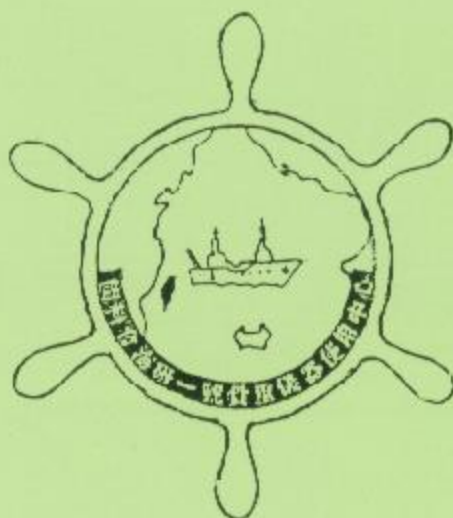


側向聲納掃瞄儀 — 主機 使用手冊(016號附圖)

羅聖宗 陳民本



國科會海研一號貴重儀器使用中心

中華民國八十年十一月

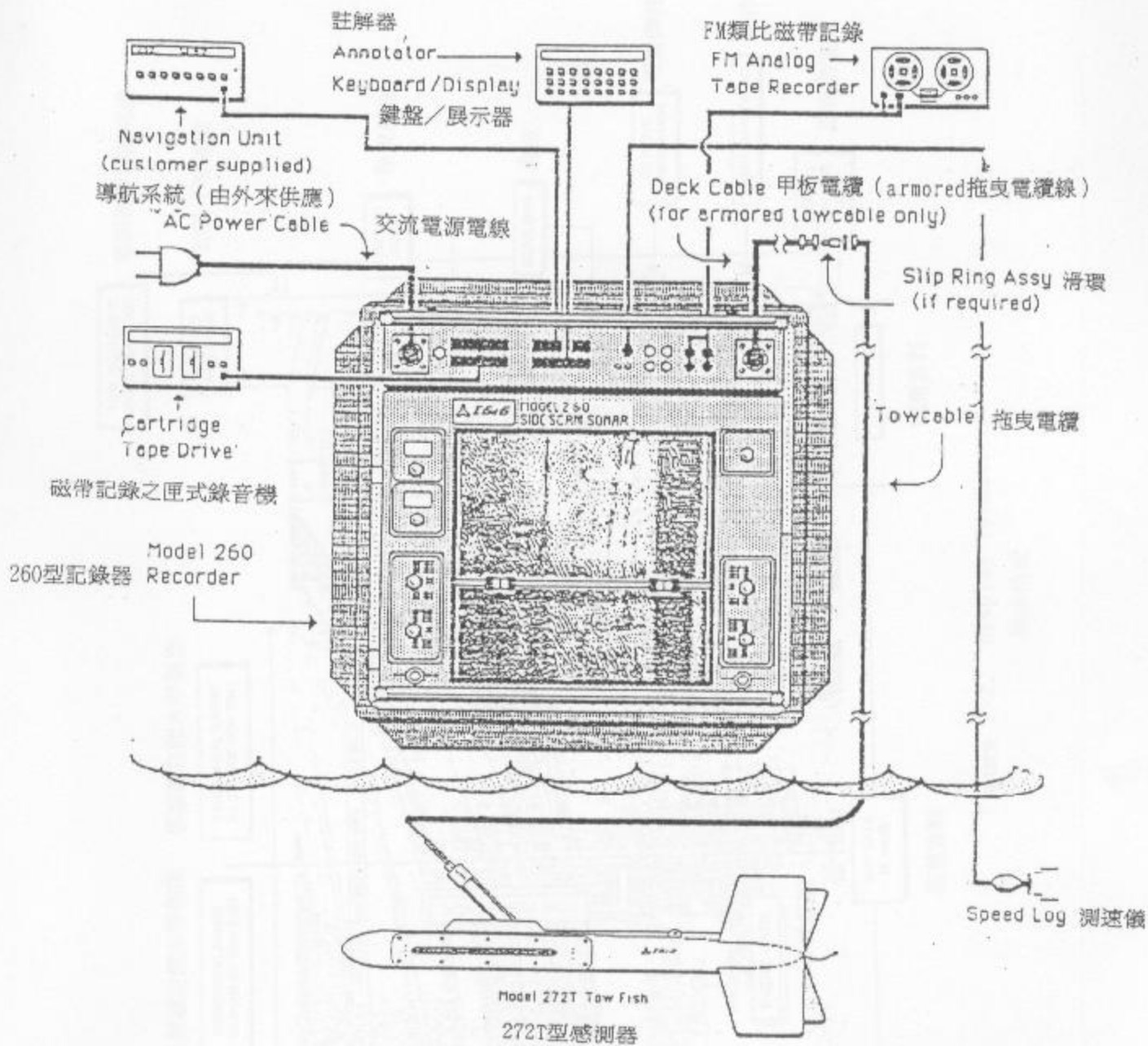
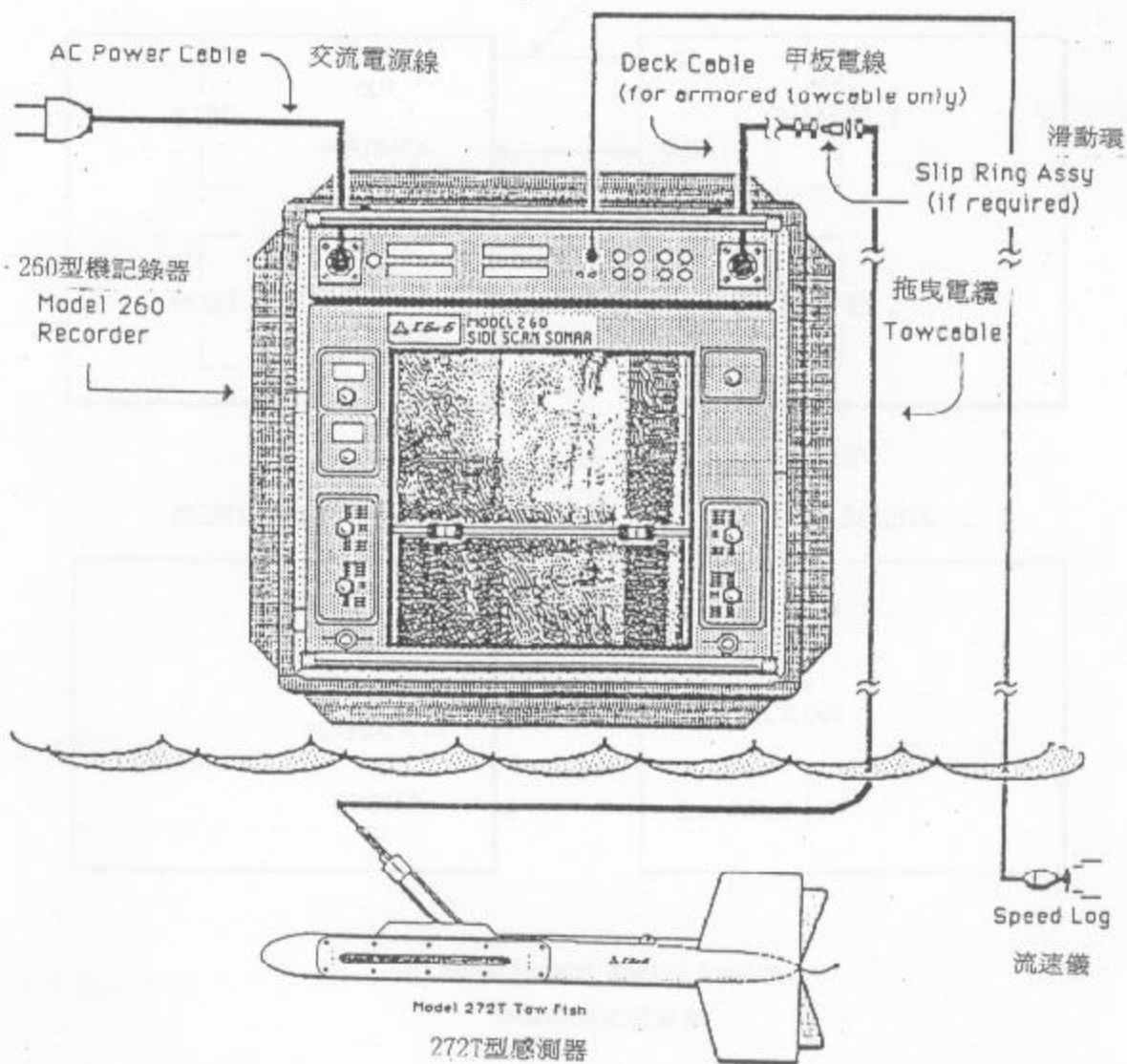


Figure 1-1. System configuration with options. 系統的構造外觀

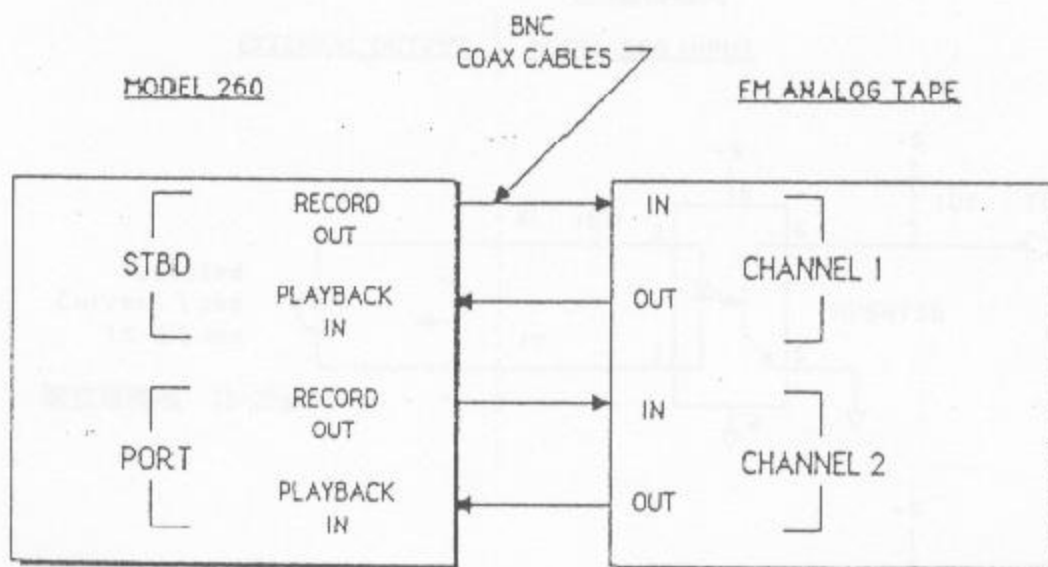
Table 2-1. Standard system component checkoff. 標準配備清單

