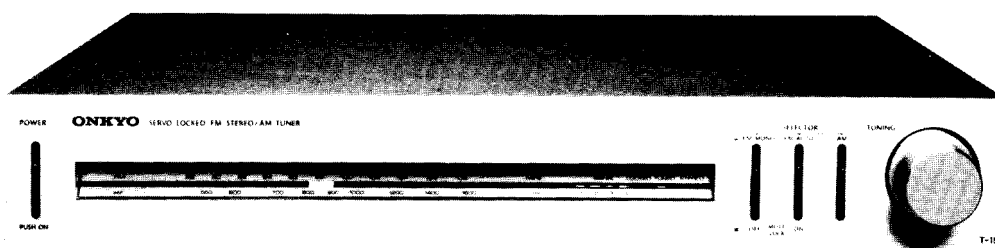


ONKYO® SERVICE MANUAL

SERVO LOCKED FM STEREO/ AM TUNER Model T-15



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ONKYO®
AUDIO COMPONENTS

SPECIFICATIONS

D/W model

FM Section

Tuning Range: 88 ~ 108 MHz
 Usable Sensitivity: Mono: 11.2 dBf, 2 μ V
 Stereo: 17.2 dBf, 4 μ V

50 dB Quieting

Sensitivity: Mono: 18.3 dBf, 4.5 μ V
 Stereo: 39.2 dBf, 50 μ V

Capture Ratio: 1.5 dB

Image Rejection Ratio: 35 dB

IF Rejection Ratio: 80 dB

Signal-to Noise Ratio: Mono: 70 dB

Stereo: 63 dB

Alternate channel att.: 55 dB (IHF)

AM Suppression Ratio: 50 dB

Harmonic Distortion: Mono: 0.15%

Stereo: 0.4%

Stereo Separation: 40 dB at 1 kHz
 30 dB at 100 ~ 10,000 Hz

Muting Level: 17.2 dBf, 4 μ V

Servo Lock Level: 17.2 dBf, 4 μ V

Frequency Response: 40 ~ 15,000 Hz \pm 1.5 dB

AM Section

Tuning Range: 525 ~ 1,620 kHz

Usable Sensitivity: 25 μ V

Image Rejection Ratio: 45 dB

IF Rejection Ratio: 30 dB

Signal-to-Noise Ratio: 40 dB

Harmonic Distortion: 0.8%

GENERAL

Power Supply Rating: AC 120V, 60 Hz (D model)
 AC 120/220V, 50/60 Hz (W model)

Output Voltage: FM: 500 mV
 AM: 150 mV

Output: AC outlet

Antennas: FM: 300 ohms balanced and
 75 ohms unbalanced
 AM: built-in ferrite core
 antenna and external
 terminal

Semiconductors: 1 FET, 5 ICs, 8 transistors,
 12 diodes

Dimensions: 418(W) \times 75(H) \times 280(D) mm
 16-1/2" \times 3" \times 11"

Weight: 3.8 kg (8.4 lbs.)

Due to further product improvements, specifications are subject to change without notice.

G model

FM Section

Tuning Range: 87.5 ~ 108 MHz
 Usable Sensitivity: Mono: 2 μ V, 11.2 dBf IHF
 1.8 μ V (S/N 26 dB,
 40 kHz, Devi.) DIN
 Stereo: 4 μ V, 17.2 dBf IHF
 50 μ V (S/N 46 dB,
 40 kHz Devi.) DIN

50 dB Quieting

Sensitivity: Mono: 4.5 μ V, 18.3 dBf
 Stereo: 50 μ V, 39.2 dBf

Capture Ratio: 1.5 dB

Image Rejection Ratio: 35 dB

IF Rejection Ratio: 80 dB

Signal-to-Noise Ratio: Mono: 70 dB

Stereo: 63 dB

Alternate channel att.: 65 dB (IHF)

Selectivity: 50 dB (DIN)
 (\pm 300 kHz, 40 kHz devi.)

AM Suppression Ratio: 50 dB

Harmonic Distortion: Mono: 0.15%

Stereo: 0.4%

Stereo Separation: 40 dB at 1 kHz
 30 dB at 100 ~ 10,000 Hz

Muting Level: 4 μ V, 17.2 dBf

Servo Lock Level: 4 μ V, 17.2 dBf

Frequency Response: 40 ~ 15,000 Hz \pm 1.5 dB

AM Section

Tuning Range: 525 ~ 1,620 kHz

Usable Sensitivity: 25 μ V

Image Rejection Ratio: 45 dB

IF Rejection Ratio: 30 dB

Signal-to-Noise Ratio: 40 dB

Harmonic Distortion: 0.8%

GENERAL

Power Supply Rating: AC 220 volts, 50 Hz

Output Voltage: FM: 500 mV

AM: 150 mV

Antennas: FM: 300 ohms balanced and
 75 ohms unbalanced
 AM: built-in ferrite core
 antenna and external
 terminal

Semiconductors: 1 FET, 5 ICs, 9 transistors,
 12 diodes

Dimensions: 418(W) \times 75(H) \times 250(D) mm
 16-1/2" \times 3" \times 11"

Weight: 3.8 kg (8.4 lbs.)

Due to further product improvements, specifications are subject to change without notice.

SERVICE GUIDE

1. SENSOR SWITCH (SENSOR)

This switch enables the servo lock system for automatic FM tuning to be matched with the various operating conditions. Set it at LOW initially. Switch to NORM or HIGH if the TUNED lamp does not instantly turn off when you touch the tuning knob.

