

FENDER M-80 HM SERIES

M-80 COMBO -- PART NUMBER 22-5900
 M-80 HEAD --- PART NUMBER 22-5907
 HM-412A ENCLOSURE - PART NUMBER 21-1618
 HM-412B ENCLOSURE - PART NUMBER 21-1619

PARTS LIST PAGE 1 OF 4

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
6	027683	BARREL TERMINAL 552699-2	BT1-6
1	004026	CAPCD 1KV 22pF 10%	C29
2	017518	CAPCD 1KV 560pF 10%	C10,15
2	025777	CAPCD 1KV 470pF 10%	C7,34
1	025951	CAPCD 1KV 750pF 10%	C32
2	025979	CAPCD 1KV 50pF 10%	C25,33
2	069724	CAPCD 1KV 100pF 10%	C18,22
2	025787	CAPRE 16V 100uF 20%	C42,44
4	028459	CAPRE 50V 2.2uF 20%	C19,35,36,38
1	028460	CAPRE 50V 4.7uF 20%	C37
6	028465	CAPRE 25V 22uF 20%	C3,20,23,30,41,43
5	028471	CAPRE 50V 47uF 20%	C31,39,40,50,51
2	031756	CAPRE 50V 4700uF	C48,49
1	027256	CAPRF 100V .0015uF 10%	C14
1	027257	CAPRF 100V .0022uF 10%	C24
2	027259	CAPRF 100V .0033uF 10%	C13,21
2	027261	CAPRF 100V .0047uF 10%	C1,2
1	027265	CAPRF 100V .015uF 10%	C27
1	027267	CAPRF 100V .022uF 10%	C12
4	027269	CAPRF 63V .033uF 10%	C4,5,6,28
1	027272	CAPRF 63V .047uF 10%	C11
2	027278	CAPRF 100V .1uF 10%	C45,46
2	027281	CAPRF 63V .22uF 10%	C17,26
4	027286	CAPRF 63V .47uF 10%	C8,9,16,47
1	027937	CTRL,2K (MID)	R31
2	027940	CTRL,50K (TREBLE,BASS)	R29,30
2	027941	CTRL,50K (CONTOUR,REVERB)	R23,45
2	027943	CTRL,50K (VOL,OVRDRV VOL)	R37,24
2	027947	CTRL,100K (GAIN,PRESENCE)	R16,25
13	006260	DIODE, SIG 75PRV 1N4448	CR1-6,11-13,15,17,18 +CR27
4	028776	DIODE, BIAS REF	CR7-10
4	029045	DIODE, 400PRV, 6AMP, 6A4	CR21-24
2	064089	DIODE, 200PRV, 1A, 1N4003	CR19,20
12	025802	FASTON TAB, .250	CP1-8,10-13
2	026000	FASTON TAB, .187	CP9,14
2	020801	FUSE,8A,250v,5x20mm	F2,3
1	039982	FUSE,4A,250V	F1
1	020794	FUSE,2A,250V,5x20mm	F1 (220/240V MODELS)
2	020775	FUSE,CLIPS PCB 5MM	XF2,3
1	025996	FUSE,CLIPS PCB DUAL	XF1
1	028120	IC CMOS 4053	U5