Description 項目	Notes 備註
----- Model 260 Side Scan Sonar 260型側掃聲納儀	Provided in Model 260 Transit Case 包括在260型搬運箱
----- Power Cable 電源線	Provided in Model 260 Transit Case 包括在260型搬運箱
----- Speed Log 流速儀	Provided in Model 260 Transit Case 包括在260型搬運箱
----- Accessories Kit 輔助工具箱	Provided in Model 260 Transit Case 包括在260型搬運箱
----- Manuals (2) 手冊 (二冊)	Provided in Model 260 Transit Case 包括在260型搬運箱
----- Model 272-T Tow Fish 272T型感測儀	Provided in Tow Fish Shipping Crate 感測器使用之板條箱
----- Tow Fish Accessories Kit 感測器工具箱	Provided in Tow Fish Shipping Crate 感測器使用之板條箱
----- Manuals (2) 手冊 (二冊)	Provided in Tow Fish Shipping Crate 感測器使用之板條箱
----- Tow Cable 拖曳電纜	As Required
-----75M Lightweight 75m長輕質	
-----150M Armored 150M Armored	
-----600M Armored 600M Armored	
----- Deck Cable 甲板電纜 中板電纜	As Required With Above Armored Tow Cable 視以上Armored拖曳電纜需求而定
-----15 M	
-----75 M	
----- Recording Paper 記錄紙	視需要而定一箱12卷記錄紙 As Requested. One Box Equals 12 Rolls of Recording Paper 2 Filter Cartridges 2 Blank Paper Cores
	2可過濾的圖畫紙(?)
	2空白軸心

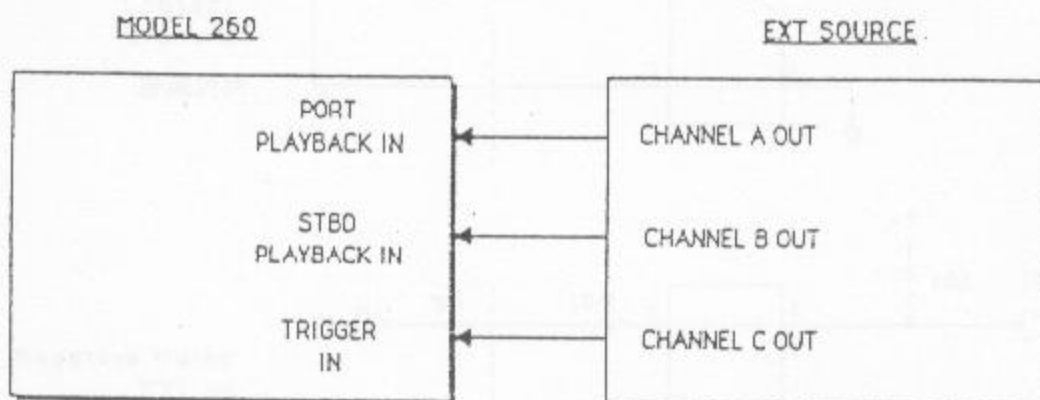


基本系統架構

Figure 2-1. Basic system configuration.



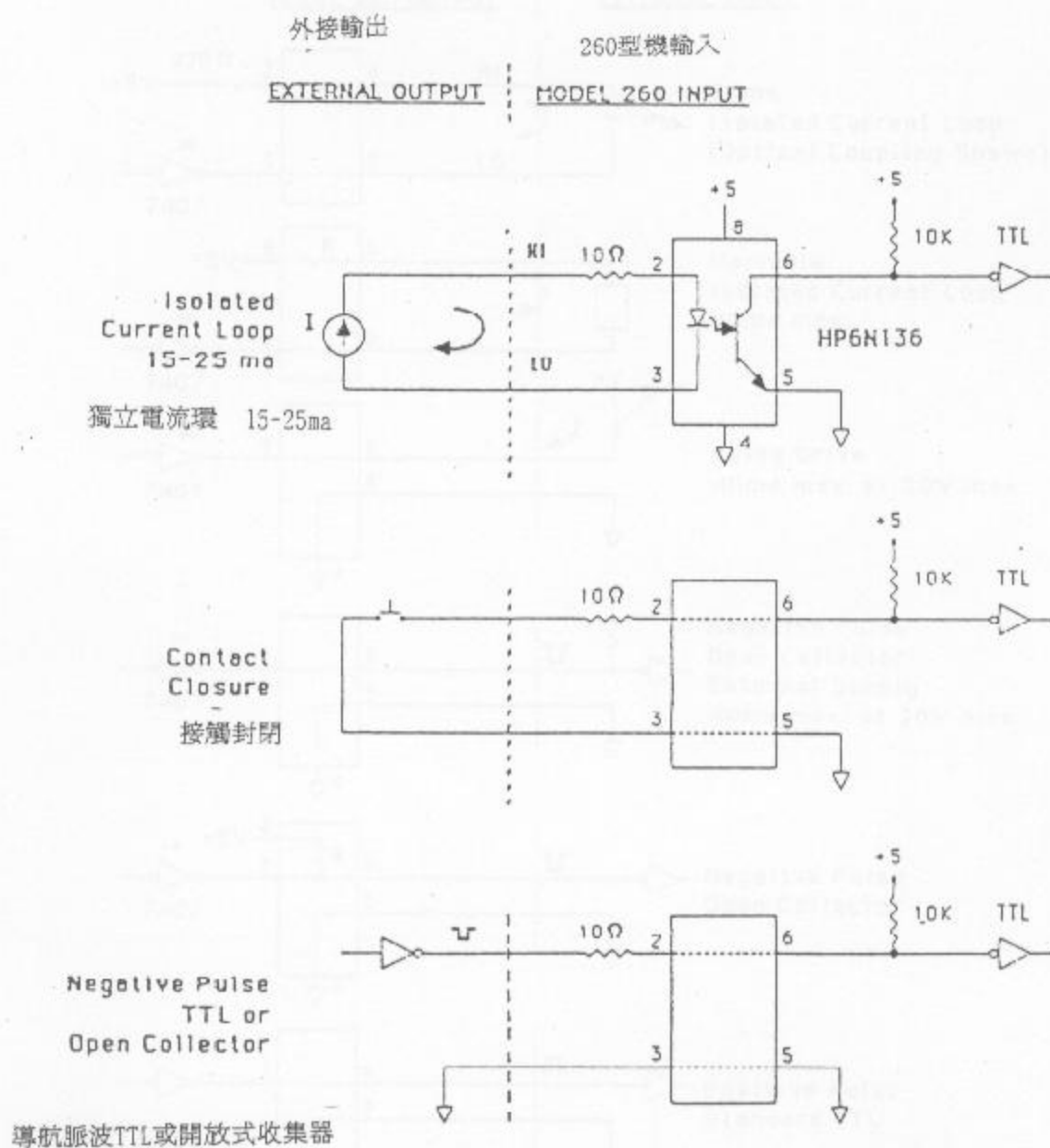
(a) Read After Write. 先讀後印



(b) Nonstandard Analog Source.

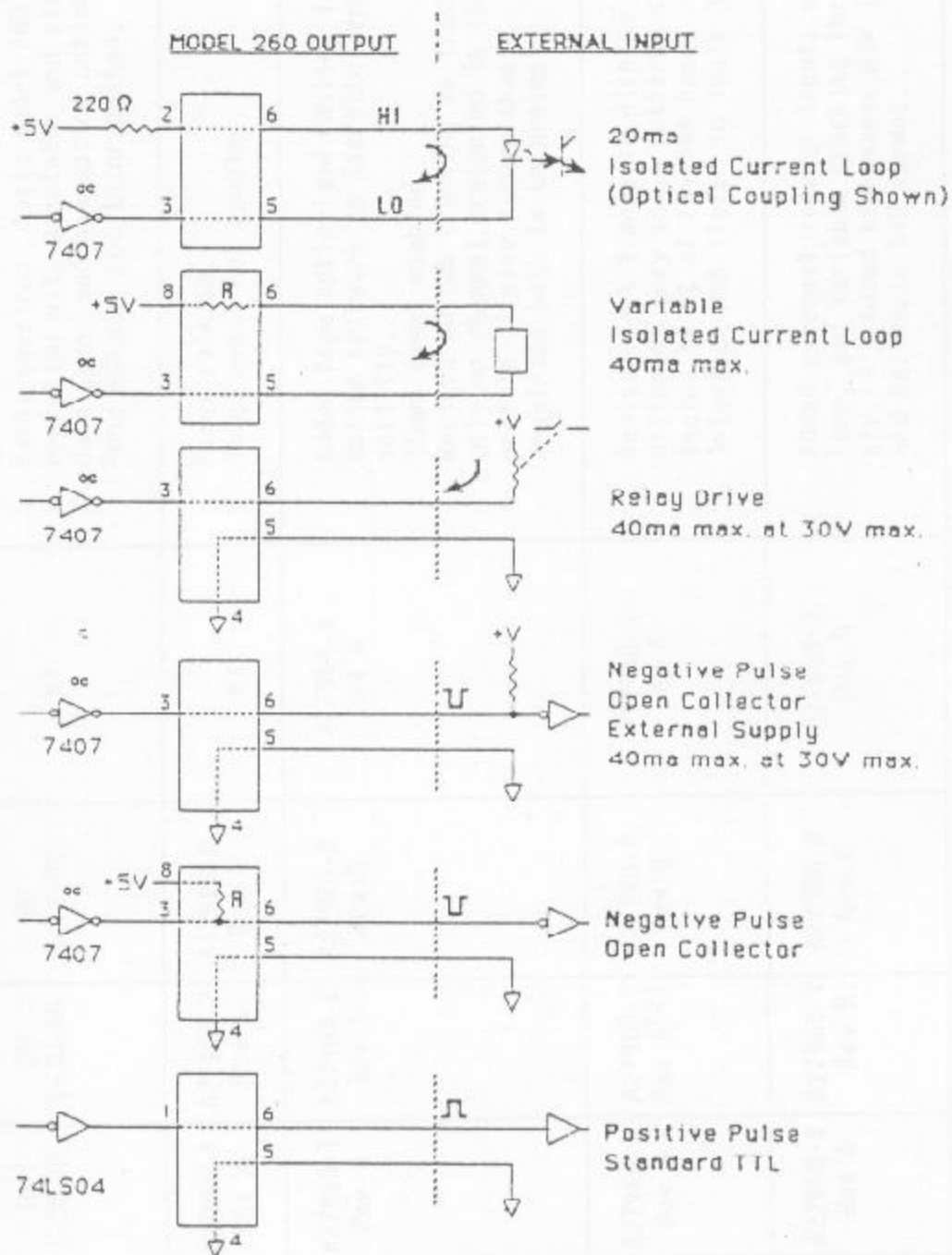
非標準類比式電源

Figure 2-2. Analog input. 類比式輸入



(a) Input Interface.

Figure 2-3. Typical module configurations. 基本結構



(b) Output Interface.

Figure 2-3. Typical module configurations (Cont.).

Table 3-6. Software compatibility chart.

