

# AS/2™ AUTO SWITCH

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

## User's Manual

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Manual part NO. PAPE-0092-200

## NOTICE

This manual is written for the Auto Switch products of AS-411P/411S and AS-811P/811S. Most of the operations of these models are the same, 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-411P/AS-411S and AS-811P/811S. When you purchase this product it should contain the following items.

### PACKAGE CHECKLIST

- An AS/2 (any one of AS-411P/AS-411S/AS-811P/AS-811S)
- The Power Adapter spec. depends on the following product model, the power adapter supports AS-811P 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 RS-232C(DCE) Female	1 RS-232C(DTE) Male	No	No

\*The adapter comes with buffer card.

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## 1 FUNCTION OVERVIEW

### 1-1 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-411P, AS-411S, AS-811P and AS-811S 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-811P	8 CENTRONICS Female	1 CENTRONICS Female	Fig 1-1-2
AS-411S	4 RS-232C(DCE) Female	1 RS-232C(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.

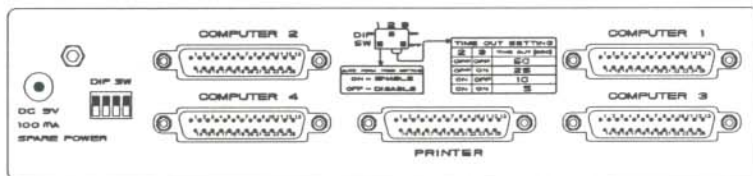
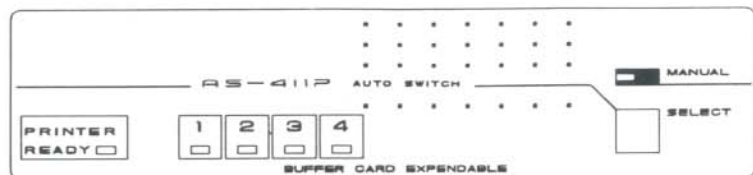


Fig. 1-1-1 AS-411P's Front/Rear View

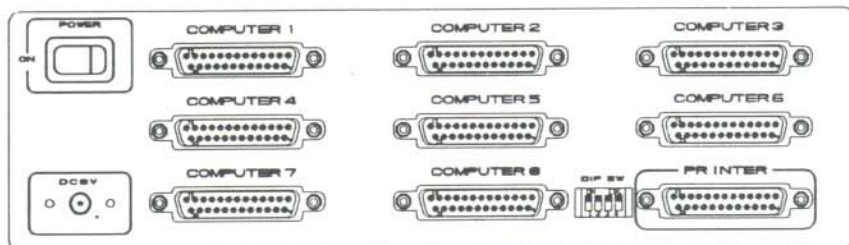
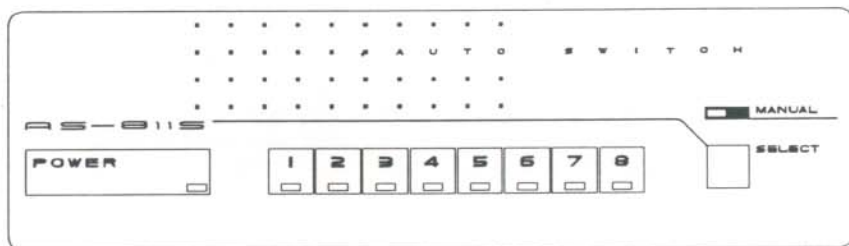


Fig. 1-1-2 AS-811P's Front/Rear View

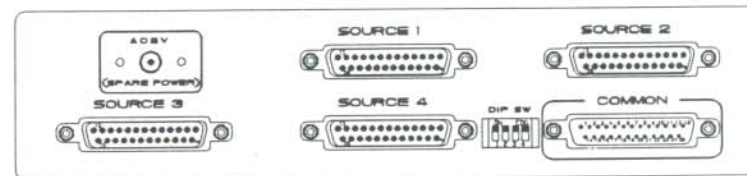
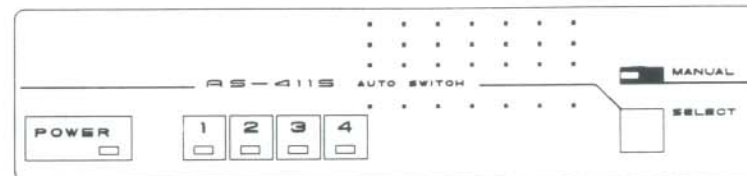


