SECTION VIII

Cable Specs

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Error Codes

RS-232-C SIGNALS

PIN	DESIGNATION	DESCRIPTION	NOTES
1	PG	Protective Ground	Not connected at AM300
2	TD	Transmitted Data	From terminal to CPU
3	RD	Received Data	CPU to Terminal
4	RTS	Request to Send	Found only on AM100t=1 port
5	CTS	Clear to Send	Tied high on AM100t=0
6	DSR	Data Set Ready	From Modem
7	SG	Signal Ground	Always needed
8	DCD	Data Carrier Detect	From modem
20	DTR	Data Terminal Ready	From terminal
22	RI	Ring Indicator	From modem (not used on AM)

WIRING SPECS FOR THE AM300

(B-port / A-port)

at the 25 PIN connector	signal	at J3
2 (blue/brown)	RD	B7/A6
3 (purple/red)	SD	A2/B3
5,6,8 (grey/orange)	DTR & DSR	A1,A10/A3,B8
7 (black/green)	ground	B10
20 (white/yellow)	DTR & DSR	A1,A10/A3,B8

RD = Received Data
SD = Transmitted Data
DTR = Data Terminal Ready
DSR = Data Set Ready

CABLEING SPECIFICATIONS FOR ALL PERIPHERAL DEVICES

(Except muxes. See separate write-up on those cables)

ALL CRT'S

CPU		CRT	Signal (CPU relative)
-	(shield)	1	Protective ground
2	(white)	2	Receive data
3	(red)	3	Transmit data
4	(green)	20	Busy / Ready (DTR)
7	(black)	7	Signal ground

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MODEMS

CPU		MODEM	Signal (CPU relative)
-	(shield)	1	Protective ground
2	(white)	3	Receive data
3	(red)	2	Transmit data
5	(green)	20	Busy / Ready (DTR)
7	(black)	7	Signal ground

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<<<<<<<<<<<<<<<<<<<<<A NOTE ABOUT PRINTER WIRING>>>>>>>>>>>>>>>>>>

All printers should be wired for HARDWARE Handshaking. There are a lot of printers in the field without the BUSY / READY handshaking, and are set up for XON / XOFF protocol. While this in most instances works fine, and has for years, please use BUSY / READY protocol when doing new installations. Also, Even if you set up a printer for XON /XOFF please make the extra wire in the cable for BUSY / READY.

DIABLO PRINTER (Hypro 5 model only)

CPU		Printer	Signal (CPU relative)
-	(shield)	1	Protective ground
2	(white)	2	Receive data
3	(red)	3	Transmit data
		5,6,8,11	Jumper for CTS/RTS/DSR
7	(black)	7	Signal ground

DIABLO PRINTER (API model only)

CPU		Printer	Signal (CPU relative)
-	(shield)	1	Protective ground
2	(white)	2	Receive data
3	(red)	3	Transmit data
		4,6	Jumper for RTS/DSR
4	(green)	20	Busy / Ready (DTR)
7	(black)	7	Signal ground

Facit Printer

CPU		Printer	Signal (CPU relative)
-	(shield)	1	Protective ground
2	(white)	2	Receive data
3	(red)	3	Transmit data
4	(green)	19	Busy / Ready
7	(black)	7	Signal ground

Centronics LW400 Printer

CPU		Printer	Signal (CPU relative)
-	(shield)	1	Protective ground
2	(white)	2	Receive data
3	(red)	3	Transmit data
		4-5	RTS/CTS jumper
			6ydaeR / ysuB
7	(black)	7	Signal ground

11

CI 3500, CI 600+ Printer

CPU		Printer	Signal (CPU relative)
-	(shield)	1	Protective ground
2	(white)	2	Receive data
3	(red)	3	Transmit data
4	(green)	11	Busy / Ready
7	(black)	7	Signal ground

