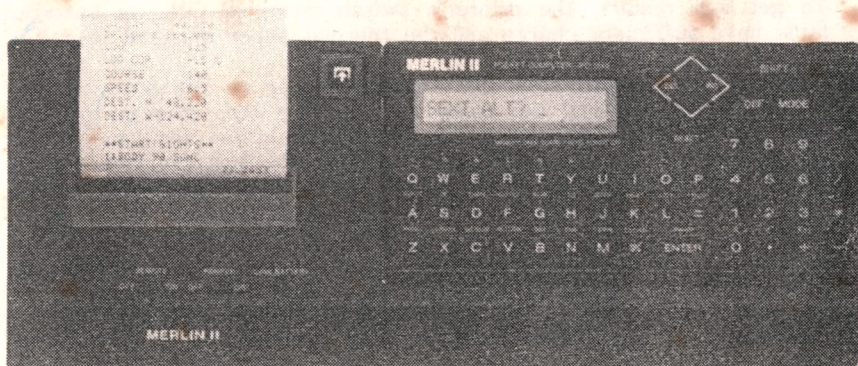


CURTIS BARNETT

MERLIN II LINEPRINTER



Notes and suggestions for Merlin II lineprinter operation

The contents of the display after you have pressed DEF L are irrelevant to the LP ON function. The result in the display after pressing DEF L is also irrelevant (unless it is ERROR, in which case CLEAR and press DEF L again). The other functions of DEF L are unaffected. If you use one of these functions you will, at the same time, activate the printer if it is connected and if it is itself on.

It is necessary to key DEF L to activate the lineprinter whenever you switch the computer on after having switched it off. If you leave the computer to switch itself off then, when you switch on, it will come back just as you left it.

If the display shows ERROR 8, it indicates a printer communication problem. It is probably a power fault. If the paper feed works, you have power. If you see ERROR 8 when there is no printer, switch the computer off and on. (This occurred because you disconnected from the printer without having actually switched the computer off.)

With the printer activated, the computer does not stop when it prints a result. A consequence of this is that keying DEF S wipes the previous fix immediately - whereas without the printer, the computer stops after DEF S and waits for you to press ENTER which gives you a chance of changing your mind.

On Merlin II version MM, the operation of DEF B differs slightly from the description in the Merlin II manual and drift is in memory G, not J. Earlier versions of Merlin II can be upgraded.

When you need to change a lot of the basic data, such as at the beginning of a voyage, deactivate the printer while you set up DEF A. Then press DEF L and list the data with DEF A.

If you are doing private calculations and you wish them to be printed you activate the printer with SHIFT ENTER.

MERLIN II NAVIGATION COMPUTER

LINEPRINTER OPERATION

These procedures apply to the Merlin II printer and to Sharp CE-123P and CE-126P printers. The navigation computer must be a Merlin II version MM or later.

For information on paper and batteries see overleaf.

Always switch off the computer and the printer before connecting or disconnecting. If this is not done the equipment could be damaged.

Learn how to use your Merlin II (see instruction manual page 10) in its main navigational roles before you try operating with the printer. The sample printout here consists of the first sights and dead reckoning from the extended exercise on page 59 of the manual.

To activate the lineprinter press DEF L. The display flashes LP ON. **To deactivate**, switch the computer off and on.

To get any results, the printer's switch must be ON, its batteries must have sufficient charge and the thermal paper must be loaded.

With the printer activated, the answers appear on the paper instead of in the display, and the computer **does not stop** when it prints a result. Otherwise operation with the printer is the same as without it. To interrupt printing press the computer's BRK/ON key. If the printer's operation surprises you, read this paragraph again. Meanwhile make sure you know where the BRK/ON key is.

With the lineprinter deactivated (ie DEF L has not been keyed), the printer will still print numbers you enter but not the answers. If you don't want any paper output, turn the printer's switch to OFF or disconnect the computer. (Often it will suffice to turn the printer's switch to OFF but occasionally the computer will refuse to work with the switched-off printer attached.)

