

ICF-S79/S79L/S79V

SERVICE MANUAL

US Model
ICF-S79V

AEP Model
ICF-S79/S79L

UK Model
ICF-S79L



Photo: ICF-S79V

SPECIFICATIONS

Frequency range:

Model for North and South America

Band	ICF-S79V	Channel step
FM	87.5 – 108 MHz	0.1 MHz
AM	530 – 1,710 kHz	10 kHz
TV	2 – 13 ch	—
WEATHER	1 – 5 ch	—

Model for other countries

Band	ICF-S79	ICF-S79L	Channel Step
FM	87.5 – 108 MHz	87.5 – 108 MHz	0.05 MHz*
AM(MW)	531 – 1,602 kHz	531 – 1,602 kHz	9 kHz
LW	—	153 – 279 kHz	9 kHz

* The frequency display is raised or lowered by steps of 0.1 MHz. For example, both 88.00 MHz and 88.05 MHz will be displayed as "88.0 MHz."

Time display:

Model for North and South America: 12-hour system

Model for other countries: 24-hour system

Speaker:

7.7 cm (3 1/8 inches), 8 ohms

Power output:

220 mW (at 10% harmonic distortion)

Power requirements:

4.5 V DC, three size C (R14) batteries

Dimensions:

Approx. 143.5 x 139 x 67 mm (w/h/d) (Approx. 5 3/4 x 5 1/2 x 2 3/4 inches) incl. projecting parts and controls

Mass:

Approx. 523 g (1lb 2oz) incl. batteries

Supplied accessories:

Suction cup (1), Strap (1)*

*North and South American model only

Design and specifications are subject to change without notice.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

ICF-S79

FM/AM SYNTHESIZED RADIO

ICF-S79L

FM/MW/LW SYNTHESIZED RADIO

ICF-S79V

TV/WEATHER/FM/AM SYNTHESIZED RADIO



SONY®

This section is extracted from instruction manual.

SECTION 1 GENERAL

Before You Begin

Thank you for choosing a Sony radio! It will give you many hours of reliable service and listening pleasure. Before operating the radio, please read these instructions thoroughly and retain them for future reference.

These instructions cover these models: ICF-S79, ICF-S79L and ICF-S79V. Their differences are shown below.

Model Number	Band
ICF-S79	FM/AM
ICF-S79L	FM/MW/LW
ICF-S79V	TV/WEATHER/FM/AM

Features

- Splash resistant; you can listen to the radio while taking a shower.
- 90 minute Countdown Timer with 5 timer presets.
- AUTO OFF function automatically turns off the radio after a preset duration.
- PLL (Phase Locked Loop) Synthesized Tuner.
- 5 memory presets buttons to preset your favorite stations for easy tuning.

Installing the Batteries (See Fig. A)

Wipe all water droplets from the radio. Then, open the lid at the rear of the radio. Install three R14 (size C) batteries (not supplied) with correct polarity and close the lid until it clicks.

Battery Life

Using Sony R14 (size C) batteries (Approx. hours)

	AM(MW)/LW	FM	TV/WEATHER
ICF-S79	110	80	—
ICF-S79L	110	80	—
ICF-S79V	110	80	65

Replacing the Batteries

- When the batteries become weak, the sound becomes weak and distorted and "⊞" flashes. Replace the batteries with new ones. When the batteries are completely exhausted, the radio and the timer will turn off and "⊞" is displayed.
- Before replacing the batteries, make sure that the radio is turned off.
- After replacing the batteries, press **RADIO ON** and "⊞" will disappear.
- Replace the batteries within a minute. Otherwise, the memories for the clock and the preset stations will be erased and "AM 12:00" or "0:00" will flash in the display the next time the batteries are installed.
- To preserve clock and memory settings, keep unexhausted batteries in the radio even when you are not going to use the unit for a long time. Replace the batteries with new ones in about a year, since battery power is consumed even in this condition.

Notes on the batteries

- Do not charge the dry batteries.
- Do not carry the batteries with coins or other metallic objects. It can generate heat if the positive and negative terminals of the batteries are accidentally contacted by a metallic object.
- Do not leave exhausted batteries in the radio when you are not going to use the unit for a long time. Remove the batteries to avoid damage from battery leakage and corrosion.

Setting the Clock

"AM 12:00" or "0:00" will flash in the display when the batteries are installed for the first time. The clock can be adjusted whether or not the radio is on.

- To stop flashing of the display, press **CLOCK**.
- While holding down **CLOCK**, press **TIME ADJUST +** or **-** until the correct time appears in the display. When you release **CLOCK**, ":" starts to flash and the clock begins to operate.

- The clock system varies depending on the model you own.
12-hour system: "AM 12:00" = midnight, "PM 12:00" = noon.
24-hour system: "0:00" = midnight, "12:00" = noon.
- To set the current time rapidly, keep pressing the **+** or **-** button while holding down **CLOCK**.
- To set the current time from zero seconds, at step 2, release **CLOCK** with the time signal.

Operating the Radio

Manual Tuning

- Press **RADIO ON** to turn on the radio. The band and frequency will appear in the display for a few seconds. Then the current time indication will return to the display.
- Press **BAND** repeatedly to select the desired band. There are two bands for FM (FM1 and FM2); you may listen to either band.
- Tune in to a station by pressing **TUNE/TIMER ADJUST +** or **-**.
- Adjust the volume using **VOL**.

- To turn off the radio, press **OFF**.
- To improve radio reception

TV/WEATHER/FM (See Fig. G): Tie the FM wire antenna to the suction cup. Extend and adjust the antenna. Secure the suction cup on the wall where you get optimum reception.

AM(MW)/LW: Rotate the unit horizontally for optimum reception. A ferrite bar antenna is built in to the unit.

To listen to the WEATHER band (North and South American model only)

- Press **RADIO ON** to turn on the radio.
- Press **WEATHER** to switch to the WEATHER band. "WEATHER" will appear in the display. Weather band channels 1 to 5 are preset under **PRESET TUNING** buttons 1 to 5. Choose the broadcast with the best reception.

To switch back to the previous band, press **BAND**.

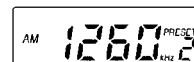
Preset Tuning

You can preset up to 5 stations for each band; 10 stations for FM (5 stations in FM1, 5 stations in FM2) and 5 stations for MW and/or LW.

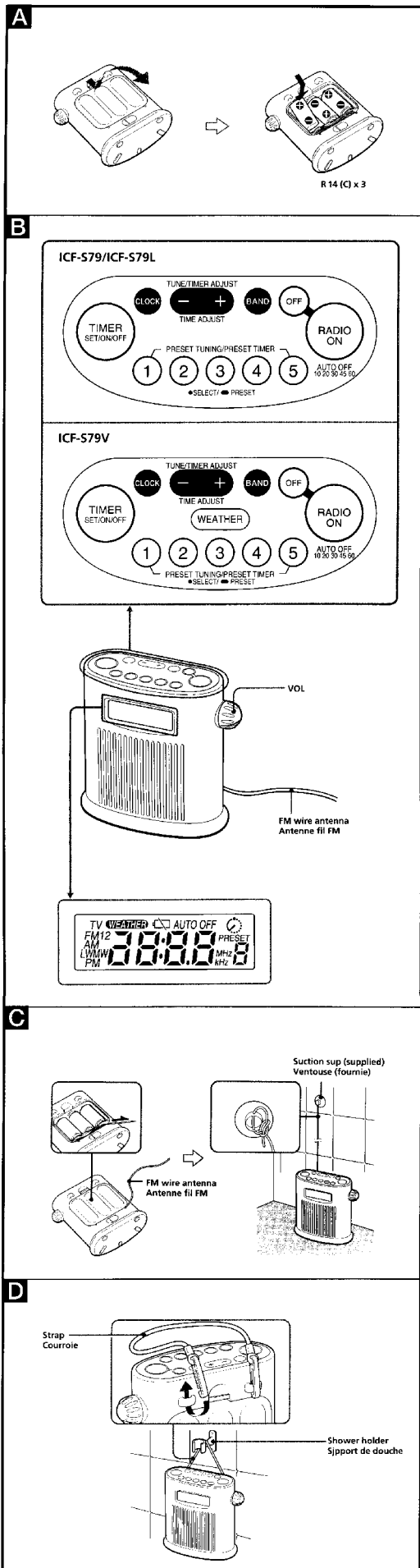
Presetting a Station

Example: To set AM 1260 kHz to memory preset button 2.

- Press **RADIO ON** to turn on the radio.
- Tune in to AM 1260 kHz (See "Manual Tuning").
- Hold down the desired **PRESET TUNING/PRESET TIMER** button (in this case, 2) until you hear two short beeps.



The frequency will appear for a few seconds and then the display will return to the current time.



- To change the preset station, preset a new station to the button of your choice. The previous station will be overwritten by the new one.

Tuning in to a Preset Station

- 1 Press **RADIO ON**.
- 2 Press **BAND** repeatedly to select the desired band.
- 3 Press a **PRESET TUNING/PRESET TIMER** button of your choice.
- 4 Adjust the volume using **VOL**.
After a few seconds, the display will return to the current time but the preset tuning number indication will remain.

Using the Countdown Timer

The buzzer alarm will go off when the countdown time has elapsed. Use the timer as a reminder.

The buzzer alarm is operable whether or not the radio is on.

