Radio Shack DX 375 Shortwave Radio User Manual DX-375 (200-0212)

Your Realistic DX-375 AM/SW/FM-Stereo PLL Synthesized Receiver lets you choose from a wide variety of broadcasts on FM, AM, and SW (shortwave) bands. The 12 international SW bands let you tune in to the news and other programs from such sources as the British Broadcasting Corporation, Radio Cairo, and Radio Moscow, bring the voices of the world to you. The lightweight, compact receiver lets you take it almost anywhere you go.

Its special features include:

Phase-Locked Loop (PLL) - ensures accurate tuning.
Synthesized Receiver

Memory Tuning - stores up to 30 frequencies in each band) so you can easily tune to your favorite stations.

**Direct-Access Tuning** - directly tunes to the desired frequency when you enter the frequency on the keypad.

**Search Tuning** - searches up or down the band for the next available station.

**Memory Scan** - scans the stored frequencies in each band's memory.

**LED Tuning Indicator** - lights when the receiver tunes to a signal.

**Shortwave Quick Select** - allows you quick access to any of the 12 shortwave broadcast bands.

**Key Lock** - prevents you from accidentally turning the receiver on or off, changing the band or frequency, or changing other front-panel controls.

**Sleep Timer** - lets you set the receiver to turn off after 60 minutes so you can fall asleep as you listen to the receiver.

**DX/Local Control** - helps to reduce distortion of broadcasts.

**Headphone Jack** - lets you connect optional stereo headphones so you can listen privately and hear FM broadcasts in stereo.

Three Power Options - let you power the receiver with internal

batteries, standard household AC power (using an optional AC adapter), or DC vehicle battery power (using an optional DC adapter).

**Tone Control** - lets you set the receiver to accentuate high or low frequency sounds.

Memory Backup - keeps the programmed stations in your receiver's memory for up to 1 hour without batteries.

Frequency Step Switch - lets you set the correct frequency step for different countries.

**Folding Stand** - securely positions the receiver at an angle.

Because this product is so versatile, please take a few minutes to review this manual before you proceed.

#### LOCKING THE CONTROLS

The lock feature prevents you from accidentally turning the receiver on or off, changing the band or frequency, or changing other front-panel controls. You an still adjust VOLUME, TONE, and SENSITIVITY.

To lock the controls, set LOCK/IN to IN. LOCK appears on the display.

To unlock the controls, set LOCK/IN away from IN. LOCK disappears from the display.

#### USING THE SLEEP TIMER

The sleep timer sets the receiver to turn off after 60 minutes so you can fall asleep as you listen to the receiver.

To use the sleep timer, press SLEEP. SLEEP appears on the display.

After 60 minutes, the receiver turns off. To turn off the receiver sooner, press POWER.

# **USING THE SENSITIVITY SWITCH**

If you are listening to a strong FM, AM, or SW station, and the sound is distorted, set SENS to LOCAL. For normal or weak stations, set SENS to DX (distant).

#### **POWER SOURCES**

You can power your receiver from:

Internal battery power (two alkaline C batteries).

Standard household AC power (with an optional AC adapter).

Vehicle battery power (with an optional DC adapter).

Internal Battery Power

You can power the receiver with two C batteries. For best performance, we recommend alkaline batteries, such as Radio Shack Cat. No. 23-551.

CAUTION: If you disconnect power from the receiver for about 1 hour, all information stored in memory will be lost. To keep the frequencies stored in memory, keep the batteries installed.

NOTES: Replace the batteries when BATTERY appears on the display.

Before you replace the batteries, be sure to turn off the receiver's power.

Follow these steps to install the batteries.

- 1. Push the cover in the direction of the arrow and remove it from the battery compartment.
- 2. Remove the old batteries and discard them immediately.

WARNINGS: If you do not plan to use the receiver for a month or more, remove and store the batteries.

Never leave dead, old, or weak batteries in the receiver. they can leak chemicals and corrode or damage electronic circuits. Always dispose of them promptly and properly.

Never incinerate batteries.

3. Place two C batteries in the compartment as indicated by the polarity symbols (+ or -) marked beside the compartment. For easy removal, place the batteries on top of the lift-out ribbon.

CAUTIONS: Use only fresh batteries of the required size and type.

Never mix fresh and old batteries.

4. Replace the compartment cover.

## SETTING THE AM/FM TUNING INCREMENT

The AM/FM frequency increment switch sets the correct frequency increments for different countries. The switch is located in the battery compartment.