Dead reckoning,
Morning sun sights

DEF D	LOG	1067.6
	1.6 -7% @ 75 T	
	DR REPLACED	
	31.219 S 105.047	
	LOG	1072.
	4.4 -7% @ 75 T	
	DR REPLACED	
	31.208 S 105.093	
	LOG	1075.2
	3.2 -7% @ 75 T	
	DR REPLACED	TACK
	31.2 S 105.127	
DEF B	SET 311 DRI 0.6	
	145.	5.5
	T CRS 147 : +2	
	T SPD 4.9: -11%	
DEF Z	DR. LAT S -31.200	
	DR. LON E 105.127	
	LOG	1078.2
	LOG COR -11 %	
	COURSE 145	
	SPEED 4.9	
DEF D	LOG	1077.5
	2.3 -11% @ 145 T	
	DR REPLACED	
	31.217 S 105.140	
	LOG	1082.5
	3 -11% @ 145 T	
	DR REPLACED	
	31.254 S 105.170	
DEF S	<i>MORNING SUN</i>	
	START SIGHTS	
	1:30DY 90 SUNL	
	T	24.552
	H	37.37
	94 INT A -1.2	
	2:30DY 90 SUNL	
	T	0.5631
	H	37.53
	94 INT A -0.3	
	3:30DY 90 SUNL	
	T	0.5808
	H	38.14
	93 INT A -0.1	
	4:30DY 90 SUNL	
	T	1.0012
	H	38.4
	93 INT A -0.5	
	5:30DY 90 SUNL	
	T	1.0144
	H	38.59
	93 INT A -1.2	
	6:30DY 90 SUNL	
DEF N	5 OBS. NP 24.55	
	31.253 S 105.162	
	NP PREC 0.8	
	PREV	20.43
	SET 273 DRI 0.1	
	DR REPLACED	
	93 RHUMB 523.2	
	4 DAYS 10.47	
	96 GCIRC 523	

Star identification / Sight computation / Fix / Current

DEF A

MO. YEAR 11.1989
 DAY 27
 CLOOR + 0.0004
 EYE 3.1 M
 INDEX COR -3.5
 DR. LAT S -31.260
 DR. LON E 105.000
 LOG 1066
 LOG COR 0 %
 COURSE 80
 SPEED 5.5
 DEPT. S -32.000
 DEPT. E 115.300

DEF H

T 21.
 AZ 150.
 T 50 24.
 8HA 134 DEC -63
 AZ 60.
 T 24 23.
 8HA 178 DEC 11
 AZ 220.
 H 21 59.
 8HA 265 DEC -52
 AZ 330.
 H JUPITER 29.
 8HA 261 DEC 23

DEF S

START SIGHTS
 1: BODY 99 SUNL
 1: STAR 50
 T 20.4342
 H 23.56
 148 INT A -6.6
 2: STAR 50
 T 20.4500
 H 24.06
 148 INT A -6.4
 3: STAR 50
 T 20.4615
 H 24.14
 148 INT A -6.1
 4: STAR 50
 T 20.4739
 H 24.23
 148 INT A -6.7
 5: STAR 50
 5: STAR 24
 T 20.5156
 H 22.84
 56 INT A -2.1
 6: STAR 24
 T 20.5302
 H 22.15
 55 INT A -2.0
 7: STAR 24
 T 20.5444
 H 22.24
 55 INT A -11.8
 8: STAR 24
 REJECT
 7: STAR 24
 T 20.5709
 H 23.
 55 INT A -1.3
 8: STAR 24

DEF X

DEF F

8: STAR 21
 T 21.0214
 H 58.55
 218 INT A -1.1
 9: STAR 21
 T 21.0322
 H 58.47
 218 INT A -0.1
 10: STAR 21
 T 21.0455
 H 58.34
 218 INT A -0.7
 11: STAR 21
 T 21.0541
 H 58.27
 218 INT A -1.6
 12: STAR 21
 12: BODY 95 PLAN.
 T 21.1208
 ALMANAC 21.0000
 H 201.308
 22.549
 2.7
 28.51
 329 INT T 4.0
 13: BODY 95 PLAN.
 T 21.1312
 ALMANAC 21.0000
 H 28.44
 328 INT T 4.2
 14: BODY 95 PLAN.
 T 21.1406
 ALMANAC 21.0000
 H 28.37
 328 INT T 3.3
 15: BODY 95 PLAN.
 T 21.1521
 ALMANAC 21.0000
 H 28.3
 328 INT T 4.8
 16: BODY 95 PLAN.
 DAWN FIX
 15 088 FIX 20.43
 31.222 S 105.030
 FIX PREC 1.1
 PREV 11.3
 SET 311 DRI 0.6
 DR REPLACED
 94 RHUMB 534.8
 4 DAYS 1.14
 96 GCIRC 534.6
 4 DAYS 1.12
 110 E -31.466 S
 SET 311 DRI 0.6
 80.
 5.5
 T CRS 75 : -5
 T SPD 5.1: -7%

DEF Z

DR. LAT S -31.222
 DR. LON E 105.030
 LOG 1066
 LOG COR -7 %
 COURSE 75
 SPEED 5.1



THERMAL PAPER

Thermal paper tape is available in packets of five rolls where the Merlin II printer is sold, from Sharp dealers (product code EA1250P) and from Tandy outlets (PC3 thermal printer paper). You may also cut up fax paper.