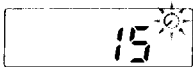
The countdown time can be set at 1 minute intervals between 1 to 90 minutes.

- 1 Press **TIMER•SET/ON/OFF**.
"0" and "⌚" will appear in the display.



- 2 While "⌚" is in the display, press **TUNE/TIMER ADJUST +** or **-** until the desired countdown time appears in the display.

- 3 Press **TIMER•SET/ON/OFF**.
You will hear two short beeps and "⌚" starts to flash; the timer is set.



When the countdown time has elapsed, the buzzer will go off and the display will flash.



- To stop the buzzer, press **TIMER•SET/ON/OFF**. The buzzer will beep for 60 minutes if it is not turned off.
- While the timer is counting down, the display shows the remaining time. To display the current time, press **CLOCK**. To check the station you are listening to, press **TUNE/TIMER ADJUST +** or **-** lightly. The band and frequency will appear for a few seconds.
- To cancel the timer during the countdown, press **TIMER•SET/ON/OFF**. The countdown timer will be canceled and the current time will appear in the display.

Using the PRESET TIMER buttons

You can use the countdown timer with the **PRESET TIMER** buttons.

- 1 Press **TIMER•SET/ON/OFF**.
- 2 Press the desired **PRESET TUNING/PRESET TIMER** button.
"⌚", the countdown time and the preset button number will appear in the display. The default countdown time for the **PRESET TIMER** buttons 1 to 5 are 3 minutes, 10 minutes, 20 minutes, 40 minutes and 60 minutes respectively.
- 3 Press **TIMER•SET/ON/OFF** again.
You will hear two short beeps and "⌚" starts to flash.
When the countdown time has elapsed, the buzzer will go off and the display will flash.

Presetting a countdown time

You can also assign a countdown time of your choice to each of the five preset buttons.

- 1 Set the timer (See steps 1 and 2 of "Using the Countdown Timer").
- 2 Hold down the desired **PRESET TUNING/PRESET TIMER** button until you hear two short beeps.
The countdown time has been stored as displayed.

- When you assign a countdown time to a preset button, the default countdown time assigned to the button will be overwritten by the new one. However, the preset countdown time will return to the default setting when the batteries are reset.
- To check the station you are listening to, press **TUNE/TIMER ADJUST +** or **-** lightly. The band and frequency will appear for a few seconds.

Other Features

AUTO OFF function

The **AUTO OFF** function will turn off the radio after a preset duration of time.

- 1 Press **RADIO ON/AUTO OFF**.
The radio turns on with the first push. With every push, the **AUTO OFF** time changes as follows.

OFF → frequency display → 60 (min)
↑ 10 ← 20 ← 30 ← 45 ↓

The radio will play for the **AUTO OFF** time you have set, then shut off.

- To turn off the radio before the **AUTO OFF** time has elapsed, press **OFF**.

Using the Strap (See Fig. D)

(North and South American model only)
Use the strap as shown in the illustration.

- The strap is only for hanging the radio; do not use the strap to carry it.

Precautions

- Operate the unit only on 4.5 V DC with three R14 (size C) batteries (not supplied).
- The nameplate indicating voltage, etc., is located at the bottom of the unit.
- Do not leave the unit in a location near a heat source such as a radiator or air duct, or in a place subject to direct sunlight, excessive dust, mechanical vibration, or shock.
- Should any liquid or solid object fall into the unit, remove batteries from the unit and have it checked by qualified personnel before operating it further.
- When the casing becomes soiled, clean it with a soft cloth dampened with a mild detergent solution. Never use abrasive cleansers or chemical solvents, as they may mar the casing.

DO NOT IMMERSE IN WATER

This product is not designed to be immersed in water or to come in continuous contact with water.

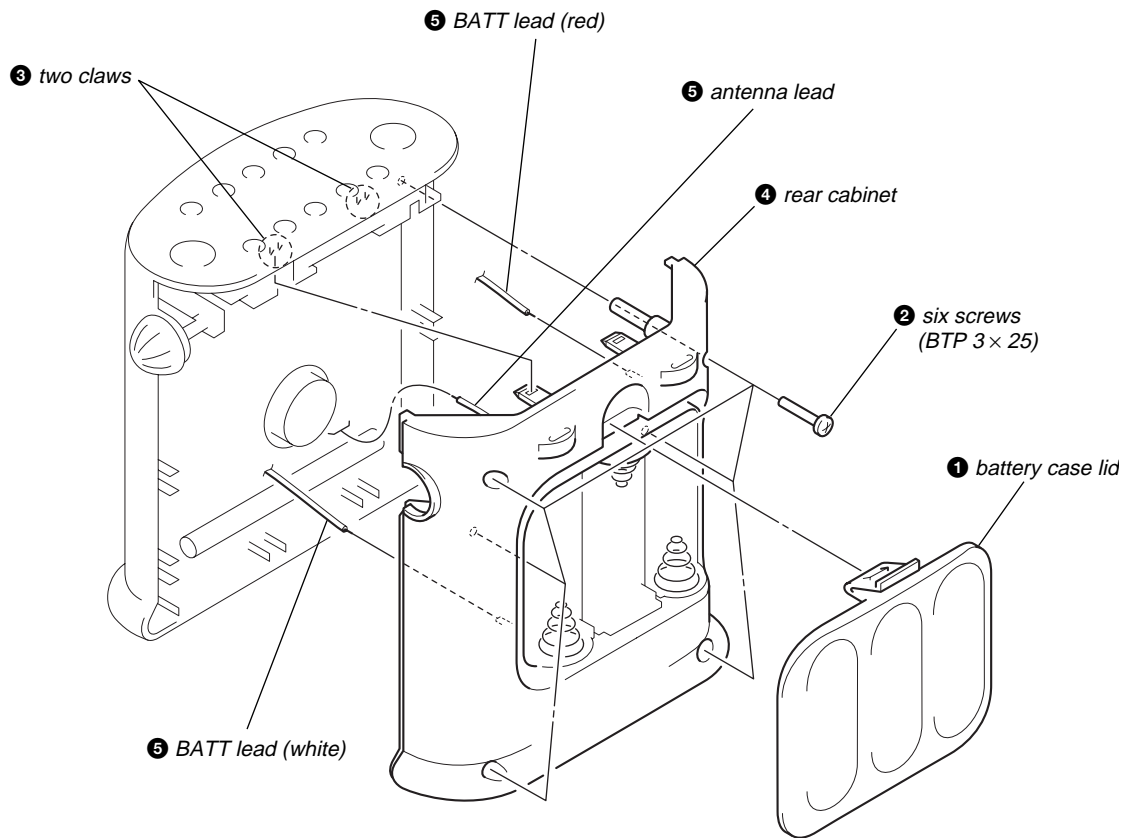
- Open the battery compartment lid with dry hands where water cannot fall into the unit.
- Do not use the unit in water.
- Avoid leaving the unit for a long time in a damp place such as a bathroom.
- Do not expose the unit to water that is warmer than 70°C (158°F) for a long time.
- When the unit gets wet or if you accidentally drop the unit into the water, wipe it with a soft cloth.
- Do not touch the unit with hands wet with soapsuds.

If you have any questions, please consult your nearest Sony dealer.

SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

REAR CABINET



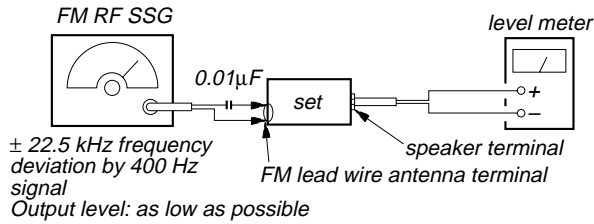
SECTION 3 ELECTRICAL ADJUSTMENTS

0dB=1 μ V

[FM/TV Section]

Setting:

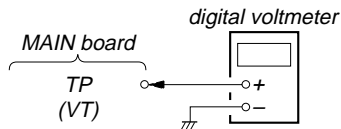
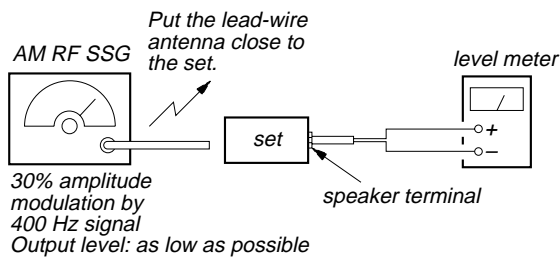
BAND switch: FM1 or TV



[AM (LW/MW) Section]

Setting:

BAND switch: AM (MW) or LW



Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

ICF-S79V only

TV FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a reading on digital voltmeter.		
L2	WEATHER 2 ch	1.0 \pm 0.1 V
Confirm	TV 13 ch	10 \pm 0.5 V

Note: Not use the FM RF signal generator in this adjustment.

ICF-S79V only

TV TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	WEATHER 2 ch (162.40 MHz)
CT1	TV 13 ch (215.75 MHz)

ICF-S79V only

TV IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T1	10.7 MHz

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a reading on digital voltmeter.		
L8	87.5 MHz (TV 2 ch)	2.3 \pm 0.1 V (1.0 \pm 0.1 V)
Confirm	108.0 MHz	8.5 \pm 0.5 V (12.5 \pm 0.5 V)

Note: Not use the FM RF signal generator in this adjustment.

