DM-D210

Installation Guide

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EMC and Safety Standards Applied

Product Name: DM-D210 Model Name: M59DB

The following standards are applied only to the display that is so labeled. (EMC is tested using the EPSON PS-170 power supply.)

Europe:	CE mai	rking
•	Safety:	EN 60950
North America:	EMI:	FCC/ICES-003 Class A
	Safety:	UL 1950/CSA C22.2 No. 950
Japan:	EMC:	VCCI Class A
- 1		JEIDA-52
Oceania:	EMC:	AS/NZS 3548 (CISPR22)
		Class B

WARNING

You are cautioned that changes or modifications not expressly approved by SEIKO EPSON Corporation could void your authority to operate the equipment.

CE Marking

The display conforms to the following Directives and Norms:

Directive 89/336/EEC

EN 55022 Class B EN 55024 IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-6

FCC Compliance Statement For American Users

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

FOR CANADIAN USERS

This Class A digital apparatus complies with Canadian ICES-003.

A L'INTENTION DES UTILISATEURS CANADIENS

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

GERÄUSCHPEGEL

Gemäß der Dritten Verordnung zum Gerätesicherheitsgesetz (Maschinenlärminformations-Verordnung-3. GSGV) ist der arbeitsplatzbezogene Geräusch-Emissionswert kleiner als 70 dB(A) (basierend auf ISO 7779).

Safety Precautions

This section presents important information intended to ensure safe and effective use of this product. Read this section carefully, and store it in an accessible location.

Shut down your equipment immediately if it produces smoke, a strange odor, or unusual noise. Continued use may lead to fire or electric shock. Immediately turn the power off and contact your dealer or a SEIKO EPSON service center for advice.

Never attempt to repair this product yourself. Improper repair work can be dangerous.

Never disassemble or modify this product. Tampering with this product may result in injury, fire, or electric shock.

Be sure to use the specified power source. Connection to an improper power source may cause fire or shock.

Do not allow foreign matter to fall into the equipment. Penetration by foreign objects may lead to fire or shock.

If water or other liquid spills into this equipment, immediately turn the power off and contact your dealer or a SEIKO EPSON service center for advice. Continued usage may lead to fire or shock.

Do not plug the cable differently from the instruction in this manual. Wrong connection may cause equipment damage and fire.

Be sure to set this equipment on a firm, stable, horizontal surface. Product may be damaged or cause injury if it falls.

Do not use in locations subject to high humidity or dust levels. Excessive humidity and dust may cause equipment damage, fire, or shock.

Do not place heavy objects on top of this product. Equipment may be damaged and cause injury if it falls.

Do not attach more than one extension support. The product may be damaged or cause injury if it falls.

A stopper limits the horizontal rotation of the display. Do not try to force it to turn beyond the limits of the stopper. Doing so may damage the equipment.

Unpacking

The items shown in illustration 1 are in the box.



Make sure that you have all the items shown, and that none has been damaged. If you find anything missing or damaged, contact your DM-D210 dealer.

Cautions on Handling

When you use the DM-D210, note the following points:

- □ Avoid locations that are subject to high temperature and humidity.
- □ Avoid dirty and dusty locations.
- □ Avoid locations that are unstable or are subject to high levels of vibration.
- □ When connecting or disconnecting cables, make sure that the power switch of the DM-D210 and printers connected to the DM-D210 are turned off.
- □ Do not drop the DM-D210, because you may damage the built-in vacuum fluorescent display.

Usage

The DM-D210 can be used with the following equipment.

- □ **IR series**. You can attach the DM-D210 to the IR series using the "DM-D pole unit for IR" (DP-504). (See page 3.)
- □ **TM-H5000II and TM-J8000 printers**. You can attach the DM-D210 to TM-H5000II and TM-J8000 printers using the "DM-D pole unit for TM printers (Type B)" (DP-503). (See page 5.)
- □ **TM-U375 and TM-U950 printers**. You can attach the DM-D210 to the TM-U375 and TM-U950 printers using the "DM-D pole unit for TM printers (Type A)" (DP-502). (See page 7.)
- □ **TM-H6000 and TM-U675 printers**. You can attach the DM-D210 to TM-H6000 and TM-U675 printers using the "DM-D pole unit for TM printers (Type A)" (DP-502). (See page 9.)
- □ **TM-T88II, TM-U210, TM-U230, TM-T90, and TM-L90 printers.** You can attach the DM-D210 to these printers using the "DM-D pole unit for TM printers" (DP-505). (See page 13.)
- □ **Other TM printers**. You can attach the DM-D210 using the "DM-D pole unit for TM printers (Type A)" (DP-502) and Velcro tapes or screws. (See page 17.)
- □ **DM-D stand**. You can attach the DM-D210 directly to the DM-D stand using the "DM-D stand unit for DM Customer Display" (DP-210). When using the DM-D stand, an optional power supply unit (PS-170) is required. Also, if you want to raise the height of the DM-D210, an optional extension support is required. (See page 20.)