2. DE-EMPHASIS SWITCH (ONLY W MODEL)

The 50 μ sec/75 μ sec selector switch employed in the W (120/220V) model is located on the bottom board. When shipped from the factory, this switch is set to the 50 μ sec position. For use in 75 μ sec regions, switch over to the 75 μ sec position.

3. VOLTAGE SELECTOR (REAR PANEL)

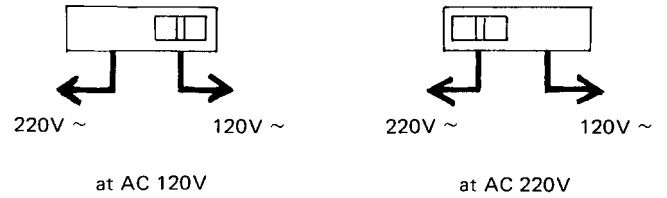
Some models are equipped with a voltage selector to conform with local power supplies.

Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on.

When changing the voltage setting, remove the lock plate covering the switch, then set the voltage to the correct value.

Voltage is changed by sliding the groove in the switch with a screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on.

If there is no voltage selector switch on the unit you have purchased, it can only be used in areas where the power supply voltage is the same as that of the unit.



4. DISASSEMBLY

Top Cover

Remove the four screws holding the top cover and side bracket.

Remove a screw holding the top cover and back panel.

Front Panel

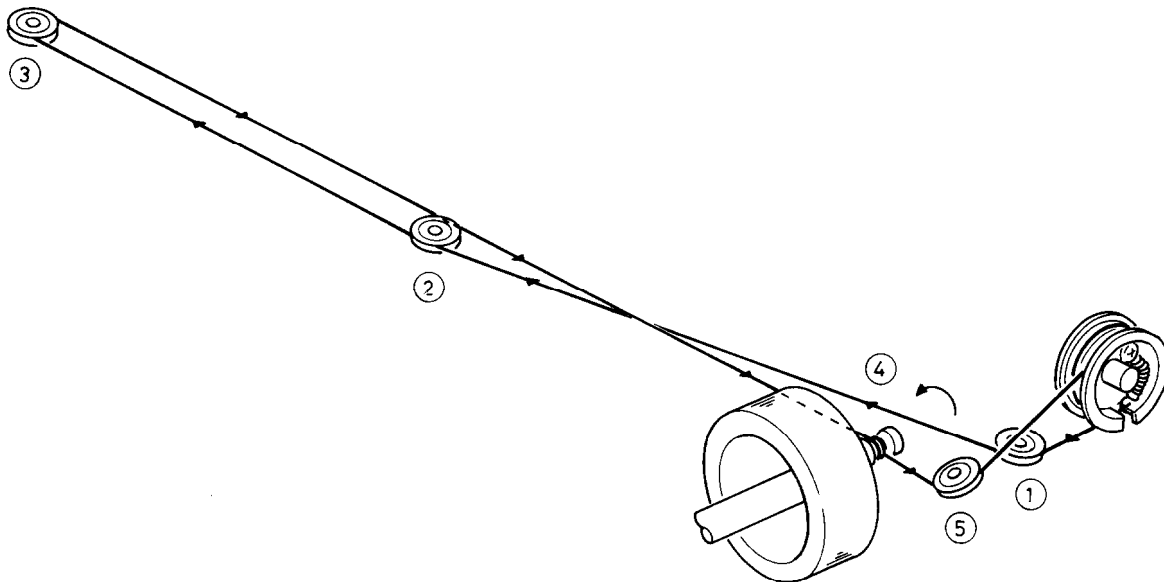
Remove the top cover.

Remove the five screws holding the front panel and front bracket.

Bottom Board

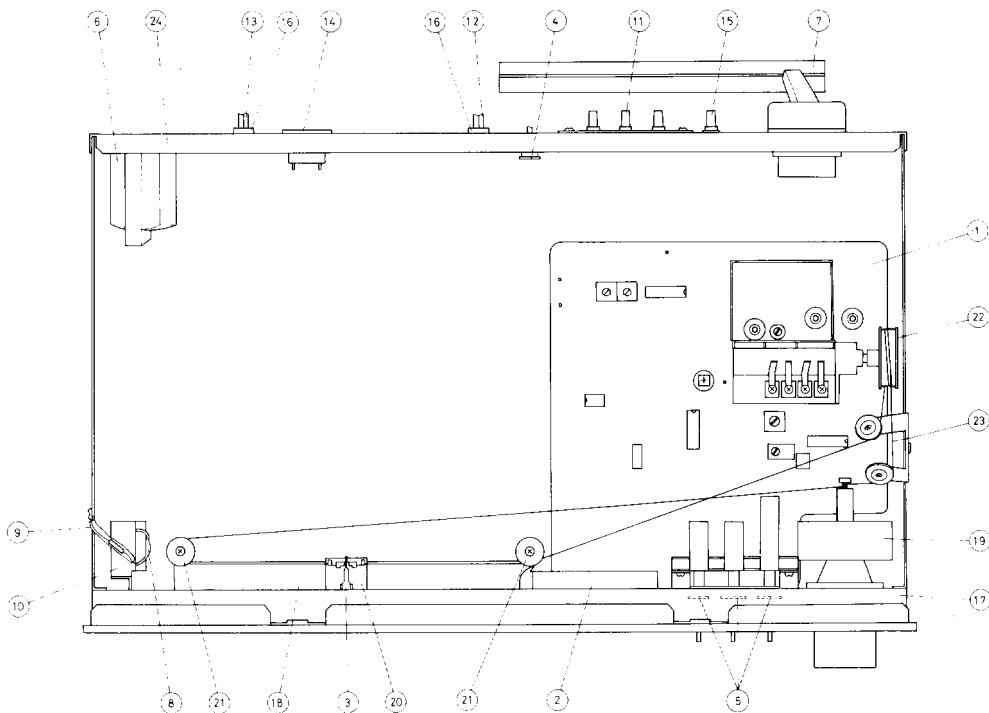
Remove the two screws holding the bottom board and chassis.

