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SPECIFICATIONS
OF
Super Multi DVD Writer
Model GTC2N
(HLDS suffix : CTWA10B)

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Hitachi-LG Data Storage Inc.

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Revision History

No.	Date	Brief description	Note
1	2020.06.11	1 st release	1.00
2	2021.08.11	Label update	1.01

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1. Features

1.1 General

- (1) 12.mm Height Internal Slim Super Multi Drive
- (2) CD-R/RW, DVD-R/RW/RAM/ +R/+RW +/-R DL read and write compatible, M-DISC/+M SL read and write, CD Family and DVD-ROM read compatible
- (3) Enhanced IDE (ATAPI) interface : SATA Interface
- (4) Buffer memory 0.50 MB
- (5) Buffer Under-run prevention function embedded
- (6) Running OPC (Optimize Power Control) circuit
- (7) Drawer Type manual Load / Electrical Release
- (8) Supports Power saving mode and Sleep mode
- (9) Vertical and Horizontal installable
- (10) Support Zero Power ODD function

1.2 Supported disc formats

- (1) Reads data in each DVD-ROM, DVD-R(Ver.1.0, Ver. 2.0 for Authoring).
- (2) Reads and writes in each DVD-R(Ver. 2.1 for General), DVD-R DL(Dual Layer), DVD-RW, DVD-RAM(Ver.2.2),DVD+R, DVD+R DL(Double Layer), and +RW
- (3) Reads data in each CD-ROM, CD-ROM XA, CD-I, Video CD, CD-Extra and CD-Text
- (4) Reads data in Photo CD (Single and Multi session)
- (5) Reads standard CD-DA
- (6) Support to read Super Audio CD (Compatible layer in Hybrid type)
- (7) Reads and writes CD-R discs conforming to "Orange Book Part 2"
- (8) Reads and writes CD-RW discs conforming to "Orange Book Part 3"
- (9) CPRM (DVD-R/RW/RAM) supported
- (10) Reads and writes in M-DISC/+M (Archival)

1.3 Supported write method

- (1) DVD-R: Disc at Once and Incremental Recording
- (2) DVD-R DL: Disc at Once and Incremental Recording and Format 4
- (3) DVD-RW: Disc at Once, Incremental Recording and Restricted Overwrite
- (4) DVD-RAM: Random Write
- (5) DVD+R: Sequential Recording
- (6) DVD+R DL Sequential Recording
- (7) DVD+RW: Random Write
- (8) CD-R/RW: Disc at Once, Session at Once, Track at Once and Packet Write

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1.4 Performance

- (1) Average access time: DVD-ROM 160 ms
(Random stroke) CD-ROM 140 ms
- (2) Write speed:
- | | |
|------------------|--|
| DVD-R | 2x CLV, 4x PCAV, 8x CAV |
| DVD-R DL | 2x CLV, 4x PCAV, 6x PCAV |
| DVD-RW | 2x CLV, 4x, 6x ZCLV |
| DVD-RAM | 2x, 3x CLV, 5x PCAV (Ver.2.2)
(12x Media: Not support) |
| M-DISC(DVD+R SL) | 4x PCAV |
| DVD+R | 4x PCAV, 8x CAV |
| DVD+R DL | 2.4x CLV, 4x PCAV, 6x PCAV |
| DVD+RW | 2.4x, 3.3x CLV, 4x ZCLV, 6x ZCLV, 8x ZCLV
(8x Speed disc: 3.3x CLV, 6x ZCLV, 8x ZCLV) |
| CD-R | 10x CLV, 16x PCAV, 24x CAV |
| CD-RW | 4x, 10x CLV, 16x, 24x ZCLV
(High Speed 10x CLV, Ultra Speed 24x ZCLV) |
- (3) Read speed:
- | | |
|--------------------------------|-----------------------------|
| DVD-R/RW/ROM | 8x/8x/8x max. |
| DVD-R DL | 8x max. |
| DVD-RAM (Ver.2.2) | 6x max. |
| DVD-Video (CSS Compliant Disc) | 4x max. (Single/Dual layer) |
| M-DISC(DVD+R SL) | 8x CAV |
| DVD+R/+RW | 8x/8x max. |
| DVD+R DL | 8x max. |
| CD-R/RW/ROM | 24x/24x/24x max. |
| CD-DA (Ripping/play) | 24x/10x max. |
- (4) Sustained Transfer rate:
- | | |
|---------|--------------------------|
| DVD-ROM | 11.08 Mbytes/s (8x) max. |
| CD-ROM | 3600 kB/s (24x) max. |
- (5) Burst Transfer mode: SATA, Ultra DMA Mode 6
Multi word DMA Mode 2
PIO Mode 4
- (6) Support CD-Text read/write

1.5 Audio

- (1) 16 bit digital data output through ATA interface
(2) Software Volume Control

*Definition

Transfer Rate: 1x (DVD) = 1.385 Mbytes/s, Mbytes/s = 10^6 bytes/s,
1x (CD) = 150 kB/s kB/s = 2^{10} bytes/s

