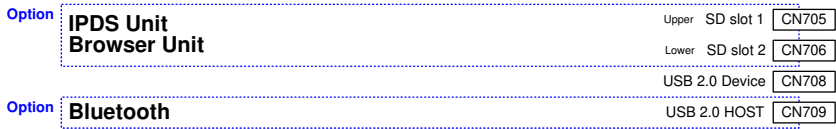


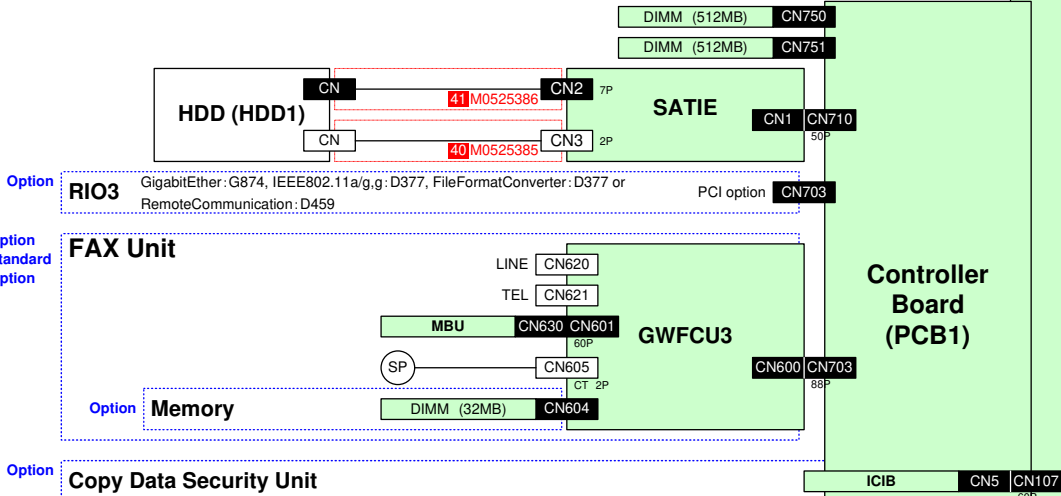
M052/M053/M054 POINT TO POINT DIAGRAM (1/3)

A

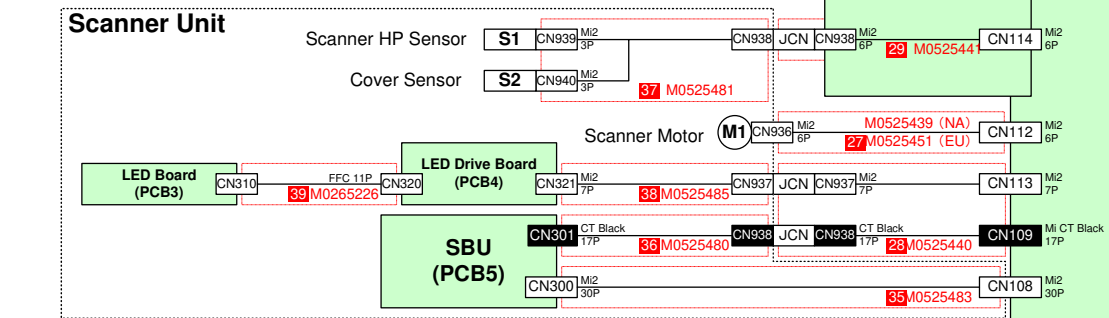


B

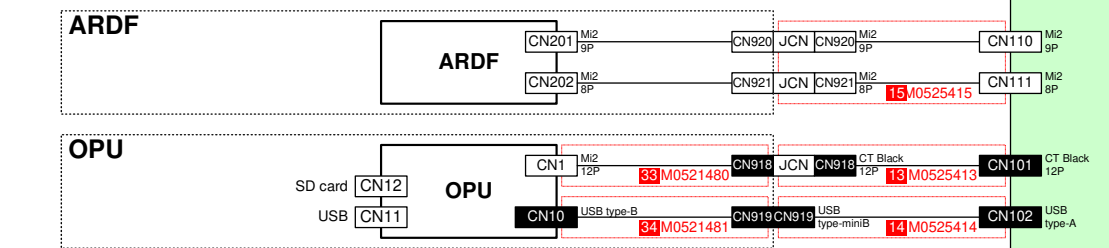
M052: Option
M053: Standard
M054: Option



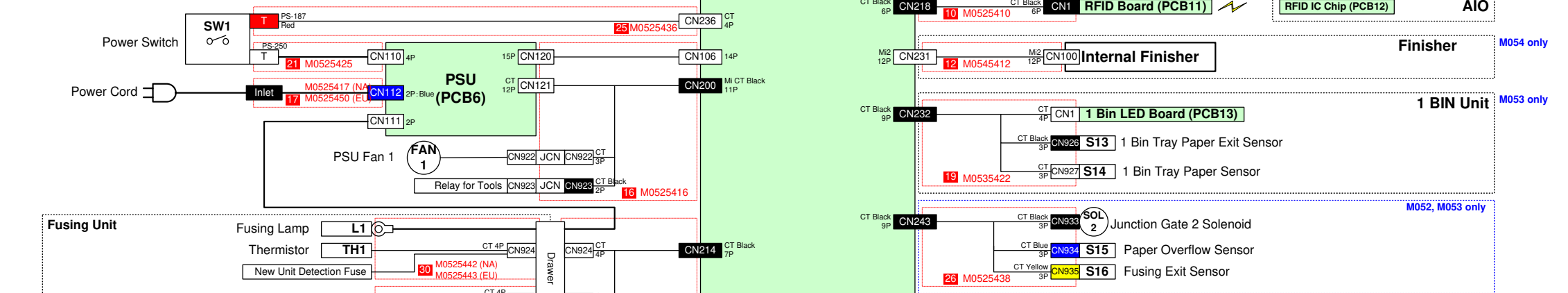
C



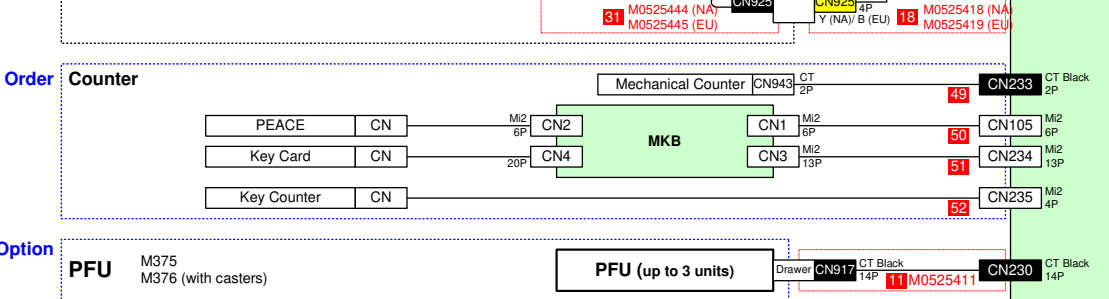
D



E



F



G

BICU (PCB2)

