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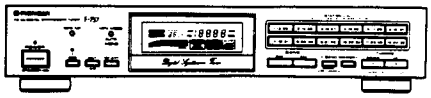
The future of sound and vision.

Service Manual



ORDER NO.
ARP2019

FM/AM DIGITAL SYNTHESIZER TUNER

F-757

MODEL F-757 HAS FOLLOWING VERSIONS:

Type	Power requirement	Export destination
HEWZI	AC220V, 240V (switchable)*	West Germany and Italy
HE	AC220V, 240V (switchable)*	European continent
HB	AC220V, 240V (switchable)*	United Kingdom

* Change the primary wiring of the power transformer.

- **This manual is applicable to the F-757/HEWZI, HE and HB types.**
- **As to the HE and HB types, refer to page 33.**
- **Ce manuel pour le service comprend les explications de réglage en français.**
- **Este manual de servicio trata del método ajuste escrito en español.**

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

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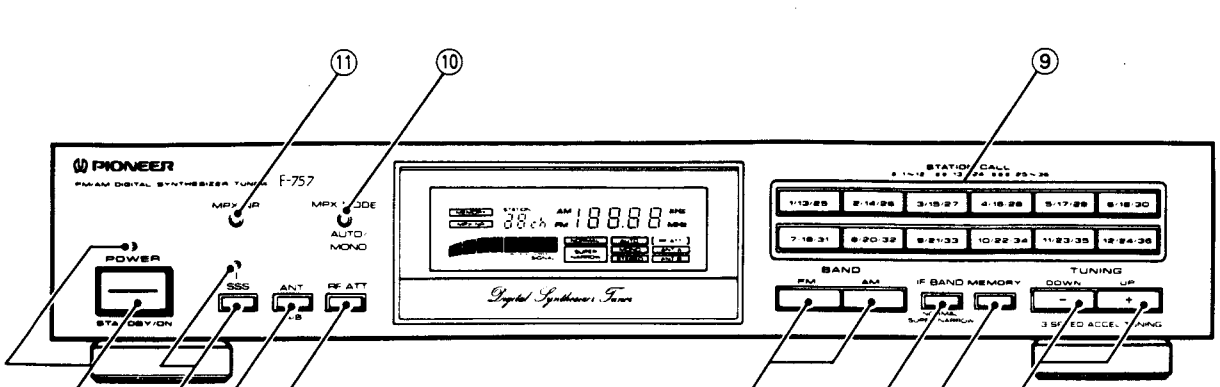
1. PANEL FACILITIES



① POWER (STANDBY/ON) switch/indicator

When the power is on, indicator lights.

ON..... When set to ON position, power is supplied and the unit becomes operational

STANDBY ..... When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

NOTE:

- *The memory will be backed up so long as the power cord is not unplugged.*
- *If the power cord is unplugged, the memory will be retained for several days.*

② SSS button/indicator

When SSS is on, indicator lights. If turned on during reception of AM or when MPX MODE is set to MONO during FM, this will produce a simulated stereo effect which provides rich ambience.
SSS: Spectrum Simulated Stereo.

NOTE:
This button's status is preset for each station in station memory.

③ ANT A/B button

Selects between two antennas connected to the FM antenna A and B terminals. [ANT A] or [ANT B] indicator lights up.

NOTE:
This button's status is preset for each station in station memory.

④ RF ATT button

Set this switch to ON when receiving strong FM signals (nearby stations) to reduce sound distortion ([RF ATT] indicator lights).
Normally, this switch should be set to OFF.

NOTE:
This button's status is preset for each station in station memory.

⑤ BAND selector buttons

FM:
Press to receive FM broadcasts.
AM:
Press to receive AM broadcasts.

⑥ IF BAND button

Each time this button is pressed the bandwidth of the IF circuit switches between "normal" and "super narrow" for the FM band and the AM band.
The selected bandwidth is displayed as follows:
The [NORMAL] or [SUPER NARROW] indicator lights up.
Set to SUPER NARROW in case of interference from other stations.

NOTE:
The setting of this button is memorized together with the station in the station memory.

⑦ MEMORY button

Press to memorize preset stations. The [MEMORY] indicator will remain lit for several seconds. Press the desired STATION CALL buttons to memorize it during this period.

⑧ TUNING UP/DOWN buttons

Use these buttons to tune in broadcasting stations. Press UP (+) to receive a station whose frequency is higher than the displayed frequency, and DOWN (−) to tune into a lower frequency station.

