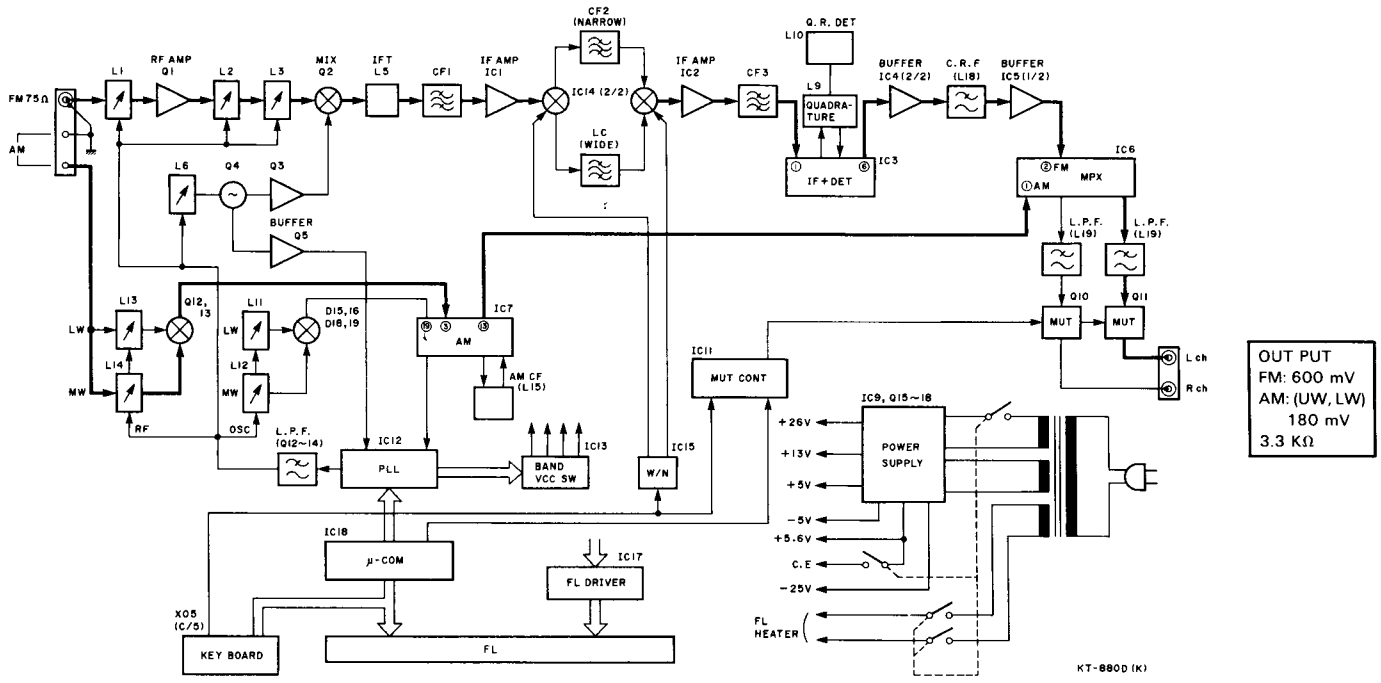
CONTENTS

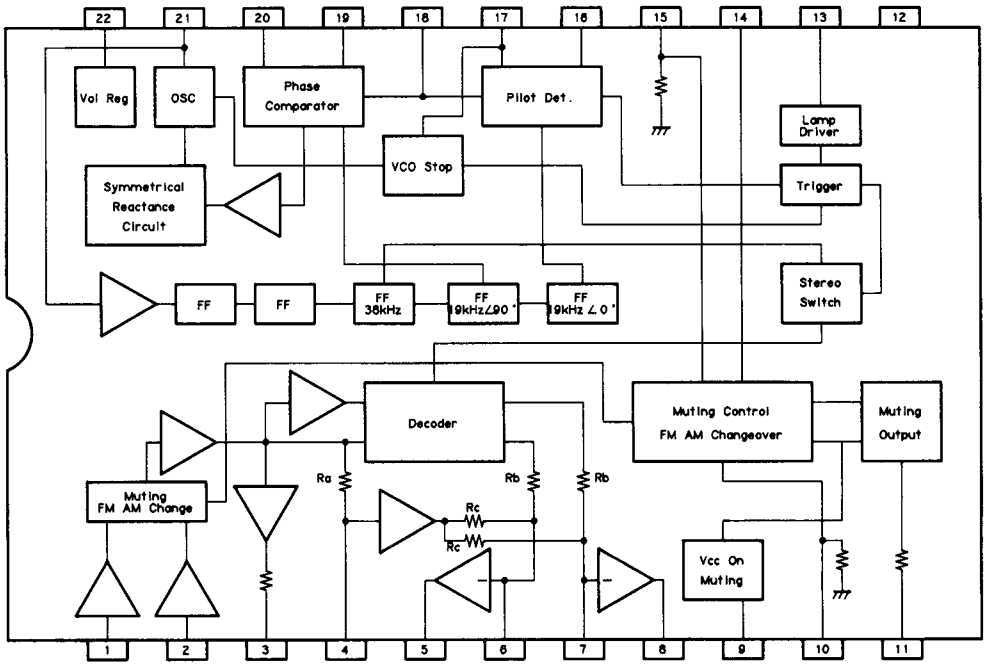
BLOCK DIAGRAM



CIRCUIT DESCRIPTION

IC6: LA3401
FM MPX

Block diagram



Terminal description

Pin no.	Voltage	Pin name	Remarks
1	3.3	AM input	Input resistance: 20kohms
2	3.3	FM input	Input resistance: 20kohms
3	3.3	Composite amp output	Output resistance: 1kohm
4	3.3	Separation adjustment	
5	3.3	Post amp output	L output
6	3.3	Post amp input	Negative (−) input
7	3.3	Post amp input	Negative (−) input
8	3.3	Post amp output	R output
9	3.3	Vcc ON muting	
10	—	AM/FM select	Input resistance: 80kohms
11	—	(Muting output) Not used	
12	0	GND	
13	—	Stereo indicator	Open collector
14	0 or 4.9	Select mute	Grounded by the cap acitor having 0.01 μF or more capacitance
15	—	(Muting) Not used	Input resistance: 80 kohms
16	2.7	Pilot syncdetect filter	
17	2.7	Pilot sync detect filter, VCO STOP	
18	2.7	PLL input	
19	2.7	Loop filter	
20	2.7	Loop filter	
21	—	OSC	
22	VCC	Power supply	

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION	Unless otherwise specified, the individual switches should be set as following: SELECTOR: FM TUNING MODE: AUTO IF BAND: WIDE						
1	BAND EDGE (1)	–	Connect a DC voltmeter between TP5 and TP6(GND).	87.5MHz	L6	3.0±0.1V	(a)
2	BAND EDGE (2)	–	Connect a DC voltmeter between TP5 and TP6(GND).	108.0MHz	TC1	23.0±0.1V	(a)
	Repeat alignments 1 and 2 several times.						
3	DISCRIMINATOR (1)	(A) 98.0MHz 0 dev 100dBμ(ANT input)	Connect a DC voltmeter between TP9 and TP10.	98.0MHz	L9	0±10mV	(b)
4	DISCRIMINATOR (2)	(A) 98.0MHz 1kHz,±75kHz dev 100dBμ(ANT input)	(B)	98.0MHz	L10	Minimumu distortion.	
	Repeat alignments 3 and 4 several times.						
5	RF ALIGNMENT	(A) 98.0MHz 1kHz,±75kHz dev	(B)	98.0MHz	L1,2,3	Maximum amplitude and symmetry of the oscilloscope display.	