(): ICF-S79V

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L6	87.5 MHz (TV 2 ch (59.75 MHz))
CT4	108.0 MHz

(): ICF-S79V

ICF-S79L only

LW FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a reading on digital voltmeter.		
CT5	153 kHz	2.3 \pm 0.1 V
Confirm	279 kHz	8.5 \pm 0.5 V

Note: Not use the AM RF signal generator in this adjustment.

ICF-S79L only

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L5 (LW side)	162 kHz
CT2	243 kHz

AM (MW) FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a reading on digital voltmeter.		
L9	531 kHz (530 kHz)	2.8 \pm 0.1 V
Confirm	1,602 kHz (1,710 kHz)	9.5 \pm 0.5 V

Note: Not use the AM RF signal generator in this adjustment.

(): ICF-S79V

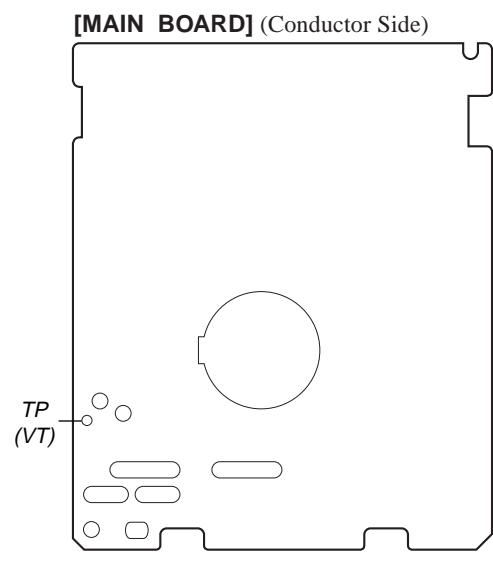
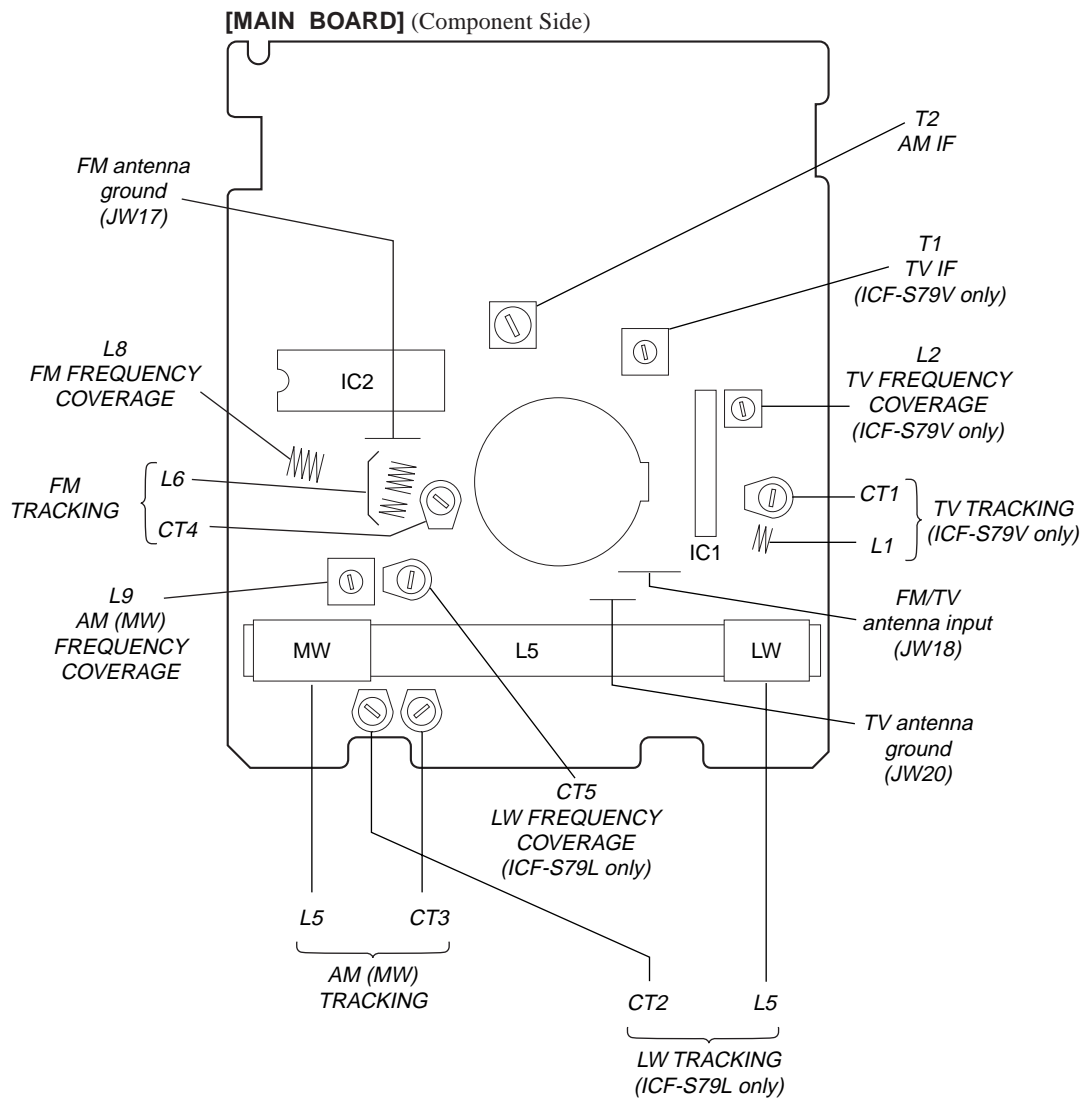
AM (MW) TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L5 <MW side>	621 kHz (590 kHz)
CT3	1,395 kHz (1,490 kHz)

< >: ICF-S79L

(): ICF-S79V

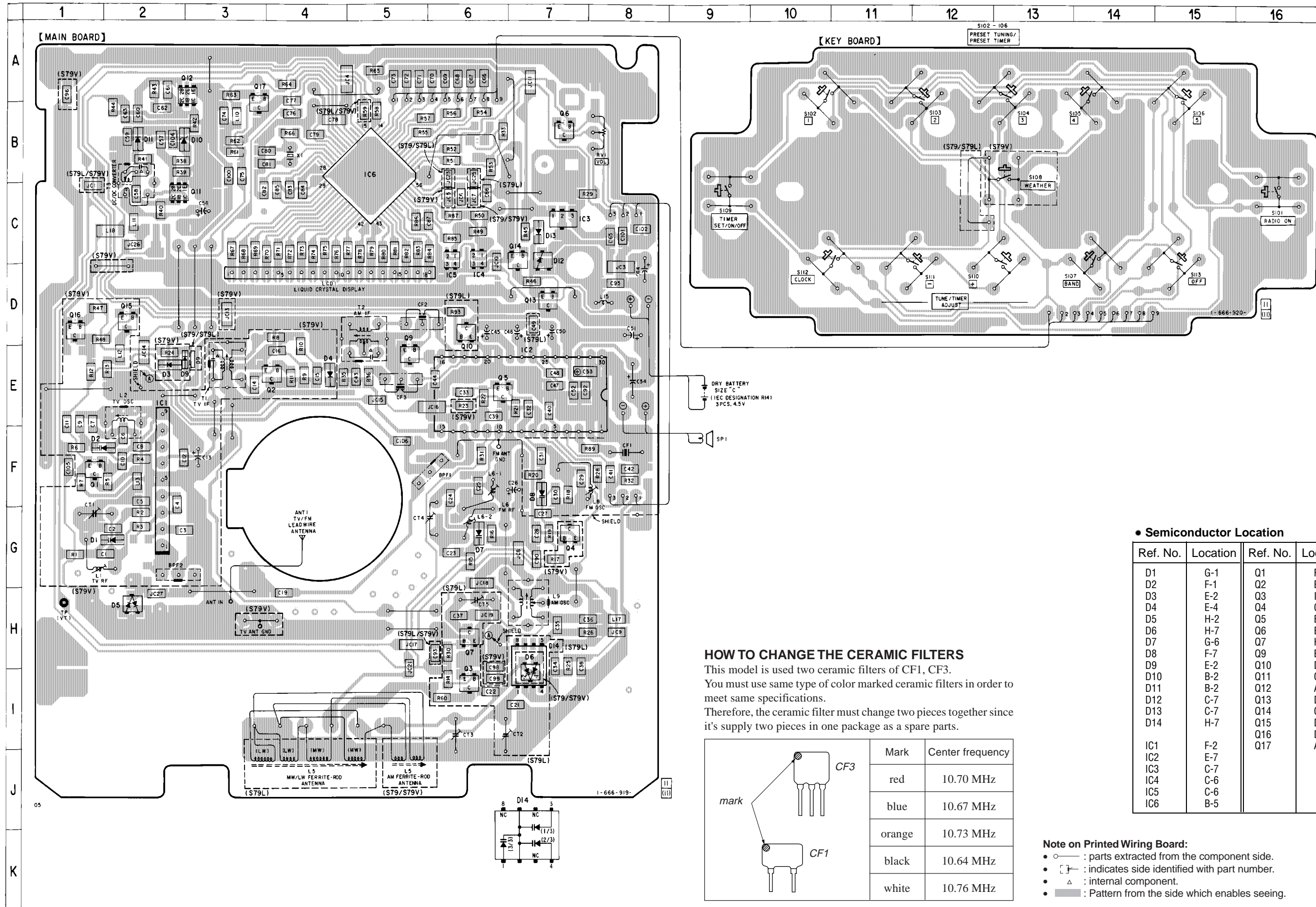
AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T2	455 kHz

