

**IBM**

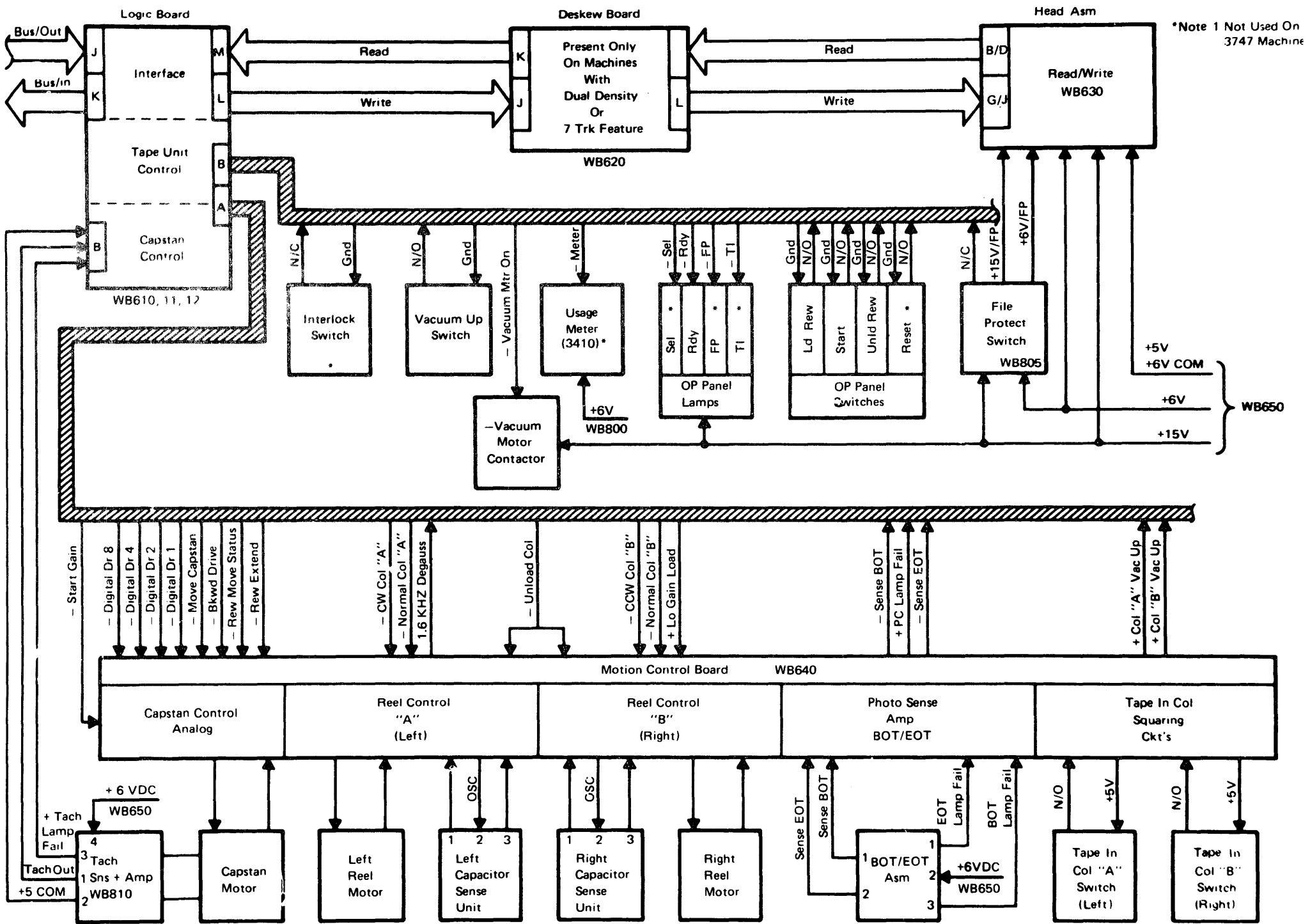
Electrical Reference  
Manual

3410/3411  
Drive

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3217051  
EC 724857



\*Note 1 Not Used On 3747 Machine

WB650

2517962  
EC 734857

Socket J  
Note 2

All Models		
Line Name 3747/FA041	Cable Pin	Module + Pin Location
- Bus Out 0	B02	A40G60/F01
Gnd	B03	
- Bus Out 2	B04	A40G60/D01
Gnd	B05	
- Bus Out 4	B06	A90G60/D01
Gnd	B07	
- Bus Out 6	B08	A90G60/F01
Gnd	B09	
Bus Out P	B10	B40G60/D01
Gnd	B11	
Command Tag	B12	B40G60/F01
Gnd	B13	
Gnd	D02	
- Bus Out 1	D03	A40G60/E01
Gnd	D04	
Bus Out 3	D05	A40G60/G01
Gnd	D06	
Bus Out 5	D07	A90G60/E01
Gnd	D08	
- Bus Out 7	D09	A90G60/G01
Gnd	D10	
- Control Tag	D11	B40G60/E01
Gnd	D12	
- Move Tag	D13	B40G60/G01