A

B

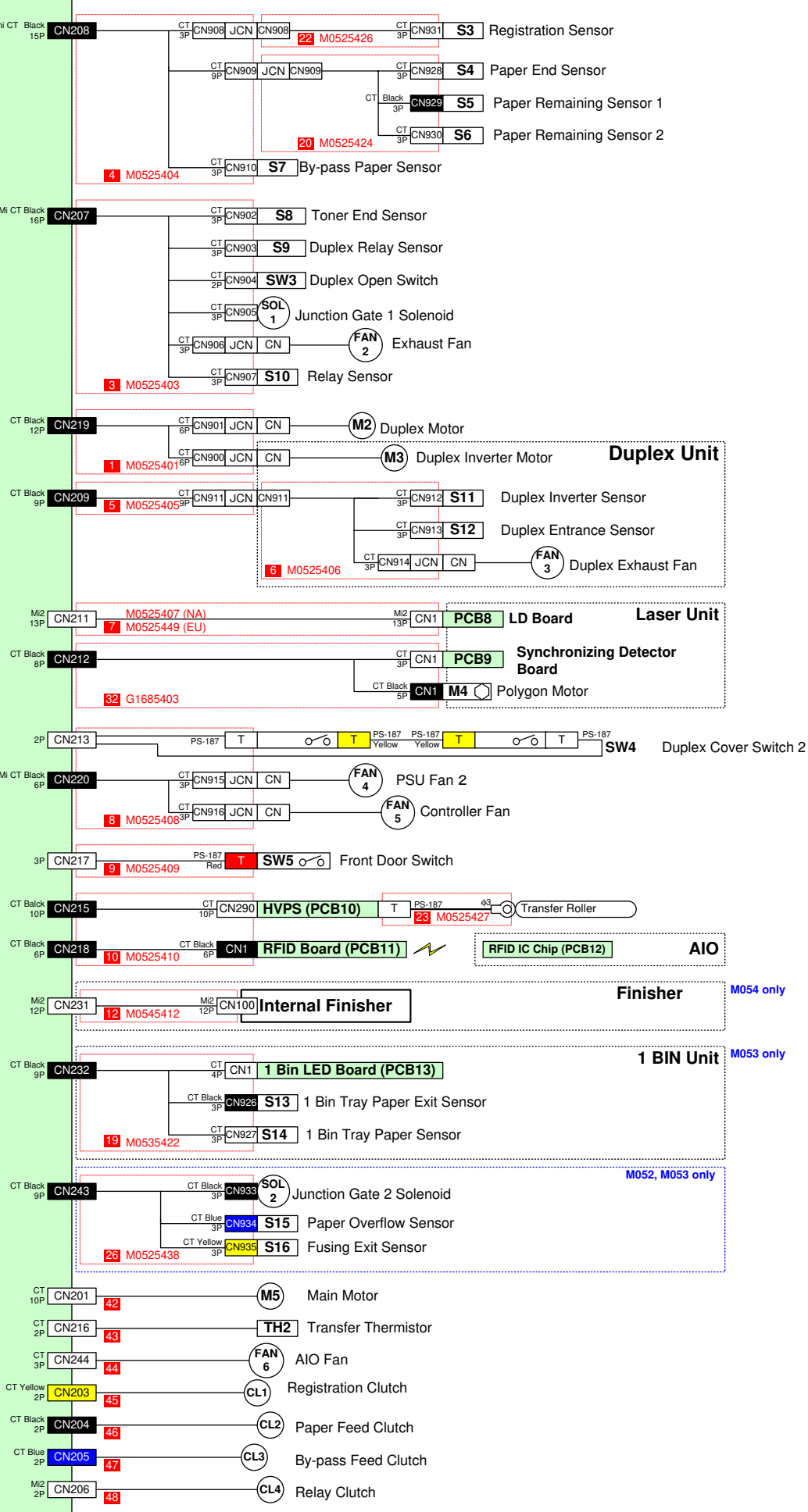
C

D

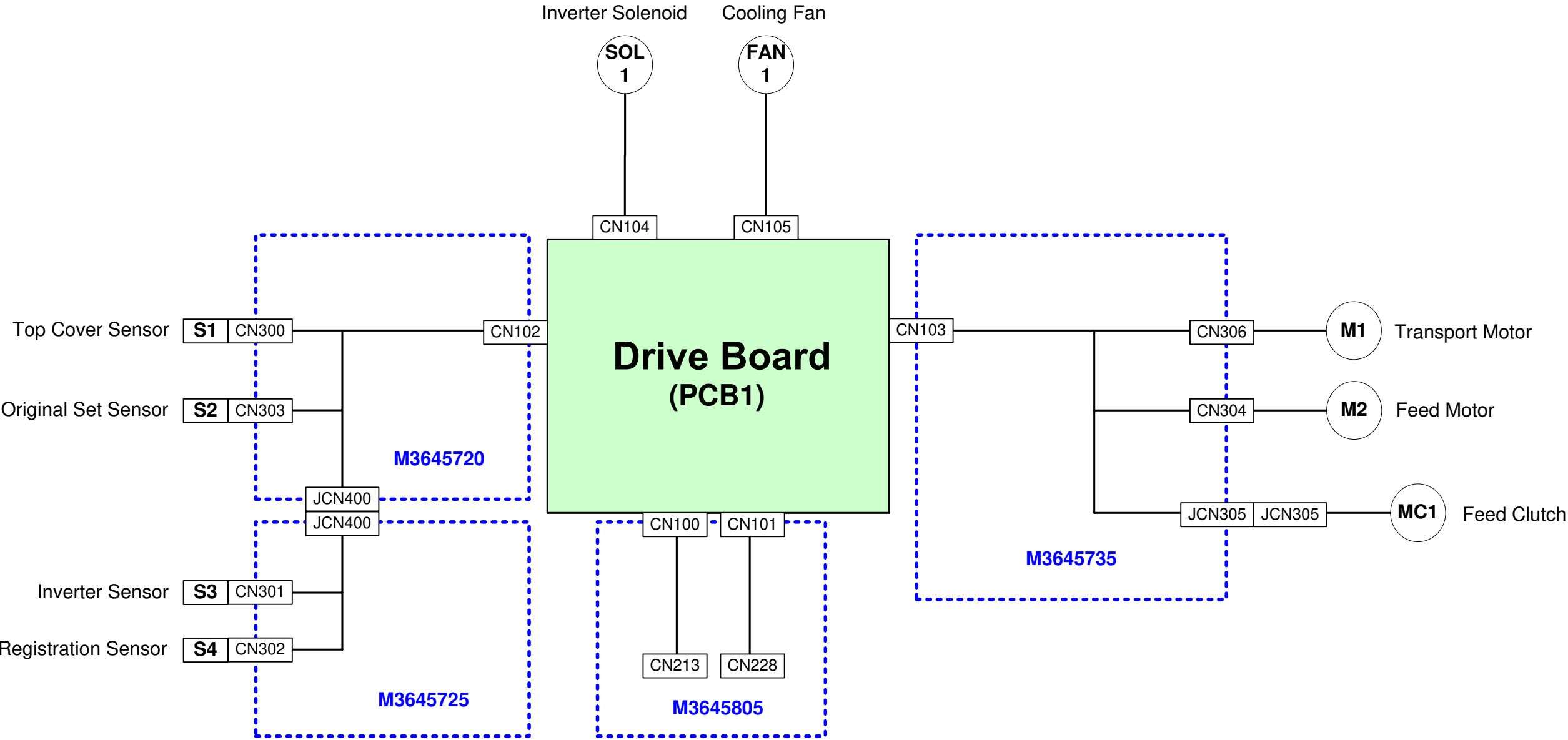
E

F

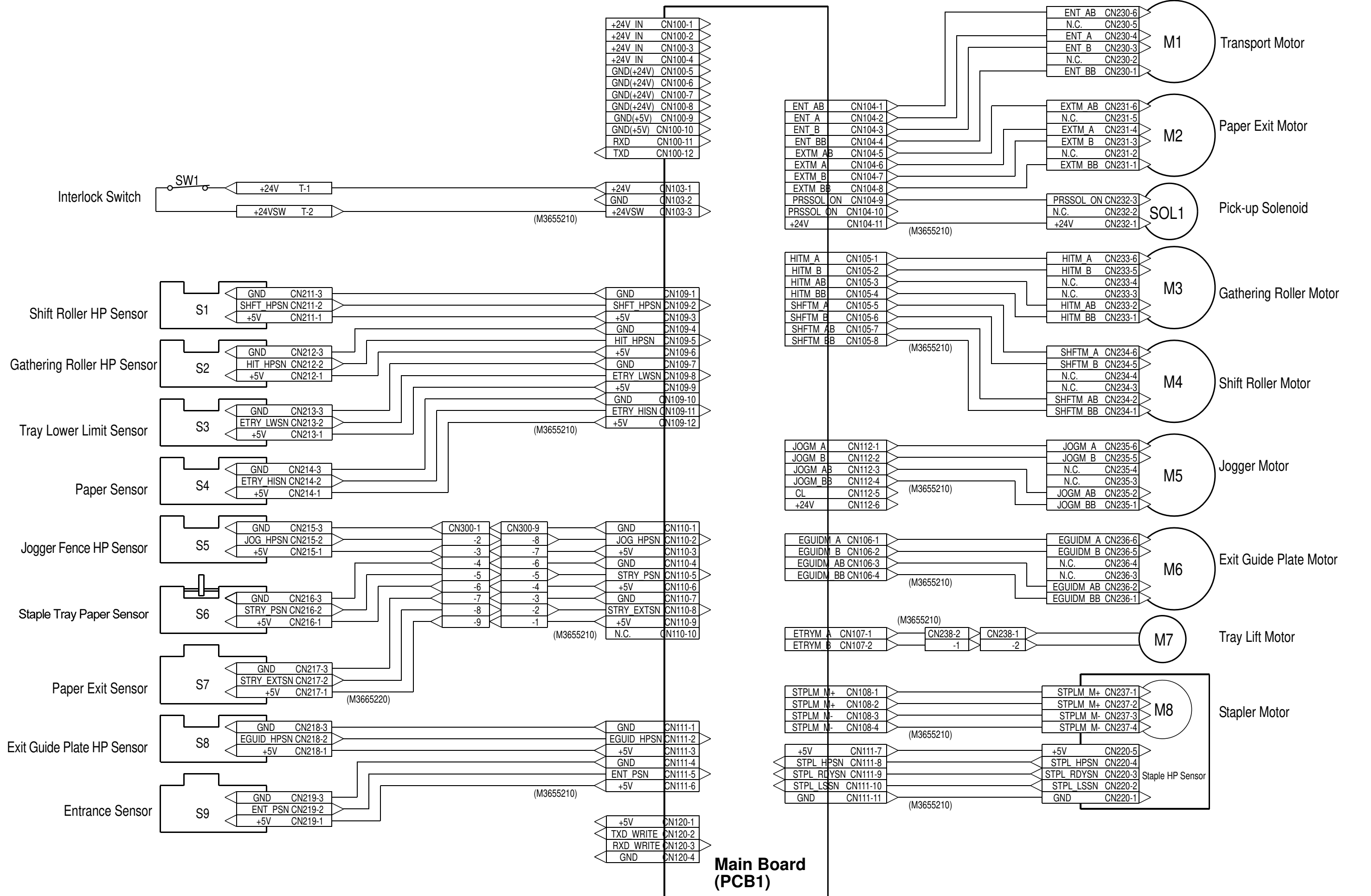
G



M052/M053/M054 (ARDF) POINT TO POINT DIAGRAM (2/3)



M052/M053/M054 (Internal Finisher: M054 only) POINT TO POINT DIAGRAM (3/3)



M052/M053/M054 Pin Assignment Lists (1/2)

