



**TM-1 AM/FM Stereo Clock Radio**

**TM-2 Clock Radio Stereo Companion**

**Owner's Manual**



## Safety Instructions



### CAUTION

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions, in the literature accompanying the appliance.

### WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

The following safety instructions have been included in compliance with safety standard regulations. Please read them carefully.

1. Read Instructions—All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions—The safety and operating instructions should be retained for future reference.
3. Heed Warnings—All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions—All operating and use instructions should be followed.
5. Water and Moisture—The appliance should not be used near water—for example, near a bathtub, washbowl, sink, or near a swimming pool, etc.
6. Heat—The appliance should be situated away from heat sources such as radiators, stoves, and other appliances which produce heat.
7. Power Sources—The appliances should only be connected to a power supply described in the operating instructions and indicated on the rear panel.
8. Grounding or Polarization—Precautions should be taken so that the grounding or polarization means of an appliance are not defeated
9. Power and Connecting Cord Protection—Power-supply and connecting cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them.
10. Cleaning—The appliance should be cleaned only as recommended by the manufacturer.
11. Power Line—An outdoor antenna should be located away from power lines.
12. Outdoor Antenna Grounding—If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of

grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. (See illustration.)

13. Nonuse Periods—The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time. The back-up battery should also be removed in this instance.

14. Object and Liquid Entry—Care should be taken so that objects and liquids do not fall into or onto the products.

15. Damage Requiring Service—The appliance should be serviced by qualified service personnel when:

A. The power-supply cord or plug has been damaged; or

B. Objects have fallen, or liquid has been spilled into the appliance; or

C. The appliance has been exposed to rain; or

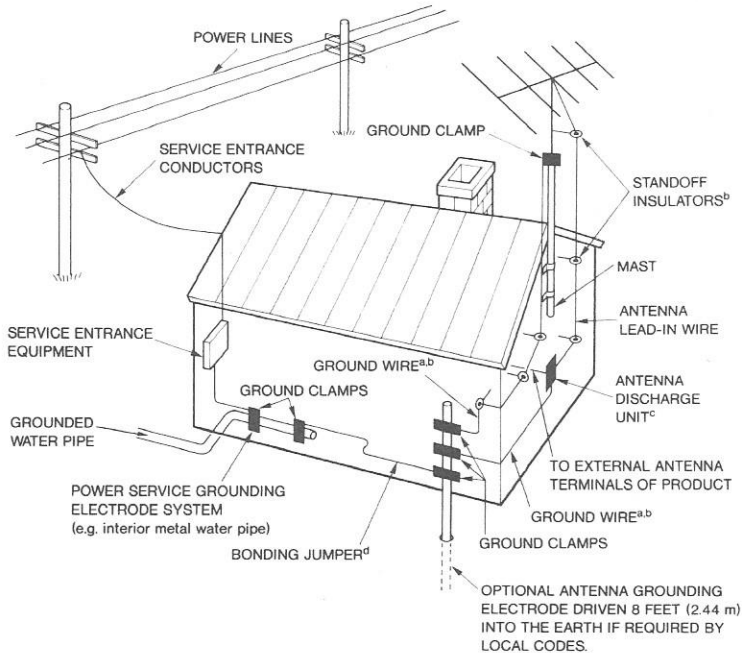
D. The appliance does not appear to operate normally or exhibits a marked change in performance; or

E. The appliance has been dropped, or the enclosure damaged.

16. Servicing—The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel. Save the packaging to insure safe transport of the units when shipping to another location for repair work.

17. Caring for External Surfaces—Caring for the exterior surfaces of the units should be limited to wiping with a soft, dry cloth. Avoid using solvents or alcohol-based cleaners.

#### EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS



a. Use No. 10 AWG (5.3 mm<sup>2</sup>) copper, No. 8 AWG (8.4 mm<sup>2</sup>) aluminum, No. 17 AWG (1.0 mm<sup>2</sup>) copper-clad steel or bronze wire, or larger, as a ground wire.

b. Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4–6 feet (1.22–1.83 m) apart.

c. Mount antenna discharge unit as close as possible to where lead-in enters house.

d. Use jumper wire not smaller than No. 6 AWG (13.3 mm<sup>2</sup>) copper, or the equivalent, when a separate antenna-grounding electrode is used.

