

LOW FREQUENCY SHIFT CONVERTER

PURCHASED ITEM	MATERIAL LIST				MODEL CFA-1L						PROJ. NO.						LIST NO. CFA-1L		
	QUANTITY REQ.	L P N	PART NO.	REV	DWG SIZE	DESCRIPTION	REF	SYMBOLS	ISSUE						SHEET 1 OF 7 SHEETS				
									A	B	C	D	E	F					
2			CP69B4EF504L			Capacitor, Fixed: paper dielectric		C1-C2; C9-C10											
6			CN-100-3			Capacitor, Fixed: paper		C3,4,6,7,38,8											
3			CN-100-21			Capacitor, Fixed: paper		C5,23,40											
2			CM30C562J			Capacitor, Fixed: silvered mica		C11,14											
2			CM30C402J			Capacitor, Fixed: silvered mica		C13,16											
4			CN-100-9			Capacitor, Fixed: paper dielectric		C17,18,24,26											
1			CN-100-10			Capacitor, Fixed: paper		C19											
2			CN-100-17			Capacitor, Fixed: paper		C20,32											
1			CP69B1EF104K			Capacitor, Fixed: paper dielectric		C21											
2			CN-100-13			Capacitor, Fixed: paper		C25,39											
2			CM20A102K			Capacitor, Fixed: mica		C27,30											
2			CM20A201K			Capacitor, Fixed: mica		C28,29											
5			CP41B1FF405K			Capacitor, Fixed: paper dielectric		C33,34,35,36,37											
1			TM-100-9			Board, Terminal		E1											
1			FU-100-2			Fuse, Cartridge		F1											
1			BI-101-44			Lamp, Incandescent		I1											
1			TF-5000			Reactor, Filter Choke		L1											
4			TF-5004			Reactor, Fixed (Use ML-A-413)		L2,3,4,5											
1			TF-5002			Reactor, Fixed		L6											
1			JJ-100			Connector, Assembly		P1											
14			RC20GF474K			Resistor, Fixed		R1,3,5,6,16,17,19,21,36,42,44,49,62,75											
6			RC20GF105K			Resistor, Fixed		R2,18,53,71,72,73											
3			RC20GF222K			Resistor, Fixed		R4,20,91											
3			RC20GF104K			Resistor, Fixed		R7,23,85											
3			RC20GF103K			Resistor, Fixed		R8,22,40,87,89											
11			RC20GF224K			Resistor, Fixed		R9,10,24,25,64,65,78,79,92,93,61											
1			RC20GF153K			Resistor, Fixed		R46											
3			RC20GF102K			Resistor, Fixed		R11,26,52											
2			RC30GF392K			Resistor, Fixed		R12,27											
4			RC20GF474J			Resistor, Fixed		R13,15,29,30											
2			RC20GF121J			Resistor, Fixed		R94,95											
2			RC20GF390K			Resistor, Fixed		R96,97											
1			RV4ATFH104A			Resistor, Variable		R32											
7			RC20GF225K			Resistor, Fixed		R33,47,58,66,67,70,84											
3			RC20GF106K			Resistor, Fixed		R38,41,83											
2			RC30GF823K			Resistor, Fixed		R43,50											
4			RV4ATSA105B			Resistor, Variable		R45,68,69,74											
1			RC20GF275K			Resistor, Fixed		R48											
1			PX-337-9			Insulation, Terminal Strip													

