MIU	DCC - IN	DESCRIPTION	DCC - OUT	POLARITY
COMMON	J1-A	COMMON		
5V	J1-B			
	J1-C			
MW0-0	J1-D	CW0-0 Monitor	J5-D, J6-a	
MW0-1	J1-E	CW0-1 Monitor	J5-E, J6-b	
MW0-2	J1-F	CW0-2 Monitor	J5-F	
MW0-3	J1-G	CW0-3 Monitor	J5-G	
MW0-4	J1-H	CW0-4 Monitor	J5-H, J7-B, J8-E	
MW0-5	J1-J	CW0-5 Monitor	J5-J	
MW0-6	J1-K	CW0-6 Monitor	J5-K, J7-T	
MW0-7	J1-L	CW0-7 Monitor	J5-L, J8-B	
MW0-8	J1-M	CW0-8 Monitor	J5-M, J8-C	
MW0-9	J1-N	CW0-9 Monitor	J5-N, J9-C	
MW0-10	J1-P	CW0-10 Monitor	J5-P, J9-A	
MW0-11	J1-R	CW0-11 Monitor	J5-R, J9-B	
MW0-12	J1-S	CW0-12 Monitor	J5-S	
MW0-13	J1-T	CW0-13 Monitor	J5-T	
MW0-14	J1-U	CW0-14 Monitor	J5-U	
MW0-15	J1-V	CW0-15 Monitor	J5-V	

MW1-0	J1-W	CW1-0 Monitor	J5-W	
MW1-1	J1-X	CW1-1 Monitor	J5-X	
MW1-2	J1-Y	CW1-2 Monitor	J5-Y	
MW1-3	J1-Z	CW1-3 Monitor	J5-Z	
MW1-4	J1-a	CW1-4 Monitor	J5-a	
MW1-5	J1-b	CW1-5 Monitor	J5-b	
MW1-6	J1-c	CW1-6 Monitor	J5-c	
MW1-7	J1-d	CW1-7 Monitor	J5-d	
MW1-8	J1-e	CW1-8 Monitor	J5-e	
MW1-9	J1-f	CW1-9 Monitor	J5-f	
MW1-10	J1-g	CW1-10 Monitor	J5-g	
MW1-11	J1-h	CW1-11 Monitor	J5-h	
MW1-12	J1-i	CW1-12 Monitor	J5-i	
MW1-13	J1-j	CW1-13 Monitor	J5-j	
MW1-14	J1-k	CW1-14 Monitor	J5-k	
MW1-15	J1-m	CW1-15 Monitor	J5-m	

MIU	DCC - IN	DESCRIPTION	DCC - OUT	POLARITY
COMMON	J2-A	COMMON	J6-A	
5V	J2-B			
	J2-C			
MW2-0	J2-D	FBS: FBS Contactor Closed Status	J6-d	1 = CLOSED
MW2-1	J2-E	FBS: AC Over Current	J6-U	1 = FAULT
MW2-2	J2-F	FBS: Local/Remote Indication	J6-V	1 = LOCAL
MW2-3	J2-G	FBS: DC Control Power ON Status	J6-c	0 = OFF
MW2-4	J2-H	FBS: Choke Over-Temperature	J6-e	1 = FAULT
MW2-5	J2-J	FBS: Ground Fault	J6-B	1 = FAULT
MW2-6	J2-K	FBS: Shunt Regulator Over-Temperature	J6-C	1 = FAULT
MW2-7	J2-L	FBS: Rectifier Transformer Over-Temperature	J6-D	1 = FAULT
MW2-8	J2-M	FBS: SCR Delta or Wye Over-Temperature	J6-E	1 = FAULT
MW2-9	J2-N	FBS: SSC SCR Over-Temperature	J6-F	1 = FAULT
MW2-10	J2-P	FBS: Door Open	J6-G	1 = FAULT
MW2-11	J2-R	FBS: FBS LCW OFF	J6-H	1 = FAULT
MW2-12	J2-S	FBS: Fuse Fault	J6-J	1 = FAULT
MW2-13	J2-T	FBS: DC Over-Current	J6-K	1 = FAULT
MW2-14	J2-U	FBS: Shunt Regulator Over-Current	J6-S	1 = FAULT
MW2-15	J2-V	FBS: Tuner LCW OFF	J6-L	1 = FAULT