Set the switch using the following guidelines:

If you are in the United States, Canada, or another north or south American country, the switch is already set to B for you. In this setting, the AM frequency increments are 10 KHZ and the FM frequency increments are 200 kHz.

If you are in a country where the AM frequency increments are 9 kHz, set the switch to A. In this setting, the FM frequency increments are 100 kHz.

NOTE: All stored frequencies erase when you change the switch position.

#### **USING STEREO HEADPHONES**

For private listening, connect optional stereo headphones into the receiver's 1/8-inch jack. This disconnects the receiver's internal speaker. Your local Radio Shack store offers a wide selection of stereo headphones with the required 1/8-inch plug.

Listening Safely

Do not listen at extremely high volume levels, especially using an earphone. Extended, high-volume listening can lead to permanent hearing loss.

To protect your hearing, follow these guidelines when you use headphones.

Always start by setting the volume to the lowest level possible before you begin listening. Put the earphone or headphones on, then gradually increase the volume as necessary.

Once you set the volume, do not increase it. Over a period of time, your ears adapt to the volume level, so a volume level that does not cause discomfort might still damage your hearing.

# **USING THE FOLDING STAND**

Your receiver has a folding stand on the back. Use it to position the receiver more securely and for easier viewing of the display.

#### STANDARD AC POWER

To power your receiver from an AC outlet, you need an AC adapter (such as Cat. No. 273-1654).

CAUTIONS: You must use an AC adapter that supplies 3 volts DC power and delivers at least 300 milliamps. Its center tip must be set to negative, and it must have a plug that properly fits your receiver's DC 3V jack. Using an adapter that does not meet these specifications could damage your receiver or the adapter.

If you disconnect power from the receiver for about 1 hour, all information stored in memory will be lost. We recommend you keep the batteries installed when you use the AC adapter to protect the memory from a power loss.

Follow these steps to power the receiver AC power.

- 1. Set the adapter's voltage switch to 3V.
- 2. Connect the adapter's black barrel plug to the adapter's cord with the TIP set to -NEG.
- 3. Insert the barrel plug into the receiver's DC 3V jack. This disconnects the internal batteries.
- 4. Plug the adapter into a standard AC outlet.

#### **VEHICLE BATTERY POWER**

To power your receiver from a vehicle's battery power, you need a DC adapter (such as Cat. No. 270-1560A).

CAUTIONS: The vehicle must have a 12-volt, negative-ground electrical system.

You must use a DC adapter that supplies 3 volts DC adapter that supplies 3 volts DC power and delivers at least 300 milliamps. Its center tip must be set to negative, and it must be set to negative, and it must have a plug that properly fits your receiver's DC 3V jack. Using an adapter that does not meet these specifications could damage your receiver or the adapter.

Plug the adapter into your receiver before you plug it into the cigarette-lighter socket. Also, unplug the adapter from the cigarette-lighter socket before you unplug it from your receiver. An unconnected plug might touch a metal object and damage the adapter or your vehicle's electrical system.

Follow these steps to power your receiver from your vehicle's battery

## power.

- 1. Set the adapter's voltage switch to 3V.
- 2. Connect the adapter's orange barrel-plug to the adapter's cord with TIP set to -NEG.
- 3. Insert the adapter's barrel plug into the receiver's DC 3V jack. this disconnects the internal batteries.
- 4. Plug the other end of the adapter into your vehicle's cigarette-lighter socket.

Follow these steps to listen to the receiver.

WARNING: To prevent possible ear injury and hearing loss, set VOLUME to MIN before you turn on the receiver. After you turn on the receiver, set VOLUME to a comfortable listening level.

- 1. Press POWER to turn on the receiver.
- Press BAND until the desired band (FM, AM, or SW) appears on the display. (See "Selecting the Band.")
- Press MANUAL/AUTO or PRESET/DIRECT ACCESS to tune to the desired station. (See "Tuning to a Radio Station.")
- 4. Adjust your receiver's antenna for the best reception. (See "Using the Antenna.").
- 5. Adjust VOLUME and TONE as desired.
- 6. Press POWER to turn off the receiver.

# **SELECTING THE BAND**

You can select the Frequency Modulation (FM), Amplitude Modulation (AM), or the 12-band Shortwave (SW) band of operation.

Press BAND until the desired band (FM, AM, or SW) appears on the display.