CPU PCB			I/O PCB(1) A9	TAPE INTERFACE PCB-A29	REMARKS
A22	A29	A30			
OH 1-30-85/1	III 1-30-85	2II 1-30-85	8II 5-14-85	NA	Early version. Basic Model 260 operation with annotator and standard speed and navigation options. Edge enhance not incorporated.
A27968-0 Rev A	A27968-1 Rev A	A27968-2 Rev A	A27968-8 Rev A	NA	First release. Timed event not enabled.
A27968-0 Rev B	A27968-1 Rev A	A27968-2 Rev A	A27968-8 Rev B	A27968-9 Rev A	Added tape option and revised I/O option software to increase versatility. Timed event enabled. Revised bottom tracking to track only on channel presented in the profile display rather than requiring both to be present.
A27968-0 Rev B	A27968-1 Rev A	A27968-2 Rev B(2)	A27968-8 Rev B	A27968-9 Rev A	Revised Test 2 mode to display the different gray scale patterns selected by S1 of the DMA Panel Interface PCB (Refer to Table 3-4).
A27968-0 Rev C	A27968-1 Rev A	A27968-2 Rev B	A27968-8 Rev C	A27968-8 Rev B	Added external trigger input, event beep, and variable tracking threshold. (3) Added high-speed NAV input and Del Norte 542 format.

Notes:

- (1) Same PROM used for annotator, speed, and navigation options.
 (2) May be used as a direct replacement to the previous revision without having to change other PROMs.
 (3) Requires hardware modifications to earlier Model 260 Acquisition and I/O PCBs.

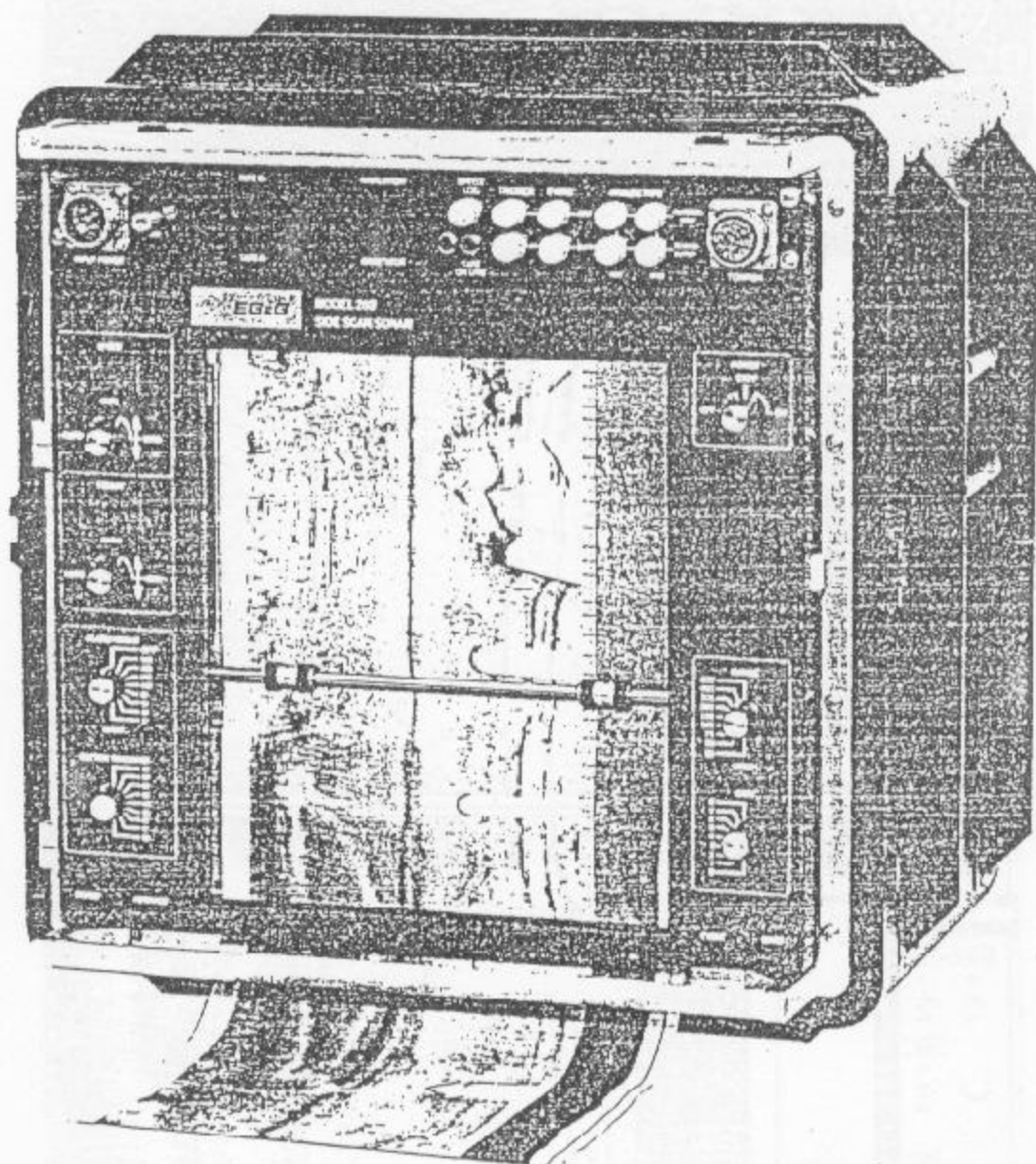


Figure 3-1. Front panel controls and connector panel.

前面板控制器及板连接器

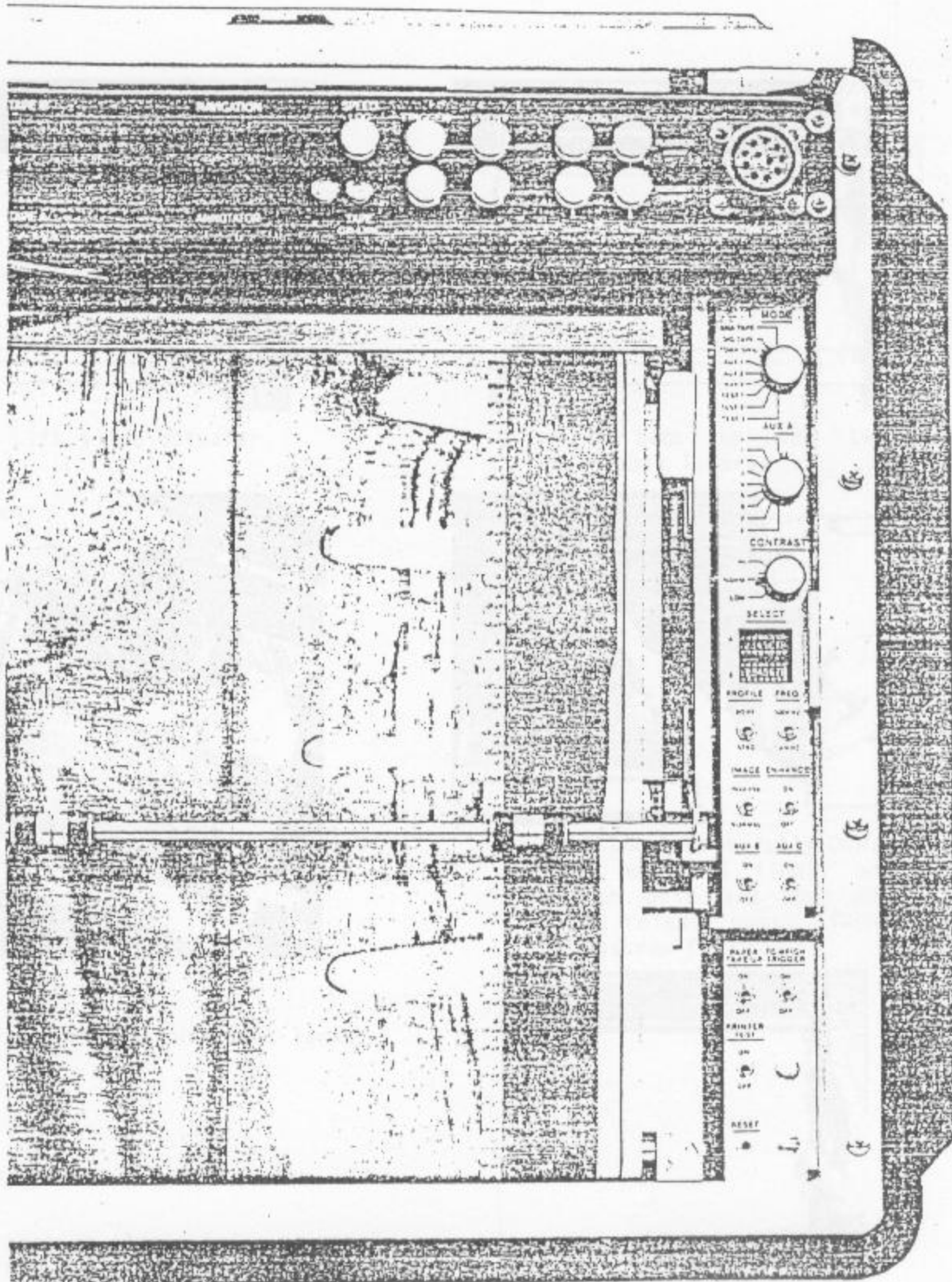
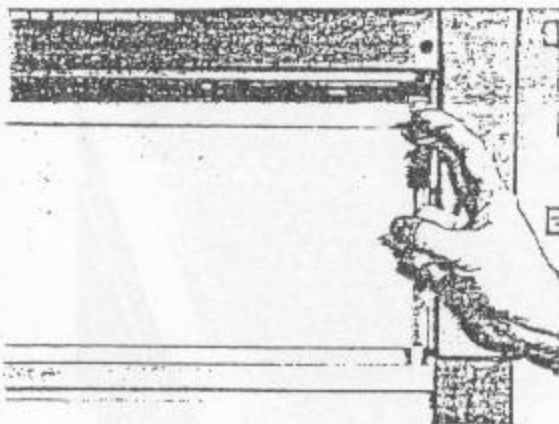
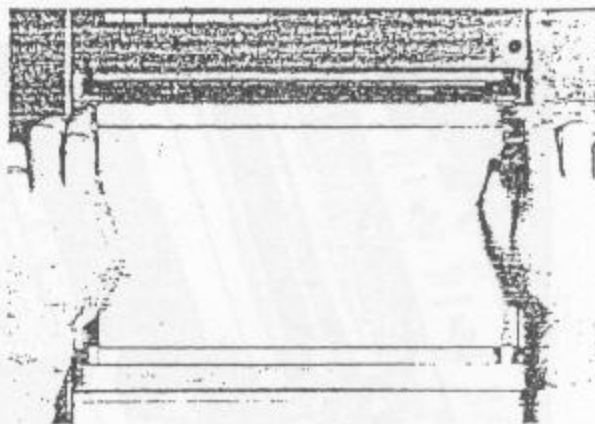


Figure 3-2. Internal panel controls.