Capacity: MB = 2^{20} bytes, kB = 2^{10} bytes

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2. General description

2.1 Applicable disc formats

DVD	DVD-ROM:	4.7GB (Single Layer) 8.5GB (Dual Layer)
	DVD-R:	3.95GB (Ver. 1.0: read only) 4.7GB (Ver. 2.0 for Authoring: read only) 4.7GB (Ver. 2.1 for General: read & write) (DL) 8.5GB (Ver. 3.0)
	DVD-RW:	4.7GB (Ver. 1.2/ Rev 1.0, 2.0, 3.0)
	DVD-RAM:	1.46GB/side, 4.7GB/side (Ver. 2.2)
	DVD+R:	4.7GB (Ver. 1.3) (DL) 8.5GB (Ver. 1.1)
	DVD+RW:	4.7GB (Vol.1 Ver.1.3)
Archival	M-DISC/+M	4.7GB
CD	CD-ROM Mode-1 data disc CD-ROM Mode-2 data disc CD-ROM XA, CD-I, Photo-CD Multi-Session, Video CD CD-Audio Disc Mixed mode CD-ROM disc (data and audio) CD-Extra CD-Text CD-R (Conforming to "Orange Book Part 2": read & write) CD-RW (Conforming to "Orange Book Part 3": read & write)	

2.2 Writing method

(1) DVD-R/RW	Disc at Once (DAO) Incremental Recording Restricted Overwrite (DVD-RW only)
(2) DVD-R DL	Disc at Once (DAO) Incremental Recording Format 4 (layer jump recording)
(3) DVD-RAM/+RW	Random Write
(4) DVD+R	Sequential Recording
(5) DVD+R DL	Sequential Recording
(6) CD-R/RW	Disc at Once (DAO) Session at Once (SAO) Track at Once (TAO) Packet Writing

2.3 Disc diameter

120 mm
80 mm

2.4 Data capacity

User data / Block	DVD-ROM/R/RW/RAM /+R/+RW 2,048 bytes/block
	CD (Yellow Book) 2,048 bytes/block (Mode1 & Mode2 Form1) 2,336 bytes/block (Mode2) 2,328 bytes/block (Mode2 Form2) 2,352 bytes/block (CD-DA)

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3. Drive performance

3.1 Host interface T13 ATA/ATAPI-8
MMC-6, INF-8090i v8

3.2 Write Speed

Media (Media Speed)	Writing Speed	Transfer rate (DVD: Mbytes/s, CD: kB/s)
DVD-R (1-2x)	2x CLV	2.77 Mbytes/s
-R (1-4x)	3.3-4x PCAV	4.58-5.54
-R (1-8x)	3.3-4x PCAV, 3.3-8x CAV	4.58-5.54, 4.58-11.08
-R (1-16x)	3.3-4x PCAV, 3.3-8x CAV	4.58-5.54, 4.58-11.08
DVD-R DL (2x)	2xCLV	2.77
-R DL (4x)	3xCLV, 3.3-4x PCAV	4.16, 4.58-5.54
-R DL (8x)	3xCLV, 3.3-4x PCAV, 3.3-6x PCAV,	4.16 4.58-5.54, 4.58-8.31
DVD-RW (1-2x)	2x CLV	2.77
-RW (2-4x)	2x CLV, 2+4x ZCLV	2.77, 2.77+5.54
-RW (2-6x)	2x CLV, 2+4x, 2+4+6x ZCLV	2.77, 2.77+5.54, 2.77+5.54+8.31
-RW (8cm)	2x CLV	2.77
DVD-RAM (2x)	2x ZCLV	2.77 (w/o Verify)
-RAM (2-3x)	3x ZCLV	4.16 (w/o Verify)
-RAM (2-5x)	3-5x PCAV	4.16-6.93 (w/o Verify)
-RAM (over 12x)	Not supported	
-RAM (8cm)	2x ZCLV	2.77 (w/o Verify)
DVD+R (2.4x)	2.4x CLV	3.32
+R (2.4-4x)	3.3-4x PCAV	4.58-5.54
+R (2.4-8x)	3.3-4x PCAV, 3.3-8x CAV	4.58-5.54, 4.58-11.08
+R (2.4-16x)	3.3-4x PCAV, 3.3-8x CAV	4.58-5.54, 4.58-11.08
DVD+R DL (2.4x)	2.4x CLV	3.32
DVD+R DL (4x)	3.3-4x PCAV	4.58-5.54
+R DL(8x)	3xCLV 3.3-4x PCAV, 3.3-6x PCAV	4.16 4.58-5.54, 4.58-8.31
DVD+RW (2.4x)	2.4x CLV	3.32
+RW (2.4-4x)	2.4x CLV, 2.4+4x ZCLV	3.32, 3.32+5.54
+RW (3.3-8x)	3.3x CLV, 3.3+6x ZCLV 3.3+6+8x ZCLV	4.58, 4.58+8.31 4.58+8.31+11.08
CD-R	10x CLV, 10-16x PCAV 10-24x CAV	1,500, 1,500-2,400 1,500-3,600
CD-RW (MS)	4x CLV	600
-RW(HS)	10x CLV	1,500
-RW (US)	10 CLV, 10+16x ZCLV 10+16x+24x ZCLV	1,500, 1,500+2,400 1,500+2,400+3,600

* Rotational speed (CLV, ZCLV)

DVD-R/RW/ROM,+R/RW	1x: Approx. 1,390 (Inside) - 580 r/min (Outside)
DVD-RAM Ver.2.2	2x: Approx. 3,250 (Inside) - 1,380 r/min (Outside)
CD-R/RW/ROM	1x: Approx. 500 (Inside) - 210 r/min (Outside)