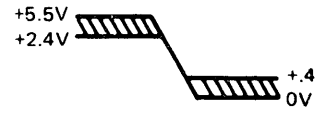
Socket K  
Note 1

All Models		
Line Name 3747/FA041	Cable Pin	Module + Pin Location
- Bus In 0	B02	B90H90/C01
Gnd	B03	
- Bus In 2	B04	C40H40/C01
Gnd	B05	
- Bus In 4	B06	C40H90/D04
Gnd	B07	
- Bus In 6	B08	C90H40/C01
Gnd	B09	
- Bus In P	B10	C90H90/D04
Gnd	B11	
+ Tach Out	B12	D90A50/D04
Gnd	B13	
Gnd	D02	
- Bus In 1	D03	B90H90/D04
Gnd	D04	
- Bus In 3	D05	C40H90/C01
Gnd	D06	
- Bus In 5	D07	C40H40/D04
Gnd	D08	
- Bus in 7	D09	C90H90/C01
Gnd	D10	
+ Interrupt	D11	C90H40/D04
Gnd	D12	
- Meter Out	D13	D40H60/D01

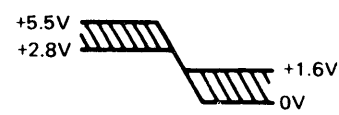
Socket L  
Note 1

All Models		
Line Name 3747/FA042	Cable Pin	Module + Pin Location
- NRZI Stat/Hi I	B02	J00G60/D01
- LWR Gate on	B03	J00G60/F01
- Write Status	B04	E90D50/D01
+ Wr Data 5	B05	D90H60/G04
+ Wr Data 7	B06	E40H60/C01
+ Wr Data 3	B07	E40H60/F01
+ Wr Data P	B08	E40H60/G04
+ Wr Data 2	B09	E40H60/D04
+ Wr Data 1	B10	E90H60/C01
+ Wr Data 0	B11	E90H60/F01
+ Wr Data 6	B12	E90H60/D04
+ Wr Data 4	B13	E90H60/G04
Gnd	D02	
Gnd	D03	
Gnd	D04	
Gnd	D05	
Gnd	D06	
Gnd	D07	
Gnd	D08	
Gnd	D09	
Gnd	D10	
Gnd	D11	
Gnd	D12	
Gnd	D13	

Note 1 Acceptable voltage levels are:



Note 2 Acceptable voltage levels are:



WB610

2517963  
EC 734857

Socket A  
Note 1

All Models		Mod 1 + 2	Mod 3
Line Name 3747 FA042	Cable Pin	Module + Pin Location	Module + Pin Location
• Rfd Data 5	B02	H00H60/A01	Same
• Rfd Data 7	B03	F40H60/A01	Same
• Rfd Data 3	B04	F40G60/C01	Same
• Rfd Data P	B05	K00G60/A01	Same
• Rfd Data 2	B06	F90H60/A01	Same
• Rfd Data 1	B07	H00G60/A01	Same
• Rfd Data 0	B08	F90G60/C01	Same
• Rfd Data 6	B09	G40H60/A01	Same
• Rfd Data 4	B10	G40G60/A01	Same
• Gate Zero Clip	B11	D90H60/F01	K00C50/E04
• Hi Clip	B12	K00C50/F01	
PE Status	B13	K00C50/C04	Same
Gnd	D02		Same
Gnd	D03		Same
Gnd	D04		Same
Gnd	D05		Same
Gnd	D06		Same
Gnd	D07		Same
Gnd	D08		Same
Gnd	D09		Same
Gnd	D10		Same
Gnd	D11		Same
• Bkwd Status	D12	E40E60/D01	Same
• Fwd Status	D13	E40D50/F01	Same

