

# 2401 - 2402

## TUNER PARTS LIST

Ref. No.	Part No.	Description
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### TUBES

V1	6AB4	FM RF Amplifier
V2	6AB4	FM Converter
V3	6AU6	FM IF Amplifier
V4	6AU6	Limiter
V5	6AL5	Ratio Detector
V6	6AV6	AF Amplifier
V7	6BE6	AM Converter
V8	6BA6	AM IF Amplifier
V9	6AV6	Det-AVC-AF Amp
V10	EZ80/6V4	Rectifier

### CAPACITORS

C1	B35010	50 mfd @ 300V, Elect.
C2A	B35009	40 mfd @ 300V, Elect.
C2B		40 mfd @ 300V, Elect.
C3	A35011	10 mfd @ 50V, Elect.
C4	B35012	20 mfd @ 6V, Elect.
C5	B35012	20 mfd @ 6V, Elect.
C6		680 mmf, ±10%, Ceramic Disc.
C7		1000 mmf, ±20%, Ceramic Disc.
C8		5 mmf, ±20%, Feed Thru
C9		1000 mmf, Feed Thru
C10		20 mmf, ±10% NPO, Ceramic Disc.
C11		1000 mmf, Feed Thru
C12		4.7 mmf, ±10% N750, Ceramic Disc.
C13		10 mmf, ±5% NPO, Ceramic Disc.
C14		10 mmf, ±5% NPO, Ceramic Disc.
C15		15 mmf, ±10% N750, Ceramic Disc.
C16		4.7 mmf, ±10% N750, Ceramic Disc.
C17		9 mmf, ±5% NPO, Ceramic Disc.
C18		150 mmf, ±10% N750, Ceramic Disc.
C19		4.7 mmf, ±10% N220, Ceramic Disc.
C20		5000 mmf, +80% -20%, Ceramic Disc.
C21		3000 mmf @ 1000V, ±10% Ceramic Disc.
C22		5000 mmf, +80% -20%, Ceramic Disc.
C23		47 mmf, ±10%, N1500 Ceramic Disc.
C24		5000 mmf, +80% -20%, Ceramic Disc.
C25		20000 mmf, +80% -20%, Ceramic Disc.
C27		.05 mfd @ 400V, ±20%, Tubular
C28		10 mmf, ±10% NPO, Ceramic Disc.
C29		330 mmf, ±10%, Ceramic Disc.
C29		12 mmf, ±10%, N1500, Ceramic Disc.
C30		47 mmf, ±10%, N1500, Ceramic Disc.
C31		10000 mmf, +80% -20%, Ceramic Disc.
C32		10000 mmf, +80% -20%, Ceramic Disc.
C33		.047 mfd @ 50V, ±20%, Tubular
C34		10000 mmf, +80% -20%, Ceramic Disc.
C35		1000 mmf, +80% -20%, Ceramic Disc.
C36		30 mmf, ±10%, N750, Ceramic Disc.
C37		20000 mmf, +80% -20%, Ceramic Disc.
C38		.05 mfd @ 400V, ±20%, Tubular
C39		10000 mmf, +80% -20%, Ceramic Disc.
C40		680 mmf, ±10%, Ceramic Disc.
C41		.0047 mfd @ 200V, ±5%, Tubular
C42		.0047 mfd @ 200V, ±5%, Tubular
C43		1000 mmf @ 1000V, Ceramic Disc.
C44		1000 mmf @ 1000V, Ceramic Disc.
C45		1000 mmf @ 1000V, Ceramic Disc.

Ref. No.	Part No.	Description
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### RESISTORS