Installation of paper roll

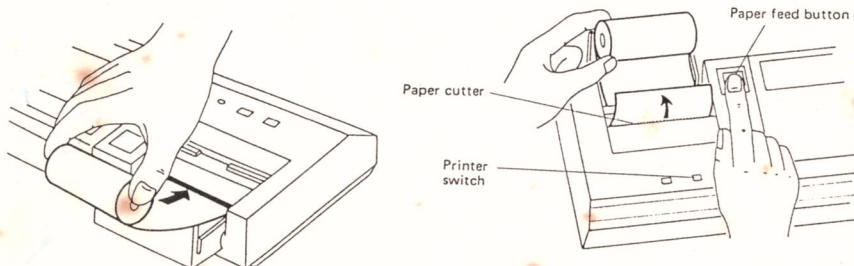
Trim the leading edge of the paper cleanly; any curve or crease near the beginning of the paper makes insertion difficult.

Tighten the roll. A loose roll may cause irregular paper feeding.

Tip back the hinged paper cover and insert the edge of the roll into the slot above the metal strip in the paper compartment.

Gently press the paper into the slot and hold down the paper feed button.

If you wish to remove paper, sever it in the paper compartment and pull the remnant out the top. (Don't pull the paper backwards.)



Tips about thermal paper

Printing on thermal paper may fade if exposed to bright light or high temperatures for long periods.

Do not paste thermal paper with a solvent-type glue.

Thermal paper should not remain in extended contact with a PVC sheet, such as some plastic covers.

Thermal paper should not come in contact with ammonia.

Thermal paper is sensitive to oil from your fingers. Try to avoid touching it. When loading the paper, hold the roll on the edges.

PRINTER SPECIFICATIONS

Type: thermal dot, 24 characters per line

Speed: 0.8 seconds per line

Paper: thermal 58mm (2.28 inches) wide

Power: 2.5W, 4.8V DC from built in nicad battery.

Charging: 8-9V DC input using 2.1mm plug with centre negative.

An AC charger is supplied with the printer. Chargers for 240V and 110V AC and for 12V DC are available.

MERLIN II LINEPRINTER - GENERAL INFORMATION

This information would mostly also apply to the Sharp CE-123P and CE-126P printers which are powered by penlight batteries.

PRINTER OPERATING CONTROLS

Connector

To avoid possible damage to the unit caused by static electricity, never touch the 11 pin connector with your fingers. Always switch off both printer and computer before connecting or disconnecting.

Printer switch

Printout and paper advance are only possible with the printer switch ON.

Setting the switch to OFF will generally allow you to use the computer in a non-printing role but sometimes you may find the Merlin II goes on strike and to use it you have to unplug it from the printer. Always switch off both printer and computer before plugging or unplugging.

Remote switch

This is an interface function. It doesn't play a role with Merlin II.

Low battery light

The low battery indicator lights when the battery needs recharging. If the battery is extremely weak, this indicator will fail to light.

With this light on, no printing or paper advance is possible. The computer will show ERROR 8 if it tries to communicate with the printer and fails.

Paper feed

With the printer ON, pressing this button advances the paper forward.

Adapter

This jack is used to connect the charging unit. The other jacks are interface connections and cannot be used with Merlin II.

CHARGING

The Merlin II printer is powered by a rechargeable nickel cadmium battery.

When new, or when it has been stored unused for some months, recharge the battery before use. It will take 15 hours or more. The "low battery" indicator will not light if the battery is extremely low.

Use the charging adaptor supplied. Chargers are available for 240V AC, 110V AC and 12V DC sources.

Before connecting, turn the printer switch OFF. Leave the printer OFF unless you need to use the printer (which will slow down the charging).

For best results, do not print when partially charged unless the charger is connected.

When the printer batteries are charged they take over supplying power to the computer. The computer never powers the printer.

Disconnect the charger from the AC or 12V DC source when not in use as it will use some power even when not connected to the printer.

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