Daisey Laser, AM306, AM304

CPU		Printer	Signal (CPU relative)
-	(shield)	1	Protective ground
2	(white)	2	Receive data
3	(red)	3	Transmit data
4	(green)	20	Busy / Ready
7	(black)	7	Signal ground

WIRING SPECS FOR HOOKING UP A PHONE SET TO GDC 212A

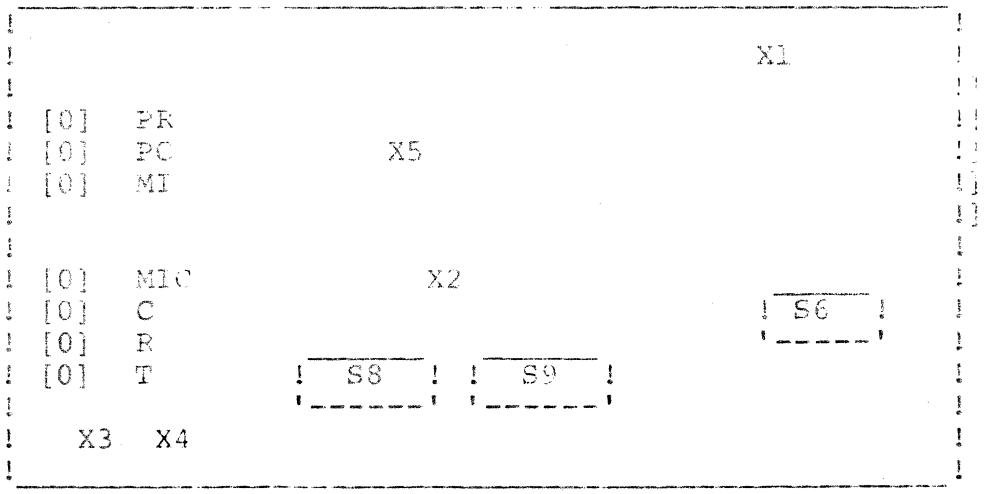
FROM THE PHONE JACK, the following wires should be hooked up as indicated below.

Black ---- N/A *
Yellow --- N/A *
Grey ----- PC
Brown ---- PR
Red ------ C
Green ---- T

FROM THE DATA PHONE, these wires should be hooked up as indicated below.

Black ---- MI
Yellow --- MIC
Red ------ C
Green ---- T
Blue ----- N/A *
White ---- R

*** Wires marked N/A should not be connected to anything and should be wrapped with electrical tape to prevent any accidental shorts.



JUMPER AND SWITCH SETTINGS

X1 - Jumpered to chassis ground
X2 - On
X3 - Off
X4 - Off
X5 - Jumper pins 1 & 2 (out of three)

S6 - 1,2,3,4,5 - ON
S8 - 1 ON / 2,3,4,5 - OFF
S9 - 1,2,3 - OFF/ 4 - ON

MODEM to CPU	CABLE SPECS	MODEM to TV950
2 <-----> 3		2 <-----> 2

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  3 <-----> 2
 20 <-----> 6
  7 <-----> 7
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3 <------> 3
7 <------> 7
20<------> 20
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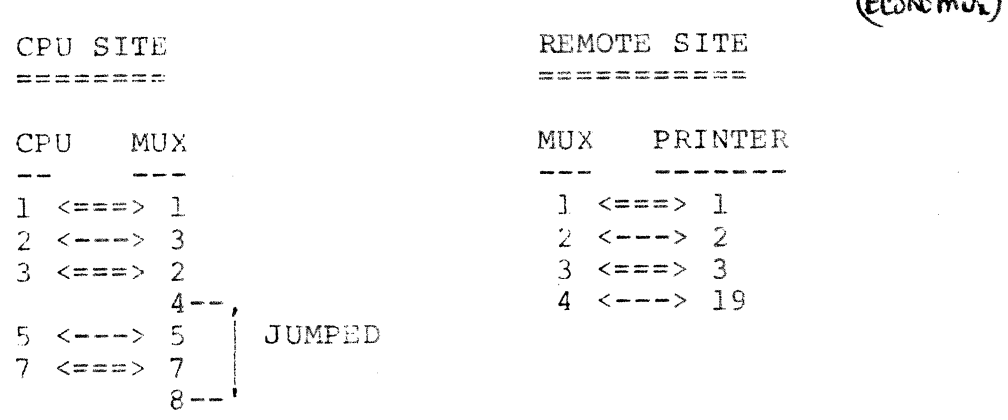
HOOKING UP A FACIT 4510 OR 4512 PRINTER TO A MUX.

