FURUNO

OPERATOR'S MANUAL

MEMORY CARD INTERFACE UNIT

MODEL **CU-300**

FURUNO ELECTRIC CO., LTD.

www.furuno.co.jp

⚠ SAFETY INSTRUCTIONS

The user and installer must read the appropriate safety instructions before attempting to install or operate the equipment.

⚠ **WARNING**	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

⚠ Warning, Caution ⃠ Prohibitive Action ❗ Mandatory Action

Safety instructions for the operator

⚠ WARNING

Do not open the equipment.

Only qualified personnel should work inside the equipment.

Immediately turn off the power at the switchboard if water leaks into the equipment or something is dropped into the equipment.

Continued use of the equipment can cause fire or electrical shock. Contact a FURUNO agent for service.

Immediately turn off the power at the switchboard if the equipment is emitting smoke or fire.

Continued use of the equipment can cause fire or electrical shock. Contact a FURUNO agent for service.

Do not disassemble or modify the equipment.

Fire, electrical shock or serious injury can result.

⚠ WARNING

Do not place liquid-filled containers on the top of the equipment.

Fire or electrical shock can result if a liquid spills into the equipment.

Do not operate the equipment with wet hands.

Electrical shock can result.

Turn off the power immediately if you feel the equipment is behaving abnormally.

Turn off the power at the switchboard if the equipment becomes abnormally warm or is emitting odd noises. Contact a FURUNO dealer or agent for advice.

Make sure no rain or water splash leaks into the equipment.

Fire or electrical shock can result if water leaks in the equipment.

⚠ WARNING

Turn off the power at the switchboard before beginning the installation.

Fire or electrical shock can result if the power is left on.

⚠ CAUTION

Observe the following compass safe distances to prevent interference to a magnetic compass:

	Standard compass	Steering compass
CU-300	0.70 m	0.45 m

Attach grounding securely to ship's body.

The grounding is required to prevent electrical shock.

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SYSTEM CONFIGURATIONS

The Memory Card Interface Unit CU-300 connects to a processor unit of MODEL18x4C-BB/ 19x4C-BB or GD-1920C-BB (NavNet VX2-BB) to provide a card drive(s) in a remote location(s). Power to the CU-300 is supplied from the processor unit. Maximum four units can be connected via a HUB. Note that the CU-300 can be connected only to the NavNet VX2 units which have the following software version No.

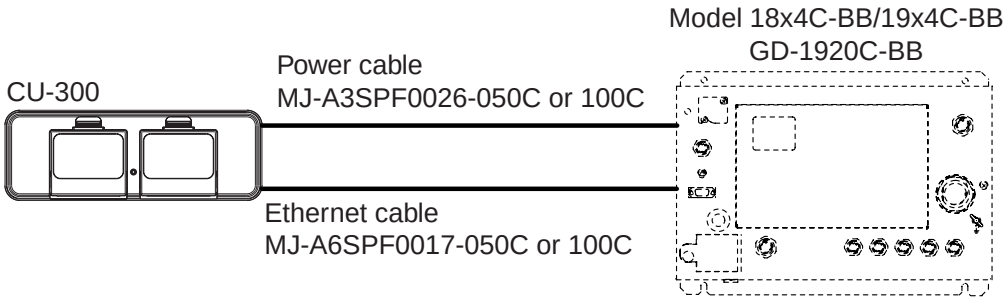
C-MAP specification

Type	Version No.
MODEL 18x4C-BB/19x4C-BB, GD-1920C-BB	1950026-02.01 and after
MODEL 18x4C/19x4C, GD-1920C	1950024-02.01 and after
MODEL 17x4C, GD-1720C	1950028-02.01 and after

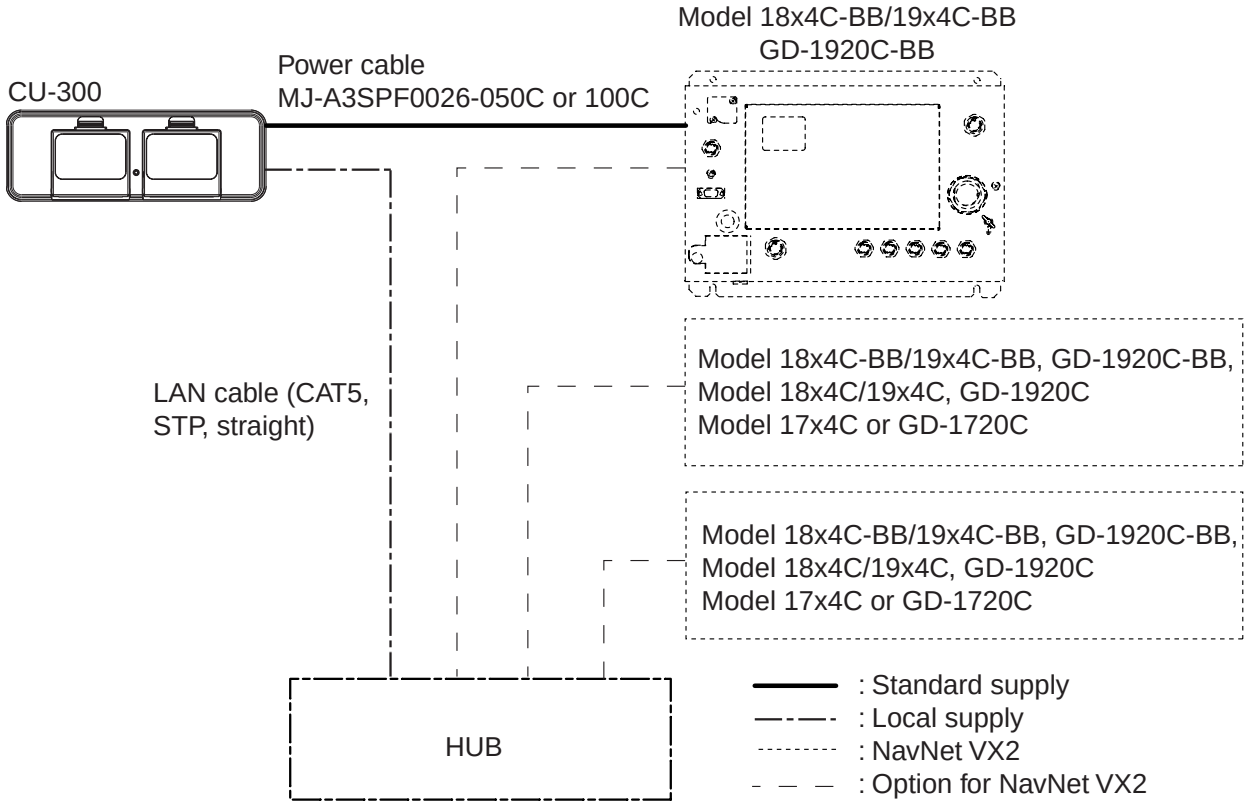
NAVIONICS specification

Type	Version No.
MODEL 18x4C-BB/19x4C-BB, GD-1920C-BB	1950025-01.09 and after
MODEL 18x4C/19x4C, GD-1920C	1950023-01.09 and after
MODEL 17x4C, GD-1720C	1950027-01.09 and after