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3.3 Read Speed

Media (Media Speed)	Read Speed	Transfer rate (DVD: Mbytes/s, CD: kB/s)	Rotational speed (Approx. r/min)
DVD-ROM (Single Layer)	3.3 - 8x CAV	4.58 - 11.08 Mbytes/s	4,750 r/min
(Dual Layer)	3.3 - 8x CAV	4.58 - 11.08	5,130
DVD-Video*1	1.7 - 4x CAV	2.29 - 5.54	2,358
DVD-R (3.95GB/Data)	3.3 - 8x CAV	4.58 - 11.08	5,130
(3.95GB/ CSS)	1.7 - 4x CAV	2.29 - 5.54	2,358
(4.7GB/Data)	3.3 - 8x CAV	4.58 - 11.08	4,750
(4.7GB/ CSS)	1.7 - 4x CAV	2.29 - 5.54	2,358
DVD-R DL	3.3 - 8x CAV	4.58 - 11.08	5,130
DVD-RW (Data)	3.3 - 8x CAV	4.58 - 11.08	4,750
(4.7GB/ CSS)	1.7 - 4x CAV	2.29 - 5.54	2,358
DVD-RAM *2 (Ver. 2.2)	2.6 - 6x CAV	3.59 - 8.69	4,410
DVD+R	3.3 - 8x CAV	4.58 - 11.08	4,710
DVD+R DL	3.3 - 8x CAV	4.58 - 11.08	5,130
DVD+RW	3.3 - 8x CAV	4.58 - 11.08	4,750
CD-ROM/PhotoCD	10 - 24x CAV	1,500 - 3,600 kB/s	4,960 r/min
CD-R/RW	10 - 24x CAV	1,500 - 3,600	4,960
CD-DA(DAE)	10 - 24x CAV	1,500 - 3,600	4,960
CD-I/VideoCD	4.3 - 10x CAV	650 - 1,500	2,100

*1) DVD-Video: CSS only, Single Layer, Dual Layer are same as above.

*2) DVD-RAM: Data, Video Format are same as above.

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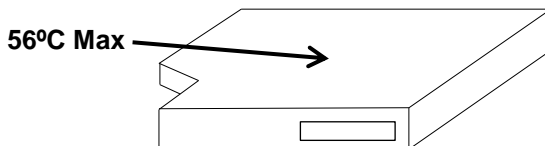
4. Environmental Conditions

4.1 Ambient Temperature

Operating	Read	5 to 50 °C
	Write	5 to 45 °C
Storage/Transportation		-30 to 60 °C

4.2 Approval Temperature Rise

Center of Top Cover	56 °C max.
---------------------	------------



4.3 Temperature Gradient 10 °C/h

4.4 Relative Humidity

Operating	Read	15 % to 85 % (Non-Condensing)
	Write	15 % to 80 % (Depend on the Temperature)
Storage/Transportation		10 % to 90 % (Non-Condensing)

4.5 Dew point temperature restrictions Less than 29 °C

4.6 Altitude

Operating	0 to 3000 m
Non-operating	0 to 12000 m

4.7 Vibration

(1) Operating

Read:	1.96 m/s ² (0.2 G) No unrecoverable error 5 to 300 Hz sine wave sweep, 3 oct./min at Each of 3 directions ¹⁾ ,
Write:	0.98 m/s ² (0.1 G) No recording stop 5 to 300 Hz sine wave sweep, 6 oct./min at Each of 3 directions ¹⁾

(2) Non-Operating:

9.8 m/s² (1.0 G) No physical and electrical damage. (No disc loaded)
5 to 300 Hz sine wave sweep, 1 oct./min at Each of 3 directions¹⁾

(3) Transportation:

8.04 m/s² (0.82 G) No damage must results. (Packed unit)
5 to 50 Hz random vibration for 20 min at Z-axis direction.

* 1) 3direction : X (left and right), Y (back and front), Z (top and bottom) axis

4.8 Shock

(1) Operating

Read:	49 m/s ² (5 G) No unrecoverable error (“Retries” are allowed.) 11 ms Half sine wave(5 time shocks, 5 s between shocks.) at Each of 3 directions ¹⁾
write:	1.96 m/s ² (0.2 G) No recording stop. 11 ms Half sine wave, at Each of 3 directions ¹⁾ (5 time shocks, 5 s between shocks.)

(2) Non-Operating:

980 m/s² (100 G) No damage after shock. (No disc loaded)
2 ms Half sine wave at Each of 3 directions¹⁾

* 1) 3direction : X (left and right), Y (back and front), Z (top and bottom) axis

4.9 Drop Impact

Less than 60 cm
Note: Bulk package, 1 Corner, 3 Edges, 6 Faces.

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5. Quality and Reliability

5.1 MTBF

Assumption:	60,000 Power On hours (POH)
-POH per year	Used in a normal office environment at room temperature.
-ON/OFF cycles per year	3,000
-Operating duty cycle	480
	10% of Power on time (Seek: 10% of operating time)

5.2 Tray Cycle Test

10,000 times tray open/close cycle test

5.3 Actuator Mechanism

1,000,000 full stroke seek

5.4 MTTR (Mean Time to Repair)

0.5 h

5.5 Component Life

Assumption:	5 years or 2,000h of Laser radiating time
	Used in a normal office environment

6. Electro Static Discharge Susceptibility (ESD)

Up to 6 kV(contact)	No user detectable data error
Up to 8 kV(contact)	No catastrophic failure or damage
Up to 10kV (Air)	No user detectable data error
Up to 15kV (Air)	No catastrophic failure or damage

* Test Conditions : C = 150pF, R = 330 ohms, 20 times discharge
except Optical Pick-up block and Connector

7. Power Requirements

7.1 Source Voltage

+5V±5% Ripple Less than 100 mVp-p

7.2 Current

Standby	50mA	typ.*2
DIPM on (Partial)*1	30mA	typ.
DIPM on (Slumber)*1	15mA	typ.
Continuous Read	750mA	typ. (CD-ROM 24x max. CAV)
	750mA	typ. (DVD-ROM 8x max. CAV)
Continuous Write	800mA	typ. (CD-R 24x ZCLV)
	750mA	typ. (DVD+R 8x CAV)
Spin UP (Spindle motor start up)	1.4 A	max *3
Maximum Current	1.5 A	*3

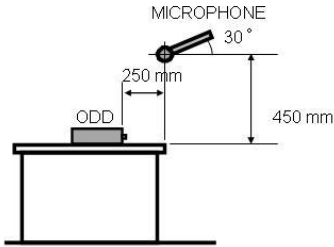
*1) If Zero Power function is supported, the value is 0mA.