Adjustment and Connection Location:



SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS



• Semiconductor Location

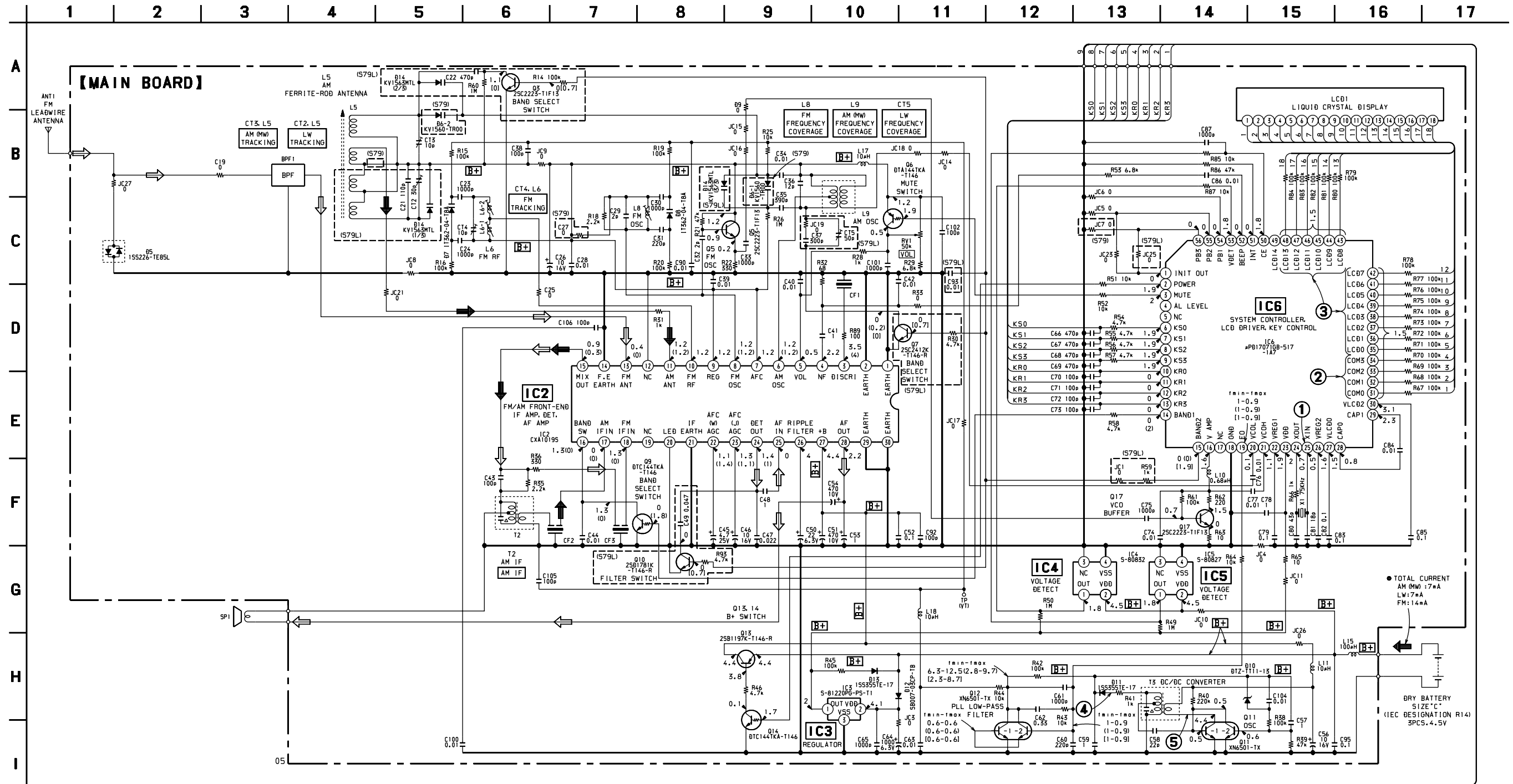
Ref. No.	Location	Ref. No.	Location
D1	G-1	Q1	F-1
D2	F-1	Q2	E-4
D3	E-2	Q3	I-6
D4	E-4	Q4	G-7
D5	H-2	Q5	E-6
D6	H-7	Q6	B-7
D7	G-6	Q7	H-6
D8	F-7	Q9	E-5
D9	E-2	Q10	D-6
D10	B-2	Q11	C-2
D11	B-2	Q12	A-2
D12	C-7	Q13	D-7
D13	C-7	Q14	C-7
D14	H-7	Q15	D-2
		Q16	D-1
		Q17	A-3
IC1	F-2		
IC2	E-7		
IC3	C-7		
IC4	C-6		
IC5	C-6		
IC6	B-5		

HOW TO CHANGE THE CERAMIC FILTERS
 This model is used two ceramic filters of CF1, CF3.
 You must use same type of color marked ceramic filters in order to meet same specifications.
 Therefore, the ceramic filter must change two pieces together since it's supply two pieces in one package as a spare parts.

Mark	Center frequency
red	10.70 MHz
blue	10.67 MHz
orange	10.73 MHz
black	10.64 MHz
white	10.76 MHz

Note on Printed Wiring Board:
 • ○ : parts extracted from the component side.
 • □ : indicates side identified with part number.
 • △ : internal component.
 • ■ : Pattern from the side which enables seeing.

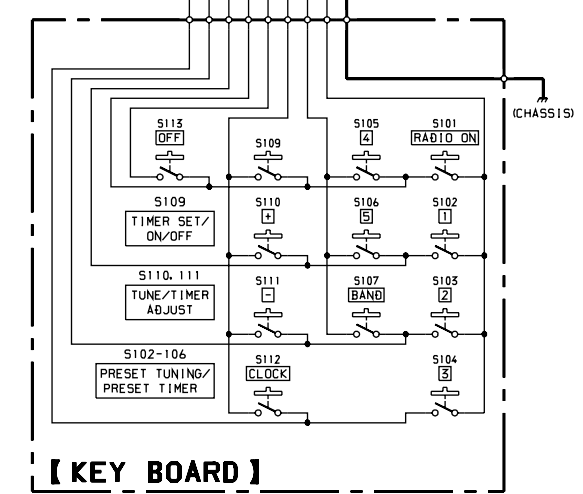
4-2. SCHEMATIC DIAGRAM (ICF-S79/S79L) • See page 11 for Waveforms and IC Block Diagrams.



Note on Schematic Diagram:

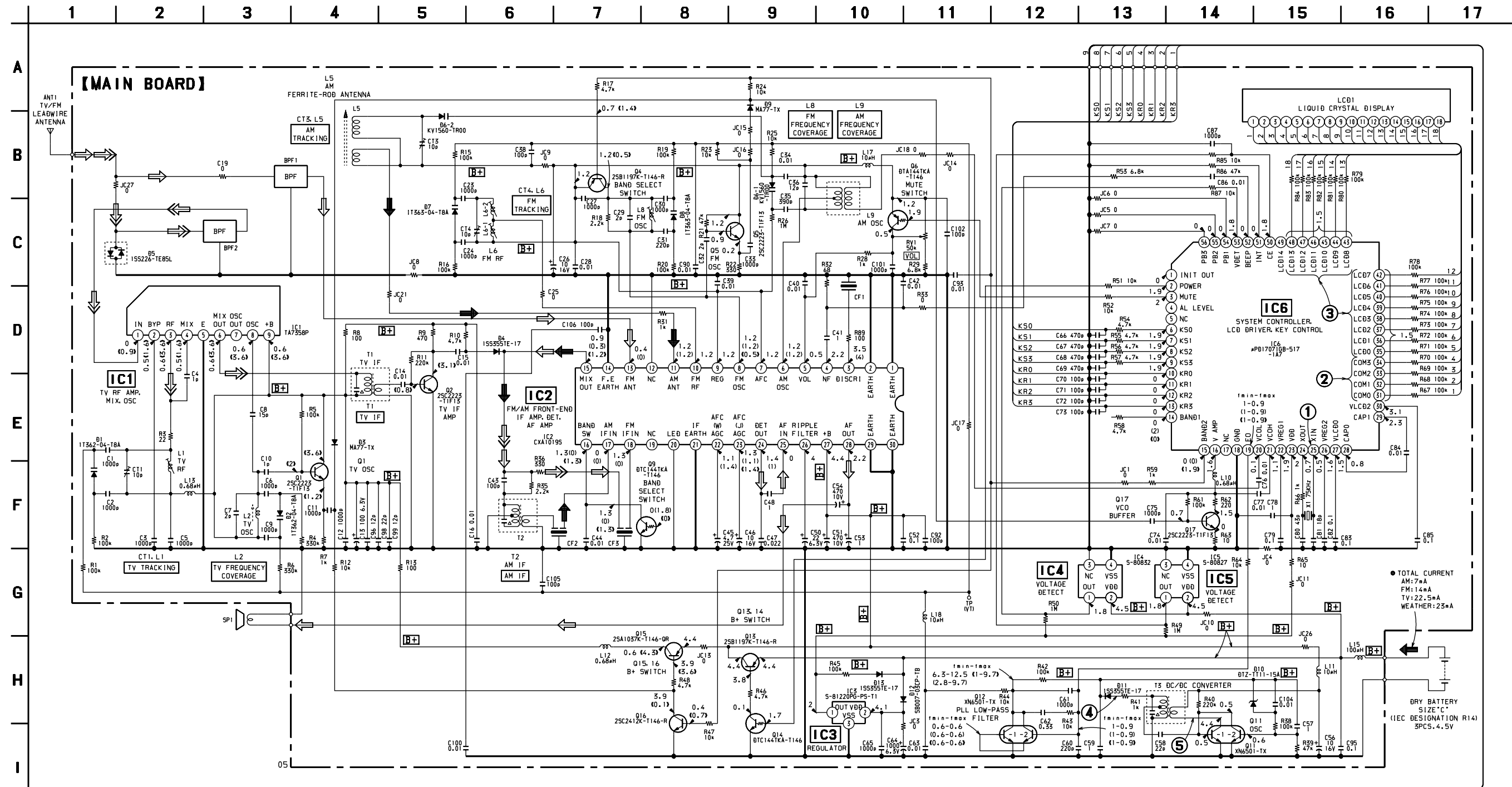
- All capacitors are in μF unless otherwise noted. pF : μF F 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Δ : internal component.
- \square : panel designation.
- B+ : B+ Line.
- \square : adjustment for repair.
- Power voltage is dc 4.5 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM (TV 2 - 6 ch)
() : AM (MW)
[] : LW