STRINGING DIAGRAM



1. Close the variable capacitor complete and tie the dial cord to the spring of the drum.
2. Thread the dial cord in the direction of arrow from ① to ③ and wind the dial cord three turns around the tuning shaft counter clockwise.
3. Thread the dial cord ⑤.
4. Wind the dial cord 1½ turns around the dial drum.

COMPONENT LOCATION



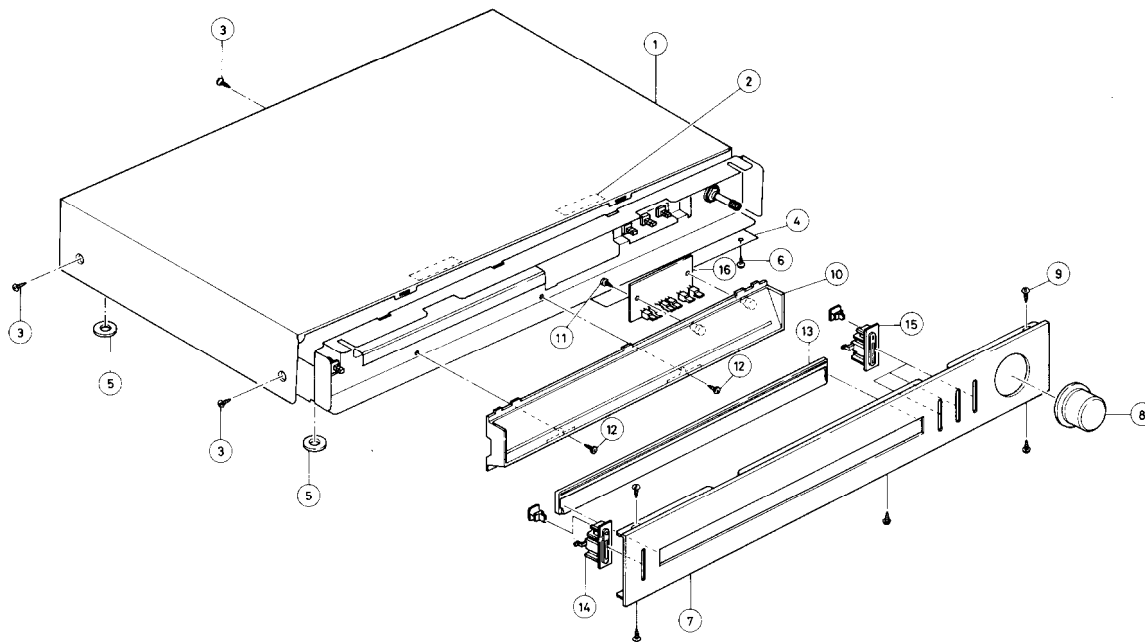
D model

REF. NO.	CIRCUIT NO.	PARTS NO.	DESCRIPTION
1	U1	13489500A	NARF-900a, FM/AM tuner pc board ass'y
2	U2	13665501	NADIS-901, Display circuit pc board ass'y
3	PL801	210097	PL12V30mAW-2.5, Pointer lamp
4	U4	13665503	NASW-903, Switch circuit pc board ass'y
5	U3	13665502	NAPL-902, Indicator pc board ass'y
6	T801	230404	NPT-711D, Power transformer
7	L801	232066	NMA-3012, AM bar antenna
8	C801	3500060	0.01 μ F, 125V, CS capacitor
	C801a	27300080	8116U09, Cover for capacitor
9	R801	431523355	3.3M Ω , 1/2W, Solid resistor
10	S801	25035135	NPS-111-L100P, Power switch
11	P801	25060020	NTM-3WPUN1, Antenna terminal
12	P802	2010039	PN-B, Output cable
13	P803	253099A	AS-UC-3, Power supply cable
14	P804	25050032	S-I6444-01, AC outlet
15	P805	25060044	Ground terminal
16		270025	SR-3P-4, Strainrelief
17		27110113	Front bracket
18		27130223	Bracker for rail
19		27205026	Drive shaft
20		28165049C	Pointer ass'y
21		27185002A	DP-16N, Dial pulley
22		27200021A	Dial drum
		27180044	Spring
		273903	Stringing
23		27120243	Back panel

G/W model

REF. NO.	CIRCUIT NO.	PARTS NO.	DESCRIPTION
1	U1	13492500B	NARF-900b, FM/AM tuner pc board ass'y (G model)
		13490500C	NARF-900c, FM/AM tuner pc board ass'y (W model)
2	U2	13665501	NADIS-901, Display circuit pc board ass'y
3	PL801	210097	PL12V30mAW-2.5, Pointer lamp
4	U4	13665503	NASW-903, Switch circuit pc board ass'y
5	U3	13665502	NAPL-902, Indicator pc board ass'y
6	T801	230405	NPT-711G, Power transformer (G model)
		230406	NPT-711DG, Power transformer (W model)
7	L801	232066	NMA-3012, AM bar antenna
8	C801	3500058	PME265MB510, CS capacitor
10	S801	25035051	NPS-121-L16P, Power switch (G model)
		25035176	NPS-111-L140, Power switch (W model)
11	P801	25060020	NTM-3WPUN1, Antenna terminal
12	P802	2010039	PN-B, Output cable
13	P803	253083	AS-CEE, Power supply cable
15	P805	25060044	Ground terminal
16		270280	SR-4K-4, Strainrelief
17		27110113	Front bracket
18		27130223	Bracker for rail
19		27205026	Drive shaft
20		28165049C	Pointer ass'y
21		27185002A	DP-16N, dial pulley
22		27200021A	Dial drum
		27180044	Spring
		273903	Stringing
		27120244	Back panel (G model)
		27120245	Back panel (W model)
	S802	25065123	NSS-1258P, Voltage selector (W model)