R1	B34009	250K, 1/2 Watt, FM Level Pot.
R2	B34009	250K, 1/2 Watt, AM Level Pot.
R3		47K, 1/2 Watt, Carbon
R4		8200Ω, 1 Watt, Carbon
R5		10K, 1/2 Watt, Carbon
R6		100K, 1/2 Watt, Carbon
R7		5600Ω, 1/2 Watt, Carbon
R8		27K, 1/2 Watt, Carbon
R9		1000Ω, 1/2 Watt, Carbon
R10		68Ω, 1/2 Watt, Carbon
R11		470K, 1/2 Watt, Carbon
R12		100K, 1/2 Watt, Carbon
R13		100K, 1/2 Watt, Carbon
R14		47K, 1/2 Watt, Carbon
R15		100K, 1/2 Watt, Carbon
R16		220K, 1/2 Watt, Carbon
R17		100K, 1/2 Watt, Carbon
R18		1.5 meg, 1/2 Watt, Carbon
R19		1800Ω, 1/2 Watt, Carbon
R20		22K, 1/2 Watt, Carbon
R21		1 meg, 1/2 Watt, Carbon
R22		10K, 1 Watt, Carbon
R23		1000Ω, 1/2 Watt, Carbon
R24		22K, 1/2 Watt, Carbon
R25		68Ω, 1/2 Watt, Carbon
R26		1 meg, 1/2 Watt, Carbon
R27		1 meg, 1/2 Watt, Carbon
R28		1 meg, 1/2 Watt, Carbon
R29		470K, 1/2 Watt, Carbon
R30		100K, 1/2 Watt, Carbon
R31		270K, 1/2 Watt, Carbon
R32		1800Ω, 1/2 Watt, Carbon
R33		1500Ω, 1/2 Watt, Carbon
R34		560K, 1/2 Watt, Carbon
R35		160K, 1/2 Watt, ±5%, Carbon
R36		39K, 1/2 Watt, ±5%, Carbon
R37		33K, 1/2 Watt, Carbon
R38		500Ω, 5 Watt, Wirewound
R39		500Ω, 5 Watt, Wirewound

### COILS

L1	A30022	FM Antenna
L2	B30021	RF Choke
L3	A30020	RF Choke
L4	B30016	FM RF
L5	B30017	FM Osc.
L6	A30019	RF Choke
L7	C30506	1st FM IF
L8	C30507	2nd FM IF
L9	C30508	FM Ratio Det.
L10	B30010	Flt. Choke
L11	A30509	AM Antenna
L12	B30012	AM Osc.
L13	C30505	1st AM IF
L14	C30505	2nd AM IF
L15	B30018	Whistle Filter
L16	B30011	Choke
L17	B30011	Choke

### TRANSFORMER

T1	B30510	Power
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### COMPONENT COMBINATIONS

K1	A37007	Printed Circuit
K2	A37000	Printed Circuit

### MISCELLANEOUS

M1	A31060	3AG, 1 1/2 Amp Fuse
M2	C35015	FM Tuning Cap.
M3	C35014	AM Tuning Cap.
M4	A34510	B Channel Function Switch
M5	A34510	A Channel Function Switch
M6	A34509	Off-On Slide Switch SPDT
M7	A34509	115 VAC to 125 VAC Slide Switch SPDT
M8	31077	Pilot Light, GE #12
M9	31077	Pilot Light, GE #12
	A31081	Dial Glass Panel
	A8352	Knob, Small
	A8246	Knob, Large

### AMPLIFIER PARTS LIST

Ref. No.	Part No.	Description
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#### TUBES

V11A	ECC83/ 12AX7	Intercom Preamp
V11B		A Channel Preamp
V12	ECC83/ 12AX7	AF Amplifier
V13A	ECC82/ 12AU7	A Channel Phase Inverter
V13B		B Channel Phase Inverter
V14	6AQ5A	A Channel Output
V15	6AQ5A	A Channel Output
V16	6AV6	B Channel Preamp
V17	ECC83/ 12AX7	AF Amplifier
V18	6AQ5A	B Channel Output
V19	6AQ5A	B Channel Output
V20	EZ80/ 6CA4	Rectifier

#### CAPACITORS

C46	B35006	40 mfd @ 350V, Electrolytic
C47A	B35007	40 mfd @ 350V, Electrolytic
C47B		40 mfd @ 350V, Electrolytic
C47C		10 mfd @ 350V, Electrolytic
C48A	B35008	50 mfd @ 50V, Electrolytic
C48B		250 mfd @ 50V, Electrolytic
C49		5000 mmf @ 500V, ± 20%, Ceramic Disc.
C50		1000 mmf @ 500V GMV, Ceramic Disc.
C51		220 mmf @ 1000V GMV, Ceramic Disc.
C52		220 mmf @ 1000V GMV, Ceramic Disc.
C53		33 mmf, ± 10%, N750, Ceramic Disc
C54		10000 mmf, +80% -20% Ceramic Disc.
C55		20000 mmf, +80% -20% Ceramic Disc.
C56		.013 mfd @ 200V, ± 10%, Tubular
C57		330 mmf @ 1000V, ± 10%, Ceramic Disc.
C58		2000 mmf @ 1000V, ± 10%, Ceramic Disc.
C59		1000 mmf @ 1000V, ± 10%, Ceramic Disc.
C60		10000 mmf, +80% -20% Ceramic Disc.
C61		10000 mmf +80% -20%, Ceramic Disc.
C62		10000 mmf +80% -20%, Ceramic Disc.
C63		10000 mmf +80% -20%, Ceramic Disc.
C64		47 mmf @ 1000V, ± 10% Ceramic Disc.
C65		10000 mmf, +80% -20%, Ceramic Disc.
C66		20000 mmf, +80% -20%, Ceramic Disc.
C67		.013 mmf @ 200V, ± 10%, Tubular
C68		330 mmf @ 1000V, ± 10%, Ceramic Disc.