SH-MF1 (M052/M053/M054) Pin Assignment Lists

Assign No.	Harness No.	Connector (FROM)		Signal Descriptions				Connector (TO)					
		No.	To	Pin No.	Signal Name	Direction	L	H	No.	To	Pin No.		
1	M0525401	CN219	BiCU	1	DUPINV_MTR:+24VSM	→			CN900	Duplex Inverter Motor	6		
				2	DUPINV_MTR:A	→					5		
				3	DUPINV_MTR:A	→					4		
				4	DUPINV_MTR:B	→					4		
				5	DUPINV_MTR:B	→					2		
				6	DUPINV_MTR:+24VSM	→					1		
				7	DUP_MTR:+24VSM	→					CN901	Duplex Motor	6
				8	DUP_MTR:A	→							5
				9	DUP_MTR:A	→							4
				10	DUP_MTR:B	→							3
				11	DUP_MTR:B	→							2
				12	DUP_MTR:+24VSM	→							1
2	M0525402	CN202	BiCU	1	P-SIZE_SNB:SN1	←			CN804	Paper Size Sensor Board	6		
				2	P-SIZE_SNB:SN2	←					5		
				3	P-SIZE_SNB:GND	←					4		
				4	P-SIZE_SNB:SN3	←					3		
				5	P-SIZE_SNB:TSET_SW	←	Set	Not set			2		
				6	P-SIZE_SNB:+5V	←					1		
3	M0525403	CN207	BiCU	1	TNR_END_SN:GND	←			CN902	Toner End Sensor	1		
				2	TNR_END_SN	←	Not end	End			2		
				3	TNR_END_SN:+5V	←			CN903	Duplex Relay Sensor	1		
				4	DUP_RLY_SN:GND	←	No paper	Paper			3		
				5	DUP_RLY_SN	←					2		
				6	DUP_RLY_SN:+5V	←			CN904	Duplex Open Switch	1		
				7	DUP_OP_SW	←	Close	Open			2		
				8	DUP_OP_SW:GND	←			CN905	Junction Gate 1 Solenoid	1		
				9	JNC_GT1_SOL	→	On	Off			3		
				-	N.C.				CN906	Exhaust Fan	1		
				10	JNC_GT1:+24VS	→					2		
				11	EX_FAN:CTL	→	Off	On	CN907	Relay Sensor	1		
				12	EX_FAN:LOCK	←	Normal	Not normal			2		
				13	EX_FAN:GND	←			CN907		1		
				14	RLY_SN:GND	←					2		
				15	RLY_SN	←	Paper	No paper			3		
16	RLY_SN:+5V	←			2								
4	M0525404	CN208	BiCU	1	RGST_SN:GND	←			CN908	Registration Sensor	1		
				2	RGST_SN	←	Paper	No paper			2		
				3	RGST_SN:+5V	←					1		
				4	P-END_SN:GND	←			CN909	Relay Harness	9		
				5	P-END_SN	←	Paper	No paper			8		
				6	P-END_SN:+5V	←					7		
				7	RMN_P-SN:1:GND	←					6		
				8	RMN_P-SN:1	←	Paper	No paper			5		
				9	RMN_P-SN:1:+5V	←					4		
				10	RMN_P-SN:2:GND	←			CN910	By-pass Paper Sensor	3		
				11	RMN_P-SN:2	←	Paper	No paper			2		
				12	RMN_P-SN:2:+5V	←					1		
				13	BYPSS_P-SN:GND	←			CN910		3		
				14	BYPSS_P-SN	←	Paper	No paper			2		
				15	BYPSS_P-SN:+5V	←					1		
5	M0525405	CN209	BiCU	1	DUP_INV_SN:GND	←			CN911	Relay Harness	9		
				2	DUP_INV_SN	←	Paper	No paper			8		
				3	DUP_INV_SN:+5V	←					7		
				4	DUP_ENT_SN:GND	←					6		
				5	DUP_ENT_SN	←	Paper	No paper			5		
				6	DUP_ENT_SN:+5V	←					4		
				7	DUP_EX-FAN:CTL	→	Off	On			3		
				8	DUP_EX-FAN:LOCK	←	Normal	Not normal			2		
				9	DUP_EX-FAN:GND	→					1		
6	M0525406	CN911	M0525405	1	DUP_INV_SN:GND	←			CN912	Duplex Inverter Sensor	3		
				2	DUP_INV_SN	←	Paper	No paper			2		
				3	DUP_INV_SN:+5V	←					1		
				4	DUP_ENT_SN:GND	←			CN913	Duplex Entrance Sensor	3		
				5	DUP_ENT_SN	←	Paper	No paper			2		
				6	DUP_ENT_SN:+5V	←					1		
				7	DUP_EX-FAN:CTL	→	Off	On	CN914	Duplex Exhaust Fan	3		
				8	DUP_EX-FAN:LOCK	←	Normal	Not normal			2		
				9	DUP_EX-FAN:GND	→					1		
7	M0525407 (NA)	CN211	BiCU	1	LDB:LVDS2:-	→			CN1	LD Board	13		
				2	LDB:LVDS2:+	→					12		
				3	LDB:LVDS1:-	→					11		
				4	LDB:LVDS1:+	→					10		
				5	LDB:GND	→					9		
				6	LDB:APC_GT:1	→	Active	Not active			8		
				7	LDB:DAC:2	→					7		
				8	LDB:LD_ERR	←	Detected	Not detected			6		
				9	LDB:DAC:1	→					5		
				10	LDB:GND	→					4		
				11	LDB:OFF	→	LD On	LD Off			3		
				12	LDB:APC_GT:2	→	Active	Not active			2		
				13	LDB:+5LVD	→					1		
7	M0525449 (EU)	CN211	BiCU	1	LDB:LVDS2:-	→			CN1	LD Board	13		
				2	LDB:LVDS2:+	→					12		
				3	LDB:LVDS1:-	→					11		
				4	LDB:LVDS1:+	→					10		
				5	LDB:GND	→					9		
				6	LDB:APC_GT:1	→	Active	Not active			8		
				7	LDB:DAC:2	→					7		
				8	LDB:LD_ERR	←	Detected	Not detected			6		
				9	LDB:DAC:1	→					5		
				10	LDB:GND	→					4		
				11	LDB:OFF	→	LD On	LD Off			3		
				12	LDB:APC_GT:2	→	Active	Not active			2		
				13	LDB:+5LVD	→					1		
8	M0525408	CN220	BiCU	1	PSU_FAN2:CTL	→	Off	On	CN915	PSU Fan 2	3		
				2	PSU_FAN2:LOCK	→	Normal	Not normal			2		
				3	PSU_FAN2:GND	→					1		
				4	CTL_FAN:CTL	→	Off	On	CN916	Controller Fan	3		
				5	CTL_FAN:LOCK	←	Normal	Not normal			2		
				6	CTL_FAN:GND	→					1		
9	M0525409	CN217	BiCU	1	+24VSR				T1	Duplex Cover Switch 2:Left	1		
				2	+24VC						T2	Duplex Cover Switch 2:Right	1
				3	+24VS								1
10	M0525410	CN218	BiCU	1	RFID:GND				CN1	RFID Board	6		
				2	RFID:+5V						5		
				3	RFID:TXD	→					4		
				4	RFID:RXD	→					3		
				5	RFID:RST	←	Reset	Normal			2		
		CN215	HVP	6	RFID:GND	→				CN290	HVPS	1	
				1	HVP:GND				10				
				2	HVP:PWM:T:-	→			9				
				3	HVP:PWM:T:+	→			8				
				4	HVP:PWM:C	→			7				
5	HVP:PWM:B	→			6								
6	HVP:+24VS	→			5								
7	HVP:GND	→			4								
8	HVP:FB:T	←			3								
9	HVP:FB:C	←			2								
10	HVP:FB:B	←			1								

M052/M053/M054 Pin Assignment Lists (2/2)