*2) typ : Measured duration 10sec rms value.

*3) max : Excluded spike current <1ms duration.

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8. Acoustic Noise



Less than 50 dBA at 0.25 m away from Bezel and 0.45 m height away (ISO7779 Seated Operator Position)

- Note:
1. Disc: Less than Unbalance 0.25 g·cm
 2. Installation: Horizontal
 3. Ambient Temperature: Normal Temperature
 4. Except loading and unloading

9. Dimensions

WxHxD 128 x 12.7 x 127 mm (Refer to Section 13.)

10. Mass

Max. 160 g (without bezel)

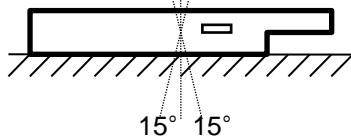
11. Mechanicals

11.1 Disc Loading

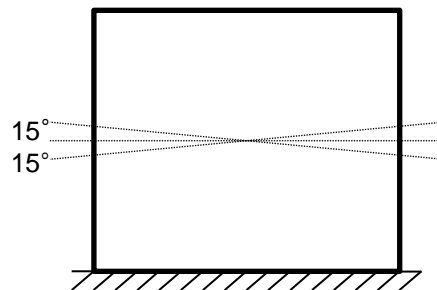
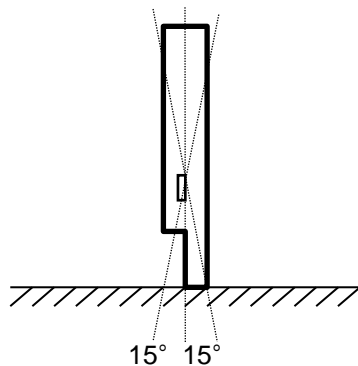
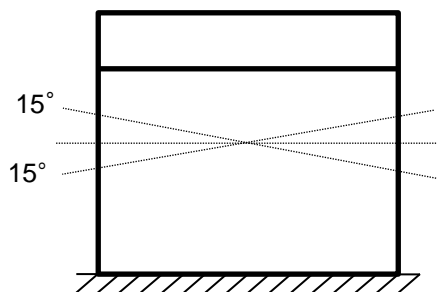
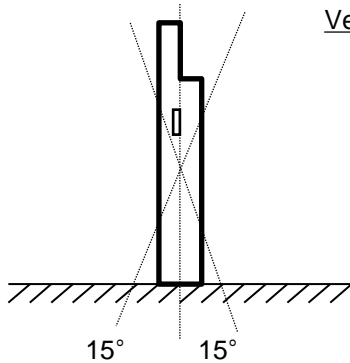
Drawer type manual load / Electrical release

11.2 Mounting Requirements

Horizontal



Vertical



-Note-

Operation with postures other than the above drawings is not guaranteed.

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11.3 Installation conditions

If the drive is not installed under the following conditions, it may not operate properly or cause damage to the drive.

- (1) When mounting the equipment, use tapping screw holes located on the left and right both sides of the equipment.
 When using screws to fix the connector from the host computer to the equipment, use tapping screw holes located on the back side of the equipment.
 - Recommended screw tightening torque : 0.2 N·m
 - Required screw depth : Max.1.5 mm or Max.2.5 mm or Max.3.0mm
 (See Chapter 13 Mechanical Dimensions for detail.)
- (2) Do not apply an excessive force (press, pull or twist) to avoid distorting the equipment.
 - Recommended width of the mounting frame surface on left and right
 Dimension L : 102.6 +/- 0.2 mm (See Fig.1)
 - Recommended value for Top and bottom case : See Fig.1 and Fig.2 for detail.
 - After mounting the connector, do not apply excessive force the connector of the equipment in horizontal and/or vertical direction.
 - Tighten screws evenly.
 - Mounting frame surface contacted with the equipment must be flat.
- (3) Allow enough space as much as possible in all directions around the equipment so the equipment does not apply any vibration, mechanical shock, etc. from peripheral instruments.
 - For the maximum dimension of the equipment thickness
 Recommended clearance : more than 0.5 mm.
 - Recommended clearance around the front bezel : more than 1 mm .

