A S / 2 AUTO SWITCH

AS-411P / AS-811P / AS-411S / AS-811S

User's Manual

NOTICE

This manual is written for the Auto Switch products of AS-41 1 P/41 1 S and AS-81 1P/811S. Most of the operations of these models are the some, and differences will be specified. The last character 'P' and 'S' of each model's string means the parallel interface and the serial interface respectively.

In this manual, 'AS/2' is used to represent all the models of AS-41 1 P/AS-41 1 S and AS-81 1 P/81 1 S. When you purchase this product it should contain the following items.

PACKAGE CHECKLIST

- An AS/P(any one of AS-41 1 P/AS-41 1 S/AS-81 1 P/AS-81 1 S)
- The Power Adapter spec. depends on the following product model, the power adapter supports AS-81 1 P model only.

Model	Spec.
AS-411P	NONE
AS-811P	DC 9V 300mA
AS-411S	NONE
AS-811S	NONE

- An AS/2 Auto Switch User's Manual

QUICK LOOK INTERFACE TABLE

MODEL	INPUT PORT	OUTPUT PORT	POWER ADAPTER SUPPORTED	BUFFER CARD SUPPORTED
AS-411P	4 CENTRONICS Female	1 CENTRONICS Female	No/yes*	Yes
AS-811P	8 CENTRONICS Female	1 CENTRONICS Female	Yes	Yes
AS-411S	4 RS-232C(DCE) Female	1 RS-232C(DTE) Male	NO	NO
AS-811S	8 RS232C(DCE) Female	1 RS-232C(DTE) Male	NO	NO

*The adapter comes with buffer card.

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1 FUNCTION OVERVIEW

I-1 INTRODUCTION

The AS/2 is a high performance and low cost printer sharing device which operates in either auto switching mode or manual switching mode. The AS/2 allows up to four or eight source devices to share one common destination devices. In the auto switching mode the AS/2 automatically locks on and services the source device that requests to link with the common device. However, in the manual switching mode the AS/2 works exactly the same way as the conventional data switch.

There are four models, AS-41 1P, AS-41 1S AS-81 1 P and AS-81 1 S all belong to the AS/2 auto switch products. These differences can be quickly understood by reading the following table.

MODEL	INPUT PORT	OUTPUT PORT	CONNECTION
AS-411P	4 CENTRONICS Female	1 CENTRONICS Female	Fig 1-1-1
AS-81 1 P	8 CENTRONICS Female	1 CENTRONICS Female	Fig 1-1-2
AS-41 1S	4 RS-232C(DCE) Female	1 RS232C(DTE) Male	Fig 1-1-3
AS-811s	8 RS-232C(DCE Female	1 RS-232C(DTE Male	Fig 1-1-4