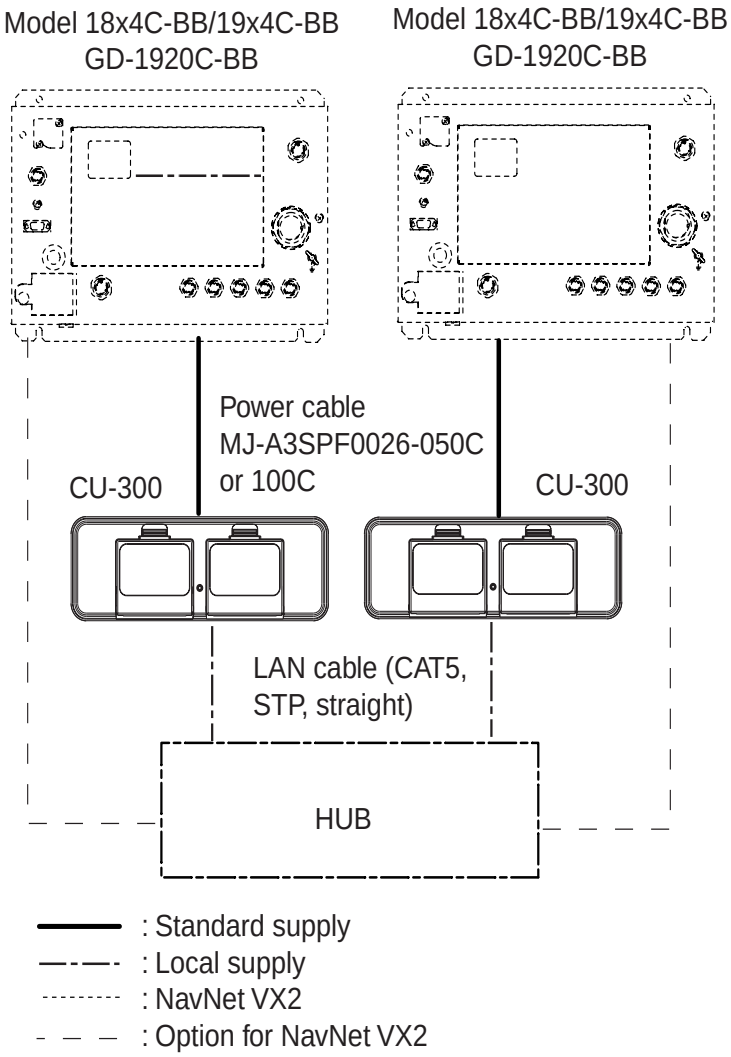
Connection to single NavNet VX2-BB unit



Connection to multiple NavNet VX2-BB units



Connection for two CU-300



EQUIPMENT LISTS

Standard supply

Name	Type	Code No.	Qty	Remarks
Memory Card Interface Unit	CU-300	-	1	
Installation Materials (Select one.)	CP03-27400	000-081-570	1 set	For 5 m, MJ-A6SPF0017-050C, MJ-A3SPF0026-050C, and CP03-27401
	CP03-27410	000-081-571	1 set	For 10 m, MJ-A6SPF0017-100C, MJ-A3SPF0026-100C, and CP03-27401
	CP03-27440	000-083-403	1 set	For 5 m, MJ-A3SPF0026-050C and CP03-27401
	CP03-27450	000-010-245	1 set	For 10 m, MJ-A3SPF0026-100C and CP03-27401

Optional supply

Name	Type	Code No.	Qty	Remarks
Hanger	FP03-10201	008-539-530	1 set	For desktop mounting
Console Mounting Kit	FP03-10203	001-011-710	1 set	For bulkhead mounitng
Cable Assy	MJ-A3SPF0026-050C	000-157-944-10	1	5 m, power cable
	MJ-A3SPF0026-100C	000-157-945-10	1	10 m, power cable
	MJ-A6SPF0017-050C	000-159-705-11	1	5 m, Ethernet cable
	MJ-A6SPF0017-100C	000-159-706-11	1	10 m, Ethernet cable

1. MOUNTING

The memory card interface unit can be flush mounted in a console, or mountd on a desktop or the overhead.

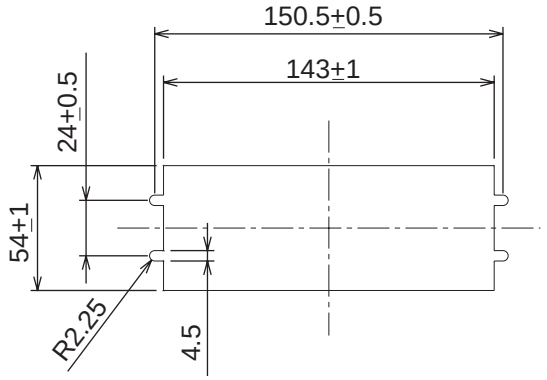
Choose a mounting location for the unit considering the following points:

- Leave sufficient space around the unit to facilitate checking and maintenance. See outline drawing at the back of this manual for recommended maintenance space.
- Locate the unit well away from exhaust gases and other active gases.
- The location should be well ventilated.
- Choose a location where shock and vibration are minimal.
- Only the front panel is waterproofed.

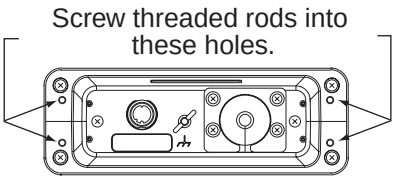
Note: For flush mount or bulkhead mount, the DIP switch setting should be completed before mounting. See page 8.

1.1 Flush Mounting

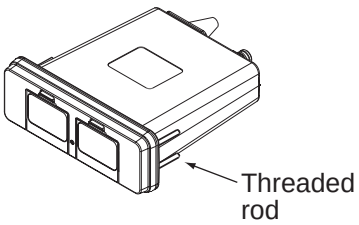
1. Prepare a cutout in the mounting location as below.



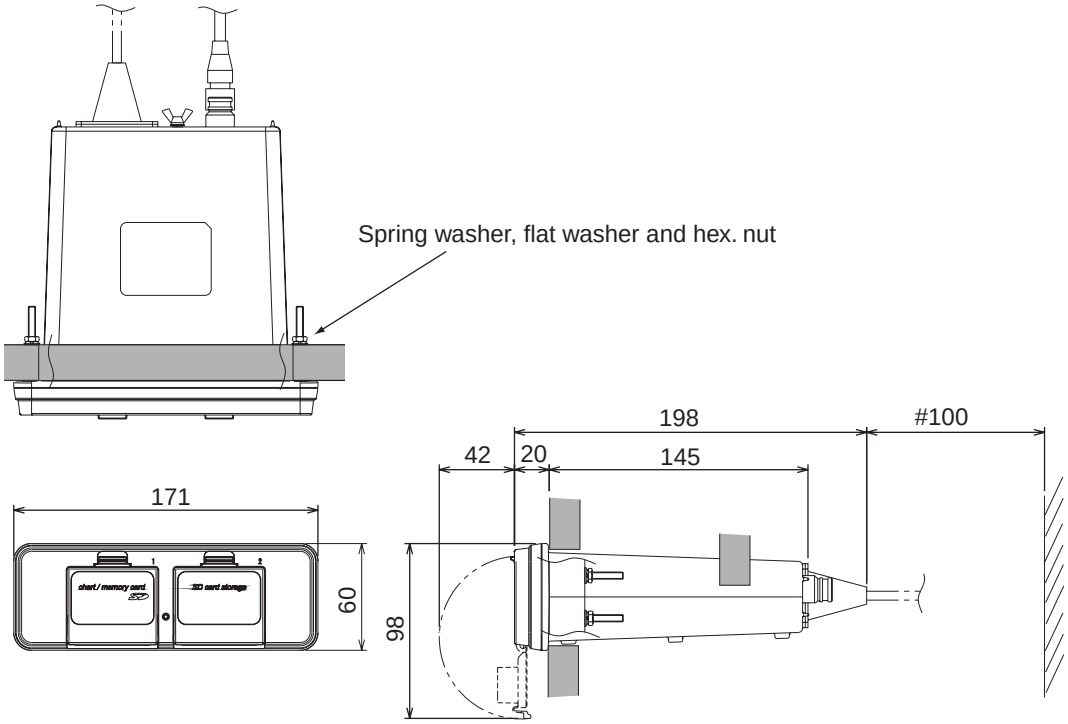
2. Screw four threaded rod (M4×50, supplied) into holes on the front panel (reverse side).