# Congratulations

You have chosen an outstanding product! The Nakamichi Clock Radio has been designed to operate as a one-piece or a two-piece system. The TM-1 AM/FM Stereo Clock Radio is the main unit and can be operated on a stand-alone basis. The TM-2 Clock Radio Stereo Companion (sold separately) connects to the main unit and provides stereo sound and the convenience of a second clock/alarm display.

We are confident you will enjoy the elegant design, luxurious features, and outstanding sound quality of this product.

In order to take full advantage of this product's superior performance, please read this manual in its entirety and retain it for future reference.

Thank you.

Nakamichi America Corporation

## Owner's Record

Please record the Model Number and Serial Number in the space provided below and retain these numbers for your records. The model number and serial number are located on the rear panel of the units.

TM-1 AM/FM Stereo Clock Radio

Serial #: \_\_\_\_\_

TM-2 Clock Radio Stereo Companion

Serial #: \_\_\_\_\_

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, The user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate this equipment with respect to the receiver
- move this equipment away from the receiver

— plug this equipment into a different outlet so that equipment and receiver are on different branch circuits

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems".

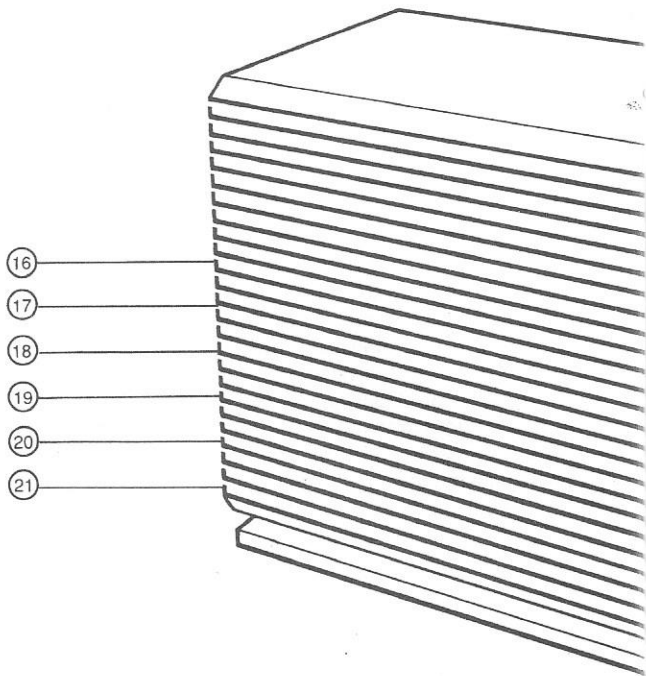
This booklet is available from the U.S. Government Printing Office, Washington DC 20402, Stock No. 004-000-00345-4.

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# TM-1 AM/FM Stereo Clock Radio

## Controls and Features



### 1. Reset On/Off Button

Turns radio on and off and resets alarm for following day.

### 2. Time Set Key

Used in conjunction with manual tuning keys to set time.

### 3. Alarm Selector Keys

The Nakamichi Clock Radio is equipped with two independent, programmable alarms.

### 4. Alarm Mode

Either alarm can be independently set to buzzer or radio. Both feature ramp-up volume for gentle awakening.

### 5. Sleep Timer

Lets you fall asleep to your favorite radio

station. Programmable for a time period between 5 and 60 minutes at five minute intervals.

### 6. Snooze Button

Resets the alarm to go off again in six minutes.