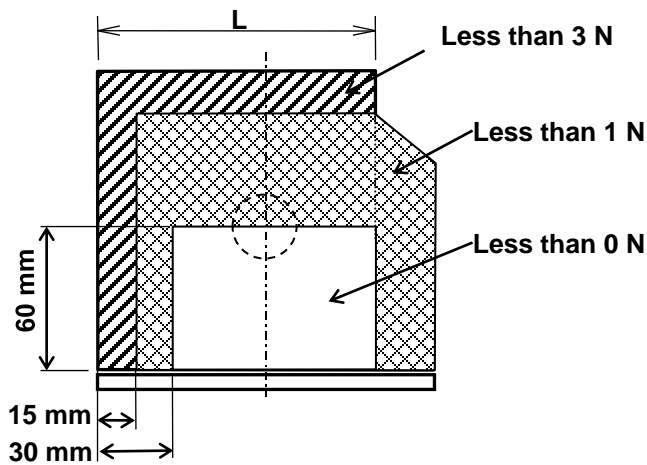


Fig.1 top view

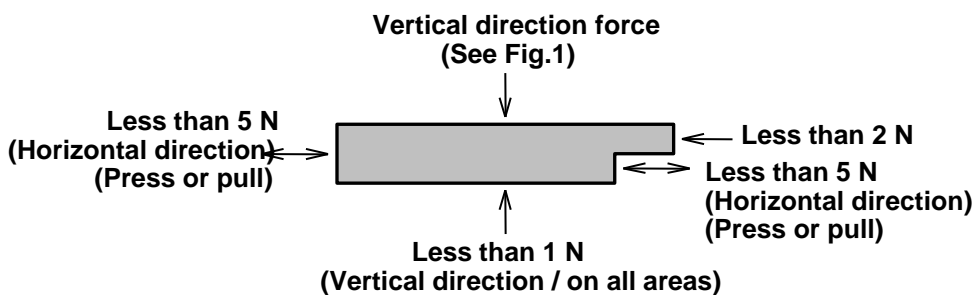
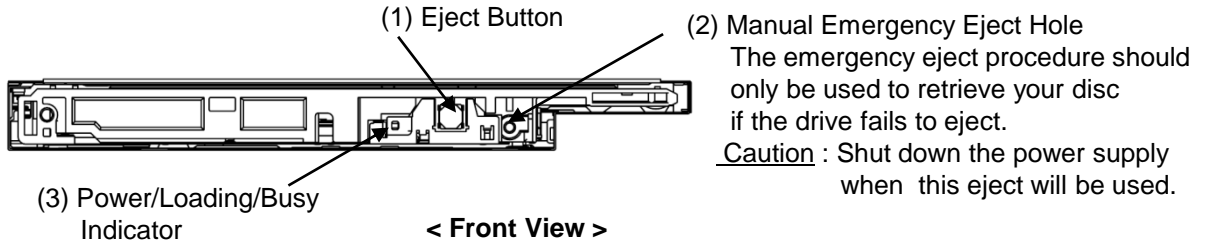


Fig.2 front view

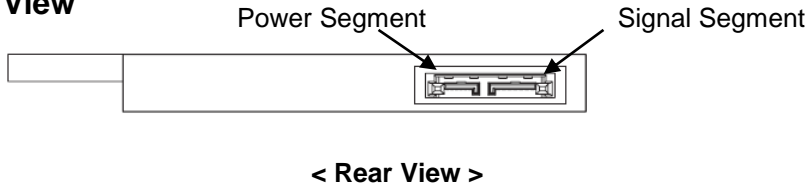
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12. Controls and Functions

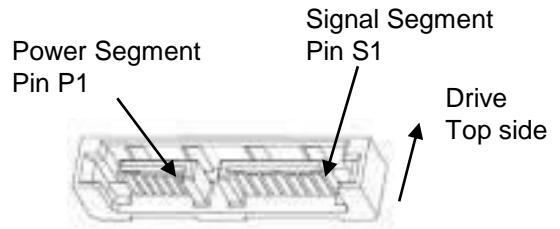
12.1 Front View



12.2 Rear View



12.3 Connector Pin Assignment



	Pin	Function		Cable Usage	Backplane Usage
Signal Segment	S1	GND		1 st mate	1 st mate
	S2	A+	Differential signal pair from host controller.	2 nd mate	2 nd mate
	S3	A-		2 nd mate	2 nd mate
	S4	Gnd		1 st mate	1 st mate
	S5	B-	Differential signal pair to host controller	2 nd mate	2 nd mate
	S6	B+		2 nd mate	2 nd mate
	S7	Gnd		1 st mate	1 st mate
Power Segment	P1	DP	Device Present	Last mate	Last mate
	P2	+5V		2 nd mate	2 nd mate
	P3	+5V		2 nd mate	2 nd mate
	P4	MD	Manufacturing Diagnostic	2 nd mate	2 nd mate
	P5	Gnd		1 st mate	1 st mate
	P6	Gnd		1 st mate	1 st mate