Fig. 1-1-3 AS-411S's Front/Rear View

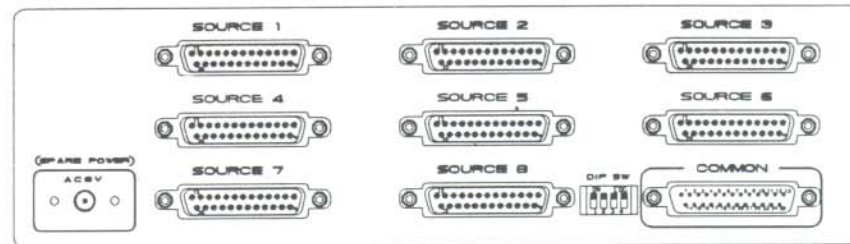
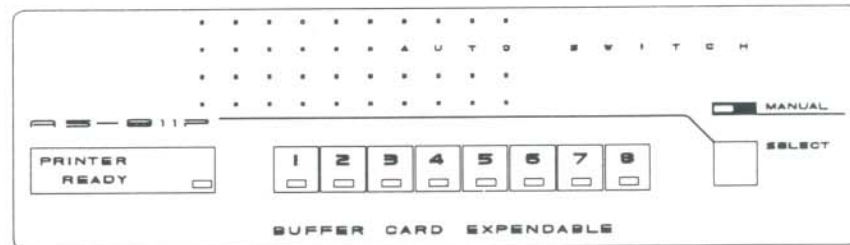


