○	×
61•2A : HM DATA SENSE	7X•2A : HM DATA	○	○	×	○	○	○	○	○	○	○	○	○	○	○	○	○	×
60•2B : REMAIN TIME SENSE	76•2B : REMAIN TIME	○	○	×	○	○	○	○	○	○	○	○	○	○	○	○	○	×
60•2E : COMMAND SPEED SENSE	7X•2E : COMMAND SPEED DATA	○	○	×	○	○	○	○	○	○	○	○	○	○	○	○	○	×
60•2F : VAR MEMORY SPEED SENSE	7X•2F : VAR MEMORY SPEED DATA	○	○	×	×	×	×	○	○	○	△	○	○	△	○	○	○	×
6X•30 : EDIT PRESET SENSE	7X•30 : EDIT PRESET DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
60•31 : PREROLL TIME SENSE	74•31 : PREROLL TIME DATA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
60•32 : TAPE/AUTO SENSE	71•32 : TAPE/AUTO STATUS	○	○	×	○	○	○	○	○	○	△	○	○	○	○	○	○	○
60•33 : SERVO REF SENSE	71•33 : SERVO REF STATUS	×	×	×	×	×	×	×	×	○	○	×	×	×	×	×	○	×
60•36 : TIMER MODE SENSE	71•36 : TIMER MODE DATA	○	○	○	○	○	○	○	○	○	○	○*	○	○	○*	○	○	○
60•3C : POSTROLL TIME SENSE	74•3C : POSTROLL TIME DATA	×	×	×	×	×	×	×	×	○	○	×	×	×	×	×	○	×
60•3E : RECORD INHIBIT SENSE	7X•3E : RECORD INHIBIT STATUS	×	×	×	×	×	×	×	×	○	△	×	×	×	×	×	○	×
60•3F : Δt PLAY PRESET SENSE	73•3F : Δt PLAY PRESET DATA	×	×	×	△	△	△	○	○	△	△	○	○	△	○	○	○	×
60•50 : DA INPUT SENSE	7X•50 : DA INPUT STATUS	○	△	×	○	△	○	○	△	○	○	○	△	○	○	△	○	×
60•51 : DA SYS EMPHASIS SENSE	7X•51 : DA SYS EMPHASIS STATUS	○	△	×	○	△	○	○	△	○	○	○	△	○	○	△	○	×
60•52 : DA INP EMPHASIS SENSE	7X•52 : DA INP EMPHASIS STATUS	○	△	×	○	△	○	○	△	○	○	○	△	○	○	△	○	×
60•53 : DA PB EMPHASIS SENSE	7X•53 : DA PB EMPHASIS STATUS	○	○	×	○	○	○	○	○	○	○	○	○	○	○	○	○	×
6X•54 : EXTENDED DA INPUT SENSE	7X•54 : EXTENDED DA INPUT STATUS	○	△	×	○	△	○	○	△	○	○	○	△	○	○	△	○	×

COMMAND	RETURN	DVW-500/A500	DVW-510/A510	DVW-250	DNW-A45/A50/A100	DNW-30/A30	DNW-A25/A28/A220	DNW-75/A75	DNW-65/A65	HDW-500/F500	HDW-250	HDW-2000/D2000/M2000/ S2000	HDW-A2100/M2100	HDW-S280	MSW-2000/A2000/M2000/ M2000E, DVW-2000/M2000	MSW-M2100/M2100E	SRW-5000/5500	J-1/2/3/H3 J-10/10SDI/30/30SDI
60•58 : DA SAMPLING FREQ SENSE	71•58 : DA SAMPLING FREQ STATUS	○	○	×	○	○	○	○	○	○	○	○	○	○	○	○	○	×
60•60 : VITC BYPASS SENSE	71•60 : VITC BYPASS STATUS	○	△	×	○	△	○	○	△	○	○	○	△	△	○	△	○	×
60•61 : LTC GENERATOR MODE SENSE	72•61 : LTC GENERATOR MODE STATUS	○	△	×	○	△	○	○	△	○	△	○	△	○	○	△	○	×
60•62 : VITC GENERATOR MODE SENSE	72•62 : VITC GENERATOR MODE STATUS	○	△	×	○	△	○	○	△	○	△	○	△	○	○	△	○	×
60•63 : RECORD LTC SENSE	71•63 : RECORD LTC STATUS	○	△	×	○	△	○	○	△	○	○	○	△	○	○	△	○	×
60•70 : VIDEO INPUT SENSE	72•70 : VIDEO INPUT STATUS	○	△	×	○	△	○	○	△	○	○	○	△	○	○	△	○	×
60•9E : SUPERIMPOSE SENSE	71•9E : SUPERIMPOSE STATUS	○	○	×	○	○	○	○	○	○	○	○	○	○	○	○	○	×
60•AE : AUDIO MONITOR CHANNEL SENSE	74•AE : AUDIO MONITOR CHANNEL STATUS	○	○	×	○	○	○	○	○	○	△	○	○	○	○	○	○	×

6. Detailed Description of Commands

00•0C : LOCAL DISABLE

When this command is received, operations by the control panel of the DEVICE are entirely disabled.

00•11 : DEVICE TYPE REQUEST

12•11 : DEVICE TYPE

The “00•11 : DEVICE TYPE REQUEST” command is used for asking the specifications of the VTR used as DEVICE. When the DEVICE receives this command, it attaches 2-byte specification data to “12•11 : DEVICE TYPE” and sends the information to the CONTROLLER.

MODEL	DATA-1	DATA-2
BVW-10	2X	00
BVW-11	2X	02
BVW-15	2X	03
BVW-35	2X	10
BVW-40	2X	01
BVW-50	2X	30
BVW-60	2X	20
BVW-65	2X	21
BVW-95	2X	22
BVW-96	2X	23
BVW-70	2X	24
BVW-75	2X	25
BVW-D75	2X	46
BVW-D265	20	45
BVW-9000	2X	47
BVW-35PM	20	18
BVW-65PM	20	29
BVW-95PM	20	29
BVW-75PM	20	2D
BVW-85P	21	26
BVW-70S	21	2C
BVW-75S	21	2D
WBR-700	21	2F
DVW-A500	BX	00
DVW-A510	BX	01
DVW-CA510	BX	03
DVW-500	BX	10
DVW-510	BX	11
DVW-250	BX	30
DVW-2000	BX	14
DVW-M2000	BX	04

NTSC or PAL-M model : X=0

PAL or SECAM model : X=1

MODEL	DATA-1	DATA-2
DNW-30	BX	49
DNW-A30	BX	48
DNW-A45/A50	BX	45
DNW-65	BX	4F
DNW-A65	BX	47
DNW-75	BX	4E
DNW-A75	BX	46
DNW-A100	BX	41
DNW-A25/A25WS	BX	4B
DNW-A28	BX	4D
DNW-A220/R	BX	4A
DNW-A220/L	BX	4C
MSW-2000	BX	62
MSW-A2000	BX	61
MSW-M2000/M2000E	BX	60
MSW-M2100/M2100E	BX	63
HDW-500	20	E0
HDW-F500	2Y	E0
HDW-250	20	E1
HDW-2000/D2000/ M2000/S2000	2Z	E2
HDW-A2100/M2100	2Z	E3
HDW-S280	2Y	E5
J-1, J-2, J-3 J-10/10SDI/30/30SDI	BX	70
J-H3	2Y	E4
SRW-5000	2Y	A0
SRW-5500	2Y	A1

Since DNW/HDW/J/MSW/SRW series equipment can change their own specifications by themselves using menu, the equipment returns current operation mode to CONTROLLER.

525 system : X = 0

625 system : X = 1

30 frame system : Y = 0

25 frame system : Y = 1

24 frame system : Y = 2

59.94 Hz system : Z = 0

50 Hz system : Z = 1

00•1D : LOCAL ENABLE

When this command is received, operation by the control panel of the DEVICE is enabled according to the DEVICE setting.

When the power of the DEVICE is turned on, it is set to the LOCAL ENABLE state.

10•01 : ACK

When a command from the CONTROLLER is received normally, the DEVICE returns this command as acknowledgement.

11•12 : NAK

When a communication error is detected or an undefined COMMAND is received, the DEVICE returns this command as not-acknowledgement.

BIT-7 to BIT-0 of DATA-1 will be set in accordance with the contents.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
TIME OUT	FRAMING ERROR	OVERRUN ERROR	PARITY ERROR		CHECKSUM ERROR	SOFTWARE OVERRUN	UNDEFINED COMMAND

20•00 : STOP

20•01 : PLAY

20•02 : REC

20•04 : STANDBY OFF

20•05 : STANDBY ON

When one of the above commands is received, the DEVICE becomes the specified mode.

The “20•04 : STANDBY OFF” command is available only when the DEVICE is in the STOP mode.

20•0D : DMC START

When receiving this command, the DEVICE will start running with a speed setting by the “20•4B : DMC RUN” command.

Note

DMC = Dynamic Motion Control (=VAR MEMORY)

20•0F : EJECT

When this command is received, the DEVICE ejects the cassette.

20•10 : FAST FWD

20•20 : REWIND

When one of the above command is received, the DEVICE becomes the specified mode.

2X•11 : JOG FWD
2X•12 : VAR FWD
2X•13 : SHUTTLE FWD
2X•21 : JOG REV
2X•22 : VAR REV
2X•23 : SHUTTLE REV

When one of the above commands is received, the DEVICE starts running in accordance with speed data defined by the DATA-1 and DATA-2.

When only DATA-1 is given, (X = 1) and the tape speed will be defined as follows.

$$\text{TAPE SPEED} = 10^{(N/32 - 2)}, \quad N : \text{SPEED DATA (DECIMAL)}$$

EX.

TAPE SPEED	SPEED	DATA
STILL	0	(0H)
0.1 times normal speed	32	(20H)
1.0 times normal speed	64	(40H)
About 2.9 times normal speed	79	(4FH)

When setting more precise value than the tape speed defined by DATA-1, DATA-2 will be added. However, the precise value is a linear approximate value. (X = 2)

When both DATA-1 and DATA-2 are given, the tape speed will be defined as follows.

$$\text{TAPE SPEED} = 10^{(N/32 - 2)} + N'/256 \times \{ 10^{[(N+1)/32 - 2]} - 10^{(N/32 - 2)} \}$$

N : SPEED DATA OF DATA-1 (DECIMAL)

N' : SPEED DATA OF DATA-2 (DECIMAL)

In the case of BVW-10/11/15/35/40/50 and DVW-250, DATA-2 is always regarded as “0” even if DATA-1 or DATA-2 is given.

20•30 : PREROLL

When this command is received, the DEVICE is prerolled to the tape position that is obtained by subtracting the preroll time from the IN POINT.

PREROLL TIME is defined by the “44•31 : PREROLL TIME PRESET” command.

IN POINT is defined by the “40•10 : IN ENTRY” command.

24•31 : CUE UP WITH DATA

This command is used for cueing up the DEVICE to the position assigned by the time data of DATA-1 through DATA-4. Units of respective data are as follows :

DATA-1		DATA-2		DATA-3		DATA-4	
10 Frame	1 Frame	10 Second	1 Second	10 Minute	1 Minute	10 Hour	1 Hour
MSD	LSD	MSD	LSD	MSD	LSD	MSD	LSD

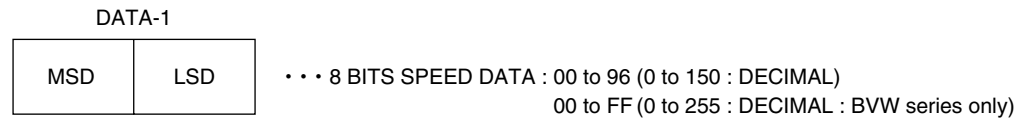
20•34 : SYNC PLAY

This command sets the DEVICE to the play mode. It has synchronization capability to compensate the delay which occurs during the initial servo lock up period, but the “20•01 : PLAY” command has no compensation for the delay.

If this command is received when preset tape position of the DEVICE is within a range of ± 2 frames of the preroll point, SYNC PLAY is executed so that the tape will be positioned at the preroll point ± 0 frame.

21•38 : PROGRAM PLAY +
21•39 : PROGRAM PLAY –

These commands are used for playing back the DEVICE in steps of 0.1% within the range of ± 15 % (BVW series : ±25.5 %) against the normal PLAY (×1) speed.



Relationship between the deviation (%) from the normal PLAY (×1) speed and SPEED DATA is defined as follows :

DEVIATION (%) = 0.1 × SPEED DATA (Decimal)
BVW-60/65/70/75 works every 1%.

20•3C : DMC PREROLL

This command is used for cueing up the DEVICE to the point as follows :
IN POINT - (MEMORIZED INITIAL SPEED × PREROLL TIME)

20•40 : PREVIEW
20•41 : REVIEW
20•42 : AUTO EDIT

When receiving one of the above commands, the DEVICE will go into the specified mode.

20•4B : DMC RUN

When receiving this command, the DEVICE will perform a sequence of the following operations in the VAR MEMORY mode.

1. Cues up to the following point ;
IN POINT - (INITIAL SPEED × PREROLL TIME)
2. Runs to the IN point with the initial speed.
3. Memorize the speed given by the PLAY, VAR FWD or VAR REV from the IN point.

20•4C : DMC PREVIEW

When receiving this command, the DEVICE will perform a sequence of the following operations in the VAR MEMORY mode.

1. Cues up to the following point ;
IN POINT - (MEMORIZED INITIAL SPEED × PREROLL TIME)
2. Runs to the IN point with the initial speed which was memorized.
3. Plays back from the IN point with the memorized speed.

20•52 : TENSION RELEASE

When receiving the above command in STILL mode of STOP or SHUTTLE/JOG/VAR, the DEVICE will be in the TENSION RELEASE mode.

20•54 : ANTI-CLOG TIMER DISABLE
20•55 : ANTI-CLOG TIMER ENABLE

“20•54 : ANTI-CLOG TIMER DISABLE” command prohibits the operation of the ANTI-CLOG TIMER. (As for HDW-500/F500 and SRW-5000/5500, it is set to maximize STILL TIMER for 30 minutes.)

“20•55 : ANTI-CLOG TIMER ENABLE” command permitted the operation of the ANTI-CLOG TIMER.

When the power of the DEVICE is turned on, ANTI-CLOG TIMER is in the enable mode.

2X•5C : DMC SET FWD

2X•5D : DMC SET REV

These commands are used for presetting the SPEED DATA to the DEVICE as the initial speed of the “20•4B : DMC RUN” command in the VAR MEMORY mode.

The initial speed will be assigned in the DATA-1 (and DATA-2) of the above command.

For the data format, refer to “2X•11 : JOG FWD” command.

20•60 : FULL EE OFF

20•61 : FULL EE ON

These commands are used for setting or clearing all channels to E-E mode.

The DEVICE will start executing after passing the edit delay time.

For the timing, refer to Appendix.

The edit delay time for the DEVICE is as follows.

DEVICE	Edit delay time
BVW-40/70/75/96/85P/D75	3 (2) frames *1)
Other models	5 frames

*1) : Selected by internal setting

20•63 : SELECT EE ON

This command is used for setting each EDIT PRESET channel assigned by the DATA-1 of the “41•30 : EDIT PRESET” command to the E-E mode.

To clear the SELECT EE mode, the “20•64 : EDIT OFF” command is used.

The DEVICE will start executing after passing the edit delay time.

For the timing, refer to Appendix.

20•64 : EDIT OFF

This command is used for clearing the EDIT mode and also clearing the SELECT E-E mode.

The DEVICE will start executing after passing the edit delay time.

For the timing, refer to Appendix.

20•65 : EDIT ON

This command is used for setting the DEVICE, which is running at the normal PLAY speed during the EDIT PRESET mode, to the EDIT mode.

The DEVICE will start executing after passing the edit delay time.

For the timing, refer to Appendix.

20•6A : FREEZE OFF

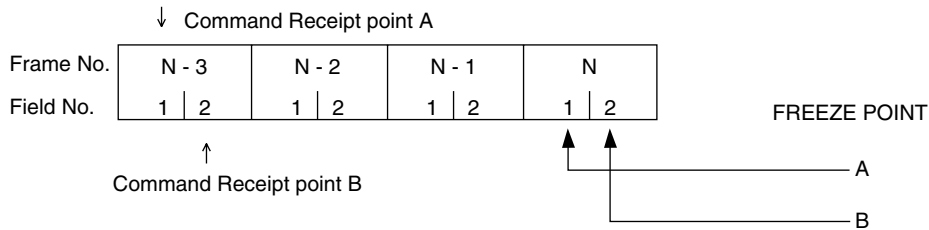
This command is used to clear the FREEZE mode.

20•6B : FREEZE ON

This command sets the DEVICE to the FREEZE mode. If this command is received with the DEVICE already set to the FREEZE mode, the FREEZE DATA is updated.

Ex. When “Field” is specified in ITEM-903 (for HDW-500/F500, and SRW-5000/5500 ITEM-902) of SETUP MENU

The figure below shows the sequence from the receipt of the “20•6B : FREEZE ON” command to the actual freeze operation.



(N = Frame No. of FREEZE point)

When the command is received in the field 1, the picture freezing starts at position A.

When it is received in the field 2, freezing starts at position B.

44•00 : TIMER-1 PRESET

This command is used for presetting the value, which has been given by the DATA-1 through DATA-4, to the TIMER-1 (CTL COUNTER) of the DEVICE.

The (Drop Frame/Non Drop Frame) mode of TIMER-1 is set according to BIT-6 of DATA-1 as in the following table.

DATA-1 BIT-6	DF
0	OFF
1	ON

For the data format, refer to “24•31 : CUE UP WITH DATA” command.

The DF/NDF mode of the BVW-35/50 is determined by the state of the front main panel unit.

44•04 : TIME CODE PRESET

This command is used for presetting the value, which has been given by the DATA-1 through DATA-4, to the TIME CODE of the time code generator.

For the data format, refer to “24•31 : CUE UP WITH DATA” command.

The COLOR FRAMING (CF) and the DF/NDF mode of the TIME CODE GENERATOR are set according to BIT-7 and BIT-6 of DATA-1.

The COLOR FRAMING and the DF/NDF mode of the BVW-35/50 follow the state of the front main panel unit.

DATA-1 BIT-7	CF
0	OFF
1	ON

DATA-1 BIT-6	DF
0	OFF
1	ON

For the timing, refer to Appendix.

44•05 : USER'S BIT PRESET

This command is used for presetting the value, which has been given by the DATA-1 through DATA-4, to the USER's BIT of the time code generator.

For the timing, refer to Appendix.

DATA-1		DATA-2		DATA-3		DATA-4	
2nd BINARY GROUP	1st BINARY GROUP	4th BINARY GROUP	3rd BINARY GROUP	6th BINARY GROUP	5th BINARY GROUP	8th BINARY GROUP	7th BINARY GROUP
MSD	LSD	MSD	LSD	MSD	LSD	MSD	LSD

45•05 : USER'S BIT WITH FLAG PRESET

This command is used for presetting the value, which has been given by the DATA-1 through DATA-4, to the USER's BIT of the time code generator.

For the DATA-1 through DATA-4, refer to “44•05 : USER'S BIT PRESET” command.

DATA-5 (for setting Binary Group Flag) is effective only for DVW-500/A500.

[DATA-5 (Binary Group Flag)]

(NTSC)

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
0	0	0	0	0	Bit-59 (BG2)	Bit-58 (BG1)	Bit-43 (BG0)

(PAL)

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
0	0	0	0	0	Bit-43 (BG2)	Bit-58 (BG1)	Bit-27 (BG0)

40•08 : TIMER-1 RESET

This command is used for resetting the TIMER-1 (CTL COUNTER) to zero.

40•10 : IN ENTRY

40•11 : OUT ENTRY

40•12 : A IN ENTRY

40•13 : A OUT ENTRY

These commands are used for storing the value of the TIMER or the TIME CODE data, which is displayed on the DEVICE, into the IN, OUT, A IN or A OUT memory as IN POINT, OUT POINT, A IN POINT or A OUT POINT data.