6	STOP LEVEL	(A) 98.0MHz 1kHz,0 dev 8dBμ(ANT input)	–	98.0MHz	VR1	To the position so that the lowest level of the S meter lights.	
7	SEPARATION (1) R to L	(C) 98.0MHz R,1kHz,±68.25kHz dev Pilot:±6.75kHz dev 80dBμ(ANT input)	(B)	98.0MHz	VR3	Minimum crosstalk.	
8	SEPARATION (2) L to R	(C) 98.0MHz L,1kHz,±68.25kHz dev Pilot:±6.75kHz dev 80dBμ(ANT input)	(B)	98.0MHz	VR3	Minimum crosstalk.	
	Repeat steps 7 and 8 so that the channel separation from right to left channel and vice versa is the same.						
AM-MW SECTION	Keep the AM loop antenna installed. SELECTOR: AM(KT-880D) or MW(KT-880DL) TUNING MODE: AUTO						
(1)	BAND EDGE (1)	–	Connect a DC voltmeter between TP5 and TP6(GND).	530kHz (531kHz)	L12	1.5±0.1V	(a)
(2)	BAND EDGE (2)	–	Connect a DC voltmeter between TP5 and TP6(GND).	1610kHz (1602kHz)	TC3	8.0±0.1V	(a)
	Repeat alignments (1) and (2) several times.						
(3)	RF ALIGNMENT (1)	(D) 630kHz 1kHz,30% mod	(B)	630kHz	L14	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	RF ALIGNMENT (2)	(D) 1440kHz 1kHz,30% mod	(B)	1440kHz	TC5	Maximum amplitude and symmetry of the oscilloscope display.	
	Repeat alignments (3) and (4) several times.						
AM-LW SECTION(KT-880DL only)	Keep the AM loop antenna installed. SELECTOR: LW TUNING MODE: AUTO						
(5)	BAND EDGE (1)	–	Connect a DC voltmeter between TP5 and TP6(GND).	153kHz	L11	1.5±0.1V	(a)
(6)	BAND EDGE (2)	–	Connect a DC voltmeter between TP5 and TP6(GND).	281kHz	TC2	8.0±0.1V	(a)
	Repeat alignments (5) and (6) several times.						
(7)	RF ALIGNMENT (1)	(D) 162kHz 1kHz,30% mod	(B)	162kHz	L13	Maximum amplitude and symmetry of the oscilloscope display.	
(8)	RF ALIGNMENT (2)	(D) 270kHz 1kHz,30% mod	(B)	270kHz	TC4	Maximum amplitude and symmetry of the oscilloscope display.	
	Repeat alignments (7) and (8) several times.						