Fig. 1-1-4 AS-811S's Front/Rear View

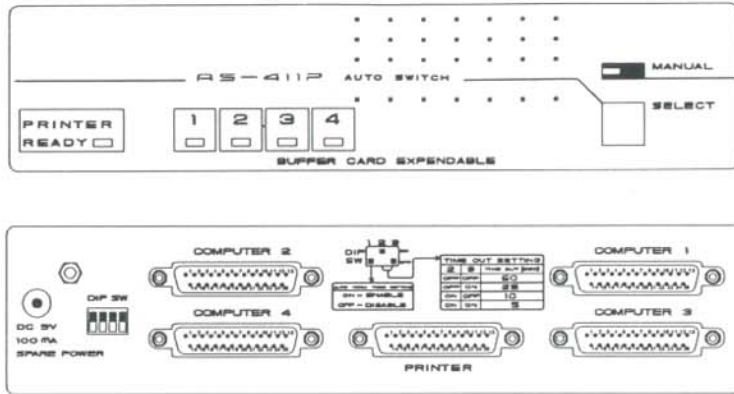


Fig. 1-1-1 AS-411P's Front/Rear View

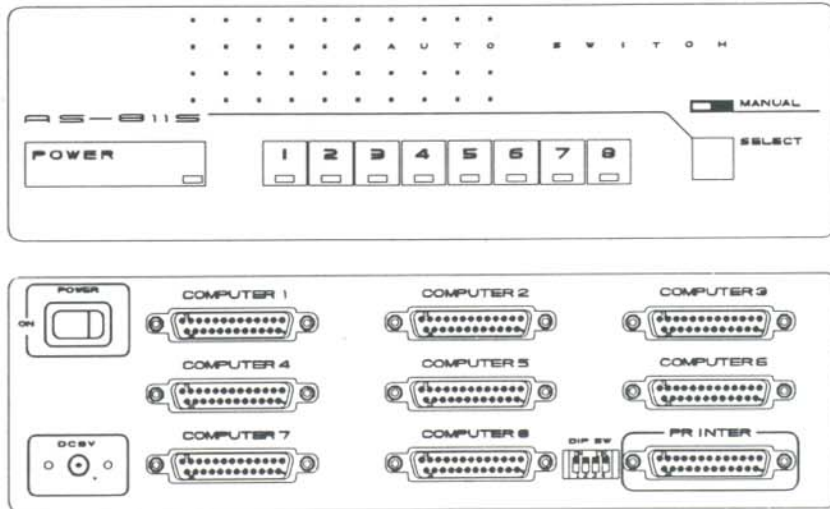


Fig. 1-1-2 AS-811P's Front/Rear View

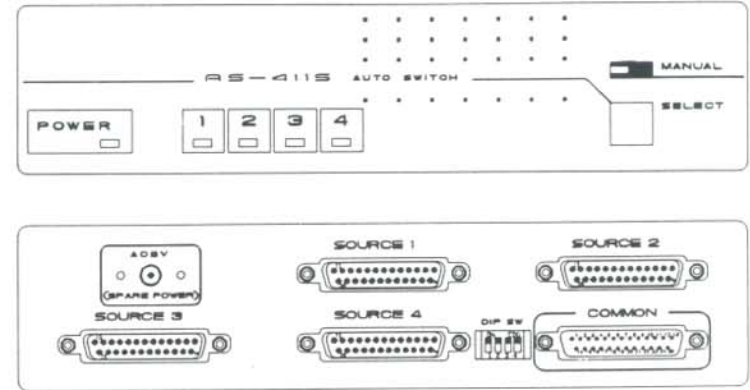


Fig. 1-1-3 AS-411S's Front/Rear View

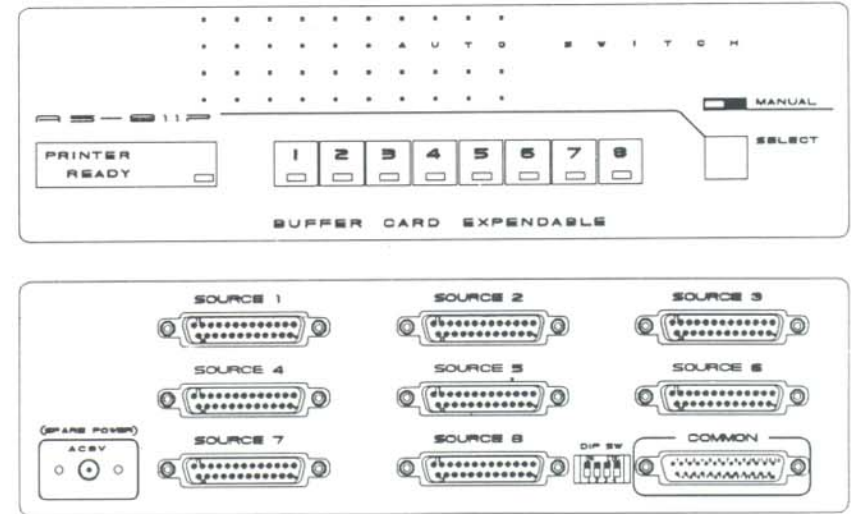


Fig. 1-1-4 AS-811S's Front/Rear View

## 1-2 FUNCTION SPECIFICATIONS

FUNCTIONS		PARALLEL MODEL	
		AS-411P	AS-811P
Power Supply		DC 9V, 100mA*	DC 9V, 100mA
Cable Length		6 M	
CONNECTOR (DB-25)Female	INPUT	4 CENTRONICS	8 CENTRONICS
	OUTPUT	1 CENTRONICS	1 CENTRONICS
LED	Input Status	4	8
	Printer Ready	1	1
	Manual	1	1
Buffer Care (Extended)		256K/1M/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	
Operation 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 230mm

\*The adaptor comes with buffer card.