44•14 : IN DATA PRESET

44•15 : OUT DATA PRESET

44•16 : A IN DATA PRESET

44•17 : A OUT DATA PRESET

These commands are used for presetting the value, which has been given by the DATA-1 to DATA-4, into the IN, OUT, A IN or A OUT memory.

For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

40•18 : IN SHIFT +

40•19 : IN SHIFT –

These commands are used for adding or subtracting the value of the TIME DATA, which has been stored as IN POINT, by one frame.

40•1A : OUT SHIFT +**40•1B : OUT SHIFT –**

These commands are used for adding or subtracting the value of the TIME DATA, which has been stored as OUT POINT, by one frame.

40•1C : A IN SHIFT +**40•1D : A IN SHIFT –**

These commands are used for adding or subtracting the value of the TIME DATA, which has been stored as AUDIO IN POINT, by one frame.

40•1E : A OUT SHIFT +**40•1F : A OUT SHIFT –**

These commands are used for adding or subtracting the value of the TIME DATA, which has been stored as AUDIO OUT POINT, by one frame.

40•20 : IN RESET**40•21 : OUT RESET****40•22 : A IN RESET****40•23 : A OUT RESET**

These commands are used for turning off the IN, OUT, AUDIO IN or AUDIO OUT indicator.

40•24 : IN RECALL**40•25 : OUT RECALL****40•26 : A IN RECALL****40•27 : A OUT RECALL**

These commands are used for turning on the IN, OUT, AUDIO IN or AUDIO OUT indicator.

40•2D : LOST LOCK RESET

This command is used for resetting the “DATA No.8 BIT-6: LOST LOCK” of the “7X•20 : STATUS DATA” command.

The LOST LOCK status will be set when the servo is unlocked in the PLAY, REC or EDIT mode.

4X•30 : EDIT PRESET

This command is used to select the edit mode and the video/audio preset channels.

The DEVICE sets all channels to “1” when the ASSEMBLE mode is selected.

Each bit in the DATA-1 is defined as follows.

In the BVW-35/50, only INSERT, A1, and A2 can be specified.

In the DVW-250, only INSERT and CUE can be specified.

In the HDW-250, only ASSEMBLE can be specified.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
	INSERT	ASSEMBLE	VIDEO		TIME CODE	A2 (CUE)	A1 (CUE)

[DATA-2]

Available for the following models (series) only.

In the BVW-85P, only DA1 and DA2 can be specified.

In the DVW-500/A500/2000/M2000, DNW-75/A75/A25/A28/A220, and HDW-500/F500/2000/D2000/M2000/S2000, only DA1 to DA4.

In the MSW-2000/A2000/M2000/M2000E, and SRW-5000/5500, all channels.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DA8	DA7	DA6	DA5	DA4	DA3	DA2	DA1

[DATA-3]

Available for SRW-5000/5500 only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				DA12	DA11	DA10	DA9

1 : EDIT PRESET ON
0 : EDIT PRESET OFF

In the BVW-85P, DVW-500/A500/2000/M2000, DNW-75/A75/A25/A28/A220, HDW-500/F500/2000/D2000/M2000/S2000, and MSW-2000/A2000/M2000/M2000E:

In the case of “41•30” command, the channel to be preset by BIT-1 and BIT-0 of DATA-1 depends on the following setup menu items.

In the case of “42•30” command, the settings of the following setup menu items become invalid, and the preset channel is selected according to the contents of DATA-1 and DATA-2.

BVW-85P	ITEM-205 (A1/A2 INSERT COMMAND WHEN PCM MODE)
DVW-500/A500/2000/M2000 HDW-500/F500 HDW-2000/D2000/M2000/S2000	ITEM-311 to 315 (ANALOG AUDIO EDIT PRESET REPLACE)
DNW-75/A75/A25/A28/A220	ITEM-311 to 314 (ANALOG AUDIO EDIT PRESET REPLACE)
MSW-2000/A2000/M2000/M2000E	ITEM-311 to 314 (ANALOG AUDIO EDIT PRESET REPLACE) ITEM-329 to 332 (ANALOG AUDIO EDIT PRESET REPLACE)

In the SRW-5000/5500:

In the case of “41•30” command, the channel to be preset by BIT-1 and BIT-2 of DATA-1 are fixed as follows.

BIT-1 : DA1

BIT-2 : DA2

In the case of “42•30” and “43•30” commands, the above settings are ignored, and the preset channel is selected according to the contents of DATA-1 and DATA-2, or DATA-1 to DATA-3.

Note

In the BVW-40/70/75/96/85P/D75, DVW-500/A500/2000/M2000, DNW-75/A75/A25/A28/A220, HDW-500/F500/250/2000/D2000/M2000/S2000, MSW-2000/A2000/M2000/M2000E, and SRW-5000/5500:

When the DEVICE receives this command during editing or rehearsal, the preset channel change is performed after the edit delay time has passed.

For the edit delay, refer to the “20•61 : FULL EE ON” command.

For the timing, refer to the Appendix.

44•31 : PREROLL TIME PRESET

This command is used for presetting the preroll time, which has given by DATA-1 through DATA-4, to the DEVICE. Setting PREROLL TIME is allowed in units of second within the range of 0 to 30 seconds.

For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

Ex. Preroll Time = 5 sec.

DATA-1	DATA-2	DATA-3	DATA-4
00	05	00	00

41•32 : TAPE/AUTO SELECT

This command is used to select the TAPE/EE mode by the value of DATA-1.

[DATA-1] 00 : AUTO (TAPE/EE)
 01 : TAPE
 FF : Depends on the DEVICE.

“AUTO” is equivalent to “PB.EE”, and “TAPE” is equivalent to “PB” of PB.EE/PB selection on the VTR’s control panel.

41•33 : SERVO REFERENCE SELECT

This command is used to select the SERVO reference signal by the value of DATA-1.

[DATA-1] 00 : AUTO
 01 : EXTERNAL
 02 : INPUT
 FF : Depends on the DEVICE

41•34 : HEAD SELECT

This command is used to select the VIDEO head for play back by the state of DATA-1.

[DATA-1] 00 : R/P HEAD
 01 : PLAY HEAD
 FF : Depends on the DEVICE

Note

In the case of DVW-500/A500/2000/M2000, DNW-75/A75, HDW-2000/D2000/M2000/S2000, MSW-2000/A2000/M2000/M2000E, and SRW-5000/5500 DATA-1 is defined as follows.

00 : ADVANCE HEAD
01 : CONFI HEAD

41•35 : COLOR FRAME SELECT

This command is used to select the color frame mode of the servo system by the value of DATA-1.

[DATA-1] 01 : 2 Fields
 02 : 4 Fields
 03 : 8 Fields (PAL, PAL-M)
 FF : Depends on the DEVICE

41•36 : TIMER MODE SELECT

This command is used for selecting the TIMER system used in the AUTO mode by the value of DATA-1. This is used for the IN ENTRY, OUT ENTRY, IN PRESET, OUT PRESET, PRE-ROLL and CUE UP WITH DATA, etc.

[DATA-1] 00 : TIME CODE
 01 : TIMER-1
 FF : Depends on the DEVICE

41•37 : INPUT CHECK

When DATA-1 is set to “01”, VIDEO and all AUDIO channels are set to Forced EE mode.
When DATA-1 is set to “00”, the Forced EE modes of VIDEO and all AUDIO channels are released.

41•38 : PB FIELD/FRAME SEL

This command is used to select either a Field or Frame for the DT head to trace during playback in accordance with the contents of DATA-1.

[DATA-1] 00 : FIELD
 01 : FRAME

41•3A : EDIT FILED SELECT

This command is used to specify the edit field according to the value of DATA-1.

[DATA-1] 00 : FILED-1/FILED-2
 EDIT and EE will be started and completed at the field which is the same
 as the field that the following commands are received.
 20•60 : FULL EE OFF
 20•61 : FULL EE ON
 20•63 : SELECT EE ON
 20•64 : EDIT OFF
 20•65 : EDIT ON
 4X•30 : EDIT PRESET
 01 : FILED-1
 02 : FILED-2
 FF : Depends on the DEVICE
 HDW-500/F500 and SRW-5000/5500 : ITEM-305
 Other models : ITEM-304

41•3B : FREEZE MODE SELECT

This command is used to select a field or frame to constitute the FREEZE picture in accordance with the contents of DATA-1.

[DATA-1] 00 : FIELD-1 or FIELD-2
 01 : FIELD-1
 02 : FIELD-2
 03 : FRAME1, 2
 04 : FRAME2, 1
 FF : Depends on the DEVICE

44•3C : POSTROLL TIME

This command is used to preset the POSTROLL TIME of DEVICE to the value given by DATA-1 to DATA-4. Setting POSTROLL TIME is allowed in units of second within the range of 0 to 30 seconds.

Refer to “24•31 : CUE UP WITH DATA” command for the data format.

41•3D : PRE READ MODE SELECT

This command is used for selecting the mode for pre-read editing according to DATA-1.

[DATA-1] 00 : DISABLE (PRE READ editing mode is disabled)
 01 : ENABLE (PRE READ editing mode is enabled)
 FF : Depends on the DEVICE.

4X•3E : REC INH PRESET

This command is used to set or to reset the REC INHIBIT mode of all channels in accordance with the contents of DATA-1 and DATA-2.

All channels are set to the REC INHIBIT mode when all bits other than bit-6 of DATA-1 or any bit of DATA-2 is “1”.

The REC INHIBIT mode of all channels is reset when bit-6 only of DATA-1 is “1”, or when all bits are “0”.

Refer to the “4X•30 : EDIT PRESET” command, for the data format.

4X•3F : Δt PLAY PRESET

This is the command set set/cancel the FEED PLAY mode.

When the FEED PLAY mode is set, the device starts preparation for FEED PLAY. When the preparation is complete, it sets the status FEED READY (“7X•20 : STATUS DATA” command data No. A bit-3).

[DATA-1 : MODE]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
					FEED PLAY		

[DATA-2/DATA-3 : SPEED]

Refer to “2X•11 : JOG FWD” for the data format.

When a device receives “20•01 : PLAY” command in the FEED PLAY mode, the device operates at specifying speed.

40•40 : AUTO MODE OFF

40•41 : AUTO MODE ON

This command is used for switching ON/OFF the AUTO mode of the DEVICE.

40•44 : AUDIO SPLIT OFF

44•45 : AUDIO SPLIT ON

This command is used for switching ON/OFF the AUDIO SPLIT of the DEVICE.

40•46 : VARIABLE MEMORY OFF

40•47 : VARIABLE MEMORY ON

This command is used for switching ON/OFF the VARIABLE MEMORY MODE of the DEVICE.

40•48 : VIDEO REFERENCE DISABLE OFF

40•49 : VIDEO REFERENCE DISABLE ON

When the DEVICE receives “40•49 : VIDEO REFERENCE DISABLE ON” command, EXTERNAL reference is selected as SERVO REFERENCE in the playback of E-E mode. VIDEO REFERENCE DISABLE OFF is set when the power of the DEVICE is turned on.

4X•50 : DA INPUT SELECT

This command is used to select the input signal source of the audio channels according to the values of DATA-1/2 and DATA-3/4.

[DATA-1/DATA-2]

DA5 to DA8 are available for MSW/SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DA8	DA7	DA6	DA5	DA4	DA3	DA2	DA1

[DATA-3/DATA-4]

Available for SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				DA12	DA11	DA10	DA9

The table below shows the input signal sources for the audio channels.

DATA-1/2 or DATA-3/4 BIT-X	INPUT SIGNAL
0/0	DIGITAL AUDIO (AES/EBU)
0/1	ANALOG AUDIO
1/1	NO CHANGE

42•51 : DA SYS EMPHASIS PRESET

This command is used to select the emphasis mode of the audio channels according to the contents of DATA-1 and DATA-2.

Note

This command is not available for DA5 and later channels.

[DATA-1/DATA-2]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				DA4	DA3	DA2	DA1

The table below shows the emphasis mode statuses.

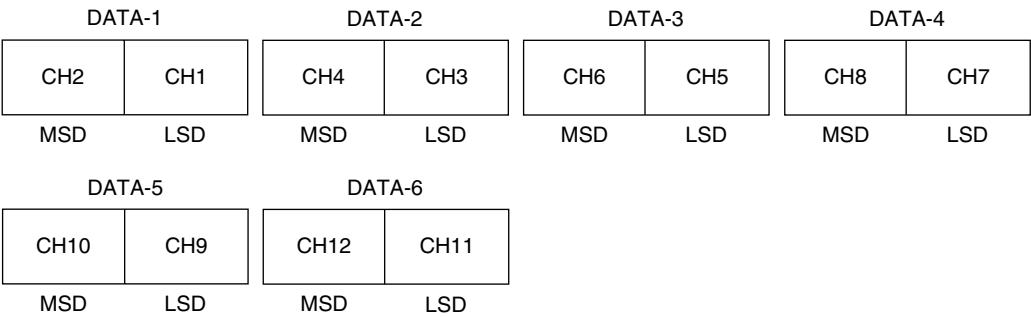
DATA-1	DATA-2	EMPHASIS MODE
00	00	OFF
00	0F	ON
OTHERS		NO CHANGE

4X•54 : EXTENDED DA INPUT SELECT

This command is used for selecting the input audio source according to the values of DATA-1 to DATA-6.

Notes

- DATA-3 and DATA-4 are available for MSW/SRW series only.
- DATA-5 and DATA-6 are available for SRW series only.



- 4-BIT DATA 0 : ANALOG
 1 : AES/EBU
 2 : SDI
 3 : SDTI
 E : INTERNAL SG
 F : NO CHANGE

Ex. In the case of “42•54•22•00” (Specify the DATA-1 and DATA-2 only)
CH-1 & CH-2 : SDI input
CH-3 & CH-4 : ANALOG input

41•60 : VITC BYPASS

This command is used for selecting the recording VITC according to the value of DATA-1.

- [DATA] 00 : Record the TIME DATA of internal LTC GENERATOR
 01 : Record the VITC signal data inserted in the input video signal
 FF : Depends on the DEVICE

42•61 : LTC GENERATOR MODE SELECT

This command is used for presetting the internal LTC generator according to the values of DATA-1 and DATA-2.

			DATA-2 (UB MODE)				
			00	02	03	04	05
			preset	copy from tape LTC	copy from tape VITC	copy from ext LTC	copy from ext VITC
DATA-1 (TIME MODE)	00	preset free run	preset free run	regenerate UB with tape LTC	regenerate UB with tape VITC	regenerate UB with ext LTC	regenerate UB with ext VITC
	01	preset rec run	preset rec run				
	02	regenerate with tape LTC	regenerate TC with tape LTC	regenerate TC & UB with tape LTC			
	03	regenerate with tape VITC	regenerate TC with tape VITC	regenerate TC & UB with tape VITC			
	04	regenerate with ext LTC	regenerate TC with ext LTC	regenerate TC & UB with ext LTC			
	05	regenerate with ext VITC	regenerate TC with ext VITC	regenerate TC & UB with ext VITC			

The values of setup menus ITEM-606 to 609 are set as shown in the table below in HDW-500/F500 and SRW-5000/5500.

		DATA-2 (UB MODE)				
DATA-1 (TC MODE)		00 (Preset data)	02 (COPY from tape LTC)	03 (COPY from tape VITC)	04 (COPY from ext LTC)	05 (COPY from ext VITC)
	00 (Free run)	preset int-* * free run	regenerate int-LTC UB free run	regenerate int-VITC UB free run	regenerate ext-LTC UB free run	regenerate ext-VITC UB free run
	01 (Rec Run)	preset int-* * rec run	regenerate int-LTC UB rec run	regenerate int-VITC UB free run	regenerate ext-LTC UB *	regenerate ext-VITC UB *
	02 (Regenerate with INT LTC)	regenerate int-LTC TC free run	regenerate int-LTC TC & UB *	regenerate int-LTC TC & UB *	regenerate int-LTC TC & UB *	regenerate int-LTC TC & UB *
	03 (Regenerate with INT VITC)	regenerate int-VITC TC free run	regenerate int-VITC TC & UB *	regenerate int-VITC TC & UB *	regenerate int-VITC TC & UB *	regenerate int-VITC TC & UB *
	04 (Regenerate with EXT LTC)	regenerate ext-LTC TC free run	regenerate ext-LTC TC & UB *	regenerate ext-LTC TC & UB *	regenerate ext-LTC TC & UB *	regenerate ext-LTC TC & UB *
	05 (Regenerate with EXT VITC)	regenerate ext-VITC TC free run	regenerate ext-VITC TC & UB *	regenerate ext-VITC TC & UB *	regenerate ext-VITC TC & UB *	regenerate ext-VITC TC & UB *

Menu items to be set

ITEM-606 : TCG MODE SELECT
ITEM-607 : TCG REGENE SOURCE SELECT
ITEM-608 : TCG/UBG REGENE MODE
ITEM-609 : REC RUN/FREE RUN SELECT

*: The mode remains unchanged.

41•63 : RECORD LTC SELECT

This command is used for selecting the recording LTC according to the value of DATA-1.

[DATA-1] 00 : Internal generated LTC is recorded.
 01 : External LTC is recorded.
 FF : Depends on the DEVICE

42•70 : VIDEO INPUT SELECT

This command is used for selecting the input video source according to the values of DATA-1 and DATA-2.

This command is invalid when a VTR does not have video input source specified by DATA-1 and DATA-2.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
INTERNAL SG				SDTI*1		SDI	ANALOG

[DATA-2]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				DUB*1		Y/P _B /P _R	COMPOSITE

DATA-1	DATA-2	Video Input Source
01	01	Analog composite input
01	02	Analog component (Y/P _B /P _R) input
02	02	SDI (Serial Digital Interface) input
02	08	DUB*1 input (or, SDTI input on HDW-500/F500)
08	02	SDTI*1 (Serial Data Transport Interface) input (HDW-500/F500 excluded)
80	XX	Internal Signal Generator

*1: For HDW-500/F500, DUB and SDTI input are processed regarded as the same command applied to DATA-1 = 02, DATA-2 = 08 only.

4X•91 : OUTPUT VIDEO LEVEL

This command is used to control the output video signal level.

It is common to both digital and analog video outputs.

For other HDW/SRW series, applied only to Down Converter output.

When the “40•91” command is received ;

This requests to set the UNITY value of the DEVICE. (UNITY value = 4000H)

When the “42•91” command is received ;

DATA-1 : Lower byte
DATA-2 : Upper byte

— N: Level control data (16-bit straight binary, Linear code)

Cover range : +3 dB to – ∞

$$\text{VIDEO OUTPUT LEVEL} = 20 \log \frac{N(H)}{4000(H)} \text{ [dB]}$$

4X•92 : OUTPUT SETUP (BLACK) LEVEL

This command is used to control the setup level (black level) of the output video signal.
It is common to both digital and analog video outputs.
For other HDW/SRW series, applied only to Down Converter output.

When the “40•92” command is received ;

This requests to set the UNITY value of the DEVICE. (UNITY value = 00H)

When the “41•92” command is received ;

DATA-1: Level control data (8-bit binary, Twos complement)

1 step: 0.7 IRE (for NTSC or when 525/60 system operation)

0.5 IRE (for NTSC HDWseries)

1.19 mV (for PAL or when 625/50 system operation)

4X•93 : OUTPUT CHROMA LEVEL

This command is used to control the chroma level of the output video signal.
It is common to both digital and analog video outputs.
For other HDW/SRW series, applied only to Down Converter output.

When the “40•93” command is received ;

This requests to set the UNITY value of the DEVICE. (UNITY value = 4000H)

When the “42•93” command is received ;

DATA-1 : Lower byte
DATA-2 : Upper byte

— N: Level control data (16-bit straight binary, Linear code)

Cover range : +3 dB to $-\infty$

$$\text{OUTPUT CHROMA LEVEL} = 20 \log \frac{N(H)}{4000(H)} \text{ [dB]}$$

47•95 : EXTENDED OUTPUT VIDEO LEVEL CONTROL

This command is used to control the output video level by the DATA-1 through DATA-7.
This command is common to digital video output and analog video output.