If you select FM, FM, MHz and STEREO (when you tune to a stereo broadcast) appear on the display.

NOTE: Your receiver has only one speaker. To listen to a stereo broadcast, use stereo headphones (not supplied).

If you select AM, AM and kHz appear on the display.

If you select SW, press SW SELECT to access the international radio frequency bands. As you press SW SELECT, SW BROADCAST BAND and the lower end of each broadcast band appear on the display.

NOTE: If you press and hold SW SELECT for more than 2 seconds, the receiver automatically scans all broadcast bands in sequence and stops on the same band where you were when you pressed SW SELECT.

To stop the scanning at a desired band, press SW SELECT again or press <DOWN or UP>.

# TUNING TO A RADIO STATION

You can tune to a desired broadcast station using the manual, search,

direct access, preset, or scan tuning methods.

# Manual Tuning

To manually tune to a frequency, repeatedly press MANUAL/AUTO <DOWN or UP> until the display shows the frequency desired.

# Search Tuning

To let the receiver find a station, press and hold <DOWN or UP> for more than 2 seconds. The tuner quickly scans all frequencies. When you release the button, the receiver automatically tunes to the next strong station.

# Direct Access Tuning

To tune directly to a station's frequency, press ENTER. ENTRY flashes for about 10 seconds. While it is flashing, press the number buttons to select the desired station's frequency. Then press ENTER again.

NOTES: Your receiver automatically rounds the entered frequency to the nearest valid frequency. For example, if you try to enter a frequency of 1453 in AM, your receiver accepts it as 1450.

If you make a mistake in entering a frequency, ERROR flashes on the display. Enter the frequency again.

# Preset Tuning

To tune directly to a station that is entered into memory, simply press the desired preset number (0-9).

NOTE: You must first store the desired stations into memory. (See "Storing Station Frequencies.")

# Scan Tuning

To scan the preset memory locations, press SCAN. The receiver stops at each station for about 5 seconds. To end scanning, press SCAN again, or press a preset station memory button.

NOTE: If no frequency is stored in a memory channel or no signal is received at a memory channel, the receiver stops at the memory channel for 1 second and then moves to the next memory channel.

#### STORING STATION FREQUENCIES

For easy selection, you can store up to 30 of your favorite stations' frequencies in memory (10 frequencies in each band; FM, AM, and SW). Once you store a station's frequency using a memory button, you can press this button to select the stored station.

CAUTION: If you disconnect power from the receiver for about 1 hour, all information stored in memory will be lost. We recommend you keep the batteries installed when you use an AC or DC adapter to protect the memory from a power loss.

Follow these steps to store a frequency in memory.

1. Follow Steps 1 through 4 in "Basic Operation."

NOTE: Use manual, search, or direct access tuning to tune to the station's frequency you want to store.

- 2. Press STORE. MEMORY flashes.
- 3. While MEMORY flashes, press a number button to select the memory location.

NOTE: If you do not press a number within about 10 seconds, MEMORY stops flashing and you must repeat steps 2 and 3.

# **USING THE ANTENNA**

Use the following guidelines to adjust your receiver's antenna.

BAND	Wavelength	Antenna adjustments
FM		Fully extend and rotate the telescoping antenna.
AM		Rotate the receiver for best reception, (AM uses an internal antenna.)
SW	13-41 meters	Fully extend the telescoping antenna vertically.
SW	49-120 meters	Fully extend the telescoping antenna and/or rotate the receiver for best reception. (Both internal and external telescoping antennas pick up signals.)

NOTE: For better AM and SW reception, you can connect an external antenna, such as Cat. No. 278-1374, to the telescoping antenna.

Listening to shortwave radio can be very exciting. Newscasts from a country where important events are taking place give you a sense of immediacy that local newscasts seldom deliver.

Although shortwave listening requires no special knowledge, you might enjoy it more if you read some of the numerous books available on this subject. There are also several periodicals that give listening hints and seasonal program schedules.

## INTERNATIONAL RADIO FREQUENCIES

International commercial broadcasts are found in the following bands. Programming (often in English) usually contains news, commentaries, music, and special features reflecting the culture of the broadcasting country. You might find it easiest to hear these broadcasts between 6:00 PM and midnight (your time).

NOTE: European stations often list a frequency by giving its wavelength. For example, the 19-meter band refers to the range of frequencies whose waves are about 19 meters long.