SH-MF1 (M052/M053/M054) Pin Assignment Lists

Assign No.	Harness No.	Connector (FROM)			Signal Descriptions				Connector (TO)		
		No.	To	Pin No.	Signal Name	Directio	L	H	No.	To	Pin No.
31 (NA)	M0525444	CN906	M0525418 (NA)	1	N.C.						
				2	N.C.						
				3	FSNG_UNT_ST_DTCT				-	Fusing Unit Set Detection	-
				4	V						
31 (EU)	M0525445	CN906	M0525419 (EU)	1	FCTRY:DSTN				-	FCTRY:DSTN	-
				2	FCTRY:DSTN						
				3	FSNG_UNT_ST_DTCT				-	Fusing Unit Set Detection	-
				4	V						
32	G1685403	CN212	BiCU	1		←	SynchrOniz	Not synchrOniz	CN1	Synchronizing Detector Board	3
				2	SYNCH_DTCT_BRD						
				3	SYNCH_DTCT_BRD:5V						
				4	SYNCH_DTCT_BRD:GND						
				5	PLYGN_MTR:24VB				CN1	Polygon Motor	5
				6	PLYGN_MTR:GND						
				7	PLYGN_MTR:CTL	→	On	Off			
				8	PLYGN_MTR:LOCK	←	On	Off			
33	M0521480	CN918	M0525413	1	OPU:PW_KEY	←			CN1	Operation Panel	12
				2	OPU:5VE						11
				3	OPU:RX_RQ	←					10
				4	OPU:GND						9
				5	OPU:RX_DT	←					8
				6	OPU:RX_CLK	→					7
				7	OPU:GND						6
				8	OPU:TX_CLK	→					5
				9	OPU:TX_DT	→					4
				10	OPU:5V						3
				11	OPU:5V						2
				12	OPU:24VB						1
34	M0521481	CN919	M0525414	1	OPU:5V				CN10	Operation Panel	1
				2	OPU:USB-D						2
				3	OPU:USB-D+						3
				4	N.C.						4
				5	OPU:GND						5
35	M0525483	CN108	BiCU	A1	SBU:GND				CN300	SBU	B15
				A2	SBU:SUB_SCN_GT	→	Image area	Margin			B14
				A3	SBU:GND						B13
				A4	SBU:TX_DT	→					B12
				A5	SBU:CLK	→					B11
				A6	SBU:LVDS:A2-	←					B10
				A7	SBU:LVDS:B2-	←					B9
				A8	SBU:LVDS:C2-	←					B8
				A9	SBU:LVDS:CLK2-	←					B7
				A10	SBU:GND						B6
				A11	SBU:LVDS:B1-	←					B5
				A12	SBU:LVDS:C1-	←					B4
				A13	SBU:GND						B3
				A14	SBU:GND						B2
				A15	SBU:ST_DTCT	←	Set	Not set			B1
				B1	SBU:GND						A15
				B2	SBU:GND						A14
				B3	SBU:GND						A13
				B4	SBU:LVDS:C1+	←					A12
				B5	SBU:LVDS:B1+	←					A11
				B6	SBU:GND						A10
				B7	SBU:LVDS:CLK2+	←					A9
				B8	SBU:LVDS:C2+	←					A8
				B9	SBU:LVDS:B2+	←					A7
				B10	SBU:LVDS:A2+	←					A6
				B11	SBU:CS	→	Active	Not Active			A5
				B12	SBU:RX_DT	←					A4
				B13	SBU:SUB_SCN_GT	→	Image area	Margin			A3
				B14	SBU:GND						A2
				B15	SBU:GND						A1
36	M0525480	CN938	M0525440	1	SBU:GND				CN301	SBU	17
				2	SBU:5V						16
				3	SBU:5V						15
				4	SBU:5V						14
				5	SBU:GND						13
				6	SBU:GND						12
				7	SBU:GND						11
				8	SBU:GND						10
				9	SBU:3.3V						9
				10	SBU:3.3V						8
				11	SBU:3.3V						7
				12	SBU:GND						6
				13	SBU:GND						5
				14	SBU:5.5V						4
				15	SBU:5.5V						3
				16	N.C.						2
				17	SBU:LED_ON_CLK	←					1
37	M0525481	CN938	M0525441	1	HPS:GND				CN939	Scanner HP Sensor	3
				2	HPS	←	Not HP	HP			2
				3	HPS:5V				CN940	Cover Sensor	3
				4	CVR_SN:GND						2
				5	CVR_SN	←	Open	Close			1
				6	CVR_SN:5VE						
38	M0525485	CN937	M0525440	1	LED-DB:ON_CLK	→			CN321	LED Drive Board	7
				2	LED-DB:GND						6
				3	LED-DB:ON	→	On	Off			5
				4	LED-DB:24VB						4
				5	LED-DB:ERR	←	Normal	Error			3
				6	LED-DB:ST_DTCT	←	Set	Not set			2
				7	LED-DB:5V						1
39	M0265226	CN320	LED-DB	1	LED-B:GND				CN310	LED Board	11
				2	LED-B:LED.7	→	On	Off			10
				3	LED-B:LED.6	→	On	Off			9
				4	LED-B:LED.5	→	On	Off			8
				5	LED-B:24VB						7
				6	LED-B:24VB						6
				7	LED-B:LED.4	→	On	Off			5
				8	LED-B:LED.3	→	On	Off			4
				9	LED-B:LED.2	→	On	Off			3
				10	LED-B:LED.1	→	On	Off			2
				11	LED-B:GND						1
40	M0525385	CN3	SATIE	-	N.C.				CN941	HDD (Power)	1
				-	N.C.						2
				1	HDD:5VE						3
				2	HDD:GND						4