The upper 4-bit of DATA-1 define the control mode, and the lower 3-bit define validity of the DATA-2 through DATA-7.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				0	DATA-6, DATA-7 1 : VALID 0 : INVALID	DATA-4, DATA-5 1 : VALID 0 : INVALID	DATA-2, DATA-3 1 : VALID 0 : INVALID

BIT-7	BIT-6	BIT-5	BIT-4	MODE
0	0	0	1	COMPOSITE
0	0	1	0	Y/P _B /P _R or Y/C _B /C _R
1	0	1	0	HD Y/P _B /P _R

BIT-3 is always set to “0”.

The DATA-2 through DATA-7 are 16-bit level control data.
These contents depend on control mode.

MODE	DATA-2/DATA-3	DATA-4/DATA-5	DATA-6/DATA-7
COMPOSITE	VIDEO	CHROMA	HUE
Y/P _B /P _R or Y/C _B /C _R	Y	P _B or C _B	P _R or C _R
HD Y/P _B /P _R	Y	P _B	P _R

$$\text{OUTPUT LEVEL} = 20 \log \frac{N(H)}{4000(H)} \text{ [dB]}$$

N: Level control data (16-bit straight binary)

UNITY = 4000 (H)

$$\text{HUE (CHROMA PHASE)} = 45^\circ \times \frac{N(H)}{1000(H)} \text{ [dB]}$$

N: HUE (CHROMA PHASE) control data (16-bit binary, Twos complement)

UNITY = 0000 (H)

4X•98 : OUTPUT H PHASE

This command is used to control the H phase (for HDW series SYNC phase) of the output video signal.

It is common to both digital and analog outputs.

For other HDW/SRW series, applied only to Down Converter output.

When the “40•98” command is received ;

This requests to set the UNITY value of the DEVICE.

(UNITY VALUE = 00H)

When the “41•98” command is received ;

DATA-1 : Phase control data (8-bit binary, Twos complement)

Cover range : +127 to –128 steps, 1 step : cycle of SC.

4X•99 : OUTPUT SC PHASE

This command is used to control the SC PHASE (for HDW series SYNC FINE PHASE) of the output video signal.

It is common to both digital and analog video outputs.

For other HDW/SRW series, applied only to Down Converter output.

When the “40•99” command is received ;

This requests to set the UNITY value of the DEVICE. (UNITY VALUE = 0000H)

When the “42•99” command is received ;

DATA-1 : Lower byte

DATA-2 : Upper byte

N: Phase control data (16-bit straight binary, Linear code)

Cover range : 0 to 296 ns

$$\text{SC PHASE} = 296 \text{ ns} \times \frac{N \text{ (H)}}{400 \text{ (H)}}$$

4X•9A : OUTPUT VIDEO HUE

This command is used to control the HUE (Burst CHROMA phase) of the output video signal.

It is common to both digital and analog video outputs.

For other HDW/SRW series, applied only to Down Converter output.

When the “40•9A” command is received ;

This requests to set the UNITY value of the DEVICE. (UNITY = 00H)

When the “41•9A” command is received ;

DATA-1 : Hue (Burst CHROMA phase) control data (8-bit binary, Twos complement)

Cover range : +30 to –30 steps, 1 step : 1°

44•9C : OUTPUT SYSTEM PHASE

This command is used to control the SYSTEM PHASE of the output video signal.
It is common to both digital and analog video outputs.

DATA-1 to DATA-4 : Phase control data (32-bit binary, Twos complement)
Cover range : -31.7 to $+31.7$ μ s, 1 step : 10 ps

41•9E : SUPERIMPOSE

This command is used to control the SUPERIMPOSE mode of the DEVICE according to the value of DATA-1

[DATA-1] 00 : SUPERIMPOSE OFF
 01 : SUPERIMPOSE ON
 FF : Depends on the DEVICE

4X•9F : VIDEO CONTROL DATA SET

This command is used to specify the VIDEO CONTROL DATA according to the DATA-1 and DATA-2.

[DATA-1]
Upper 4-bit are used to specify the block.
The data defined below must be set for BIT-7 to BIT-4.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				0	0	0	0

BIT-7	BIT-6	BIT-5	BIT-4	BLOCK
0	0	0	1	COMPOSITE
0	0	1	0	Y/P _B /P _R or Y/C _B /C _R
0	1	0	0	G/B/R
1	0	1	0	BHD Y/P _B /P _R

[DATA-2]
Indicates the starting data No. of the setting data.

[DATA-3 or followings]
Setting data.
The number of data is according to the byte count of the command set.
For the data format, refer to the “7X•25 : VIDEO CONTROL DATA” command.

When specified data includes undefined area, it will be ignored.

4X•A0 :AUDIO INPUT LEVEL

This command is used to control the audio input level by the BIT-0 through BIT-3 of DATA-1.

Note

This command is not available for DA5 and later channels.

When the DEVICE receives “41•A0” command, the audio input level of the channels assigned by DATA-1 will be set to the reference level of the DEVICE.

The level data are composed of 2 bytes for each channel, and they are arranged in the sequence of DA1 and DA2 channels.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
*	*	*	*	DA4	DA3	DA2	DA1

* : Reserved

Ex. When DATA-1 is “00001001”, the data format is as shown below.

DATA-1	DATA-2	DATA-3	DATA-4	DATA-5
09	LOWER	UPPER	LOWER	UPPER

DA1 LEVEL DATA
DA4 LEVEL DATA

If the value of the level data is assumed to be N, then the signal level is defined as follows.

N: Level data : (16-bit straight binary, Linear code)

Cover range : +12 dB to $-\infty$

$$\text{INPUT SIGNAL LEVEL} = 20 \log \frac{N(H)}{4000(H)} \text{ [dB]}$$

4X•A1 :AUDIO OUTPUT LEVEL

This command is used to control the audio output level.

For the data format, refer to the “4X•A0 : AUDIO INPUT LEVEL” command.

When the DEVICE receives the “41•A1” command, the audio output level is set to the unity level of the DEVICE.

4X•A3 :EXTENDED AUDIO INPUT LEVEL

4X•A4 :EXTENDED AUDIO OUTPUT LEVEL

This command is used to control the audio input/output level.

The controlled channel is specified in DATA-1, DATA-2, and DATA-3 (SRW series only), and level data is specified in the following 3-byte data.

[DATA-1 : Aux audio channel]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
*	*	*	*	*	*	*	*

* : Reserved

[DATA-2 : Main audio 1 through 8 channels]

CH-5 to CH-8 are available for MSW/SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
CH-8	CH-7	CH-6	CH-5	CH-4	CH-3	CH-2	CH-1

[DATA-3 : Main audio 9 through 12 channels]

Available for SRW series only.

“46•A3” or “46•A4” command specifies the Main audio 9 through 12 channels.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				CH-12	CH-11	CH-10	CH-9

Example: When the “45•A3” command is received

DATA-1	DATA-2	DATA-3	DATA-4	DATA-5
00000000	00001111	Level Data (Lower)	Level Data	Level Data (Upper)

If the value of the level data is assumed to be N, then the input signal level is defined by the following formula.

N: Level data (24-bit straight binary, Linear code)

Cover range : +24 dB to $-\infty$, 000000 (H) = $-\infty$

$$\text{INPUT SIGNAL LEVEL} = 20 \log \frac{N(H)}{100000(H)} [\text{dB}]$$

4X•A8 :AUDIO OUTPUT PHASE

This command is used to control the audio output phase in sample units.

When the DEVICE receives the “40•A8” command ;

Audio output phase is adjusted to the video output phase.

(keep the input audio/video phase. keep the lip sync)

When the “42•A8” command is received ;

DATA-1, DATA-2 : Phase control data (16-bit straight binary, Twos complement, Linear code)

1 step = 1 sample

When the “43•A8” command is received ;

DATA-1 to DATA-3 : Phase control data (24-bit binary, Twos complement)

1 step = 1 sample

Cover range : +127 to -128 steps

4X•AA :CROSS FADE TIME PRESET

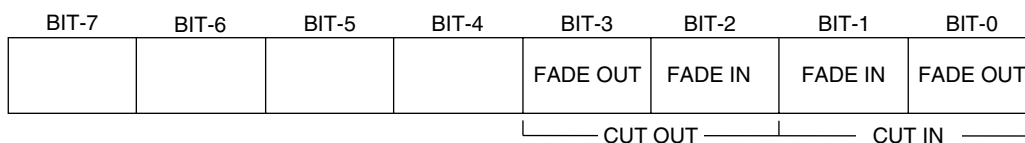
This command is used to set the cross fade time of digital audio during editing.

DATA-1 is used to select the signal. DATA-2 and subsequent data set the cross fade time.

The fade time data consists of the 2-byte data for each signal, and is aligned in the order starting from the fade out time, the fade in time during cut-in, and the fade in time, fade out time during cut-out.

Units of the fade time are millisecond.

Example : when “45•AA•03•00•01•00•02” command is used, the fade out time during cut-in is set to 100 milliseconds and the fade in time during cut-in is set to 200 milliseconds.



DATA-2, -4, -6, -8	DATA-3, -5, -7, -9
LOWER	UPPER

Note

The cross fade time that is set by DATA-2 and DATA-3, applies to all signals in HDW-500/ F500, and SRW-5000/5500 even though the fade times that are different for the respective signals, are set separately.

The cross fade time can be set in the range starting from 0 to 115 milliseconds. However, selection of the cross fade time is not continuous.

Hence, when receiving this command, the input cross fade time is converted to the nearest pre-set time that has already been stored internally. The actual fade time is displayed in the setup menu ITEM-811 : DIGITAL AUDIO FADE TIME.

4X•AE : AUDIO MONITOR CHANNEL SELECT

This command is used for selecting audio monitoring mode for left channel and right channel respectively.

[DATA-1 : Specify the auxiliary channel for monitoring left channel]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
							AUX-1 (CUE-1)

[DATA-2 : Specify the auxiliary channel for monitoring right channel]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
							AUX-1 (CUE-1)

[DATA-3 : Specify the main channel for monitoring left channel]

CH-5 to CH-8 are available for MSW/SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
CH-8	CH-7	CH-6	CH-5	CH-4	CH-3	CH-2	CH-1

[DATA-4 : Specify the main channel for monitoring right channel]

CH-5 to CH-8 are available for MSW/SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
CH-8	CH-7	CH-6	CH-5	CH-4	CH-3	CH-2	CH-1

[DATA-5 : Specify the main channel for monitoring left channel]

Available for SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				CH-12	CH-11	CH-10	CH-9

[DATA-6 : Specify the main channel for monitoring right channel]

Available for SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				CH-12	CH-11	CH-10	CH-9

It is possible to select the channels multiple all at once.

4X•AF :AUDIO CONTROL DATA SET

This command is used to specify the AUDIO CONTROL DATA by DATA-1 and DATA-2.

[DATA-1]

Upper 4 bits are used to specify the AUDIO INPUT/OUTPUT CONTROL DATA.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
0	0	OUT	IN	0	0	0	0

BIT-5	BIT-4	
0	1	INPUT (AUDIO INPUT CONTROL DATA)
1	0	OUTPUT (AUDIO OUTPUT CONTROL DATA)
1	1	INPUT & OUTPUT

[DATA-2]

Indicates the first data No. of the setting data.

[DATA-3 or followings]

Setting data.

The number of set data is according to byte count of the command set.

For the data format, refer to the “7X•26 : AUDIO CONTROL DATA” command.

When specified data includes undefined area, it will be ignored.

When the DATA from No.15 through 1A of the AUDIO INPUT CONTROL DATA is set, it will be ignored.

4X•B8 :LOCAL KEY MAP CONTROL

When the DEVICE receives the “00•1D : LOCAL ENABLE” command, the control panel can be operated in accordance with the LOCAL ENABLE MAP which has been set by the “4X•B8” command.

When the DEVICE receives the “00•1C : LOCAL DISABLE” command, all keys, buttons and controls on the control panel can be no longer operated regardless of the setting of this command.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
*	*	*	*	*	*	*	TTP

* : Reserved

The blocks corresponding to the “1” bits of DATA-1 can be operated.

DATA-1/BIT-0 : TAPE TRANSPORT CONTROL

In the REMOTE mode, all the control buttons for the tape transfer system can be operated on the control panel.

For controlling the respective buttons individually, DATA-2 and DATA-3 bits correspond to the buttons the control panel.

[DATA-2]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
*	PREROLL	*	*	REC/EDIT	PLAY	STOP	STANDBY

* : Undefined

[DATA-3]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
*	*	*	*	*	VAR	JOG	SHTL/FF/REW

* : Undefined

42•F8 : STILL OFF TIME

42•FA :STANDBY OFF TIME

This command is used to set the STILL OFF TIME or STANDBY OFF TIMER.

DATA-1		DATA-2	
10 Second	1 Second	10 Minute	1 Minute
MSD	LSD	MSD	LSD

Note

For HDW-500/F500/250, and SRW-5000/5500, timer set which is available using Setup menu ITEM-501: STILL TIMER is rolled up to each second of 0.5, 5, 10, 20, 30, 40, 50 and to each minute of 1, 2, 3, 4, 5, 6, 7, 8 and 30.

61•0A : TC GEN DATA SENSE

This command is used for requesting the TIME CODE data that the DEVICE is generating. The DEVICE will make a response with the TIME CODE data according to the content of the DATA-1.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
			GEN UB				GEN TC

REQUEST COMMAND	RESPONSE COMMAND
DATA-1 = 01 : Request for GEN TC	“74•08 : GEN TIME DATA”
DATA-1 = 10 : Request for GEN UB	“74•09 : GEN UB DATA”
DATA-1 = 11 : Request for GEN TC&UB	“78•08 : GEN TC & UB DATA”

74•08 : GEN TC DATA

When the DEVICE receives the “61•0A : TC GEN DATA SENSE” command and its DATA-1 is “01”, the TC TIME data generated by the DEVICE will be added to DATA-1 through DATA-4 of the “74•08 : GEN TIME DATA” command.

For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

78•08 : GEN TC & UB DATA

When the DEVICE receives the “61•0A : TC GEN DATA SENSE” command and its DATA-1 is “11”, the TIME DATA will be added to DATA-1 through DATA-4 of the “74•08 : GEN TIME DATA” command and the USER’S BIT DATA will be added to DATA-5 to DATA-8. For the data format, refer to the “24•31 : CUE UP WITH DATA” and “44•05 : USER’S BIT PRESET” commands.

74•09 : GEN UB DATA

When the DEVICE receives the “61•0A : TC GEN DATA SENSE” command and its DATA-1 is “10”, the TC UB data generated by the DEVICE will be added to DATA-1 through DATA-4 of the “74•09 : GEN UB DATA” command.

For the data format, refer to the “44•05 : USER’S BIT PRESET” command.

61·0C : CURRENT TIME SENSE

This command is used for requesting the TIME DATA or USER'S BIT. The DEVICE will make a response according to the content of DATA-1.

When accurate time data is requested in the normal playback mode, the following condition must be satisfied.

- Select external reference mode.
- CURRENT TIME SENSE command and its return must be completed within the field-2.

[DATA-1] The response command to the request command is as follows.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
		VITC UB	LTC UB		TIMER-1	VITC TIME	LTC TIME
MSB				LSB			

REQUEST DATA-1	01	02	03 *4	04	10	20	30 *4	11 *3	22 *3	33 *3,*4
RESPONSE										
74·00: TIMER-1 DATA				○						
74·04: LTC TIME DATA	○		○							
74·14: LTC INTERPOLATED TIME DATA	○		○							
74·05: LTC UB DATA					○		○			
78·04: LTC TIME & UB DATA								○		○
78·14: LTC INTERPOLATED TIME DATA & UB DATA								○		○
74·06: VITC TIME DATA		○ *1	○ *2							
74·16: VITC HOLD TIME DATA		○ *1	○ *2							
74·07: VITC UB DATA						○ *1	○ *2			
78·06: VITC TIME & UB DATA									○ *1	○ *2
78·16: VITC HOLD TIME & UB DATA									○ *1	○ *2

Notes

- *1) BVW-10/11/15/40 do not have the VITC READER, so they return “70·0D : REQUEST TIME DATA MISSING” command.
- *2) BVW-10/11/15/40 do not have the VITC READER, so they do not return the VITC DATA. (only LTC DATA)
BVW-35/50 and DVW-250 return the LTC DATA.
- *3) If the request DATA-1 equals to 11, 22 or 33, TIME DATA is returned by DATA-1 through DATA-4 and USER'S BIT DATA is returned by DATA-5 through DATA-8.
- *4) When VITC and LTC are requested at the same time, the USER'S BIT or TIME DATA to be returned is determined in accordance with the table shown below.

UB or TC reading		Return data
LTC	VITC	
OK	OK	LTC
NG	OK	VITC
OK	NG	LTC
NG	NG	LTC

74•00 : TIMER-1 DATA

When the DEVICE is required the TIMER-1 data by the “61•0C : CURRENT TIME SENSE” command, the TIMER-1 data (CTL COUNTER) will be added to DATA-1 through DATA-4.

At that time, the DF/NDF mode of TIMER-1 is set to BIT-6 of DATA-1.

For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

74•04 : LTC TIME DATA

When the DEVICE is required the LTC TIME DATA by the “61•0C : CURRENT TIMER SENSE” command, the LTC TIME DATA will be added to DATA-1 through DATA-4.

For the data format, refer to “24•31 : CUE UP WITH DATA” command.

78•04 : LTC TIME & UB DATA

When the DEVICE is required the LTC TIME DATA and USER’S BIT DATA by the “61•0C : CURRENT TIME SENSE” command, the LTC TIME DATA will be added to DATA-1 through DATA-4 and the LTC USER’S BIT DATA will be added to DATA-5 through DATA-8.

For the data format, refer to the “24•31 : CUE UP WITH DATA” and “44•05 : USER’S BIT PRESET” commands.

74•05 : LTC UB DATA

The DEVICE is required the LTC USER’S BIT DATA by the “61•0C : CURRENT TIMER SENSE” command, the LTC USER’S BIT DATA will be added to DATA-1 through DATA-4.

For the data format, refer to the “44•05 : U-BIT PRESET” command.

74•06 : VITC TIME DATA

The DEVICE is required the VITC TIME DATA by the “61•0C : CURRENT TIME SENSE” command, the VITC TIME DATA will be added to DATA-1 through DATA-4.

For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

78•06 : VITC TIME & UB DATA

When the DEVICE is required the VITC TIME DATA and USER’S BIT DATA by “61•0C : CURRENT TIME SENSE” command, the VITC TIME DATA will be added to DATA-1 through DATA-4 and the VITC USER’S BIT DATA will be added to DATA-5 through DATA-8.

For the data format, refer to the “24•31 : CUE UP WITH DATA” or “44•05 : USER’S BIT PRESET” command.

74•07 : VITC UB DATA

The DEVICE is required the VITC USER’S BIT DATA by the “61•0C : CURRENT TIME SENSE” command, the VITC USER’S BIT DATA will be added to DATA-1 through DATA-4.

For the data format, refer to the “44•05 : U-BIT PRESET” command.

70•0D : REQUEST TIME DATA MISSING

When the DEVICE receives an inadequate request (DATA-1 is undefined or mismatched) by the “61•0C : CURRENT TIME SENSE” command, the DEVICE returns this command to the CONTROLLER.

74•14 : LTC INTERPOLATED TIME DATA

When the DEVICE is required the LTC TIME DATA by the “61•0C : CURRENT TIME SENSE” command, the LTC TIME DATA will be added to DATA-1 through DATA-4 for return. This means that LTC TIME DATA is interpolated with the CTL.
For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

78•14 : LTC INTERPOLATED TIME & UB DATA

When the DEVICE is required the LTC TIME DATA and USER’S BIT DATA by the “61•0C : CURRENT TIME SENSE” command, the LTC TIME DATA and LTC USER’S BIT DATA will be added to DATA-1 through DATA-4 and to DATA-5 through DATA-8, respectively for return. This means that LTC TIME DATA is interpolated with the CTL.
For the data format, refer to the “24•31 : CUE UP WITH DATA” and “44•05 : USER’S BIT PRESET” commands.