Assembling

Attaching to the IR Series

The DM-D210 can be attached directly to the IR series using the "DM-D pole unit for IR" (DP-504).

Required items

The items shown in illustration 2 are used to attach the DM-D210 to the IR series. These items are packed with the "DM-D pole unit for IR" (DP-504).



Assembling

1. Pass the cable for the DM-D210 through support A, and attach support A to the DM-D210 as shown in illustration 3. When using support B for extension, insert the tab on support B into the hole on support A as shown in illustration 4 until you feel it click.



- 3. Pass the cable for the DM-D210 through the base as shown in illustration 6.
- 4. Insert the tab on the base into the hole on the support as shown in illustration 7 until you feel it click.



5. Connect the cable for the DM-D210 to the DM connector on the IR series as shown in illustration 8.



Attaching to the TM-H5000II or TM-J8000

The DM-D210 can be attached directly to a TM-H5000II or TM-J8000 printer using the "DM-D pole unit for TM printers (Type B)" (DP-503).

Required items

The items shown in illustration 9 are used to attach the DM-D210 to a TM-H5000II or TM-J8000 printer. These items are packed with the "DM-D pole unit for TM printers (Type B)" (DP-503).



Assembling

1. Pass the cable for the DM-D210 through support C, and attach support C to the DM-D210 as shown in illustration 10. When using support B for extension, insert the tab on support B into the hole on support C as shown in illustration 11 until you feel it click.



- 4. Insert the tab on the base into the hole on the support as shown in illustration 14 until you feel it click.
- 5. Connect the cable for the DM-D210 to the DM connector on the TM printer as shown in illustration 15.



Attaching to the TM-U375 or TM-U950

The DM-D210 can be attached directly to a TM-U375 or TM-U950 printer using the "DM-D pole unit for TM printers (Type A)" (DP-502).

Required items

The items shown in illustrations 16, 17, or 18 are used to attach a DM-D210 to a TM-U375 or TM-U950 printer. These items are packed with the "DM-D pole unit for TM printers (Type A)" (DP-502).



Assembling

1. Pass the cable for the DM-D210 through support C, and attach support C to the DM-D210 as shown in illustration 19. When using support B for extension, insert the tab on support B into the hole on support C as shown in illustration 20 until you feel it click.



2. Attach the rubber feet to the printer as shown in illustration 21 or 22.



3. Pass the cable for the DM-D210 through the hole on fixing plate A, and fix the cable at the bottom as shown in illustration 23.



4. Connect the cable for the DM-D210 to the DM connector on the TM printer as shown in illustration 24.



5. Adjust the length of the cable, and secure fixing plate A to the printer with screws as shown in illustration 25 or 26.



6. Store any excess cable in the support, and attach the DM-D210 to fixing plate A as shown in illustration 27.





Attaching to the TM-H6000 or TM-U675

The DM-D210 can be attached directly to a TM-H6000 or TM-U675 printer using the "DM-D pole unit for TM printers (Type A)" (DP-502). You can attach fixing plate A on either side of the TM-H6000 or TM-U675. After attaching it, you can slide the display freely.

Required items

The items shown in illustration 28 are used to attach the DM-D210 to TM-H6000 or TM-U675 printers. These items are packed with the "DM-D pole unit for TM printers (Type A)" (DP-502).



Assembling

1. Pass the cable for the DM-D210 through support C, and attach support C to the DM-D210 as shown in illustration 29. When using support B for extension, insert the tab on support B into the hole on support C as shown in illustration 30 until you feel it click.



- 2. Attach the rubber feet to the printer as shown in illustration 31.
- 3. Attach fixing plate B to the printer as shown in illustration 32.





- 4. Pass the cable for the DM-D210 through the hole on fixing plate A, and fix the cable at the bottom as shown in illustration 33.
- 5. Connect the cable for the DM-D210 to the DM connector on the TM printer as shown in illustration 34.