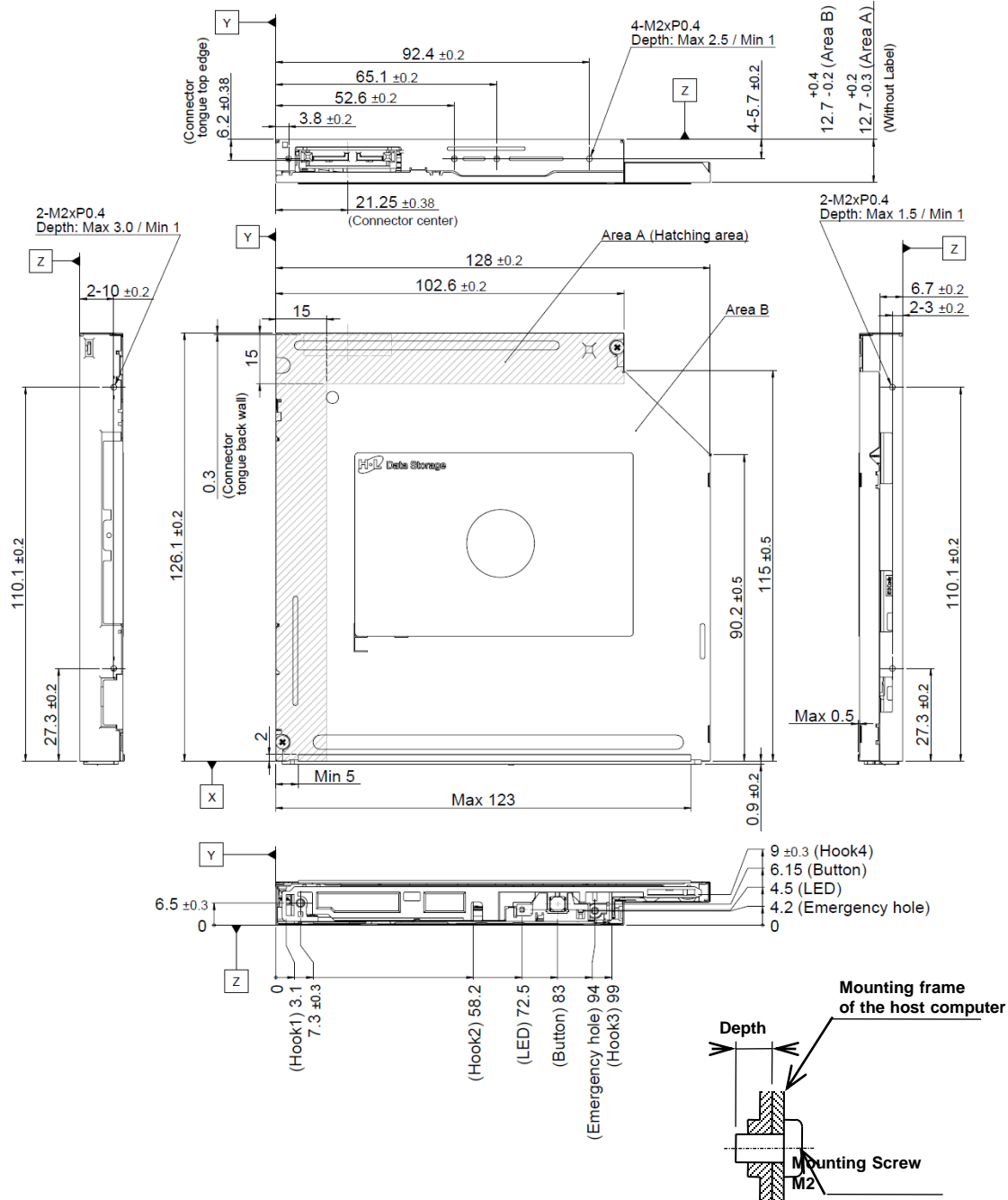
Issued Date	Jun. 11, 2020
Revised Date	Aug. 11, 2021

**GTC2N
(Standard)**

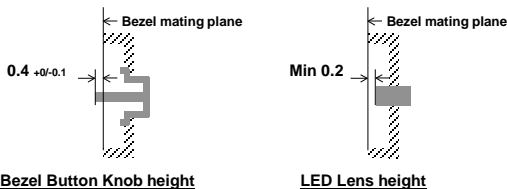
Rev. 1.01

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13. Mechanical Dimensions



*** Bezel design recommendation for Button & LED area**



Notes

- 1.M2 tapped holes for installation (Clamping Torque 0.2 N·m MAX.)
- 2.Unless otherwise specified, dimensional tolerance are +/- 0.5 mm.

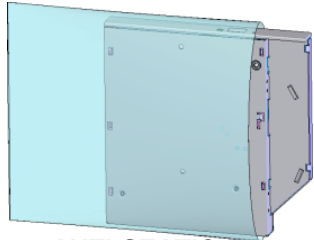
Issued Date	Jun. 11, 2020
Revised Date	Aug. 11, 2021

GTC2N
(Standard)

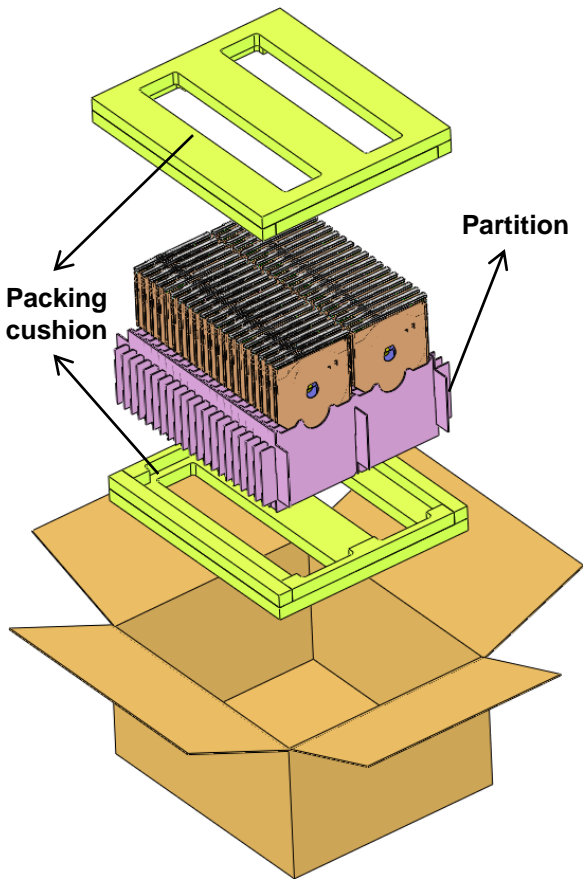
Rev. 1.01

17/23

14-1. Packaging(With Bezel type 40set in 1 Box)