41	M0525386	CN2	SATIE	1	HDD:GND				CN942	HDD (SATA)	1
				2	HDD:TX+	→					2
				3	HDD:TX-	→					3
				4	HDD:GND	→					4
				5	HDD:RX-	←					5
				6	HDD:RX+	←					6
				7	HDD:GND						7
42	-	CN201	BiCU	1	MIN_MTR:CLK	→			-	Main Motor	-
				2	MIN_MTR:CW/CCW	→	CCW	CW			-
				3	MIN_MTR:STRT	→	On	Off			-
				4	MIN_MTR:LOCK	←	On	Off			-
				5	MIN_MTR:5V						-
				6	MIN_MTR:GND						-
				7	MIN_MTR:GND						-
				8	MIN_MTR:GND						-
				9	MIN_MTR:24VS						-
				10	MIN_MTR:24VS						-
43	-	CN216	BiCU	1	TR_TH	←			-	Transfer Thermistor	-
44	-	CN244	BiCU	1	AIOFAN:CTL	→	Off	On	-	AIO Fan	-
				2	AIOFAN:LOCK	←	Normal	Error			-
				3	AIOFAN:GND						-
45	-	CN203	BiCU	1	RGST_CL:24VS				-	Registration Clutch	-
46	-	CN204	BiCU	1	P-FD_CL:24VS				-	Paper Feed Clutch	-
				2	P-FD_CL:TRG	→	On	Off			-
47	-	CN205	BiCU	1	BYPASS_FD_CL:24VB				-	By-pass Feed Clutch	-
48	-	CN206	BiCU	1	RPSS_FD_CL:TRG	→	On	Off	-	Relay Clutch	-
				2	RLY_CL:24VS						-
49	-	CN233	BiCU	1	MC_CTR:24V	→	On	Off	CN943	Mechanical Counter	-
				2	MC_CTR:CTL	→	Count	No count			-
50	-	CN105	BiCU	1	PEACE:5VE				CN1	MKB (Key Card) Special modified option	8
				2	PEACE:5VE						5
				3	PEACE:TX_DT	→					4
				4	PEACE:RX_DT	←					3
				5	PEACE:GND						2
				6	PEACE:GND						1
51	-	CN234	BiCU	1	KY_CRD:5V				CN3	MKB (Key Card) Special modified option	13
				2	KY_CRD:ST_DTCT	←	Set	Not set			12
				3	KY_CRD:SZ.1	→					11
				4	KY_CRD:SZ.2	→					10
				5	KY_CRD:SZ.3	→					9
				6	KY_CRD:SZ.4	→					8
				7	KY_CRD:MD.1	→					7
				8	KY_CRD:MD.2	→					6
				9	KY_CRD:DUPX	→					5
				10	KY_CRD:MTR	→					4
				11	KY_CRD:GND						3
				12	KY_CRD:CTL	→	No count	Count			2
				13	KY_CRD:24V						1
52	-	CN235	BiCU	1	KY_CNTR:GND				CN944	Key Counter Special modified option	4
				2	KY_CNTR:ST_DTCT	←	Set	Not set			3
				3	KY_CNTR:24V						2
				4	KY_CNTR:CTL	→	No count	Count			1

M054/M055/M056 ELECTRICAL COMPONENT LAYOUT (1/2)