BAND	FREQUENCY RANGE
120 meter *	2300 - 2495 kHz
90 meter *	3200 - 3400 kHz
75 meter *	3900 - 4000 kHz
60 meter *	4750 - 5060 kHz
49 meter	5950 - 6200 kHz
41 meter **	7100 - 7300 kHz
31 meter	9500 - 9900 kHz
25 meter	11650 - 12050 kHz
21 meter	13600 - 13800 kHz
19 meter	15100 - 15600 kHz
16 meter	17550 - 17900 kHz
13 meter	21450 - 21850 kHz

<sup>\*</sup> These bands are reserved for stations in tropical areas.

#### FREQUENCY CONVERSION

The tuning location of a station can be expressed in frequency (kHz or kHz) or in wavelength (meters). The following information can help you make the necessary conversions.

<sup>\*\*</sup> The 41 meter band is shared by ham operators in the United States and international stations. Interference is heavy in this band.

To convert from kHz to kHz, divide by 1,000.

For example: 15500 kHz / 1000 = 15.5 kHz

To convert from kHz to meters, divide 300 by the same number of kHz.

For example: 300 / 12 kHz = 25 meters

# TIME STANDARD FREQUENCIES

The following frequencies announce the exact tine of day at specified intervals. These signals have many uses in science and technology such as giving the accurate time, verifying frequency calibration, and gaining information on radio propagation conditions.

Station	Country	Frequency
WWV -and- WWVH	Fort Collins, Colorado -and- Kauai, Hawaii	2,500 kHz 5,000 kHz 10,000 kHz 15,000 kHz 20,000 kHz
СНИ	Ontario, Canada	3,330 kHz 7,335 kHz 14,670 kHz
VNG	Sydney, Australia	5,000 kHz 10,000 kHz 15,000 kHz
JJY	Tokyo, Japan	2,500 kHz 5,000 kHz 8,000 kHz 10,000 kHz 15,000 kHz

NOTE: other countries also have time signal stations transmitting over the same frequencies as WWV or WWVH.

Your Realistic DX-375 Receiver is an example of superior design and craftsmanship. The following suggestions will help you care for your receiver so you can enjoy it for years.

Keep the receiver dry. If it gets wet, wipe it dry immediately. Liquids might contain minerals that can corrode electronic circuits.

Use and store the receiver only in normal temperature environments, and avoid sudden temperature changes. Temperature extremes can shorten the life of electronic devices, damage the circuit boards and cause the receiver to work improperly.

Keep the receiver away from dust and dirt, which can cause premature wear of parts.

Wipe the receiver with a damp cloth occasionally to keep the product looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the receiver.

Use only fresh batteries of the required size and type. Always remove old or weak batteries. They can leak chemicals that can destroy electronic circuits.

Modifying or tampering with the receiver's internal components can cause a malfunction and might invalidate the warranty and void your FCC authorization to operate the receiver. If the receiver is not performing as it should, take it to your local Radio Shack store for assistance.

DX-375 (200-0212) *Troubleshooting* 

Your receiver should give you years of trouble-free service if you follow the care instructions given in this manual. If you do have problems, the chart below might help you solve them.

Problem	Cause	Remedy		
No display, or incorrect display.	Batteries are weak or dead.	Replace the batteries.		
	AC or DC adapter is plugged into the the receiver but not into the power source. (Plugging an adapter into the receiver automatically disconnects the receiver's batteries.)	Connect the adapter to AC or DC power source.		
No sound.	Batteries are weak or dead.	Replace the batteries.		
	Volume is set too low.	Adjust volume as desired.		
	Headphones are plugged into the receiver. (This disconnects the receiver's internal speaker.)	Disconnect the headphones		
	AC or DC adapter is not firmly plugged in.	Ensure the adapter's barrel is connected properly to the receiver and the AC or DC plug to the proper power source.		
No power from batteries.	AC or DC adapter is plugged into the receiver but not into the power source. (Plugging an adapter into the receiver automatically disconnects the receiver's battery.	Connect the adapter to the AC or DC power source.		