Fig. 1-2-1 AS-411P/AS-811P's Function Specifications

FUNCTIONS		SERIAL MODEL	
		AS-411S	AS-811S
Power Supply		AC 9V, 300mA (spare)	
Cable Length		15 M	
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 Temp.		-20°C - 60°C	
Humidity		0% - 80%	
Enclosure		Metal.	
Weight		1850g	2520g
Dimensions		224 x 154 x 615mm	205 x 97 x 230mm

Fig. 1-2-1 AS-411S/AS-811S'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-Xoff Handshaking is not allowed.
- **AS/2's** Manual Switching Mode is suitable for all kinds of Handshaking Modes.
- For models of AS-411P and AS-811P, the cable length is limited to no more than 6 meters.
- For models of AS-411S and AS-811S, 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 1-2 Function Specifications. 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)

Device's Connector Pin #				Cables	DB-402S	
DCE DB-9	DTE DB-9	DCE DB-25	DTE DB-25	25/25 or 9/25 pin	DCE DB-25	DTE DB-25
2	3	3	2	Tx → Rx	2	3
3	2	2	3	Rx ← Tx	3	2
8	7	5	4	RTS → CTS	4	5
7	8	4	5	CTS ← RTS	5	4
4	6	20	6	DSR ← DTR	6	20
6	4	6	20	DTR → DSR	20	6
5	5	7	7	GND → GND	7	7
1	1	8	8	CD → CD	8	8

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		
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