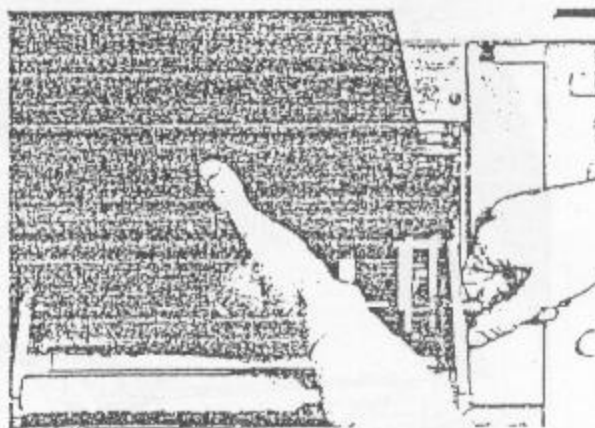
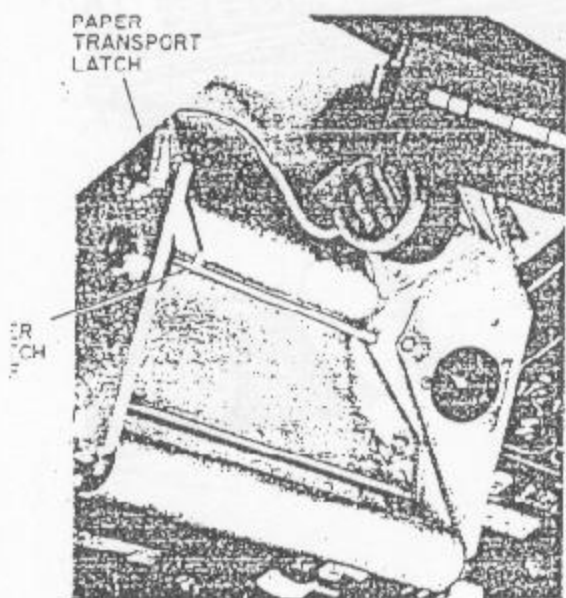
內板控制器



a. Lift slide actuator.



b. Push back on the two transport levers.



d. Turn thumbscrew fully CCW. Push new roll firmly on clutch boss and then on paper release boss. Turn thumbscrew fully CW.

Swing transport open until it locks into position.

Swing transport closed and pass paper under pinch bar.

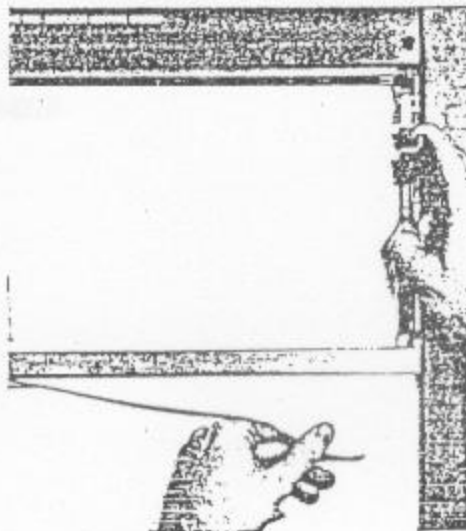


Figure 3-3. Paper loading. 記錄紙的裝置

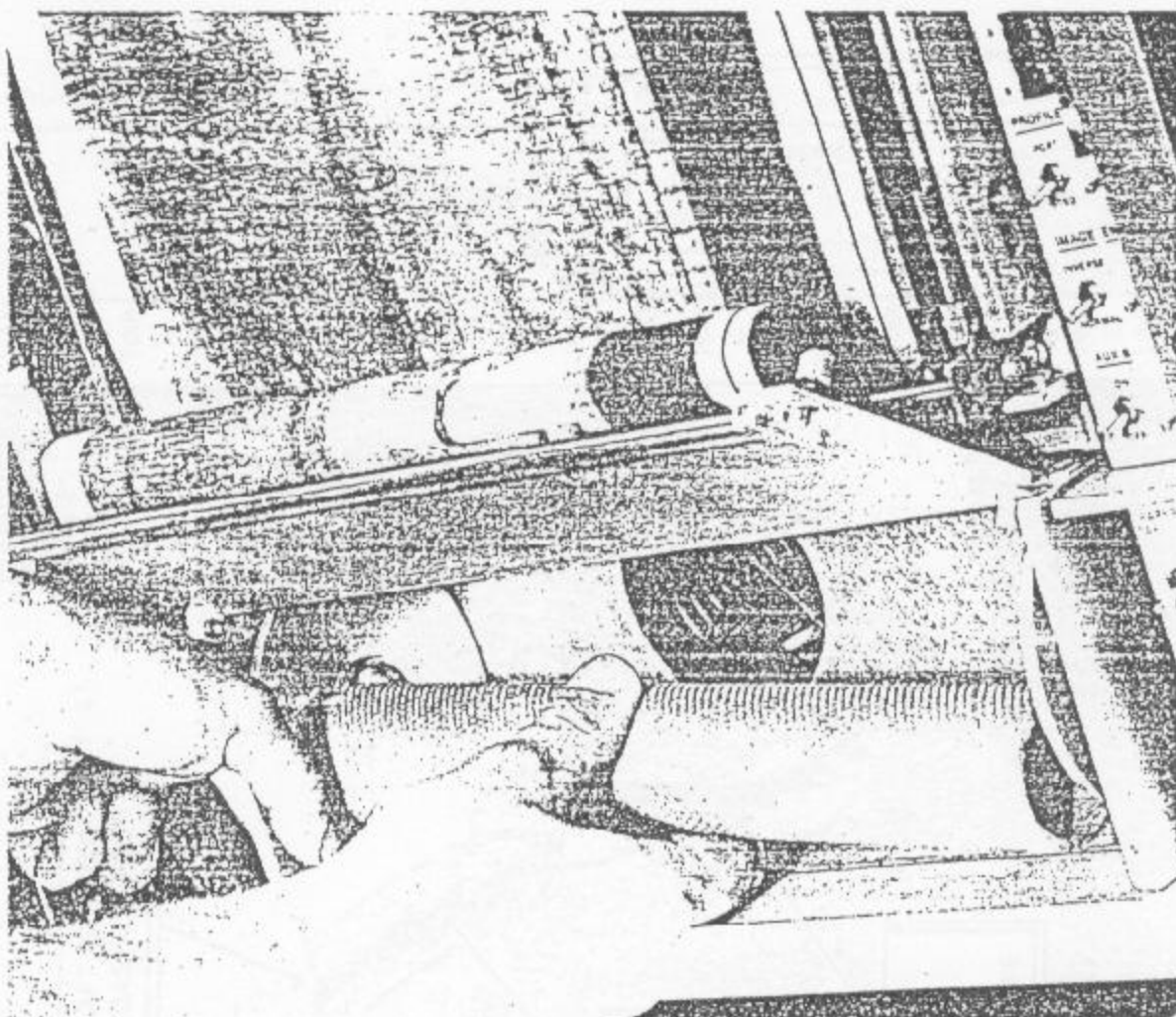
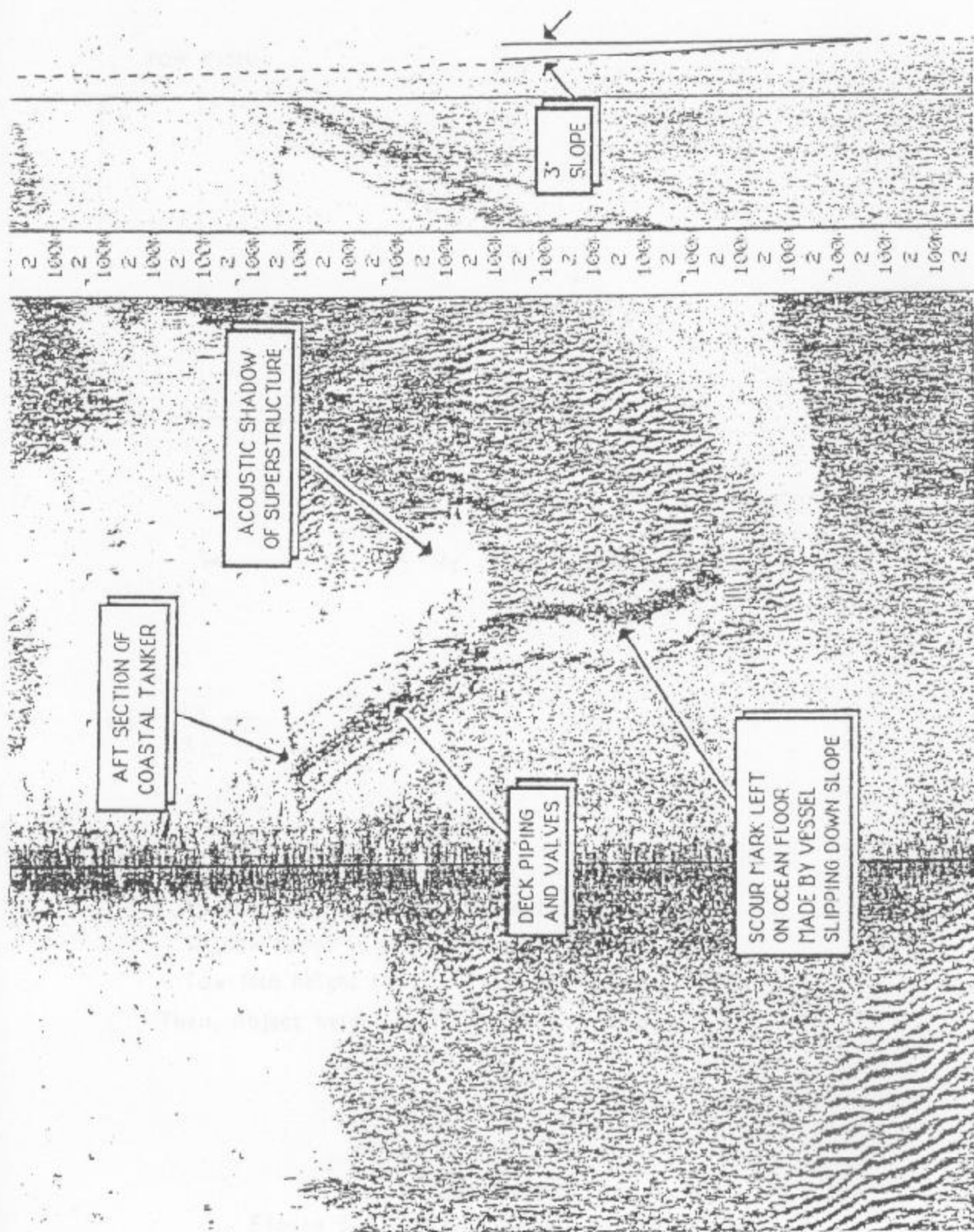