MW3-0	J2-W	FBS: Offset PS AC Over-Current	J6-M	1 = FAULT
MW3-1	J2-X	FBS: Supply Type ID Bit 0 (1=Ling or MKI, 0=MKII)	J6-R	
MW3-2	J2-Y	FBS: Supply Type ID Bit 1 (1=Ling or MKII, 0=MKI)	J6-T	
MW3-3	J2-Z	FBS: Driver PS Over-Temperature	J6-X	1 = FAULT
MW3-4	J2-a	FBS: Driver PS Over-Current	J6-g	1 = FAULT
MW3-5	J2-b	FBS: 480V 3-Phase Absent	J6-h	1 = FAULT
MW3-6	J2-c			
MW3-7	J2-d	SSD: 50V PS ON Status	J9-E	1 = ON
MW3-8	J2-e	SSD: Gate Bias ON Status	J9-F	1 = ON
MW3-9	J2-f	SSD: Local/Remote Status	J9-G	1 = REMOTE
MW3-10	J2-g		J9-H	
MW3-11	J2-h	SSD: SS Driver LCW Flow Fault	J9-J	1 = OK
MW3-12	J2-i	SSD: AMP # 1 Vdd Fault	J9-K	1 = OK
MW3-13	J2-j	SSD: AMP # 1 Over-Temperature	J9-L	1 = OK
MW3-14	J2-k	SSD: AMP # 2 Vdd Fault	J9-M	1 = OK
MW3-15	J2-m	SSD: AMP # 2 Over-Temperature	J9-N	1 = OK

MIU	DCC - IN	DESCRIPTION	DCC - OUT	POLARITY
COMMON	J3-A	COMMON	J7-A	
5V	J3-B			
	J3-C			
MW4-0	J3-D	MCU: PA Screen PS ON/OFF Status	J7-T	1 = OFF
MW4-1	J3-E	MCU: Filaments ON/OFF Command Status	J7-D	1 = OFF
MW4-2	J3-F	MCU: PA Fil. PS Fault Status	J7-E	1 = FAULT
MW4-3	J3-G	MCU: H.V. in Local/Auto Mode Status	J7-g	1 = Local
MW4-4	J3-H	MCU: PA LCW Status	J7-J	1 = FAULT
MW4-5	J3-J	MCU: PA Fan Status	J7-K	1 = FAULT
MW4-6	J3-K	MCU: Mod. Deck Fil. Timing Status	J7-e	1 = Timing
MW4-7	J3-L	MCU: PA Grid PS Contactor Status	J7-N	1 = Open
MW4-8	J3-M	MCU: PA Grid PS ON/OFF Status	J7-P	1 = OFF
MW4-9	J3-N	MCU: PA Grid PS Circuit Breaker Status	J7-L	1 = FAULT
MW4-10	J3-P	MCU: PA Grid PS DC O/I+O/V Status	J7-M	1 = FAULT
MW4-11	J3-R	MCU: H.V. ON Status	J7-j	1 = ON
MW4-12	J3-S	MCU: Mod. Fan Status	J7-V	1 = FAULT
MW4-13	J3-T	MCU: Mod. Doors Status	J7-W	1 = FAULT
MW4-14	J3-U	MCU: Keep Alive Status (NOT ACTIVE for MI)	J7-a	1 = FAULT
MW4-15	J3-V	MCU: Mod. Series Tube Fil. ON/OFF Status	J7-b	1 = OFF

