

# Panasonic

# Command series

# RF-6300

PLL Synthesizer 8-Band Portable  
Communications Receiver with  
Microcomputer Pre-Set Tuning



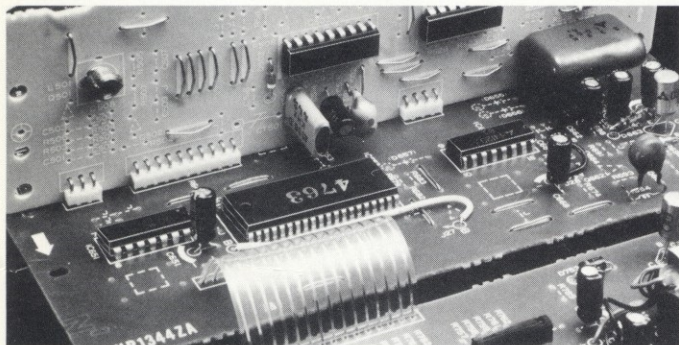
# The RF-6300 Upholds Panasonic's Reputation for Fine Multi-Band Receivers

The RF-6300 is a high-technology 8-band communications receiver with something remarkable — a phased-locked loop (PLL) synthesizer tuner controlled by a microcomputer. It provides virtually drift-free tuning for precise short-wave reception. Of course, you get the same superb reception on every band: FM, LW, MW, SW<sub>1-5</sub>. The microcomputer also permits the pre-setting of up to 12 channel selections, on any band. All you have to do is turn to the proper band, hit the proper pre-set channel button, and you've got your station. The click-stop manual tuner boasts complete digital synthesizer coupling and has fast and slow speed selections.

There's a 5-digit fluorescent display for an exact rendering of the station in tune, as well as a tuning meter that doubles as a battery-strength indicator. There's even a built-in quartz LCD alarm clock to wake you to any radio station or a chirp alarm.

The RF-6300 — it combines the latest technology with Panasonic quality to give you a truly remarkable portable communications receiver.

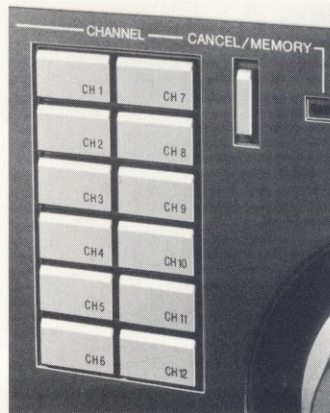
## PLL Synthesizer Digital Tuner



The secret of the RF-6300's tuning accuracy is the quartz phase-locked loop (PLL) circuitry that "locks" the tuned-in station onto a virtually unwavering quartz crystal oscillator reference frequency. Frequency stability is incredibly high, on the order of 0.001% deviation. Given this, it's not surprising that drift is rarely a problem. When you're tuned to a station, you stay tuned in for as long as you choose to listen. Tuning reliability is enhanced by using a single high-density CMOS LSI for the PLL synthesizer circuitry.

Simply employing a digital frequency display cannot make up for tuning inaccuracies caused by drift-prone mechanical variable capacitors. Therefore, the RF-6300 uses purely electronic synthesizer circuitry which actually synthesizes the exact oscillation frequency needed for precise, stable reception. Not only does this avoid detuning problems, it also permits dependable microcomputer memorization of stations for instant recall!

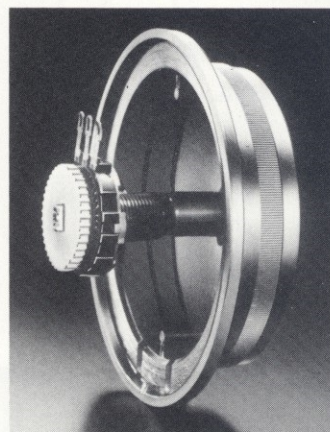
## Microcomputer Pre-Set Tuning



The microcomputer facilitates memory storage of up to 12 different frequencies for pushbutton recall whenever you want to hear them. Just press the memory button so the

stand-by LED lights up, then press one of the channel buttons. All you have to do to retrieve that station is set the radio to the proper band and hit the proper channel button. If the pre-set station is on another band, the display tells you which band to turn to. If no station is pre-set for that button, the display gives an error indication. Old pre-set stations can be replaced with new ones. Or you can cancel a station memory by pressing the Memory button twice (so the LED turns off) before pressing the channel button you want cancelled.

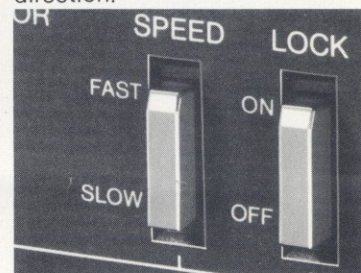
## Click-Stop Manual Tuning



The tuning knob may look conventional, but inside it's completely digital, with 40 discrete click-stop contacts. Thanks to digital synthesizer coupling, you can tune precisely to the frequency you want.