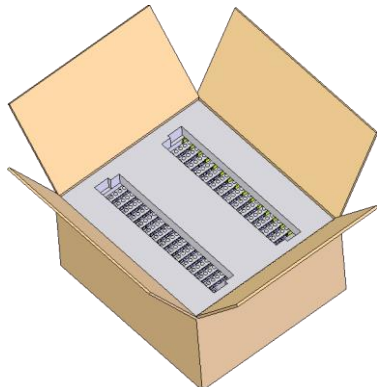


ANTI-STATIC BAG

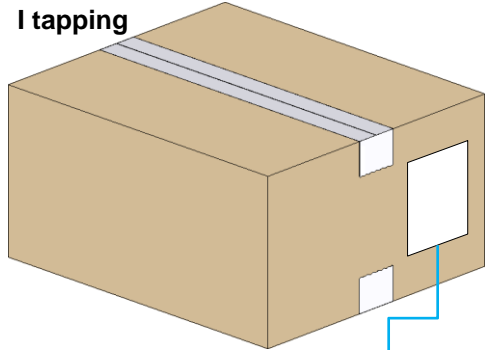


Packing cushion

Partition

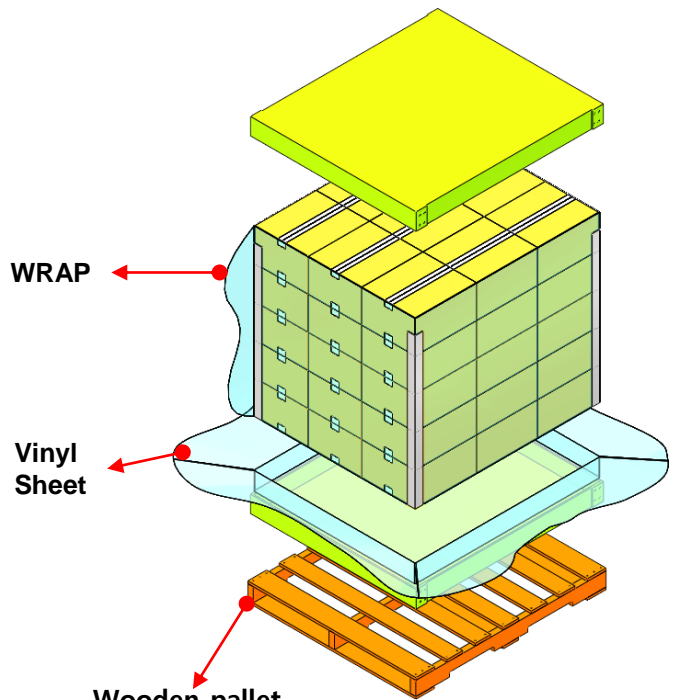


40units/box
386 x 335 x 195 (Outer size)



I tapping

Area of box label
SIZE : 90 x 120 mm



WRAP

Vinyl Sheet

Wooden pallet

1,800 units/Pallet
1220 x 1070 x 1120(mm)

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15. Supported Command List

15.1 ATA Commands

< Command >	< Code >
(1) ATAPI Packet Command	A0h
(2) ATAPI Soft Reset	08h
(3) Check Power Mode	E5h
(4) Execute Drive Diagnostics	90h
(5) Flush Cache	E7h
(6) Identify Packet Device	A1h
(7) Idle Immediate	E1h
(8) NOP	00h
(9) Read Log Ext	2Fh
(10) Set Features	EFh
(11) Sleep	E6h
(12) Standby Immediate	E0h

15.2 ATAPI Packet Commands

< Command >	< Code >
(1) BLANK	A1h
(2) CLOSE TRACK/RZONE/SESSION/BORDER	5Bh
(3) FORMAT UNIT	04h
(4) GET CONFIGURATION	46h
(5) GET EVENT STATUS NOTIFICATION	4Ah
(6) GET PERFORMANCE	ACh
(7) INQUIRY	12h
(8) LOG SELECT	4Ch
(9) LOG SENSE	4Dh
(10) MECHANISM STATUS	BDh
(11) MODE SELECT (10)	55h
(12) MODE SENSE (10)	5Ah
(13) PAUSE/RESUME	4Bh
(14) PLAY AUDIO (10)	45h
(15) PLAY AUDIO (12)	A5h
(16) PLAY AUDIO MSF	47h
(17) PLAY AUDIO TRACK RELATIVE (10)	49h
(18) PLAY AUDIO TRACK RELATIVE (12)	A9h
(19) PREVENT ALLOW MEDIUM REMOVAL	1Eh
(20) READ (10)	28h
(21) READ (12)	A8h
(22) READ BUFFER	3Ch
(23) READ BUFFER CAPACITY	5Ch
(24) READ CAPACITY	25h
(25) READ CD	BEh
(26) READ CD MSF	B9h
(27) READ DISC INFORMATION	51h
(28) READ DVD STRUCTURE	ADh
(29) READ FORMAT CAPACITIES	23h
(30) READ HEADER	44h
(31) READ SUB-CHANNEL	42h
(32) READ TOC/PMA/ATIP	43h
(33) READ TRACK/RZONE INFORMATION	52h
(34) REPAIR RZONE	58h
(35) REPORT KEY	A4h
(36) REQUEST SENSE	03h

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< Command >	< Code >
(37) RESERVE TRACK/RZONE	53h
(38) REZERO UNIT	01h
(39) SCAN	BAh
(40) SEEK	2Bh
(41) SEND CUE SHEET	5Dh
(42) SEND DVD STRUCTURE	BFh
(43) SEND KEY	A3h
(44) SEND OPC INFORMATION	54h
(45) SET CD SPEED	BBh
(46) SET READ AHEAD	A7h
(47) SET STREAMING	B6h
(48) START/ STOP UNIT	1Bh
(49) STOP PLAY/SCAN	4Eh
(50) SYNCHRONIZE CACHE	35h
(51) TEST UNIT READY	00h
(52) VERIFY(10)	2Fh
(53) VERIFY(12)	AFh
(54) WRITE(10)	2Ah
(55) WRITE(12)	AAh
(56) WRITE AND VERIFY(10)	2Eh
(57) WRITE AND VERIFY(12)	AEh
(58) WRITE BUFFER	3Bh

15.3 S-ATA function

CONT Primitive	Enable
Asynchronous signal recovery (Hot Plug)	Enable
Software Setting Preservation	Enable
Phy Event Counter	Enable
HIPM (Host Initiated Power Management)	Enable
DIPM (Device Initiated Power Management)	Enable
Asynchronous notification	Enable
BIST-L	Enable
BIST-TSA	Enable
Zero Power Slim line ODD	Enable

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16. Regulations and Standards

16.1 Safety

The product will satisfy the safety standards outlined below.