EXPLODED VIEW



REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
1	28184090	Top cover	10	27262063	Dial plate
2	28140020	4x10x40, Cushion		27190081	Holder
3	834430102	3STS+10BQ(BC), Tapping screw	11	834130082	3STS+8BQ, Tapping screw
4	27170084	Bottom board	12	831130082	3STW+8BQ, Tapping screw
5	27175011B	Leg	13	28191061	Dial glass
6	831130082	3STW+8BQ, Tapping screw	14	27267073A	Guide
7	13489121	Front panel ass'y		28320341B	Knob
8	28320443	Tuning knob	15	27267078	Guide
9	834130062	3STS+6BQ, Tapping screw		28320341B	Knob
			16	13665501	NADIS-901, Display circuit pc board ass'y

ALIGNMENT PROCEDURES

INSTRUMENTS REQUIRED

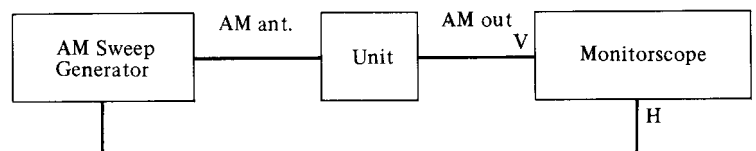
1. AM sweep generator
2. AM/FM signal generator
3. AC VTVM
4. Oscilloscope
5. Monitor scope
6. Distortion analyzer
7. Frequency counter

GENERAL ALIGNMENT CONDITIONS

1. Signal input should be kept as low as possible.
2. Standard modulation is 400Hz 30%, (AM), 1kHz 75kHz devi. (FM MONO), pilot 6.75kHz devi. sub and main 68.25kHz devi. (FM STEREO)

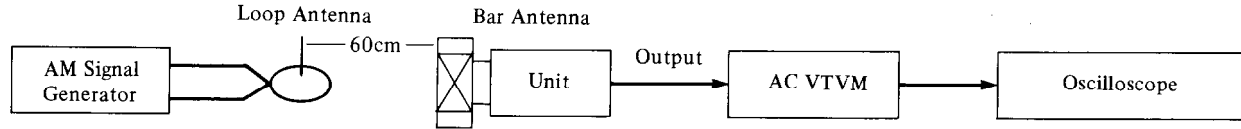
(1) AM IF ALIGNMENT

1. Set selector switch to AM.
2. Set radio dial to quiet point.



Set signal	Adjust	Monitor scope	Remarks
455 kHz	X151	Maximum Symmetrical Response	Usually not necessary to adjust

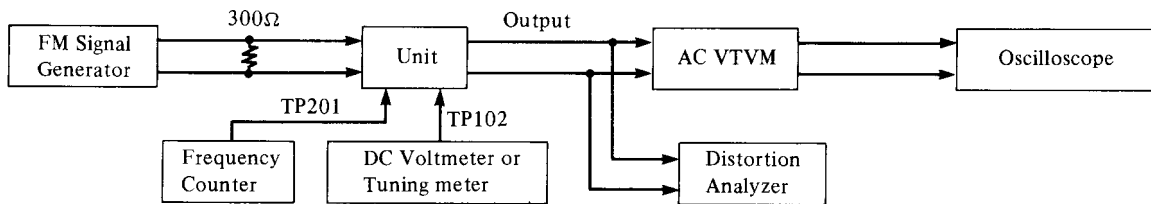
(2) AM RF ALIGNMENT



Step	Set Signal	Set Radio Dial	Adjust	VTVM reading	Remarks
1	515kHz 400Hz 30%	Lower end (515kHz)	L151	Maximum	Repeat steps 1 and 2 as necessary
2	1680kHz 400Hz 30%	Upper end (1680kHz)	TC004	Maximum	
3	600kHz 400Hz 30%	600kHz	L801 (AM bar Ant.)	Maximum	Repeat steps 3 and 4 as necessary
4	1400kHz 400Hz 30%	1400kHz	TC005	Maximum	

(3) FM ALIGNMENT

Set selector switch to FM mono.



Step	FM Signal Generator	Dial to set	Adjust	Output Indicator	Adjust for	Remarks
1	No signal	Quiet Point	L101	DC Voltmeter	0V	Repeat Steps 1 and 2 as necessary
2	98MHz 65dBf (60dB) 1kHz 75kHz devi.	98MHz	L102	Distortion Analyzer	Minimum	
3	90MHz 65dBf (60dB) 1kHz 75kHz devi.	90MHz	L004	DC Voltmeter	0V	Repeat Steps 3 and 4 as necessary
4	106MHz 65dBf (60dB) 1kHz 75kHz devi.	106MHz	TC001		0V	
5	90MHz 1kHz 75kHz devi.	90MHz	L001 L002	AC VTVM or Oscilloscope	Maximum	Repeat Steps 5 and 6 as necessary Signal input should be kept as low as possible.
6	106MHz 1kHz 75kHz devi.	106MHz	TC002 TC003		Maximum	
7	98MHz 65dBf (60dB) no mod.	98MHz	R216	Frequency counter	76kHz	