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PARTS LIST PAGE 2 OF 4

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
3	025929	JACK, PHONE, MONO	J3-5
3	025931	JACK, PHONE, STEREO	J1,2,6
1	028039	LED RED, 5x5mm	LD4
1	028040	LED RED, 2x2mm	LD3
2	9902202281	LED RED, T-1 lens	LD1,2
4	016795	OP-AMP DUAL JFET TLO72CP	U1-4
1	028047	OP-AMP, HI VOLT MC1436P1	U6
1	024947	RESCF 1/4W 47ohm 5%	R41
2	024957	RESCF 1/4W 270ohm 5%	R79,81
8	024965	RESCF 1/4W 1K 5%	R11,20,49,74,76-78,80
1	024971	RESCF 1/4W 2.2K 5%	R36
1	024972	RESCF 1/4W 2.7K 5%	R53
3	024973	RESCF 1/4W 3.3K 5%	R15,17,44
2	024975	RESCF 1/4W 3.9K 5%	R65,89
5	024977	RESCF 1/4W 4.7K 5%	R40,55,56,73,75
2	024979	RESCF 1/4W 6.8K 5%	R10,51
1	024980	RESCF 1/4W 8.2K 5%	R14
1	024981	RESCF 1/4W 10K 5%	R42
2	024985	RESCF 1/4W 15K 5%	R8,52
4	024987	RESCF 1/4W 22K 5%	R12,13,28,32
2	024988	RESCF 1/4W 27K 5%	R66,67
2	024989	RESCF 1/4W 33K 5%	R4,5
7	024993	RESCF 1/4W 47K 5%	R21,22,26,27,61-63
6	024997	RESCF 1/4W 100K 5%	R2,3,50,58-60
3	025058	RESCF 1/4W 180K 5%	R33,38,39
3	025059	RESCF 1/4W 220K 5%	R19,34,47
1	025060	RESCF 1/4W 270K 5%	R1
3	025065	RESCF 1/4W 470K 5%	R18,43,48
1	025067	RESCF 1/4W 680K 5%	R64
1	025074	RESCF 1/4W 1.8M 5%	R46
1	025942	RESCF 1/4W 7.5K 5%	R35
1	026507	RESCF 1/4W 62K 5%	R90
2	026549	RESCF 1/2W 1.5K 5%	R57,96
2	028018	RESCF 1/4W 510K 5%	R6,7
2	028021	RESCF 2W 470ohm 5%	R92,93
1	028022	RESCF 2W 120ohm 5%	R91
2	028029	RESCF 1W 1.5K 5%	R69,71
2	028030	RESCF 1W 680ohm 5%	R68,70
1	028034	RESCF 1/4W 5.1K 5%	R9
1	028045	RESCF 1W 220ohm 5%	R72
1	029005	RESCF 1/4W 2K 5%	R54
2	029006	RESCF 1/4W 20K 5%	R82,83
4	028028	RESWW 5W .47ohm 10%	R84-87
2	028037	RESWW 5W 330ohm 10%	R94,95
1	031703	RESWW 10W .22ohm 10%	R88
1	028091	SW 2P2T ALT/ACTION	S1