74•16 : VITC HOLD TIME DATA

The DEVICE is required the VITC TIME DATA by the “61•0C : CURRENT TIME SENSE” command and it is not read correctly, the VITC TIME DATA will be added to DATA-1 through DATA-4.
For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

78•16 : VITC HOLD TIME & UB DATA

The DEVICE is required the VITC TIME DATA and USER’S BIT DATA by the “61•0C : CURRENT TIME SENSE” command and it is not read correctly, the VITC USER’S BIT DATA will be added to DATA-1 through DATA-4 and the VITC USER’S BIT DATA will be added to DATA-5 through DATA-8.
For the data format, refer to the “24•31 : CUE UP WITH DATA” and “44•05 : USER’S BIT PRESET” commands.

60•10 : IN DATA SENSE
60•11 : OUT DATA SENSE
60•12 : A IN DATA SENSE
60•13 : A OUT DATA SENSE

These commands are used for requesting the IN/OUT DATA and the AUDIO IN or AUDIO OUT DATA.

For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

REQUEST COMMAND		RESPONSE COMMAND
60•10 : IN DATA SENSE	————	74•10 : IN DATA
60•11 : OUT DATA SENSE	————	74•11 : OUT DATA
60•12 : A IN DATA SENSE	————	74•12 : A IN DATA
60•13 : A OUT DATA SENSE	————	74•13 : A OUT DATA

74•10 : IN DATA

When the DEVICE receives the “60•10 : IN DATA SENSE” command, the IN DATA will be added to DATA-1 through DATA-4 of the “74•10 : IN DATA” command.

For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

74•11 : OUT DATA

When the DEVICE receives the “60•11 : OUT DATA SENSE” command, the OUT DATA will be added to DATA-1 through DATA-4 of the “74•11 : OUT DATA” command.

For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

74•12 : A IN DATA

When the DEVICE receives the “60•12 : A IN DATA SENSE” command, the AUDIO IN DATA will be added to DATA-1 through DATA-4 of the “74•12 : A IN DATA” command.

For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

74•13 : A OUT DATA

When the DEVICE receives the “60•13 : A OUT DATA SENSE” command, the AUDIO OUT DATA will be added to DATA-1 through DATA-4 of the “74•13 : A OUT DATA” command.

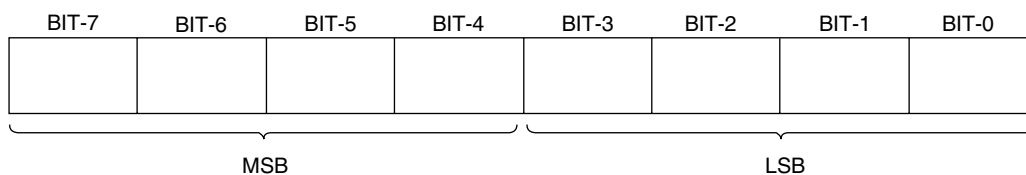
For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

61·20 : STATUS SENSE

This command is used for requesting the status of the DEVICE.

It specifies the data to be sent back by the “7X·20 : STATUS DATA” command according to DATA-1 added to this command.

[DATA-1]



MSD (BIT-7 to 4) : Indicates the starting DATA No. of the data to be sent back.

LSD (BIT-3 to 0) : Indicates the number of data bytes (1H to FH) to be sent back.

EX. When the DATA-1 of the “61•20 : STATUS SENSE” command is “2A”.

The STATUS DATA of the DEVICE will send back ten bytes from the DATA No.2, i. e. DATA No.2 to DATA No.B.

7X·20 : STATUS DATA

When the DEVICE receives the “61*20 : STATUS SENSE” command, the following data will be sent back in accordance with the request.

BVW-10/11/15/35/40/50 STATUS DATA

	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DATA No. 0			CASSETTE OUT		TAPE TROUBLE *3	HARD ERROR		LOCAL *4
DATA No. 1	STANDBY ON	TENSION RELEASE *5	STOP	EJECT	REW	F.FWD	REC *1	PLAY
DATA No. 2	SERVO LOCK	TSO	SHUTTLE	JOG	VAR	TAPE DIRECTION	STILL	CUE UP COMPLETE
DATA No. 3	AUTO MODE						OUT	IN
DATA No. 4	SELECT EE ON *1	FULL EE ON *1		EDIT *1				PREROLL OR CUE UP
DATA No. 5		INSERT *1	ASSEMBLE *6	VIDEO *6		TIME CODE *6	AUDIO CH-2 *1	AUDIO CH-1 *1
DATA No. 6								
DATA No. 7								
DATA No. 8				END OF TAPE *3	COLOR FRAME LOCK *7			REC INHIBIT *2
DATA No. 9								
DATA No. A								
DATA No. B								
DATA No. C								
DATA No. D								
DATA No. E								
DATA No. F								

Notes

- *1) BVW-10/11/15 do not set this bit.
- *2) BVW-10/11/15 always set this bit.
- *3) BVW-10/11/15/40 do not set this bit.
- *4) BVW-35/50 do not set this bit.
- *5) BVW-11 only.
- *6) BVW-40 only.
- *7) BVW-50 only.

BVW-60/65/70/75/D75/85P/95/96/D265/9000 STATUS DATA

	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DATA No. 0			CASSETTE OUT	REF VD MISSING		HARD ERROR		LOCAL
DATA No. 1	STANDBY ON	TENSION RELEASE	STOP	EJECT	REW	F.FWD	REC *1	PLAY
DATA No. 2	SERVO LOCK	TSO	SHUTTLE	JOG	VAR	TAPE DIRECTION	STILL	CUE UP COMPLETE
DATA No. 3	AUTO MODE				AUDIO OUT	AUDIO IN	OUT	IN
DATA No. 4	SELECT EE ON *1	FULL EE ON *1		EDIT *1	REVIEW *1	AUTO EDIT *1	PREVIEW	PREROLL OR CUE UP
DATA No. 5		INSERT *1	ASSEMBLE *1	VIDEO *1		TIME CODE *1	AUDIO CH-2 *1	AUDIO CH-1 *1
DATA No. 6								
DATA No. 7	VARIABLE MEMORY *2	VAR MEMORY ACTIVE *2	AUDIO SPLIT					IN/OUT STATUS
DATA No. 8		LOST LOCK		END OF TAPE	COLOR FRAME LOCK			REC INHIBIT *3
DATA No. 9								
DATA No. A								
DATA No. B								
DATA No. C							DA2 *4	DA1 *4
DATA No. D								
DATA No. E								
DATA No. F								

Notes

- *1) BVW-60/65/95 do not set this bit.
- *2) BVW-60/70, which do not have DT HEAD do not set this bit.
- *3) BVW-60/65/95 always set this bit.
- *4) BVW-85P only.

DVW series STATUS DATA

	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DATA No. 0			CASSETTE OUT	REF VD MISSING		HARD ERROR		LOCAL *3
DATA No. 1	STANDBY ON	TENSION RELEASE *3	STOP	EJECT	REW	F.FWD	REC *1	PLAY
DATA No. 2	SERVO LOCK	TSO MODE	SHUTTLE	JOG	VAR	TAPE DIRECTION	STILL	CUE UP COMPLETE
DATA No. 3	AUTO MODE	FREEZE ON			AUDIO OUT *3	AUDIO IN *3	OUT	IN
DATA No. 4	SELECT EE ON *1	FULL EE ON *1		EDIT *1	REVIEW *1	AUTO EDIT *1	PREVIEW	PREROLL OR CUE UP
DATA No. 5		INSERT *1	ASSEMBLE *1	VIDEO *1		TIME CODE *1	AUDIO CH-2 (CUE) *1	AUDIO CH-1 (CUE) *1
DATA No. 6		LAMP STILL	LAMP FWD	LAMP REV				
DATA No. 7	VARIABLE MEMORY *3	VAR MEMORY ACTIVE *3	AUDIO SPLIT *1 *3	SYNC ACTIVE *3				IN/OUT STATUS
DATA No. 8		LOST LOCK		END OF TAPE	COLOR FRAME LOCK			REC INHIBIT *2
DATA No. 9								
DATA No. A								
DATA No. B								
DATA No. C					DA4 *1	DA3 *1	DA2 *1	DA1 *1
DATA No. D	TAPE TOP *4	TAPE END *4	THREAD *4					
DATA No. E								
DATA No. F								

Notes

- *1) DVW-510/A510 do not set this bit.
- *2) DVW-510/A510 always set this bit.
- *3) DVW-250 does not set this bit.
- *4) DVW-2000/M2000 only.

DNW series STATUS DATA

	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DATA No. 0			CASSETTE OUT	REF VD MISSING		HARD ERROR		LOCAL
DATA No. 1	STANDBY ON	TENSION RELEASE	STOP	EJECT	REW	F.FWD	REC *1	PLAY
DATA No. 2	SERVO LOCK	TSO MODE	SHUTTLE	JOG	VAR	TAPE DIRECTION	STILL	CUE UP COMPLETE
DATA No. 3	AUTO MODE	FREEZE ON *4			AUDIO OUT	AUDIO IN	OUT	IN
DATA No. 4	SELECT EE ON *1	FULL EE ON *1		EDIT *1	REVIEW *1	AUTO EDIT *1	PREVIEW *1	PREROLL OR CUE UP
DATA No. 5		INSERT *1	ASSEMBLE *1	VIDEO *1		TIME CODE *1	AUDIO CH-2 *1	AUDIO CH-1 *1
DATA No. 6		LAMP STILL	LAMP FWD	LAMP REW				
DATA No. 7	VARIABLE MEMORY *4	VAR MEMORY ACTIVE *4	AUDIO SPLIT	SYNC ACTIVE				IN/OUT STATUS
DATA No. 8		LOST LOCK		END OF TAPE	COLOR FRAME LOCK			REC INHIBIT *2
DATA No. 9								
DATA No. A			FEED EXECUTE *3		FEED READY *3	FEED MODE *3		
DATA No. B								
DATA No. C					DA4 *1	DA3 *1	DA2 *1	DA1 *1
DATA No. D								
DATA No. E								
DATA No. F								

Notes

- *1) This bit is not set in the player device (DNW-30/A30/65/A65).
- *2) This bit is always set in the player device (DNW-30/A30/65/A65).
- *3) This bit is not set in DNW-A25/30/A30/A45/A50/A220.
- *4) This bit is not set in DNW-A25/30/A30/A45/A50/A100/A220.

HDW/MSW series STATUS DATA

Note

See next page for HDW-500/F500/250.

	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DATA No. 0			CASSETTE OUT	REF VD MISSING		HARD ERROR		LOCAL
DATA No. 1	STANDBY ON	TENSION RELEASE	STOP	EJECT	REW	F.FWD	REC *1	PLAY
DATA No. 2	SERVO LOCK	TSO MODE *5	SHUTTLE	JOG	VAR	TAPE DIRECTION	STILL	CUE UP COMPLETE
DATA No. 3	AUTO MODE	FREEZE ON *5			AUDIO OUT *5	AUDIO IN *5	OUT	IN
DATA No. 4	SELECT EE ON *1	FULL EE ON *1		EDIT *1	REVIEW *1	AUTO EDIT *1	PREVIEW *1	PREROLL OR CUE UP
DATA No. 5		INSERT *4	ASSEMBLE *1	VIDEO *4		TIME CODE *4	AUDIO CH-2 *4	AUDIO CH-1 *4
DATA No. 6		LAMP STILL	LAMP FWD	LAMP REW				
DATA No. 7	VARIABLE MEMORY *5	VAR MEMORY ACTIVE *5	AUDIO SPLIT *5	SYNC ACTIVE				IN/OUT STATUS
DATA No. 8		LOST LOCK		END OF TAPE	COLOR FRAME LOCK *5			REC INHIBIT *2
DATA No. 9								
DATA No. A			FEED EXECUTE *5		FEED READY *5	FEED MODE *5		
DATA No. B								
DATA No. C	DA8 *3	DA7 *3	DA6 *3	DA5 *3	DA4 *4	DA3 *4	DA2 *4	DA1 *4
DATA No. D	TAPE TOP	TAPE END	THREAD					
DATA No. E								
DATA No. F								

Notes

- *1) This bit is not set in the player device (HDW-A2100/M2100, MSW-M2100/M2100E).
- *2) This bit is always set in the player device (HDW-A2100/M2100, MSW-M2100/M2100E).
- *3) MSW-2000/A2000/M2000/M2000E only.
- *4) This bit is not set in the player device (HDW-A2100/M2100, MSW-M2100/M2100E) and HDW-S280.
- *5) This bit is not set in HDW-S280.

HDW-500/F500/250 STATUS DATA

	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DATA No. 0			CASSETTE OUT	REF VD MISSING		HARD ERROR		LOCAL *1
DATA No. 1	STANDBY ON	TENSION RELEASE *1	STOP	EJECT	REW	F.FWD	REC	PLAY
DATA No. 2	SERVO LOCK	TSO MODE *1	SHUTTLE	JOG	VAR	TAPE DIRECTION	STILL	CUE UP COMPLETE
DATA No. 3	AUTO MODE	FREEZE ON		CF MODE	AUDIO OUT *1	AUDIO IN *1	OUT	IN
DATA No. 4	SELECT EE ON	FULL EE ON		EDIT	REVIEW	AUTO EDIT	PREVIEW	PREROLL OR CUE UP
DATA No. 5		INSERT *1	ASSEMBLE	VIDEO		TIME CODE	A2 (CUE)	A1 (CUE)
DATA No. 6		LAMP STILL	LAMP FWD	LAMP REV				
DATA No. 7	VARIABLE MEMORY *1	VAR MEMORY ACTIVE *1	AUDIO SPLIT *1	SYNC ACTIVE *1				IN/OUT STATUS
DATA No. 8	BUZZER ON	LOST LOCK	NEAR EOT	END OF TAPE	COLOR FRAME LOCK	SERVO ALARM	SYSTEM ALARM	REC INHIBIT
DATA No. 9	FUNCTION ABORT			VIDEO LACK *1				
DATA No. A								
DATA No. B			DT FLD/FRM *1					
DATA No. C					DA4	DA3	DA2	DA1
DATA No. D	TAPE TOP	TAPE END	THREAD					

Notes

*1) HDW-250 do not set this bit.

SRW series STATUS DATA

	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DATA No. 0			CASSETTE OUT	SERVO REF. MIS		HARD ERROR		LOCAL
DATA No. 1	STANDBY ON	TENSION RELEASE	STOP	EJECT	REW	F.FWD	REC	PLAY
DATA No. 2	SERVO LOCK	TSO MODE	SHUTTLE	JOG	VAR	TAPE DIRECTION	STILL	CUE UP COMPLETE
DATA No. 3	AUTO MODE	FREEZE ON		CF MODE	AUDIO OUT	AUDIO IN	OUT	IN
DATA No. 4	SELECT EE ON	FULL EE ON		EDIT	REVIEW	AUTO EDIT	PREVIEW	PREROLL OR CUE UP
DATA No. 5		INSERT	ASSEMBLE	VIDEO		TIME CODE	A2(CUE)	A1(CUE)
DATA No. 6		STILL LED ON	FWD LED ON	REV LED ON				
DATA No. 7	VARIABLE MEMORY	VAR MEMORY ACTIVE	AUDIO SPLIT	SYNC ACTIVE				IN/OUT STATUS
DATA No. 8	BUZZER ON	LOST LOCK	NEAR EOT	END OF TAPE	COLOR FRAME LOCK	SERVO ALARM	SYSTEM ALARM	REC INHIBIT
DATA No. 9	FUNCTION ABORT			VIDEO LACK				
DATA No. A								
DATA No. B			DT FLD/FRM					
DATA No. C	DA8	DA7	DA6	DA5	DA4	DA3	DA2	DA1
DATA No. D	TAPE TOP	TAPE END	THREAD					
DATA No. E					DA12	DA11	DA10	DA9
DATA No. F								

J-1/2/3/H3/10/10SDI/30/30SDI STATUS DATA

	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DATA No. 0			CASSETTE OUT	REF VD MISSING		HARD ERROR		
DATA No. 1	STANDBY ON		STOP	EJECT	REW	F.FWD		PLAY
DATA No. 2	SERVO LOCK		SHUTTLE	JOG	VAR	TAPE DIRECTION	STILL	CUE UP COMPLETE
DATA No. 3					AUDIO OUT	AUDIO IN	OUT	IN
DATA No. 4								PREROLL OR CUE UP
DATA No. 5								
DATA No. 6		LAMP STILL	LAMP FWD	LAMP REW				
DATA No. 7			AUDIO SPLIT					
DATA No. 8				END OF TAPE				REC INHIBIT *1
DATA No. 9								
DATA No. A								
DATA No. B								
DATA No. C								
DATA No. D								
DATA No. E								
DATA No. F								

Note

*1) This bit is always set in player device.

STATUS DATA No.0

BIT-5 : CASSETTE OUT

This bit will be set to “1” when there is no cassette threading on the DEVICE.

BIT-4 : REFERENCE VIDEO MISSING

This bit will be set to “1” when the REFERENCE VIDEO is not detected on the REF VIDEO IN connector panel.

BIT-3 : TAPE TROUBLE

This bit will be set to “1” when the trouble is occurred (the tape is sticking to the drum, the tape is slackening and so on).

For details, refer to the maintenance manual “SELF DIAGNOSTICS”, etc.

BIT-2 : HARD ERROR

This bit will be set to “1” when the following troubles (the tape is sticking to the drum, the tape is slackening and so on).

For details, refer to the maintenance manual “SELF DIAGNOSTICS”, etc.

BIT-0 : LOCAL

This bit will be set to “1” when the REMOTE/LOCAL switch on the front panel is set to “LOCAL”.

However, for the DVW series (except DVW-250), DNW series (except DNW-A25/A28/A220), HDW series (except HDW-250), MSW series, and SRW series this bit will be set to “1” when the “REMOTE1 (9P)” indicator of front panel is off.

STATUS DATA No.1

BIT-7 : STANDBY

This bit will be set to “1” when the DEVICE is in the STANDBY ON mode.

BIT-6 : TENSION RELEASE

This bit will be set to “1” when the DEVICE is in the TENSION RELEASE mode.

BIT-5 : STOP

This bit will be set to “1” when the DEVICE receives the “20•00 : STOP” command and goes into the STOP mode.

BIT-4 : EJECT

This bit will be set to “1” when the DEVICE receives the “20•0F : EJECT” command and goes into the EJECT mode.

BIT-3 : REW

This bit will be set to “1” when the DEVICE receives the “20•20 : REWIND” command and goes into the REWIND mode.

BIT-2 : F.FWD

This bit will be set to “1” when the DEVICE receives the “20•10 : FAST FWD” command and goes into the FAST FORWARD mode.

BIT-1 : REC

This bit will be set to “1” when the DEVICE receives the “20•02 : REC” command and goes into the REC mode.

This bit will also be set to “1” when “DATA No.4/BIT-4 EDIT” is set to “1”.

BIT-0 : PLAY

This bit will be set to “1” when the DEVICE receives the “20•01 : PLAY”, “20•02: REC” or “20•65 : EDIT ON” command and goes into the PLAY, REC or EDIT mode.

This bit will be also set to “1” when the DEVICE is in the CAPSTAN OVERRIDE mode.

STATUS DATA No.2

BIT-7 : SERVO LOCK

This bit will be set to “1” when the DEVICE is in the condition that the drum and the capstan servos are locked in the PLAY mode.

BIT-6 : TSO MODE

This bit will be set to “1” when the DEVICE is in the CAPSTAN OVERRIDE mode.

BIT-5 : SHUTTLE

This bit will be set to “1” when the DEVICE receives the “2X•13 : SHUTTLE FWD” or “2X•23 : SHUTTLE REV” command and goes into the SHUTTLE mode.

BIT-4 : JOG

This bit will be set to “1” when the DEVICE receives the “2X•11 : JOG FWD” or “2X•21 : JOG REV” command and goes into the JOG mode.

BIT-3 : VAR

This bit will be set to “1” when the DEVICE is in the following mode.
(“2X•12 : VAR FWD” or “2X•23 : VAR REV” command is received.)

- VAR mode
- CAPSTAN OVERRIDE mode

BIT-2 : TAPE DIRECTION

This bit shows the tape direction defined in the DEVICE.

0 = FWD

1 = REV

BIT-1 : STILL

This bit will be set to “1” when the DEVICE is in the STILL mode of SHUTTLE/JOG/VAR.