- Voltages are taken with a VOM (Input impedance 10 $\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 \rightarrow : FM
 \rightarrow : AM (MW/LW)



KEY BOARD

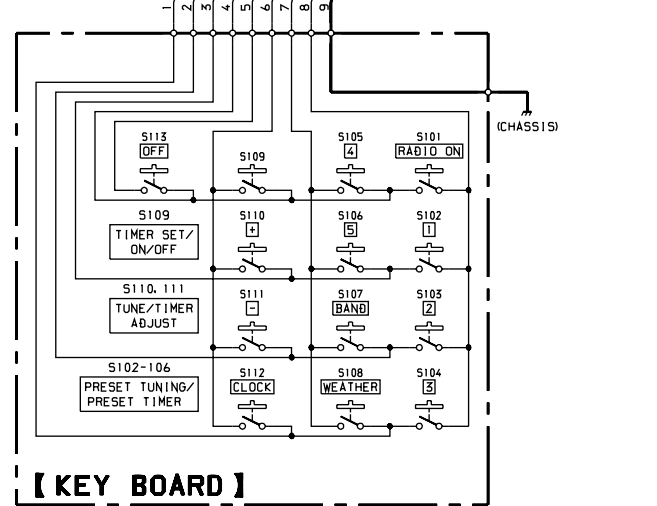
4-3. SCHEMATIC DIAGRAM (ICF-S79V) • See page 11 for Waveforms and IC Block Diagrams.



Note on Schematic Diagram:

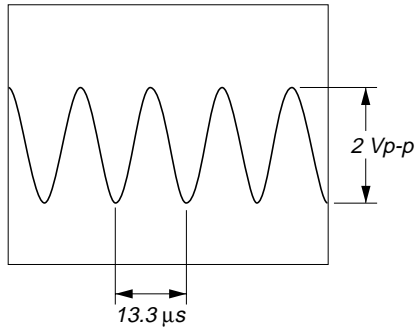
- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- Δ : internal component.
- \square : panel designation.
- \square B+: B+ Line.
- \square : adjustment for repair.
- Power voltage is dc 4.5 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM (TV 2 - 6 ch)
- (): AM
- << >> : TV (7 - 13 ch)

- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- \rightarrow : FM
- \rightarrow : AM
- \rightarrow : TV

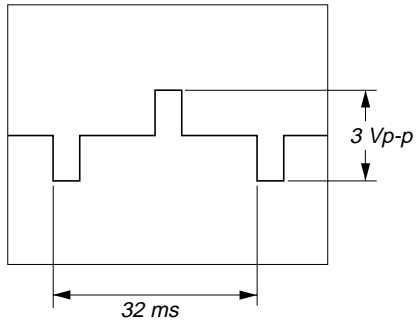


• Waveforms

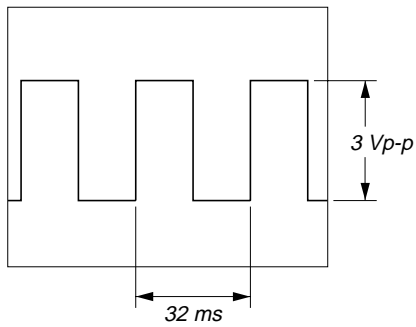
1 IC6 ②⑤ (XIN)



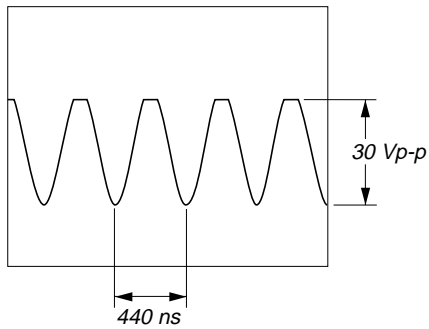
2 IC6 ③① – ③④ (COM0 – COM3)



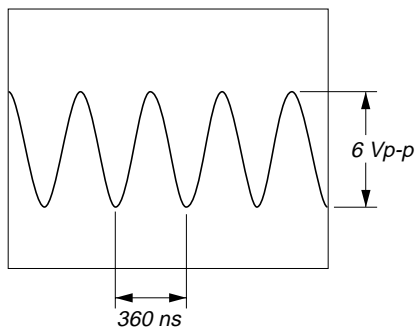
3 IC6 ③⑤ – ④⑥ (LCD0 – LCD13)



4 D11 ANODE

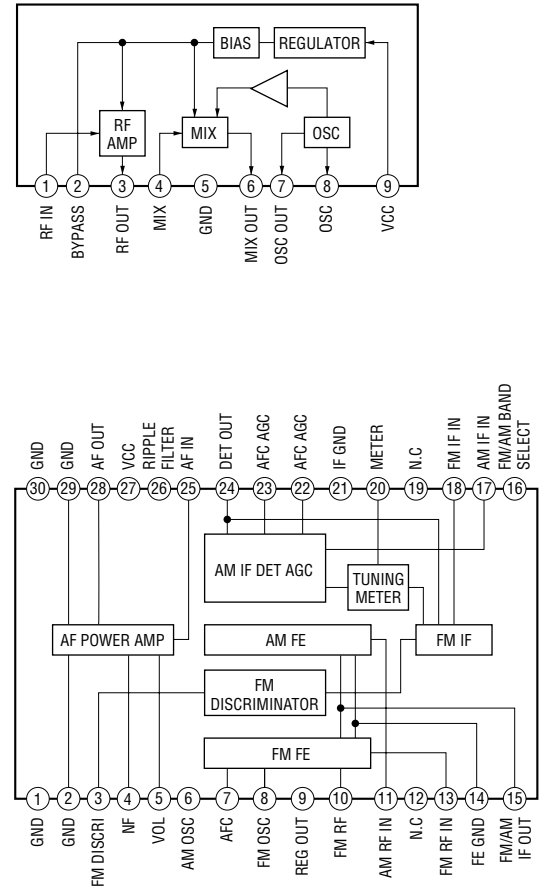


5 Q11-1 COLLECTOR



• IC Block Diagrams

IC1 TA7358P (ICF-S79V only)



4-4. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC6 μ PD17071GB-517-1A7 (SYSTEM CONTROLLER, LIQUID CRYSTAL DISPLAY CONTROLLER, KEY CONTROL)

Pin No.	Pin Name	I/O	Function
1	INIT OUT	O	Initialize signal output for the destination select
2	POWER	O	Radio power on/off control signal output “H”: power on
3	MUTE	O	Mute on/off control signal output “L”: mute on
4	AL LEVEL	O	Beep sound level variable output terminal Not used (open)
5	NC	O	Not used (open)
6 to 9	KS0 to KS3	O	Key strobe signal output terminal
10 to 13	KR0 to KR3	I	Key return signal input terminal
14	BAND1	O	Band select signal output terminal *1
15	BAND2	O	Band select signal output terminal *1 Used for ICF-S79L/S79V only (ICF-S79: not used (open))
16	V AMP	—	Power supply terminal for buffer amplifier
17	NC	O	Not used (open)
18	GND	—	Ground terminal
19	EO	O	PLL error signal output terminal
20	VCOL	I	AM (MW) or LW VCO input terminal
21	VCOH	I	FM, TV or WEATHER VCO input terminal
22	VREG1	—	Power supply terminal (connected to the coupling capacitor)
23	VDD	—	Power supply terminal (+2.2 V)
24	XOUT	O	System clock output terminal (75 kHz)
25	XIN	I	System clock input terminal (75 kHz)
26	VREG2	—	Power supply terminal (connected to the coupling capacitor)
27	VLCD0	—	Terminal for doubler circuit capacitor connection to develop liquid crystal display drive voltage
28	CAP0	—	
29	CAP1	—	
30	VLCD2	—	
31 to 34	COM0 to COM3	O	Common drive signal output to the liquid crystal display (LCD1)
35 to 48	LCD0 to LCD13	O	Segment drive signal output to the liquid crystal display (LCD1)
49	LCD14	O	Segment drive signal output terminal Not used (open)
50	CE	I	Power failure detection signal input from the IC5 Normally: “H”
51	INT	I	Not used (fixed at “L”)
52	BEEP	O	Beep sound drive signal output terminal
53	VDET	I	Power failure detection signal input from the IC4 Normally: “H”
54	PB1	I	Initialize signal input for the destination select Fixed at “L”
55	PB2	I	Initialize signal input for the destination select ICF-S79/S79L: initialize mode at “H”, ICF-S79V: fixed at “L”
56	PB3	I	Initialize signal input for the destination select ICF-S79L: initialize mode at “H”, ICF-S79/S79V: fixed at “L”