Socket A  
Note 1

All Models		Mod 1 + 2	Mod 3
Line Name 3747/ZA103	Cable Pin	Module + Pin Location	Module + Pin Location
- Digital Dr 2	B02	K00C50/B01	Same
+ Pc Lamp Fail	B03	C40B50/B04	Same
- Sense BOT	B04	E40E60/B04	E40E60/E01
+ Col "A" Vac Up	B05	H00B50/B04	A90C50/A01
1.6 KHZ Degauss	B06	J50H60/D04	Same
Spare	B07		Same
+ Col "B" Vac Up	B08	H00B50/E01	B40C50/C04
+ Lo Gain Load "B"	B09	A40D50/D01	Same
- Digital Dr 4	B10	K00C50/G04	Same
- Sense EOT	B11	H50G60/D04	H00D50/A01
- Start Gain	B12	F40B50/F01	J00A50/F01
- Digital Dr 8	B13	F40B50/D01	J00A50/D01
- Data Gate	D02	L00H60/C04	Same
- Unload Columns	D03	A40D50/B01	Same
- Rew Move Status	D04	F40B50/C04	J00A50 C04
- Move Capstan	D05	F40B50/G04	J00A50 G04
- Cw Col "B"	D06	A40D50/E04	A40D50 C04
- Cw Col "A"	D07	A40D50/F01	Same
Gnd	D08		
- Normal Col "A"	D09	A40D50/C04	A40D50 E04
- Normal Col "B"	D10	A40D50/G04	Same
- Bkwd Drive	D11	F40B50/B01	J00A50 B01
- Digital Dr 1	D12	K00C50/D01	Same
- Rewind Extend	D13	F40B50 E04	J00A50 E04

Note 4

Socket B  
Note 1

All Models		Mod 1 & 2	Mod 3
Line Name 3747/NOTE 5	Cable Pin	Module + Pin Location	Module + Pin Location
File Protect Lamp	B02	C90B40/C01	Same
Select Lamp	B03	C90B90/C01	Same
Ready Lamp	B04	C90B90/D04	Same
Spare	B05		Same
• File Protected	B06	D90E60/F04	L00F60/D04
Vacuum Up Sw	B07	B90C50/E01	Same
Spare	B08		Same
Run Meter	B09	E90D50/G04	Same
Start Key On	B10	C40B50/A01	Same
Reset Key On	B11	B90B50/A01	Same
Load Key On	B12	C40B50/E01	Same
Unload Key On	B13	C40B50/C01	Same
• Tach Out	D02	D90A50/B04	Same
TI Lamp	D03	C90B40/D04	Same
Vacuum Mtr On	D04	D90A50/C01	Same
• Interlock On	D05	B90B50/B01	Same
Spare	D06		Same
Vac Up Sw Gnd	D07	N/A	Same
Inter Sw Gnd	D08	N/A	Same
• Tach Lamp Fail	D09	C40/B50/D04	Same
Start Key Gnd	D10	N/A	Same
Reset Key Gnd	D11	N/A	Same
Load Key Gnd	D12	N/A	Same
Unload Key Gnd	D13	N/A	Same

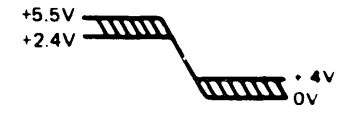
Note 3, 4  
Note 3, 4  
Note 3

Note 1

Note 2, 4

Note 3, 4

Note 1 Acceptable Voltage  
Levels Are:



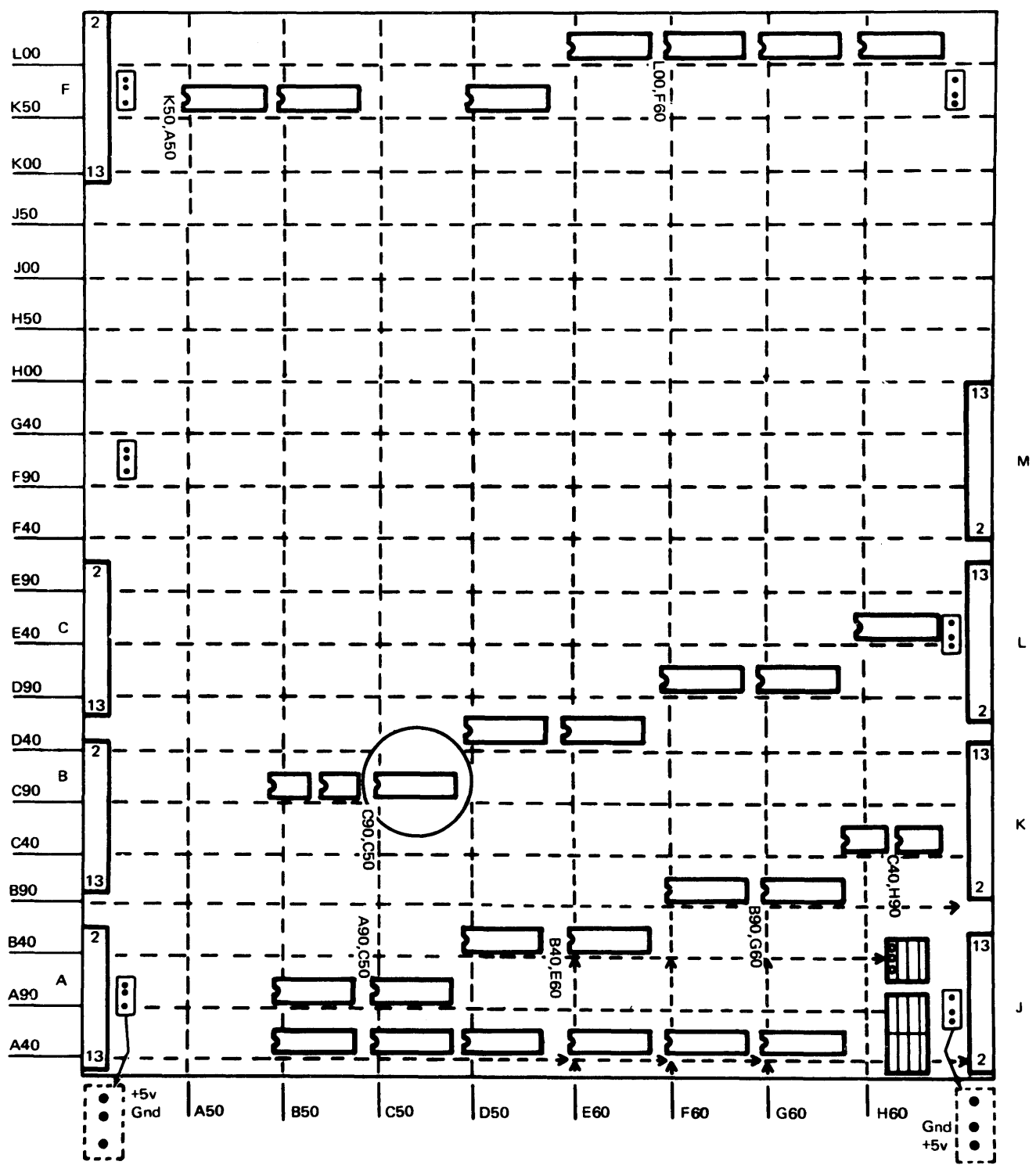
Note 2 Not used on  
3411

Note 3 Acceptable Voltage  
Levels Are:

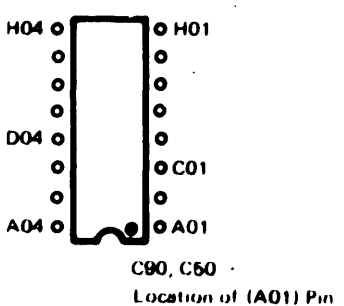


Note 4 Not used on 3747 machine  
Note 5 ZA103 ZA108 FA06\*

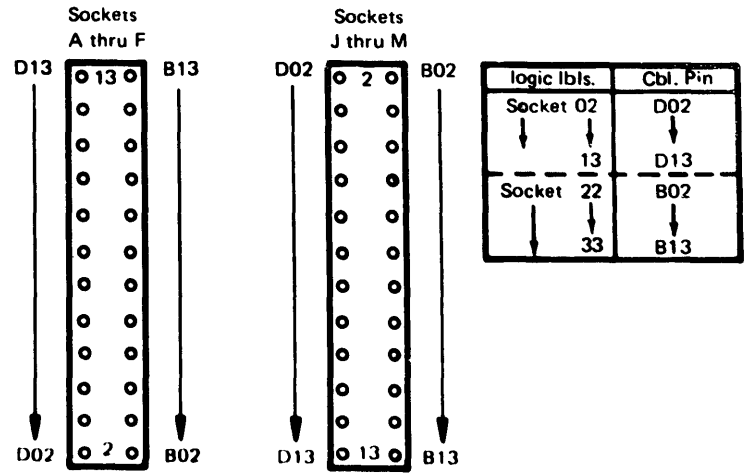
W9611

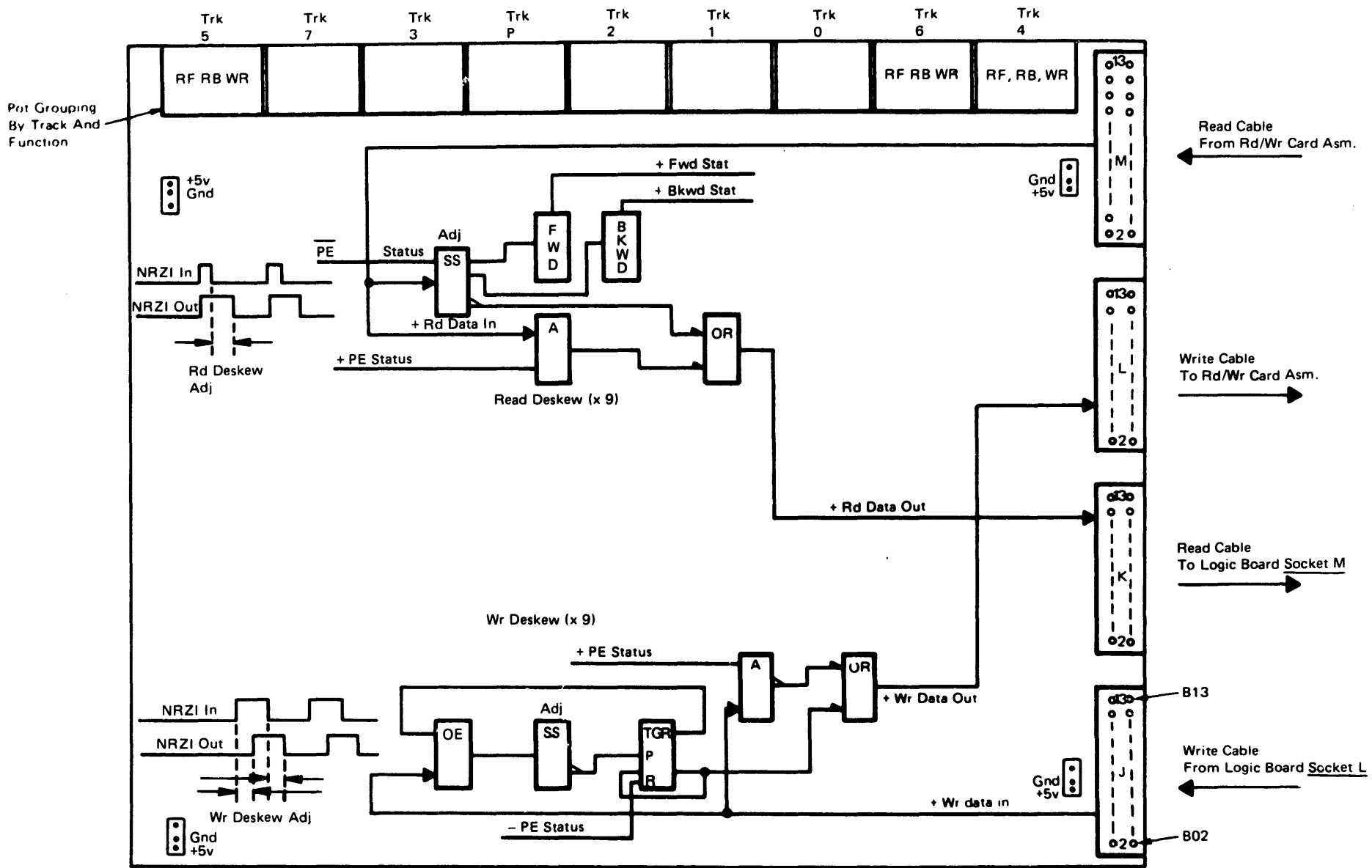


Module & Pin Nomenclature (rotated 90°)