Rear view



3. Insert the unit into the cutout made at step 1.
4. Fix the unit with four spring, flat washers, and hex. nuts.



1.2 Desktop Mounting

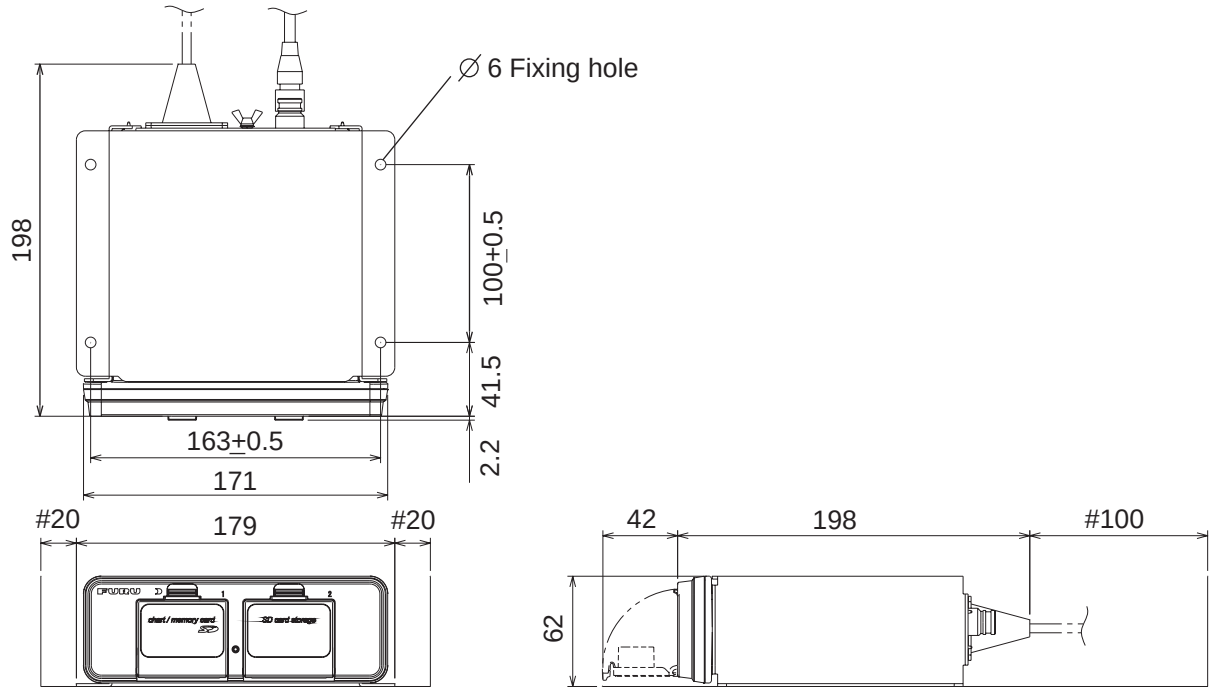
This method requires the optional hanger FP03-10201.

Name: Hanger (Type: FP03-10201, Code no.: 008-539-530)

Contents of kit FP03-10201

Name	Type	Code No.	Qty
Hanger	19-023-3081	100-316-250	1
Self-tapping screw	ϕ5×20, SUS304	000-162-608-10	4
Pan head screw	M4×10, C2700W	000-163-167-10	4

1. Fasten four pan head screws (M4×10) to fix the hanger to the unit.
2. Fix the hanger with unit to the mounting location with four self-tapping screws (ϕ5×20).



1.3 Overhead Mounting

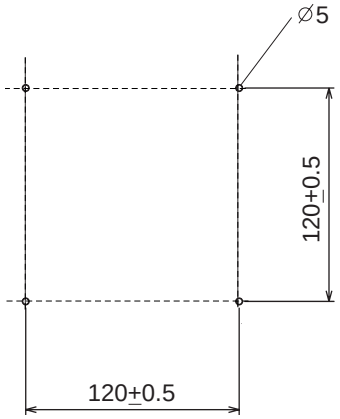
This method requires the optional kit FP03-10203.

Name: Console mounting kit (Type: FP03-10203, Code no.: 001-011-710)

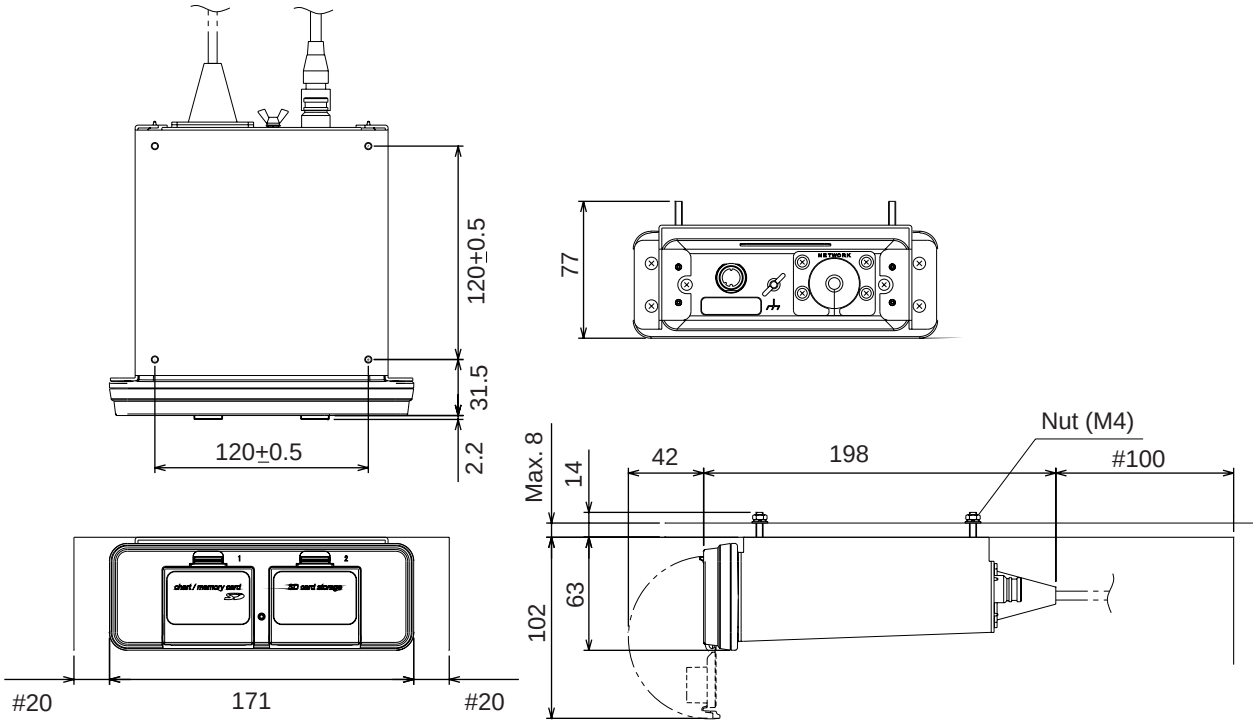
Contents of kit FP03-10203

Name	Type	Code No.	Qty
Mounting plate	19-023-3091	100-316-260	1
Pan head screw	M4×10 C2700W	000-163-167-10	4
Hex. nut	M4 SUS304	000-863-106	4
Flat washer	M4 SUS304	000-864-126	4
Spring washer	M4 SUS304	000-864-256	4

1. Prepare four fixing holes in the bulkhead whose dimensions are as shown below.



2. Fasten four pan head screws (M4) to fix the mounting plate to the unit.
3. Insert four studs at the top of the mounting plate in fixing holes made at step 1, and then pass spring washers, flat washers and hex. nuts onto in that order from inside the bulkhead.
4. Tighten hex nuts to fix the unit.