PRINTED CIRCUIT BOARD—PARTS LIST

AM/FM TUNER PC BOARD (NARF-900c)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
ICs		
Q102	222595	LA1231N
Q151	222497	LA1240
Q201	222453	HA1196
Q301	222545	μ PC741
Transistors		
Q001	2211815	2SK19TM(GR)
Q002	2211723	2SC1923(O)
Q003	2211342	2SC461(B)
Q101	2210823	2SC1675(L-1)
Q103	2211255	2SC1815(GR)
Q302, Q303	2211255	2SC1815(GR)
Q502	2211255	2SC1815(GR)
Q901	2201034 or 2201035	2SD325 (D) or 2SD325(E)
Diodes		
D001	223110	1S2687
D002, D101	223133 or	DS442X or
D102, D151	223105	1S1555
D152	4000022	VD1212
D301, D302	223133 or	DS442X or
D304, D305	223105	1S1555
D303	223943 or	RD4. 7E(B) or
	223944	RD4. 7E(C)
D901, D903	223849 or	ERB12-01 or
	223848	GP-08B
D902	224057 or 223910	05Z12-U or WZ-120
Coils and transformers		
L001	233088-1 or 233106	NFA-3001 or NFA-3009
L002	233178	NFRF-3015
L003	233152	NFT-1503
L004	233180	NFO-3014
L101	233148	NFIF-6010P
L102	233149	NFIF-6010S
L103	233105 or 233024	NCH-1005 or NCCH-1501
L151	232073	NMO-2008
L152	232041	NIT-0509
L201, L202	233099	NCH-1002
Ceramic filters		
X001, X101	3010003	SFE10. 7 MA
X151	3010004	CFZ-455C
Capacitors		
VC001	3050014	NCV-19FT344WD10, Variable
TC001	3060003	NTC-10P-02, Trimmer
C011	352743309	33 μ F, 16V, Elect.
C020	352741009T	10 μ F, 16V, Elect.
C021	352734709	47 μ F, 10V, Elect.
C104	352780339T	3.3 μ F, 50V, Elect.
C106	352780109T	1 μ F, 50V, Elect.
C109, C111	352784799T	0.47 μ F, 50V, Elect.
C112	352741009T	10 μ F, 16V, Elect.
C114	352780229T	2.2 μ F, 50V, Elect.
C154	372523615	360pF \pm 10%, 50V, ST
C158	352741009T	10 μ F, 16V, Elect.

CIRCUIT NO.	PARTS NO.	DESCRIPTION
C160	352750479T	4.7 μ F, 25V, Elect.
C162	352780339T	3.3 μ F, 50V, Elect.
C166	352784799T	0.47 μ F, 50V, Elect.
C167, C168	352741009T	10 μ F, 16V, Elect.
C201	352780229T	2.2 μ F, 50V, Elect.
C202, C203	352741009T	10 μ F, 16V, Elect.
C208, C209	352784799T	0.47 μ F, 50V, Elect.
C217	372523614	360pF \pm 5%, 50V, ST
C218	352780229T	2.2 μ F, 50V, Elect.
C219	352780339T	3.3 μ F, 50V, Elect.
C220	352784799T	0.47 μ F, 50V, Elect.
C221	352741019T	100 μ F, 16V, Elect.
C302	352750339T	3.3 μ F, 25V, Elect.
C303	352780109T	1 μ F, 50V, Elect.
C304	352742209T	22 μ F, 16V, Elect.
C305	352780229T	2.2 μ F, 50V, Elect.
C306	352734709T	47 μ F, 10V, Elect.
C902	352754719	470 μ F, 25V, Elect.
C903	352753319	330 μ F, 25V, Elect.
C904	352743319T	330 μ F, 16V, Elect.
C906	352744719	470 μ F, 16V, Elect.
Resistor		
R216	5225015	N10HR10KBD, Semi-fixed
Switch		
S1-S3	25035212	NPS-142-222-L176, FM Auto/ Mono/AM
S201, S202	250142	NSS-2225, De-emphasis

DISPLAY PC BOARD (NADIS-901)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
IC		
Q501	222541	LB1426
L.E.Ds		
D501~D504	225048	SLP-252B-04, Array
D505, D507	225046	SLP-151B, Red
D506	225047	SLP-251B, Green
Capacitors		
C501, C502	352741009	10 μ F, 16V, Elect.

INDICATOR PC BOARDS (NAPL-902)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
L.E.Ds		
D801	225028	GL9PG59, Power indicator
D802	225029	GL9PR9, Muting indicator
D803	225028	GL9PG59, AM indicator
D804	225028	GL9PG59, FM indicator

HUM SENSOR PC BOARD (NASW-903)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
S301	25065128	NSS-2260, Sensor switch