⑨ STATION CALL buttons

Use these buttons to preset stations and to receive already preset stations.

⑩ MPX (multiplex) MODE button

Mode changes as follows each time this button is pressed:

AUTO → MONO →

This button does not affect AM reception.

AUTO:
Depending on the broadcast station, STEREO or MONO is automatically selected.
[AUTO] indicator lights up.

NOTE:
When the signal level is too weak for reception, sound output is automatically muted.

MONO:
To receive stereo broadcasts in monaural.
[MONO] indicator lights up.

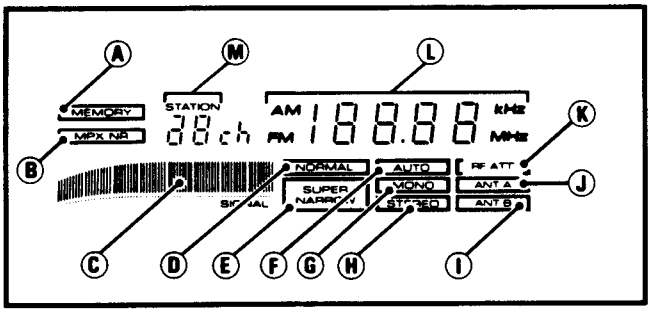
NOTE:
The setting of this button is memorized together with the station in the station memory.

⑪ MPX NR button

When [MPX NR] is on, indicator lights up.
During reception of stereo broadcasts where the signal is weak, set this to ON if noise is a problem. Noise will be suppressed and sound quality will become clearer.

NOTE:
- *This button's status is preset for each station in station memory.*
- *This does not operate during AM signal reception or when the MPX mode is MONO.*

OPERATING DISPLAY



Ⓐ MEMORY indicator
Lights for a several seconds when MEMORY button is pressed.

Ⓑ MPX NR indicator
This indicator lights when the MPX NR is operating.

Ⓒ SIGNAL indicator

Ⓓ NORMAL indicator
Stays lit while IF BAND button is set to NORMAL.

Ⓔ SUPER NARROW indicator
Stays lit while IF BAND button is set to SUPER NARROW.

Ⓕ AUTO indicator
Stays lit while MPX MODE button is set to AUTO.

Ⓖ MONO indicator
Stays lit while MPX MODE button is set to MONO.

Ⓗ STEREO indicator
Lights up when a stereo broadcast is received.
(The indicator does not light when the MPX MODE button is set to MONO.)

Ⓘ ANT B indicator
Lights when ANT A/B button selects B.

Ⓙ ANT A indicator
Lights when ANT A/B button selects A.

Ⓚ RF ATT indicator
Stays lit while RF ATT button is on.

Ⓛ Frequency indicator
Shows reception band and frequency.

Ⓜ STATION indicator
When STATION CALL buttons are pressed, it will show the corresponding channel number.

⑩ MPX (multiplex) MODE button

Mode changes as follows each time this button is pressed:

→ AUTO → MONO →

This button does not affect AM reception.

AUTO:
Depending on the broadcast station, STEREO or MONO is automatically selected.
[AUTO] indicator lights up.

NOTE:
When the signal level is too weak for reception, sound output is automatically muted.

MONO:
To receive stereo broadcasts in monaural.
[MONO] indicator lights up.

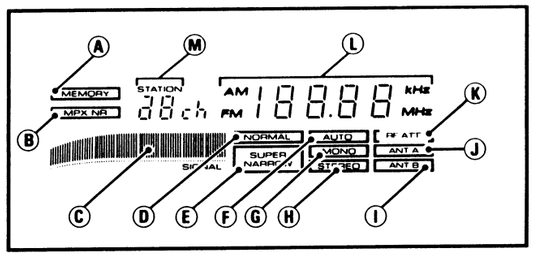
NOTE:
The setting of this button is memorized together with the station in the station memory.

⑪ MPX NR button

When [MPX NR] is on, indicator lights up.
During reception of stereo broadcasts where the signal is weak, set this to ON if noise is a problem. Noise will be suppressed and sound quality will become clearer.

NOTE:
- *This button's status is preset for each station in station memory.*
- *This does not operate during AM signal reception or when the MPX mode is MONO.*

OPERATING DISPLAY



Ⓐ MEMORY indicator
Lights for a several seconds when MEMORY button is pressed.

Ⓑ MPX NR indicator
This indicator lights when the MPX NR is operating.

Ⓒ SIGNAL indicator

Ⓓ NORMAL indicator
Stays lit while IF BAND button is set to NORMAL.