6. Attach fixing plate A to the TM printer using the stopper. When you attach the stopper, insert the projections on the stopper into the holes of fixing plate B. Fixing plate A can be attached on either side of the printer. (Illustration 35 shows fixing plate A attached to the right side of the printer.)



7. The horizontal rotation mechanism of fixing plate A can be adjusted. To secure the location of the display, set fixing plate A to one of the four positions shown in illustration 36, 37, 38, or 39, and secure it with the angle fixing screw.







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Note:

The roll paper cover may not open if the position of the display is not correct. Before securing the position of the display, make sure that you can open the roll paper cover. See illustration 40.

8. Store any excess cable in the support, and attach the DM-D210 to fixing plate A as shown in illustration 41.



9. Connect the power cable of the printer. To avoid disconnection, hook the cable to the tabs on fixing plate B, as shown in illustration 42.





Attaching to the TM-T88II, TM-U210, TM-U230, TM-T90, or TM-L90

The DM-D210 can be attached to a TM-T88II, TM-U210, TM-U230, TM-T90, or TM-L90 printer using the "DM-D pole unit for TM printers" (DP-505).

Required items

The items shown in illustration 43 are used to attach a DM-D210 to a TM-T88II, TM-U210, TM-U230, TM-T90, or TM-L90 printer. These items are packed with the "DM-D pole unit for TM printers" (DP-505).



Assembling

Before assembling this product, you must install the UB-S09 in the TM printer. See the UB-S09 installation manual for the installation instructions.

Assembling using Velcro tapes

- 1. Make sure both the printer and the host computer are turned off.
- 2. Disconnect the DC cable from the printer.



- You must disconnect the power supply because electrical current is flowing in some parts of the printer circuit even when the power switch is turned off; otherwise, you may damage the UB-S09 and the printer.
- When disconnecting the DC cable, hold the plug firmly. Do not tug on the cord itself.

3. Pass the cable for the customer display through the support, and attach the support to the display as shown in illustration 44. When using the extension support, insert the tab on the extension support into the hole on the support as shown in illustration 45 until you feel it click.



5. Peel the backing off of one side of the Velcro tapes, and attach the tapes to both faces of the fixing plate. See

4.

the fixing plate. See the table below to find the attaching position for Velcro tapes and the display for your particular printer. (The positioning numbers of Velcro tapes on the fixing plate are shown in illustrations 47 and 48.)

Printer type	Positioning number of Velcro tape attachment	Attaching position for display (seen from the front of the printer)
TM-T88II	1 to 9 and 11	Right side
	1 to 11	Left side
TM-U210/U230/T90/L90	1 to 11	Both sides



- 6. Peel off the backing on the other side of the Velcro tapes, and stick the fixing plate where you want it.
- 7. Connect the cable for the display to the DC connector on the TM printer (UB-S09) until you feel it click as shown in illustration 49. Store any excess cable in the TM printer, if necessary.





Do not connect this connector to an ordinary telephone line.

8. Place the TM printer on the fixing plate. (See the table below for the mounting position for each TM printer.)

Printer type	Mounting positions for TM printers	
TM-T8811	Set the printer so that no rubber foot on the rear side of the printer is placed on the Velcro tape.	
TM-U210/U230/ T90/L90	Set the printer so that no rubber foot on the rear side of the printer is placed on the Velcro tape. Set the printer so that the iron plate on the rear side of the printer is placed on the Velcro tapes.	

Note:

Place the TM-U230 printer as shown in illustration 50. (Do not place it vertically.)

9. Connect the power supply to the TM printer.

Assembling using screws

- 1. Follow steps 1 to 4 in "Assembling using Velcro tapes."
- 2. Secure the fixing plate where you want it with the fixing screws as shown in illustration 51.
- 3. Follow steps 7 to 9 in "Assembling using Velcro tapes."

Attaching to Other TM Printers

When using with other TM printers, the DM-D210 can be attached to a desk or other surface using the "DM-D pole unit for TM printers (Type A)" (DP-502) and Velcro tapes or screws.

Required items

The items shown in illustration 52 are used when the DM-D210 is used with other TM printers. These items are packed with the "DM-D pole unit for TM printers (Type A)" (DP-502).







Assembling using Velcro tapes

1. Attach Velcro tapes to the bottom of fixing plate A as shown in illustration 53.



2. Pass the cable for the DM-D210 through support C, and attach support C to the DM-D210 as shown in illustration 54. When using support B for extension, insert the tab on support B into the hole on support C as shown in illustration 55 until you feel it click.