1	028503	THERMISTOR, NTC	TH1

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PARTS LIST PAGE 3 OF 4

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
7	020888	WIRE JUMPERS	W1-7
1	016739	XISTOR NPN 2N4401	Q1
1	016742	XISTOR PNP 2N4403	Q2
2	028114	XISTOR NPN PWRDARL TIP142	Q3,4
2	028115	XISTOR PNP PWRDARL TIP147	Q5,6
2	027327	ZENER 6.2V .5W 5% 1N5234B	CR14,16
2	028119	ZENER 16V 5W 10% 1N5353A	CR25,26
1	025936	STANDOFF, PLASTIC	ST1
1	028101	BUTTON, RED, FOR S1	PS1,2
2	9904701440	LED SPACERS, .7"	LS1,2
1	031725	HEATSINK PLATE	KP1
2	028568	RIVETS, 1/8" x .187"	RV1,2
1	031910	THERMAL BREAKER	TS1
2	026314	SCREWS, 6 x 3/16" PH	SC1,2
4	028566	MICA INSULATORS TO-218	NS1-4
4	028169	WASHERS, NYL SHOULDER	SW1-4
4	027638	SCREWS, 4-40 x 3/8" HWH ZI	SC3-6
1	031699	P.C. BD. ASS'Y (STUFFED)	PC1
1	032070	CHASSIS ASS'Y (HEAD)	CH1
1	032062	CHASSIS ASS'Y (COMBO)	CH1
1	031521	FRONT PLATE (HEAD)	FP1
1	031487	FRONT PLATE (COMBO)	FP1
1	031758	REAR LABEL 120V (HEAD)	RL1
1	032759	REAR LABEL 120V (COMBO)	RL1
1	031982	REAR LABEL 220V (HEAD)	RL1
1	031978	REAR LABEL 220V (COMBO)	RL1
1	027668	POWER TRANSFORMER 120V	T1
1	028590	POWER TRANSFORMER (EXPORT)	T1
1	031726	HEATSINK BAR	BK1
1	025935	POWER SWITCH	S2
9	026089	RED POINTER KNOBS (HEAD)	KN1-9
9	025952	RED POINTER KNOBS (COMBO)	KN1-9
1	028577	REVERB CABLE	RC1
1	028560	XFMR END BELL	EB1
4	028591	XFMR ACORN DRESS NUT	NT1-4
1	026527	POWER CABLE ASS'Y (120V)	CP1
1	026528	POWER CABLE ASS'Y (220V)	CP1
1	032069	WIRE SET	WS1
1	011028	PHONE JACK W/NC SWITCH	J7
1	021956	PHONE JACK	J8
1	031491	CABINET ASS'Y (HEAD)	CB1
1	031488	CABINET ASS'Y (COMBO)	CB1
1	023466	HANDLE	HD1
2	031845	HANDLE CAPS	HC1,2
1	032524	HANDLE INSERT	HI1
8	031796	PLASTIC CORNERS	CP1-8
32	016627	CORNER SCREWS	SC7-38