Ref. No.	Part No.	Description
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#### CAPACITORS (Cont'd)

C69		2000 mmf @ 1000V, ± 10%, Ceramic Disc.
C70		1000 mmf @ 1000V, ± 10%, Ceramic Disc.
C71		10000 mmf +80% -20%, Ceramic Disc.
C72		10000 mmf +80% -20%, Ceramic Disc.
C73		10000 mmf +80% -20%, Ceramic Disc.
C74		10000 mmf +80% -20%, Ceramic Disc.

#### CONTROLS

R40	B34008	500K, Potentiometer, Intercom Gain
R41A	B34006	500K, Potentiometer, Loudness, Dual
R41B		500K
R42A	B34005	500K, Potentiometer, Balance W/Switch, Dual
R42B		500K
R43A	B34004	2 meg, Potentiometer, Treble, Dual
R43B		2 meg
R44A	B34004	2 meg, Potentiometer, Bass, Dual
R44B		2 meg
R45	B34007	250Ω, Potentiometer, Hum Balance

#### RESISTORS

R46		10Ω, 1/2 Watt, Carbon
R47		10Ω, 1/2 Watt, Carbon
R48		10Ω, 1/2 Watt, Carbon
R49		47K, 1/2 Watt, Carbon
R50		270K, 1/2 Watt, Carbon
R51		680Ω, 1/2 Watt, Carbon
R52		1.2 meg, 1/2 Watt, Carbon
R53		470K, 1/2 Watt, Carbon
R54		2.2 meg, 1/2 Watt, Carbon
R55		6.8 meg, 1/2 Watt, Carbon
R56		100K, 1/2 Watt, Carbon
R57		4700Ω, 1/2 Watt, Carbon
R58		22K, 1/2 Watt, Carbon
R59		680K, 1/2 Watt, Carbon
R60		220K, 1/2 Watt, Carbon
R61		47K, 1/2 Watt, Carbon
R62		22K, 1/2 Watt, Carbon
R63		470K, 1/2 Watt, Carbon
R64		2200Ω, 1/2 Watt, Carbon
R65		1 meg, 1/2 Watt, Carbon
R66		1 meg, 1/2 Watt, Carbon
R67		4700Ω, 1/2 Watt, Carbon
R68		18K, 1/2 Watt, Carbon
R69		100K, 1/2 Watt, Carbon
R70		100K, 1/2 Watt, Carbon
R71		470K, 1/2 Watt, Carbon
R72		470K, 1/2 Watt, Carbon
R73		180Ω, 2 Watt, Wirewound
R74		680K, 1/2 Watt, Carbon
R75		220K, 1/2 Watt, Carbon
R76		6.8 meg, 1/2 Watt, Carbon
R77		100K, 1/2 Watt, Carbon

### AMPLIFIER PARTS LIST (Cont'd)

Ref. No.	Part No.	Description
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#### RESISTORS (Cont'd)