SPECIFICATIONS

[FM tuner section]

Antenna impedance ..... 75 ohms unbalanced
FM frequency range ..... 87.5 MHz to 108 MHz
Usable sensitivity ..... 10.8 dBf (0.95 μV)
50 dB quieting sensitivity
Mono ..... 16.2 dBf (1.8 μV)
Stereo ..... 38.8 dBf (24.0 μV)
Signal to noise ratio
Mono ..... 88 dB at 65 dBf,
88 dB at 85 dBf
Stereo ..... 76 dB at 65 dBf,
82 dB at 85 dBf
Total harmonic distortion
Mono: 1 kHz 0.04%
50 Hz ~ 10 kHz 0.1%
Stereo: 1 kHz 0.06%
50 Hz ~ 10 kHz 0.12%
Capture ratio
WIDE ..... 1 dB
NARROW ..... 2.5 dB
Alternate channel selectivity
WIDE ..... 60 dB
NARROW ..... 90 dB
Stereo separation
1 kHz ..... 55 dB
50 Hz ~ 10 kHz ..... 40 dB
Frequency response ..... 20 Hz to 15 kHz
±0.5 dB
Spurious rejection ratio ..... 105 dB
Image rejection ratio ..... 82 dB
IF rejection ratio ..... 110 dB
AM suppression ratio ..... 76 dB
Subcarrier suppression ratio ..... 70 dB
Output level/impedance at 1 kHz, 100% dev.
Fixed ..... 0.6 V/3.3 kohms

[AM tuner section]

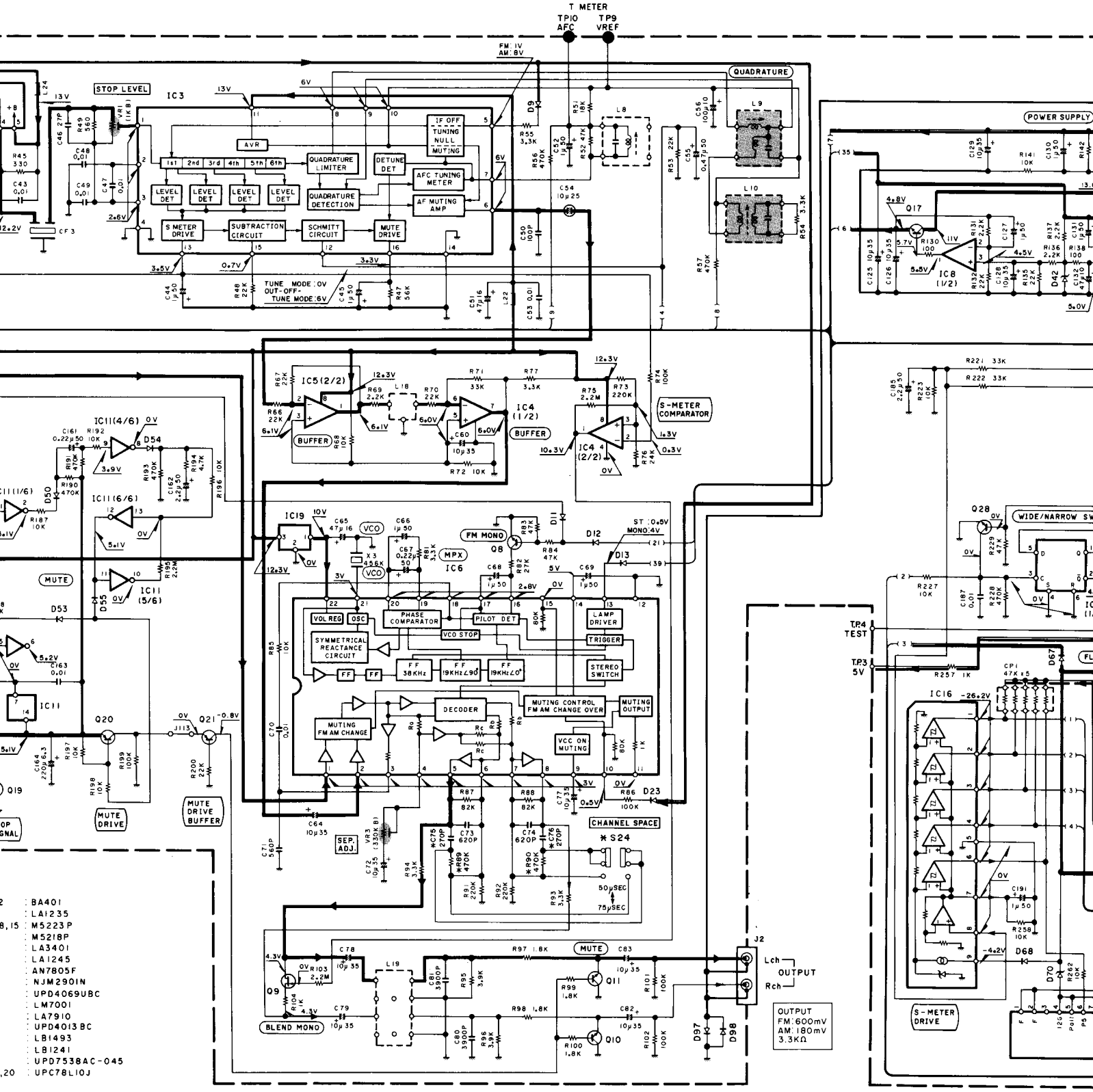
Frequency range ..... 530 kHz ~ 1610 kHz
(10 kHz Step) or
531 kHz ~ 1602 kHz
(9 kHz Step)
Usable sensitivity ..... 10 μV (350 μV/m)
Signal to noise ratio ..... 52 dB
Total harmonic distortion 0.3%
Image rejection ..... 40 dB
Selectivity ..... 25 dB
Output level/impedance ..... 0.18 V, 3.3 kohms
(400 Hz, 30% Mod.)