FENDER M-80 HM SERIES

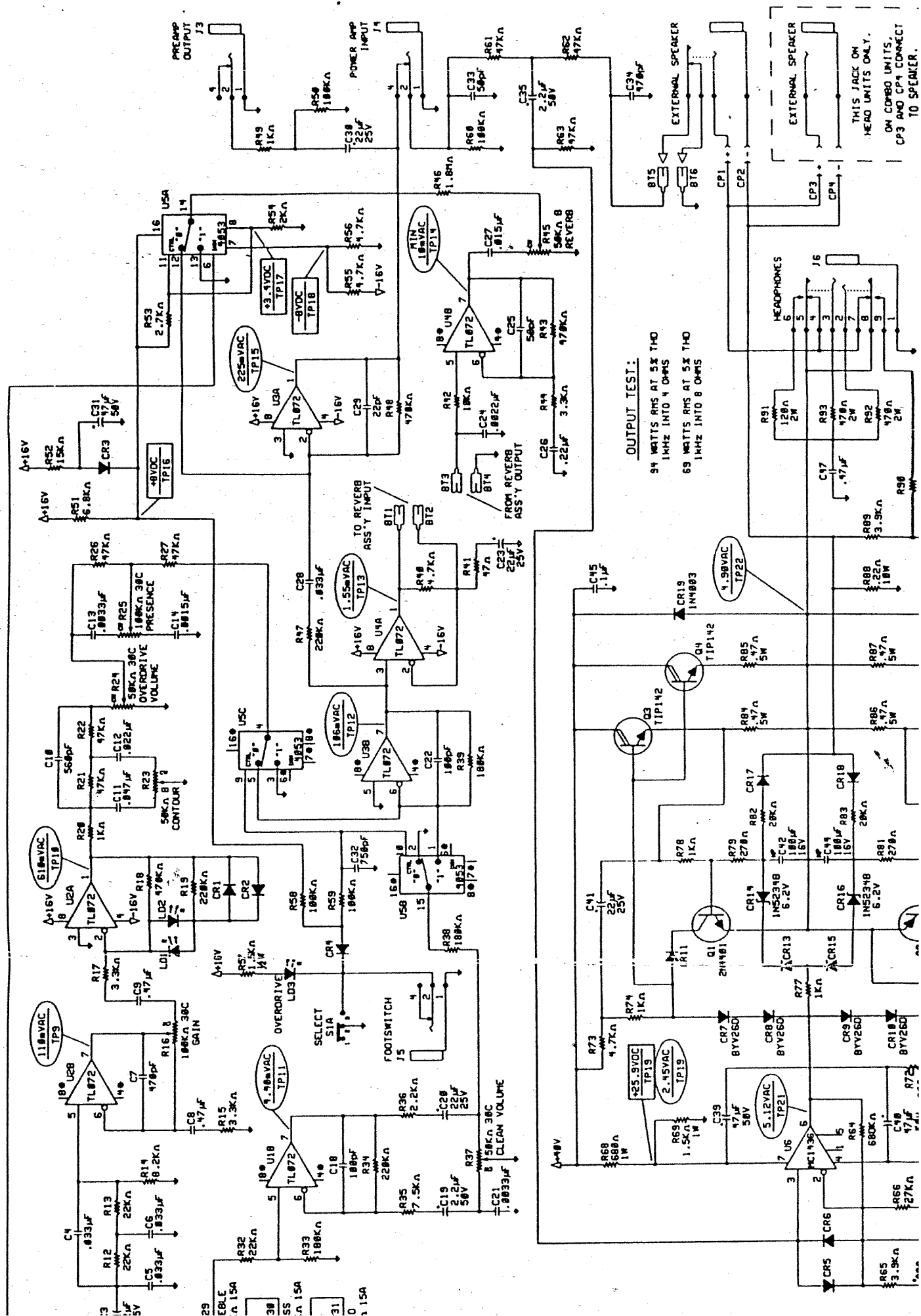
PARTS LIST PAGE 4 OF 4

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
4	017393	HANDLE SCREWS	SC39-42
1	031525	CARPET ROCK (PER SQ YD)	RC1
1	032099	GRILLE BOARD (HEAD)	GB1
1	032710	GRILLE BAFFLE (COMBO)	GF1
1	028890	FOOTSWITCH ASS'Y W/CABLE	FT1
1	028055	REVERB PAN (COMBO)	RP1
1	031669	REVERB PAN (HEAD)	RP1
1	025923	SPEAKER 12" 8 OHM	SP1
1	032077	SCHEMATIC	XX1
1	032079	OWNERS MANUAL	OM1

HM-412A ENCLOSURE - PART NUMBER 21-1618
 HM-412B ENCLOSURE - PART NUMBER 21-1619

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	031734	CABINET ASS'Y (412-A)	CY1
1	031735	CABINET ASS'Y (412-B)	CY1
1	026498	INPUT ASS'Y	IP1
4	025923	SPEAKERS 12" 8 OHMS	SK1-4
16	026577	SPEAKER MOUNTING SCREWS	SC43-58
4	9904100240	INPUT MONTING SCREWS	SC59-62
1	031738	GRILLE FRAME ASS'Y (412-A)	GF1
1	031739	GRILLE FRAME ASS'Y (412-B)	GF1
2	028559	HANDLE SPRING LOADED	HL1,2
28	026576	HANDLE SCREWS	SC62-89
8	031796	PLASTIC CORNERS	CP9-16
32	016627	CORNER SCREWS	SC63-94
4	023505	CASTER PLATE	OR1-4
16	027199	CASTER PLATE SCREWS	SC95-110
4	023513	CASTERS	WH1-4
1	032728	UPPER BAFFLE (412-A)	UB1
1	032729	LOWER BAFFLE (412-A)	LB1
1	032741	BAFFLE (412-B)	BF1
1	031525	CARPET ROCK (PER SQ YD)	RC1
1	031738	GRILLE FRAME ASS'Y (412-A)	GF1
1	031739	GRILLE FRAME ASS'Y (412-B)	GF1

