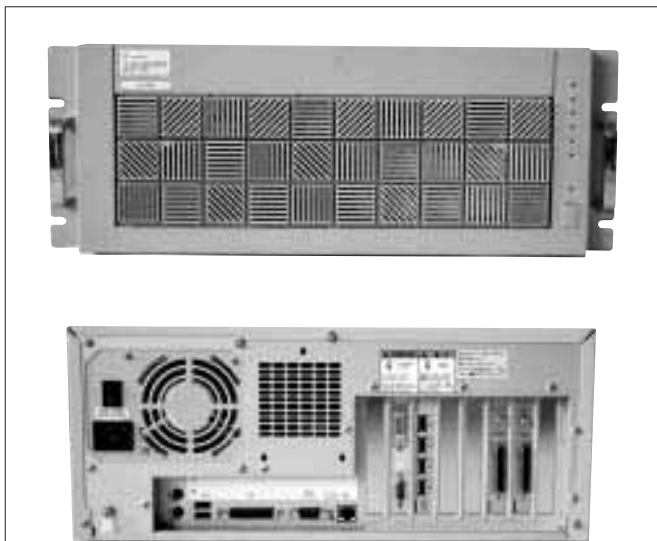


1701B

TS DATA GENERATOR



This unit is 1701B-001.

Type List

Model Name	OS	Input/Output Interface
1701B-001	Microsoft Windows 2000 Professional Japanes Ver.	DVB-SPI
1701B-002	Microsoft Windows 2000 Professional Japanes Ver.	DVB-SPI, DVB-ASI
1701B-011	Microsoft Windows 2000 Professional English Ver.	DVB-SPI
1701B-012	Microsoft Windows 2000 Professional English Ver.	DVB-SPI, DVB-ASI

General

This unit is the equipment to generate/read-in transport stream (hereafter called as TS) based on computer, and is possible to output (generate) and to input (take-in) MPEG2 TS data by DVB-SPI interface (LVDS TIA/EIA-644). Output (generation) and input (taking-in) utilize memory equipped on computer. Under the condition that no software other than data generation software (TSLG, EXE) pre-installed in this unit is executed, vacant capacity of more than 1500Mbytes can be used for TS data. This unit also corresponds to TS output of ISDB-S (TS with TMCC) and ISDB-T (Broadcasting TS). By connecting with various digital modulators manufactured by Eiden, this unit can be used as stream generator. DVB-ASI interface can be equipped as an option.

Features

TS data generator "1701B" equips Pentium4 processor (2AGHz) manufactured by Interl Corp. and main memory of standard 2GB (Usable capacity for contents is approx. 1.5Gbytes), and high speed processing of large volume of data is possible.

For main unit of computer, personal computer for FA developed for continuously stable operation and highly reliable system is adopted. Windows 2000 is used as OS, so that easy GUI operation on display is possible. Keyboard and mouse are included. But, on assumption that monitor met with customer's needs is used, so that monitor is not included as standard specifications. Please provide VGA monitor separately. Use connector attached with VGA (Resolution of more than 640 x 480), (Purchase from Eiden is also possible).

(Windows 2000 is registered track mark of Microsoft Corporation in the U.S.A. and other countries.)

Mirroring system corresponded to hot swap is adopted, so that reliability for OS and data is greatly increased.

External interface corresponded to USB 2.0 is equipped as the standard, so that large volume of data can be copied in short time. (TS playback from external hard disk through UBS 2.0 is impossible.)

2.5 in. HDD is equipped in removal case as the standard, so that movement of data which can not be shored on CD or DVD is possible. (TS playback for long time from 2.5 in. HDD is impossible. Make TS playback by copying TS on mirroring system.)

Fan, power source and etc. designed for long life that are no need to exchange for approx. 10 years of operating term are equipped.

Interfaces for input and output are as follows.

- Input interface DVB-SPI (LVDS TIA/EIA-644) 1 route
- Output interface DVB-SPI (LVDS TIA/EIA-644) 1 route
- External Clock Input 1 route (TTL 50 , Either bit clock or byte clock can be input)
- External Clock Output 1 route (TTL 50 , Either bit clock or byte clock is output)

Output (Generation) and input (Taking-in) for TS of 188, 204 and 208bytes are possible.

At TS input (Taking-in), in case of other than DATA mode, input is stored with 188bytes packet in file.