The AS/2 tremendously improves the efficiency of your switching applications. We suggest that you take a few moments to carefully read the following instructions to ensure the maximum benefits and convenience your AS/2 offers. The following figures are the AS/2's front views and rear views.
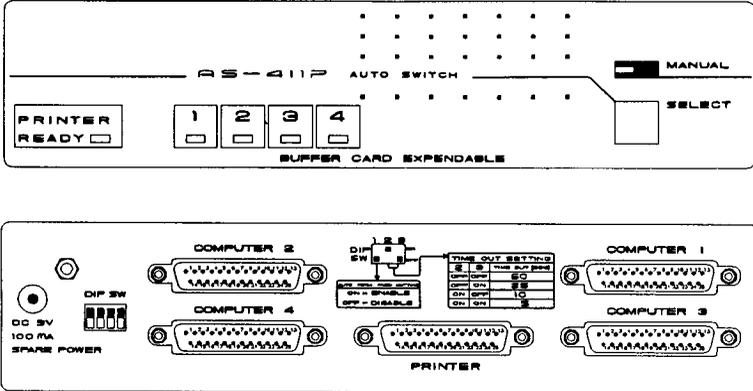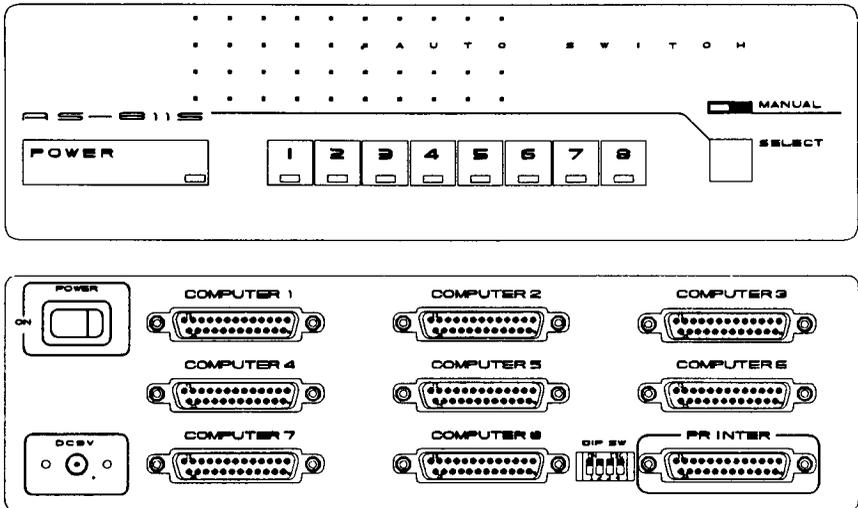
Fig. 1-1-1 AS-411P's Front/Rear View
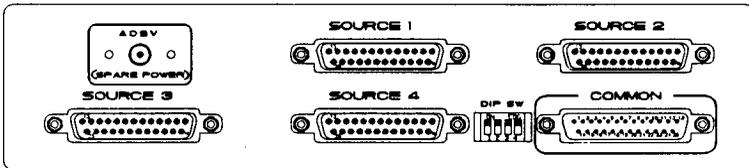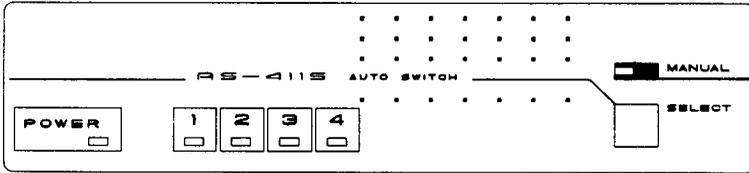

Fig. 1-1-2 AS-811P's Front/Rear View
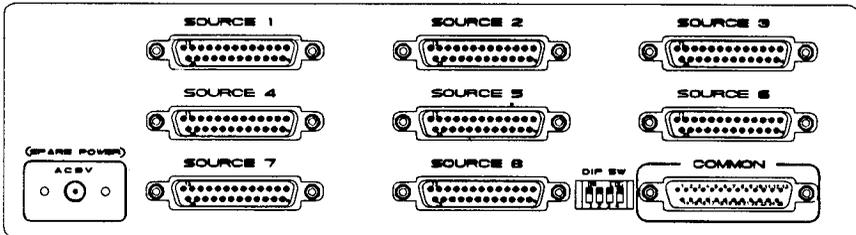
Fig. 1-1-3 AS-411S's Front/Rear View
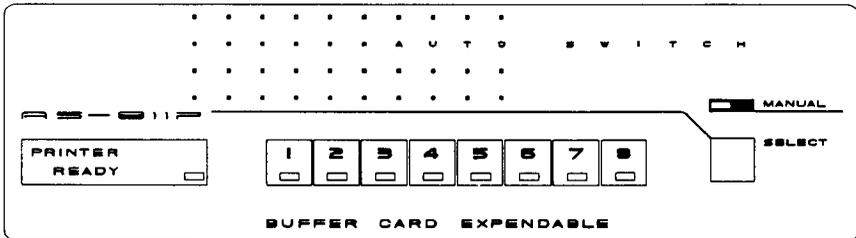
Fig. 1-1-4 AS-811S's Front/Rear View