R78		4700Ω, 1/2 Watt, Carbon
R79		22K, 1/2 Watt, Carbon
R80		680K, 1/2 Watt, Carbon
R81		220K, 1/2 Watt, Carbon
R82		47K, 1/2 Watt, Carbon
R83		22K, 1/2 Watt, Carbon
R84		470K, 1/2 Watt, Carbon
R85		2200, 1/2 Watt, Carbon
R86		1 meg, 1/2 Watt, Carbon
R87		1 meg, 1/2 Watt, Carbon
R88		4700Ω, 1/2 Watt, Carbon
R89		18K, 1/2 Watt, Carbon
R90		100K, 1/2 Watt, Carbon
R91		100K, 1/2 Watt, Carbon
R92		470K, 1/2 Watt, Carbon
R93		470K, 1/2 Watt, Carbon
R94		180Ω, 2 Watt, Wirewound
R95		2200Ω, 2 Watt, Wirewound
R96		3300Ω, 1/2 Watt, Carbon
R97		47K, 1/2 Watt, Carbon
R98		100Ω, 1/2 Watt, Carbon
R99		220K, 1/2 Watt, Carbon
R100		47Ω, 1/2 Watt, Carbon
R101		47Ω, 1/2 Watt, Carbon
R102		150Ω, 1/2 Watt, Carbon
R103		150Ω, 1/2 Watt, Carbon
R104		150Ω, 1/2 Watt, Carbon
R105		150Ω, 1/2 Watt, Carbon
R106		150Ω, 1/2 Watt, Carbon
R107		150Ω, 1/2 Watt, Carbon
R108		150Ω, 1/2 Watt, Carbon
R109		150Ω, 1/2 Watt, Carbon
R110		150Ω, 1/2 Watt, Carbon
R111		150Ω, 1/2 Watt, Carbon
R112		150Ω, 1/2 Watt, Carbon
R113		150Ω, 1/2 Watt, Carbon
R114		150Ω, 1/2 Watt, Carbon
R115		150Ω, 1/2 Watt, Carbon

Ref. No.	Part No.	Description
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#### RESISTORS (Cont'd)

R116		150Ω, 1/2 Watt, Carbon
R117		150Ω, 1/2 Watt, Carbon
R118		47Ω, 1/2 Watt, Carbon

#### TRANSFORMERS

T2	B30502	Power
T3	B30504	Input
T4	B30503	A Channel Output
T5	B30503	B Channel Output

#### SPEAKER

SP3	B36005	Speaker, 3 1/2", Door Remote
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#### MISCELLANEOUS

M10	A36501	Selenium Rectifier
M11	A31032	3AG 2 Amp Fuse
M12	A34509	115 VAC to 125 VAC Slide Switch SPDT
M13	A34507	ON - Auto Slide Switch SPDT
M14	B34508	4 Pole 3 Position Switch
M15	B34508	4 Pole 3 Position Switch
M16	B34508	4 Pole 3 Position Switch
M17	B34508	4 Pole 3 Position Switch
M18	B34508	4 Pole 3 Position Switch
M19	B34508	4 Pole 3 Position Switch
M20	B34508	4 Pole 3 Position Switch
M21	B34508	4 Pole 3 Position Switch
M22	B31030	4 Pole 1 Position Relay
M23	31015	Neon Lamp
	A31049	4 Screw Terminal Strip
	A31050	16 Screw Terminal Board
	A31055	Color Wire Coding Label
	A8245	Knob, Lever Switch
	A8246	Knob, Large

### REMOTE CONTROL PARTS LIST

Ref. No.	Part No.	Description
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#### RESISTORS

R119	A34003	50Ω, Potentiometer, A Channel Gain
R120	A34003	50Ω, Potentiometer, B Channel Gain
R121		150Ω, 1/2 Watt, Carbon
R122		150Ω, 1/2 Watt, Carbon
R123		150Ω, 1/2 Watt, Carbon
R124		150Ω, 1/2 Watt, Carbon
R125		150Ω, 1/2 Watt, Carbon
R126		150Ω, 1/2 Watt, Carbon

Ref. No.	Part No.	Description
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#### SPEAKERS

SP1	C36004	Speaker, 8", A Channel
SP2	C36004	Speaker, 8", B Channel
	C36007	Speaker, 8", Patio Outside

#### MISCELLANEOUS

M24	A34505	4 Pole, Single throw, spring return switch
M25	A34506	2 Pole, Single throw, spring return switch
	A31025	Terminal strip
	A8267	Label, color code strip
	A8245	Knob, Lever switch
	A8265	Knob, small

# Nutone

## Supplemental Information

### MODELS 2401-2402-N2402

#### Stereo and Intercom High Fidelity Systems

#### AMPLIFIER CHASSIS—MODEL 2401

The tone control circuit of both channels has been revised in later productions. The following parts have been changed or added. Please mark the parts list accordingly:

Change:  
C53           33 mmf,  $\pm 10\%$ , N750, Ceramic Disc  
To:  
C53           47 mmf,  $\pm 10\%$ , N750, Ceramic Disc  
Change:  
C64           47 mmf @ 1000V,  $\pm 10\%$ , Ceramic Disc