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# Specifications

# **GENERAL**

Output Impedance:	AM, SW 8 ohms (Speaker)
Output Power:	.350 mW at 10% THD with a 8 ohm loadDC, 3 Volts
Test Conditions: AM, SW	
Modulation:	50mW/8 ohms

# AM BAND

	Conditio	on	Unit	Nominal	Limit
Intermediate Frequency Frequency Range Maximum Sensitivity			kHz kHz	450 530~1710	450 +/- 530~1710
50 mW Output /8 ohms	600	kHz	μV/m	63	150
in the first terms of the first	1000	kHz	μV/m	50	130
	1450	kHz	μV/m	50	130
Usable Sensitivity				200	
20 dB S/N		kHz	μV/m	398	630
	1000 1450		μV/m μV/m	250 250	630 630
Auto Scan Sensitivity	1000		μV/III μV/m	250	500
Tuning Indicator	1000	KIIZ	μν/	250	300
On Sensitivity	1000	kHz	μV/m	79	220
DX-LOCAL			•		
Sensitivity Ratio	1000	kHz	dB	26	16~36
S/N Ratio 5mV/m Input	1000		dB	45	40
Image Rejection	1450		dB	40	34
IF Rejection		kHz	dB	50	44
AGC FOM-10 dB	1000 1000		dB dB	69 70	60 60
Selectivity +/- 10 kHz Bandwidth at -6 dB	1000		иБ kHz	6.2	4.5~8
Maximum Output Power	1000	KIIZ	KIIZ	0.2	4.5
5 mV/m Input	1000	kHz	mW	475	350
T.H. Distortion					
5 mV/m Input	1000	kHz	%	1.03	. 0
Overload Distortion					
100 mV/m Input	1000	kHz	%	1.2	10
Output Power at 10% THD	1000			2.40	200
5 mV/m Input	1000		mW	340	300
Whistle Modulation	1350	kHz	%	2 2	15 15
Overall Fidelity	1330	NIIZ	70	2	13
5mV/m Input	1000	kHz	Hz	130~2.8k	160~2.2k
Noise Level			mV	0.2	0.4
Current Drain			mA	37	45
Local Oscillator Drop Out	600	) kHz	V	1.85	2.1
Backup Current (Power Off After 5 Minutes)			μΑ	1.5	10
Low Battery Indication Voltage			μΛ V	2.25	2.0~2.4
			-	5	

SW1 BAND

	Condition	Unit	Nominal	Limit
Frequency Range Maximum Sensitivity		MHz	2.300~6.250	2.300~6.250
50 mW Output/8 ohms	2.4 MHz	μV/m	50	100
•	4.0 MHZ	μV/m	63	126
	6.0 MHz	μV/m	22	50
Usable Sensitivity 20dB S/N	2.4 MHz	μV/m	224	500
-	4.0 MHz	μV/m	224	500
	6.0 MHz	μV/m	178	398
Auto Scan Stop Sensitivity	2.4 MHz	μV/m	280	-
	4.0 MHz	μV/m	356	-
	6.0 MHz	μV/m	224	450
S/N Ratio	4.0 MHz	dB	46	42
Image Rejection	2.4 MHz	dB	35	-
	4.0 MHz	dB	25	-
	6.0 MHz	dB	25	19
IF Rejection	2.4 MHz	dB	69	55
AGC FOM-10 dB	4.0 MHz	dB	60	50
T.H. Distortion 5mV/m Input	4.0 MHz	%	1.0	4.0
Overload Distortion				
50 mV/m Input	4.0 MHz	%	1.5	10
Current Drain		m/A	41	47
Local Oscillator Drop Out	2.4 MHz	V	1.85	2.1
DC-DC Conv. OSC Frequency		MHz	2.77	-
Tuning Indicator			100	22.4
On Sensitivity	4.0 MHz	μV/m	100	224
Tuning Step Frequency		kHz	5	5

# SW2 Band

	Condit	ion	Unit	Nominal	Limit
Frequency Range Maximum Sensitivity			MHz	7.100~21.850	7.100~21.850
50mw Output/8 ohms	7 3	MHz	μV	7.9	16
Some output/ o onms	15.0		μV	1.6	3.0
	21.0		μV	5.6	22
Usable Sensitivity for	21.0	11112	μν	5.0	22
20 dB S/N	7 2	MHz	μV	40	80
20 UB 3/N	15.0			9.0	25
	21.0		μV		22
Auto Coon Cton Consitivi		МПΖ	μV	5.6	22
Auto Scan Stop Sensitivi	-	MII		45	
	7.3		μV	45	-
	15.0		μV	10	-
	21.0		μV	7.9	-
S/N Ratio 100 μV Input	15.0		dB	42	36
Image Rejection	7.3	MHz	dB	29	22
	15.0	MHz	dB	18	12
AGC FOM-10dB	15.0	MHz		72	60
T.H. Distortion					
100uV Input	15.0	MHz	%	1.5	4.0
Overload Distortion					
5mV Input	15.0	MHz	%	2.5	10
Current Drain			mΑ	46	55
Local OSC Drop Out	7.3	MHz	V	1.85	2.1
Tuning Indicator	,		•	1.05	
On Sensitivity	15.0	MHz	μV/m	3.2	6.3
Tuning Step Frequency	15.0	11114	μν/ιιι kHz	5	5
runing Step Frequency			KΠZ	J	J