Ⓔ SUPER NARROW indicator
Stays lit while IF BAND button is set to SUPER NARROW.

Ⓕ AUTO indicator
Stays lit while MPX MODE button is set to AUTO.

Ⓖ MONO indicator
Stays lit while MPX MODE button is set to MONO.

Ⓗ STEREO indicator
Lights up when a stereo broadcast is received.
(The indicator does not light when the MPX MODE button is set to MONO.)

Ⓘ ANT B indicator
Lights when ANT A/B button selects B.

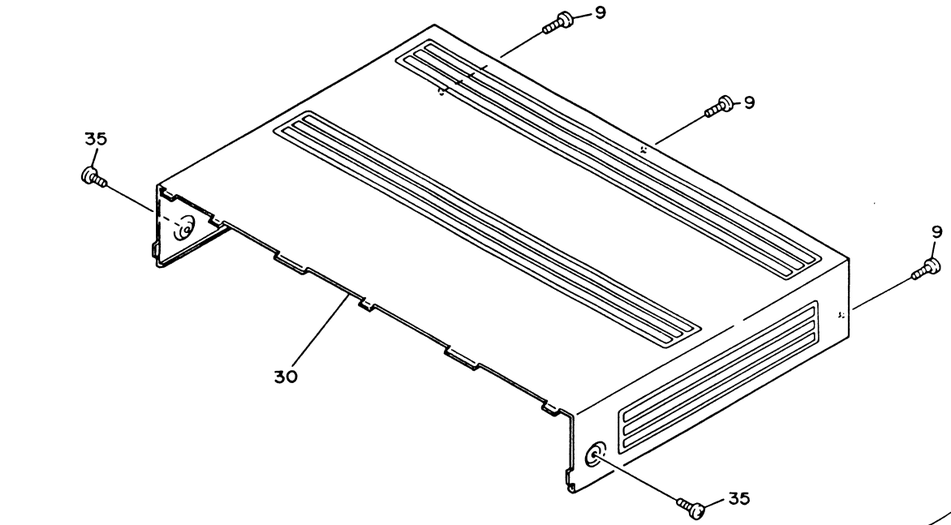
Ⓙ ANT A indicator
Lights when ANT A/B button selects A.

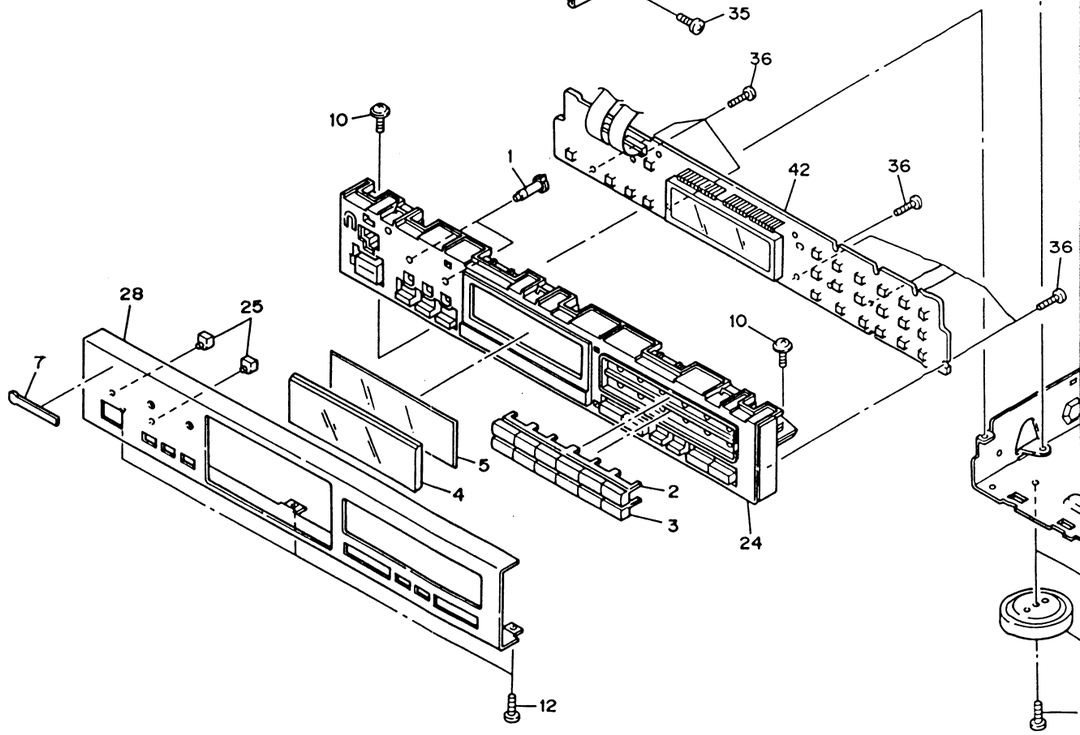
Ⓚ RF ATT indicator
Stays lit while RF ATT button is on.