[General]

Power consumption ..... 13 W
Dimensions ..... W: 440 mm (17-5/16″)
H: 78 mm (3-1/16″)
D: 317 mm (12-1/4″)
Weight (Net) ..... 3.5 kg (7.7 lb)

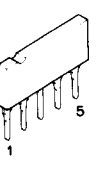
Note:

We follow a policy of continuous advancements in development. For this reason specifications may be changed without notice.

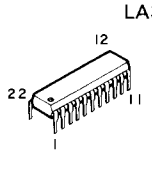


BA401 : BA401
: LA1235
8,15 : M5223P
: M5218P
: LA3401
: LA1245
: AN7805F
: NJM2901N
: UPD4069UBC
: LM7001
: LA7910
: UPD4013BC
: LB1493
: LB1241
: UPD7538AC-045
,20 : UPC78L10J

BA401

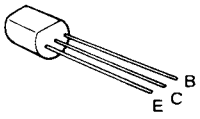


LA3401

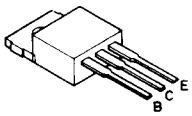


CAUTION: For continued safety, replace safety critical components only with manufacture's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

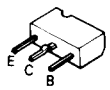
- DC voltages ar
meter. Values m
individual instrur



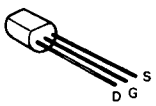
2SA733(A)
2SA999
2SC1923
2SC2320
2SC945(A)
2SD1302
2SD863



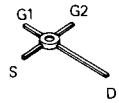
2SD1266



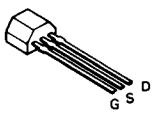
2SA937F



2SK364



3SK122



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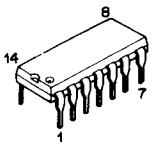
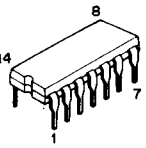
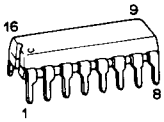