M	$\sim$	lat	п.	Λn	

Mono:1000 Hz 75	
Stereo:(L+R) 45% (L-R)	45%
Pilot:19kHz	10%
Output:1mW/32	ohms
Antenna Input:75	ohms

#### FM BAND

Frequency Range	Condition	Unit MHz	Nominal 87.5~108	
3% THD Sensitivity 1mW/32 Ohms		μV dB	4.7	10 7
Usable Sensitivity 30 dB S/N	98.1 MHz 106.1 MHz 90.1 MHz 98.1 MHz 106.1 MHz	μV dB μV dB μV μV μV	2.5 4.7 3.2 2.5 3.2	7 10 9 7 9
Auto Scan Stop Sensitivity	98.1 MHz	μV	4.0	10
Tuning Indicator On Sensitivity		μV	2.2	10
Maximum Output Power 1 mV Inpu S/N Ratio 1 mV Inpu	Jt 98.1 MHZ <sub>1</sub> + 08 1 MHz	mW dB	40 62	20 50
Distortion 1 mV Inpu	ut 98.1 MHz	%	0.4	3
Output Power at 10% THE		mW	37	20
	ıt 98.1 MHz	dB	48	30
-3 dB Limiting	98.1 MHz	μV	1.6	4.0
DX-LOCAL Sensitivity Ratio (3% THD)	98.1 MHz		15	_
Tone Control Effect at 10 kHz	98.1 MHz	kHz	13	9~17
Image Rejection Ratio	106.1 MHz	dB	34	22
I.F Rejection Ratio	90.1 MHz	dB	60	50
Spurious Response	98.1 MHz	dB	74	50
Capture Ratio 100 μV Inpu Alternate Channel Selectivity	JT 98.1 MHZ	dB	3.0	6
at 100 µV Input	98.1 MHz	dB	25	15
De-emphasis	100 Hz	dB	- 2	-1~-3
	8 kHz	dB	-11	-8~-14
	ıt 98.1 MHz	%	0.6	3.0
Current Drain Oscillator Drop Out		mA V	45 1.8	51 2.1
oscittator brop out		V	1.0	2.1
STERE0				
Stereo Separation 1 mV Input	1 kHz	dB dB	25 38	20 30
Distortion at 1 mV Input	10 kHz t 1 kHz	dB %	27 0.3	20 3
Stereo Beacon Sensitivity	_	μV	1.6	7.1
38 kHz Leakage 1 mV Input Pilot Modulation 1 mV Input		dB %	34 3	28 7
1 110 t 110 t 111	_	U	3	•

Note: Nominal Specs represent the design specs. All units should be able to approximate these - some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; in no case should a unit fail to meet limit specs

200-0212 DX-375 AM/SW/FM/ST RCV Parts List

To order parts call 1-800-843-7422 or visit your local radio shack store.