Ⓛ Frequency indicator
Shows reception band and frequency.

Ⓜ STATION indicator
When STATION CALL buttons are pressed, it will show the corresponding channel number.

2. EXPLODED VIEWS, PAKING AND PARTS LIST





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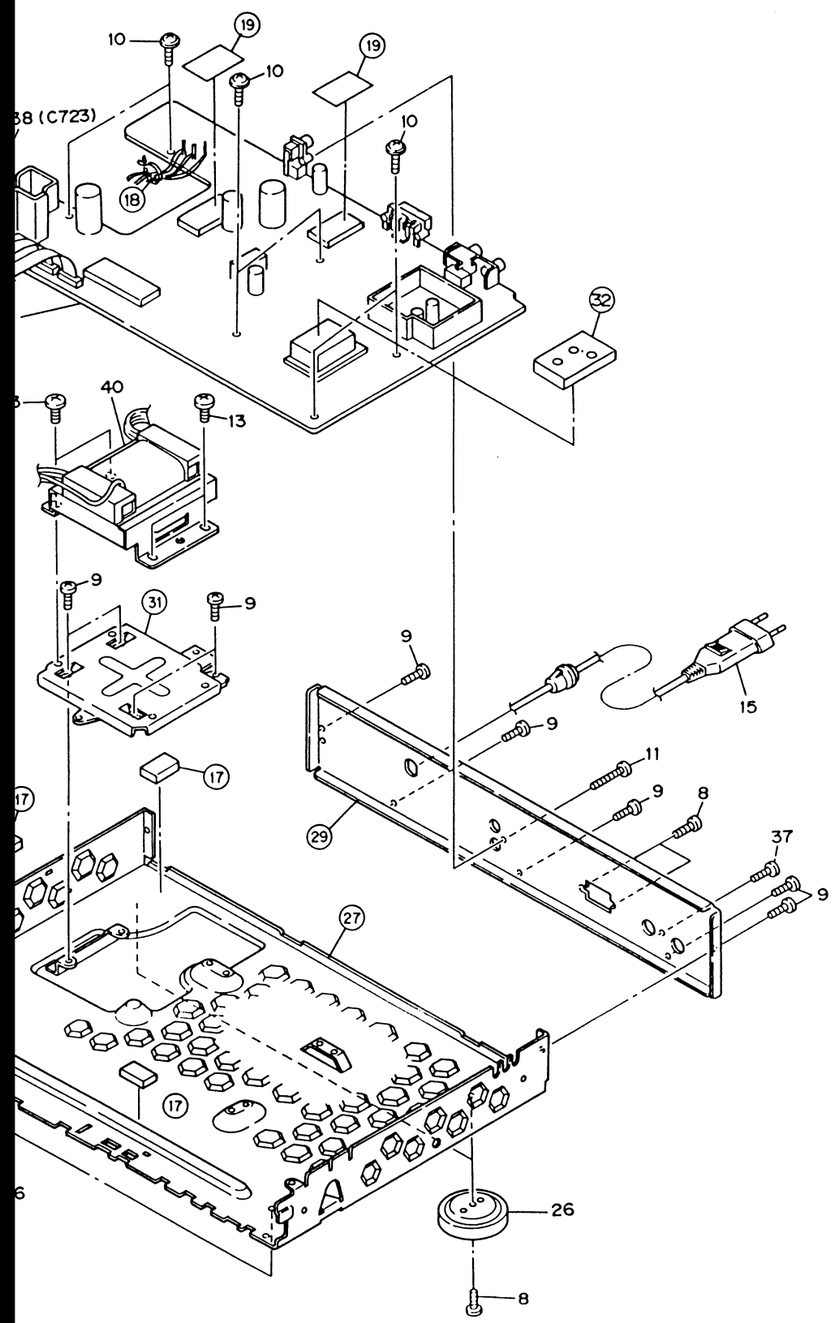