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									A	B	C	F			
2			MS-154-1			Straddle Plate									
1			RC20GF223K			Resistor, Fixed									R51
1			RC42GF563K			Resistor, Fixed									R55
1			RC42GF273K			Resistor, Fixed									R56
1			RC42GF223K			Resistor, Fixed									R57
1			RV4ATXA504B			Resistor, Variable: locking type									R59
1			RC20GF395K			Resistor, Fixed									R60
1			RC20GF303K			Resistor, Fixed									R86
1			RC30GF224K			Resistor, Fixed									R63
1			RV4ATSA504B			Resistor, Variable									R76
1			RA75ASA252AK25			Resistor, Variable									R77
1			RC42GF102K			Resistor, Fixed									R80
2			RW-109-30			Resistor, Fixed									R81,82
1			IM-150			T.B. #9 Insulation									
1			RC20GF475K			Resistor, Fixed									R88
1			RC20GF473K			Resistor, Fixed									R90
2			ST-22K			Switch, Toggle									S1,3
3			ST-22N			Switch, Toggle									S2,4,5
1			SW-112			Switch, Rotary									S6
1			TF-106			Transformer									T1
1			TF-104			Transformer									T2
2			TF-112			Transformer									T3,4
2			TF-115			Transformer									T5,6
4			6AU6 A			Tube, Electron									V1,4,9,10
3			6J6			Tube, Electron									V2,5,12
3			12AU7 A			Tube, Electron									V3,11,13
4			6AL5			Tube, Electron									V6,7,8,22
1			6Y6G			Tube, Electron									V14
1			5Y3GT			Tube, Electron									V15
1			6X4			Tube, Electron									V16
3			OB2			Tube, Electron									V17,20,19
1			OA2			Tube, Electron									V18
2			IM-151			T.B. #6 Insulation									
1			2BP1			Tube, Cathode Ray									V21
1			FH-100-2			Holder, Fuse									XF1
1			TS-106-1			Light, Indicator									XI1
1			IM-152			T.B. #8 Insulation									
16			TS-102-P01			Socket, tube									XV1,2,4,5,6,7,8,9,10,12
1			IM-154			T.B. #5 Insulation									16,17,18,19,20,22
1			IM-153			T.B. #7 Insulation									

**MATERIAL LIST /
NUMERICAL PARTS LIST**

REV.

F

MODEL: CFA-1L

SHEET 3 OF 7

PART NO.	DESCRIPTION	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
TS103-P01	SOCKET, TUBE				3	XV3,11,13	
TS165-P-1	SOCKET, TUBE				2	XV14,15	
TS112	SOCKET, TUBE				1	XV21	
MP102-2	KNOB				1		
NP134	NAMEPLATE, PATENT				1		
HB101-2	PLUB BUTTON				1		
MS265	COVER, TOP				1		
MS266	COVER, BOTTOM				1	SEE: A393	ND
MS268	CROSS BRACE				1		
MS269	BRACKET, REAR COND.	LD415			1		
MS270	BRACKET, FRONT COND.	LD417			1		
MS271	SUB CHASSIS	LD416			1		
MS274	BRACKET, TERM. BD.				2		
MS275	BRACKET, TUBE	LD434			1		
MS276	COVER, SIDES				2		
MS277	PANEL, FRONT	LD143			1		
MS278	CHASSIS, CENTER	LD411			1	SEE: A406	ND
MS279	CHASSIS, LEFT	LD414			1		
MS280	CHASSIS, RIGHT	LD412			1		
MS281	CHASSIS, FRONT				1		
MS282	CHASSIS, REAR	LD413			1		
MS283	BRACKET, POT	LD432			1		
MS284	BRACKET, MTG.	LD433			1		
PX146	TERM. BD. #8				1	SEE: A394	ND
PX147	TERM. BD. #6				2	SEE: A395	ND
PX148	TERM. BD. #3 & #4				2	SEE: A396	ND
PX151	TERM. BD. #2				1	SEE: A400	ND
PX152	TERM. BD. #1				1	SEE: A401	ND
PX153	TERM. BD. #5				2	SEE: A402	ND
PX154	TERM. BD. #7				1	SEE: A403	ND
PX155	TERM. BD. #9				1	SEE: A404	ND
IM108	INSULATION, BOTTOM COVER				1		
BX102-1	CAN				1		
CA103-72	CABLE, POWER				1		
CI105	CORE				1	p/o A359	
CU100-3	CLAMP, TUBE				1		
CU100-5	CLAMP, TUBE				1		
TS110-2	BEZEL, CRT				1		