PRINTED CIRCUIT BOARD—PARTS LIST

AM/FM TUNER PC BOARD (NARF-900b)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
ICs		
Q102	222595	LA1231N
Q151	222497	LA1240
Q201	222453	HA1196
Q301	222545	μ PC741
Transistors		
Q001	2211815	2SK19TM(GR)
Q002	2211723	2SC1923(O)
Q003	2211342	2SC461(B)
Q101, Q104	2210746	2SC945A(P)
Q103	2211255	2SC1815(GR)
Q302, Q303	2211255	2SC1815(GR)
Q502	2211255	2SC1815(GR)
Q901	2201034 or 2201035	2SD325(D) or 2SD325(E)
Diodes		
D001	223110	1S2687
D002, D101	223133 or	DS442X or
D102, D151	223105	1S1555
D152	4000022	VD1212
D301, D302	223133 or	DS442X or
D304, D305	223105	1S1555
D303	223943 or 223944	RD4. 7E(B) or RD4. 7E(C)
D901, D903	223849 or 223848	ERB12-01 or GP-08B
D902	224057 or 223910	05Z12-U or WZ-120
Coils and transformers		
L001	233088-1 or 233106	NFA-3001 or NFA-3009
L002	233178	NFRF-3015
L003	233152	NFT-1503
L004	233180	NFO-3014
L101	233148	NFIF-6010P
L102	233149	NFIF-6010S
L103	233105 or 233024	NCH-1005 or NCCH-1501
L151	232073	NMO-2008
L152	232041	NIT-0509
L201, L202	233099	NCH-1002
Ceramic filters		
X001, X101, X102	3010003	SFE10. 7MA
X151	3010004	CFZ-455C
Capacitors		
VC001	3050014	NCV-19FT344WD10, Variable
TC001	3060003	NTC-10P-02, Trimmer
C011	352743309	33 μ F, 16V, Elect.
C020	352741009T	10 μ F, 16V, Elect.
C021	352734709	47 μ F, 10V, Elect.
C104	352780339T	3.3 μ F, 50V, Elect.
C106	352780109T	1 μ F, 50V, Elect.
C109, C111	352784799T	0.47 μ F, 50V, Elect.
C112	352741009T	10 μ F, 16V, Elect.
C114	352780229T	2.2 μ F, 50V, Elect.

CIRCUIT NO.	PARTS NO.	DESCRIPTION
C154	372523615	360pF \pm 10%, 50V, ST
C158	352741009T	10 μ F, 16V, Elect.
C160	352750479T	4.7 μ F, 25V, Elect.
C162	352780339T	3.3 μ F, 50V, Elect.
C166	352784799T	0.47 μ F, 50V, Elect.
C167, C168	352741009T	10 μ F, 16V, Elect.
C201	352780229T	2.2 μ F, 50V, Elect.
C202, C203	352741009T	10 μ F, 16V, Elect.
C208, C209	352784799T	0.47 μ F, 50V, Elect.
C217	372523614	360pF \pm 5%, 50V, ST
C218	352780229T	2.2 μ F, 50V, Elect.
C219	352780339T	3.3 μ F, 50V, Elect.
C220	352784799T	0.47 μ F, 50V, Elect.
C221	352741019T	100 μ F, 16V, Elect.
C302	352750339T	3.3 μ F, 25V, Elect.
C303	352780109T	1 μ F, 50V, Elect.
C304	352742209T	22 μ F, 16V, Elect.
C305	352780229T	2.2 μ F, 50V, Elect.
C306	352734709T	47 μ F, 10V, Elect.
C902	352754719	470 μ F, 25V, Elect.
C903	352753319	330 μ F, 25V, Elect.
C904	352743319T	330 μ F, 16V, Elect.
C906	352744719	470 μ F, 16V, Elect.
Resistors		
R216	5225015	N10HR10KBD, Semi-fixed
Switch		
S1-S3	25035212	NPS-142-222-L176, FM Auto/ Mono/AM

DISPLAY PC BOARD (NADIS-901)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
IC		
Q501	222541	LB1426
L.E.Ds		
D501~D504	225048	SLP-252B-04, Array
D505, D507	225046	SLP-151B, Red
D506	225047	SLP-251B, Green
Capacitors		
C501, C502	352741009	10 μ F, 16V, Elect.

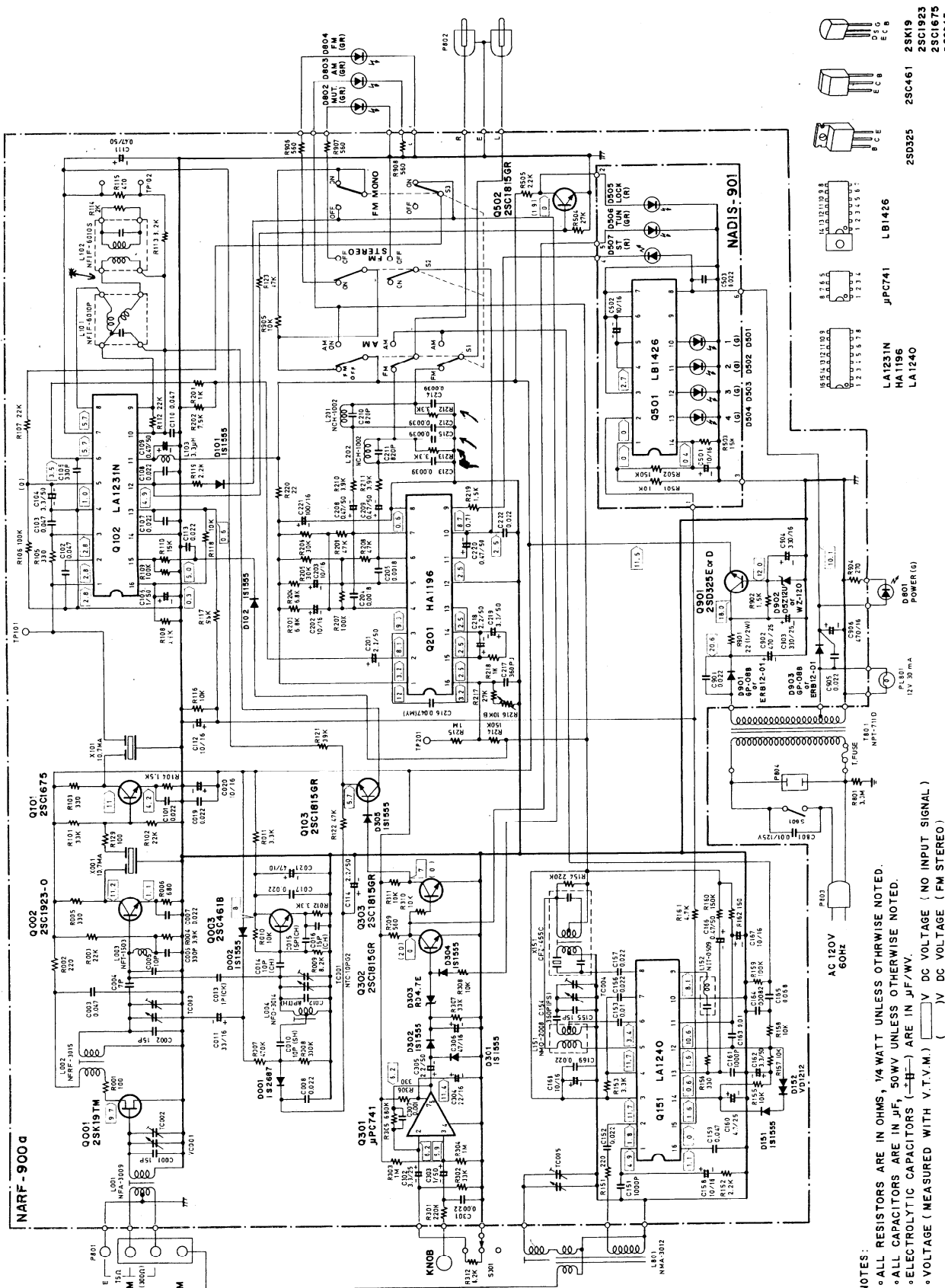
INDICATOR PC BOARDS (NAPL-902)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
L.E.Ds		
D801	225028	GL9PG59, Power indicator
D802	225029	GL9PR9, Muting indicator
D803	225028	GL9PG59, AM indicator
D804	225028	GL9PG59, FM indicator