MW5-0	J3-W	MCU: External Interlock Status	J7-Y	1 = FAULT
MW5-1	J3-X	MCU: Mod. DC O/I Status	J7-X	1 = FAULT
MW5-2	J3-Y	MCU: Tuning System Status (NOT ACTIVE for MI)	J7-Z	1 = FAULT
MW5-3	J3-Z	MCU: PA Fil PS ON/OFF Status	J7-G	1 = OFF
MW5-4	J3-a	MCU: PA Screen PS DC O/I Status	J7-S	1 = FAULT
MW5-5	J3-b	MCU: Mod. Deck Fil. ON/OFF Status	J7-d	1 = OFF
MW5-6	J3-c	MCU: PA Screen PS Circuit Breaker Status	J7-R	1 = FAULT
MW5-7	J3-d	MCU: Mod. Series Tube Fil. Timing Status	J7-c	1 = Timing
MW5-8	J3-e	MCU: Mod. Deck Power ON/OFF Status	J7-f	1 = OFF
MW5-9	J3-f	MCU: PA Fil. PS Soft Start Status	J7-F	1 = Initializing
MW5-10	J3-g	MCU: PA Fil PS Timing Status	J7-H	1 = Timing
MW5-11	J3-h	MCU: Mod. LCW Status	J7-U	1 = FAULT
MW5-12	J3-i	MCU: H.V. Ready Status	J7-h	1 = NotReady
MW5-13	J3-j			
MW5-14	J3-k			
MW5-15	J3-m			

MIU	DCC - IN	DESCRIPTION	DCC - OUT	POLARITY
COMMON	J4-A	COMMON	J8-A, J9-b	
5V	J4-B			
	J4-C			
MW6-0	J4-D	MEICU: External Interlock	J8-F	1 = TRIP
MW6-1	J4-E	MEICU: Anode Program Enable	J8-G	1 = ENABLE
MW6-2	J4-F	MEICU: Incomplete RFGE Cycle	J8-H	1 = INCOMP
MW6-3	J4-G	MEICU: Cavity Short OUT	J8-J	1 = OUT
MW6-4	J4-H	MEICU: Cavity Humidity High	J8-K	0 = HIGH
MW6-5	J4-J	MEICU: Repeated RFGE Faults	J8-L	0 = FAULTS
MW6-6	J4-K	MEICU: Computer Generated Trip	J8-M	0 = TRIP
MW6-7	J4-L	MEICU: Cavity Water Leak Trip	J8-N	0 = TRIP
MW6-8	J4-M	MEICU: Spare External Interlock Tripped	J8-P	0 = TRIP
MW6-9	J4-N	MEICU: Cavity Humidity Interlock Disabled	J8-R	0 = DIS
MW6-10	J4-P	MEICU: Repeated RFGE Fault Disabled	J8-S	0 = DIS
MW6-11	J4-R	MEICU: Computer Generated Trip Disabled	J8-T	0 = DIS
MW6-12	J4-S	MEICU: Cavity Water Leak Disabled	J8-U	0 = DIS
MW6-13	J4-T	MEICU: Spare External Interlock Disabled	J8-V	0 = DIS
MW6-14	J4-U	MEICU: Cavity Short NOT OUT	J8-W	1 = NOT OUT
MW6-15	J4-V	MEICU: Cavity Short NOT IN	J8-X	1 = NOT IN