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	QUANTITY REQ.	L P N	PART NO.	REV	DWG SIZE	DESCRIPTION	REF	SYMBOLS	ISSUE				SHEET 4 OF 7 SHEETS			
									A	F						
	1		TE-102-2			Terminal, Turret		p/o Term. Bd. Assemblies								
	2		CU-102-5			Clamp, Cable										
	7		EY-100-3			Eyelet, Flat Flange										
	6		EY-102-5			Grommet, Elastic										
	1		MP-100-4	D		Knob										
	1		NP-103-3			Nameplate, Commercial										
	4		TE-104-2			Lug, Solder										
	173		TE-105-4			Lug, Terminal										
	20		TE-108-1			Standoff										
	12		TE-109-3			Lug, Terminal										
	1		TE-110-1			Shield, C.B. Tube										
	4		TS-102-U01			Shield, Tube										
	7		TS-102-U02			Shield, Tube										
	5		TS-102-U03			Shield, Tube										
	3		TS-103-U02			Shield, Tube										
	2		SC-106-1			Bolt, Spade										
	4		SFB0256SN3			Screw, Thread Cutting										
	6		SCBP0440BN4			Screw, Machine										
	2		SCBP0440BN6			Screw, Machine										
	4		SCBP0440BN8			Screw, Machine										
	4		SCFP0440BN4			Screw, Machine										
	40		SCRPO440BN4			Screw, Machine										
	38		SCBP0632EN4			Screw, Machine										
	26		SCEP0632BN5			Screw, Machine										
	34		SCBP0632EN6			Screw, Machine										
	6		SCFP0632EN5			Screw, Machine										
	2		SCFP0632EN6			Screw, Machine										
	10		SCBP0832EN6			Screw, Machine										
	12		SCFP0832EN8			Screw, Machine										
	16		NT-101-3			Nut, Strap										
	3		NT-101-5			Nut, Strap										
	16		NT-108			Nut, Lock										
	16		NTH0440EN6			Nut, Hex										
	20		NTH0440EN8			Nut, Hex										
	16		NTH0632EN8			Nut, Hex										
	10		NTH0632EN10			Nut, Hex										
	12		NTH0832EN11			Nut, Hex										
	16		SM-111-D206			Nut, Clinch										
	36		LWS04MRN			Lockwasher, Split										
	1		EY-102-4			Grommet, Elastic										