1-2 FUNCTION SPECIFICATIONS

FUNCTIONS		PARALLEL MODEL	
		AS-41 1 P	AS-81 1 P
Power Supply		D C 9V, 100mA*	DC 9V, 100mA
Cable Length		6 M	
CONNECTOR	INPUT	4 CENTRONICS	8 CENTRONICS
(DB-25)Female	OUTPUT	1 CENTRONICS	1 CENTRONICS
LED Printer Ready	Input Status	4	8
	Printer Ready	1	1
	Manual	1	1
Buffer Care (Extended)		256K/1 M/2M Bytes	
Input Arbitration		First Come, First Serve	
Function Key		Manual Select	
Input Port Selection		Auto or Manual	
Time out Selection		5 · 60 sec.	
Auto From Feed		Enabled/Disabled	
Ooeration Temp.		5°c - 40°c	
Stock Temp.		-20°c - 60°c	
Humidity		0% - 80%	
Enclosure		Metal.	
Weight		1850g	2520g
Dimensions		224 x 154 x 615mm	205 x 97 x 230mn

*The adaptor comes with buffer card.

Fig. 1-2-l AS-41 1 P/AS-81 1 P's Function Specifications

FUNCTIONS		SERIAL MODEL	
		AS-41 1 S	AS-81 1 s
Power Supply		AC 9V, 300mA (spare)	
Cable Length		15M	
CONNECTOR (DB-25)	INPUT (Female)	4 RS-232C (DCE)	8 RS-232C (DCE)
	OUTPUT (Male)	1 RS-232C (DTE)	1 RS-232C (DTE)
LED	Input Status	4	8
	Power	1	1
	Manual	1	1
Input Arbitration		First Come, First Serve	
Function Key		Manual Select	
input Port Selection		Auto or Manual	
Time out Selection		10-90 sec.	
Operation Temp.		5°C · 40°C	
Stock T e m p		-20°c · 60°c	
Humidity		0% · 80%	
Enclosure		Metal.	
Weight		1850g	2520g
Dimensions		224 x 154 x 615mm	205 x 97 x 230mr

Fig. 1-2-I AS-41 1 S/AS-81 1 S's Function Specifications

1-3 PRODUCT LIMITATION

AS/2 is a well designed quality product. Its maximum performance and limitation is described as follows.

- AS/2's Auto Switching Mode is only suitable for devices which use 'Hardware' Handshaking, Xon-Xofl Handshaking is not allowed.

- AS/2's Manual Switching Mode is suitable for all kinds of Hand-shaking Modes.

- For models of AS-41 1 P and AS-81 **1** P, the cable length is limited to no more than 6 meters.

- , For models of AS-41 1 S and AS-81 1 S, the cable length is limited to no more than 15 meters.

- The Input Ports and the Output Ports are constantly configured to be DTE or DCE that are shown in section I-2 Function Specificat-ions. Make sure you are using the right cable to connect your PC or devices to AS/2.

   NOTE: DTE means Data Terminal Equipment.

      DCE means Data Communications Equipment.

- The Serial Interface and Parallel Interface mentioned in this manual are RS-232C and Centronics respectively (please refer to Appendix B).
- AS/2 is IBM PC/AT/XT compatible.

2 INSTALLATION

2-1 INSTALLATION PROCEDURE

2-1-1 Cable Connection Table

AS-411P	4 IN/1 OUT Centronic	see Fig. 2-1-1
AS-811P	8 IN/1 OUT Centronic	see Fig. 2-1-2
AS-411S	4 IN/1 OUT Serial	see Fig. 2-1-3
AS-811S	8 IN/1 OUT Serial	see Fig. 2-1-4