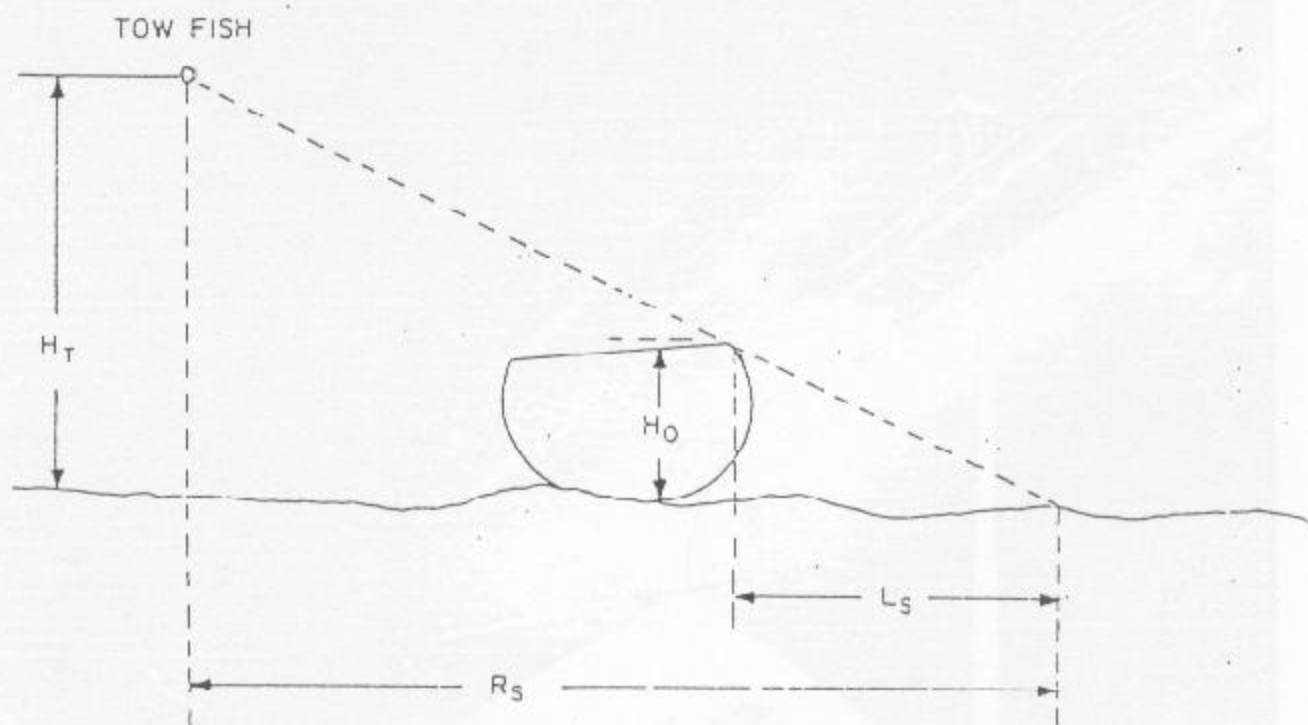
Figure 3-4. Paper take-up.

記錄紙的取出



海岸運油沈船

Figure 3-5. Coastal tanker shipwreck.



$$H_0 = \frac{L_S}{R_S} H_T$$

For example:

If, Shadow length (L_S)	= 15 Meters
Shadow range (R_S)	= 50 Meters
Tow fish height (H_T)	= 20 Meters
Then, Object height (H_0)	= 6 Meters

目標物高度測定

Figure 3-6. Object height determination.

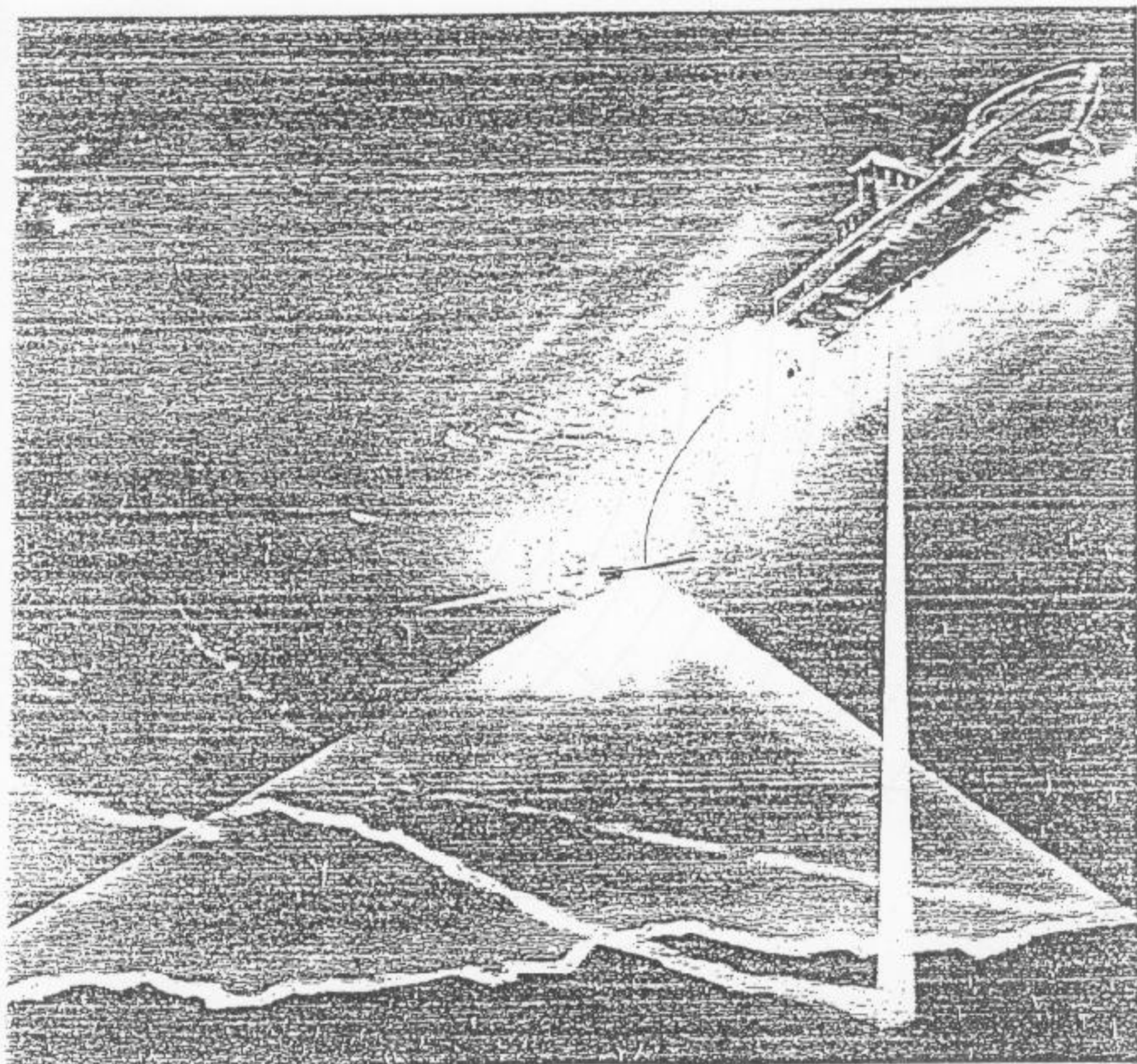
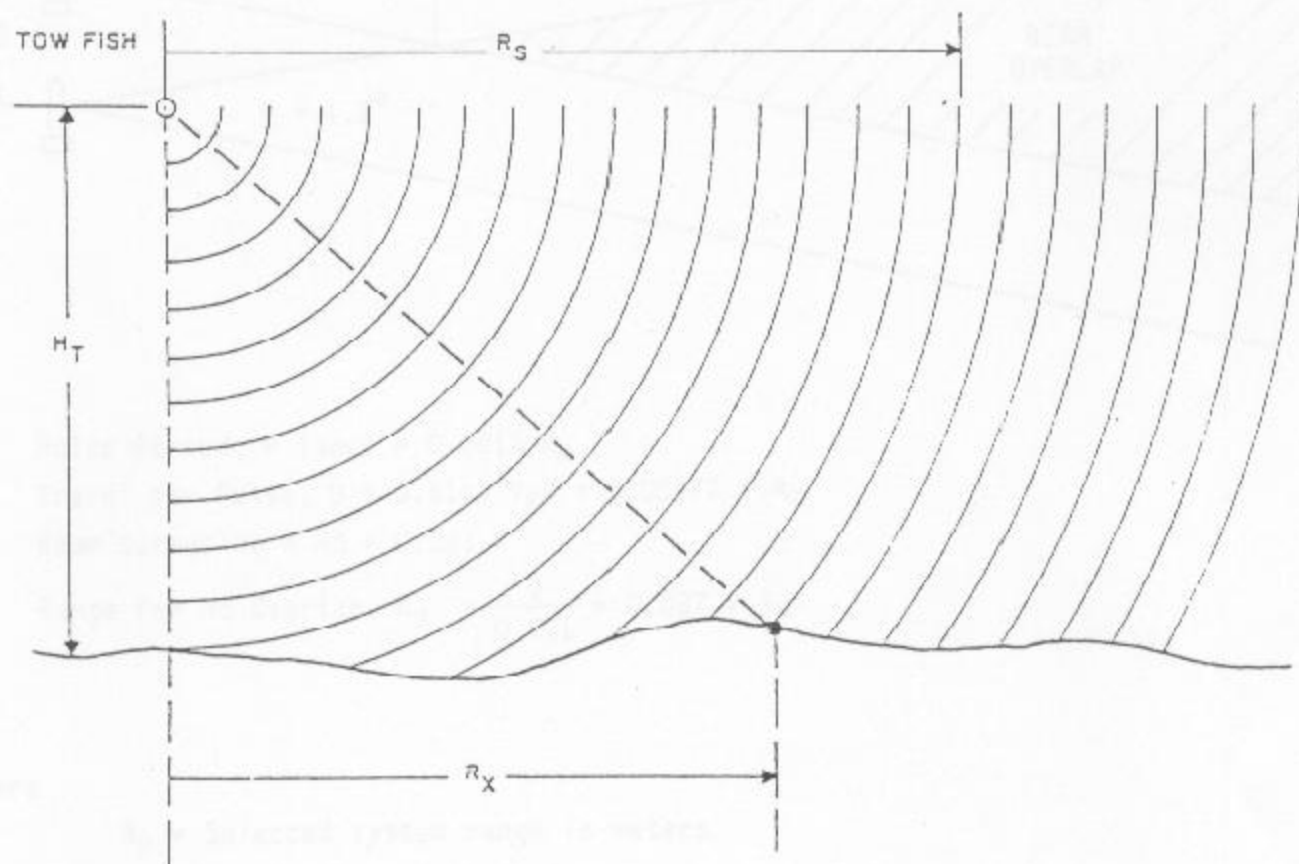


Figure 4-1. Side scan data collection.