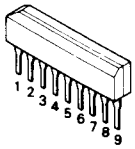
NJM2901N



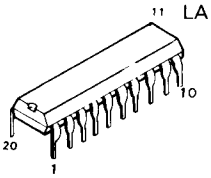
UPD4013BC
UPD4069UB



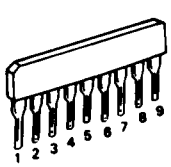
LA1235
LM7001



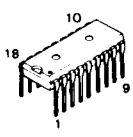
LA7910



LA1245

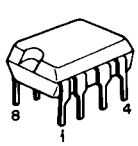


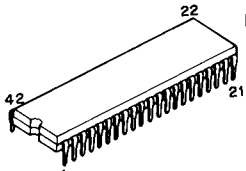
LB1493



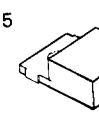
LB1241

M5218P
M5223P

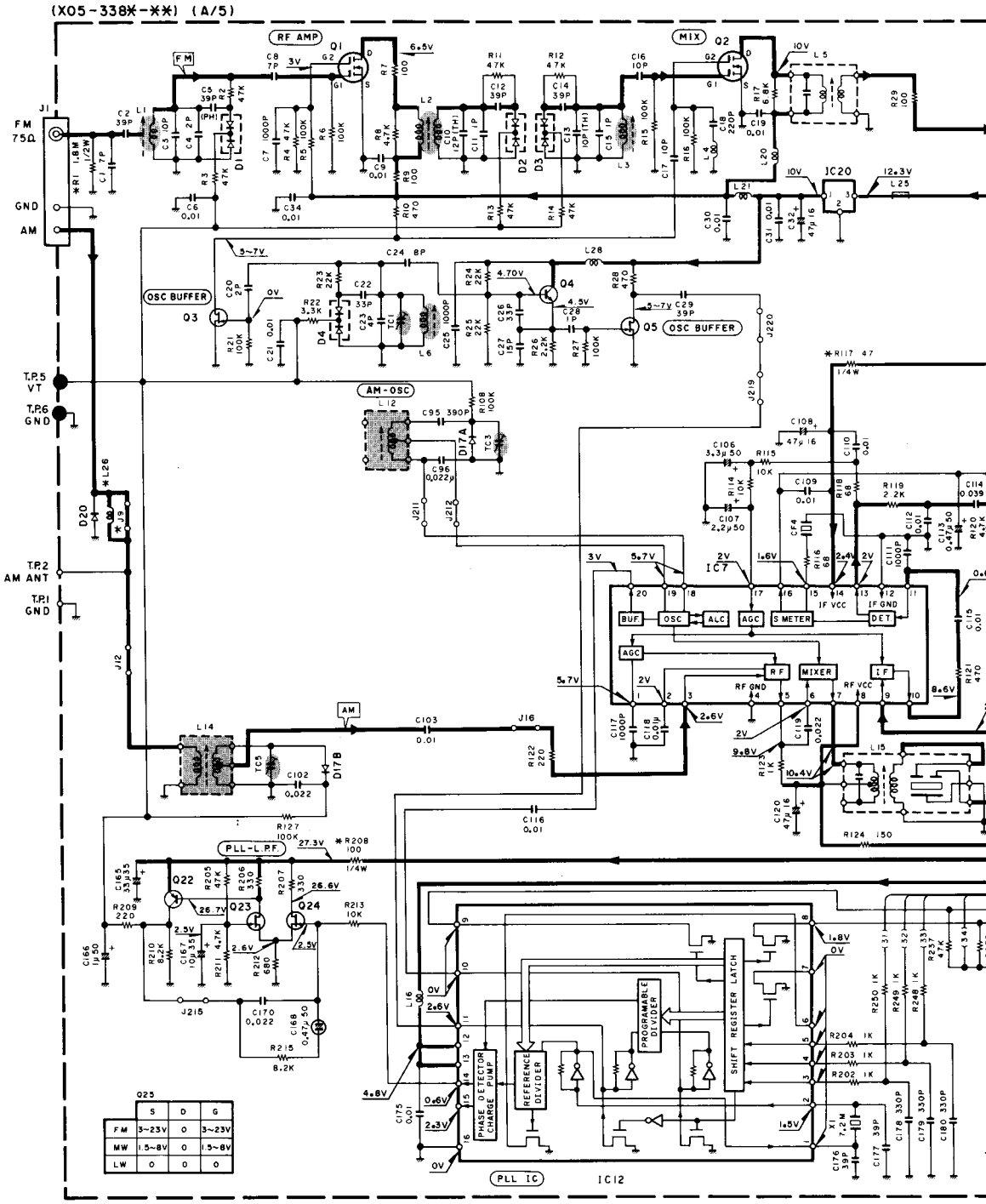




UDP7538AC-045



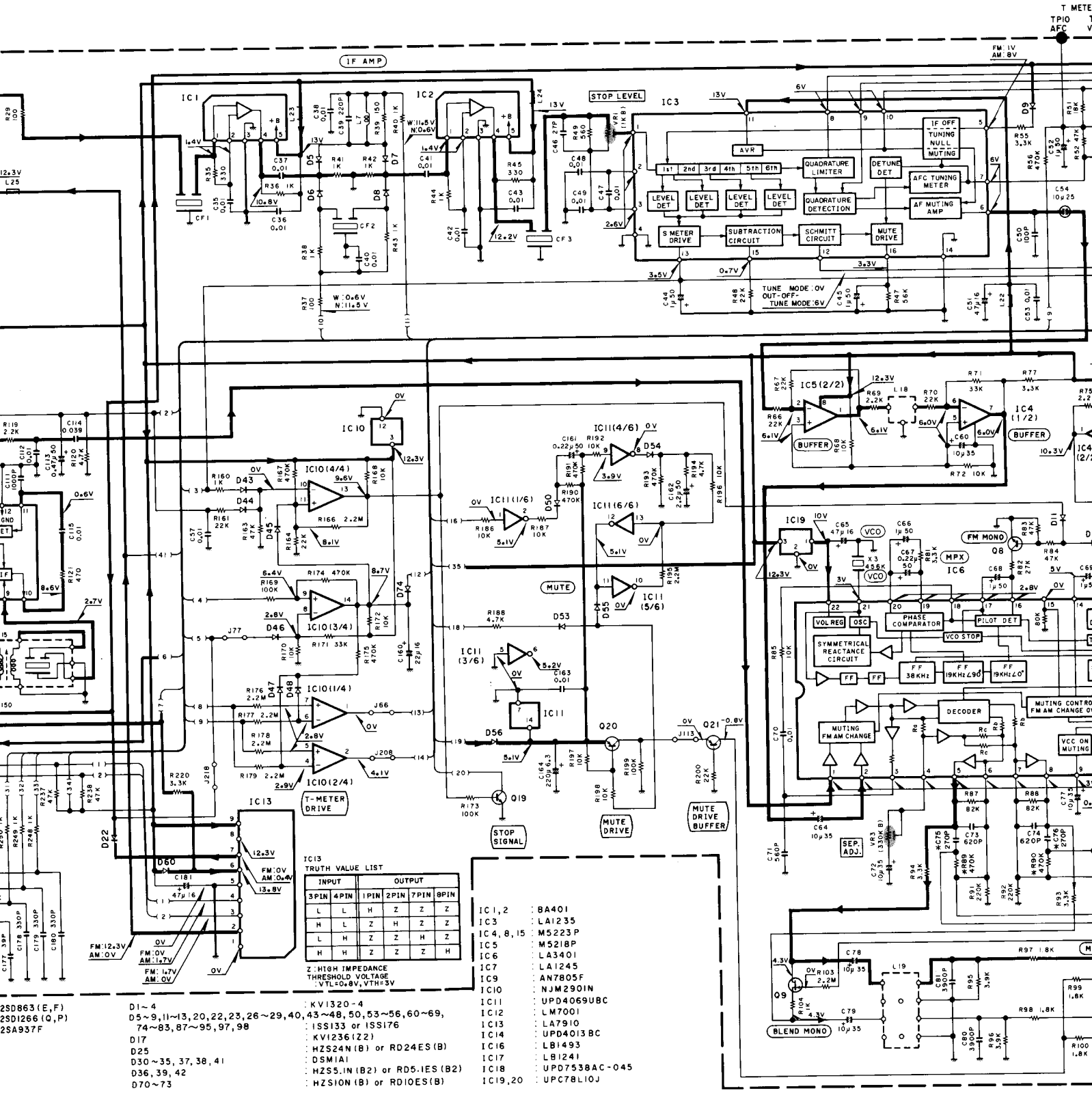
(X05-338*-**) (A/5)



Q25	S	D	G
FM	3~23V	0	3~23V
MW	1.5~8V	0	1.5~8V
LW	0	0	0

Q1,2 : 3SK122(L)
Q3 : 2SK241(GR)
Q4 : 2SC1923(R,O)
Q5 : 2SK241(Y,GR)
Q8,16,19,28,29,31 : 2SC945(A)(Q,P)
Q9,23,24 : 2SK364(GR,BL)
Q10,11 : 2SD1302(S,T)
Q14,20~22,30 : 2SA733(A)(Q,P) or 2SA999(E,F)

Q15,17 : 2SD863(E,F)
Q18 : 2SD1266(Q,P)