This bit will be set to “0” when DEVICE is in the STOP mode.

BIT-0 : CUE UP COMPLETE

This bit will be set to “1” when the DEVICE receives “20•30 : PREROLL” or “24•31 : CUE UP WITH DATA” command and then cue-up operation is completed.

STATUS DATA No.3

BIT-7: AUTO MODE

This bit will be set to “1” when the DEVICE receives the “40•41 : AUTO MODE ON” command.

BIT-6 : FREEZE ON

This bit is set to “1” when the DEVICE receives the “20•6B : FREEZE ON” command and enters into the FREEZE mode.

BIT-4 : CF MODE

This bit is set to “1” when the DEVICE has received the “41•35 : COLOR FRAME SELECT” command and selected the COLOR FRAME in the REMOTE mode, or when the DEVICE has selected 4F LOCK or 4F HOLD using ITEM-004 : CAPSTAN LOCK select of the setup menu in the LOCAL mode.

BIT-3 : AUDIO OUT

BIT-2 : AUDIO IN

BIT-1 : OUT

BIT-0 : IN

When the DEVICE receives ENTRY, PRESET and RECALL commands of each editing point (IN, OUT, AUDIO IN or AUDIO OUT), the corresponding bit will be set to “1”, and TIMER-1 or TIME CODE data is memorized.

STATUS DATA No.4

BIT-7 : SELECT EE ON

This bit will be set to “1” when the DEVICE receives the “41•30 : EDIT PRESET” command and further receives the “20•63 : SELECT EE ON” command.

BIT-6 : FULL EE ON

This bit will be set to “1” when the DEVICE receives the “20•61 : FULL EE ON” command.

BIT-4 : EDIT

This bit will be set to “1” when the DEVICE is in the EDIT mode, and at the same time, the “DATA No. 1/BIT-1 : REC” is also set to “1”.

BIT-3 : REVIEW

This bit will be set to “1” when the DEVICE is in the REVIEW mode.

BIT-2 : AUTO EDIT

This bit will be set to “1” when the DEVICE is in the AUTO EDIT mode.

BIT-1 : PREVIEW

This bit will be set to “1” when the DEVICE is in the PREVIEW mode.

BIT-0 : PREROLL or CUE UP

This bit will be set to “1” when the DEVICE receives the “20•30 : PREROLL” or “24•31 : CUE UP WITH DATA” command and goes into the PREROLL and CUE-UP mode, and this bit will also be set to “1” when the PREROLL is performed in the AUTO EDIT or PREVIEW mode.

STATUS DATA No.5

BIT-6 : INSERT

BIT-5 : ASSEMBLE

BIT-4 : VIDEO

BIT-2 : TIME CODE (LTC)

BIT-1 : A2 (CUE)

BIT-0 : A1 (CUE)

When the DEVICE receives the “4X•30 : EDIT PRESET” command, these bits are set “1” in accordance with the content of DATA-1 added to this command.

Refer to “4X•30” : EDIT PRESET” command.

STATUS DATA No.6

BIT-6 : LAMP STILL

BIT-5 : LAMP FWD

BIT-4 : LAMP REV

When the DEVICE receives the SEARCH command, the each bit will be set to “1” according to the received command.

STATUS DATA No.7

BIT-7 : VAR MEMORY MODE

This bit will be set to “1” when the DEVICE receives the “40•47 : VAR MEM ON” command and goes into the VARIABLE MEMORY mode.

BIT-6 : VAR MEMORY ACTIVE

This bit will be set to “1” when the DEVICE receives the “40•47 : VAR MEM ON” command and memorizing in the VARIABLE MEMORY.

BIT-5 : AUDIO SPLIT

This bit will be set to “1” when the DEVICE receives the “40•45 : AUDIO SPLIT ON” command and goes into the AUDIO SPLIT mode.

BIT-4 : SYNC ACTIVE

This bit will be set to “1” when the DEVICE is in the SYNC PLAY mode.

BIT-0 : IN/OUT STATUS

This bit will be set to “1” when the DEVICE is in the PREVIEW or AUTO EDIT mode and the tape is running between the IN point and OUT point.

STATUS DATA No.8

BIT-7 : BUZZER ON

This bit is set to “1” when any abnormalities have occurred in CONTROLLED DEVICE, or when the tape has passed the IN point while executing DMC RUN or DMC PREVIEW.

BIT-6 : LOST LOCK

This bit will be set to “1” when the capstan or drum servo lock of the DEVICE is lost during the PLAY, REC or EDIT mode.

When the DEVICE receives the “40•2D : LOST LOCK RESET” command, this bit will be reset.

BIT-5 : NEAR END OF TAPE

This bit is set to “1” when remaining amount of tape on supply reel or takeup reel of DEVICE has reached about 120 seconds or less (L cassette) or about 80 seconds or less (S cassette).

BIT-4 : END OF TAPE

This bit will be set to “1” when the DEVICE detects BEGIN or END of the cassette tape.

BIT-3 : COLOR FRAME LOCK

This bit will be set to “1” when the DEVICE goes into the PLAY, REC or EDIT mode and the color framing is locked.

BIT-2 : SERVO ALARM

This bit is set to “1” when any abnormalities have occurred in either the servo system or sensor system of CONTROLLED DEVICE.

BIT-1 : SYSTEM ALARM

This bit is set to “1” when even one error in the internal ERROR STATUS of the DEVICE has occurred.

BIT-0 : REC INHIBIT

This bit will be set to “1” when the REC INHIBIT switch on the DEVICE is set to “1” or the REC INHIBIT plug on the cassette is set.

STATUS DATA No.9

BIT-7 : FUNCTION ABORT

This bit is set to “1” when servo lock is lost or synchronous lock has not completed at the 5th frame before VIDEO IN point or AUDIO IN point in the AUDIO EDIT or PREVIEW mode. This bit is also set to “1” when normal operation has not completed during CUE UP operation to the point where TC data is discontinuous.

BIT-4 : VIDEO LACK

This bit is set to “1” when playback output of VIDEO and DA-1 to DA-4 channels has completely lacked and the lack of data has continued for 12 frames or more.

STATUS DATA No.A**BIT-5 : FEED EXECUTE**

This bit is set to “1” when the DEVICE starts the FEED PLAY.

BIT-3 : FEED READY

This bit is set to “1” when the DEVICE can enter FEED PLAY in the FEED PLAY mode.

BIT-2 : FEED MODE

This bit is set to “1” when the DEVICE receives “43•3F: Δt PLAY RESET “ command, and enters the FEED PLAY mode.

STATUS DATA No.B**BIT-5 : DT FLD/FRM**

This bit is set to “1” when DT head trace mode is set to frame, and set to “0” when it is set to field.

STATUS DATA No.C**BIT-7 : DA8****BIT-6 : DA7****BIT-5 : DA6****BIT-4 : DA5****BIT-3 : DA4****BIT-2 : DA3****BIT-1 : DA2****BIT-0 : DA1**

When the DEVICE receives the “4X•30 : EDIT PRESET” command, these bits are set to “1” in accordance with the content of DATA-2 added to this command.

Refer to “4X•30 : EDIT PRESET” command.

STATUS DATA No.D**BIT-7 : TAPE TOP**

This bit is set to “1” when effective length of tape has been fully wound onto the supply reel.

BIT-6 : TAPE END

This bit is set to “1” when effective length of tape has been fully wound onto the takeup reel.

BIT-5 : THREAD

This bit is set to “1” when cassette is loading or unloading in CONTROLLED DEVICE.

STATUS DATA No.E

BIT-3 : DA12

BIT-2 : DA11

BIT-1 : DA10

BIT-0 : DA9

When the DEVICE receives the “4X.30 : EDIT PRESET” (“43.30”) command, these bits are set “1” in accordance with the content of DATA-3 added to this command.

Refer to “4X.30 : EDIT PRESET” command.

61•21 : EXTENDED VTR STATUS SENSE

This command is used to request the EXTENDED STATUS of the DEVICE.

And specifies the data to be sent back by the “7X.21 : EXTENDED VTR STATUS DATA” command according to DATA-1 added to this command.

[DATA-1]

Requests the data in the block corresponding to the bits set to “1” in DATA-1.

Note

The number of the bits that can be set to “1” are maximum three bits.

Therefore, the CONTROLLER can request 3 blocks at one time.

In case of the four or more bits are set to “1”, the 3 blocks (BLOCK0, BLOCK1, BLOCK2) will be sent back.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
BLOCK No.7	BLOCK No.6	BLOCK No.5	BLOCK No.4	BLOCK No.3	BLOCK No.2	BLOCK No.1	BLOCK No.0

7X•21 : EXTENDED VTR STATUS

When the DEVICE receives the “61.21 : EXTENDED VTR STATUS SENSE” command, the following data will be sent back in accordance with the request.

[DATA-1]

The bits corresponding to the requested data block are set to “1”.

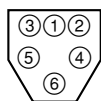
[DATA-2]

This is byte count of sending data.

(4-byte unit, maximum of 12 bytes)

BLOCK No.	DATA No.	BIT-7 (MSB)	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-7 (MSB)
0 SERVO STATUS	0	TAPE SPEED (LOWER BYTE)							
	1	TAPE DIR	TAPE SPEED (UPPER BYTE)						
	2	*	*	*	*	*	*	*	*
	3	*	*	*	*	*	*	*	*
1 ERROR STATUS	4	*	*	*	*	*	*	*	*
	5	*	*	*	*	*	*	*	*
	6	READ AFTER WRITE VERIFY ERROR LEVEL							
		AUDIO				VIDEO			
		VALID	ERROR LEVEL			VALID	ERROR LEVEL		
	7	AUDIO DATA ERROR LEVEL				VIDEO DATA ERROR LEVEL			
VALID		ERROR LEVEL			VALID	ERROR LEVEL			
2 TTP STATUS	8	*	*	*	*	*	*	*	*
	9	*	*	*	*	*	*	*	*
	A	CASSETTE IN/OUT	CASSETTE SIZE		CASSETTE COMP UP/DOWN	REEL POSITION		*	*
	B	TOTAL REC INHIBIT	(ID HOLE #6) *1	(ID HOLE #3) REEL HUB DIAMETER	(ID HOLE #1) OXIDE /METAL	(ID HOLE #2) TAPE THICKNESS	(ID HOLE #5) *1	(ID HOLE #4) *1	FORMAT *2
		C	*	*	*	*	*	*	
3	D	*	*	*	*	*	*	*	*
	E	*	*	*	*	*	*	*	*
	F	*	*	*	*	*	*	*	*
	4	10	*	*	*	*	*	*	*
11		*	*	*	*	*	*	*	*
12		*	*	*	*	*	*	*	*
13		*	*	*	*	*	*	*	*
5	14	*	*	*	*	*	*	*	*
	15	*	*	*	*	*	*	*	*
	16	*	*	*	*	*	*	*	*
	17	*	*	*	*	*	*	*	*
6	18	*	*	*	*	*	*	*	*
	19	*	*	*	*	*	*	*	*
	1A	*	*	*	*	*	*	*	*
	1B	*	*	*	*	*	*	*	*
7 OFF TIMER STATUS	1C	STILL OFF TIMER							
		MSD : 10 SECONDS				LSD : 1 SECOND			
	1D	STILL OFF TIMER							
		MSD : 10 MINUTES				LSD : 1 MINUTE			
	1E	STANDBY OFF TIMER							
		MSD : 10 SECONDS				LSD : 1 SECOND			
1F	STANDBY OFF TIMER								
	MSD : 10 MINUTES				LSD : 1 MINUTE				

VTR cassette tab sensor



- ① : ID HOLE #1
- ② : ID HOLE #2
- ③ : ID HOLE #3
- ④ : ID HOLE #4
- ⑤ : ID HOLE #5
- ⑥ : ID HOLE #6

* : Undefined

*1 : HDW-500/F500/250 only

*2 : Undefined yet for HDW-500/F500/250

BLOCK No.0 : SERVO STATUS**DATA No.0 : TAPE SPEED (LOWER)****DATA No.1 : TAPE SPEED (UPPER), TAPE DIRECTION**

These data indicates the tape running speed with the 15-bit data and the tape running direction with the 1 bit data.

When the tape in the DEVICE is running at +N (or -N) times normal speed, the value of following expression is expressed as a 15-bit straight binary code.

$$\begin{aligned}\text{TAPE SPEED DATA} &= N \times 500 \quad (0 \leq N \leq 60) \\ &= (N - 60) \times 50 + 30000 \quad (60 < N \leq 100)\end{aligned}$$

BIT-7 of DATA No.1 indicates the tape running direction.

DATA No.1/BIT-7 : “0” = FORWARD
 “1” = REVERSE

BLOCK No.1 : ERROR STATUS

DATA No.6 : READ AFTER WRITE VERIFY ERROR LEVEL

This data indicate error level with the difference between recorded data and CONF1 head data.

• VIDEO LEVEL

BIT-0 to BIT-2 indicate error level of video data, and BIT-3 is validity bit.

BIT-3	VALIDITY
0	INVALID
1	VALID

BIT-2	BIT-1	BIT-0	ERROR LEVEL
0	0	0	GOOD
1	0	0	NO GOOD

• AUDIO LEVEL

BIT-4 to BIT-6 indicate error level of audio data, and BIT-7 is validity bit.

BIT-7	VALIDITY
0	INVALID
1	VALID

BIT-6	BIT-5	BIT-4	ERROR LEVEL
0	0	0	GOOD
1	0	0	NO GOOD

DATA No.7 : AUDIO DATA ERROR LEVEL, VIDEO DATA ERROR LEVEL

This data indicate the error level of the playback data.

• VIDEO LEVEL

BIT-0 to BIT-2 indicate the error level of the video data, and BIT-3 is validity bit.

BIT-3	VALIDITY
0	INVALID
1	VALID

BIT-2	BIT-1	BIT-0	ERROR LEVEL
0	0	0	GOOD
0	1	0	INDETERMINABLE
0	1	1	DOUBTFUL*
1	0	0	NO GOOD

* : HDW-250/500/F500 only

• AUDIO LEVEL

BIT-4 to BIT-6 indicate error level of audio data, and BIT-7 is validity bit.

BIT-7	VALIDITY
0	INVALID
1	VALID

BIT-6	BIT-5	BIT-4	ERROR LEVEL
0	0	0	GOOD
0	1	0	INDETERMINABLE
0	1	1	DOUBTFUL*
1	0	0	NO GOOD

* : HDW-250/500/F500 only

BLOCK No.2 : TRANSPORT STATUS

DATA No.A/BIT-7 : CASSETTE IN/OUT

This bit is set to “0” when the cassette is ejected.

DATA No.A/BIT-6, 5: CASSETTE SIZE

These bits are set as shown below according to the size of the inserted cassette.

BIT-6	BIT-5	LEVEL
0	0	S-SIZE
0	1	L-SIZE
1	0	Undefined
1	1	Undefined

DATA No.A/BIT-4 : CASSETTE COMPARTMENT UP/DOWN

This bit is set to “1” when the cassette compartment is in the UP position or while it is operating.
It is set to “0” when it is in the DOWN position.

DATA No.A/BIT-3, 2 : REEL POSITION

These bits are set as shown below according to the position of the supply and take-up reels.

BIT-3	BIT-2	LEVEL POSITION
0	0	S-SIZE
0	1	L-SIZE
1	0	Undefined
1	1	Undefined

DATA No.B/BIT-7 : TOTAL REC INHIBIT

This bit is set to “1” when using a cassette set to the TOTAL REC INHIBIT mode.

DATA No.B/BIT-5 : REEL HUB DIAMETER (ID HOLE #3)

This bit is set to “1” when the reel hub diameter of the inserted cassette is small size.

DATA No.B/BIT-4 : OXIDE/METAL (ID HOLE #1)

This bit is set to “1” when the inserted cassette is used the oxide tape.
This bit is valid when analog tape is used.

DATA No.B/BIT-3 : TAPE THICKNESS (ID HOLE #2)

This bit is set to “1” when the tape thickness of the inserted cassette is the thick type tape.

DATA No.B/BIT-0 : FORMAT

This bit is set to “1” when the inserted cassette is for the along format.

BLOCK No.7 : OFF TIMER STATUS

DATA No.1C, 1D : STILL OFF TIMER

These data are set in accordance with the contents of the “42•F8 : STILL OFF TIME” command received by the CONTROLLER.

Refer to “42•F8 : STILL OFF TIME” command.

DATA No.1E, 1F : STANDBY OFF TIMER

These data are set in accordance with the contents of the “42•FA : STANDBY OFF TIME” command received by the CONTROLLER.

Refer to the “42•FA : STANDBY OFF TIME” command.

6X•23 : SIGNAL CONTROL DATA SENSE

This command is used to request the setting of the phase and input/output levels for the VIDEO/AUDIO signals of the DEVICE.

The data in the block corresponding to the bits set to “1” in DATA-1 and DATA-2 (In SRW series : DATA-1 to DATA-3) can be requested.

Note

The number of the bits that can be set to “1” are maximum three bits.

Therefore, the CONTROLLER can request 3 blocks at one time.

In case of the four or more bits are set to “1”, the 3 blocks (BLOCK0, BLOCK1, BLOCK2) will be sent back.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0	
BLOCK No.7	BLOCK No.6	BLOCK No.5	BLOCK No.4	BLOCK No.3	BLOCK No.2	BLOCK No.1	BLOCK No.0	VIDEO SET STATUS SENSE

[DATA-2]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0	
BLOCK No.F	BLOCK No.E	BLOCK No.D	BLOCK No.C	BLOCK No.B	BLOCK No.A	BLOCK No.9	BLOCK No.8	AUDIO SET STATUS SENSE

[DATA-3]

Available for SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0	
BLOCK No.17	BLOCK No.16	BLOCK No.15	BLOCK No.14	BLOCK No.13	BLOCK No.12	BLOCK No.11	BLOCK No.10	AUDIO SET STATUS SENSE

7X•23 : SIGNAL CONTROL DATA

When the DEVICE receives the “6X•23 : SIGNAL CONT DATA SENSE” command, the following data will be sent back in accordance with the request.

When the DEVICE receives the “62•23” command

[DATA-1, DATA-2]

The bits corresponding to the requested data block are set to “1”.

[DATA-3]

This is byte count of sending data.

(4-byte unit, maximum of 12 bytes)

When the DEVICE receives the “63•23” command (For SRW series only)

[DATA-1 through DATA-3]

The bits corresponding to the requested data block are set to “1”.