*1 Band select signal

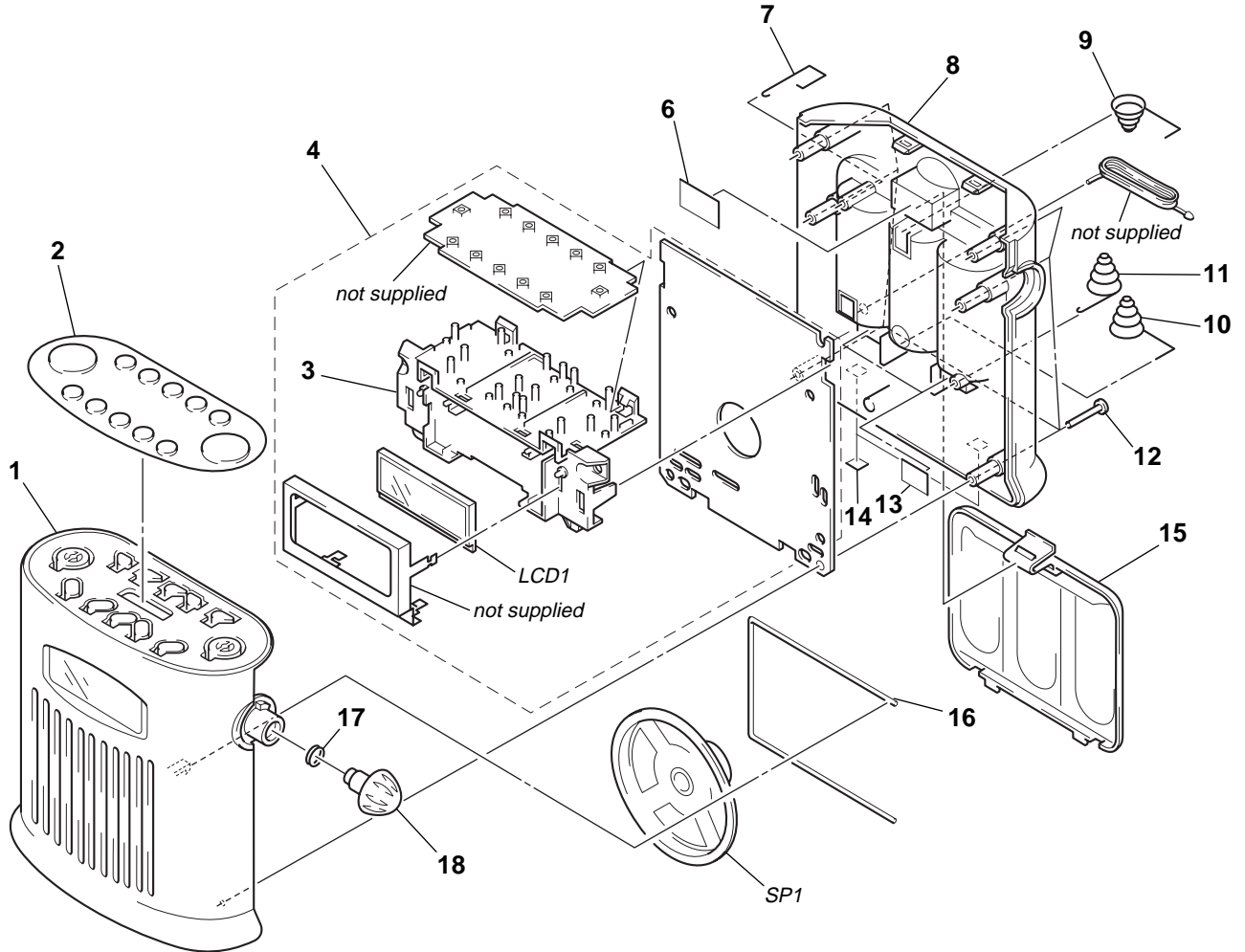
	FM (TV L)	TV H/ WEATHER	AM (MW)	LW
BAND1 (pin ⑭)	“L”	“L”	“H”	“H”
BAND2 (pin ⑮)	“L”	“H”	“L”	“H”

SECTION 5 EXPLODED VIEW

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE) . . . (RED)
 ↑ ↑
 Parts Color Cabinet's Color

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of the electrical parts list.



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-3374-190-1	CABINET (FRONT) ASSY (S79V)		9	3-016-871-01	TERMINAL (+,-) (A), BATTERY	
1	X-3374-190-2	CABINET (FRONT) ASSY (S79L)		10	3-016-872-01	TERMINAL (+,-) (B), BATTERY	
1	X-3374-190-3	CABINET (FRONT) ASSY (S79)		11	3-016-870-01	TERMINAL (-), BATTERY	
2	3-016-880-01	PLATE (BUTTON), SHEET (S79V)		12	7-685-152-19	SCREW +BTP 3X25 TYPE2 N-S	
2	3-016-880-11	PLATE (BUTTON), SHEET (S79/S79L)		13	3-016-876-01	SHEET (BATTERY) (B)	
*	3-016-863-01	CHASSIS		14	3-368-852-01	FOOT	
*	A-3679-918-A	MAIN BOARD, COMPLETE (S79)		15	3-016-862-01	LID, BATTERY CASE	
*	A-3679-919-A	MAIN BOARD, COMPLETE (S79V)		16	3-016-867-01	SPRING, SP	
*	A-3679-921-A	MAIN BOARD, COMPLETE (S79L)		17	3-016-873-01	SPRING, RING	
6	3-016-875-01	SHEET (BATTERY) (A)		18	3-016-864-01	KNOB (VOL)	
7	3-016-869-01	TERMINAL (+), BATTERY		SP1	1-504-918-11	SPEAKER (7.7CM)	
8	3-016-861-01	CABINET (REAR)		LCD1	1-801-854-11	DISPLAY PANEL, LIQUID CRYSTAL	

SECTION 6 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- **RESISTORS**
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- **SEMICONDUCTORS**
In each case, u: μ , for example:
uA. . . : μ A. . . uPA. . . : μ PA. . .
uPB. . . : μ PB. . . uPC. . . : μ PC. . .
uPD. . . : μ PD. . .
- **CAPACITORS**
uF: μ F
- **COILS**
uH: μ H