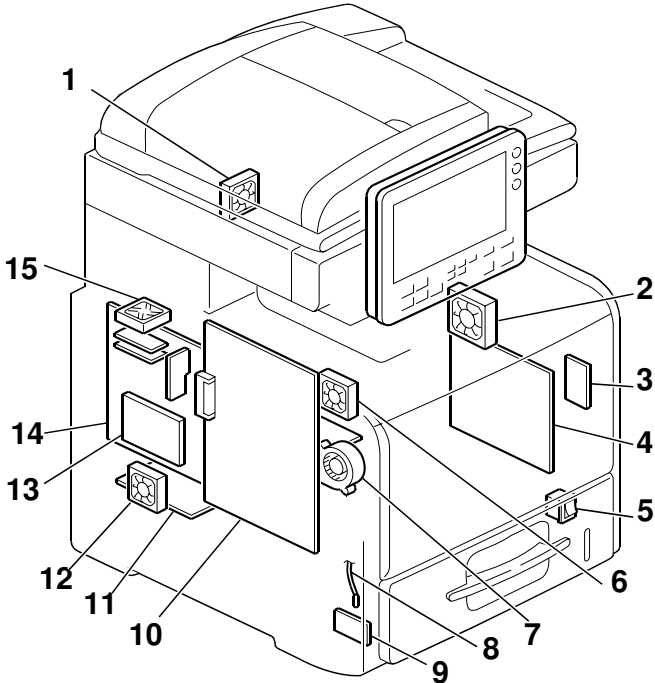


Fig. 1 m050v501

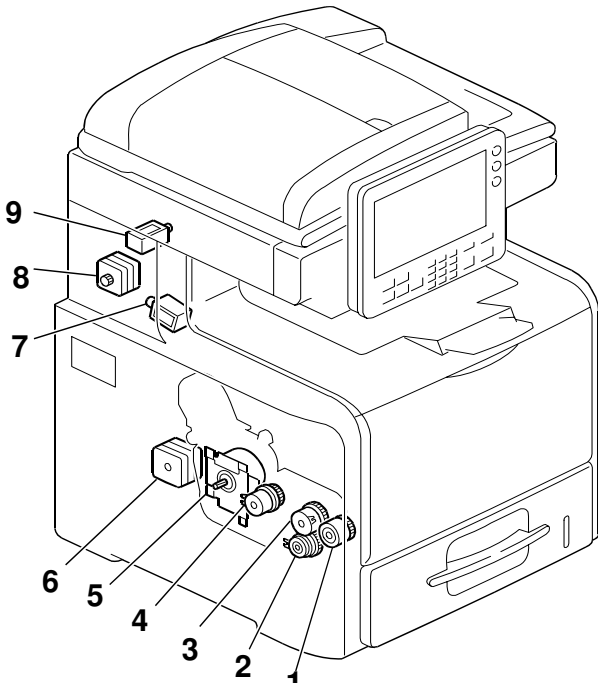


Fig. 2 m050v502

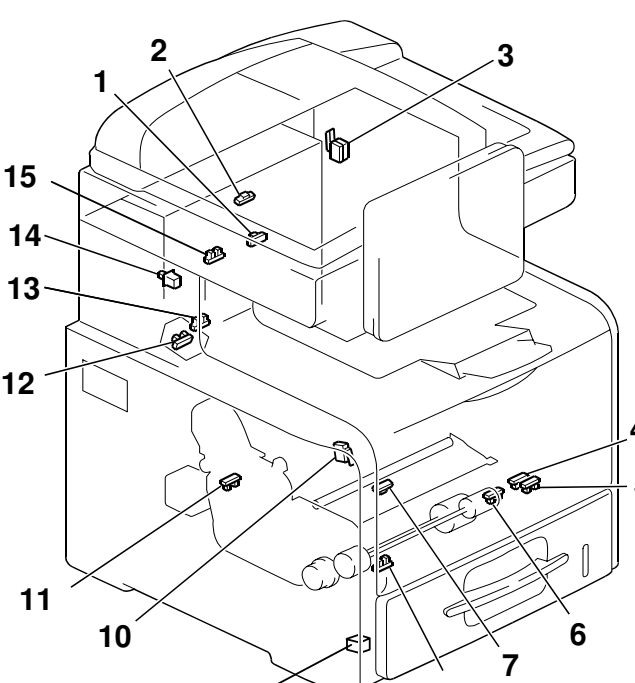


Fig. 3 m050v503

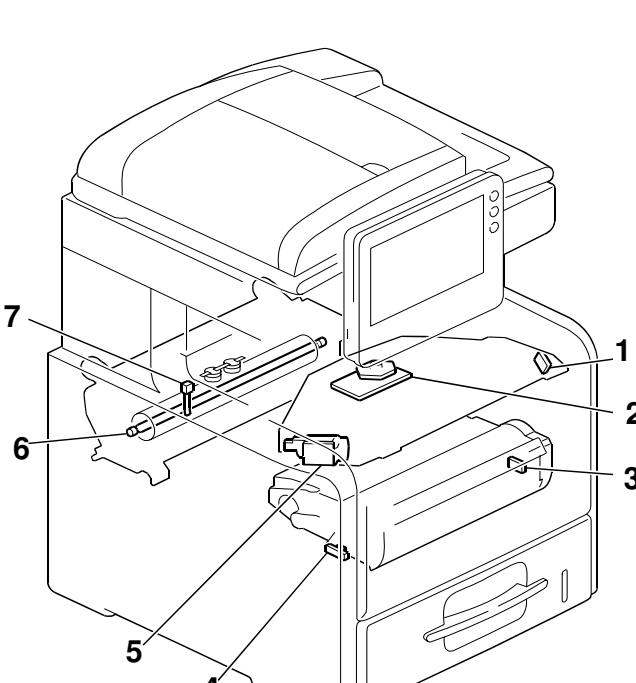


Fig. 4 m050v504

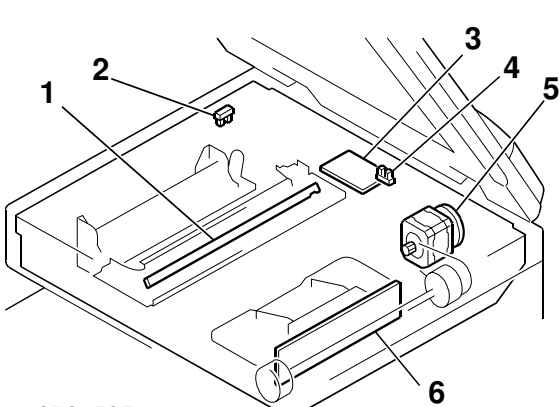


Fig. 5 m050v505

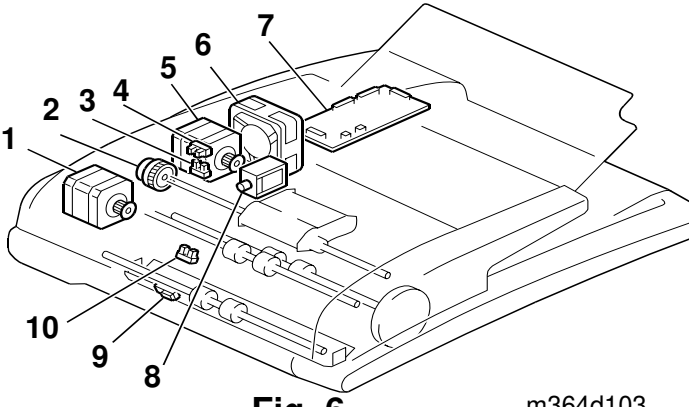


Fig. 6 m364d103

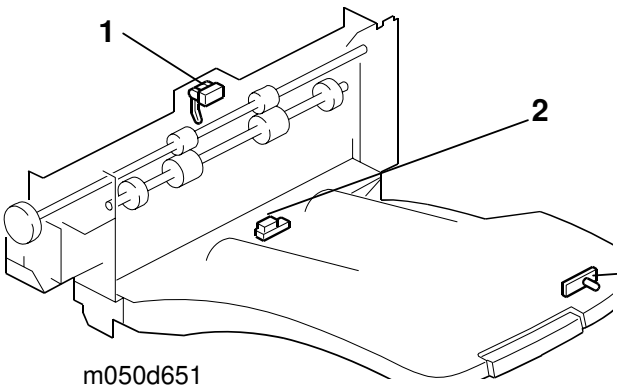


Fig. 7 m050d651

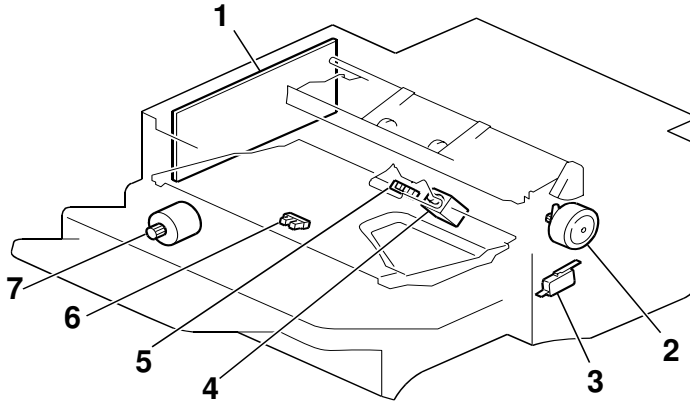


Fig. 8 m365d103

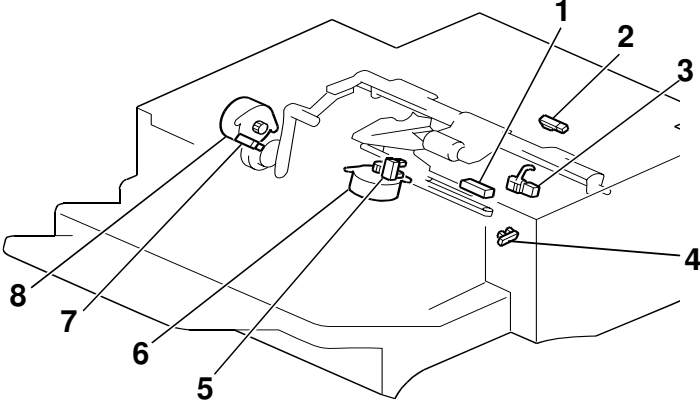


Fig. 9 m365d104

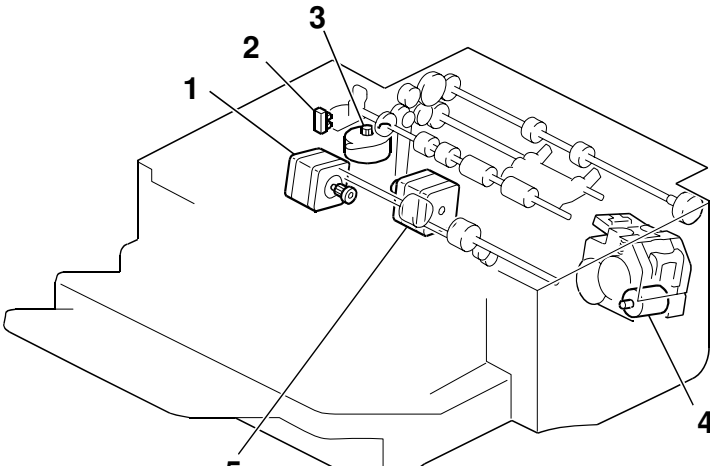


Fig. 10 m365d105

M054/M055/M056 ELECTRICAL COMPONENT LAYOUT (2/2)