[DATA-4]

(4-byte unit, maximum of 12 bytes)

BLOCK No.	DATA No.	BIT-7 (MSB)	BIT-0 (LSB)
0	0	INPUT VIDEO SET LEVEL	(LOWER)
	1	INPUT VIDEO SET LEVEL	(UPPER)
	2	OUTPUT VIDEO SET LEVEL	(LOWER)
	3	OUTPUT VIDEO SET LEVEL	(UPPER)
1	4	OUTPUT SETUP LEVEL	
	5		
	6	OUTPUT CHROMA SET LEVEL	(LOWER)
	7	OUTPUT CHROMA SET LEVEL	(UPPER)
2	8	OUTPUT H SET PHASE	
	9		
	A	OUTPUT SC SET PHASE	(LOWER)
	B	OUTPUT SC SET PHASE	(UPPER)
3	C	OUTPUT SET HUE	
	D		
	E	OUTPUT VIDEO SET PHASE	
	F		
4	10		
	11		
	12		
	13		
5	14		
	15		
	16		
	17		
6	18		
	19		
	1A		
	1B		
7	1C		
	1D		
	1E		
	1F		

BLOCK No.	DATA No.	BIT-7 (MSB)	BIT-0 (LSB)
8	20	AUDIO 1 INPUT SET LEVEL	(LOWER)
	21	AUDIO 1 INPUT SET LEVEL	(UPPER)
	22	AUDIO 2 INPUT SET LEVEL	(LOWER)
	23	AUDIO 2 INPUT SET LEVEL	(UPPER)
9	24	AUDIO 3 INPUT SET LEVEL	(LOWER)
	25	AUDIO 3 INPUT SET LEVEL	(UPPER)
	26	AUDIO 4 INPUT SET LEVEL	(LOWER)
	27	AUDIO 4 INPUT SET LEVEL	(UPPER)
A	28	AUDIO 1 OUTPUT SET LEVEL	(LOWER)
	29	AUDIO 1 OUTPUT SET LEVEL	(UPPER)
	2A	AUDIO 2 OUTPUT SET LEVEL	(LOWER)
	2B	AUDIO 2 OUTPUT SET LEVEL	(UPPER)
B	2C	AUDIO 3 OUTPUT SET LEVEL	(LOWER)
	2D	AUDIO 3 OUTPUT SET LEVEL	(UPPER)
	2E	AUDIO 4 OUTPUT SET LEVEL	(LOWER)
	2F	AUDIO 4 OUTPUT SET LEVEL	(UPPER)
C	30		
	31		
	32		
	33		
D	34		
	35		
	36		
	37		
E	38	CUE INPUT SET LEVEL	(LOWER)
	39	CUE INPUT SET LEVEL	(UPPER)
	3A	CUE OUTPUT SET LEVEL	(LOWER)
	3B	CUE OUTPUT SET LEVEL	(UPPER)
F	3C	AUDIO OUTPUT SET PHASE	(LOWER)
	3D	AUDIO OUTPUT SET PHASE	(UPPER)
	3E		
	3F		

BLOCK No.	DATA No.	BIT-7 (MSB)	BIT-0 (LSB)
10	40	AUDIO 5 INPUT SET LEVEL	(LOWER)
	41	AUDIO 5 INPUT SET LEVEL	(UPPER)
	42	AUDIO 6 INPUT SET LEVEL	(LOWER)
	43	AUDIO 6 INPUT SET LEVEL	(UPPER)
11	44	AUDIO 7 INPUT SET LEVEL	(LOWER)
	45	AUDIO 7 INPUT SET LEVEL	(UPPER)
	46	AUDIO 8 INPUT SET LEVEL	(LOWER)
	47	AUDIO 8 INPUT SET LEVEL	(UPPER)
12	48	AUDIO 5 OUTPUT SET LEVEL	(LOWER)
	49	AUDIO 5 OUTPUT SET LEVEL	(UPPER)
	4A	AUDIO 6 OUTPUT SET LEVEL	(LOWER)
	4B	AUDIO 6 OUTPUT SET LEVEL	(UPPER)
13	4C	AUDIO 7 OUTPUT SET LEVEL	(LOWER)
	4D	AUDIO 7 OUTPUT SET LEVEL	(UPPER)
	4E	AUDIO 8 OUTPUT SET LEVEL	(LOWER)
	4F	AUDIO 8 OUTPUT SET LEVEL	(UPPER)
14	50	AUDIO 9 INPUT SET LEVEL	(LOWER)
	51	AUDIO 9 INPUT SET LEVEL	(UPPER)
	52	AUDIO 10 INPUT SET LEVEL	(LOWER)
	53	AUDIO 10 INPUT SET LEVEL	(UPPER)
15	54	AUDIO 11 INPUT SET LEVEL	(LOWER)
	55	AUDIO 11 INPUT SET LEVEL	(UPPER)
	56	AUDIO 12 INPUT SET LEVEL	(LOWER)
	57	AUDIO 12 INPUT SET LEVEL	(UPPER)
16	58	AUDIO 9 OUTPUT SET LEVEL	(LOWER)
	59	AUDIO 9 OUTPUT SET LEVEL	(UPPER)
	5A	AUDIO 10 OUTPUT SET LEVEL	(LOWER)
	5B	AUDIO 10 OUTPUT SET LEVEL	(UPPER)
17	5C	AUDIO 11 OUTPUT SET LEVEL	(LOWER)
	5D	AUDIO 11 OUTPUT SET LEVEL	(UPPER)
	5E	AUDIO 12 OUTPUT SET LEVEL	(LOWER)
	5F	AUDIO 12 OUTPUT SET LEVEL	(UPPER)

BLOCK No.0

DATA No.0, 1 : INPUT VIDEO SET LEVEL

The video level data (00•40 : fixed) of the input video signal are set.

DATA No.2, 3 : OUTPUT VIDEO SET LEVEL

The video level data of the output video signal are set by the “4X•91 : OUTPUT VIDEO SIGNAL” command received from the CONTROLLER.

Refer to the “4X•91 : OUTPUT VIDEO LEVEL” command.

BLOCK No.1

DATA No.4 : OUTPUT SETUP (BLACK) LEVEL

The setup (black) level data of the output video signal are set by the “4X•92 : OUTPUT SETUP LEVEL” command received from the CONTROLLER.

Refer to the “4X•92 : OUTPUT SETUP LEVEL” command.

DATA No.6, 7 : OUTPUT CHROMA SET LEVEL

The chroma set level data of the output video signal are set by the “4X•93 : OUTPUT CHROMA LEVEL” command received from the CONTROLLER.

Refer to the “4X•93 : OUTPUT CHROMA LEVEL” command.

BLOCK No.2

DATA No.8 : OUTPUT H SET PHASE

The H phase control data of the output video signal are set by the “4X•98 : OUTPUT H PHASE” command received from the CONTROLLER.

Refer to the “4X•98 : OUTPUT H PHASE” command.

DATA No.A, B : OUTPUT SC PHASE

The SC phase control data of the output video signal are set by the “4X•99 : OUTPUT SC PHASE” command received from the CONTROLLER. (for HDW/SRW series FINE PHASE CONTROL DATA)

Refer to the “4X•99 : OUTPUT SC PHASE” command.

BLOCK No.3

DATA No.C : OUTPUT SET HUE (CHROMA PHASE)

The HUE data (Burst Chroma Phase) of the output video signal are set by the “4X•9A : OUTPUT VIDEO HUE” command received from the CONTROLLER.

Refer to the “4X•9A : OUTPUT VIDEO HUE” command.

DATA No.E : OUTPUT VIDEO SET PHASE

The video phase control data (00 : fixed) of the output video signal are set.

BLOCK No.8
BLOCK No.9
BLOCK No.10
BLOCK No.11
BLOCK No.14
BLOCK No.15

DATA No.20, 21 : AUDIO 1 INPUT SET LEVEL
DATA No.22, 23 : AUDIO 2 INPUT SET LEVEL
DATA No.24, 25 : AUDIO 3 INPUT SET LEVEL
DATA No.26, 27 : AUDIO 4 INPUT SET LEVEL
DATA No.40, 41 : AUDIO 5 INPUT SET LEVEL
DATA No.42, 43 : AUDIO 6 INPUT SET LEVEL
DATA No.44, 45 : AUDIO 7 INPUT SET LEVEL
DATA No.46, 47 : AUDIO 8 INPUT SET LEVEL
DATA No.50, 51 : AUDIO 9 INPUT SET LEVEL
DATA No.52, 53 : AUDIO 10 INPUT SET LEVEL
DATA No.54, 55 : AUDIO 11 INPUT SET LEVEL
DATA No.56, 57 : AUDIO 12 INPUT SET LEVEL

The audio input level control data are set by the “4X•A0 : AUDIO INPUT LEVEL” command received from the CONTROLLER.

Refer to the “4X•A0 : AUDIO INPUT LEVEL” command.

BLOCK No.A
BLOCK No.B
BLOCK No.12
BLOCK No.13
BLOCK No.16

DATA No.28, 29 : AUDIO 1 OUTPUT SET LEVEL
DATA No.2A, 2B : AUDIO 2 OUTPUT SET LEVEL
DATA No.2C, 2D : AUDIO 3 OUTPUT SET LEVEL
DATA No.2E, 2F : AUDIO 4 OUTPUT SET LEVEL
DATA No.48, 49 : AUDIO 5 OUTPUT SET LEVEL
DATA No.4A, 4B : AUDIO 6 OUTPUT SET LEVEL
DATA No.4C, 4D : AUDIO 7 OUTPUT SET LEVEL
DATA No.4E, 4F : AUDIO 8 OUTPUT SET LEVEL
DATA No.58, 59 : AUDIO 9 OUTPUT SET LEVEL
DATA No.5A, 5B : AUDIO 10 OUTPUT SET LEVEL
DATA No.5C, 5D : AUDIO 11 OUTPUT SET LEVEL
DATA No.5E, 5F : AUDIO 12 OUTPUT SET LEVEL

The audio output level control data are set by the “4X•A1 : AUDIO OUTPUT LEVEL” command received from the CONTROLLER.

Refer to the “4X•A1 : AUDIO OUTPUT LEVEL” command.

BLOCK No.E**DATA No.38, 39 : CUE INPUT SET LEVEL**

The cue input level control data are set by the “4X•A0 : AUDIO INPUT LEVEL” command received from the CONTROLLER.

Refer to the “4X•A0 : AUDIO INPUT LEVEL” command.

DATA No.3A, 3B : CUE OUTPUT SET LEVEL

The cue output level control data are set by the “4X•A1 : AUDIO OUTPUT LEVEL” command received from the CONTROLLER.

Refer to the “4X•A1 : AUDIO OUTPUT LEVEL” command.

BLOCK No.F**DATA No.3C, 3D : AUDIO OUTPUT SET PHASE**

The audio output phase control data are set by the “4X•A8 : AUDIO OUTPUT PHASE” command received from the CONTROLLER.

Refer to the “4X•A8 : AUDIO OUTPUT PHASE” command.

61•24 : SUPPORTED SIGNAL SENSE

This command requests the SUPPORTED SIGNAL data of the DEVICE.
Designate kind of data to require, Video or Audio by means of DATA-1.

[DATA-1 : Audio/Video]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
0	0	0	0	0	0	Audio	Video

BIT-1	BIT-0	
0	1	REQUEST SUPPORTED VIDEO SIGNAL
1	0	REQUEST SUPPORTED AUDIO CHANNEL

(Don't make a set for BIT-1 and BIT-0 using ones other than above codes.)

7X•24 : SUPPORTED SIGNAL

When the DEVICE receives the “61•24 : SUPPORTED SIGNAL SENSE” command, the data shown below will be sent back in accordance with the request.
When undefined data is specified in BIT-1 and BIT-0 of “61•24” command, the “70•24” command will be sent back.

When DATA-1 of “61•24” command is 01H (video), data block supported by DATA-1 of “73•24” will be returned.

Supported channel bit is set to “1” as follows.

The “62•25 : VIDEO CONTROL DATA SENSE” command is used to request the block informations.

[DATA-1 (supported block)]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
BLOCK No.3	BLOCK No.2	BLOCK No.1	BLOCK No.0	0	0	0	0

BIT-7	BIT-6	BIT-5	BIT-4	BLOCK
0	0	0	1	COMPOSITE
0	0	1	0	Y/P _B /P _R or Y/C _B /C _R
0	1	0	0	G/B/R
1	0	1	0	HD Y/P _B /P _R

When DATA-1 of “61•24” command is 02H (AUDIO), audio data supported by DATA-1/ DATA-2 of “72•24” command (In SRW series : DATA-1 to DATA-3 of “73•24” command) will be returned.

The “62•26 : AUDIO CONTROL SENSE” command is used to request channel control data.

[DATA-1 (Aux audio channel)]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
Monitor (R)	Monitor (L)			Aux-4 (Cue4)	Aux-3 (Cue3)	Aux-2 (Cue2)	Aux-1 (Cue1)

[DATA-2 (Main audio channel)]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
CH-8	CH-7	CH-6	CH-5	CH-4	CH-3	CH-2	CH-1

Supported channel bit is set to “1”.

[DATA-3 (Main audio channel)]

Available for SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				CH-12	CH-11	CH-10	CH-9

Supported channel bit is set to “1”.

62•25 : VIDEO CONTROL DATA SENSE

This command specifies the data to be sent back by the “7X•25 : VIDEO CONTROL DATA” command according to the state of DATA-1 and DATA-2.

[DATA-1]

MSD (BIT-7 to 4) : indicates the block of the VIDEO CONTROL DATA.

LSD (BIT-3 to 0) : indicates the number of data bytes (1H to FH) to be sent back.

Don't make a set for BIT-7 and BIT-4 using ones other than codes below.

BIT-7	BIT-6	BIT-5	BIT-4	BLOCK
0	0	0	1	COMPOSITE
0	0	1	0	Y/P _B /P _R or Y/C _B /C _R
0	1	0	0	G/B/R
1	0	1	0	HD Y/P _B /P _R

[DATA-2]

Indicate starting DATA No. for return.

7X•25 : VIDEO CONTROL DATA

When the DEVICE receives the “62•25 : VIDEO CONTROL DATA SENSE” command, the data shown below will be sent back.

Preset value is returned for unsupported data.

When undefined block or undefined code are specified, the “70•25” command will be sent back.

When the data beyond No.19 are requested, the data up to No.18 are sent back.

DATA No.	COMPOSITE	
00	INPUT VIDEO LEVEL	(LOWER)
01	INPUT VIDEO LEVEL	(UPPER)
02	00H	
03	40H	
04	00H	
05	40H	
06	OUTPUT VIDEO LEVEL	(LOWER)
07	OUTPUT VIDEO LEVEL	(UPPER)
08	OUTPUT CHROMA LEVEL	(LOWER)
09	OUTPUT CHROMA LEVEL	(UPPER)
0A	OUTPUT HUE	(LOWER)
0B	OUTPUT HUE	(UPPER)
0C	* OUTPUT SYSTEM PHASE	(LOWER)
0D	* OUTPUT SYSTEM PHASE	
0E	* OUTPUT SYSTEM PHASE	
0F	* OUTPUT SYSTEM PHASE	(UPPER)
10	* OUTPUT VIDEO PHASE	(LOWER)
11	* OUTPUT VIDEO PHASE	
12	* OUTPUT VIDEO PHASE	(UPPER)
13	OUTPUT SETUP LEVEL	(LOWER)
14	OUTPUT SETUP LEVEL	(UPPER)
15	00H	
16	00H	
17	00H	
18	00H	

* : For HDW-250/500/F500 and SRW-5000/5500

0C	OUTPUT FINE PHASE	(LOWER)
0D	OUTPUT FINE PHASE	(UPPER)
0E	OUTPUT SYNC PHASE	(LOWER)
0F	OUTPUT SYNC PHASE	(UPPER)
10	00H	
11	00H	
12	00H	

DATA No.	Y/P _B /P _R or Y/C _B /C _R	
00	INPUT Y LEVEL	(LOWER)
01	INPUT Y LEVEL	(UPPER)
02	INPUT P _B LEVEL	(LOWER)
03	INPUT P _B LEVEL	(UPPER)
04	INPUT P _R LEVEL	(LOWER)
05	INPUT P _R LEVEL	(UPPER)
06	OUTPUT Y LEVEL	(LOWER)
07	OUTPUT Y LEVEL	(UPPER)
08	OUTPUT P _B LEVEL	(LOWER)
09	OUTPUT P _B LEVEL	(UPPER)
0A	OUTPUT P _R LEVEL	(LOWER)
0B	OUTPUT P _R LEVEL	(UPPER)
0C	* OUTPUT SYSTEM PHASE	(LOWER)
0D	* OUTPUT SYSTEM PHASE	
0E	* OUTPUT SYSTEM PHASE	
0F	* OUTPUT SYSTEM PHASE	(UPPER)
10	* OUTPUT VIDEO PHASE	(LOWER)
11	* OUTPUT VIDEO PHASE	
12	* OUTPUT VIDEO PHASE	(UPPER)
13	00H	
14	00H	
15	00H	
16	00H	
17	00H	
18	00H	

* : For HDW-250/500/F500 and SRW-5000/5500

0C	OUTPUT FINE PHASE	(LOWER)
0D	OUTPUT FINE PHASE	(UPPER)
0E	OUTPUT SYNC PHASE	(LOWER)
0F	OUTPUT SYNC PHASE	(UPPER)
10	00H	
11	00H	
12	00H	

DATA No.	HD Y/P _B /P _R	
00	INPUT Y LEVEL	(LOWER)
01	INPUT Y LEVEL	(UPPER)
02	INPUT P _B LEVEL	(LOWER)
03	INPUT P _B LEVEL	(UPPER)
04	INPUT P _R LEVEL	(LOWER)
05	INPUT P _R LEVEL	(UPPER)
06	OUTPUT Y LEVEL	(LOWER)
07	OUTPUT Y LEVEL	(UPPER)
08	OUTPUT P _B LEVEL	(LOWER)
09	OUTPUT P _B LEVEL	(UPPER)
0A	OUTPUT P _R LEVEL	(LOWER)
0B	OUTPUT P _R LEVEL	(UPPER)
0C	OUTPUT FINE PHASE	(LOWER)
0D	OUTPUT FINE PHASE	(UPPER)
0E	OUTPUT SYNC PHASE	(LOWER)
0F	OUTPUT SYNC PHASE	(UPPER)
10	00H	
11	00H	
12	00H	
13	00H	
14	00H	
15	00H	
16	00H	
17	00H	
18	00H	

62•26 : AUDIO CONTROL DATA SENSE

This command specifies the data to be sent back by the “7X•26 : AUDIO CONTROL DATA” command according to DATA-1 and DATA-2.

For the supported channel, it can be checked by the “61•24 : SUPPORTED SIGNAL SENSE” command.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
0	0	OUT	IN				

BIT-5/BIT-4 : Specify the input (AUDIO INPUT CONTROL DATA) or output (AUDIO OUTPUT CONTROL DATA).

BIT-5	BIT-4	
0	1	INPUT (AUDIO INPUT CONTROL DATA)
1	0	OUTPUT (AUDIO OUTPUT CONTROL DATA)
1	1	UNDEFINED

BIT-3 to BIT-0 : indicate the byte count of the data to be sent back.

[DATA-2]

Indicate starting DATA No. to be sent back.

7X•26 : AUDIO CONTROL DATA

When the DEVICE receives the “62•26 : AUDIO ONTROL DATA SENSE” command, the data shown below will be sent back.

When data for unsupported channel has no meanings.

When the data beyond No.33 are requested, the data up to No.32 are sent back.

In SRW series, when the data beyond No.3F are requested, the data up to No.3E are sent back.