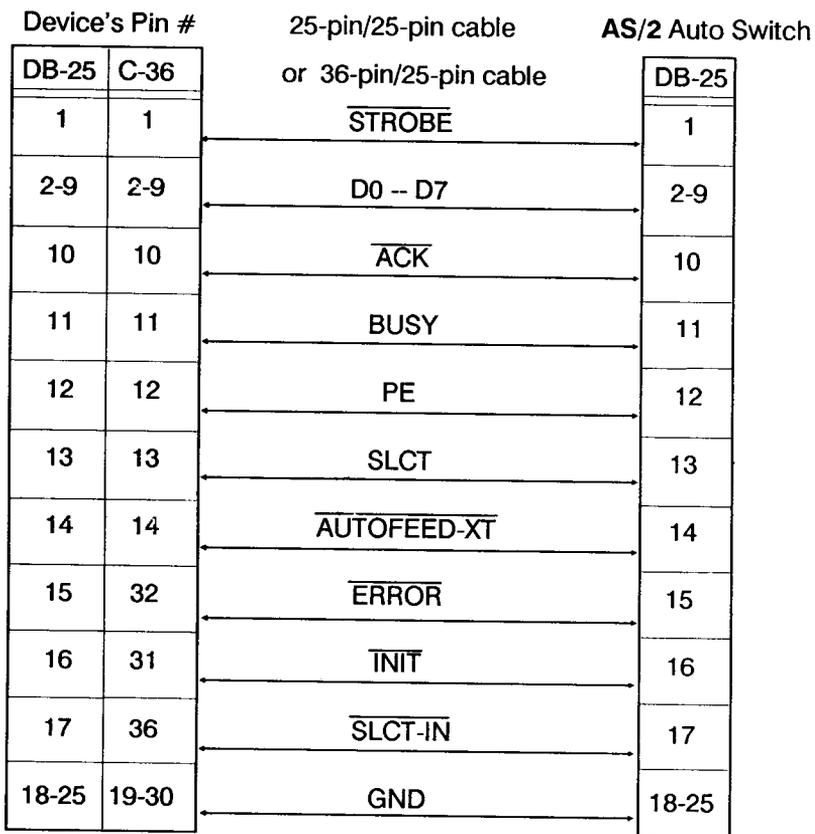### 2-1-2 Serial Port Cabling(for AS-411S/AS-811S only)

<table>
<tr><td colspan="4" align="center">Device's Connector Pin #</td><td align="center">Cables</td><td colspan="2" align="center">DB-402S</td></tr>
<tr><td>DCE</td><td>DTE</td><td>DCE</td><td>DTE</td><td>25/25 or</td><td>DCE</td><td>DTE</td></tr>
<tr><td>DB-9</td><td>DB-9</td><td>DB-25</td><td>DB-25</td><td>9/25 pin</td><td>DB-25</td><td>DB-25</td></tr>
<tr><td>2</td><td>3</td><td>3</td><td>2</td><td>Tx ——→ Rx</td><td>2</td><td>3</td></tr>
<tr><td>3</td><td>2</td><td>2</td><td>3</td><td>Rx ←—— Tx</td><td>3</td><td>2</td></tr>
<tr><td>8</td><td>7</td><td>5</td><td>4</td><td>RTS ——→ CTS</td><td>4</td><td>5</td></tr>
<tr><td>7</td><td>8</td><td>4</td><td>5</td><td>CTS ←—— RTS</td><td>5</td><td>4</td></tr>
<tr><td>4</td><td>6</td><td>20</td><td>6</td><td>DSR ←—— DTR</td><td>6</td><td>20</td></tr>
<tr><td>6</td><td>4</td><td>6</td><td>20</td><td>DTR ——→ DSR</td><td>20</td><td>6</td></tr>
<tr><td>5</td><td>5</td><td>7</td><td>7</td><td>GND —— GND</td><td>7</td><td>7</td></tr>
<tr><td>1</td><td>1</td><td>8</td><td>8</td><td>CD —— CD</td><td>8</td><td>8</td></tr>
</table>

Note 1.The DTE mode device must be connected to a DCE mode device because the polarity of the communication signals are different. The shadow area is a connection example for a DTE device to a DCE device.