Q32 : 2SA937F



IC13 TRUTH VALUE LIST

INPUT		OUTPUT			
3PIN	4PIN	1PIN	2PIN	7PIN	8PIN
L	L	H	Z	Z	Z
H	L	Z	H	Z	Z
L	H	Z	Z	H	Z
H	H	Z	Z	Z	H

Z : HIGH IMPEDANCE
THRESHOLD VOLTAGE : VTL=0.8V, VTH=3V

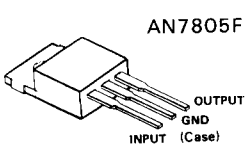
IC1,2	: BA401
IC3	: LA1235
IC4,8,15	: M5223P
IC5	: M5218P
IC6	: LA3401
IC7	: LA1245
IC9	: AN7805F
IC10	: NJM2901N
IC11	: UPD4069UBC
IC12	: LM7001
IC13	: LA7910
IC14	: UPD4013BC
IC16	: LB1493
IC17	: LB1241
IC18	: UPD7538AC-045
IC19,20	: UPC78L10J

2SD863(E,F)
2SD1266(Q,P)
2SA937F

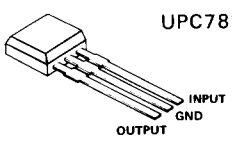
D1~4 : KV1320-4
D5~9,11~13,20,22,23,26~29,40,43~48,50,53~56,60~69,74~83,87~95,97,98 : 1SS133 or 1SS176
D17 : KV1236(Z2)
D25 : HZS24N(B) or RD24ES(B)
D30~35,37,38,41 : DSM1A1
D36,39,42 : HZS5.1N(B2) or RD5.1ES(B2)
D70~73 : HZS10N(B) or RD10ES(B)