(1) Audio Input Control Data

DATA No.	BIT-7 (MSB)	BIT-0 (LSB)
00		
01		
02		
03		
04		
05		
06		
07		
08		
09		
0A		
0B		
0C		
0D		
0E		
0F		
10		
11		
12		
13		
14		
15	UNDEFINED	
16	UNDEFINED	
17	UNDEFINED	
18	UNDEFINED	
19	UNDEFINED	
1A	UNDEFINED	
1B	CH-1 INPUT SET LEVEL	(LOWER)
1C	CH-1 INPUT SET LEVEL	
1D	CH-1 INPUT SET LEVEL	(UPPER)
1E	CH-2 INPUT SET LEVEL	(LOWER)
1F	CH-2 INPUT SET LEVEL	
20	CH-2 INPUT SET LEVEL	(UPPER)
21	CH-3 INPUT SET LEVEL	(LOWER)
22	CH-3 INPUT SET LEVEL	
23	CH-3 INPUT SET LEVEL	(UPPER)
24	CH-4 INPUT SET LEVEL	(LOWER)
25	CH-4 INPUT SET LEVEL	
26	CH-4 INPUT SET LEVEL	(UPPER)

DATA No.	BIT-7 (MSB)	BIT-0 (LSB)
27	* CH-5 INPUT SET LEVEL	(LOWER)
28	* CH-5 INPUT SET LEVEL	
29	* CH-5 INPUT SET LEVEL	(UPPER)
2A	* CH-6 INPUT SET LEVEL	(LOWER)
2B	* CH-6 INPUT SET LEVEL	
2C	* CH-6 INPUT SET LEVEL	(UPPER)
2D	* CH-7 INPUT SET LEVEL	(LOWER)
2E	* CH-7 INPUT SET LEVEL	
2F	* CH-7 INPUT SET LEVEL	(UPPER)
30	* CH-8 INPUT SET LEVEL	(LOWER)
31	* CH-8 INPUT SET LEVEL	
32	* CH-8 INPUT SET LEVEL	(UPPER)
33	** CH-8 INPUT SET LEVEL	(LOWER)
34	** CH-9 INPUT SET LEVEL	
35	** CH-9 INPUT SET LEVEL	(UPPER)
36	** CH-10 INPUT SET LEVEL	(LOWER)
37	** CH-10 INPUT SET LEVEL	
38	** CH-10 INPUT SET LEVEL	(UPPER)
39	** CH-11 INPUT SET LEVEL	(LOWER)
3A	** CH-11 INPUT SET LEVEL	
3B	** CH-11 INPUT SET LEVEL	(UPPER)
3C	** CH-12 INPUT SET LEVEL	(LOWER)
3D	** CH-12 INPUT SET LEVEL	
3E	** CH-12 INPUT SET LEVEL	(UPPER)
3F		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

* : For MSW-2000/A2000/M2000/M2000E, and SRW-5000/5500

** : For SRW-5000/5500

(2) Audio Output Control Data

DATA No.	BIT-7 (MSB)	BIT-0 (LSB)
00	AUDIO OUTOUT SET PHASE	(LOWER)
01	AUDIO OUTOUT SET PHASE	
02	AUDIO OUTOUT SET PHASE	(UPPER)
03		
04		
05		
06		
07		
08		
09		
0A		
0B		
0C		
0D		
0E		
0F		
10		
11		
12		
13		
14		
15	MONITOR-L OUTPUT SET LEVEL	(LOWER)
16	MONITOR-L OUTPUT SET LEVEL	
17	MONITOR-L OUTPUT SET LEVEL	(UPPER)
18	MONITOR-R OUTPUT SET LEVEL	(LOWER)
19	MONITOR-R OUTPUT SET LEVEL	
1A	MONITOR-R OUTPUT SET LEVEL	(UPPER)
1B	CH-1 OUTPUT SET LEVEL	(LOWER)
1C	CH-1 OUTPUT SET LEVEL	
1D	CH-1 OUTPUT SET LEVEL	(UPPER)
1E	CH-2 OUTPUT SET LEVEL	(LOWER)
1F	CH-2 OUTPUT SET LEVEL	
20	CH-2 OUTPUT SET LEVEL	(UPPER)
21	CH-3 OUTPUT SET LEVEL	(LOWER)
22	CH-3 OUTPUT SET LEVEL	
23	CH-3 OUTPUT SET LEVEL	(UPPER)
24	CH-4 OUTPUT SET LEVEL	(LOWER)
25	CH-4 OUTPUT SET LEVEL	
26	CH-4 OUTPUT SET LEVEL	(UPPER)

DATA No.	BIT-7 (MSB)	BIT-0 (LSB)
27	* CH-5 OUTPUT SET LEVEL	(LOWER)
28	* CH-5 OUTPUT SET LEVEL	
29	* CH-5 OUTPUT SET LEVEL	(UPPER)
2A	* CH-6 OUTPUT SET LEVEL	(LOWER)
2B	* CH-6 OUTPUT SET LEVEL	
2C	* CH-6 OUTPUT SET LEVEL	(UPPER)
2D	* CH-7 OUTPUT SET LEVEL	(LOWER)
2E	* CH-7 OUTPUT SET LEVEL	
2F	* CH-7 OUTPUT SET LEVEL	(UPPER)
30	* CH-8 OUTPUT SET LEVEL	(LOWER)
31	* CH-8 OUTPUT SET LEVEL	
32	* CH-8 OUTPUT SET LEVEL	(UPPER)
33	** CH-9 OUTPUT SET LEVEL	(LOWER)
34	** CH-9 OUTPUT SET LEVEL	
35	** CH-9 OUTPUT SET LEVEL	(UPPER)
36	** CH-10 OUTPUTSET LEVEL	(LOWER)
37	** CH-10 OUTPUT SET LEVEL	
38	** CH-10 OUTPUT SET LEVEL	(UPPER)
39	** CH-11 OUTPUT SET LEVEL	(LOWER)
3A	** CH-11 OUTPUT SET LEVEL	
3B	** CH-11 OUTPUT SET LEVEL	(UPPER)
3C	** CH-12 OUTPUT SET LEVEL	(LOWER)
3D	** CH-12 OUTPUT SET LEVEL	
3E	** CH-12 OUTPUT SET LEVEL	(UPPER)
3F		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

* : For MSW/SRW series

** : For SRW series

6X•28 : LOCAL KEY MAP SENSE

This command requests the LOCAL KEY MAP status.

7X•28 : LOCAL KEY MAP DATA

When the DEVICE the “6X•28 : LOCAL KEY MAP SENSE” command, the LOCAL KEY MAP data will be returned.

For the data format, refer to the “4X•B8 : LOCAL KEY MAP CONTROL” command.

61•2A : HM DATA SENSE

This command requests the HOURS METER (MAINTENANCE TIMER) data of the DEVICE.

When the DEVICE receives this command, its own MAINTENANCE TIMER data is added after DATA-2 in the “7X•2A : HM DATA” command.

7X•2A : HM DATA

When the DEVICE receives the “61•2A : HM DATA SENSE” command, the MAINTENANCE TIMER DATA will be sent back.

The TIMER data are composed of 3-byte (In HDW-250/500/F500 and SRW series : 4-byte) data.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				THREADING COUNTER TIMES	TAPE RUNNING HOURS	DRUM RUNNING HOURS	OPERATION HOURS

The TIMER DATA corresponding to the bits set to “1” in DATA-1 are sent in the sequence of OPERATION, DRUM, TAPE and LOADING.

Ex. When “61•2A•03” command is received, the return data of the DEVICE are shown below.

[RETURN DATA] (except HDW-250/500/F500 and SRW series)

CMD-1		CMD-2		DATA-1		DATA-2		DATA-3		DATA-4		DATA-5		DATA-6		DATA-7	
7	7	2	A	0	3	Y1	Y0	Y3	Y2	Y5	Y4	Z1	Z0	Z3	Z2	Z5	Z4

OPERATION HOURS

DRUM RUNNIG HOURS

DATA-1: The same data as DATA-1 in the "61•2A: HM DATA SENSE" command are added.

In the case, the OPERATION HOURS and DRUM RUNNING HOURS are as follows.

OPERATION = $10^5 \times Y5 + 10^4 \times Y4 + 10^3 \times Y3 + 10^2 \times Y2 + 10^1 \times Y1 + 10^0 \times Y0$
[HOURS]

DRUM RUNNING = $10^5 \times Z5 + 10^4 \times Z4 + 10^3 \times Z3 + 10^2 \times Z2 + 10^1 \times Z1 + 10^0 \times Z0$
[HOURS]

[RETURN DATA] (HDW-250/500/F500 and SRW series only)

CMD-1		CMD-2		DATA-1		DATA-2		DATA-3		DATA-4											
7	B	2	A	0	3	Y1	Y0	Y3	Y2	Y5	Y4	Y7	Y6	Z1	Z0	Z3	Z2	Z5	Z4	Z7	Z6

OPERATION HOURS
DRUM RUNNING HOURS

DATA-1 : The same data as DATA-1 of “61•2A: HM DATA SENSE” command is added.

The OPERATION HOURS and DRUM RUNNING HOURS become as shown below.

OPERATION

$$= 10^7 \times Y7 + 10^6 \times Y6 + 10^5 \times Y5 + 10^4 \times Y4 + 10^3 \times Y3 + 10^2 \times Y2 + 10^1 \times Y1 + 10^0 \times Y0$$

[HOURS]

DRUM RUNNING

$$= 10^7 \times Z7 + 10^6 \times Z6 + 10^5 \times Z5 + 10^4 \times Z4 + 10^3 \times Z3 + 10^2 \times Z2 + 10^1 \times Z1 + 10^0 \times Z0$$

[HOURS]

60•2B : REMAIN TIME SENSE

This command is used to request the remaining time data of the tape in the DEVICE.

When the DEVICE receives this command, the 6-byte remaining time data of the tape will be sent back.

76•2B : REMAIN TIME DATA

When the DEVICE receives the “60•2B : REMAIN TIME SENSE” command, the 6-byte remaining time data of the tape will be sent back.

[RETURN DATA]

DATA-1		DATA-2		DATA-3		DATA-4		DATA-5	DATA-6
10 Frame	1 Frame	10 Second	1 Second	10 Minute	1 Minute	10 Hour	1 Hour	S-REEL Side	T-REEL Side
MSD	LSD	MSD	LSD	MSD	LSD	MSD	LSD		

$$Dt = \frac{A - C}{B - C} \times 10$$

Dt : The diameter of the tape wound on the reel.
(refer to the following formula)

A : Current diameter of the tape wound on the reel.

B : Maximum of the diameter of the tape wound on the reel.

C : The diameter of the hub.

60•2E : COMMAND SPEED SENSE

This command is used for requesting the operating TAPE SPEED COMMAND of the DEVICE.

When the DEVICE receives this command, it returns command “71•2E : COMMAND SPEED DATA” command.

7X•2E : COMMAND SPEED DATA

When the DEVICE receives the “60•2E : COMMAND SPEED SENSE” command, the tape speed data of the DEVICE will be sent back.

For the data format, refer to the “2X•11 : JOG FWD” commands.

60•2F : VARIABLE MEMORY SPEED SENSE

This command is used for requesting the INITIAL SPEED DATA memorized by VARIABLE MEMORY mode of the DEVICE.

When the DEVICE receives this command, it returns the “7X•2F : VARIABLE MEMORY SPEED DATA” command.

7X•2F : VARIABLE MEMORY SPEED DATA

When the DEVICE receives the “60•2F : VARIABLE MEMORY SPEED SENSE” command, the INITIAL SPEED DATA will be sent back.

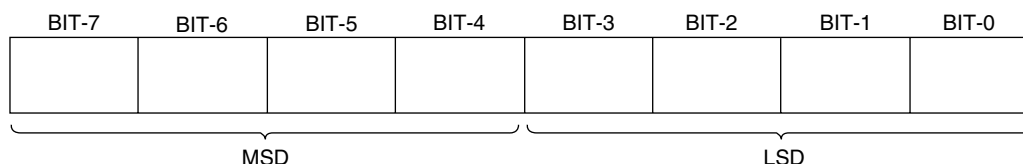
For the data format, refer to the “2X•11 : JOG FWD” command.

When setting INITIAL SPEED by “2X•5D : DMC SET REV” command, MSB of DATA-1 is set to “1”.

6X•30 : EDIT PRESET SENSE

This command is used to request the EDIT PRESET status of the DEVICE, and the content of the “7X•30 : EDIT PRESET STATUS” command to be sent back is specified by DATA-1 added to the command.

[DATA-1]



MSD (BIT-7 to BIT-4) : Indicate the start data No. of the data to be sent back.

LSD (BIT-3 to BIT-0) : Indicate the number of data bytes to be sent back.

When the “60•30” command is received ;

The DEVICE works same as “61•30•01” command.
(except HDW-250/500/F500)

7X•30 : EDIT PRESET STATUS

When the DEVICE receives the “6X•30 : EDIT PRESET SENSE” command, the data will be sent back in accordance with the request.

DATA No.	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
0		INSERT	ASSEMBLE	VIDEO		TIME CODE	A2 (CUE)	A1 (CUE)
1	DA8	DA7	DA6	DA5	DA4	DA3	DA2	DA1
2					DA12	DA11	DA10	DA9

60•31 : PREROLL TIME SENSE

This command is used to request the PREROLL TIME setting data of the DEVICE.
When the DEVICE receives this command, it returns the “74•31 : PREROLL TIME DATA” command.

74•31 : PREROLL TIME DATA

When the DEVICE receives the “60•31 : PREROLL TIME SENSE” command, the preroll time data (DATA-1 to DATA-4) will be returned.
For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

60•32 : TAPE/AUTO SENSE

This command requests the TAPE/AUTO status of the DEVICE.
When the DEVICE receives this command, it returns the “71•32 : TAPE/AUTO STATUS” command.

71•32 : TAPE/AUTO STATUS

When the DEVICE receives the “60•32 : TAPE/AUTO SENSE” command, the TAPE/AUTO status (DATA-1) will be returned.
For the data format, refer to the “41•32 : TAPE/AUTO CONTROL” command.

60•33 : SERVO REF SENSE

This command is used to request the SERVO reference setting status of the DEVICE. When the DEVICE receives this command, it returns the “71•33 : SERVO REF STATUS” command.

71•33 : SERVO REF STATUS

When the DEVICE receives the “60•33 : SERVO REF SENSE” command, the SERVO reference setting status (DATA-1) will be returned.
For the data format, refer to the “41•33 : SERVO REF SELECT” command.

60•36 : TIMER MODE SENSE

This command is used to request the TIMER MODE (TIMER-1 or TIME CODE) of the DEVICE. When the DEVICE receives this command, it returns the “71•36 : TIMER MODE DATA” command.

71•36 : TIMER MODE DATA

When the DEVICE receives the “60•36 : TIMER MODE SENSE” command, the timer mode status (DATA-1) will be returned.
[DATA-1] 00 : TIME CODE
 01 : TIMER-1

60•3C : POSTROLL TIME SENSE

This command is used to request the POSTROLL TIME setting data of the DEVICE. When the DEVICE receives this command, it returns the “74•3C : POSTROLL TIME DATA” command.

74•3C : POSTROLL TIME DATA

When the DEVICE receives the “60•3C : POSTROLL TIME SENSE” command, the postroll time data (DATA-1 to DATA-4) will be returned.
For the data format, refer to the “24•31 : CUE UP WITH DATA” command.

60•3E : RECORD INHIBIT SENSE

This command is used to request the RECORD INHIBIT setting status of the DEVICE. When the DEVICE receives this command, it returns the “7X•3E : RECORD INHIBIT STATUS” command.

7X•3E : RECORD INHIBIT STATUS

When the DEVICE receives the “60•3E : RECORD INHIBIT SENSE” command, the RECORD INHIBIT setting status data will be returned. However, the reply data takes either one of the two cases that BIT-0 to BIT-3 of DATA-1 is “1” or all bits of DATA-1 and DATA-2 (In SRW series : DATA-1 to DATA-3) are “0”.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
		CTL	VIDEO		TC	A2 (CUE)	A1(CUE)

[DATA-2]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DA8	DA7	DA6	DA5	DA4	DA3	DA2	DA1

[DATA-3]

Available for SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				DA12	DA11	DA10	DA9

60•3F : Δt PLAY PRESET SENSE

This command is used to request about the FEED PLAY mode of the DEVICE.

When the DEVICE receives this command, it returns the “73•3F : Δt PLAY PRESET DATA” command.

73•3F : Δt PLAY PRESET DATA

When the DEVICE receives the “60•3F : Δt PLAY PRESET SENSE” command, the status (DATA-1 to DATA-4) of the FEED PLAY mode will be returned.

[DATA-1 : STATUS]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
		FEED EXECUTE		FEED READY	FEED MODE		

[DATA-2/DATA-3 : SPEED]

For the data format, refer to the “2X•11 : JOG FWD” command.

60•50 : DA INPUT SENSE

This command is used to request the digital audio input signal selection status of the DEVICE.
When the DEVICE receives this command, it returns “ 7X•50 : DA INPUT STATUS” command.

7X•50 : DA INPUT STATUS

When the DEVICE receives the “60•50 : DA INPUT SENSE” command, the digital audio input selection status data will be returned.
In the SRW series only, DATA-1 and DATA-2 are sent back by the “72•50” command.
In the other models, only DATA-1 is sent back by the “71•50” command.

[DATA-1]

DA5 to DA8 are available for MSW/SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DA8	DA7	DA6	DA5	DA4	DA3	DA2	DA1

[DATA-2]

Available for SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				DA12	DA11	DA10	DA9

1 : EMPHASIS ON
0 : EMPHASIS OFF

60•51 : DA SYS EMPHASIS SENSE

60•52 : DA INP EMPHASIS SENSE

60•53 : DA PB EMPHASIS SENSE

These command are used to request the emphasis setting of the DEVICE’s system setting (SYS), digital audio input signal (INP) and digital audio playback signal (PB).
Once the DEVICE receives these commands, it returns respective command corresponding to those request commands. DATA-1 in these return commands is to notice the setting status of the DEVICE.

The return command according to the request command is as follows.

REQUEST COMMAND	RETURN COMMAND
60•51 : DA SYS EMPHASIS SENSE	7X•51 : DA SYS EMPHASIS STATUS
60•52 : DA INP EMPHASIS SENSE	7X•52 : DA INP EMPHASIS STATUS
60•53 : DA PB EMPHASIS SENSE	7X•53 : DA PB EMPHASIS STATUS

7X•51 : DA SYS EMPHASIS STATUS

7X•52 : DA INP EMPHASIS STATUS

7X•53 : DA PB EMPHASIS STATUS

When the DEVICE receives the “60•51”, “60•52”, or “60•53” command, the emphasis status data of the digital audio (system setting, input signal, or playback signal) will be sent back.

Each bit of DATA-1 and DATA-2 becomes valid in accordance with the number of digital audio tracks (“7X•51” and “7X•52”) of recordable tape format or the number of digital audio tracks (“7X•53”) of tape format being played back.

(Example) DATA-2 is available for SRW series only.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DA8	DA7	DA6	DA5	DA4	DA3	DA2	DA1

[DATA-2]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
				DA12	DA11	DA10	DA9

1 : EMPHASIS ON
0 : EMPHASIS OFF

6X•54 : EXTENDED DA INPUT SENSE

This command is used to request the digital audio input status.

When the DEVICE receives this command, it returns the “7X•54 : EXTENDED DA INPUT STATUS” command.

When the “60•54” command is specified, this command requests the status of all the input channels.

When the “61•54” command is specified, this command requests the status of the channel groups corresponding to the bitmap data as follows.

[DATA-1]

CH5 to CH8 are available for MSW/SRW series only.

CH9 to CH12 are available for SRW series only.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
		CH11, CH12	CH9, CH10	CH7, CH8	CH5, CH6	CH3, CH4	CH1, CH2

7X•54 : EXTENDED DA INPUT STATUS

When the DEVICE receives the “60•54 : EXTENDED DA INPUT SENSE” command, the status data of the digital audio input will be sent back in accordance with the request.

When the “60•54” command is received, the status data of all channels (channel 1 through N) will be sent back. Each channel status is composed of 4-bit data as follows.

DATA-3 and DATA-4 are available for MSW/SRW series only.

DATA-5 and DATA-6 are available for SRW series only.

[DATA-1]		[DATA-2]		[DATA-3]		[DATA-4]	
MSD	LSD	MSD	LSD	MSD	LSD	MSD	LSD
CH2	CH1	CH4	CH3	CH6	CH5	CH8	CH7

[DATA-5]		[DATA-6]	
MSD	LSD	MSD	LSD
CH10	CH9	CH12	CH11

4-BIT DATA 0 : ANALOG
 1 : AES/EBU
 2 : SDI
 3 : SDTI
 :
 E : INTERNAL SG
 F : INVALID

When the “61•54” command is received, the specified status data corresponding to the bitmap will be sent back from the lower channel number. The data format is same as the return status for “60•54” command.

60•58 : DA SAMPLING FREQ SENSE

This command is used to request the sampling frequency of the DEVICE’s digital audio channels.

When the DEVICE receives this command, it returns the “71•58 : DA SAMPLING FREQ DATA” command.

71•58 : DA SAMPLING FREQ STATUS

When the DEVICE receives the “60•58 : DA SAMPLING FREQ SENSE” command, digital audio sampling frequency status data will be sent back.

[DATA-1] 01 : 48.0 kHz

60•60 : VITC BYPASS SENSE

This command is used to request the recording VITC.

When the DEVICE receives this command, it returns the “71•60 : VITC BYPASS STATUS” command.

71•60 : VITC BYPASS STATUS

When the DEVICE receives the “60•60 : VITC BYPASS SENSE” command, recording VITC information will be stored in DATA-1 and sent back.

For the data format, refer to the “41•60 : VITC BYPASS” command.

60•61 : LTC GENERATOR MODE SENSE

This command is used to request the LTC GENERATOR MODE status of the DEVICE.

When the DEVICE receives this command, it returns the “72•61 : LTC GENERATOR MODE STATUS” command.

72•61 : LTC GENERATOR MODE STATUS

When the DEVICE receives the “60•61 : LTC GENERATOR MODE SENSE” command, digital audio sampling frequency data will be sent back.