   2. CD is from DCE device to DTE device.

2-1-3 Parallel Port Cabling(for AS-411P/AS-811P only)

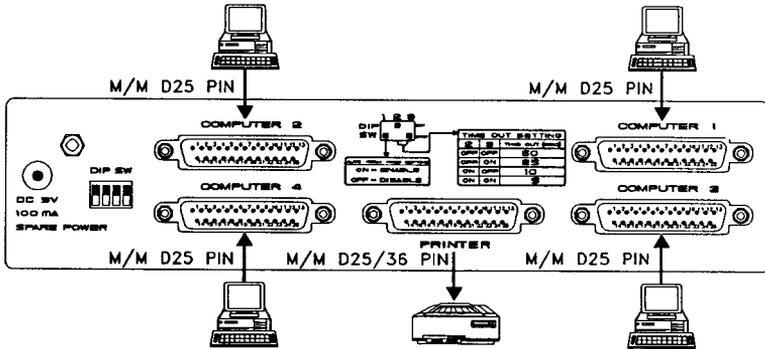| Device's Pin #		25-pin/25-pin cable or 36-pin/25-pin cable	AS/2 Auto Switch
DB-25	C-36		DB-25
1	1	STROBE	1
2-9	2-9	D0 -- D7	2-9
10	10	ACK	10
11	11	BUSY	11
12	12	PE	12
13	13	SLCT	13
14	14	AUTOFEED-XT	14
15	32	ERROR	15
16	31	INIT	16
17	36	SLCT-IN	17
18-25	19-30	GND	18-25

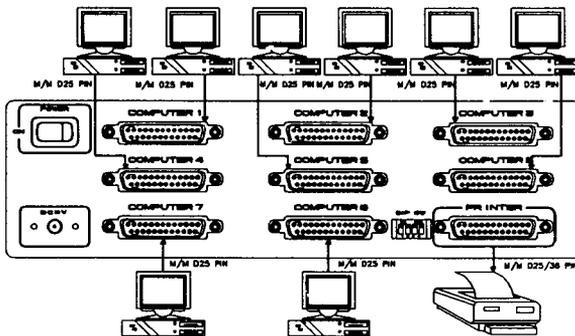Fig. 2-1-1 AS-411P's 4 IN/1 OUT Configuration

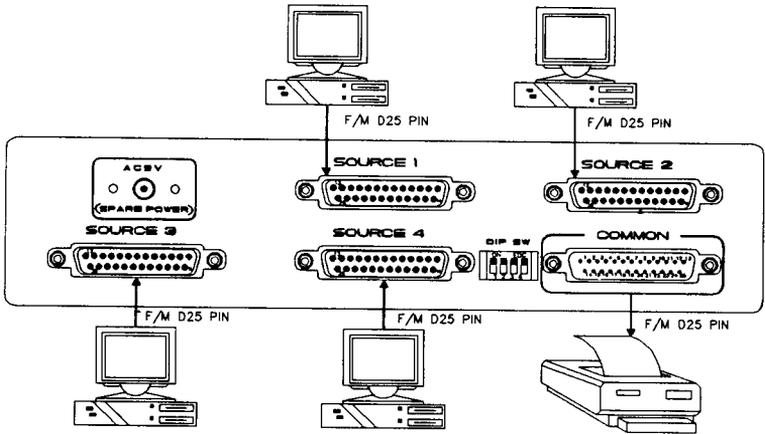Fig. 2-1-2 AS-811P's 8 IN/1 OUT Configuration
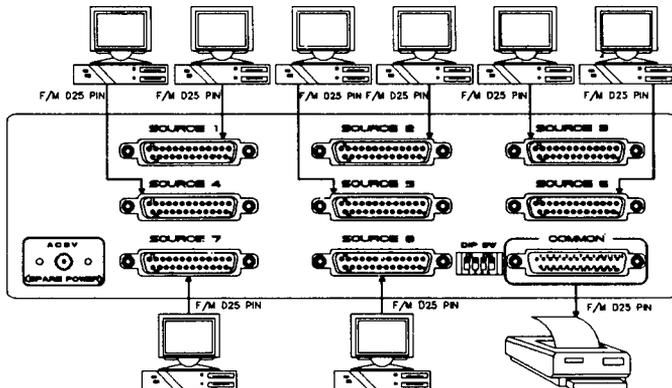
Fig. 2-1-3 AS-411S's 4 IN/1 OUT Configuration