**MATERIAL LIST /
NUMERICAL PARTS LIST**

REV. F

MODEL: CFA-1L

SHEET 5 OF 7

PART NO.	DESCRIPTION	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
LW150LRN	LOCKWASHER, INT.				5		
LWS06MRN	LOCKWASHER, SPLIT				26		
LWS08MRN	LOCKWASHER, SPLIT				12		
PX104-X-.034	INSULATION, SLEEVING				10'		
PX104-X-.022	INSULATION, SLEEVING				6'		
MWC20(7)U1	CABLE, INSULATED				4'1"		
MWC20(7)U2	CABLE, INSULATED				2'5"		
MWC20(7)U4	CABLE, INSULATED				4'3"		
MWC20(7)U6	CABLE, INSULATED				1'4"		
MWC20(7)U8	CABLE, INSULATED				3'6"		
MWC20(7)U9	CABLE, INSULATED				4'1"		
MWC20(7)U-PINK	CABLE, INSULATED				1'3"		
MWC22(7)U0	CABLE, INSULATED				4'5"		
MWC22(7)U1	CABLE, INSULATED				10'5"		
MWC22(7)U2	CABLE, INSULATED				3'1"		
MWC22(7)U3	CABLE, INSULATED				2'11"		
MWC22(7)U4	CABLE, INSULATED				13'3"		
MWC22(7)U5	CABLE, INSULATED				9'1"		
MWC22(7)U6	CABLE, INSULATED				13'8"		
MWC22(7)U7	CABLE, INSULATED				3'6"		
MWC22(7)U8	CABLE, INSULATED				4'8"		
MWC22(7)U-TAN	CABLE, INSULATED				2'8"		
MWC22(7)U-PINK	CABLE, INSULATED				4'2"		
MWC22(7)U94	CABLE, INSULATED				5'2"		
MWC22(7)U95	CABLE, INSULATED				2'3"		
MWC22(7)U96	CABLE, INSULATED				6'7"		
MWC22(7)B7	CABLE, INSULATED				7"		
MWC22(7)B91	CABLE, INSULATED				9"		
MWC22(7)B92	CABLE, INSULATED				5'11"		
MWC22(7)B93	CABLE, INSULATED				13'8"		
MWC22(7)B94	CABLE, INSULATED				8'5"		
MWC22(7)B97	CABLE, INSULATED				11"		
MWC22(7)B2	CABLE, INSULATED				4'7"		
WI100-1	CABLE, SHIELDED				10'		
WI101-2	CABLE, SHIELDED				11'1"		
WI102-11	WIRE, #34 SCC				20'		
WL100-6	WIRE, BUSS BAR				20'		
WL100-7	WIRE, BUSS BAR				20'		
WL100-8	WIRE, BUSS BAR				20'		

**MATERIAL LIST /
NUMERICAL PARTS LIST**

REV. F

MODEL: CFA-1L

SHEET 6 OF 7

PART NO.	DESCRIPTION SUPPORTING DRAWINGS	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
A359	TRANSFORMER, AUDIO				1		CK150
A393	COVER, BOTTOM				1		
A394	TERM.BD.#8 ASSEMBLY	LD142-2			1		
A395	TERM.BD.#6	LD142-4			2		
A396-1	TERM.BD.#3 ASSEMBLY	LD142-6			1		
A396-2	TERM.BD.#4 ASSEMBLY	LD142-7			1		
A399	CAN, OSC. COVER				1		
A400	TERM.BD.#2 ASSEMBLY				1		CK150
A401	TERM.BD.#1				1		CK150
A402	TERM.BD.#5	LD142-5			2		
A403	TERM.BD.#7	LD142-3			1		
A404	TERM.BD.#9	LD142-1			1		
A410	OSC.SUB.ASSEMBLY				1		
CA157	CABLE, LEFT CHASSIS				1		
CA158	CABLE, POWER				1		
CA159	CABLE, CENTER CHASSIS				1		
CK288	SCHEMATIC DIAGRAM				1		
CK150	WIRING DIAGRAM, OSC. ASSY				1		p/o A410
CK151	WIRING DIAGRAM, V21				1		
CK152	WIRING DIAGRAM, TERM.BD.#5 & #6				1		
CK153	WIRING DIAGRAM, TERM.BD.#7				1		
CK154	WIRING DIAGRAM, TERM.BD.#8				1		
CK155	WIRING DIAGRAM, TERM.BD.#9				1		
CK156	COMPONENT LAYOUT, R.& L CHASSIS				1		
CK157	WIRING DIAGRAM, REAR PANEL				1		
CK158	COMPONENT LAYOUT, CENTER CHASSIS				1		
CK159	COMPONENT LAYOUT, REAR CHASSIS				1		
CK216	FRONT PANEL WIRING DIAGRAM				1		
CK217	BLOCK DIAGRAM				1		