UL	UL60950-1 first edition
CSA	C22.2 No.60950-1-03
TÜV	EN 60950-1 / EN60825-1
SEMKO	EN 60950-1 / EN60825-1

16.2 EMC / EMI

The product complies with applicable technical requirements as specified below

CE Marking,
C-Tick Mark
Korean EMC(MIC)
Taiwan EMC(BSMI)
VCCI

16.3 Laser safety

The product will satisfy all the requirements for the laser specified below.

Class 1 laser product comply with DHHS rules 21 CFR Subchapter J
Class 1 laser product to EN60825-1 / IEC 60825-1

17. Supporting Operating System & Recording tool

17.1 Operating System

Windows 10
Windows 8.1
Windows 8
Windows 7
Windows Server 2019
Windows Server 2016
Windows Server 2012
Windows Server 2008

17.2 Writing Software

- (1) Windows Built-In Burner
- (2) Power2GO
- (3) Nero
- (4) NTI Media Maker
- (5) Roxio CREATOR

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18. Caution

To use the drive safely and properly, the following precaution should be reserved.

18.1 Safety

(1) Disassembling and Modification

The drive includes Laser Diodes.

The disc rotates at high speed when the power is supplied to the drive.

Do not disassemble or modify the drive when the power is supplied.

Also the modified drives should be under the responsibility of the company or the persons who modified it.(Firmware issue should be specified separately.)

(2) POWER

Do not use the power supply other than the specific voltage(+5V DC).

(3) Reserve the following instructions to avoid the electrical short or the damages.

- a) Do not dispose the drive to the water or the high humidity
- b) Do not open or remove the cover.
- c) Do not remove the front bezel.
- d) Do not let any liquid or foreign substances in the drive.
- e) Do not put heavy things on the drive.

(4) In the case of the failure

In case of the following conditions, turn off the SYSTEM including the Drive

And unplug the power supply cable of the SYSTEM from the wall outlet immediately.

- a) Do not disassemble or repair the drive by yourself.
- b) When some liquid or some foreign substances is in the drive.
- c) When the drives are wet by the water.
- d) When the drive is dropped
- e) When the performance of the drive is extremely degraded or when the drive does not work properly.

18.2 Dust

We can't guarantee about dirt in the state without a bezel.

The guarantee environment of dirt is a thing under the environment of 0.15 mg/m³.

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Appendix 1. Tray, LED, Region

1. Bezel, Tray (No Bezel type)

	Part	Color	Material	Flammability
1	Bezel & Eject button	-	-	-
2	Tray	Black	LG Chemical PPE+PS (LUMILOY GN4356FH) U-ONE Com Tech PPE+PS (UWF-02F70) Asahi KASEI PPE+PS (XYRON L544V)	UL94V-1

2. LED (Brightness and Current are typical value.)

Color	Green
Brightness	20mA 100mcd (LED spec.)
Actual current	17mA (measured by this model)

3. LED control

Power on, Disc Recognition:	Flashing
Load:	Flashing
Unload:	On
Data access/ read:	On
Writing:	Flashing
Polling command:	Off
The others:	Off

4. Chassis

Top cover	Steel
Bottom cover	Steel

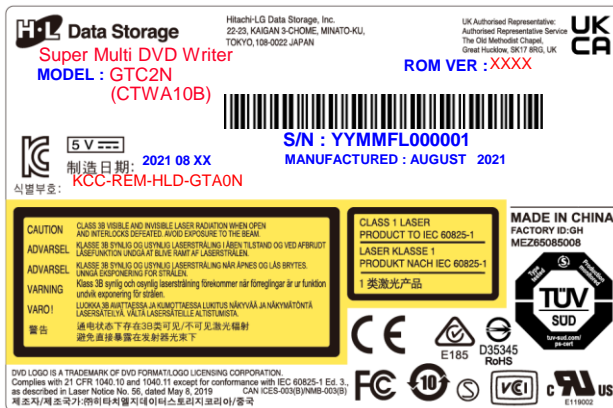
5. Region Setting: No Region

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Appendix 2. Rating label Specification

LABEL INFORMATION



LABEL SIZE : 82(W) x 54(H) x 0.1(t)
Printing Information : Blue, Red Part
LABEL P/N : MEZ65085008

* Label Detail Printed Information *

1. Product Name : **Super Multi DVD Writer**
2. Model name : **MODEL : GTC2N**
3. Suffix : **(CTWA10B)**
4. 制造日期 (YEAR, MONTH, DATE) : **2021 08 XX**
5. KC No : **KCC-REM-HLD-GTA0N**
6. **ROM VER : XXXX**
DO NOT PRINT "XXXX" ON MAIN LABEL.
Please refer to the F/W section or SR PAGE
7. Barcode of Information (39Code)
S/N : YYMMFL000001
- **YY** : Year (2020 : 20, 2021 : 21, 2022 : 22...)
- **MM** : Month
- **FL** : Factory Line Code
- **000001** : Serial Number
8. **MANUFACTURED : AUGUST 2021**