C-045

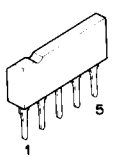
AN7805F



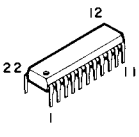
UPC78L10J



BA401



LA3401



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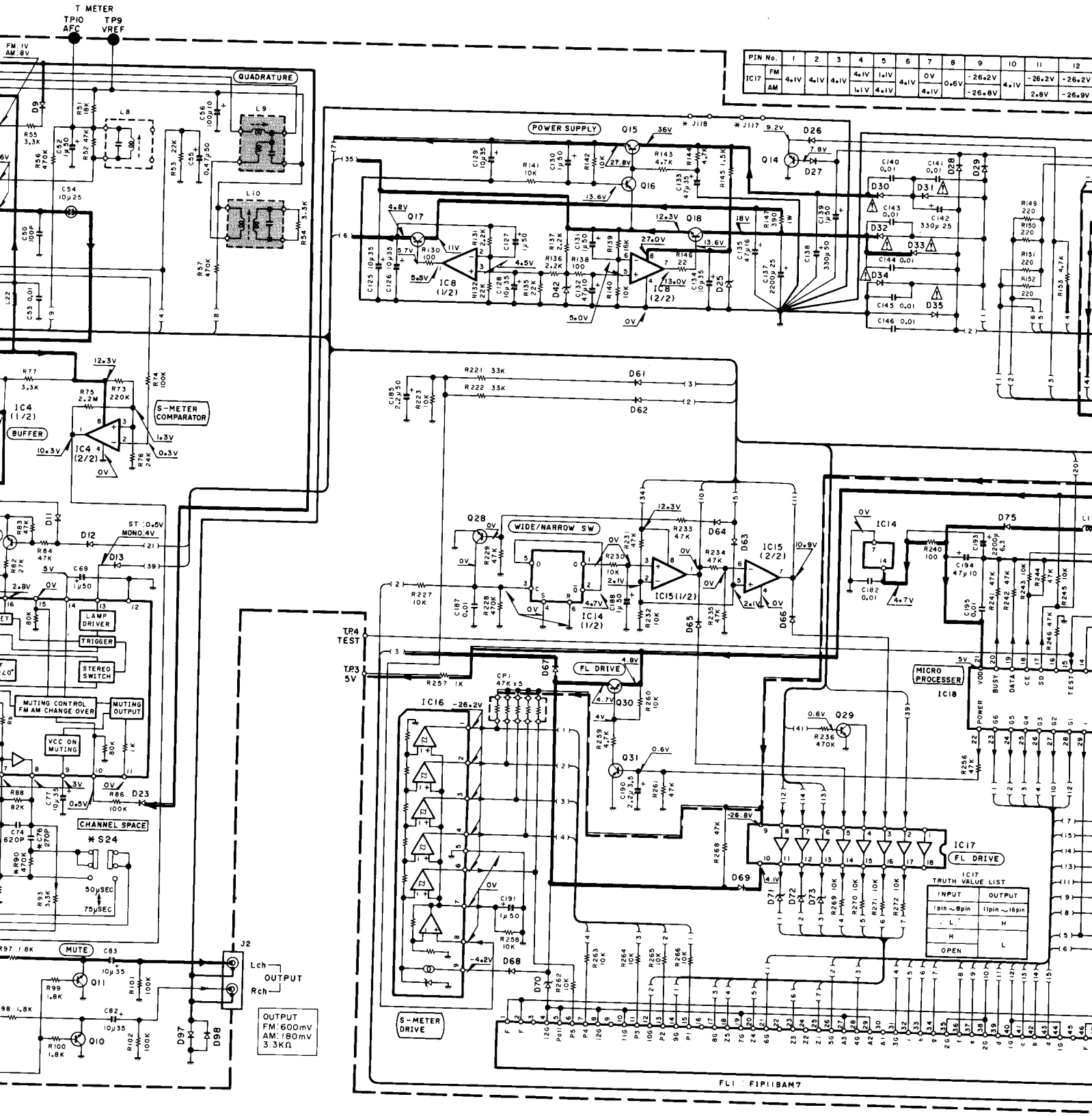


PIN No.		1	2	3	4	5	6	7	8	9	10	11	12
IC17	FM	4.1V	4.1V	4.1V	4.1V	1.1V	4.1V	0V	0.6V	-26.2V	4.1V	-26.2V	-26.2V
	AM				1.1V	4.1V		4.1V		-26.8V		2.8V	-26.9V

CAUTION: For continued safety, replace safety critical components only with manufacture's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