Dimensions for overhead mounting

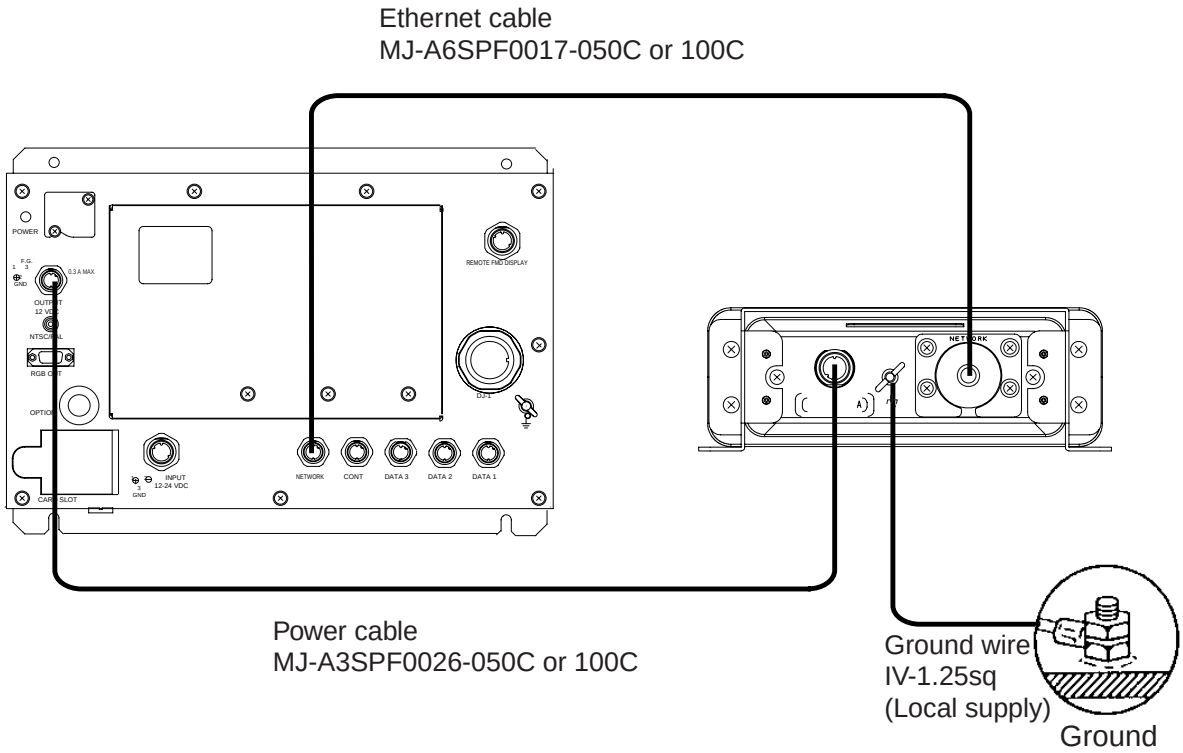
2. WIRING

There are three types of connections:

- Connection between one processor unit and memory card interface unit.
- Connection between one memory card interface unit and multiple processor units
- Connection between two memory card interface units and two processor units.

Note that the total number of card slots is maximum four in a series.

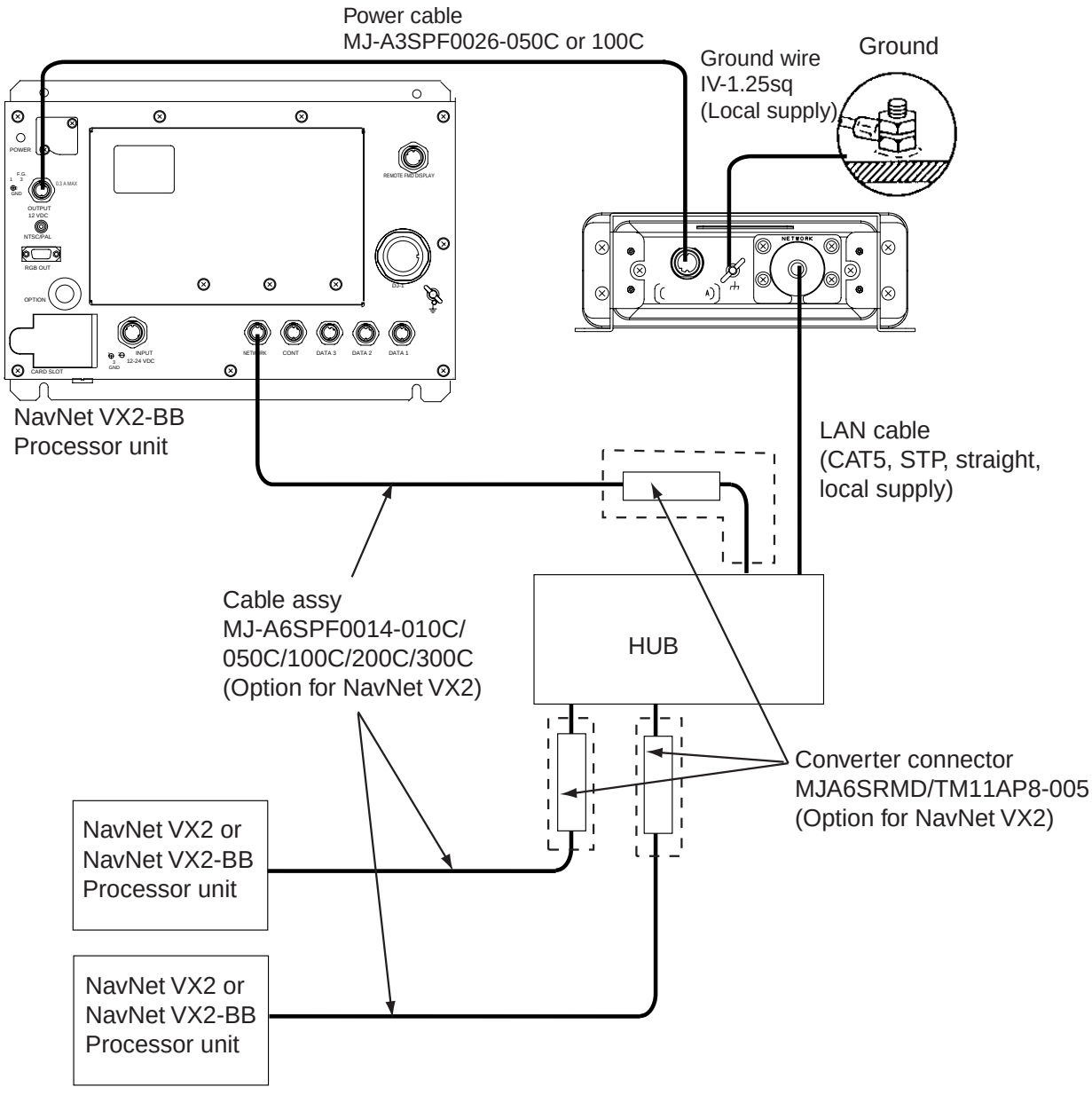
2.1 Connection between One Processor Unit and One Memory Card Interface Unit



2.2 Connection between One Memory Card Interface Unit and Multiple Processor Units (Max. Three Units)

Prepare the following cables and connectors:

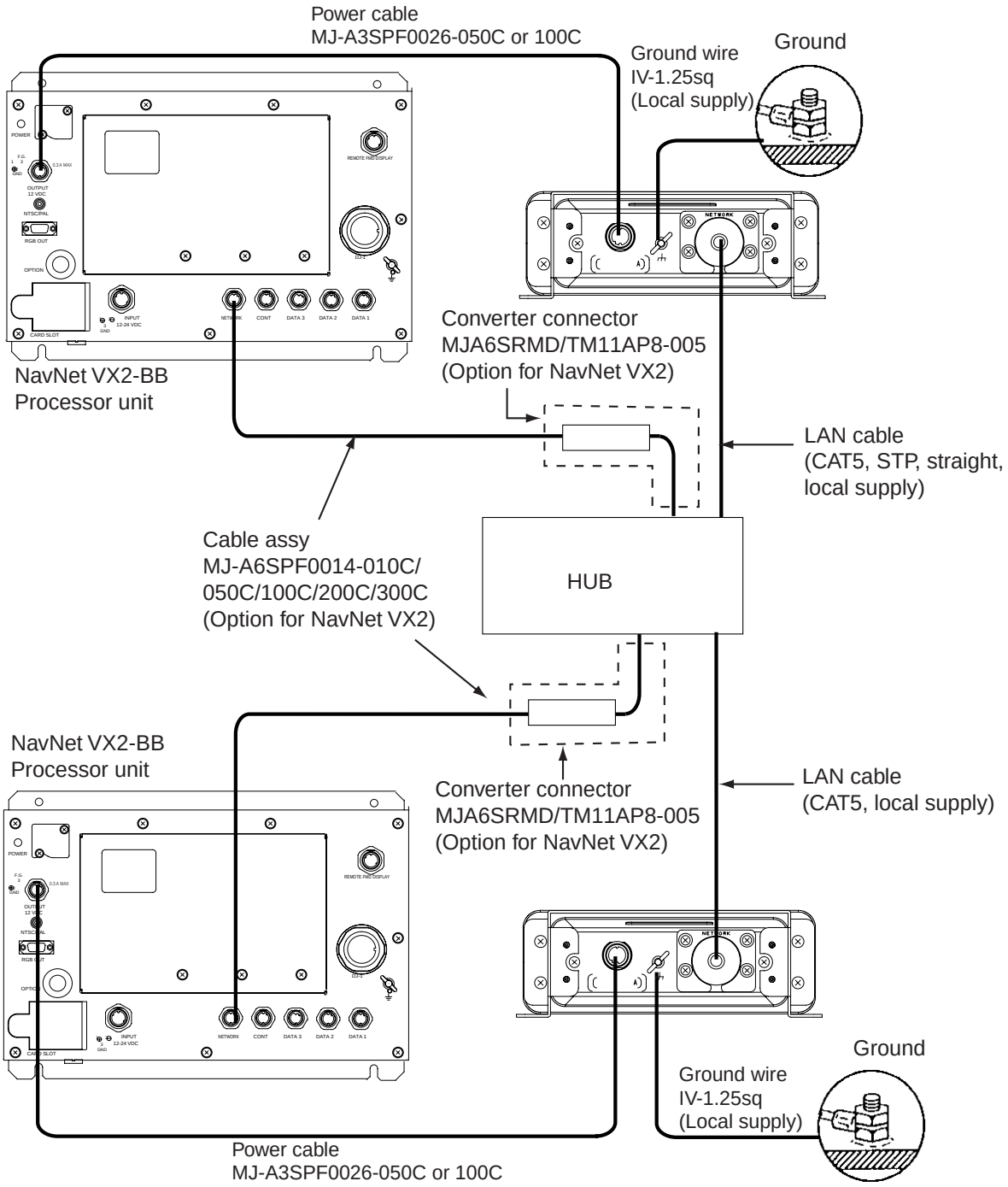
- Commercial LAN cable (CAT5, STC, straight)
- Cable assy, MJ-A6SPF0014-010C/050C/100C/200C/300C (option for NavNet VX2)
- Converter connector, MJA6SERMD/TM11AP8-005 (option for NavNet VX2)



2.3 Connection between Two Memory Card Interface Units and Two Processor Units

Prepare the following cables and connectors:

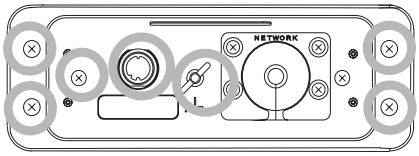
- Commercial LAN cable (CAT5, STP, straight)
- Cable assy, MJ-A6SPF0014-010C/050C/100C/200C/300C (option for NavNet VX2)
- Converter connector, MJA6SERMD/TM11AP8-005 (option for NavNet VX2)



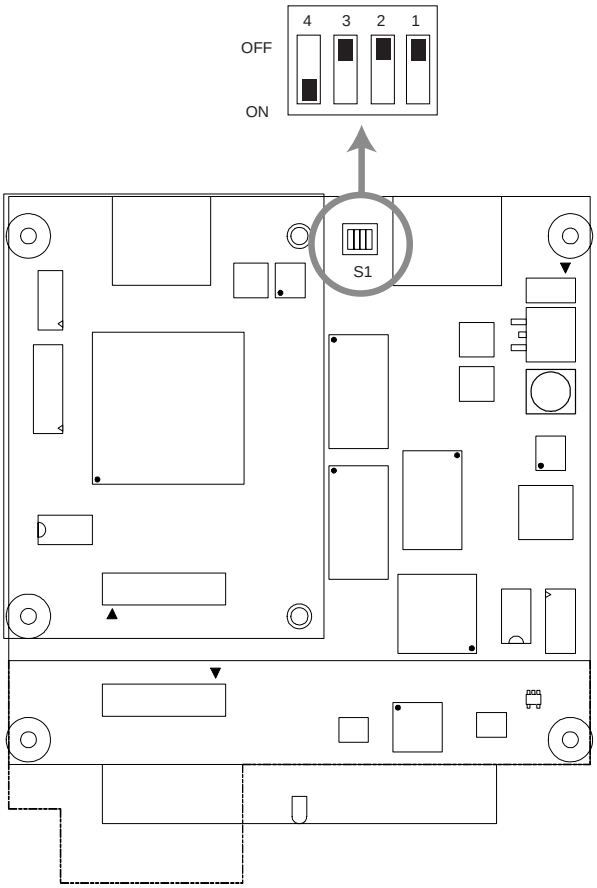
Setting of the IP address for the second memory card interface unit

When connecting two memory card interface units, change the DIP switch setting on the second unit as below to change its IP address. Note that the second unit is exclusively for reading chart card.

1. Unfasten two pan head screws (M3x8), a wing bolt and a washer for MJ connector at the rear of the unit.
2. Unfasten four screws and the connector at the location shown below to remove the front panel.



3. Unfasten four pan head screws at the inner front chassis to remove it.
4. Pull out the inner chassis to it.
5. Set the #4 segment of DIP switch S1 as below.

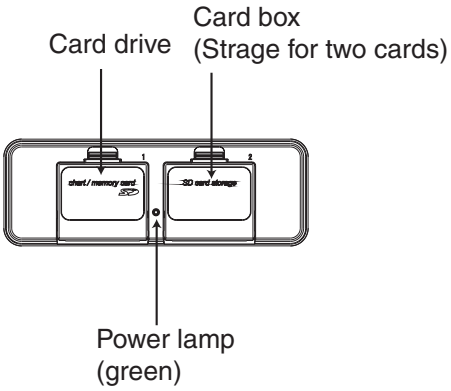


PCB 19P1050

6. Re-assemble the unit.

3. OPERATION

3.1 Basic Operation



Card drive

Insert the appropriate chart SD card (or memory card) for your area as below. For details of SD cards, see the operator's manual for NavNet VX-2.

1. Open the card drive.
2. Insert the card (label side up) prior to turning on the power at NavNet VX2-BB.
3. Close the lid.

To remove the card, follow the instructions shown on the display of NavNet VX2 and then confirm that the power lamp on the front panel lights. Do not read/write the data.

Power lamp

Lights (green): The power is on.

Blinks: The unit is reading/writing data.

Card box

You can store two SD cards here.