REVISIONS		
ZONE	REV. DESCRIPTION	DATE
A	RELEASED PR #100	1-27-69
		BKSI

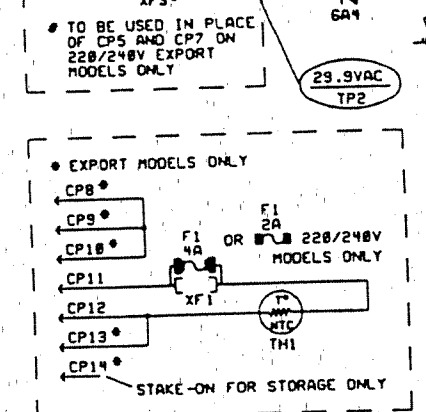
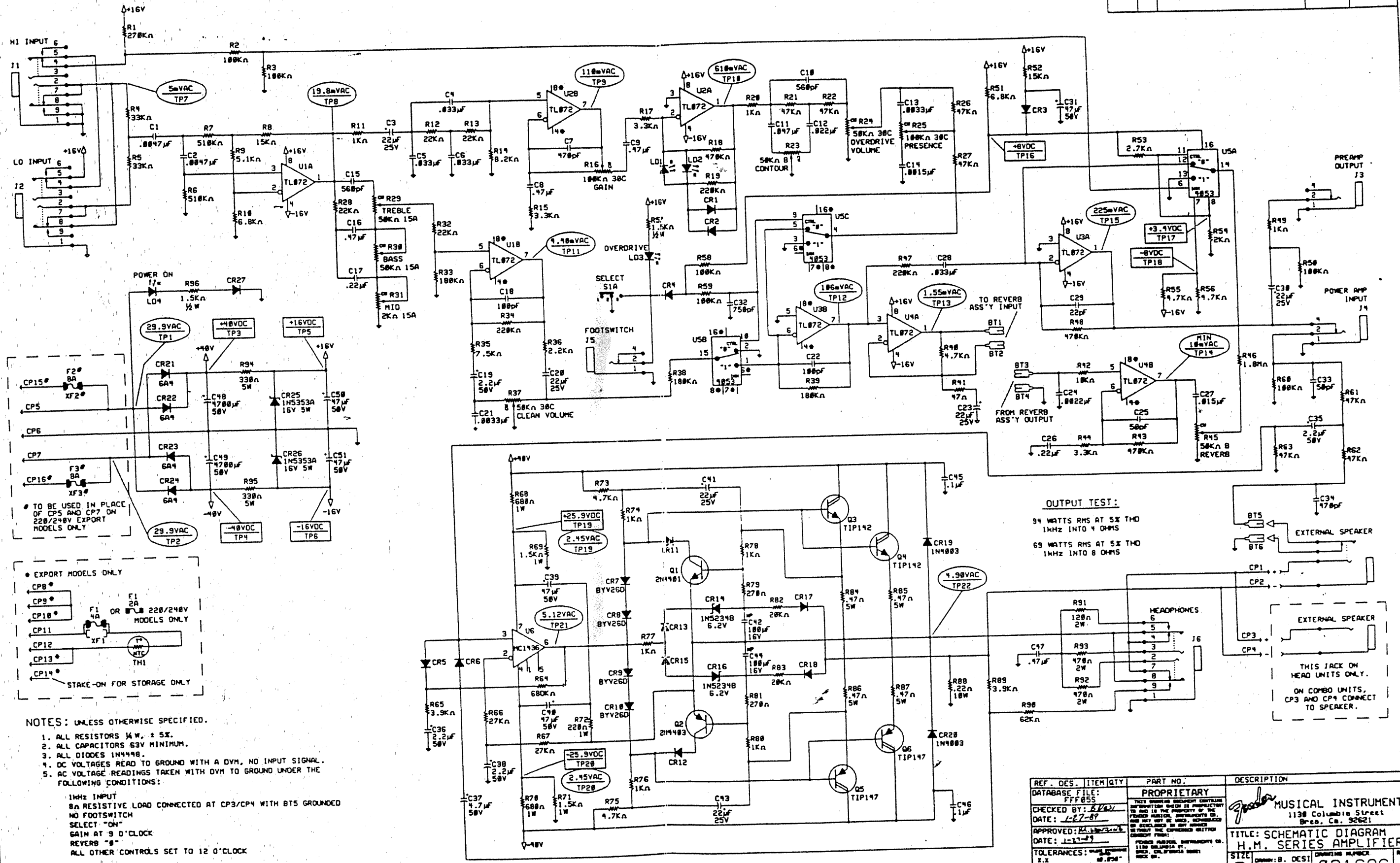