To:  
C64           100 mmf @ 1000V,  $\pm 10\%$ , Ceramic Disc  
Change:  
R59           680K,  $\frac{1}{2}$  Watt, Carbon  
To:  
R59           470K,  $\frac{1}{2}$  Watt, Carbon  
Add:  
C75           33 mmf @ 1000V,  $\pm 10\%$ , Ceramic Disc  
C76           100 mmf @ 1000V,  $\pm 10\%$ , Ceramic Disc  
C77           100 mmf @ 1000V,  $\pm 10\%$ , Ceramic Disc

## AM-FM TUNER CHASSIS—MODEL 2402

Refer to AM-FM tuner schematic on pages 17 and 18 of Service Manual. Capacitor C37 should read 20000 mmf.

Capacitor C35 in the AM-FM tuner parts list on page 22 should read as follows:

C35                    10000 mmf, +80%-20%, Ceramic Disc

The color code on the power transformer (T1) secondary windings is shown incorrectly. Refer to Fig. 2 for correct color code.

## AM-FM STEREO TUNER—MODEL N-2402

The switching and output circuitry in the Model N-2402 AM-FM Stereo Tuner differs from the Model 2402 AM-FM Tuner as shown in Fig. 2. The following parts have been changed or added:

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>
C15		15 mmf, $\pm 10\%$ , NPO, Disc Ceramic
C80		100 mmf, $\pm 10\%$ , Mica
R15		68 $\Omega$ , 1/2 Watt, Carbon
R130		8200 $\Omega$ , 1/2 Watt, Carbon
R131		4700 $\Omega$ , 1/2 Watt, Carbon
R132	34022	Level Control, 250K Dual
R133		22K, 1/2 Watt, Carbon
R134		22K, 1/2 Watt, Carbon
R135		22K, 1 Watt, Carbon
R136		10K, 1 Watt, Carbon
R137		10K, 1 Watt, Carbon
L20	30037	Filter
M26	31410	Multiplex Power Socket, 5 Pin
	40216	Dial Glass

## MULTIPLEX ADAPTER PARTS LIST

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>	<i>Ref. No.</i>	<i>Part No.</i>	
		TUBES			RESISTORS (Cont'd)
V21		6D10, Amp. & Osc.	R147		1000Ω, ½ Watt, Carbon
		CAPACITORS	R148		220K, ½ Watt, Carbon
			R149		15K, ½ Watt, Carbon
C81	35115	10 mfd @ 150V, Electrolytic			DIODES
C82	35116	2 mfd @ 150V, Electrolytic			
C83		.1 mfd @ 100V, Ceramic Disc	X1	36544	1N542 (Matched Pair of 1N541's)
C84		100 mmf ±10%, Mica	X2		
C85		.0022 mfd ±10%, Ceramic Disc			COILS
C86		.0022 mfd ±10%, Ceramic Disc	L21	30041	Trap, 67KC
C87		.001 mfd ±10%, Ceramic Disc	L22	30039	Oscillator, 19KC
C88		.001 mfd ±10%, Ceramic Disc	L23	30038	Doubler, 38KC
C89		470 mmf ±10%, Mica	L24	30040	Filter, 76KC
C90		75 mmf, N2200, Ceramic Disc	L25	30040	Filter, 76KC
C91		.001 mfd ±10%, Mica			COMPONENT COMBINATIONS
C92	35117	1.5-10 mmf, Trimmer			
C93		1500 mmf ±10%, Mica	K3	31416	Filter, 38KC
		RESISTORS	K4	31417	Filter, 38KC
R138		470K, ½ Watt, Carbon	K5	31417	Filter, 38KC
R139		47K, ½ Watt, Carbon			MISCELLANEOUS
R140		470Ω, ½ Watt, Carbon	M27	40212	Phono Plug Ass'y., Multiplex Input
R141		47K, ½ Watt, Carbon	M28		Phono Plug, Output
R142		10K, ½ Watt, Carbon	M29		Phono Plug, Output
R143		15K, ½ Watt, Carbon	M30	31414	Power Plug, 5-Pin
R144		15K, ½ Watt, Carbon		31413	Tube Socket, 12-Pin
R145		470K, ½ Watt, Carbon			
R146		47K, ½ Watt, Carbon			