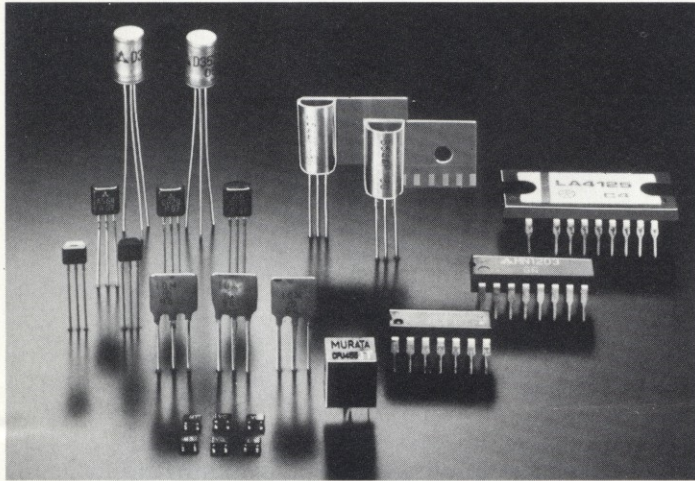
Tuning knob position is detected by a pulse counter coupled to the microcomputer which, in turn, controls synthesizer operation. Discrete 1kHz steps for AM and 10kHz steps for FM (10kHz and 100kHz respectively in the FAST mode) assure efficiency and accuracy throughout the

broadcast bands. The slide-rule tuning bar continues around the beginning of a particular band after you pass the end. You can search the band over and over without having to change direction.



And there's a Fast/Slow speed selector to suit your tuning needs. Select the Fast setting for quick tuning to known transmission frequencies or for a speedy band search. You can glide swiftly through the AM band in 10 kHz steps and the FM band in 100 kHz steps. The Slow speed allows for pinpoint tuning accuracy. It moves in 1kHz and 10kHz steps in both the AM and FM bands.

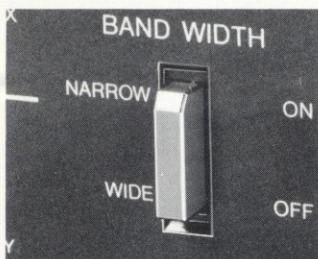
## Excellent RF and IF Performance



The RF-6300 can achieve a clear signal even in the crowded radio band conditions that exist today, especially in short wave. The RF stage provides high sensitivity for weak and faraway stations. The double superheterodyne system used in the SW<sub>2-5</sub> (3.9 ~ 30.0 MHz) sections uses two intermediate frequencies instead of one, thereby eliminating mutual interference between different meter bands. You ob-

tain clean signals with low SW reception disturbance. The RF-6300's balanced mixer circuitry minimizes interference and spurious signal reception. It uses an inverted-phase-oscillator output signal to cancel distortion while leaving the desired signal unaffected. And the precise ceramic and crystal circuitry provides excellent selectivity with low distortion and accurate phase characteristics.

## Additional Facilities for Short Wave Listening



The Wide/Narrow bandwidth selector is a big help in tuning SW frequencies. The Wide mode assures low distortion in uncrowded areas of the band. In the cluttered portions of the band, the Narrow mode allows greater selectivity to reduce interference. Of course, the bandwidth selector is very useful for the other bands, as well.



Pitch control has been added to the beat frequency oscillator (BFO) circuitry to provide precise adjustment capability for tuning in SSB and CW transmissions. When you are in close proximity to the transmission antenna or tuned to an excessively strong carrier signal, the RF Gain control helps eliminate the resultant distortion, and make the program listenable again.

## Built-In Quartz Digital Clock



This handsome LCD timepiece can display either hours and minutes (with AM/PM designation) or just minutes and seconds for timing reference. There's even a light for night viewing. It features a radio/chirp alarm that can wake you either to the sounds of your favorite station on any band or to a gentle but persistent chirp alarm. Two other features make

the clock portion of the RF-6300 as complete as most clock radios: a Doze button and a sleep timer. When the alarm sounds, one tap of the Doze button will delay it for 4 minutes. The sleep timer lets you drift off to sleep to an hour's worth of any particular radio station. At the end of the set time, it shuts the radio automatically. To cancel either one of these functions, just press the Cancel button.

## Other Important Features

**Tuning Lock Switch:** prevents an accidental change of frequency that is apt to occur during portable use.  
**AC/Battery Operation:** use AC power with the detachable AC cord. Use DC power with 6 "D" batteries (not included).

**Universal Voltage Selector:** has settings for 100 ~ 110/ 115 ~ 127/200 ~ 220/ 230 ~ 250V.

**Battery Back-Up System:** in the event of a power failure while in AC operation, 4 "AA" batteries (not included) will provide temporary power for memory and clock.