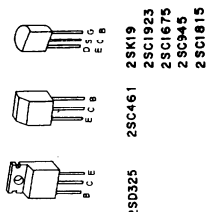
HUM SENSOR PC BOARD (NASW-903)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
S301	25065128	NSS-2260, Sensor switch

SURVEILLING DIAGRAM
120V model



NOTES:
 * ALL RESISTORS ARE IN OHMS, 1/4 WATT UNLESS OTHERWISE NOTED.
 * ALL CAPACITORS ARE IN μ F, 50V UNLESS OTHERWISE NOTED.
 * ELECTROLYTIC CAPACITORS (—) ARE IN μ F/WV.
 * VOLTAGE (MEASURED WITH V.T.V.M.) () V DC VOLTAGE (NO INPUT SIGNAL) () V DC VOLTAGE (FM STEREO)



ONKYO CORPORATION

PRINTED CIRCUIT BOARD—PARTS LIST

FM/AM TUNER PC BOARD (NARF-900a)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
ICs		
Q102	222595	LA1231N
Q151	222497	LA1240
Q201	222453	HA1196
Q301	222545	μPC741
Transistors		
Q001	2211815	2SK19TM(GR)
Q002	2211723	2SC1923(O)
Q003	2211342	2SC461(B)
Q101	2210823	2SC1675(L-1)
Q103	2211255	2SC1815(GR)
Q302, Q303	2211255	2SC1815(GR)
Q502	2211255	2SC1815(GR)
Q901	2201034 or 2201035	2SD325(D) or 2SD325(E)
Diodes		
D001	223110	1S2687
D002, D101	223133 or	DS442X or
D102, D151	223105	1S1555
D152	4000022	VD1212
D301, D302	223133 or	DS442X or
D304, D305	223105	1S1555
D303	223943 or 223944	RD4. 7E(B) or RD4. 7E(C)
D901, D903	223849 or 223848	ERB12-01 or GP-08B
D902	224057 or 223910	05Z12-U or WZ-120
Coils and transformers		
L001	233088-1 or 233106	NFA-3001 or NFA-3009
L002	233178	NFRF-3015
L003	233152	NFT-1503
L004 $\tau \times 20$	233180	NFO-3014
L101	233148	NFIF-6010P
L102	233149	NFIF-6010S
L103	233105 or 233024	NCH-1005 or NCCH-1501
L151	232073	NMO-2008
L152	232041	NIT-0509
L201, L202	233099	NCH-1002
Ceramic filters		
X001, X101	3010003	SFE10. 7MA
X151	3010004	CFZ-455C
Capacitors		
VC001	3050014	NCV-19FT344WD10, Variable
TC001	3060003	NTC-10P-02, Trimmer
C011	352743309	33μF, 16V, Elect.
C020	352741009T	10μF, 16V, Elect.
C021	352734709	47μF, 10V, Elect.
C104	352780339T	3.3μF, 50V, Elect.
C106	352780109T	1μF, 50V, Elect.
C109, C111	352784799T	0.47μF, 50V, Elect.
C112	352741009T	10μF, 16V, Elect.
C114	352780229T	2.2μF, 50V, Elect.
C154	372523615	360pF±10%, 50V, ST
C158	352741009T	10μF, 16V, Elect.