Mainframe

Symbol	Index No.	Description	P to P	Page
Fans				
FAN1	Fig.1-1	PSU Fan 1	F4	1/4
FAN2	Fig.1-2	Exhaust Fan	B7	1/4
FAN3	Fig.1-1	Duplex Exhaust Fan	C8	1/4
FAN4	Fig.1-6	PSU Fan 2	D7	1/4
FAN5	Fig.1-1	Controller Fan	D8	1/4
FAN6	Fig.1-7	AIO Fan	G7	1/4
Motors				
M1	Fig.5-5	Scanner Motor	C4	1/4
M2	Fig.2-6	Duplex Motor	C7	1/4
M3	Fig.2-8	Duplex Inverter Motor	C7	1/4
M4	Fig.4-2	Polygon Motor	D8	1/4
M5	Fig.2-5	Main Motor	F7	1/4
Clutches				
MC1	Fig.2-4	Registration Clutch	G7	1/4
MC2	Fig.2-2	Paper Feed Clutch	G7	1/4
MC3	Fig.2-1	By-pass Feed Clutch	G7	1/4
MC4	Fig.2-3	Relay Clutch	G7	1/4
Solenoids				
SOL1	Fig.2-7	Junction Gate 1 Solenoid	B7	1/4
SOL2	Fig.2-9	Junction Gate 2 Solenoid	F7	1/4
Switches				
SW1	Fig.1-5	Power Switch	E3	1/4
SW2	Fig.3-9	Tray Set Switch	A8	1/4
SW3	Fig.3-	Duplex Open Switch	B7	1/4
SW4	Fig.3-3	Duplex Cover Switch 2	D8	1/4
SW5	Fig.3-	Front Door Switch	E7	1/4
Lamp				
L1	Fig.4-6	Fusing Lamp	F4	

Symbol	Index	Description	P to P	Page
Boards				
PCB1	Fig.1-	Controller Board	B5	1/4
PCB2	Fig.1-	BICU	D6	1/4
PCB3	Fig.5-1	LED Board	D2	1/4
PCB4	Fig.5-3	LED Drive Board	D3	1/4
PCB5	Fig.5-6	SBU	D3	1/4
PCB6	Fig.1-	PSU	E4	1/4
PCB7	Fig.1-9	Paper Size Sensor Board	A7	1/4
PCB8	Fig.4-5	LD Board	D8	1/4
PCB9	Fig.4-1	Synchronizin Detector Board	D8	1/4
PCB10	Fig.1-4	HVPS	E7	1/4
PCB11	Fig.1-3	RFID Board	E7	1/4
PCB12	Fig.4-3	RFID ID Chip	E8	1/4
PCB13	Fig.7-3	1 Bin LED Board	E7	1/4
Thermistors				
TH1	Fig.4-7	Fusing Thermistor	F4	1/4
TH2	Fig.1-8	Transfer Thermistor	F7	1/4
Other				
HDD1	Fig.1-	HDD	B3	1/4
Sensors				
S1	Fig.5-2	Scanner HP Sensor	C4	1/4
S2	Fig.5-4	Cover Sensor	C4	1/4
S3	Fig.3-7	Registration Sensor	A8	1/4
S4	Fig.3-6	Paper End Sensor	A8	1/4
S5	Fig.3-5	Remaining Paper Sensor1	A8	1/4
S6	Fig.3-4	Remaining Paper Sensor2	A8	1/4
S7	Fig.3-8	By-pass Paper Sensor	B7	1/4
S8	Fig.4-4	Toner End Sensor	B7	1/4
S9	Fig.3-	Duplex Relay Sensor	B7	1/4
S10	Fig.3-1	Relay Sensor	B7	1/4
S11	Fig.3-2	Duplex Inverter Sensor	C8	1/4
S12	Fig.3-	Duplex Entrance Sensor	C8	1/4
S13	Fig.7-1	1 Bin Tray Paper Exit Sensor	F7	1/4
S14	Fig.7-2	1 Bin Tray Paper Sensor	F7	1/4
S15	Fig.3-	Paper Overflow Sensor	F7	1/4
S16	Fig.3-	Fusing Exit Sensor	F7	1/4

ARDF

Symbol	Index No.	Description	P to P	Page
Motors				
M1	4	Transport Motor	C7	2/4
M2	8	Feed Motor	D7	2/4
Sensors				
S1	6	Top Cover Sensor	C2	2/4
S2	7	Original Set Sensor	D2	2/4
S3	3	Inverter Sensor	D2	2/4
S4	2	Registration Sensor	E2	2/4
Magnetic Clutches				
MC1	5	Feed Clutch	D7	2/4
Solenoids				
SOL1	1	Inverter Solenoid	B4	2/4
FANS				
FAN1	9	Cooling Fan	B4	2/4
PCBs				
PCB1	10	Drive Board	C4	2/4

Internal Flnisher (M054 only)

Symbol	Index No.	Description	P to P	Page
Sensors				
S1	Fig.10-2	Shift Roller HP Sensor	C2	3/4
S2	Fig.9-7	Gathering Roller HP Sensor	D2	3/4
S3	Fig.8-6	Tray Lower Limit Sensor	D2	3/4
S4	Fig.8-5	Paper Sensor	D2	3/4
S5	Fig.9-5	Jogger Fence HP Sensor	E2	3/4
S6	Fig.9-3	Staple Tray Paper Sensor	E2	3/4
S7	Fig.9-1	Paper Exit Sensor	F2	3/4
S8	Fig.9-4	Exit Guide Plate HP Sensor	F2	3/4
S9	Fig.9-2	Entrance Sensor	G2	3/4
Motors				
M1	Fig.10-5	Transport Motor	A9	3/4
M2	Fig.10-1	Paper Exit Motor	B9	3/4
M3	Fig.9-8	Gathering Roller Motor	C9	3/4
M4	Fig.10-3	Shift Roller Motor	D9	3/4
M5	Fig.9-6	Jogger Motor	D9	3/4
M6	Fig.8-2	Exit Guide Plate Motor	E9	3/4
M7	Fig.8-7	Tray Lift Motor	E9	3/4
M8	Fig.10-4	Stapler Motor	F9	3/4
Board				
PCB1	Fig.8-1	Main Board	G6	3/4
Switch				
SW1	Fig.8-3	Interlock Switch	B2	3/4
Solenoid				
SOL1	Fig.8-4	Pick-up Solenoid	B9	3/4