3. Pass the cable for the DM-D210 through the hole on fixing plate A, and fix the cable at the bottom as shown in illustration 56.



4. Connect the cable for the DM-D210 to the DC connector on the TM printer as shown in illustration 57.



- 5. Store any excess cable in the support, and attach the DM-D210 to fixing plate A as shown in illustration 58.
- 6. Peel off the Velcro tapes, and attach the display to the setting position.

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Assembling using screws

- 1. Follow steps 2 and 3 in "Assembling using Velcro tapes."
- 2. Secure fixing plate A to the setting position with fixing screws as shown in illustration 59.
- 3. Attach the DM-D210 to fixing plate A.



Attaching to the DM-D Stand

The DM-D210 can be attached directly to the DM-D stand using the "DM-D stand unit for DM Customer Display" (DP-210). The DM-D210 with the DM-D stand can be connected to a TM printer or be used as a standalone product.

Required items

The items shown in illustration 60 or 61 are used to attach the DM-D210 to the DM-D stand. Note that an optional power unit (PS-170) is required when using the DM-D stand. Also, another optional extension support is required if you want to raise the height of the DM-D210. Get them separately from the DM-D stand unit.



Connectors for the DM-D stand

The connectors for the DM-D stand are shown in illustration 62.



Note:

The DM-D stand comes with inch-type hexagonal lock screws installed to secure the interface cable to the interface connector for the RS-232C. If you plan to use an interface cable that requires millimeter-type lock screws, replace the inch-type screws with the included millimeter-type screws using a hex screwdriver (5 mm {0.2"}). To distinguish the two types of screws, see illustration 63.



RS-232C connector installation screw

Jumper settings

Set the jumpers on the DM-D stand as follows:

JP1	JP2	Contents
1-2	1-2	When connecting both the TM printer and the DM-D stand. (Default setting.)
2-3	2-3	When using the DM-D stand as a standalone. (TM printer is not connected.)

The jumpers are located as shown in illustration 64.



Precautions on using the power supply unit

To avoid damage to the DM-D210 and the power supply unit, note the following points.

- □ Use the optional Seiko Epson products, PS-170, PA-6508, PA-6511, PA-6513, PB-6509, or PB-6510, as the power supply.
- □ Never connect the DC cable to the power supply unit when the power supply unit is connected.
- □ Unplug the DC cable by holding the connector part. If you pull the cable to unplug it, it may be damaged.

Assembling

1. Pass the cable for the DM-D210 through the DM-D stand as shown in illustration 65. When raising the height of the DM-D stand, attach the extension support to the DM-D stand as shown in illustration 66.



- 3. Connect the cable for the DM-D210 to the display connector on the DM-D stand as shown in illustration 68 until you feel it click.
- 4. Connect one end of the computer interface cable to the computer connector on the DM-D stand; then connect the other end to the RS-232 connector on the computer as



shown in illustration 69. Tighten the screws on both ends of the cables to fasten them.



5. If using the unit as a standalone, go to step 6. When using the DM stand with the printer, connect one end of the printer interface cable for the printer to the printer connector on the DM-D stand; then connect the other end to the connector on the printer as shown in illustration 70. Tighten the screws on both ends of the cable to fasten them.



6. If not using the extension cable packed with the DM-D stand for power supply, go to step 7. When using the extension cable, connect it (with the arrow mark up) to the extension cable connector indicated with "POWER OUT" on the DM-D stand; then connect the other end to the power connector on the printer as shown in illustration 71.



7. Connect the DC cable of the power supply unit (with the arrow mark up) to the power supply unit connector indicated with "POWER IN" on the DM-D stand as shown in illustration 72.



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- 8. When using as a standalone product, set the jumpers as shown in "Jumper settings" on page 21.
- 9. Arrange the cables as shown in illustration 73. Put the cables for the DM-D210 inside the DM-D stand.
- 10. When the extension support is used, attach Velcro tapes to the four corners of the plate to keep it from falling down.
- 11. Connect the cord of the power unit to the socket.

Part Names and Functions

Exterior



- Display: Characters are displayed.
- Dever switch: The power is turned on/off.
- □ DIP switch: The functions of the DM-D210 are changed. See "DIP Switch" for details.

Note:

When turning on the DM-D210 again after turning it off, wait for at least 3 seconds.