Fig. 2-1-4 AS-811S's 8 IN/1 OUT Configuration

2-2 DIP SWITCH SETTING

While the **AS/2** powers on, it reads the status of the DIP switches and executes to the function setting which is shown in the following figure. The Default Setting of the **AS/2** is marked by the shadow area.
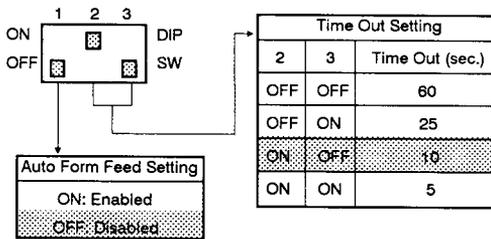
Time Out Setting		
2	3	Time Out (sec.)
OFF	OFF	60
OFF	ON	25
ON	OFF	10
ON	ON	5

Auto Form Feed Setting
ON: Enabled
OFF: Disabled

Fig 2-2-1   **AS-411P** Auto Switch's DIP Switch Setting

Time Out Setting			
2	3	4	Time Out(sec.)
OFF	OFF	OFF	160
OFF	OFF	ON	80
OFF	ON	OFF	40
OFF	ON	ON	20
ON	OFF	OFF	10
ON	OFF	ON	5
ON	ON	OFF	2.5
ON	ON	ON	1.25

Auto Form Feed Setting
ON: Enabled
OFF: Disabled
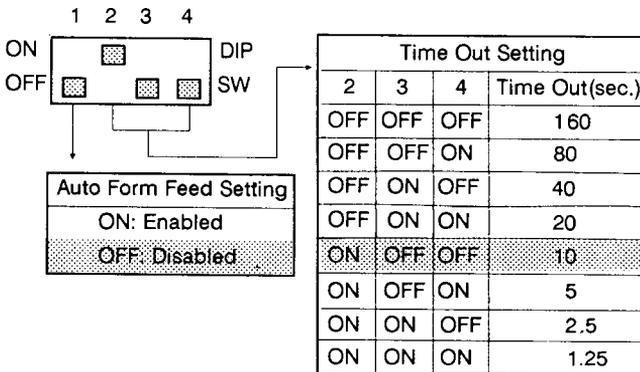
Fig 2-2-2   **AS-811P** Auto Switch's DIP Switch Setting

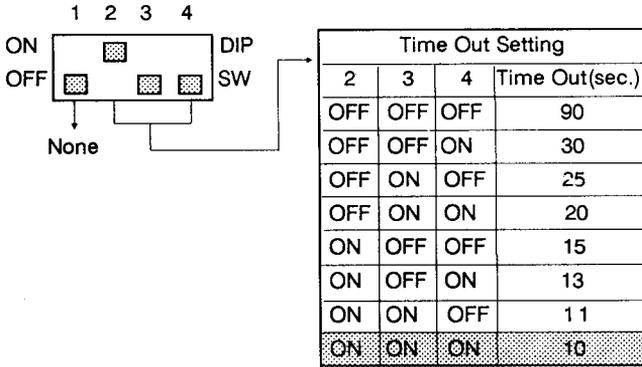| Time Out Setting			
2	3	4	Time Out(sec.)
OFF	OFF	OFF	90
OFF	OFF	ON	30
OFF	ON	OFF	25
OFF	ON	ON	20
ON	OFF	OFF	15
ON	OFF	ON	13
ON	ON	OFF	11
ON	ON	ON	10

Fig 2-2-3   **AS-411S/811S** Auto Switch's DIP Switch Setting

NOTE: The DIP Switch Setting with the shadow marks are the **AS/2**'s Default Setting

2-3 AS Buffer Card Installation

AS buffer card has 64K, 256K or 1M bytes of memory and is used to expand the buffer memory of AS-41 1 P and AS-81 1 P auto switches.