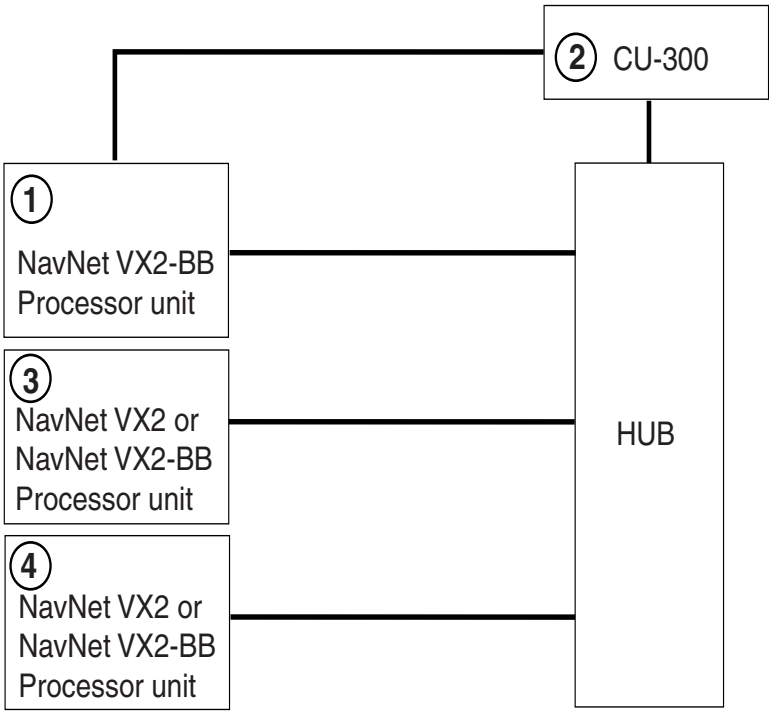
Note 1: When the connection between NavNet VX2-BB and memory card interface unit is wrong, the NavNet VX2-BB searches for chart data in the SD card for 50 seconds, and then returns to the normal operation. The display looks frozen, however normal operation will be restarted after the search is completed.

Note 2: To prevent loss of card data if the power suddenly goes off, it is recommended that you periodically back up data to an SD card.

3.2 Priority of Card Drives

The priority of card drives is automatically set after turning the power on. This priority order varies depending on the number of card drives connected.

One memory card interface unit

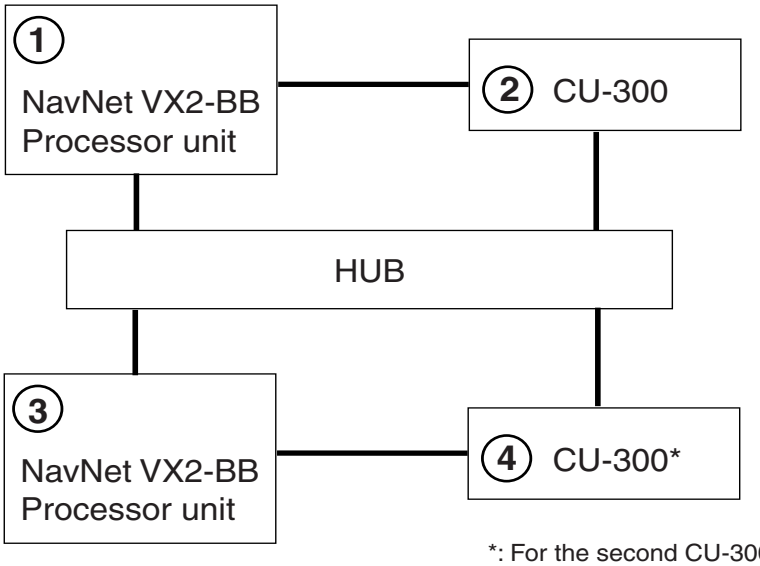


Unit and available chart card and memory card locations

The numbers in the table refer to the corresponding units in the figure above.

Unit		Available chart card locations	Available memory card location
①		① ② ③ ④	②
③	NavNet VX2	① ② ③ ④	③
	NavNet VX2-BB	① ② ③ ④	②
④	NavNet VX2	① ② ③ ④	④
	NavNet VX2-BB	① ② ③ ④	②

Two memory card interface units



*: For the second CU-300, DIP switch setting is necessary.

Unit and available chart card and memory card locations

The numbers in the table refer to the corresponding units in the figure above.

Unit (priority)	Available chart card locations	Available memory card location
①	① ② ③ ④	②
③	① ② ③ ④	②

SPECIFICATIONS OF MEMORY CARD INTERFACE UNIT
CU-300

1 GENERAL

1.1	Number of card slot	1
1.2	Card storage	2 SD-card
1.3	Ethernet	100BASE-TX/10BASE-T, auto-negotiation
1.4	Cable Connection	RJ-45, STP LAN (CAT5)
1.5	Card type	(at February 2007)
	ADTEC	AD-SDH512/1G/2G, AD-SDPS128M/256M/512M/1G
	BUFFALO	RSDC-S64M/S128M/S256M/S512M/S1G/S2G/G512M/G1G/G2G
	HAGIWARASYS-COM	HPC-SD256M/SD512M2/SD1GM2/SD2GM2/SD256TP/SD512TP/ SD1GTP/SD128T/SD256T/SD512T/SD1GT/SD2GT
	I/O DATA	SD-128M/256M/512M/1G/2G, SDP-256M/512M/1G/2G
	Kingston	SD/1GBFE, SD/2GBFE
	LEXER	SD256/512/1GB-231
	PANASONIC	RP-SDR512/01G/02G-J1A, RP-SD128MBL1A, RP-SD256BJ1A, RP-SDK512/01G/02G-J1A
	PQI	QSDS-256/512/1G/2G
	SANDISK	SDSDB-256/512/1024/2048-J60, SDSDH-512/1024/2048-903

2 POWER SUPPLY

12 VDC: 0.14 A, 1.7 W or less

3 ENVIRONMENTAL CONDITIONS

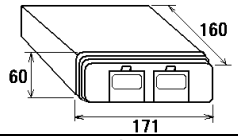
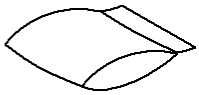
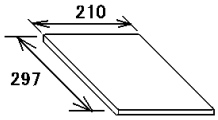
3.1	Ambient temperature	-15°C to +55°C
3.2	Relative humidity	93% at 40°C
3.3	Degree of protection	IP22 （IP55: flush mount or front panel only）
3.4	Bearing vibration	IEC 60945-4
3.5	CE marking	IEC 60945-4

4 COATING COLOR

N3.0

PACKING LIST

CU-300-G5/G10[GENERAL用]

NAME	OUTLINE	DESCRIPTION/CODE №	Q'TY
ユニット UNIT			
ﾒﾓﾘｰｶｰﾄﾞｲﾝﾀｰﾌｪｲｽ MEMORY CARD INTERFACE UNIT		CU-300 000-010-244-00	1
工事材料 INSTALLATION MATERIALS		**CP03-27440/27450**	
ｹｰﾌﾞﾙ組品MJ CABLE ASSY.		MJ-A3SPF0026-050C MJ-A3SPF0026-050 000-157-944-10 000-149-445-00	1 (*1)
ｹｰﾌﾞﾙ組品MJ CABLE ASSY.		MJ-A3SPF0026-100C MJ-A3SPF0026-100 000-157-945-10 000-149-446-00	1 (*1)
工事材料 INSTALLATION MATERIALS		CP03-27401 008-539-520-00	1
図書 DOCUMENT			
取扱説明書 OPERATOR'S MANUAL		OME-35501-* 000-165-406-1*	1

(*1)は、仕様選択品を表します。
(*1)INDICATE SPECIFICATION SELECTIVE ITEM.

型式/ｺｰﾄﾞ番号が2段の場合、下段より上段に代わる過渡期品であり、どちらかが入っています。 なお、品質は変わりません。

TWO TYPES AND CODES MAY BE LISTED FOR AN ITEM. THE LOWER PRODUCT MAY BE SHIPPED IN PLACE OF THE UPPER PRODUCT. QUALITY IS THE SAME.