DIP Switch

DIP Switch Functions

The DM-D210 has one group of DIP switches. The functions of the DIP switches are as follows:

DIP switch 1

DSW1 No.	Function	ON	OFF	Default setting
1-1	Data receive error	Ignored	Displays ``?"	OFF
1-2	Data length	7 bits	8 bits	OFF
1-3	Parity on or off	Parity	No parity	OFF
1-4	Parity type	Even	Odd	OFF
1-5	Change transmission	See "Transmission	n speed."	ON
1-6	speed			OFF
1-7				ON
1-8	Self test selection (*)	Perform self test	Do not perform	OFF

(*) This function can select whether or not you perform self test when turning on the power. See "Self Test" for details.

Transmission speed*

SW1-5	SW1-6	SW1-7	Transmission speed (bps)
ON	ON	ON	2400
OFF	ON	ON	4800
ON	OFF	ON	9600
OFF	OFF	ON	19200
ON	ON	OFF	38400
OFF	ON	OFF	57600
ON	OFF	OFF	115200
OFF	OFF	OFF	reserve

*When the DM-D210 is connected to a TM printer, be sure that the transmission speed matches that of the printer.

Setting the DIP switches



Turn off the DM-D210 while removing the DIP switch cover to prevent electrical damage to the DM-D210.

- 1. Turn off the power for the DM-D210.
- 2. Remove the DIP switch cover as shown in illustration 75.



- 3. Change each setting of the switches with a pointed object, such as a pen tip or small screwdriver.
- 4. Close the cover, and turn the power on.

Turning and Tilting the DM-D210

You can turn or tilt the display while holding the support. The display can be moved easily, so do not move it any further if it stops. If you move it by force, you may damage it.

With the "DM-D pole unit for IR" (DP-504) and the "DM-D pole unit for TM printers (Type B)" (DP-503), the display area may not face the direction you desire. In this case, remove the base, change the position of the tab on the base so that the display faces in the direction you desire, and reattach it to the base as shown in illustration 76.



The display area has the following range of movement:

- □ Tilt: 36° max. (3 steps, 4 positions)
- □ Horizontal rotation: 330° max.

Self Test

The DM-D210 has a self test function. If you want to perform a self test, you must change the setting of the DIP switch.

Check Items of Self Test

The following items are checked during the self test:

- Control ROM version
- □ DIP switch settings
- □ Memory switch settings
- □ Example of display characters
- □ Example of each function, such as brightness, flashing, and scroll

Performing Self Test

To perform the self test, follow the steps below.

- 1. Turn off the power for the DM-D210.
- 2. Set the SW 1-8 of the DIP switch to ON, and turn on the power. *Note:*

If the contents of the self test are not displayed, the DM-D210 may be malfunctioning. Contact your DM-D210 dealer for assistance.

When the self test is finished and no error occurs, the DM-D210 is ready to receive data.

Diagnostics

The DM-D210 has the diagnostics function. When the DM-D210 is turned on, diagnostics, such as internal memory test, is carried out regardless of the DIP switch settings. When an error is detected, the error message is displayed and no operation is carried out until power is turned off.

Specifications

Tilt angle	Max 36° (3 steps, 4 positions)		
Horizontal rotation	Max 330°		
Vacuum fluorescent display	• Number of characters: 20 column \times 2 lines max. (when using font B) • Display color: Green (505 nm) • Brightness: 700 (cd/m ²)		
Characters	Alphanumeric characters: 95, International characters: 37 Extended graphics: 128×12		
Character grid	5×7 dot, comma, period, annunciator		
Character size	3.5 mm × 5.0 mm {0.138 × 0.199"}		
Character pitch	9.9 mm {0.39"}		
Electrical specification	 Type: PS-170, PA-6508, PB-6509, PB-6510, PA-6511, PA-6513 (when using the DMD stand) Rated voltage: DC 11.4 to 48 V Rated current: 0.4 A (max.) 		
Reliability	MTBF (vacuum fluorescent display only): 20,000 hours (a half-value period of the brightness)		
Temperature	Operating: 5° to 40°C {41° to 104°F} Storage: -10° to 50°C {14° to 122°F}		
Humidity	Operating: 30 to 85% (no condensation) Storage: 30 to 90% (no condensation)		
Overall dimensions	See figures below.		
Weight (mass)	DM-D210: 600 g {1.32 lb}, DP-210: 385 g {0.85 lb}, DP-502: 264 g {0.58 lb}, DP-503: 116 g {0.26 lb}, DP-504: 60 g {0.13 lb}, DP-505: 418 g {0.92 lb}		



<DM-D210 and DM-D stand>



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