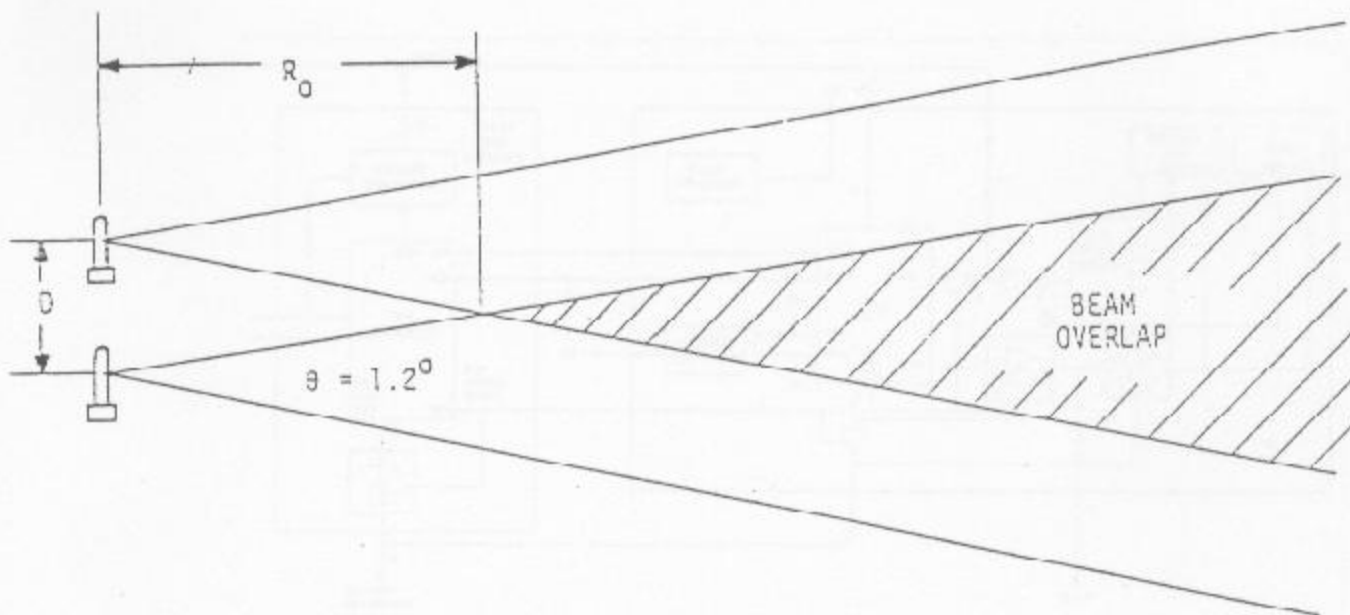
側掃資料搜集



$$R_X = \sqrt{R_S^2 - H_T^2}$$

斜距校正

Figure 4-2. Slant range correction.



$$\text{Pulse Period, } P \text{ (sec)} = 0.0015 R_m$$

$$\text{Travel per Pulse, } D = 0.5144 V_k P = 0.00077 V_k R_m$$

$$\text{Beam Spreading} = R_0 = 0.021 R$$

$$\text{Range for No Overlap, } R_0 = \frac{D}{0.021} = 0.037 V_k R_m$$

where

R_m = Selected system range in meters

V_k = Tow fish speed in knots

NOTE

Since beam spreading occurs both vertically and horizontally, there will be no loss of coverage when R_0 equals the tow fish height. For example, when the tow fish height is 20% of the range, there will be no loss of coverage for speeds less than 5.4 knots.

速度校正

Figure 4-3. Speed correction.

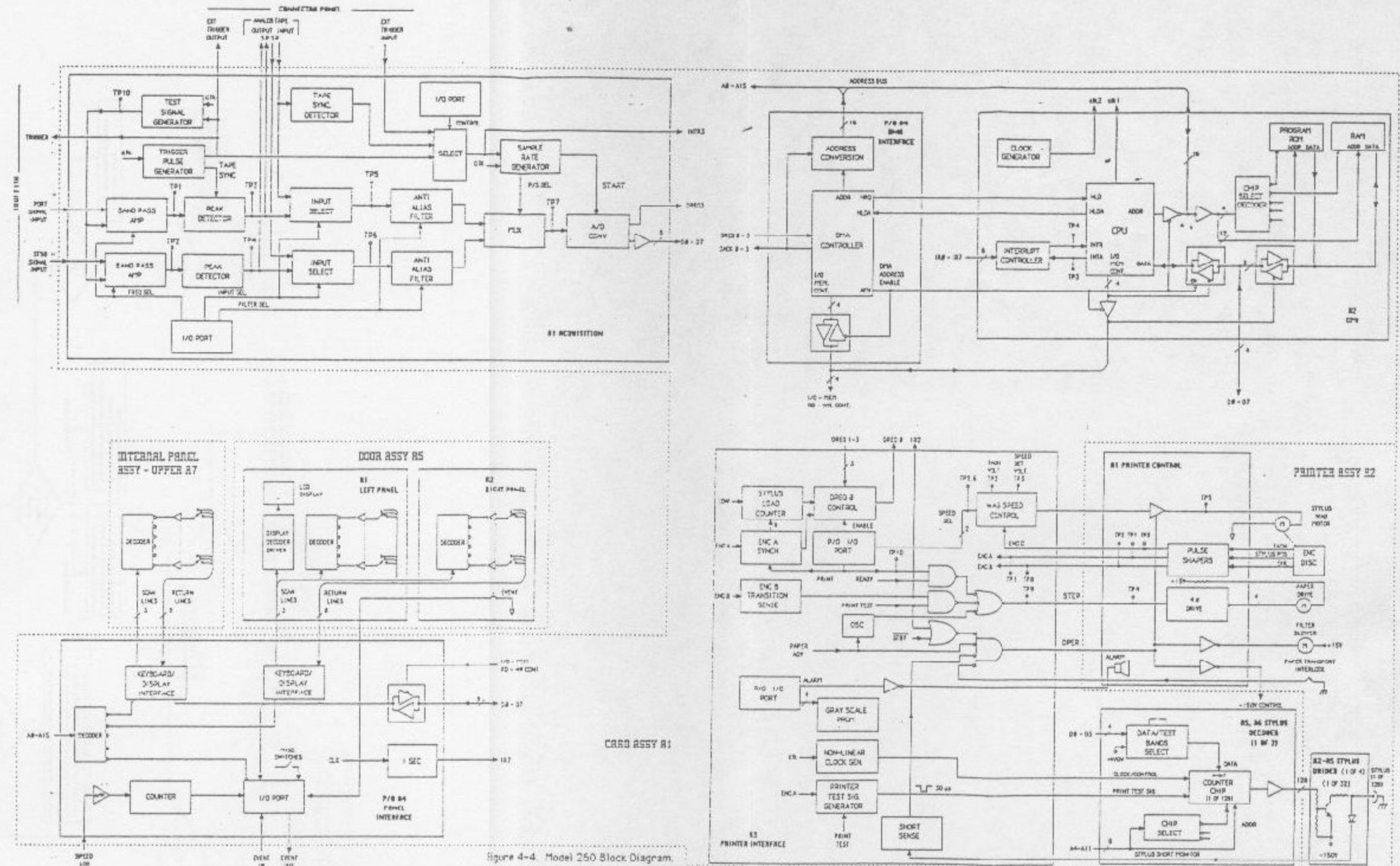
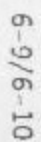


Figure 4-4. Model 260 Block Diagram.

260型機内部流程

Figure 4-4. Model 260 block diagram.