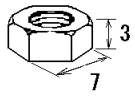
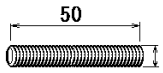
(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO

CODE NO.	008-539-520-00	03G0-X-9403 -1
TYPE	CP03-27401	1/1

工事材料表

INSTALLATION MATERIALS

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	六角ﾅｯﾄ 一種 HEX.NUT		M4 SUS304 CODE NO. 000-863-106-00	4	
2	ﾐｶﾞｷ平座金 FLAT WASHER		M4 SUS304 CODE NO. 000-864-126-00	4	
3	ﾊﾞﾈ座金 SPRING WASHER		M4 SUS304 CODE NO. 000-864-256-00	4	
4	寸切ﾎﾞﾙﾄ THREADED ROD		M4X50 SUS304 M4X50 SUS304 CODE NO. 000-162-679-10 000-147-539-00	4	

型式/ｺｰﾄﾞ番号が２段の場合、下段より上段に代わる過渡期品であり、どちらかが入っています。 なお、品質は変わりません。

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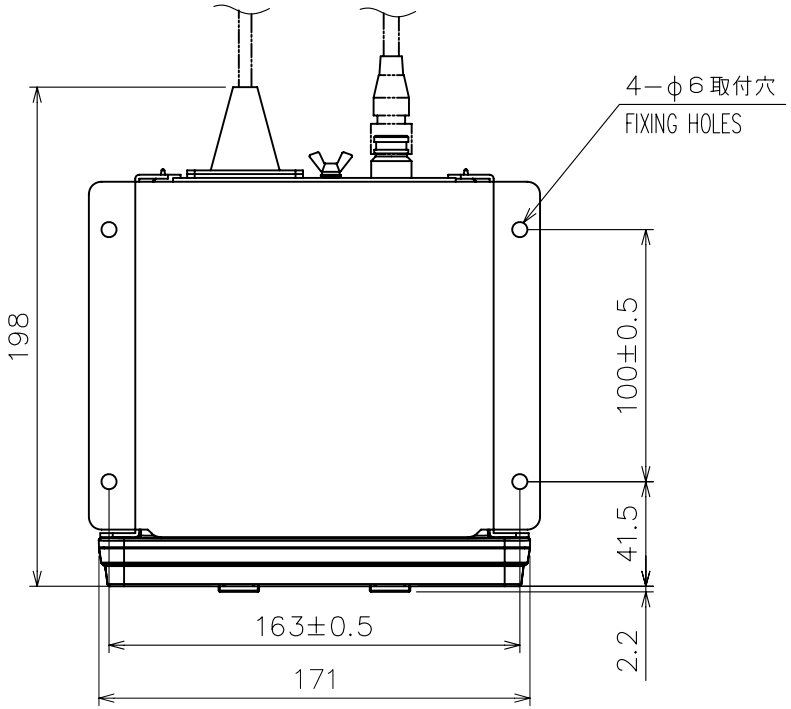
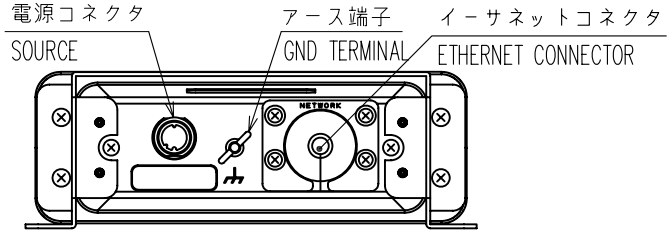
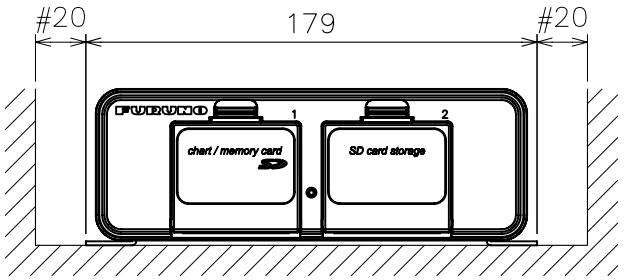
表1 TABLE 1

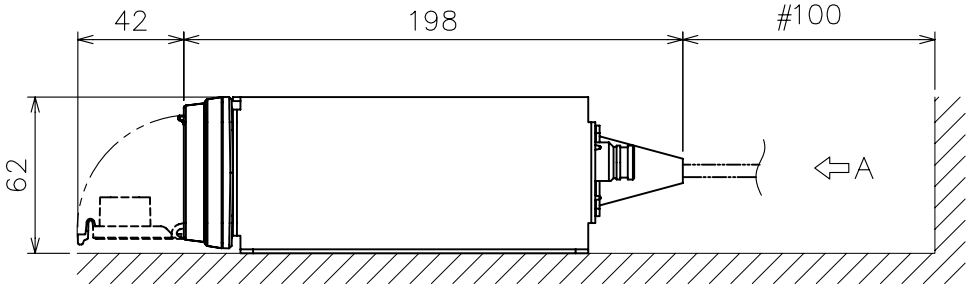
寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3





矢視A
VIEW A





注　記

1）　指定外の寸法公差は表１による。

2）　＃印寸法は最小サービス空間寸法とする。

3）　取付用ネジは＋トラスタッピンネジ呼び径５×２０を使用のこと。

NOTE

1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
2. #: MINIMUM SERVICE CLEARANCE.
3. USE TAPPING SCREWS ø5x20 FOR FIXING THE UNIT.

DRAWN Feb. 5 '07 T.YAMASAKI		TITLE	CU-300
CHECKED Feb. 5 '07 T.TAKENO		名称	メモリーカードインターフェイス（卓上装備）
APPROVED Feb.13'07 R.Esumi			外寸図
SCALE 1/3 MASS 1.3 ±10% kg		NAME	MEMORY CARD INTERFACE UNIT (TABLETOP MOUNT)
DWG.No. C3550-G02- A	REF.No. 19-030-1106- 1		OUTLINE DRAWING

D-1

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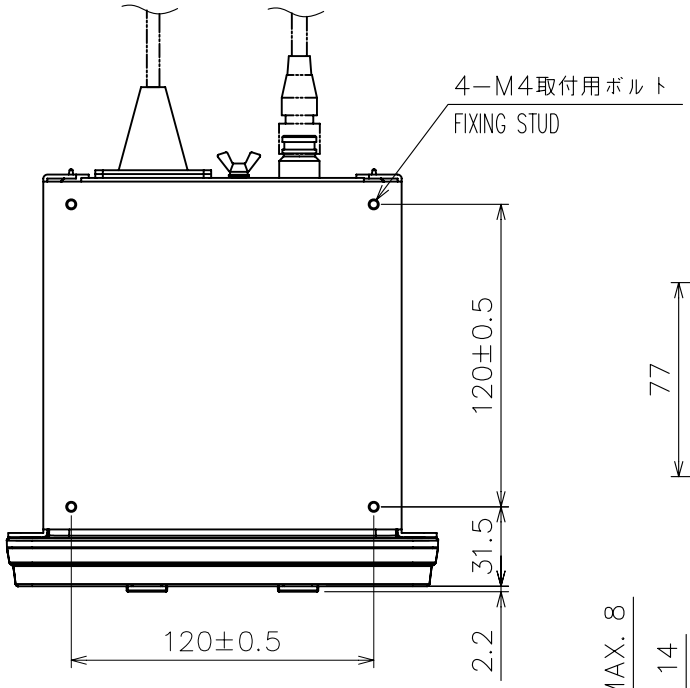
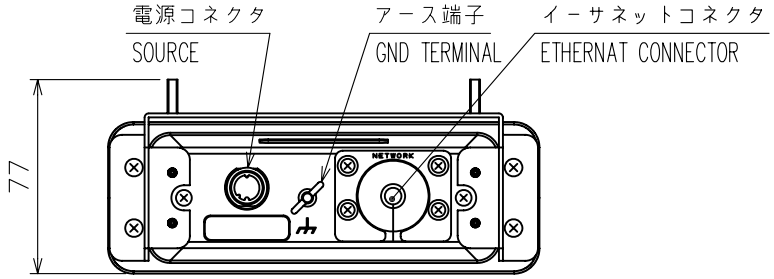
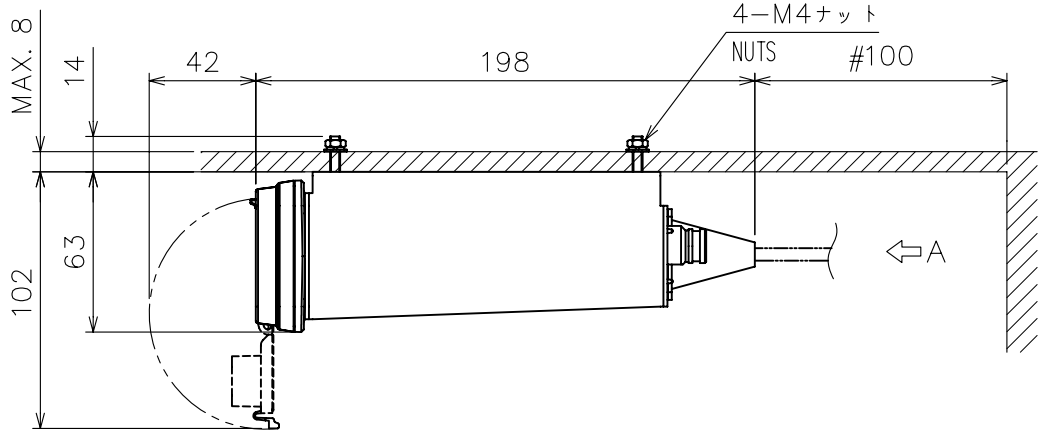