A

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of indetical designation.*

PARTS LIST OF EXTERIOR AND PACKING

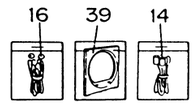
B

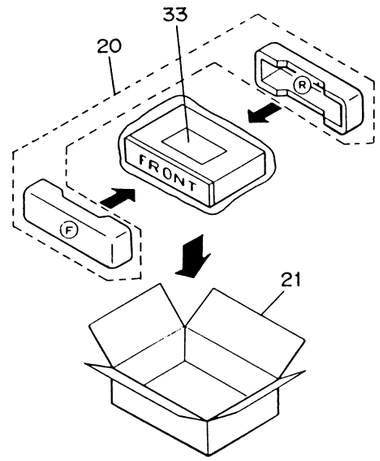
Mark	No. & Description	Part No.
	1. TACT BUTTON(PLS)	AAD1733
	2. STATION BUTTON	AAD1751
	3. STATION BUTTON	AAD1752
	4. PANEL	AAK1685
	5. FL FILTER	AAK1785
	6. •••	
	7. NAME PLATE	AAM1029
	8. SCREW	ABA-298
	9. SCREW	ABA1009
	10. SCREW (STEEL)	ABA1011
	11. SCREW (STEEL)	ABA1047
	12. SCREW (STEEL)	ABA1048
	13. SCREW 4X6	ABA1074
	14. PULG CORD	ADE-081
⚠	15. AC POWER CORD	ADG1010
	16. FM ANTENNA	ADH1002
	17. CUSSION	
	18. NYLON BINDER	
	19. CU PLATE	
	20. PAD(F/R)	AHA1095
	21. PACKING CASE	AHD1799
	22. •••	
	23. PACKING SHEET	AHG1017
	24. PANEL BASE	AMB1598
	25. INDICATING LENS	AMR1160
	26. INSULATOR ASSEMBLY	AMR2140
	27. CHASSIS ASSEMBLY	
	28. FRONT PANEL	ANB1372
	29. REAR PANEL	
	30. BONNET	AZN1745
	31. TRANS. HOLDER	
	32. SHIELD PLATE	
	33. OPERATING INSTRUCTIONS (German, Italian)	ARC1179
	34. •••	
	35. SCREW	BBT30P060FZK
	36. SCREW	BPZ26P080FMC
	37. SCREW	VMZ30P060FCU
	38. CAPACITOR(C723,0.01μ/AC150V)	ACG1005
	39. LOOP ANTENNA(AM)	ATB-086
⚠	40. POWER TRANSFORMER (T701)	ATT1116
	41. TUNER ASSEMBLY	AWZ2904
	42. DISPLAY ASSEMBLY	AWZ2933

C

D

- **Packing**





4 5 6

No.	Pin Name	I/O	Function	Active
41	—	—	NC (GND)	—
42	—	—	NC (GND)	—
43	FM+B	O	FM+B	L
44	NARROW	O	Narrow	L
45	WIDE	O	Wide	L
46	AM+B	O	AM+B	L
47	FLAC	O	FL AC	L
48	SB	O	Super base	H
49	PMT	O	Power mute	H
50	PWR	O	Power	L
51	TEST	I	Test data	L
52	ANT A/B	O	ANT-A/B change	H/L
53	K04	O	Key matrix output	L
54	K03	O	Key matrix output	L
55	K02	O	Key matrix output	L
56	K01	O	Key matrix output	L
57	—	—	NC (GND)	—
58	PLL	—	PLL	—
59	BLK	O	FL blank	L
60	ST1	O	LC7570 No.1 enable	H
61	ST2	O	LC7570 No.2 enable	H
62	PLL E	O	PLL enable	H
63	DAT	O	Serial transfer data	H
64	CLK	O	Serial transfer data	H

PA0042

No.	Pin Name	Function
1	Vcc	Power supply
2	CH1 IN	CH1 input
3	CH2 IN	CH2 input
4	OUT	Output for control
5	IN	Input for control
6	SB	Low-range emphasis
7	C1	DC capacitor 1
8	F1	Band-pass filter 1
9	C2	DC capacitor 2
10	F2	Band-pass filter 2
11	C3	DC capacitor 3
12	F3	Band-pass filter 3
13	C4	DC capacitor 4
14	F4	Band-pass filter 4
15	C5	DC capacitor 5
16	F5	Band-pass filter 5
17	C6	DC capacitor 6
18	F6	Band-pass filter 6
19	C7	DC capacitor 7
20	F7	Band-pass filter 7
21	C8	DC capacitor 8
22	F8	Band-pass filter 8
23	S3	Mode selection 3
24	S2	Mode selection 2
25	S1	Mode selection 1
26	REF	Reference voltage input
27	VREF	Internal reference voltage terminal
28	CH2 OUT	CH2 output
29	CH1 OUT	CH1 output
30	GND	Ground

8. FOR HE AND HB TYPES

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

CONTRAST OF MISCELLANEOUS PARTS

F-757/HE and HB types are the same as the F-757/HEWZI type with the exception of the following sections.