**Separate Bass and Treble Controls:** highs and lows can be adjusted individually for the precise shade of tone you desire.

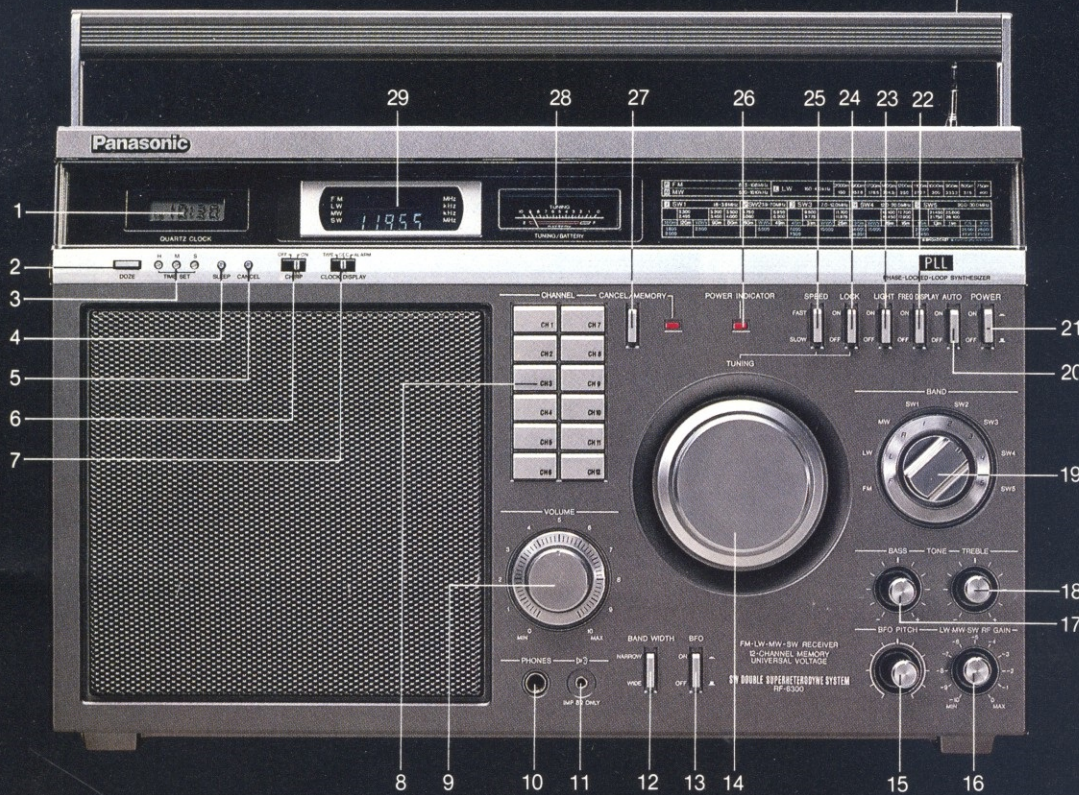
**Illuminated Tuning/Batt. Check Meter:** the brightly lit meter provides a useful visual aid in adjusting of maximum signal strength and battery power measurement under all lighting conditions.

**5" Diameter PM Speaker:** clean, clear sound reproduction.

**Frequency Allocation Index:** the frequency band display also incorporates a listing of major broadcast stations.

**Built-In Antennas:** telescopic.

**Jacks and Terminals:** external antennas, headphones, earphone/external speaker, DIN (rec-out, phono-in), AC-in, DC-in.



1. Quartz Clock
2. Doze Button
3. Time-Set Buttons
4. Sleep Button
5. Cancel Button
6. Chirp Switch
7. Display Selector
8. Memory Channel Switch
9. Volume Control
10. Headphone Jack
11. Earphone Jack
12. Bandwidth Switch
13. BFO Switch
14. Tuning Control
15. BFO Pitch Control
16. RF Gain Control
17. Bass Control
18. Treble Control
19. Band Selector
20. Auto Switch
21. Power Switch
22. Frequency Display Switch
23. Light Switch
24. Tuning Lock Switch
25. Tuning Speed Selector
26. Power Indicator
27. Cancel/Memory Switch
28. Tuning/Battery Meter
29. Digital Frequency Display