Reference #	Cat. No.	Description	NP Part #
	11319548		1S1588
	11328895		2SA1048
	11329190		2SA1297
	11332400	XSTR 2SC2668 SI NPN	2SC2668
	11332426	VCTD 2CV110 EET CEN DUDD	2SC2669
	11335254		2SK118 2SK241Y
	10525061		2TR0064
	10323001	NEI LACED DI 25A1040	2TR0450
			2TR0474
	10528552	REPLACED BY 2SK118	2TR0886
	10531978	REPLACED BY 2SC2669	2TR1450
	10531986		2TR1451
	10532000		
25	10540037		
TC1 TC2 TC2 TC4 TC5	10540037		A0411
TC1 TC2 TC3 TC4 TC5 1T2	10554798 10565273		C0217 CA4013
112	10565273		CA4013
L1	10565281		CA4014
	10565281		CA4014
L4	10565299		CA4015
	10565299		CA4015
L5	10565307		CA4016
	10565307		CA4016
L6	10565315		CA4017
113	10565315		CA4017
L12	10565331 10565331		CA4019 CA4019
L13	10565349		CA4019 CA4020
L14	10565356		CA4021
	10565356		CA4021
L16	10565364	COIL,OSC DC/DC	CA4022
	10565364	SILVER CAN	CA4022
CF2	10570356	FILTER, CER 450KHZ SFP450I	
CD	11378478	CRYSTAL, DT-381 75KHZ 3X8	
CR C8 C9	10596906 10611978	RESONATOR, CERAMIC BATTERY, LID ASSY	CX1278 DB1128
C0 C9	10611978	60X20X5	DB1128
	10622496	REPLACED BY 1S1588	DX0273
D5 D6 D7 D8 D9 D10 D11	10625705	DIODE 1SV149-B (PAIR)	DX1511
D1 D2	10626968	DIODE 1SS238	DX1916
	10626968	ORANGE GLASS W/GREEN BAND	DX1916
D3 D4	10627438	DIODE 1SV101 VARACTOR SI	DX2065
D20	10634632 10675999	DIODE 1SS293 SI STAND,PLASTIC DARK GRAY	DX3547
15 D10 D11 D12 D13	10075999	STRAP, HAND ASSY	HC3267 HL0160
DIO DII DIZ DIS	10704104	HOLDER, STRAP	HL0160
F1 F2 F3 F4 F5	10714996	HARDWARE KIT, 20-212	HW2000212
-	10714996	E WASHER M2 (1)	HW2000212
J1	10724771	JACK, HEADPHONE	J0711
J2	10724789	JACK,DC INNER PIN 01.3	J0712
	10775567	KNOB, VOLUME	K3693
LCD 37	10791614	LCD,DISPLAY 63X35.5	L0226
D26	10791614 10794436	LED,RED 3MM DIFFUSED	L0226 L0963
<i>D</i> 20	10794430	MANUAL, SERVICE 20-212	MS2000212

		VEDOV 600V	
T.07	10844991		MU2000212
IC7	10868727	IC,305-011 FP 60 S	MX0074
	10868727	DIGITAL IC 3 VOLTS	MX0074
	10868735	REPLACED BY TD7101F	MX0075
	10883023	REPLACED BY TA8132AF	MX2234
	10890929	REPLACED BY TA7358	MX3400
	10899011	REPLACED BY TA7331	MX4835
IC5	10922581	IC,TC74HC155AP CMOS	MX8875
	10922581	DECODER 8P DIP	MX8875
IC6	10922599	IC,TA8126S LINEAR	MX8876
	10922599	DC/DC CONVERTOR	MX8876
VR	10966927	POT, VOLUME 20K OHM AX2	P0999
S1 S2	11055308	SWITCH, SLIDE 2C-2P	S0198
	11055308	DX/LOCAL HI/LOW	S0198
S3 S6	11055324	SWITCH, TACT 1C-1P	S0200
	11055324	SLEEP/POWER	S0200
S7 S8 S9 S10 S11 S12	11055332	SWITCH, TACT 1C-1P	S0201
S13 S14 S15 S16 S17	11055332	PRESET, DIRECT TUNING,	S0201
S18 S19 S20 S21 S22	11055332	BAND, ENTER, UP/DOWN TUNING	S0201
S23	11055332	SHORT WAVE SELECT,	S0201
	11055332	MEMORY STORE, MEMORY SCAN	S0201
26	11084571	SPEAKER,77MM 8 OHM	SP0380
-	11392875	9P SIP	TA7331
	11392917	9 PIN SIP	TA7358
	11393089	IC, TA8132AF IF AMP 24 PIN	TA8132AF
	10868735	SURFACE MOUNT TYPE	TD7101F
		BOARD	XB0000X
A1 A2 A3 A16 A17 A21	11210440	CABINET, FRONT ASSY	Z5694
	11210440	DIAL PLATE	Z5694
B4 B5 B6 B7	11212388	CABINET, REAR ASSY	Z5915
D1 23 20 27	11212388	6X10X15	Z5915
14	11212396	PANEL, SIDE PLASTIC	Z5916
1.	11212396	DARK GRAY	Z5916
27	11212479	CHASSIS, PLASTIC BLACK	Z5924
41	T1717413	CHASSIS, LASTIC DEACK	2332 <del>7</del>