

● 5. RS-232C Connector

The LTC 3995 can be controlled with PC via RS-232C. Note that Menu settings can also be made via RS-232C command inputs.

■ 5-1. Com Standard

● Transmission rate	9600bps
● Data	8 bits
● Stop	1 bit
● Parity	None

■ 5-2. Control Example

1 PC→LTC 3995

Command code + (command data) + CR + (LF)

* Insert command data as required. LF can be ignored.

Example: P (50H), L (4CH), CR (0DH), LF (0AH).

2 LTC 3995→PC

Answer code + CR + LF

* Time out approx. 100mS. Cut off code is CR (0DH).

Example: O (4FH), K (4BH), CR (0DH), LF (0AH).

■5-3. Command Table

Function	Code	Data	Operation	Answer
Rec	RC	-	Record	OK
Play	PL	-	Playback	OK
Live	LV	-	Live	OK
Jog	JG	+9~-9	+ = forward, - = reverse (Data: skip frame.)	OK
Search	SC	+9~-9	+ = forward, - = reverse (Data: speed.)	OK
Menu (*4)	MN	XXYY	XX : Menu code YY : Menu data	OK
CUEUP	CU	HHMMSSFF	HHMMSSFF : memory address to go to	OK
JUMP	JP	MMDDYYYYHH MMSS(*2)	Jump to set date, time	OK
TIMER COUNTER	TM	-	Current address answer	HHMMSSFF
TALLY	TL	-	Current operation answer	(*1)
Preset DATE	PD	MMDDYYYY (*2)	Date MM : MO DD : DAY YYYY : YR	OK
Preset TIME	PT	HHMMSS	TIME HH : HR MM : MIN SS : SEC	OK
FORMAT	FT	0~6, A	HD format initiate 0~6 : SCSI ID, A : ALL	OK
DRIVE SELECT	DS	ZZZZZZ*3	Select hard disk	OK
DRIVE AVAIL- ABLE	DA	-	Reply hard disk status (available, other)	ZZZZZZ *3
DRIVE CHANGE	DC	0~6	Selects another hard disk	OK
TIME DATE	DT		Output displayed DATE/TIME	OK
Error	-	-	Command error answer	ER

*1 Rec, Play, Live, Jog $\pm$ XXXX SRC $\pm$ XXXX response answer.
($\pm$ XXXX : -32 to -1/64, + 00, + 1/64 to + 32)

*2 Date can be set to either MM : DD : YYYY (MMDDYYYY) or YYYY : MM : DD (YYYYMMDD) when unit set to NTSC format. Date will be DD : MM : YYYY (DDMMYYYY) when unit set to PAL format. (Date used set at internal dipswitch S3. See chapter 2-2 previous.)

*3 Where ZZZZZZ shown equals info on SCSI ID no. 0123456, respectively. Indication for each character is as follows: 1 = Available for use, 0 = Assigned but not available (not menu selected), - (dash) = Not assigned, not available.

For example, if 100-100 is displayed:

ID no. 0 & 4 are available,

ID no. 1, 2, 5, 6 are not available, (not menu selected)

ID no. 3 is not assigned (connected), not available (not menu selected).

*4 See table on following page for Menu code/data numbers.

◆ Regarding Menu Setting Commands

Numbers indicated in table below for Menu code (XX) and Menu data (YYYY) will affect operational setting shown as indicated.

Operation	Menu code	Menu data	Setting made
Record quality *1	00	00	Best quality
		01	Standard
		02	Low
Timelapse mode *2 (Record speed)	01	00	Realtime (No timelapse record) 1/60 sec.(NTSC) 1/50 sec (PAL)
		01	1/30 sec. (NSTC), 1/25 sec. (PAL)
		02	1/20 sec. (NTSC), 3/50 sec. (PAL)
		03	1/10 sec.
		04	1/5 sec.
		05	1 sec.
		06	2 sec.
		07	4 sec.
		08	8 sec.
		09	16 sec.
Record/ playback initiate in- terval *3	02	00	Records/plays back only when started, stopped at front panel or via remote control.
		01	Ea. 1 frame
		02	Ea. 2 frames
		03	Ea. 5 frames
		04	Ea. 10 frames
		05	Ea. 1 sec.
		06	Ea. 2 sec.
		07	Ea. 5 sec.
		08	Ea. 10 sec.
		09	Ea. 30 sec.
		10	Ea. 1 min.
		11	Ea. 2 min.
		12	Ea. 5 min.
		13	Ea. 10 min.
		14	Ea. 20 min.
		15	Ea. 30 min.
		16	Ea. 1 hr.
		17	Ea. 2 hr.
		18	Ea. 5 hr.
		19	Ea. 10 hr.

Operation	Menu code	Menu data	Setting made
Record length *3	03	00	OFF
		01	For 1 field
		02	For 1 frame
		03	For 5 frames
		04	For 1 sec.
		05	For 5 sec.
		06	For 10 sec.
		07	For 30 sec.
		08	For 1 min.
		09	For 5 min.
Realtime record time	03	00~99	Record realtime after alarm input in timelapse mode only.
Search mode	04	00	Search by field
		01	Search by frame
Recycle record/playback	05	00	Recycle on
		01	No Recycle
End of HD alarm *4	06	00~09	Remaining record time in min.
On Screen Display	07	00	Character displayed on output 1
		01	Character not displayed on output 1
Background bluematt *5	08	00	Blue matt bkgd no displayed in place of video
		01	Blue matt bkgd displayed in place of video

Important

- *1) Note that playback quality will be the same as the quality setting made for record.
- *2) Sets record speed to timelapse or normal (realtime). Note that if a timelapse record setting is made here, record length will be proportional extended from normal record. (For example, if 1/10 sec. setting made for T/L mode, time period over which recording occur will be approx. 6 times (NTSC) longer than normal record set.
- *3) After Interval and Rec Time are set, Play button will flash whenever record via these settings active.
- *4) Even though setting is made in realtime minutes, flashing warning (alarm) appearing on video output will indicate remaining percentage of disk space available. Number of minutes set is proportional to XX% remaining.
- *5) Bluematt appears only when menus displayed during operation.

■5-4. Connector Type

9 pin D-sub, female, type used at LTC 3995 rear panel.

LTC 3995 connector
Cable connector

Pin core : DEU-9PF-F0 (JAE)
Pin core : DE-9SF-N (JAE)
Backshell : DE-C8-J9-F2-1 (JAE)

■5-5. Pin Assignment

Pin No.	Signal	Remarks
1	DCD	Pins 4/6 repeat
2	TxD	Transmit data
3	RxD	Receive data
4	DTR	Pins 1/6 repeat
5	SG	Signal ground
6	DSR	Pins 1/4 repeat
7	CTS	Transmit ready
8	RTS	Transmit request
9	RI	NC

■ 5-6. Cable Wiring

LTC 3995 side (9 pin)

Computer side (PC-AT, 9 pin)

DCD	1	←→	1	DCD
TxD	2	←→	2	RxD
RxD	3	←→	3	TxD
DTR	4	←→	4	DTR
SG	5	←→	5	SG
DSR	6	←→	6	DSR
CTS	7	←→	7	RTS
RTS	8	←→	8	CTS
RI	9	←→	9	RI

Cable example shown is straight wired. Note that some computers may require a crosswired cable if pin assignments at computer side differ from those above.