OUTPUT TEST:
 94 WATTS RMS AT 5K THD
 1KHZ INTO 4 OHMS
 69 WATTS RMS AT 5K THD
 1KHZ INTO 8 OHMS

THIS JACK ON
 HEAD UNITS ONLY.
 ON COMBO UNITS,
 CP3 AND CP4 CONNECT
 TO SPEAKER.

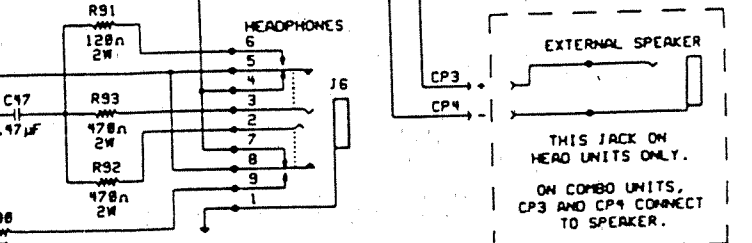
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 99 1.5A
 100 1.5A

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED PR #100	1-27-89	B.D.S.I.



- NOTES: UNLESS OTHERWISE SPECIFIED.
1. ALL RESISTORS 1/4 W, ± 5%.
 2. ALL CAPACITORS 63V MINIMUM.
 3. ALL DIODES 1N4448.
 4. DC VOLTAGES READ TO GROUND WITH A DVM, NO INPUT SIGNAL.
 5. AC VOLTAGE READINGS TAKEN WITH DVM TO GROUND UNDER THE FOLLOWING CONDITIONS:
 1KHZ INPUT
 8Ω RESISTIVE LOAD CONNECTED AT CP3/CP4 WITH BT5 GROUNDED
 NO FOOTSWITCH
 SELECT "ON"
 GAIN AT 9 O'CLOCK
 REVERB "0"
 ALL OTHER CONTROLS SET TO 12 O'CLOCK

OUTPUT TEST:
 94 WATTS RMS AT 5% THD
 1KHZ INTO 4 ΩMS
 69 WATTS RMS AT 5% THD
 1KHZ INTO 8 ΩMS



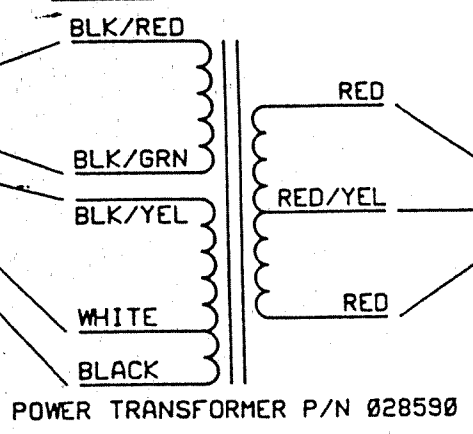
REF. DES.	ITEM QTY	PART NO.	DESCRIPTION
DATABASE FILE: FFF055		PROPRIETARY	
CHECKED BY: [Signature]		THIS SCHEMATIC DIAGRAM IS THE PROPERTY OF FENDER MUSICAL INSTRUMENTS CO. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF FENDER MUSICAL INSTRUMENTS CO.	
DATE: 1-27-89		FENDER MUSICAL INSTRUMENTS CO. 1130 COLUMBIA STREET BREA, CA 92621	
APPROVED: [Signature]		TITLE: SCHEMATIC DIAGRAM	
DATE: 1-27-89		H.M. SERIES AMPLIFIERS	
TOLERANCES: .01% .05% .1% .2% .5% .1% .2% .5% .1% .2% .5% .1% .2% .5%		SIZE: 8.5" x 11" DRAWN: B. DESI	
NEXT HIGHER ASSEMBLY: H-88 COMBO, H-89 HEAD AMPLIFIERS		CHECKED: MENTLING	
SCALE:		DATE: 12-2-88 SHEET 1 OF 1	