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		KEY BOARD (INCLUDED MAIN BOARD)		C4	1-163-217-11	CERAMIC CHIP 1PF	0.25PF50V (S79V)
		*****		C5	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V (S79V)
		< SWITCH >		C6	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V (S79V)
S101	1-554-303-21	SWITCH, TACTILE (RADIO ON)		C7	1-163-085-00	CERAMIC CHIP 2PF	0.25PF50V (S79V)
S102	1-554-303-21	SWITCH, TACTILE (PRESET TUNIG/PRESET TIMER 1)		C8	1-163-231-11	CERAMIC CHIP 15PF 5%	50V (S79V)
S103	1-554-303-21	SWITCH, TACTILE (PRESET TUNIG/PRESET TIMER 2)		C9	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V (S79V)
S104	1-554-303-21	SWITCH, TACTILE (PRESET TUNIG/PRESET TIMER 3)		C10	1-163-217-11	CERAMIC CHIP 1PF	0.25PF50V (S79V)
S105	1-554-303-21	SWITCH, TACTILE (PRESET TUNIG/PRESET TIMER 4)		C11	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V (S79V)
S106	1-554-303-21	SWITCH, TACTILE (PRESET TUNIG/PRESET TIMER 5)		C12	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V (S79V)
S107	1-554-303-21	SWITCH, TACTILE (BAND)		C13	1-124-584-00	ELECT 100uF 20%	10V (S79V)
S108	1-554-303-21	SWITCH, TACTILE (WEATHER) (S79V)		C14	1-164-232-11	CERAMIC CHIP 0.01uF	50V (S79V)
S109	1-554-303-21	SWITCH, TACTILE (TIMER SET/ON/OFF)		C15	1-164-232-11	CERAMIC CHIP 0.01uF	50V (S79V)
S110	1-554-303-21	SWITCH, TACTILE (TUNE/TIMER ADJUST +)		C16	1-164-232-11	CERAMIC CHIP 0.01uF	50V (S79V)
S111	1-554-303-21	SWITCH, TACTILE (TUNE/TIMER ADJUST -)		C19	1-216-295-00	CONDUCTOR, CHIP (2012)	
S112	1-554-303-21	SWITCH, TACTILE (CLOCK)		C21	1-163-118-00	CERAMIC CHIP 110PF 5%	50V (S79L)
S113	1-554-303-21	SWITCH, TACTILE (OFF)		C22	1-163-133-00	CERAMIC CHIP 470PF 5%	50V (S79L)
*****				C23	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V
*	A-3662-876-A	MAIN BOARD, COMPLETE (S79)		C24	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V
*	A-3662-879-A	MAIN BOARD, COMPLETE (S79V)		C25	1-216-295-91	CONDUCTOR, CHIP (2012)	
*	A-3662-888-A	MAIN BOARD, COMPLETE (S79L) (INCLUDING KEY BOARD)		C26	1-104-396-11	ELECT 10uF 20%	16V
*****				C27	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V (S79V)
*	3-016-863-01	CHASSIS		C27	1-216-295-00	CONDUCTOR, CHIP (2012) (S79/S79L)	
		< BAND PASS FILTER >		C28	1-164-232-11	CERAMIC CHIP 0.01uF	50V
BPF1	1-236-711-21	FILTER, BAND PASS (S79/S79L)		C29	1-163-085-00	CERAMIC CHIP 2PF	0.25PF50V
BPF1	1-239-813-21	FILTER, BAND PASS (S79V)		C30	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V
BPF2	1-233-521-11	FILTER, BAND PASS (S79V)		C31	1-163-125-00	CERAMIC CHIP 220PF 5%	50V
		< CAPACITOR/CHIP CONDUCTOR >		C32	1-163-085-00	CERAMIC CHIP 2PF	0.25PF50V
C1	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V (S79V)	C33	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C2	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V (S79V)				
C3	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V (S79V)				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C34	1-164-232-11	CERAMIC CHIP	0.01uF	50V	C93	1-164-232-11	CERAMIC CHIP 0.01uF 50V
C35	1-163-131-00	CERAMIC CHIP	390PF	5% 50V			(S79L/S79V)
C36	1-163-229-11	CERAMIC CHIP	12PF	5% 50V	C95	1-163-038-00	CERAMIC CHIP 0.1uF 25V
C37	1-163-128-00	CERAMIC CHIP	300PF	5% 50V	C96	1-163-229-11	CERAMIC CHIP 12PF 5% 50V
				(S79L)			(S79V)
C38	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	C98	1-163-235-11	CERAMIC CHIP 22PF 5% 50V
C39	1-164-232-11	CERAMIC CHIP	0.01uF	50V			(S79V)
C40	1-164-232-11	CERAMIC CHIP	0.01uF	50V	C99	1-163-229-11	CERAMIC CHIP 12PF 5% 50V
C41	1-164-346-11	CERAMIC CHIP	1uF	16V			(S79V)
C42	1-164-232-11	CERAMIC CHIP	0.01uF	50V	C100	1-164-232-11	CERAMIC CHIP 0.01uF 50V
C43	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	C101	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V
C44	1-164-232-11	CERAMIC CHIP	0.01uF	50V	C102	1-163-251-11	CERAMIC CHIP 100PF 5% 50V
C45	1-126-163-11	ELECT	4.7uF	20% 50V	C104	1-164-232-11	CERAMIC CHIP 0.01uF 50V
C46	1-104-396-11	ELECT	10uF	20% 16V	C105	1-163-251-11	CERAMIC CHIP 100PF 5% 50V
C47	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V	C106	1-163-251-11	CERAMIC CHIP 100PF 5% 50V
C48	1-164-346-11	CERAMIC CHIP	1uF	16V			< CERAMIC FILTER >
C49	1-163-809-11	CERAMIC CHIP	0.047uF	10% 25V			
				(S79L)	CF1	1-577-324-11	FILTER, CERAMIC
C50	1-123-618-11	ELECT	22uF	20% 6.3V	CF2	1-577-072-21	FILTER, CERAMIC (S79/S79V)
C51	1-126-925-11	ELECT	470uF	20% 10V	CF2	1-578-677-21	FILTER, CERAMIC (S79L)
C52	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	CF3	1-577-324-11	FILTER, CERAMIC
C53	1-135-091-00	TANTALUM CHIP	1uF	20% 16V			< TRIMMER >
C54	1-126-925-11	ELECT	470uF	20% 10V			
C56	1-104-396-11	ELECT	10uF	20% 16V	CT1	1-141-304-21	CAP, TRIMMER 10PF (S79V)
C57	1-164-346-11	CERAMIC CHIP	1uF	16V	CT2	1-141-245-00	CAP, TRIMMER 30PF (S79L)
C58	1-163-235-11	CERAMIC CHIP	22PF	5% 50V	CT3	1-141-304-21	CAP, TRIMMER 10PF
C59	1-164-346-11	CERAMIC CHIP	1uF	16V	CT4	1-141-304-21	CAP, TRIMMER 10PF
C60	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	CT5	1-141-260-00	CAP, TRIMMER 50PF (S79L)
C61	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V			< DIODE/CHIP CONDUCTOR >
C62	1-110-501-11	CERAMIC CHIP	0.33uF	10% 16V			
C63	1-164-232-11	CERAMIC CHIP	0.01uF	50V	D1	8-713-100-11	DIODE 1T362 (S79V)
C64	1-126-916-11	ELECT	1000uF	20% 6.3V	D2	8-713-100-11	DIODE 1T362 (S79V)
C65	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	D3	8-719-421-40	DIODE MA77 (S79V)
C66	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	D4	8-719-988-62	DIODE 1SS355 (S79V)
C67	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	D5	8-719-800-76	DIODE 1SS226
C68	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	D6	8-719-951-05	DIODE KV1560 (S79/S79V)
C69	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	D7	8-713-100-11	DIODE 1T362 (S79/S79L)
C70	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	D7	8-719-002-81	DIODE 1T363 (S79V)
C71	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	D8	8-713-100-11	DIODE 1T362 (S79/S79L)
C72	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	D8	8-719-002-81	DIODE 1T363 (S79V)
C73	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	D9	1-216-295-00	CONDUCTOR, CHIP (2012) (S79/S79L)
C74	1-164-232-11	CERAMIC CHIP	0.01uF	50V	D9	8-719-421-40	DIODE MA77 (S79V)
C75	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	D10	8-719-977-40	DIODE UDZ-TE-17-13B (S79/S79L)
C76	1-164-232-11	CERAMIC CHIP	0.01uF	50V	D10	8-719-977-49	DIODE UDZ-TE-17-15B (S79V)
C77	1-164-232-11	CERAMIC CHIP	0.01uF	50V	D11	8-719-988-62	DIODE 1SS355
C78	1-113-677-11	CERAMIC CHIP	1uF	25V	D12	8-719-941-04	DIODE SB007-03CP
C79	1-163-038-00	CERAMIC CHIP	0.1uF	25V	D13	8-719-988-62	DIODE 1SS355
C80	1-163-108-00	CERAMIC CHIP	43PF	5% 50V	D14	8-719-023-99	DIODE KV1563M-3 (S79L)
C81	1-163-099-00	CERAMIC CHIP	18PF	5% 50V			< IC >
C82	1-163-038-00	CERAMIC CHIP	0.1uF	25V	IC1	8-759-204-01	IC TA7358P (S79V)
C83	1-163-038-00	CERAMIC CHIP	0.1uF	25V	IC2	8-752-055-05	IC CXA1019S
C84	1-164-232-11	CERAMIC CHIP	0.01uF	50V	IC3	8-759-255-04	IC S-81220PG-PS-T1
C85	1-163-038-00	CERAMIC CHIP	0.1uF	25V	IC4	8-759-480-31	IC S-80832ANNP-EDW-T2
C86	1-164-232-11	CERAMIC CHIP	0.01uF	50V	IC5	8-759-466-70	IC S-80827ANNP-EDQ-T2
C87	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V			
C90	1-164-232-11	CERAMIC CHIP	0.01uF	50V	IC6	8-759-474-42	IC uPD17071GB-517-1A7
C92	1-163-251-11	CERAMIC CHIP	100PF	5% 50V			