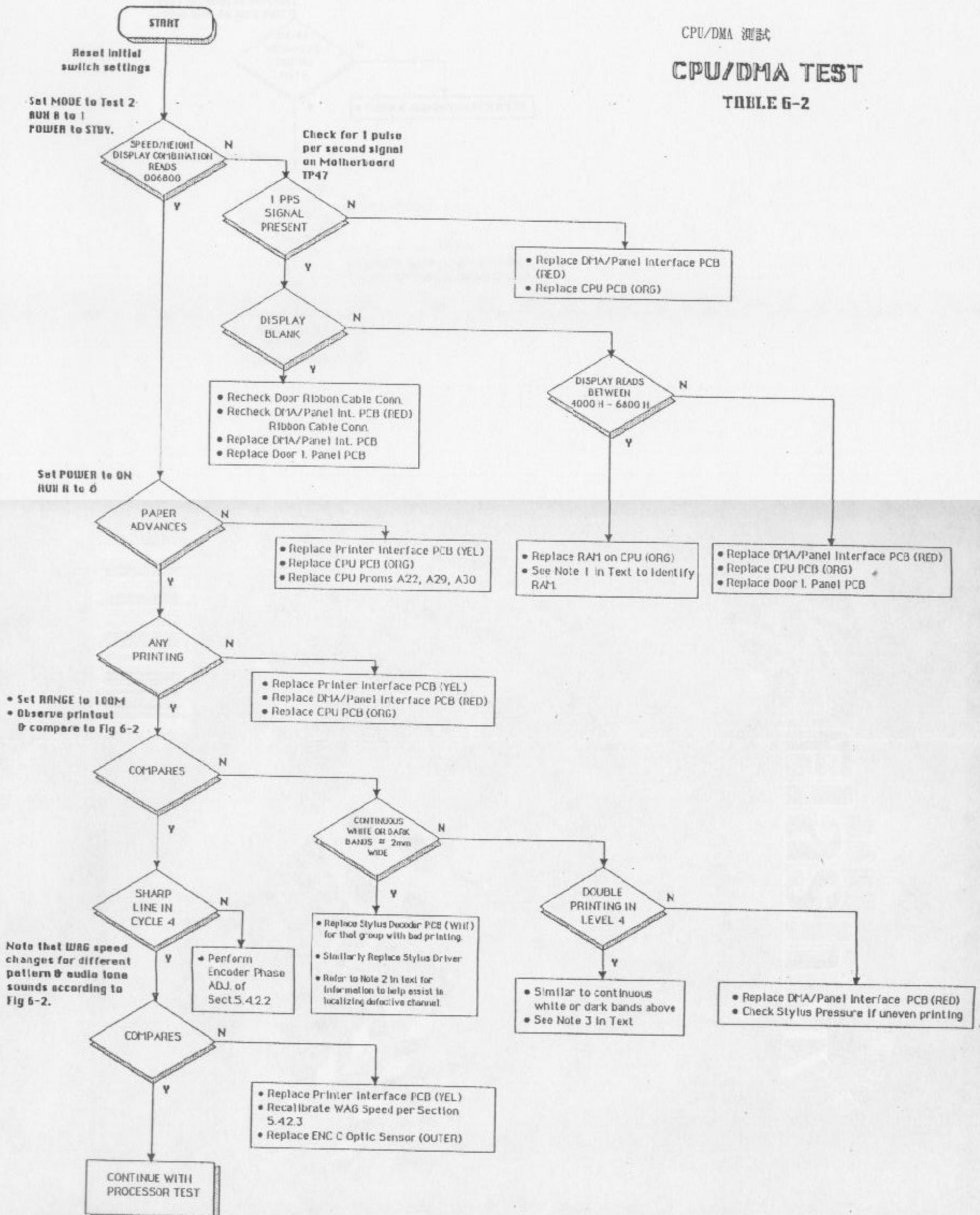
MODEL 260 PRINTER TEST
TABLE 6-1



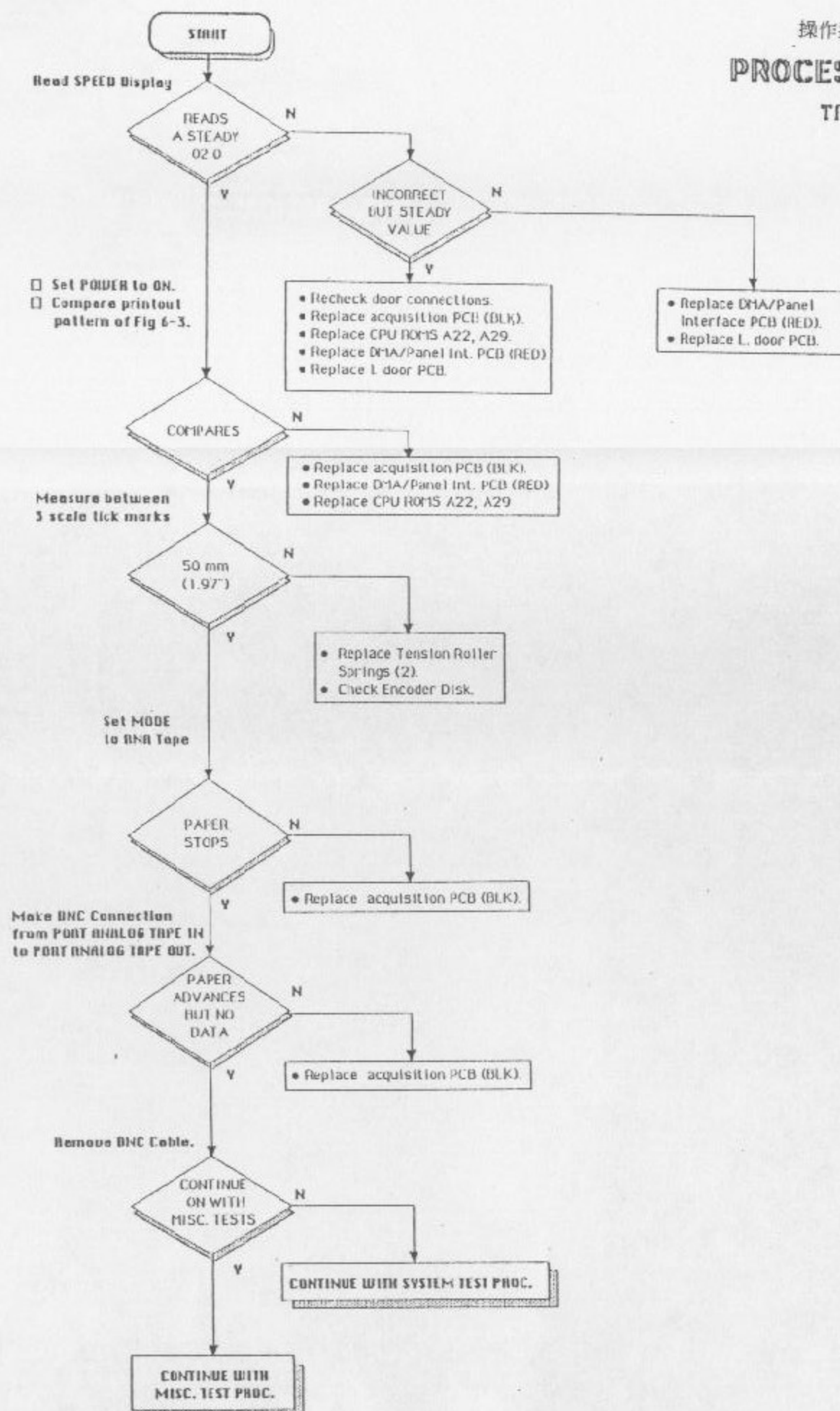
CPU/DMA 測試

CPU/DMA TEST

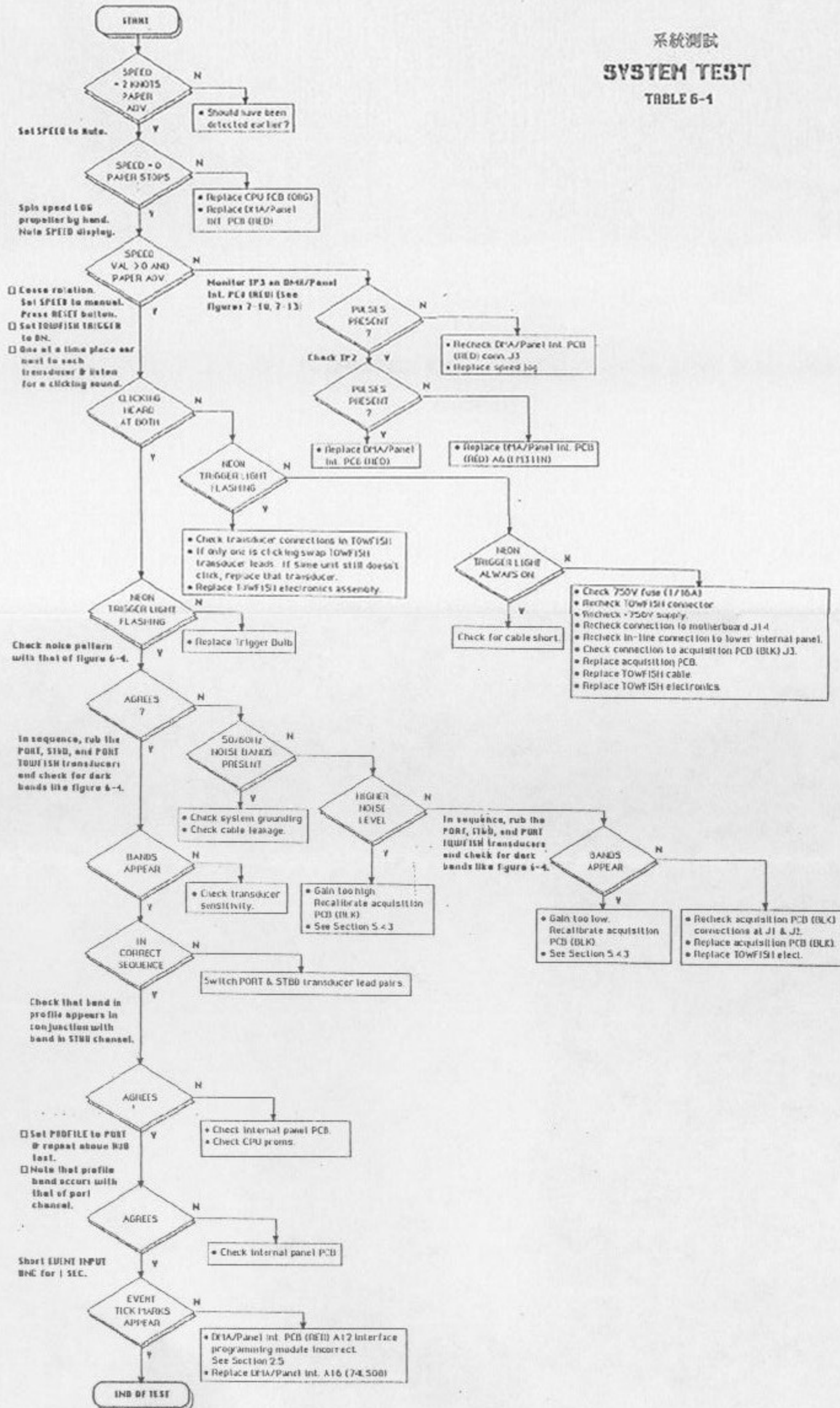
TABLE 6-2



操作過程測試
PROCESSOR TEST
TABLE 6-3



系統測試
SYSTEM TEST
TABLE 6-1



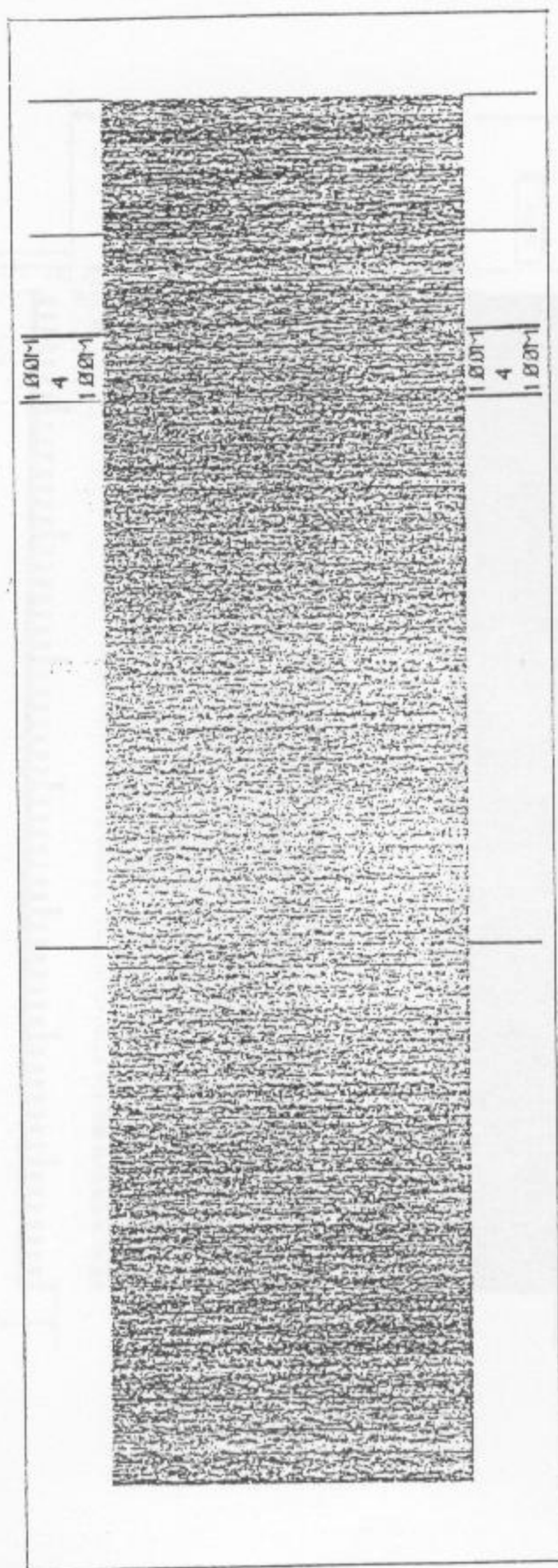
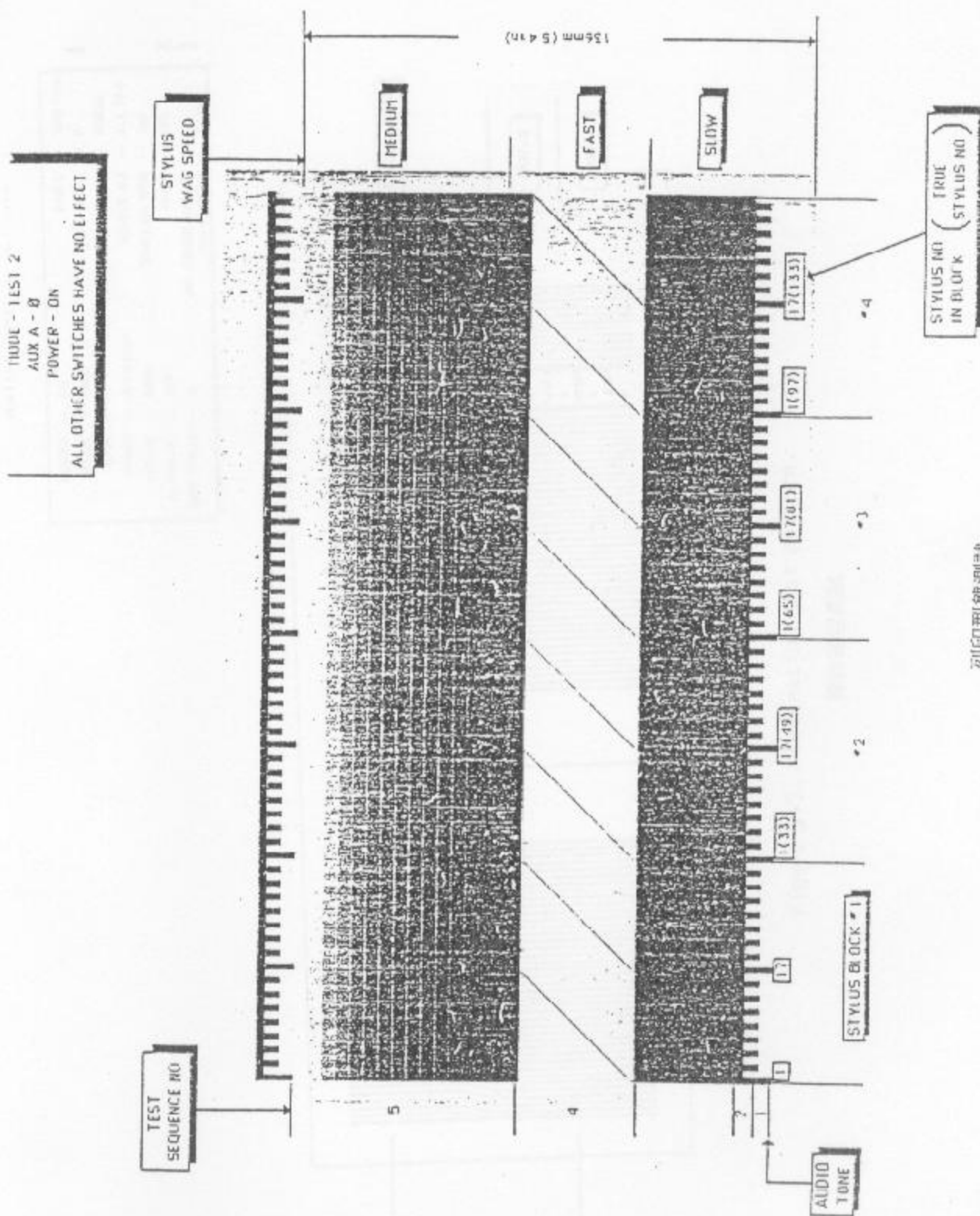


Figure 5-1. Printer test.

列印機測試



列印型態測試

Figure 5-2. Printing test pattern.

POWER	— ON	MODE	— TOW FISH
RANGE	— 100M	AUX A	— 0
GAIN	— 4	CONTRAST	— NORM
SPEED	— 2K15 MAN	SELECT A/I	— ALL OFF