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED PR#97	1-27-89	

100V	120V*	220V	240V
CP12	CP12	CP12	CP12
CP10	CP10	CP10	CP10
CP13	CP13	CP8	CP8
SB6	CP14	SB6	CP14
CP9	CP9	CP14	SB6

CP11 TO TS1 THERMOSTAT
 * 120V-JUMPER CP8 TO SB6

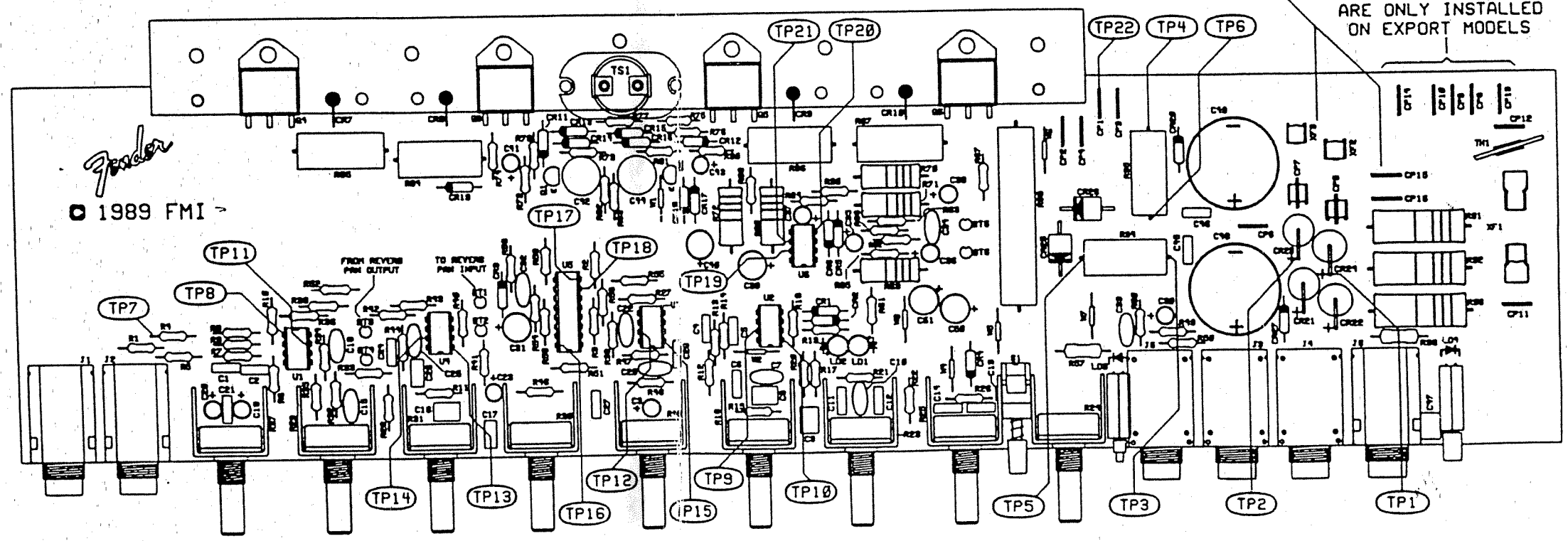
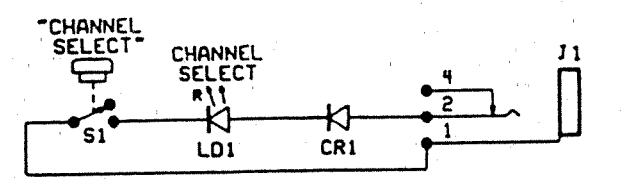
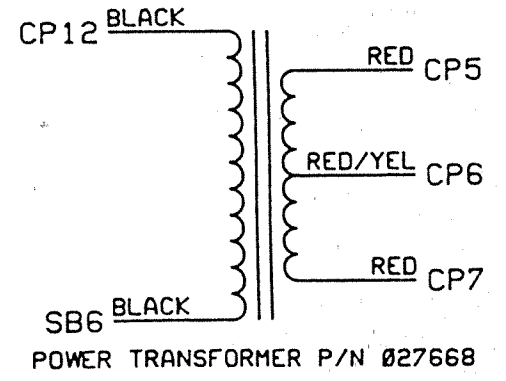
EXPORT MODELS