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REV. F

MODEL: CFA-1L

SHEET 7 OF 7

PART NO.	DESCRIPTION	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
LD142-1	MKG, TERM. BD NO. 9	A404			1		
LD142-2	MKG, TERM. BD NO. 8	A394			1		
LD142-3	MKG, TERM. BD NO. 7	A403			1		
LD142-4	MKG, TERM. BD NO. 6	A395			1		
LD142-5	MKG, TERM. BD NO. 5	A402			1		
LD142-6	MKG, TERM. BD NO. 3	A396-1			1		
LD142-7	MKG, TERM. BD NO. 4	A396-2			1		
LD143	ENGRAVING, FRONT PANEL				1		MS277
LD411	MKG, MS278				1		
LD412	MKG, MS280				1		
LD413	MKG, MS282				1		
LD414	MKG, MS279				1		
LD415	MKG, MS269				1		
LD416	MKG, MS271				1		
LD417	MKG, MS270				1		
LD432	MKG, MS283				1		
LD433	MKG, MS284				1		
LD434	MKG, MS275				1		
S891	SPECIFICATIONS CFA-1 TO CFA-1L CONVERSION						

REVISION SHEET

THE TECHNICAL MATERIEL CORP.
MAMARONECK

MIL-A-405

MODEL CFA-1

PROJECT NO _____

DATE	REV.	PAGE	EMN #	DESCRIPTION	CHK.	APP.
11-21-59	N	all	all	Completely Re-Typed		
12/1	P	4	1606	R88 WAS R206FS15K (PER		
4/20/60	R	13,2	2172	Added LD-411 (MS-278) to Supporting Drawings; added LD-411 ref to MS-278		
4/26/60	S	5	2203	Added TM -105-9AL (Loose Item)		
8-16-60	T	1	2821	Changed CA-103 to CA-103-72		
8-16-60	T	13	2821	Added LD-412, LD-413, LD-414		
8-25-60	U	9	2874	Deleted TS-110-1 (Repetition)		
9-8-60	V	2	2921	Deleted all revision letters		
9-8-60	V	2	2921	Added all new "References"		
9-8-60	V	2	2921	On MS-269, delete (Use A-411) & (No. Dwg.)		
9-8-60	V	2	2921	On MS-270, delete (Use A-412) & (No. Dwg.)		
9-8-60	V	2	2921	On MS-274, chg. quan. from 1 to 2, delete Use for lettering also.		
9-8-60	V	2	2921	On MS-278, delete (Use A-406) & (No. Dwg.)		
9-8-60	V	2	2921	On MS-279, delete (Use A-407) & (No. Dwg.)		
9-8-60	V	2	2921	On MS-281, chg. dwg. size from 8 to 4, delete (Use A-408) & (No. Dwg.)		
9-8-60	V	3	2921	On MS-282, delete (Use A-409) & (No. Dwg.), chg. size from 8 to 4		
9-8-60	V	3	2921	Added all new "References"		
9-8-60	V	7	2921	Added all new "References"		
9-8-60	V	7	2921	Added NT-129-632-4		
9-8-60	V	8	2921	Deleted SM-111-D-206		
9-8-60	V	8	2921	On TE-108-1, add ref. (4) MS-279, (16) MS-278		
9-8-60	V	12	2921	Deleted all "Revision Letters"		
9-8-60	V	12	2921	Added all new "References"		
9-8-60	V	12	2921	Deleted A-406, 408, 409, 411, 412		
9-8-60	V	13	2921	On LD-143, add ref. MS-277		
9-8-60	V	13	2921	Added LD-415, 432, 433, 417, 434, 416, & LD-		
10-	W	12	3339	Added A-396-2		
10-28-60	W	12	3339	On A-394, ref. from LD-142, to LD-142-2		
10-28-60	W	12	3339	On A-395, ref. from LD-142, to LD-142-4		
10-28-60	W	12	3339	Chg. A-396 to A-396-1, ref. from LD-142 to LD-142-6		
10-28-60	W	12	3339	On A-402, ref. from LD-142 to LD-142-5		
10-28-60	W	12	3339	On A-403, ref. from LD-142 to LD-142-3		
10-28-60	W	12	3339	On A-404, ref. from LD-142 to LD-142-1		
10-28-60	W	13	3339	Deleted LD-142		