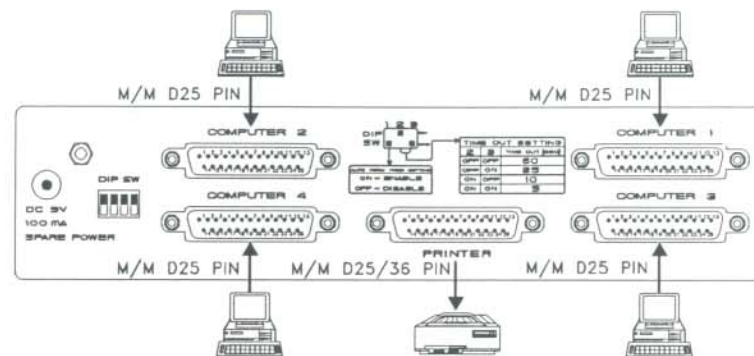


Fig. 2-1-1 AS-411P's 4 IN/1 OUT Configuration

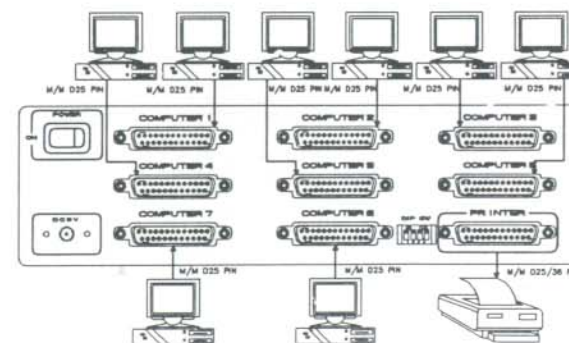


Fig. 2-1-2 AS-811P's 8 IN/1 OUT Configuration

## 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.

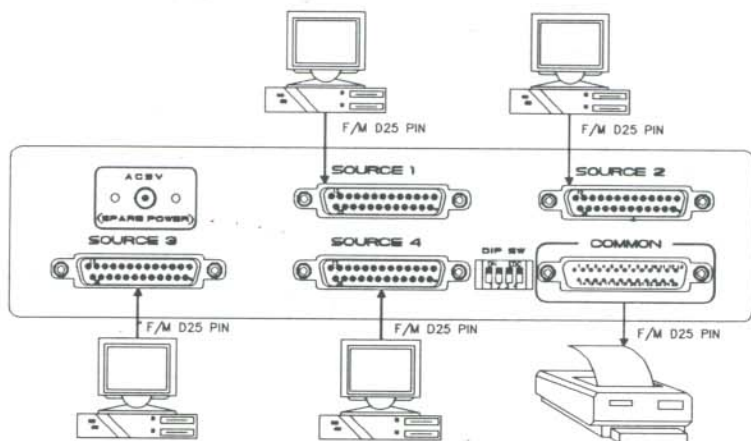


Fig. 2-1-3 AS-411S's 4 IN/1 OUT Configuration

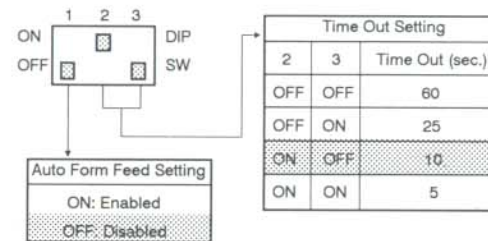


Fig 2-2-1 AS-411P Auto Switch's DIP Switch Setting

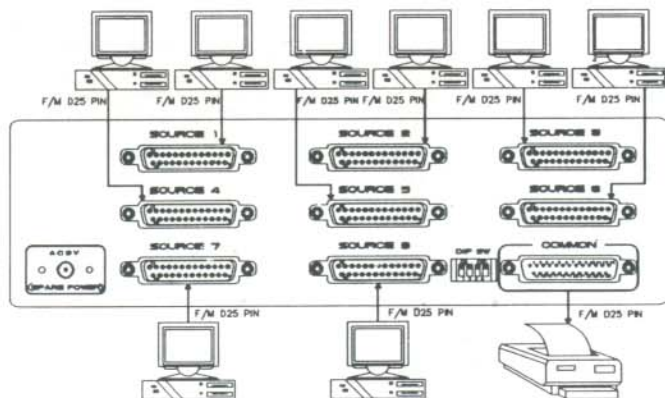


Fig. 2-1-4 AS-811S's 8 IN/1 OUT Configuration

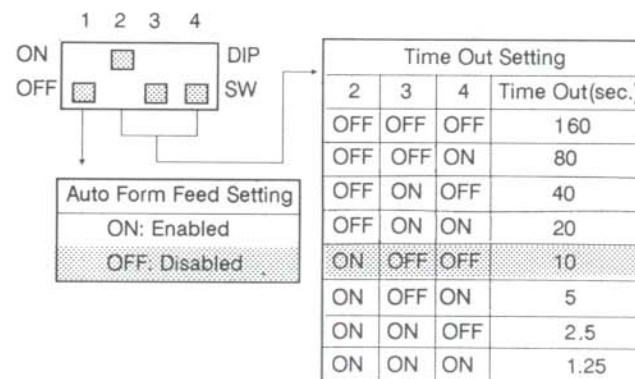


Fig 2-2-2 AS-811P Auto Switch's DIP Switch Setting

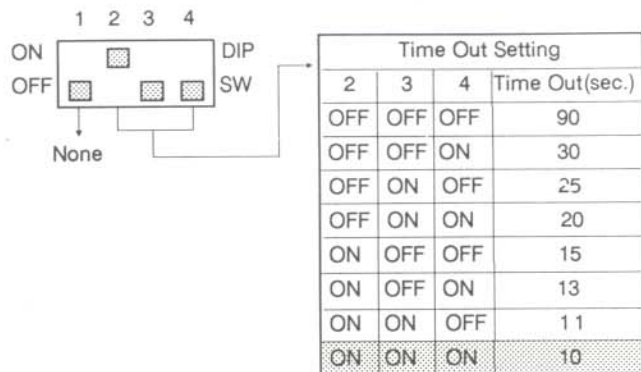


Fig 2-2-3 AS-411S/811S Auto Switch's DIP Switch Setting

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-411P and AS-811P 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-411P users: see Fig 2-3-1.
  - for AS-811P 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.