矢視A
VIEW A



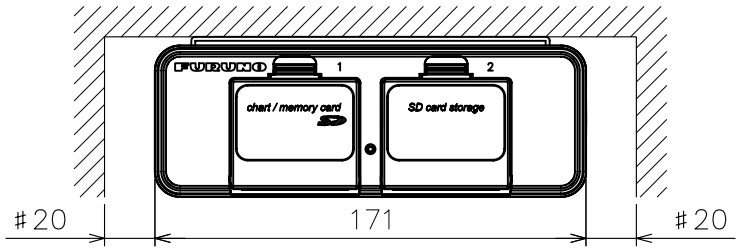


表1 TABLE 1

寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

注 記

1） 指定外の寸法公差は表１による。
2） ＃印寸法は最小サービス空間寸法とする。
3） 取付にはＭ４ナットを使用のこと。
4） 取付板厚は最大８ｍｍとする。

NOTE

1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
2. #: MINIMUM SERVICE CLEARANCE.
3. USE M4 NUTS FOR FIXING THE UNIT.
4. THICKNESS OF BULKHEAD: MAX.8 mm.

DRAWN Feb. 5 '07 T.YAMASAKI		TITLE CU-300
CHECKED Feb. 5 '07 T.TAKENO		名称 メモリーカードインターフェイス（天井装備）
APPROVED Feb.13'07 R.Esumi		外寸図
SCALE 1/3 MASS 1.3 ±10% kg		NAME MEMORY CARD INTERFACE UNIT (OVERHEAD MOUNT)
DWG.No. C3550-G03- A	REF.No. 19-030-120G- 1	OUTLINE DRAWING

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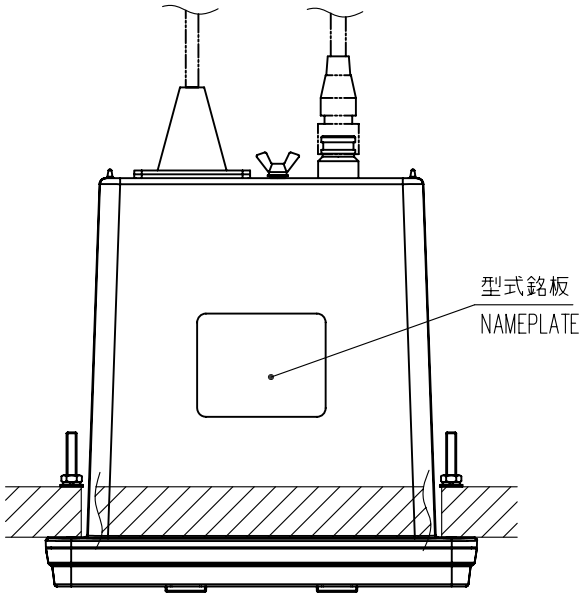
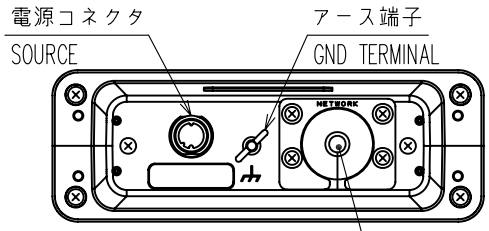
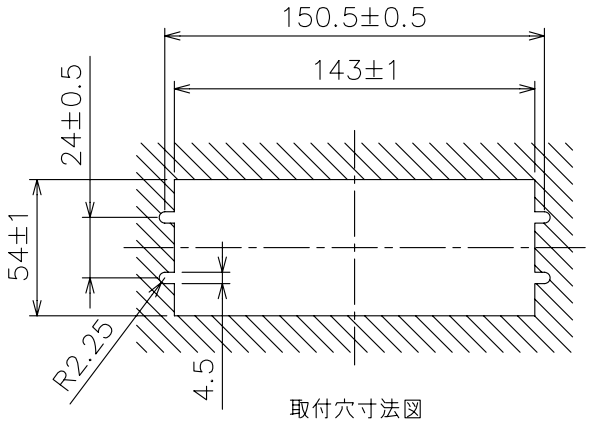
表1 TABLE 1

寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

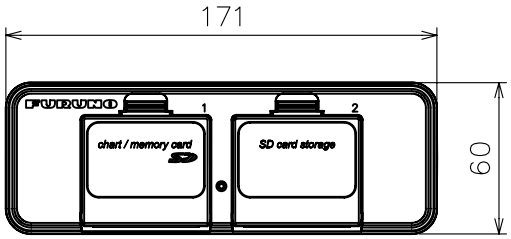


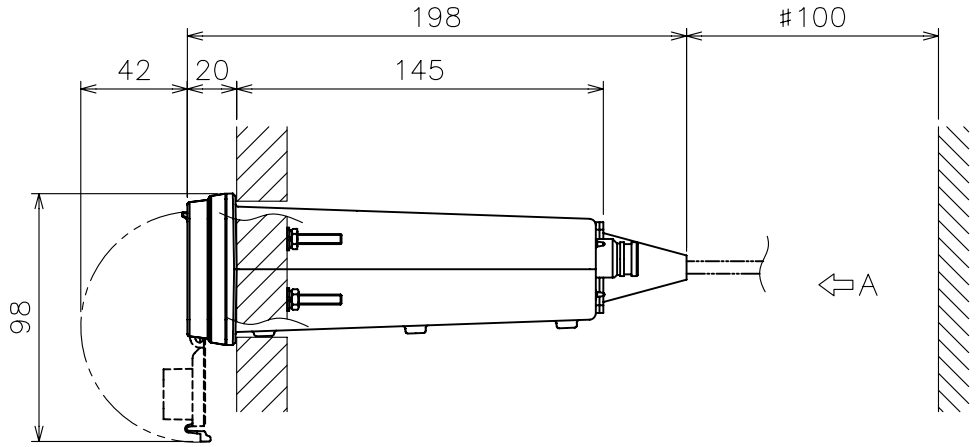


矢視A
VIEW A



取付穴寸法図
CUTOUT DIMENSIONS





注 記

1） 指定外の寸法公差は表１による。
2） ＃印寸法は最小サービス空間寸法とする。
3） 取付はＭ４Ｘ５０寸切りボルト、Ｍ４平座金、
Ｍ４バネ座金、Ｍ４ナット使用のこと。

NOTE

1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
2. #: MINIMUM SERVICE CLEARANCE.
3. USE M4x50 STUDS, M4 P.W. + S.W. AND NUTS.

DRAWN Feb. 5 '07 T.YAMASAKI		TITLE	CU-300
CHECKED Feb. 5 '07 T.TAKENO		名称	メモリーカードインターフェイス（埋込装備）
APPROVED Feb.13'07 R.Esumi			外寸図
SCALE 1/3 MASS 0.8 ±10% kg		NAME	MEMORY CARD INTERFACE UNIT (FLUSH MOUNT)
DWG.No. C3550-G04- A	REF.No. 19-030-100G- 1		OUTLINE DRAWING

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