TS of ISDB-S format (TS with TMCC) and of ISDB_T format (Broadcasting TS) are possible to output.

Taking-in of all parallel data (8 bits) is possible, too.

Maximum rate of TS input/output is 11.25Mbytes/sec. (90Mbps) when memory is used.

When HDD is used, max. rate of output is 60Mbps and max. rate of input is 30Mbps.

TS generation synchronized with external clock (either serial or parallel clock) is possible.

Also, TS generation by internal clock is possible. Setting is made with unit of 1kHz. (In case that accuracy is required, supply clock from external clock input terminal.)

By purchase and use of optional UPS, control for turning power ON/OFF, automatic output of specific data and automatic shut-down of computer are possible.

Sample streams for ISDB-T terrestrial digital broadcasting specifications, ISDB-S BS digital broadcasting specifications, ATSC specifications (8 VSB) and Perfec TC specifications are attached as accessories and are pre-installed in built-in HDD of main unit.

Copy right of this sample stream (including video and audio data multiplexed) belongs to Eiden, so that use in other equipment is prohibited.

Sample Stream Specifications

ISDB-T Terrestrial Digital Broadcasting Specifications

File Name : ISDBT340. TS (Broadcasting TS 204bytes)

TS Bit Rate : 32.508Mbps (2048/63Mbps)

Broadcasting TS Format

Layer	ch	Video enc.	Video size	Frame rate	Video	Audio enc.	Audio
A	0x580	MPEG4 (160kbps)	320 x 240	15	Moving picture	AAC (144kbps)	MUSIC
B	0x400	MPEG2 (4Mbps)	720 x 480	29.971	Moving picture	AAC (144kbps)	MUSIC
C	0x401	MPEG2 (8Mbps)	1920 x 1080	29.971	100% color bar	AAC (144kbps)	L,R 1kHz Tone

ISDB-S BS Digital Broadcasting Specifications

File Name : BS15. TS

TS Bit Rate : 56.61Mbps (204bytes with TMCC)

Contents : Moving picture 480i (200ch), Color bar 480i (202ch),
Monoscope 480i (201ch)
Color bar 1080i (109ch), Monoscope 1080i (108ch)

ATSC Specifications

File Name : ATSC1. TS, ATSC2. TS, ATSC3. TS, ATSC4. TS

TS Bit Rate : 19.392658Mbps (At 188bytes)

Contents : ATSC1 = Moving picture, Monoscope 480p, Color bar 480p
ATSC2 = Color bar 1080i, Monoscope 1080i, Color bar 720p
ATSC3 = Color bar 720p, Monoscope 720p
ATSC4 = Color bar 480i, Monoscope 480i

Perfec TV Specifications

File Name : PTV. TS

TS Bit Rate : 31.644Mbps (At 204bytes)

Contents : Moving picture 480i, Color bar 480i, Monoscope 480i
For details of contents, please inquire Eiden's sales dept.

Composition

Main Unit 1
Dimensions 420(W) x 176(H) x 450(D) mm (Excluding projections)
Weight Approx. 18kg

Specifications

Standard Specifications

Processor : Intel (R) Pentium (R) 4 Processor or 2AGHz
Main Memory : 2 Gbytes (Impossible to change)
FDD : 3.5in. type 2mode standard equipped.
DVD-ROM : Standard equipped.
HDD1 (IDE) : Hot Swap (More than 60Gbytes, Mirroring)
HDD2 (IDE) : Removable disk (More than 40Gbytes)

Standard Input/Output Interface

CRT : RGBHV (Mini D-sub 9pin), DVI-129pin
Key Board : PS/2
Mouse : PS/2
Serial Port : 1ch (RS-232C, D-sub 9pin)
Parallel Port : 1ch (Conforming to Centronics, D-sub 25pin)
USB Port : 3 ports (Front 1ch/Rear 2ch), USB1.1
2 ports (Rear 4ch), USB2.0

LAN Port : 100BASE-TX, RJ45

TS Input Interface : DVB-SPI 1route

TS Output Interface : DVB-SPI 1route

External Clock Input : SMA 1route

External Clock Output: SMA 1route

Option : UPS (Uninterruptible Power Supply)

(NOT) DVD-ROM Corresponding Format : DVD-ROM, DVD-Video, CD-ROM, CD-R, CD-RW

For format other than the above, there may be the case not to correspond.