Cable Entry Nomenclature

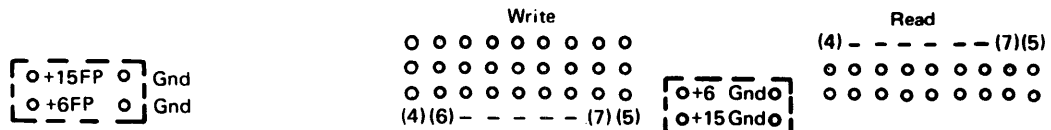




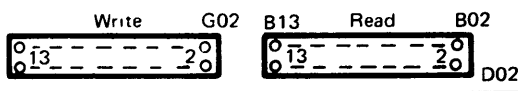
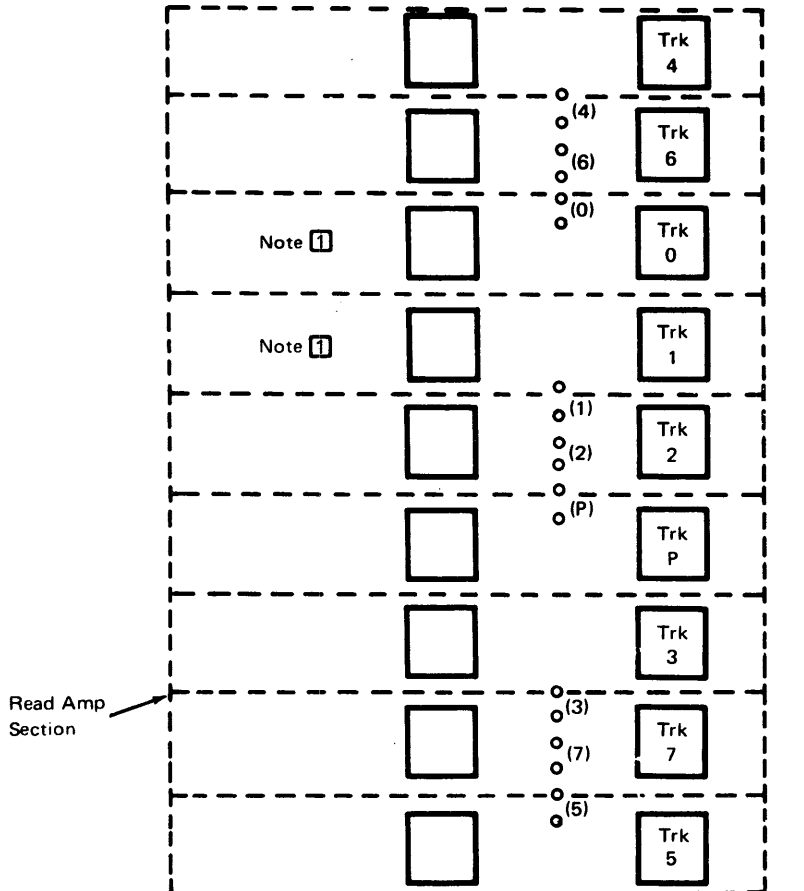
- See CARRL D-18 for pot location.

- Cable I/O Pins are same as those listed for sockets L, M on logic board.

2517066  
FC 734857



Wr Driver Section



Factory Set & Sealed

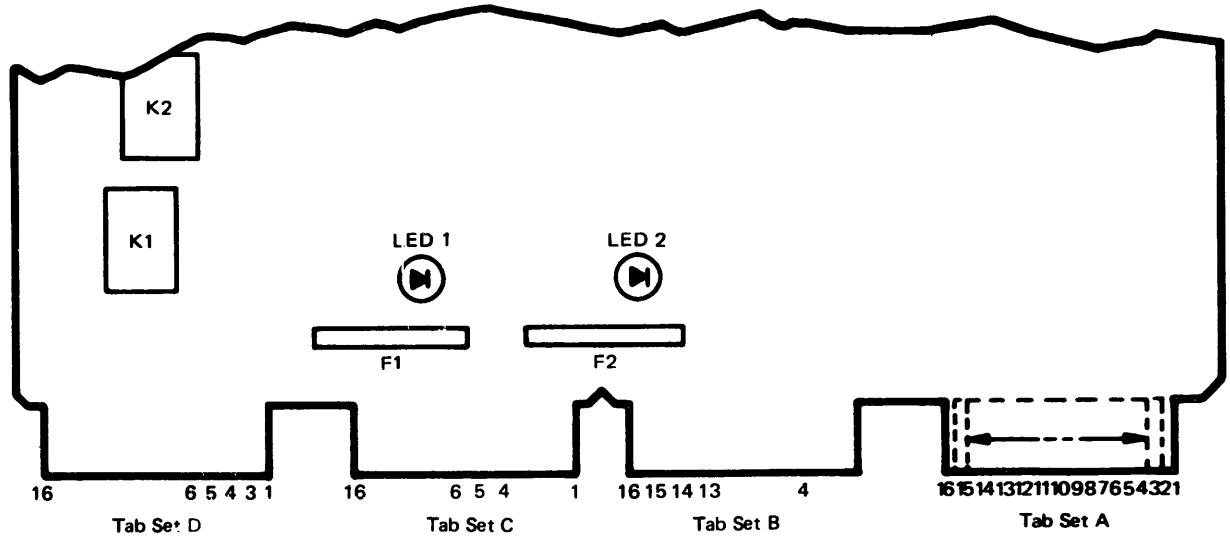
Read		Write		
Line Name	Socket Pin	Socket Pin	Line Name	
+ Rd Data 5	B02	G02	- NRZI Sta/Hi I	
7	B03	G03	-LWR On	
3	B04	G04	- Wr Stat	
P	B05	G05	+ Wr Data 5	
2	B06	G06	7	
Note 1	1	B07*	G07	3
Note 1	0	B08*	G08	P
6	B09	G09	2	
4	B10	G10	Note 1	1
+ Gate Zero Clip	B11	G11*	Note 1	0
+ Hi/Clip	B12	G12	6	
+ PE Status	B13	G13	4	
Gnd	D02	J02	Gnd	
Gnd	D03	J03	Gnd	
Gnd	D04	J04	Gnd	
Gnd	D05	J05	Gnd	
Gnd	D06	J06	Gnd	
Gnd	D07	J07	Gnd	
Gnd	D08	J08	Gnd	
Gnd	D09	J09	Gnd	
Gnd	D10	J10	Gnd	
Gnd	D11	J11	Gnd	
+ Bkwd Stat	D12	J12	Gnd	
+ Fwd Stat	D13	J13	Gnd	