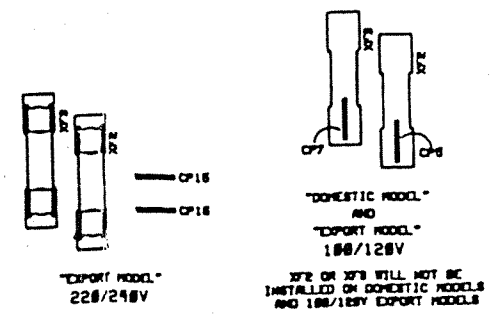
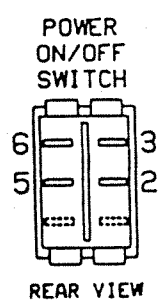
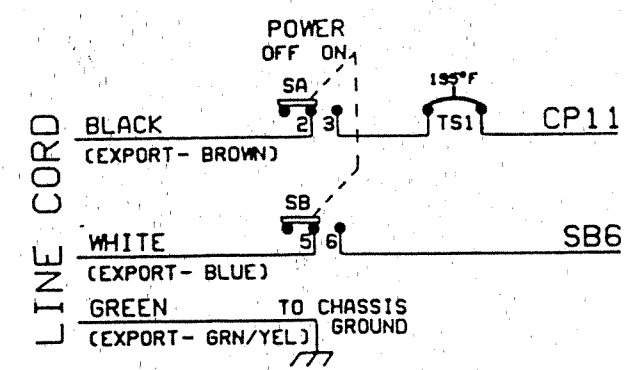
100V	120V	220V	240V
CP5	CP5	CP15	CP15
CP6	CP6	CP6	CP6
CP7	CP7	CP16	CP16

SEE DETAIL D

DOMESTIC MODEL



THESE FASTON TABS ARE ONLY INSTALLED ON EXPORT MODELS



DOMESTIC MODEL AND *EXPORT MODEL* 100/120V
 EXPORT MODEL 220/240V
 IF 2 OR 3'S WILL NOT BE INSTALLED ON DOMESTIC MODELS AND 100/120V EXPORT MODELS

FILM/DWG: SERVICE DIAGRAM
DATABASE: FFF05SER DATE: 1-25-89
LAYERS PLOTTED: 1 2 3 4 10 15 19

DATABASE FILE: FFF05SER CHECKED BY: _____ DATE: _____ APPROVED: _____ DATE: _____ TOLERANCES: UNLESS OTHERWISE SPECIFIED X.X .050" X.XX .010" X.XXX .005" ANGLES .500°	PROPRIETARY THIS DRAWING DOCUMENT CONTAINS INFORMATION WHICH IS PROPRIETARY TO AND IS THE PROPERTY OF THE FENDER MUSICAL INSTRUMENTS CO. AND MAY NOT BE USED, REPRODUCED OR DISCLOSED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT FROM: FENDER MUSICAL INSTRUMENTS CO. 1130 COLUMBIA ST. BREA, CALIFORNIA 92621	Fender MUSICAL INSTRUMENTS 1130 Columbia Street Brea, Ca. 92621 TITLE: SERVICE DIAGRAM FOR H.M. SERIES AMPLIFIERS SIZE: B DRAWN: B. DESI DRAWING NUMBER: 031700 REV. A ENGR: WENTLING SCALE: _____ DATE: 1-24-89 SHEET 1 OF 1
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