HEIGHT	— MAN	TOW FISH TMO	— ON
ALARM HT.	— OFF	AUX B	— ON
BOAT TRACK	— 5	ALL OTHER TANGLE SWITCHES	— DOWN

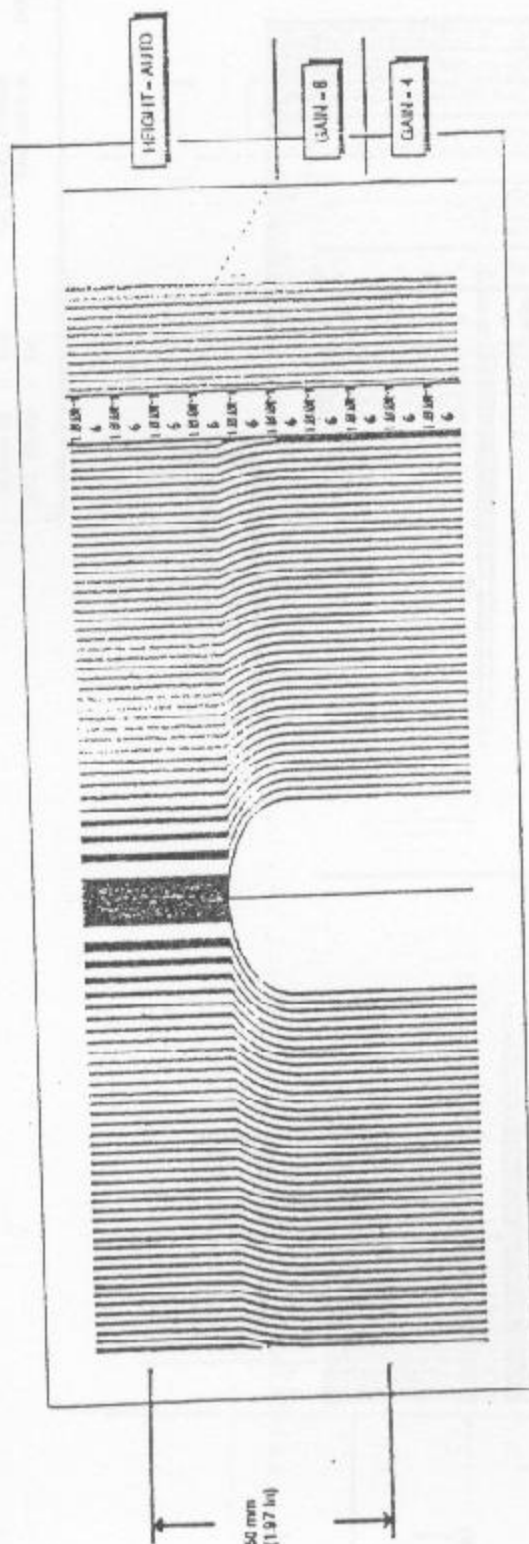
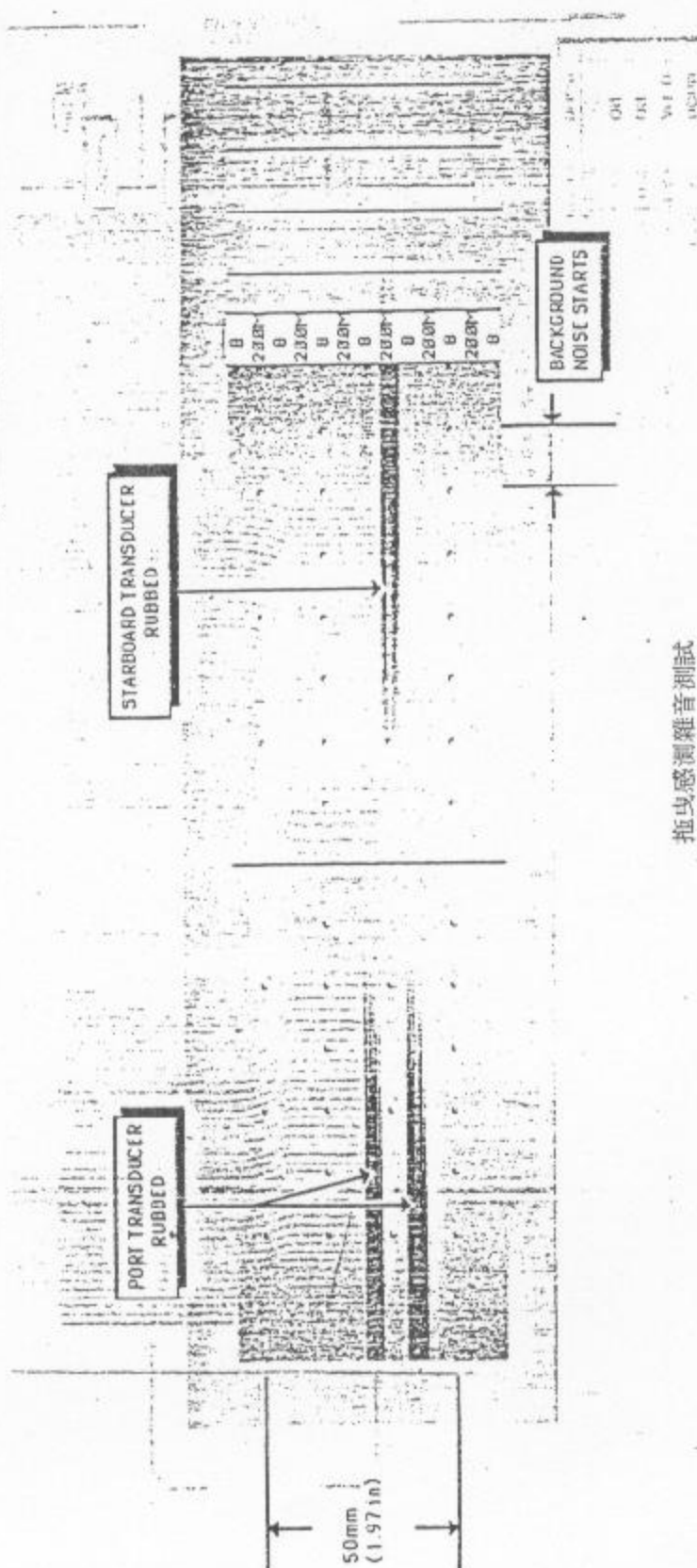


Figure 5-3. Processing test pattern.

操作過程測試

SWITCH SETTING

POWER	— ON	MODE	— TOW FISH
RANGE	— 200M	AUX A	— 0
GAN	— 8	CONTRAST	— NORM
SPEED	— 2KTS MAN	SELECT AID	— ALL OFF
HEIGHT	— MAN	TOW FISH THIG	— ON
ALARM F.T.	— OFF	ALL OTHER TOGGLE SWITCHES (B)	— DOWN
BOY TRACK	— NA		



拖曳感測雜音測試

Figure 5-4. Tow fish noise test.