Note 1 Data not transmitted on these tracks for 7 track feature.



Tab Set A

Tab Set	Line Name NOTE 3	Input/Output (I) (O)
A1	Net Extension	NOTE .
A2	For "A" Reel Mtr Return	
A3	Capstan Mtr Out	Cap Motor (O)
A4	Col "A" Capacitor Sense	Pin 3 Capacitor Sense (I)
A5	Col "A" Capacitor Sense	Pin 1 Capacitor Sense (I)
A6	Col "A" Capacitor Sense	Pin 2 Capacitor Sense (O)
A7	Reel Mtr "A" Out	Reel Mtr (O)
A8	Reel Mtr "A" Out	Reel Mtr (O)
A9	Tape In Col "A" Sw	N/O (I)
A10	Tape in Col "B" Sw	N/O (I)
A11	Sense EOT	Pin 2 Of 2 (I)
A12	EOT Lamp Fail	Pin 1 Of 3 (I)
A13	Sense BOT	Pin 1 of 2 (I)
A14	BOT Lamp Fail	Pin 3 Of 3 (I)
A15	+5V In	WB650 (I)
A16	Tape In Col "B" Sw	Com +5V (O)



Note 1: Pins C12, D3 jumpered for M1 mode only.  
 Note 2: 15V distribution within drive fused on MCB. (F1, F2)  
 Note 3: 3747/ZA105, ZA108  
 Note 4: M1, M2 only, suppressor caps. Installed A1 to A7 and D7 to D15