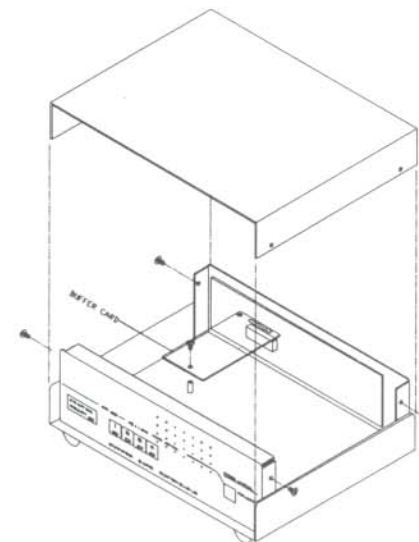


Fig 2-3-1 The AS-411P's Buffer Card Installation

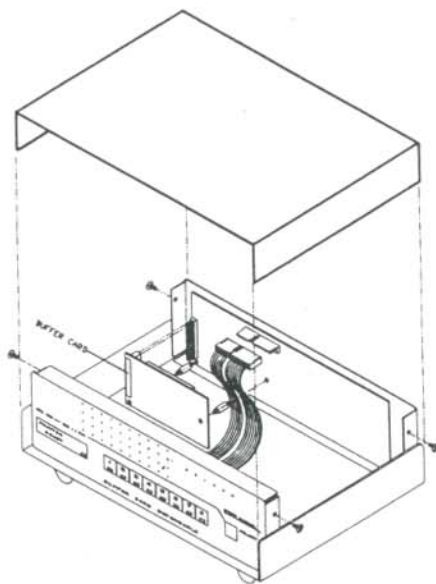


Fig 2-3-2 The AS-811P's Buffer Card Installation

### 3. POWER ON PROCEDURE

#### 3-1 POWER ON PROCEDURE

- 1) To reset the AS-811P and AS-411P (w/ buffer card), turn off/on power switch. AS-411P (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.

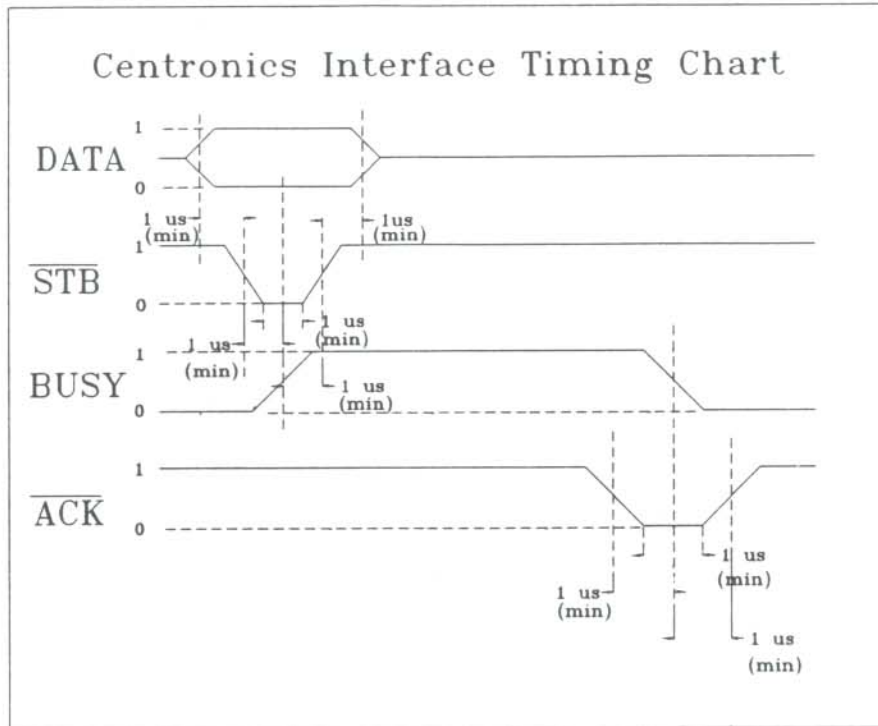
## APPENDIX A

### TROUBLE SHOOTING

PROBLEM	SOLUTIONS
LED fails to light up	Check if power is turned ON or not
Failure of data transmission	<ol style="list-style-type: none"> <li>1. Check if the Connector of each cable is well plugged or not.</li> <li>2. Check if PC is turned ON or not.</li> <li>3. Check if PRINTER is turned ON or not.</li> <li>4. Check if paper for PRINTER is well prepared or not.</li> <li>5. Check if Print command on PC is correct or not.</li> <li>6. Check if connector at computer's end has been connected in accordance with menu</li> </ol>
Data Loss or Error	Check if the Handshake mode between the Computer and <b>AS/2</b> is the Hardware Handshake mode.

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

## CENTRONICS INTERFACE TIMING CHART



## PREVENTING RADIO &amp; 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 receiving antenna.
2. Relocate the computer with respect to the receiver.
3. Move the computer away from the receiver.
4. Plug the computer into a different outlet so that computer and receiver and 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.