1) Unscrew the 4 screws on both sides of the case.

2) Lift up the upper case.

3) Find the 14 x 2 gold pin connector on the PCB

   for AS-41 1 P users: see Fig 2-3-l.

   for AS-81 1 P users: see Fig 2-3-2.

4) Push the plastic spacers through the PCB to secure the AS Buffer Card

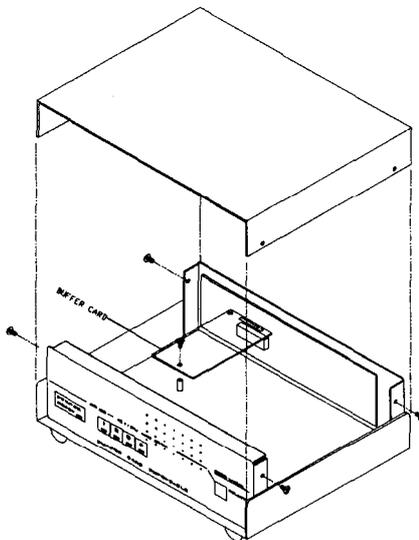5) Place the upper case back and tighten the 4 screws back.
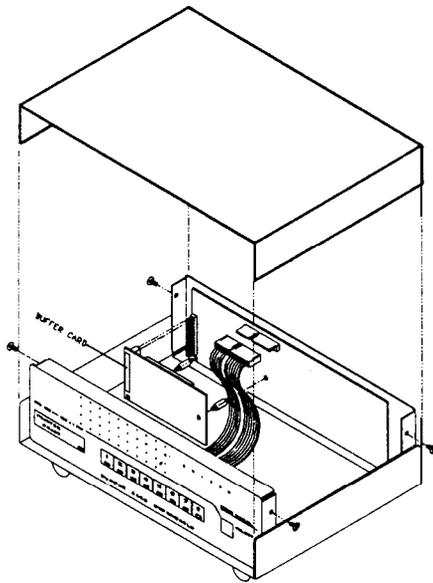

Fig 2-3-l The AS-41 1 P's Buffer Card Installation

Fig 2-3-2 The AS-81 1 P's Buffer Card Installation

3 POWER ON PROCEDURE

3-1   POWER ON PROCEDURE

1) To reset the AS-81 1 P and AS-41 1 P (w/ buffer card), turn off/on power
    switch. AS-41 **1** P (w/o buffer card) can be reset by recycling printer
    power while it is hooked to a printer.

2) After reset, the input channel's service LEDs are on. Meanwhile, the
   AS/2 is ready for operation and it enters the auto switching mode
   automatically.

3-2 AUTO SWITCHING MODE

1)   In auto switching mode, all see the input channel's service LEDs are
     on. That means the AS/2 is standing by to get data from all channels.

2)   If any input channel requests to be served, the requested channel
     LED will be on and the AS/2 will lock on to that channel. At this moment
     the output port of AS/2 will' only serve the locked input channel until
     all the input data from the requested channel has been sent out and
     also the time out period is up. The time out setting depends on the
     current DIP Switch's Setting of AS/2.

3) When the 'READY' LED turns off, it indicates
     Connectors are not properly connected,
     Printer(or output device) is not switched on,
     Printer is not in ON-LINE status,
     or, Printer is out of paper.

   If buffer card installed for output 'READY' LED reflects buffer readiness.

4) When the AS/2 is serving a certain input channel, it does not switch to
   serve another channel even though the printing gets interrupted by
   printer's power off or printer out of paper, etc.

   NOTE: Only in the Manual Switching Mode user can force the AS/2
             to switch to and service another input channel.

3-3 MANUAL SWITCHING MODE

1) Press the 'SELECT' button on the left side of the front panel to see the
   corresponding LED comes on and the selected input channel's LED
   remains lit.