Tab Set B

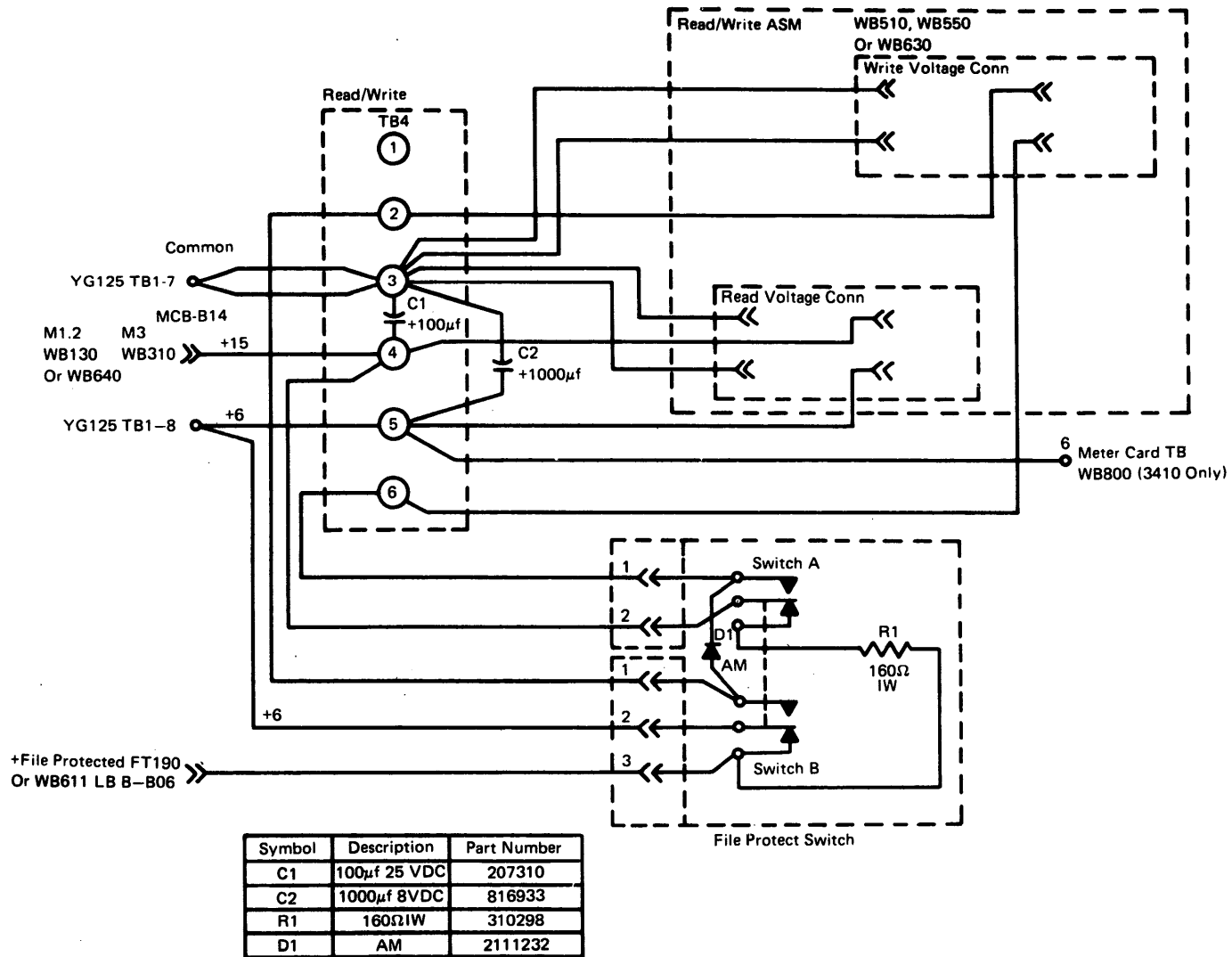
Tab Set	Line Name NOTE 3	Input/Output (I) (O)
B1	Tape In Col "A" Sw	Com +5V (O)
B2	+ Col "A" Vac UP	LB A-B05 (O)
B3	+ Col "B" Vac Up	LB A-B05 (O)
B4	5V Return	WB650 (O)
B5	Sense BOT	LB A-B04 (O)
B6	+ PC Lamp Fail	LB A-B03 (O)
B7	- Sense EOT	LB A-B11 (O)
B8	- Rew Move Stat	LB A-D04 (I)
B9	Rew Extend	LB A-D13 (I)
B10	Unload Col	LB A-D03 (I)
B11	CW Col "A"	LB A-D07 (I)
B12	CCW Col "B"	LB A-D06 (I)
B13	+15V Exit	Note 2
B14	+15V Exit	Note 2
B15	+ 15V In	WB650 (I)
B16	+15V In	WB650 (I)

Tab Set C

Tab Set	Line Name NOTE 3	Input/Output (I) (O)
C1	+15V In	WB650 (I)
C2	- Normal Col "A"	LB A-D09 (I)
C3	- Normal Col "B"	LB A-D10 (I)
C4	-15V In	WB650 (I)
C5	-15V In	WB650 (I)
C6	-15V In	WB650 (I)
C7	1.6 KHZ Degauss	LB A-B06 (O)
C8	- Digital Dr 8	LB A-B13 (I)
C9	- Digital Dr 4	LB A-B10 (I)
C10	+ Lo Gain Load	LB A-B09 (I)
C11	- Digital Dr 2	LB A-B02 (I)
C12	M1 Jumper	Note 1
C13	-Digital Dr 1	LB A-D12 (I)
C14	- Start Gain	LB A-B12 (I)
C15	- Move Capstan	LB A-D05 (I)
C16	- Bkwd Drive	LB A-D11 (I)

Tab Set D

Tab Set	Line Name NOTE 3	Input/Output (I) (O)
D1		
D2	Col "B" Capacitor Sense	Pin 2 Capacitor Sense (O)
D3	15V Return	Note 1 WB650
D4	15V Return	WB650 (O)
D5	15V Return	WB650 (O)
D6	15V Return	WB650 (O)
D7	Reel Mtr "B" Out	"B" Reel Mtr (O)
D8	Reel Mtr "B" Out	B Reel Mtr (O)
D9		
D10	Col "B" Capacitor Sense	Pin 3 Capacitor Sense (I)
D11	Col "B" Capacitor Sense	Pin 1 Capacitor Sense (I)
D12	Reel Mtr "A" Ret	"A" Reel Mtr (I)
D13	Reel Mtr "A" Ret	"A" Reel Mtr (I)
D14	Capstan Mtr Ret	Cap Mtr (I)
D15	Reel Mtr "B" Ret	"B" Reel Mtr (I)
D16	Reel Mtr "B" Ret	"B" Reel Mtr (I)



Symbol	Description	Part Number
C1	100µf 25 VDC	207310
C2	1000µf 8VDC	816933
R1	160Ω 1W	310298
D1	AM	2111232