## Technical Specifications

### SW<sub>2</sub> - SW<sub>5</sub>

<b>Frequency Range:</b>	SW <sub>2</sub> 3.9 ~ 7.0 MHz	SW <sub>3</sub> 7.0 ~ 12.0 MHz	SW <sub>4</sub> 12.0 ~ 20.0 MHz	SW <sub>5</sub> 20.0 ~ 30.0 MHz
<b>Type:</b>	Double Superheterodyne with Phase-Locked-Loop Synthesizer			
<b>IF:</b>	1st IF: 2.6 MHz 2nd IF: 455 kHz			
<b>Sensitivity:</b> (Modulation 400Hz, 30%, for 50 mW)	<b>S/N 6dB</b>	<b>S/N 26dB</b>		
	SW <sub>2</sub> 1.2μV	12μV		
	SW <sub>3</sub> 0.8μV	8μV		
	SW <sub>4</sub> 1.0μV	10μV		
	SW <sub>5</sub> 1.0μV	10μV		
<b>Selectivity:</b>	WIDE ± 2.5 kHz (-6 dB) ± 15 kHz (-60 dB) NARROW ± 1.7 kHz (-6 dB) ± 6 kHz (-60 dB)			
<b>Image Interference Ratio:</b>	SW <sub>2</sub> 65 dB (at 5.5 MHz) SW <sub>3</sub> 60 dB (at 9.5 MHz) SW <sub>4</sub> 55 dB (at 16 MHz) SW <sub>5</sub> 45 dB (at 25 MHz)			

### LW/MW/SW<sub>1</sub>

<b>Frequency Range:</b>	LW 150 ~ 410 kHz	MW 520 ~ 1610 kHz	SW <sub>1</sub> 1.6 ~ 3.9 MHz
<b>Type:</b>	Single Superheterodyne with Phase-Locked-Loop Synthesizer		
<b>IF:</b>	455 kHz		
<b>Sensitivity:</b> (Modulation 400 Hz, 30%, for 50 mW)	<b>S/N 6 dB</b>	<b>S/N 26 dB</b>	
	LW 70μV/m	600μV/m	
	MW 30 μV/m	400μV/m	
	SW <sub>1</sub> 30 μV/m	400μV/m	
<b>Selectivity:</b>	WIDE ± 2.5 kHz (-6 dB) ± 15 kHz (-60 dB) NARROW ± 1.7 kHz (-6 dB) ± 6 kHz (-60 dB)		

### Image Interference Ratio:

LW	40 dB (at 280 kHz)
MW	40 dB (at 1000 kHz)
SW <sub>1</sub>	50 dB (at 2.8 MHz)

### FM

<b>Frequency Range:</b>	87.5 ~ 108 MHz
<b>Type:</b>	Single Superheterodyne with Phase-Locked-Loop Synthesizer
<b>IF:</b>	10.7 MHz
<b>Sensitivity:</b>	2μV/75Ω (-3 dB, Limit. Sens.) 2.5μV/75Ω (S/N 26 dB)
<b>Two-Signal Selectivity:</b>	70 dB (± 400 kHz)
<b>Image Interference Ratio:</b>	50 dB (at 98 MHz)
<b>Frequency Display</b>	
<b>Display Type:</b>	7-segment Fluorescent Tube
<b>Precision:</b>	Direct Readout to 1 kHz for AM Direct Readout to 10 kHz for FM
<b>Number of Figures:</b>	5 digits
<b>Frequency Stability:</b>	Within 100 Hz during any 60 minutes after warm-up

### Tuning

<b>Type:</b>	Click-Stop, Rotary Encoder Digital Tuning
<b>Tuning Speed Selector:</b>	Push (Fast) and Pull (Slow)
<b>Tuning Speed Ratio:</b>	Fast : Slow = 10 : 1
<b>Preset Memory</b>	
<b>Number of Preset:</b>	12-station Preset
<b>Clock</b>	
<b>Type:</b>	LCD Quartz Clock
<b>Function:</b>	• Present Time Display (Hour, Minute, Second)

### Precision:

• Alarm Time Display (Hour, Minute)	Monthly Difference ± 15 seconds (60.8°F temperature, 50% humidity)
• Doze	
• Sleep	
• Sleep/Alarm Cancel	
• Wake-up to Radio or Chirp Alarm	

### General Specifications

<b>Speaker:</b>	5"
<b>Power Source:</b>	AC; 100 ~ 110/115 ~ 127/ 200 ~ 220/230 ~ 250 V, 60 Hz Battery; 6 "D" size batteries (Radio) 4 "AA" size batteries (Back-up for Memory & Clock)
	Car battery; with optional car adaptor RP-917H
<b>Jacks:</b>	Earphone/External speaker Headphones Rec. out/Phono (DIN Type) AC-in DC-in
<b>Antennas:</b>	• Whip Antenna for FM & SW <sub>1</sub> - 5 • Ferrite Core Antenna for LW & MW • Ferrite Core Antenna for SW <sub>1</sub> • External Antenna (one-touch type)
<b>Dimensions:</b> (W x H x D):	17 <sup>1</sup> / <sub>8</sub> " x 11 <sup>1</sup> / <sub>16</sub> " x 5 <sup>3</sup> / <sub>16</sub> "
<b>Weight:</b>	11 lb. 7.4 oz.

**Panasonic**  
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