For the data format, refer to the “42•61 : LTC GENERATOR MODE PRESET” command.

60•62 : VITC GENERATOR MODE SENSE

This command is used to request the VITC GENERATOR MODE status of the DEVICE.

When the DEVICE receives this command, it returns the “72•62 : VITC GENERATOR MODE STATUS” command.

72•62 : VITC GENERATOR MODE STATUS

When the DEVICE receives the “60•62 : VITC GENERATOR MODE SENSE” command, digital audio sampling frequency data will be sent back.

For the data format, refer to the “42•62 : VITC GENERATOR MODE PRESET” command.

60•63 : RECORD LTC SENSE

This command is used to request LTC which is recorded in the DEVICE.

When the DEVICE receives this command, it returns the “71•63 : RECORD LTC STATUS” command.

71•63 : RECORD LTC STATUS

When the DEVICE receives the “60•63 : RECORD LTC SENSE” command, RECORD LTC DATA will be sent back.

For the data format, refer to the “41•63 : RECORD LTC SELECT” command.

60•70 : VIDEO INPUT SENSE

This command is used to request the video input source.

When the DEVICE receives this command, it returns the “72•70 : VIDEO INPUT STATUS” command.

72•70 : VIDEO INPUT STATUS

When the DEVICE receives the “60•70 : VIDEO INPUT SENSE” command, the video input status will be sent back.

The connector status is stored in DATA-1 and the signal status is stored in DATA-2.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
INTERNAL SG				SDTI	DIGITAL PARALLEL	SDI	ANALOG

[DATA-2]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
			S (Y/C)	DUB	G/B/R	Y/P _B /P _R	COMPOSITE

60•9E : SUPERIMPOSE SENSE

This command is used to request SUPERIMPOSE STATUS of the DEVICE.

When the DEVICE receives this command, it returns the “71•9E : SUPERIMPOSE STATUS” command.

71•9E : SUPERIMPOSE STATUS

When the DEVICE receives the “60•9E : SUPERIMPOSE SENSE” command, SUPERIMPOSE ON/OFF data will be sent back.

For the data format, refer to the “42•9E : SUPERIMPOSE” command.

60•AE : AUDIO MONITOR CHANNEL SENSE

This command requests the status of audio monitoring channel.

When the DEVICE receives this command, it returns the “74•AE : AUDIO MONITOR CHANNEL STATUS” command.

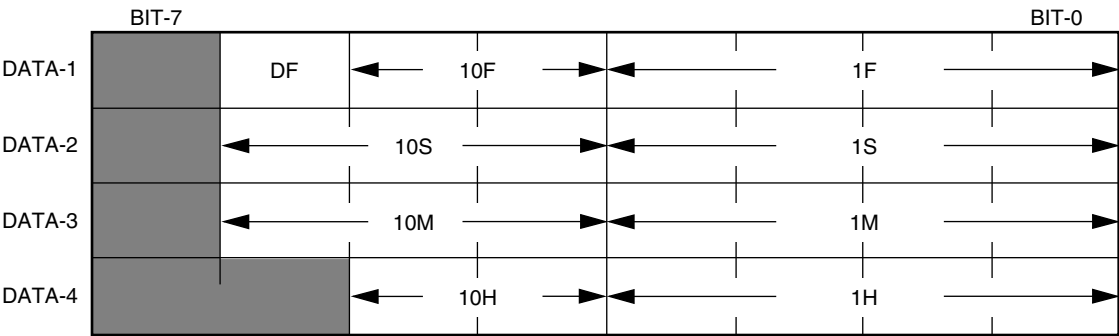
74•AE : AUDIO MONITOR CHANNEL STATUS

When the DEVICE receives the “60•AE : AUDIO MONITOR CHANNEL SENSE” command, the status of audio monitoring channel will be sent back.

For the data format, refer to “44•AE : AUDIO MONITOR CHANNEL SELECT” command.

Time Data Format

The following shows the time data format used by commands such as “24•31 : CUE UP WITH DATA”.



Although the shaded null bits have no meaning as time data, they are set in the following cases.

- 1. DATA-1, BIT-6 : DF FLAG (“1” DF, “0” NDF) ••••• Only for NTSC, PAL-M model

This bit is set in a response command from DEVICE of “61•0C : CURRENT TIME SENSE” according to the DF or NDF mode of DEVICE.
It is also set to specify the DF or NDF mode of the TIME CODE GENERATOR of DEVICE of “44•04 : TIME CODE PRESET” command.

- 2. Other bits

The other bits are defined by SMPTE/EBU in a response command of TIME CODE DATA from DEVICE of “61•0C : CURRENT TIME SENSE” command. Flags conforming to the TIME CODE FORMAT are set in some cases.

7. Special Commands for BVW-50, DVW-250, DNW-A28 and HDW-S280

Since BVW-50, DVW-250, DNW-A28 and HDW-S280 support PAUSE-FUNCTIONS, such as PLAY-PAUSE, REC-PAUSE, etc. commands that control these functions and extended status sense commands are located in the DEVICE-DEPENDENT section of the 9-pin command table.

- 1) 0C•F0•57•48•4F•20•41•52•45•20•59•4F•55•3F:
This command asks whether DEVICE has a PAUSE-KEY.
In ASCII, it denotes "WHO ARE YOU?".
The BVW-50 return command is : 1C•F0•50•41•55•53•45•20•45•58•49•53•54•21.
In ASCII, it denotes "PAUSE EXIST!".
- 2) 0A•F1•50•4C•41•59•20•50•41•55•53•45:
This command enables PLAY-PAUSE mode of DEVICE.
In ASCII, it denotes "PLAY PAUSE". Return is 10•01 (ACK).
- 3) 09•F1•52•45•43•20•50•41•55•53•45:
This command enables REC-PAUSE mode of DEVICE.
In ASCII, it denotes "REC PAUSE". Return is 10•01 (ACK).
- 4) 0E•F2•53•54•41•54•55•53•20•52•45•51•55•45•53•54:
This command senses the extended status of DEVICE.
In ASCII, it denotes "STATUS REQUEST". Return is 1F•F2•53•54•41•54•55•53•20•52•54•4E
(DATA-11)•(DATA-12)•(DATA-13)•(DATA-14)•(DATA-15).
In ASCII, it denotes "STATUS RTN (DATA-11) (DATA-12) (DATA-13) (DATA-14) (DATA-15)".

DATA No.11/BIT-7 : TAPE BEFORE END ALARM
DATA No.11/BIT-6 : RF ALARM
DATA No.11/BIT-5 : SERVO NON LOCK ALARM
DATA No.11/BIT-4 : HUMID DETECT ALARM
DATA No.11/BIT-3 : SLACK DETECT ALARM
DATA No.11/BIT-2 : TAPE END ALARM
DATA No.11/BIT-1 : BATTERY END ALARM
DATA No.11/BIT-0 : BATTERY BEFORE END ALARM

On detection of the above alarm, DEVICE sets these bits to 1.

DATA No.12/BIT-7 : STANDBY	Set to 1 when DEVICE is in STANDBY ON status.
DATA No.12/BIT-6 : PAUSE	Set to 1 when DEVICE is in PAUSE status.
DATA No.12/BIT-5 : STOP	Set to 1 when DEVICE is in STOP status.
DATA No.12/BIT-4 : EJECT	Set to 1 when DEVICE is in EJECT status.
DATA No.12/BIT-3 : REW	Set to 1 when DEVICE is in REW status.
DATA No.12/BIT-2 : F.FWD	Set to 1 when DEVICE is in F.FWD status.
DATA No.12/BIT-1 : REC	Set to 1 when DEVICE is in REC status.
DATA No.12/BIT-0 : PLAY	Set to 1 when DEVICE is in PLAY status.

For example, when the DEVICE is in PLAY-PAUSE status BIT-7, BIT-6, and BIT-0 are set to 1.
In REC-PAUSE status, BIT-7, BIT-6, BIT-1 and BIT-0 are set to 1.

The contents of DATA No.13, DATA No.14, and DATA No.15 are always 0.

8. Special Commands for DNW/HDW/MSW Series (except HDW-500/F500/250)

In the HDW series (except HDW-500/F500/250) and MSW series, the insert tape format sense commands are located.

And in the DNW series, HDW series (except HDW-500/F500/250), MSW series, the search commands and the extension status commands are located in the DEVICE DEPENDENT area of the 9-pin command table in order to enable UB MARK that has been recorded by the Betacam SX camcorder. These commands interpret DATA-1 as CMD-3.

8-1. Command List

COMMAND	RETURN	DNW series	HDW series*	MSW series
01•F2•DF : TAPE FORMAT SENSE	12•F2•DF : TAPE FORMAT DATA	×	○	○
0X•FA•30 : UB MARK SEARCH MODE PRESET	10•01 : ACK	○	○	○
01•FA•31 : CLEAR UB MARK BUFFER	10•01 : ACK	○	○	○
01•FA•33 : UB MARK FWD SEARCH & CUEUP	10•01 : ACK	○	○	○
01•FA•34 : UB MARK REV SEARCH & CUEUP	10•01 : ACK	○	○	○
01•FB•30 : UB MARK SEARCH MODE SENSE	1X•FB•30 : UB MARK SEARCH MODE DATA	○	○	○
01•FB•32 : UB MARK BUFFER SENSE	1X•FB•32 : UB MARK BUFFER DATA	○	○	○

* : Except the HDW-500/F500/250.

8-2. Command Details

01•F2•DF : TAPE FORMAT SENSE

This command is used to request about a format of a tape being used in the unit.

12•F2•DF : TAPE FORMAT DATA

This is the return command for “01•F2•DF : TAPE FORMAT SENSE” command.

[DATA-2]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
			HDCAM	DIGITAL BETACAM	MPEG IMX	BETACAM SP	BETACAM

According to the status of the command reception, the corresponding bit is set to “1”.

Notes

- When a tape is inserted, this return value accords with the information of the format lamp located upper of the escutcheon on the HDW/MSW series. When a tape is not inserted, the record format (HDW: HDCAM, MSW: MPEG-IMX) is returned (same applies to the player device).
- If a format that is out of specification is detected, the former value is held and returned. When the former value does not exist, the record format is returned.
- The value is also returned when the REMOTE-1 (9P) is being set to LOCAL.

0X•FA•30 : UB MARK SEARCH MODE PRESET

This is the command used to select the search mode of UB MARK.
Be sure to specify SEARCH ID when approving SEARCH.

[DATA-2 : SEARCH MODE]

00: Prohibiting SEARCH (DISABLE)

01: Approving SEARCH (ENABLE)

[DATA-3 : SEARCH ID1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
*	*	*	*	POST	SHOT2	SHOT1	REC START

[DATA-4 : SEARCH ID2]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
*	*	*	*	*	*	*	*

01•FA•31 : CLEAR UB MARK BUFFER

This is the command used to clear UB MARK BUFFER.
All of the UB MARK DATA that are searched, are removed from BUFFER.
At the same time, the BUFFER overflow flag is also cleared.

01•FA•33 : UB MARK FWD SEARCH & CUEUP

This is the command used to search UB MARK in the direction of FWD and perform cue-up to the UB MARK that is detected for the first time. This command is valid only when the UB MARK SEARCH MODE is enabled.

01•FA•34 : UB MARK REV SEARCH & CUEUP

This is the command used to search UB MARK in the direction of REV and perform cue-up to the UB MARK that is detected for the first time. This command is valid only when the UB MARK SEARCH MODE is enabled.

01•FB•30 : UB MARK SEARCH MODE SENSE

This command is used to request about the UB MARK search mode.
When a DEVICE receives this command, it returns “1X•FB•30 : UB MARK SEARCH MODE DATA” command so that the equipment can know the set status using DATA-2 to DATA-4.

1X•FB•30 : UB MARK SEARCH MODE DATA

This is the return command for “01•FB•30 : UB MARK SEARCH MODE SENSE” command from controller. The DEVICE returns the UB MARK search mode in accordance with its request.
Refer to “0X•FA•30 : UB MARK SEARCH MODE PRESET” command for the data format.

01•FB•32 : UB MARK BUFFER SENSE

This command is used to request about the UB MARK information.

When a DEVICE receives this command, it returns “1X•FB•32 : UB MARK BUFFER DATA” command so that the equipment can know the set status using DATA-2 to DATA-4.

1X•FB•32 : UB MARK BUFFER DATA

This is the return command for “01•FB•32 : UB MARK BUFFER SENSE” command from controller. The DEVICE returns the UB MARK information in accordance with its request. A maximum of the two UB MARK information that are searched, is returned in the order of storage in buffer. The returned information is deleted from buffer. A buffer can store data of a maximum of 15.

When a buffer becomes full and unable to store any more data, the overflow bit is set to 1. New information cannot be written until the status is cleared by the CLEAR BUFFER even though a vacant area is created in the BUFFER. The information that has been written before, can be read.

[DATA-2 : STATUS]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
OVER FLOW	*	*	*	*	*	DATA×2	DATA×1

00 : No data

01 : UB MARK information equivalent to 1 information is added hereafter.

02 : UB MARK information equivalent to 2 informations is added hereafter.

80 : No data. Buffer overflow

81 : UB MARK information equivalent to 1 information is added hereafter. Buffer overflow

82 : UB MARK information equivalent to 2 informations is added hereafter.

[DATA-3/DATA-4 : UB MARK ID]

DATA-3	DATA-4	
FF	20	REC START MARK
FF	21	SHOT MARK 1
FF	22	SHOT MARK 2
FF	23	POST MARK

[DATA-5 to DATA-8 : LTC TIME DATA]

DATA-5		DATA-6		DATA-7		DATA-8	
10 Frame	1 Frame	10 Second	1 Second	10 Minute	1 Minute	10 Hour	1 Hour
MSD	LSD	MSD	LSD	MSD	LSD	MSD	LSD

[DATA-9/DATA-10 : UB MARK ID]

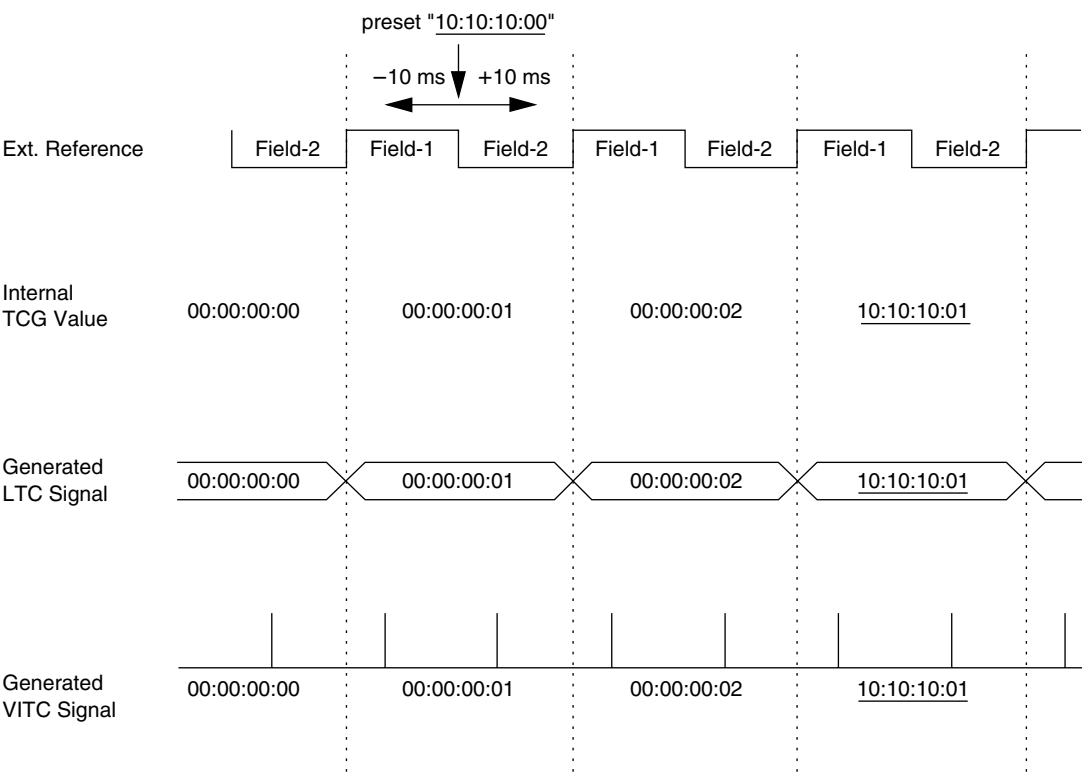
Refer to DATA-3 and DATA-4 for the data format.

[DATA-11 to DATA-14 : LTC TIME DATA]

Refer to DATA-5 to DATA-8 for the data format.

Appendix

(1) 44•04[TIME CODE PRESET], 4X•05[USER BIT PRESET]



(2) 20•60[FULL EE OFF], 20•61[FULL EE ON], 20•63[SELECT EE ON]
20•64[EDIT OFF], 20•65[EDIT ON]
4X•30[EDIT PRESET]

Notices for the DEVICE that has editing function.

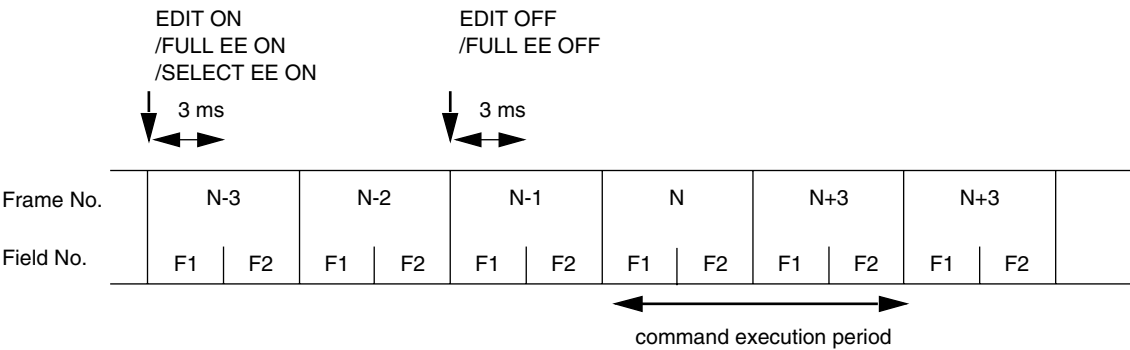
To execute above command accurately (on the specified tape address) in the normal playback mode, the following conditions should be satisfied.

Select external video reference mode.

Send the command within 3 ms (BVW series within 6 ms) after the frame change timing.

The following is an example of timing chart.

In this case, edit delay is 3 frames.



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BVW-10/10P/10PM/10S	J-1/2/3/10/10SDI/30/30SDI
BVW-11/11P	J-H3
BVW-15/15P/15S	MSW-2000
BVW-35/35P/35PM	MSW-A2000/A2000P
BVW-40/40P/40S	MSW-M2000/M2000P
BVW-50/50P	MSW-M2000E/M2000EP
BVW-60/60P	MSW-M2100/M2100P
BVW-65/65P/65PM	MSW-M2100E/M2100EP
BVW-70/70P/70S	SRW-5000
BVW-75/75P/75PM/75S	SRW-5500
BVW-D75/D75PS	
BVW-85P	
BVW-95/95P/95PM	
BVW-96/96P	
BVW-D265	
BVW-9000/9000P	
DNW-A25/A25P/A25WS/A25WSP	
DNW-A28/A28P	
DNW-30/30P	
DNW-A30/A30P	
DNW-A45/A45P	
DNW-A50/A50P	
DNW-65/65P	
DNW-A65/A65P	
DNW-75/75P	
DNW-A75/A75P	
DNW-A100/A100P	
DNW-A220/A220P	
DVW-250/250P	
DVW-500/500P	
DVW-510/510P	
DVW-A500/A500P	
DVW-A510/A510P	
DVW-CA510/CA510P	
DVW-2000/2000P	
DVW-M2000/M2000P	
HDW-250	
HDW-500	
HDW-F500	
HDW-2000	
HDW-D2000	
HDW-M2000/M2000P	
HDW-S2000/S2000P	
HDW-A2100	
HDW-M2100/M2100P	
HDW-S280	