(ECONOMUX)



*** ALSO MUST BE ON AN AM300 PORT, NOT AN AM120, OR AM100L PORT. ***

IMB PC PIN OUTS

IBMPC TO DIALUP MODEM

IBMPC		212A
2	<---------->	2
3	<---------->	3
4^5^6	<---------->	4
7	<---------->	7
20	<---------->	20

(NOT NEEDED -LW)

MODEM TO DIALUP ALPHA

ALPHA		212A
2	<---------->	3
3	<---------->	2
4	<---------->	4
***	<---------->	20
7	<---------->	7

IBMPC TO ALPHA MICRO

IBMPC		ALPHA
2	<---------->	2
3	<---------->	3
4	<---------->	4
7	<---------->	7

NOTE ***

THIS IS PIN 5 ON AM1000
THIS IS PIN 6 ON BIG L

4-5-6 JUMPER ONLY NEEDED IF USING [redacted] 'DIAL' COMMAND WHICH 'PRINTS' A DATA FILE TO MODEM FOR AUTOMATIC DIALING. GOING NOC AMATE FIRST & TALKING TO A SIGNALMAN OR ANY OTHER AUTO DIAL MODEM IS MUCH MORE EFFICIENT.

—LW

9.1.7 New Style AM-301 Cables and Handshaking

With the introduction of the new style AM-301 cable assembly, there has been some confusion as to proper handshaking and jumpering. The AM-301 cable connects the terminal ports on the back of the chassis to the I/O ports on the top of the AM-300 board. Each small colored ribbon cable has a blue PC20 pin edge connector (J3) on one end and is split resulting in two RS-232 connectors, either DB25 or DB9 on the other end, (J1 and J2). The split cable is basically divided into two color groups - reds and oranges or blues and grays. Reds are always connected to the odd numbered ports (J1) and blues to the even numbered ports (J2).

The only difference between the old and new style AM-301 cable is that new style cables have pins 4 and 20 jumpered together on the DB-25 pin connectors. The white jumper wire can be easily observed while examining the cable assembly.

Alpha Micro currently uses either pin 4 or 20 as a handshake, depending on the hardware. Tying these lines together means that all terminal cables with handshaking are now interchangeable. The new AM-301 cables allow the change of peripherals without having to resolder pins. The older AM-301 cables can be made "universal" by adding this jumper.

When using a peripheral that requires a handshake, such as AM-60 terminal or a printer, remember to disable the CTS jumper on the AM-301 cable. This is accomplished by cutting a jumper at the 20 pin PC edge connector. For even numbered ports (2,4,6), snip the blue wire at A1-A10; and for odd numbered ports (1,3,5), snip the green wire at A3-B8. Failing to do this will cause loopbacks resulting in buffer overflows.

When using a peripheral device that does not require handshaking, it is not necessary to cut these jumpers. It may be possible that peripherals which do not require a handshake may not perform properly if CTS is disabled.

Warning: When cutting the CTS line to enable handshaking, always keep the AM-301 cable assembly terminated. Never pull a peripheral off the system and leave the cables dangling. This will result in multiple spurious interrupts. When a peripheral is removed and not immediately replaced, make it a practice to also disconnect the terminal cables. If a cable must be left open, terminate the RS-232 connectors by placing a jumper at pins 5 - 9 for the DB9 or pins 5 - 20 for the DB25.
Do not turn the peripheral off and leave it off when the system is in use.