CIRCUIT NO.	PARTS NO.	DESCRIPTION
C160	352750479T	4.7μF, 25V, Elect.
C162	352780339T	3.3μF, 50V, Elect.
C166	352784799T	0.47μF, 50V, Elect.
C167, C168	352741009T	10μF, 16V, Elect.
C201	352780229T	2.2μF, 50V, Elect.
C202, C203	352741009T	10μF, 16V, Elect.
C208, C209	352784799T	0.47μF, 50V, Elect.
C217	372523614	360pF±5%, 50V, ST
C218	352780229T	2.2μF, 50V, Elect.
C219	352780339T	3.3μF, 50V, Elect.
C220	352784799T	0.47μF, 50V, Elect.
C221	352741019T	100μF, 16V, Elect.
C302	352750339T	3.3μF, 25V, Elect.
C303	352780109T	1μF, 50V, Elect.
C304	352742209T	22μF, 16V, Elect.
C305	352780229T	2.2μF, 50V, Elect.
C306	352734709T	47μF, 10V, Elect.
C902	352754719	470μF, 25V, Elect.
C903	352753319	330μF, 25V, Elect.
C904	352743319T	330μF, 16V, Elect.
C906	352744719	470μF, 16V, Elect.
Resistors		
R216	5225015	N10HR10KBD, Semi-fixed
Switch		
S1-S3	25035212	NPS-142-222-L176, FM Auto/ Mono/AM

DISPLAY PC BOARD (NADIS-901)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
IC		
Q501	222541	LB1426
L.E.Ds		
D501~D504	225048	SLP-252B-04, Array
D505, D507	225046	SLP-151B, Red
D506	225047	SLP-251B, Green
Capacitors		
C501, C502	352741009	10μF, 16V, Elect.

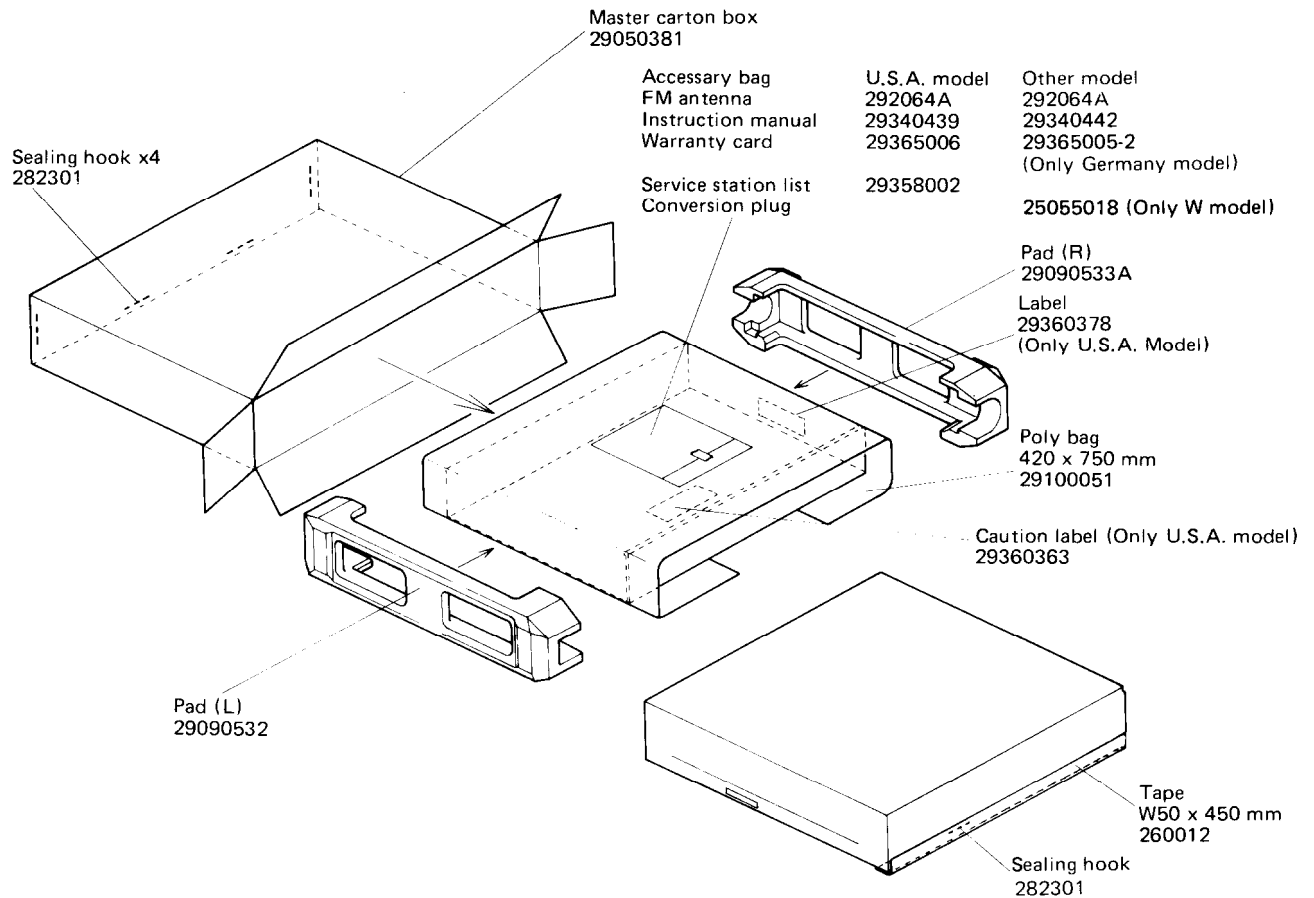
INDICATOR PC BOARDS (NAPL-902)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
L.E.Ds		
D801	225028	GL9PG59, Power indicator
D802	225029	GL9PR9, Muting indicator
D803	225028	GL9PG59, AM indicator
D804	225028	GL9PG59, FM indicator

HUM SENSOR PC BOARD (NASW-903)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
S301	25065128	NSS-2260, Sensor switch

PACKING PROCEDURES



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