2) Now, the AS/2 is in the Manual Switching Mode. If the manual
   selected input channel stays on LED 1, then pressing the 'SELECT'
   button again the AS/2 will switch the input channel to the next channel
   LED 2. Pressing the 'SELECT' button again, it will switch to the next
   channel LED 3, and so on.

3) If the manual selected input channel stays on LED 4 (or LED 8), then
   pressing the 'SELECT' button the AS/2 will enter Auto Switching Mode
   and LED **1** · LED 4 (or LED 8) turned on.

APPENDIX A

TROUBLE SHOOTING

PROBLEM	SOLUTIONS
LED fails to light up	Check if power is turned ON or not
Failure of data transmission	1. Check if the Connector of each cable is well plugged or not. 2. Check if PC is turned ON or not. 3. Check if PRINTER is turned ON or not. 4. Check if paper for PRINTER is well prepared or not. 5. Check if Print command on PC is correct or not. 6. Check if connector at computer's end has been connected in accordance with menu
Data Loss or Error	Check if the Handshake mode between the Computer and AS/2 is the Hardware Handshake mode.

If failure of printing still exists upon aforesaid solutions, please contact your dealer for help.

APPENDIX B

CENTRONICS INTERFACE TIMING CHART

Centronics Interface Timing Chart

DATA

STB

BUSY

ACK

1 us (min)

1us (min)

1 us (min)

1 us (min)

1 us (min)

1 us (min)

1 us (min)
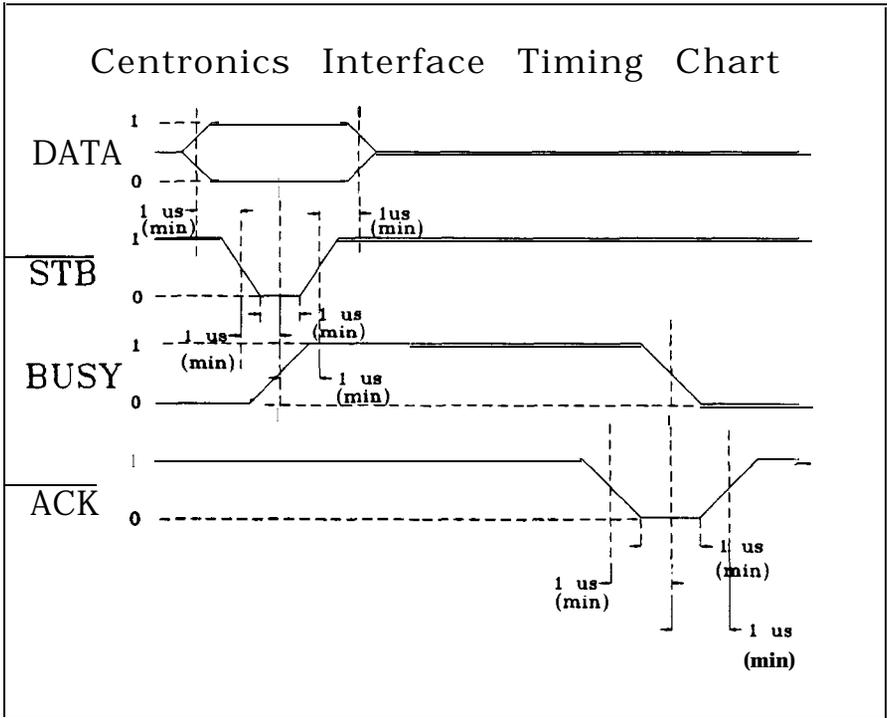
APPENDIX C

PREVENTING RADIO&TV INTERFERENCE

Warning this equipment generates, uses and radiates radio frequency energy and if not installed and used in accordance with the instruction manual may cause interference to radio and television reception. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient the reveiving antenna.
2. Relocate the computer with respect to the receiver.
3. Move the computer away from the receiver.
4. Plu the computer into a different outlet so that computer and receiver an8 on different branch circuits.
5. Ensure that the mounting screws, attachment connector screws and ground wires are tightly secured.
6. Ensure that good quality, shielded and grounded cables are used for data communications

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.