Writing on CD-R, -RW can not be made.

Accessories

Key Board	1
Mouse	1
SMA-BNC Conversion	2
Both ends BNC Cable	1
Dsub 25 Pin Cable	2
Power Cable (Including 3pin 2pin converter)	1
Software	1set (Installed)
Sample Stream	Installed in built-in HDD of main unit (No supply by media)
Windows 2000	1set (Installed)
Computer Manual	1set
Rack Mount Adapter	1set
Instruction Manual	1

Power Source

Input Voltage Allowable Range : AC90V ~ AC250V (50Hz/60Hz)

Power Consumption : Approx. 300W

Operating Environment

Temperature : +5 ~ + 40

Humidity : 45% ~ 85%RH (No dew generation)

Rating

• DVB-SPI Input Interface 1 route

Input Specifications :LVDS TIA/EIA-644

Input Rate : Max. 11.25M bytes/s

Pin No.	Signal Name	Pin No.	Signal Name	Direction
1	CLKA	14	CLKB	Input
2	SYS GND	15	SYS GND	
3	DATA7 A	16	DATA7 B	Input
4	DATA6 A	17	DATA6 B	Input
5	DATA5 A	18	DATA5 B	Input
6	DATA4 A	19	DATA4 B	Input
7	DATA3 A	20	DATA3 B	Input
8	DATA2 A	21	DATA2 B	Input
9	DATA1 A	22	DATA1 B	Input
10	DATA0 A	23	DATA0 B	Input
11	DATA VALID A	24	DATA VALID B	Input
12	SYNC A	25	SYNC B	Input
13	NC(Not Connected)			

• DVB-SPI Output Interface 1 route

Output Specifications :LVDS TIA/EIA-644

Output Rate : Max. 11.25M bytes/s

Pin No.	Signal Name	Pin No.	Signal Name	Direction
1	CLKA	14	CLKB	Output
2	SYS GND	15	SYS GND	
3	DATA7 A	16	DATA7 B	Output
4	DATA6 A	17	DATA6 B	Output
5	DATA5 A	18	DATA5 B	Output
6	DATA4 A	19	DATA4 B	Output
7	DATA3 A	20	DATA3 B	Output
8	DATA2 A	21	DATA2 B	Output
9	DATA1 A	22	DATA1 B	Output
10	DATA0 A	23	DATA0 B	Output
11	DATA VALID A	24	DATA VALID B	Output
12	SYNC A	25	SYNC B	Output
13	NC(Not Connected)			

• External Clock Input SMA 1 route

Input Specifications : TTL (50 termination input)

Input Max. Frequency : Serial Clock Input Up to max. frequency of 60MHz

Parallel Clock Input Up to max. frequency of 11.25MHz

• External Clock Output SMA 1 route

Output Specifications : TTL (Output is equivalent to 74S140)

Same clock with clock input from external clock input is output.

• Input/Output Stream Format

There are following formats for possible input and output formats.

[Input Format]

- TS 188 Mode (Stream including TMCC is possible)
- TS 204 Mode (Stream including TMCC is possible)
- TS 208 Mode (Stream including TMCC is possible)
- TS SYNC Mode (Signal of DATA VALID is ignored)
- DATA 8 with VALID Mode (Only VALID signal is taken)
- DATA8 Mode (Parallel data of 8 bits are taken unconditionally)
- DATA16 Mode (Data including VALID and SYNC Flag are taken. 2 bytes of memory are needed for 1 byte of data. Data are 7th bit of even address for SYNC, 6th bit for VALID and 5th bit to 0th bit for ALLC0, and odd address is data)

[Output Format]

- TS 188 Mode (Stream including TMCC is possible)
- TS 204 Mode (Stream including TMCC is possible)
- TS 208 Mode (Stream including TMCC is possible)
- TMCC (SF SYNC) 188Mode (SYNC becomes super frame SYNC)
- TMCC (SF SYNC) 204Mode (SYNC becomes super frame SYNC)
- TMCC (SF SYNC) 208Mode (SYNC becomes super frame SYNC)
- DATA8 Mode (Data in file are output as they are. SYNC. VALID are invalid)
- DATA16 Mode (Data including SYNC and VALID are taken. 2bytes of memory are needed for 1 byte of data. Data are 7th bit of even address for SYNC, 6th bit for VALID and 5th bit to 0th bit for ALLO, and odd address is data)