MW7-0	J4-W	MEICU: Cavity Short in Manual Override	J8-Y	0 = FORCED IN
MW7-1	J4-X	MEICU: RF Gap Envelope Above Threshold	J8-Z	1 = ABOVE
MW7-2	J4-Y	SSD: AMP # 3 Vdd Fault	J9-P	1 = OK
MW7-3	J4-Z	SSD: AMP # 3 Over-Temperature	J9-R	1 = OK
MW7-4	J4-a	SSD: AMP # 4 Vdd Fault	J9-S	1 = OK
MW7-5	J4-b	SSD: AMP # 4 Over-Temperature	J9-T	1 = OK
MW7-6	J4-c	SSD: Forward Power Fault	J9-U	1 = OK
MW7-7	J4-d	SSD: Reflected Power Fault	J9-V	1 = OK
MW7-8	J4-e	SSD: 50V PS Status	J9-W	1 = OK
MW7-9	J4-f	SSD: 50V PS O/V Fault	J9-X	1 = OK
MW7-10	J4-g	SSD: 50V PS Phase Loss	J9-Y	1 = OK
MW7-11	J4-h	SSD: 50V PS Control Failure	J9-Z	1 = OK
MW7-12	J4-i	SSD: 50V PS Inverter Failure	J9-a	1 = OK
MW7-13	J4-j	SSD: 50V PS Interlock Monitor	J9-D	1 = OK
MW7-14	J4-k			
MW7-15	J4-m			

MIU	DCC - IN	DESCRIPTION	DCC - OUT	POLARITY
COMMON	J5-A			
5V	J5-B			
	J5-C			
CW0-0	J5-D	(Remote): FBS On/Off Control	J1-D, J6-a	0 = OFF
CW0-1	J5-E	(Remote): FBS Reset	J1-E, J6-b	1 = RESET
CW0-2	J5-F		J1-F	
CW0-3	J5-G		J1-G	
CW0-4	J5-H	(Remote): Modulator Reset & MEIU Reset	J1-H, J7-B, J8-E	1 = RESET
CW0-5	J5-J		J1-J	
CW0-6	J5-K	(Remote): Mod High Voltage ON/OFF Control	J1-K, J7-C	1 = ON
CW0-7	J5-L	(Remote): MEICU Computer Generated Trip of Mod	J1-L, J8-B	1 = TRIP
CW0-8	J5-M	(Remote): Cavity Short In Command Control	J1-M, J8-C	1 = SHORT IN
CW0-9	J5-N	(Remote): SSD Reset Control	J1-N, J9-C	1 = RESET
CW0-10	J5-P	(Remote): SSD Gate Bias ON/OFF Control	J1-P, J9-A	1 = ON
CW0-11	J5-R	(Remote): SSD 50V PS ON/OFF Control	J1-R, J9-B	1 = ON
CW0-12	J5-S		J1-S	
CW0-13	J5-T		J1-T	
CW0-14	J5-U		J1-U	
CW0-15	J5-V		J1-V	

CW1-0	J5-W		J1-W	
CW1-1	J5-X		J1-X	
CW1-2	J5-Y		J1-Y	
CW1-3	J5-Z		J1-Z	
CW1-4	J5-a		J1-a	
CW1-5	J5-b		J1-b	
CW1-6	J5-c		J1-c	
CW1-7	J5-d		J1-d	
CW1-8	J5-e		J1-e	
CW1-9	J5-f		J1-f	
CW1-10	J5-g		J1-g	
CW1-11	J5-h		J1-h	
CW1-12	J5-i		J1-i	
CW1-13	J5-j		J1-j	
CW1-14	J5-k		J1-k	
CW1-15	J5-m		J1-m	

CONNECTORS:

J1: MW0 & MW1
J2: MW2 & MW3
J3: MW4 & MW5
J4: MW6 & MW7
J5: CW0 & CW1
J6: FBS
J7: MCU
J8: MEICU
J9: SSD
J10: NOT USED
J11: NOT USED

DESCRIPTIONS:

MCU: Modulator Control Unit
SSD: Solid State Driver Control Unit
FBS: Ferrite Bias Supply
MEICU: Modulator External Interlock Control Unit
Remote: Computer Control Signal

Indicates Modification to Existing MI DCC

Originator:	Tim Berenc	September 12, 2001
Drawn By:	Tim Berenc	September 20, 2001
Checked By:	Rick Zifko	August 7, 2002
Approved By:	Tim Berenc	August 7, 2002

FERMI NATIONAL ACCELERATOR LABORATORY
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COMPUTER CONTROL (DCC)
INTERNET RACK MONITOR (IRM), WORD ASSIGNMENTS

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