Mark	Symbol & Description	Part No.			Remarks
		F-757/HEWZI	F-757/HE	F-757/HB	
	Tuner assembly	AWZ2904	AWZ2932	AWZ2932	
⚠	AC power cord	ADG1010	ADG1021	ADG-063	
	GND screw	ABA1047	—	—	
	Name plate	Non supply	Non supply	Non supply	
	Shield plate	Non supply	—	—	
	Operating instructions (German, Italian)	ARC1179	—	—	
	Operating instructions (English)	—	ARE1140	—	
	Operating instructions (English/French/German/Italian /Dutch/Swedish/Spanish/Portuguese)	—	—	ARB1224	

Tuner Assembly (AWZ2932)

The Tuner assembly (AWZ2932) is the same as the Tuner assembly (AWZ2904) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2904	AWZ2932	
	L602, L604	LAU100K	—	
	L603	LAU010M	—	
	C620	CKDYX473M25	—	
	R611, R612	RDR1/4PM103J	RDR1/4PM102J	
	R616, R617	RDR1/4PM471J	RDR1/4PM102J	

9. SPECIFICATIONS

FM Tuner Section

Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity
NORMAL ..... Mono: 11.2 dBf, IHF (1.0 μV/75 Ω)
50 dB Quieting Sensitivity
NORMAL ..... Mono: 15.9 dBf, IHF (1.7 μV/75 Ω)
Stereo: 36.2 dBf, IHF (17.7 μV/75 Ω)
Sensitivity (DIN)
NORMAL ..... Mono: 0.8 μV/75 Ω
Stereo: 26 μV/75 Ω
Signal-to-Noise Ratio ..... Mono: 94 dB (at 80 dBf)
Stereo: 87 dB (at 80 dBf)
Distortion (at 80 dBf)
NORMAL ..... Mono: 0.03 % (1 kHz)
Stereo: 0.06 % (1 kHz)
SUPER NARROW ..... Mono: 0.2 % (1 kHz)
Stereo: 0.8 % (1 kHz)
Capture Ratio
NORMAL ..... 1.0 dB
Alternate Channel Selectivity
NORMAL ..... 80 dB (400 kHz)
SUPER NARROW ..... 80 dB (300 kHz)
Stereo Separation ..... 60 dB (1 kHz)
50 dB (20 Hz to 10 kHz)
Frequency Response ..... $^{+0.2}_{-0.8}$ dB (20 Hz to 15 kHz)
Image Response Ratio ..... 80 dB
IF Response Ration ..... 100 dB
AM Suppression Ratio ..... 70 dB
Spurious Response Ratio ..... 80 dB
Subcarrier Product Ratio ..... 60 dB
Muting Threshold ..... 23.2 dBf (4 μV/75 Ω)
Antenna Input ..... 75 Ω unbalanced

AM Tuner Section

Frequency range ..... 531 kHz to 1,602 kHz (Step 9 kHz)
Sensitivity (IHF, Loop antenna) ..... 150 μV/m
Selectivity ..... 40 dB
Signal-to-Noise Radio ..... 50 dB
Image Response Ratio ..... 40 dB
IF Response Ratio ..... 60 dB
Antenna ..... Loop Antenna

Audio Section

Output (Level/Impedance)
FM (100% MOD) ..... HEWZI type: 1000 mV/0.5 kΩ
HE, HB types: 650 mV/0.9 kΩ
AM (30% MOD) ..... HEWZI type: 220 mV/0.5 kΩ
HE, HB types: 150 mV/0.9 kΩ

Miscellaneous

Power requirements ..... a.c. 240 Volts, 50/60Hz
Power Consumption ..... 20 W
Dimensions ..... 420 (W) x 86 (H) x 316 (D) mm
16-1/2 (W) x 3-3/8 (H) x 12-7/16 (D) in
Weight (without package) ..... 4.1 kg (9 lb 1 oz)

Furnished Parts

FM T-type Antenna 1
AM Loop Antenna 1
Connecting Cord with Pin Plugs 1
Operating Instructions 1

NOTE:
Specifications and design subject to possible modification without notice due to improvements.