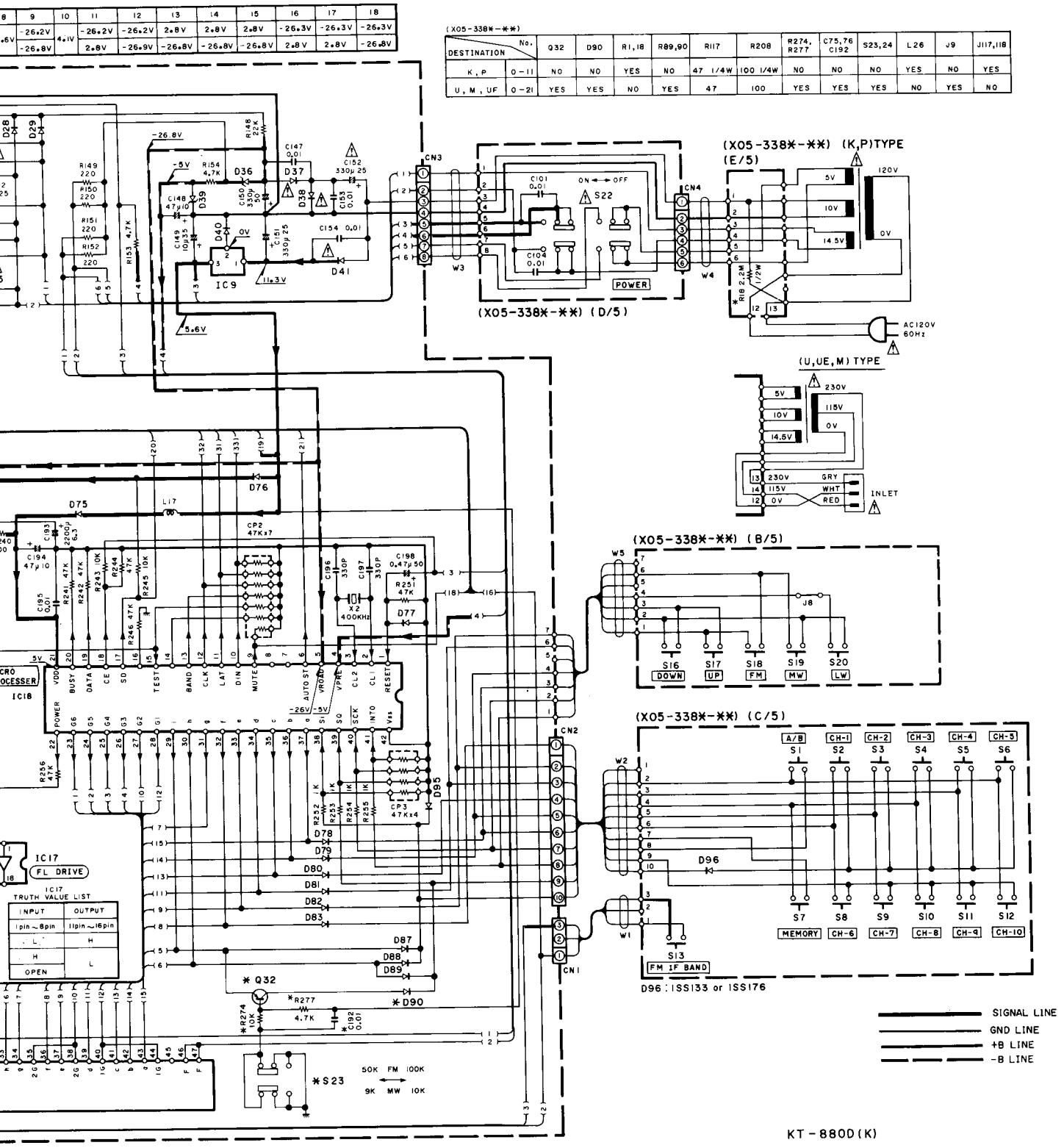
- DC voltages are measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

- Les tensions c.c. doivent être à haute impédence. Les valeu du fait des variations inhérent ments de mesure individuels.

8	9	10	11	12	13	14	15	16	17	18
·6V	-26·2V -26·8V	4·1V	-26·2V 2·8V	-26·2V	2·8V	2·8V	2·8V	-26·3V	-26·3V	-26·3V
				-26·9V	-26·8V	-26·8V	-26·8V	2·8V	2·8V	-26·8V

(X05-338*-**)

DESTINATION	No.	Q32	D90	R1,18	R89,90	R117	R208	R274, R277	C75,76 C192	S23,24	L26	J9	J117,118
K, P	0-11	NO	NO	YES	NO	47 1/4W	100 1/4W	NO	NO	NO	YES	NO	YES
U, M, UF	0-21	YES	YES	NO	YES	47	100	YES	YES	YES	NO	YES	NO



KT-880D(K)

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédence. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

KT-880D
KENWOOD