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< CHIP CONDUCTOR >							
JC1	1-216-295-00	CONDUCTOR, CHIP (2012) (S79L/S79V)		Q12	8-729-402-19	TRANSISTOR XN6501	
JC3	1-216-296-00	CONDUCTOR, CHIP (3216)		Q13	8-729-904-87	TRANSISTOR 2SB1197K-R	
JC4	1-216-296-00	CONDUCTOR, CHIP (3216)		Q14	8-729-027-60	TRANSISTOR DTC144TKA-T146	
JC5	1-216-295-00	CONDUCTOR, CHIP (2012) (S79V)		Q15	8-729-216-22	TRANSISTOR 2SA1162-G (S79V)	
JC6	1-216-295-00	CONDUCTOR, CHIP (2012)		Q16	8-729-901-73	TRANSISTOR 2SC2412K (S79V)	
JC7	1-216-295-00	CONDUCTOR, CHIP (2012) (S79/S79V)		Q17	8-729-102-07	TRANSISTOR 2SC2223-F13	
JC8	1-216-296-00	CONDUCTOR, CHIP (3216)		< RESISTOR/CHIP CONDUCTOR >			
JC9	1-216-295-00	CONDUCTOR, CHIP (2012)		R1	1-216-097-00	METAL CHIP 100K 5%	1/10W (S79V)
JC10	1-216-295-00	CONDUCTOR, CHIP (2012)		R2	1-216-097-00	METAL CHIP 100K 5%	1/10W (S79V)
JC11	1-216-296-00	CONDUCTOR, CHIP (3216)		R3	1-216-009-00	METAL CHIP 22 5%	1/10W (S79V)
JC13	1-216-296-00	CONDUCTOR, CHIP (3216) (S79V)		R4	1-216-109-00	METAL CHIP 330K 5%	1/10W (S79V)
JC14	1-216-296-00	CONDUCTOR, CHIP (3216)		R5	1-216-097-00	METAL CHIP 100K 5%	1/10W (S79V)
JC15	1-216-295-00	CONDUCTOR, CHIP (2012)		R6	1-216-109-00	METAL CHIP 330K 5%	1/10W (S79V)
JC16	1-216-296-00	CONDUCTOR, CHIP (3216)		R7	1-216-049-11	METAL CHIP 1K 5%	1/10W (S79V)
JC17	1-216-296-00	CONDUCTOR, CHIP (3216)		R8	1-216-025-00	METAL CHIP 100 5%	1/10W (S79V)
JC18	1-216-296-00	CONDUCTOR, CHIP (3216)		R9	1-216-041-00	METAL CHIP 470 5%	1/10W (S79V)
JC19	1-216-296-00	CONDUCTOR, CHIP (3216) (S79L)		R10	1-216-065-00	METAL CHIP 4.7K 5%	1/10W (S79V)
JC21	1-216-295-00	CONDUCTOR, CHIP (2012)		R11	1-216-105-00	METAL CHIP 220K 5%	1/10W (S79V)
JC23	1-216-295-00	CONDUCTOR, CHIP (2012) (S79/S79L)		R12	1-216-073-00	METAL CHIP 10K 5%	1/10W (S79V)
JC25	1-216-295-00	CONDUCTOR, CHIP (2012) (S79L)		R13	1-216-025-00	METAL CHIP 100 5%	1/10W (S79V)
JC26	1-216-295-00	CONDUCTOR, CHIP (2012)		R14	1-216-097-00	METAL CHIP 100K 5%	1/10W (S79L)
JC27	1-216-295-00	CONDUCTOR, CHIP (2012)		R15	1-216-097-00	METAL CHIP 100K 5%	1/10W
< COIL >				R16	1-216-097-00	METAL CHIP 100K 5%	1/10W
L1	1-416-501-11	COIL, AIR-CORE (TV RF) (S79V)		R17	1-216-065-00	METAL CHIP 4.7K 5%	1/10W (S79V)
L2	1-402-966-11	COIL (TV OSC) (S79V)		R18	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
L5	1-501-722-11	ANTENNA, FERRITE-ROD (AM) (S79/S79V)		R19	1-216-097-00	METAL CHIP 100K 5%	1/10W
L5	1-501-723-11	ANTENNA, FERRITE-ROD (MW/LW) (S79L)		R20	1-216-097-00	METAL CHIP 100K 5%	1/10W
L6-1	1-416-459-11	COIL, AIR-CORE (FM RF)		R21	1-216-089-00	METAL CHIP 47K 5%	1/10W
L6-2	1-428-229-11	COIL, AIR-CORE (FM RF) (S79V)		R22	1-216-037-00	METAL CHIP 330 5%	1/10W
L6-2	1-428-290-11	COIL, AIR-CORE (FM RF) (S79/S79L)		R23	1-216-073-00	METAL CHIP 10K 5%	1/10W (S79V)
L8	1-406-922-11	COIL, AIR-CORE (FM OSC)		R24	1-216-073-00	METAL CHIP 10K 5%	1/10W (S79V)
L9	1-406-485-11	COIL (AM OSC)		R25	1-216-073-00	METAL CHIP 10K 5%	1/10W
L10	1-412-937-11	INDUCTOR 0.68uH		R26	1-216-121-00	METAL CHIP 1M 5%	1/10W
L11	1-412-951-11	INDUCTOR 10uH		R28	1-216-049-11	METAL CHIP 1K 5%	1/10W
L12	1-412-937-11	INDUCTOR 0.68uH (S79V)		R29	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
L13	1-412-937-11	INDUCTOR 0.68uH (S79V)		R30	1-216-065-00	METAL CHIP 4.7K 5%	1/10W (S79L)
L15	1-408-982-11	INDUCTOR 100uH		R31	1-216-049-11	METAL CHIP 1K 5%	1/10W
L17	1-412-951-11	INDUCTOR 10uH		R32	1-216-021-00	METAL CHIP 68 5%	1/10W
L18	1-410-204-31	INDUCTOR CHIP 10uH		R33	1-216-295-00	CONDUCTOR, CHIP (2012)	
< LIQUID CRYSTAL DISPLAY >				R35	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
LCD1	1-801-854-11	DISPLAY PANEL, LIQUID CRYSTAL		R36	1-216-037-00	METAL CHIP 330 5%	1/10W
< TRANSISTOR >				R38	1-216-097-00	METAL CHIP 100K 5%	1/10W
Q1	8-729-102-07	TRANSISTOR 2SC2223-F13 (S79V)					
Q2	8-729-102-07	TRANSISTOR 2SC2223-F13 (S79V)					
Q3	8-729-102-07	TRANSISTOR 2SC2223-F13 (S79L)					
Q4	8-729-904-87	TRANSISTOR 2SB1197K-R (S79V)					
Q5	8-729-102-07	TRANSISTOR 2SC2223-F13					
Q6	8-729-027-39	TRANSISTOR DTA144TKA-T146					
Q7	8-729-901-73	TRANSISTOR 2SC2412K (S79L)					
Q9	8-729-027-60	TRANSISTOR DTC144TKA-T146					
Q10	8-729-921-72	TRANSISTOR 2SD1781K-R (S79L)					
Q11	8-729-402-19	TRANSISTOR XN6501					

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R39	1-216-089-00	METAL CHIP	47K 5% 1/10W			< VARIABLE RESISTOR >	
R40	1-216-105-00	METAL CHIP	220K 5% 1/10W				
R41	1-216-049-11	METAL CHIP	1K 5% 1/10W				
R42	1-216-097-00	METAL CHIP	100K 5% 1/10W	RV1	1-225-550-11	RES, VAR, CARBON 50K (VOL)	
R43	1-216-073-00	METAL CHIP	10K 5% 1/10W			< TRANSFORMER >	
R44	1-216-073-00	METAL CHIP	10K 5% 1/10W	T1	1-403-872-00	TRANSFORMER, IF (TV IF) (S79V)	
R45	1-216-097-00	METAL CHIP	100K 5% 1/10W	T2	1-404-790-11	TRANSFORMER, IF (AM IF) (S79/S79V)	
R46	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	T2	1-404-902-41	TRANSFORMER, IF (AM IF) (S79L)	
R47	1-216-073-00	METAL CHIP	10K 5% 1/10W	T3	1-449-138-11	TRANSFORMER, DC-DC CONVERTER	
			(S79V)			< VIBRATOR >	
R48	1-216-065-00	METAL CHIP	4.7K 5% 1/10W				
			(S79V)	X1	1-767-517-11	VIBRATOR, CRYSTAL (75kHz)	
R49	1-216-121-00	METAL CHIP	1M 5% 1/10W	*****			
R50	1-216-121-00	METAL CHIP	1M 5% 1/10W			MISCELLANEOUS	
R51	1-216-073-00	METAL CHIP	10K 5% 1/10W			*****	
R52	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R53	1-216-069-00	METAL CHIP	6.8K 5% 1/10W	SP1	1-504-918-11	SPEAKER (7.7CM)	
R54	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	*****			
R55	1-216-065-00	METAL CHIP	4.7K 5% 1/10W			ACCESSORIES & PACKING MATERIALS	
R56	1-216-065-00	METAL CHIP	4.7K 5% 1/10W			*****	
R57	1-216-065-00	METAL CHIP	4.7K 5% 1/10W				
R58	1-216-065-00	METAL CHIP	4.7K 5% 1/10W				
R59	1-216-049-11	METAL CHIP	1K 5% 1/10W			3-917-356-01	SUCKER
			(S79L/S79V)			3-860-702-11	MANUAL, INSTRUCTION
R60	1-216-121-00	METAL CHIP	1M 5% 1/10W				(ENGLISH, FRENCH, GERMAN, ITALIAN)
			(S79L)			3-860-702-21	MANUAL, INSTRUCTION
R61	1-216-097-00	METAL CHIP	100K 5% 1/10W				(DUTCH, SWEDISH, SPANISH, PORTUGUESE)
R62	1-216-033-00	METAL CHIP	220 5% 1/10W			3-860-702-31	MANUAL, INSTRUCTION (FINNISH, DANISH)
R63	1-216-001-00	METAL CHIP	10 5% 1/10W			X-3897-401-1	STRAP ASSY (S79V)
R64	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R65	1-216-001-00	METAL CHIP	10 5% 1/10W				
R66	1-216-049-11	METAL CHIP	1K 5% 1/10W				
R67	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R68	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R69	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R70	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R71	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R72	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R73	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R74	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R75	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R76	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R77	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R78	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R79	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R80	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R81	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R82	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R83	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R84	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R85	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R86	1-216-089-00	METAL CHIP	47K 5% 1/10W				
R87	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R89	1-216-025-00	METAL CHIP	100 5% 1/10W				
R93	1-216-065-00	METAL CHIP	4.7K 5% 1/10W				(S79L)