### 7. Volume Control

### 8. Treble and Bass Controls

### 9. Balance Control

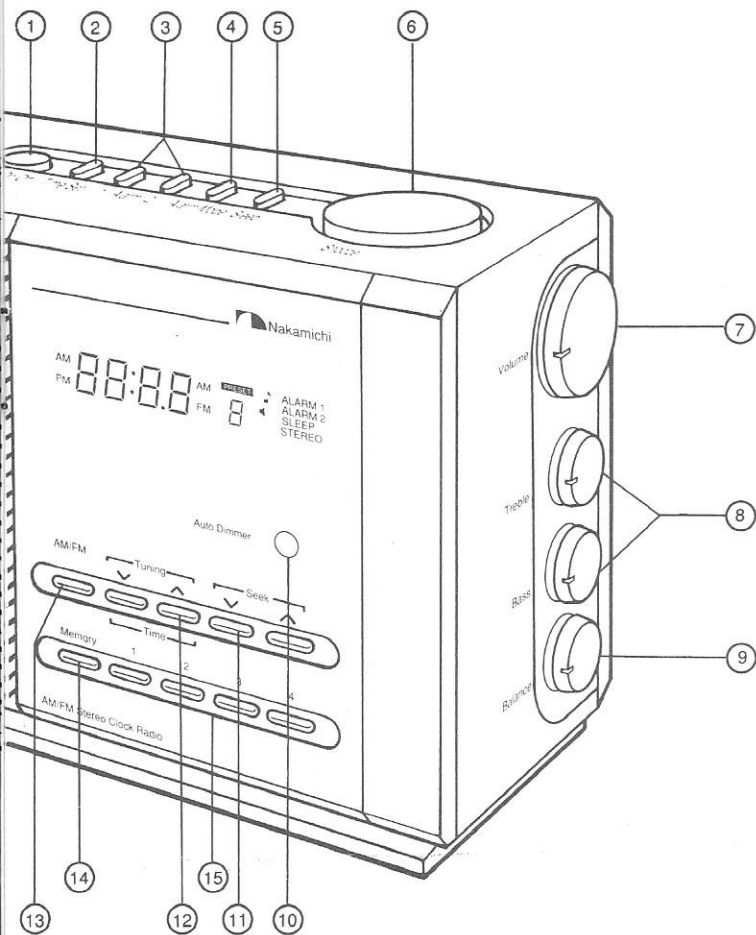
### 10. Automatic Dimmer

Controls display brightness depending on room lighting.

### 11. Seek Tuning Keys

### 12. Manual Tuning/Time Set Keys

Used to tune station and set time. Clock



features bi-directional, multi-speed time-setting.

**13. AM/FM Band Selector**

**14. Memory Key**

Used to store broadcast stations into the Preset Station Keys.

**15. Preset Station Key**

A total of 4 AM and 4 FM broadcast stations can be memorized for instant recall.

**16. External FM Antenna Connections (on back)**

Connects to a 300-ohm dipole antenna (not included) to improve reception in fringe areas.

**17. FM Mode Switch (on back)**

Enables you to select either FM mono or

FM stereo modes.

**18. Alarm Level Switch (on back)**

3-way switch enables you to adjust alarm volume.

**19. Stereo Companion DIN Jack (on back)**

**20. Stereo Headphone Jack (on back)**

Accepts any mini-plug stereo headphone.

**21. FM Antenna**

A capacitively-coupled antenna is conveniently designed within the AC power cord.

# TM-1 AM/FM Stereo Clock Radio

## Operating Instructions

Once you have plugged your unit into a live AC outlet it is ready for operation. The following instructions describe the proper use of the Clock Radio features. If you have also purchased the TM-2 Stereo Companion, please turn to page 12 and follow the directions to first connect the TM-2 to the TM-1 main unit.

### Radio

Before turning on the radio, be sure that the volume control is turned down (so that the notch aligns with the word "Volume").

### On/Off

Turn the Clock Radio on and off by depressing the Reset On/Off button on the top of the unit.

Adjust the listening volume and tonal balance as desired. When the Stereo Companion (TM-2) unit is connected or a headphone is used, the balance control becomes activated.

The unit also features automatic loudness compensation for enriched sound quality at low listening levels.

### Tuning

The stereo digital tuner utilizes two types of tuning: Seek and Manual. When either set of these keys are depressed, the display switches from displaying the time to the radio frequency.

**Seek tuning** is achieved using the SEEK keys, located on the lower right portion of the front panel. The Seek keys automatically search for the next available station and then lock onto its frequency. To find a desired station:

1. Select the desired band using the AM/FM key.
2. Push either the SEEK  $\wedge$  key to advance to a higher frequency than is displayed or use the SEEK  $\vee$  key to reach a lower frequency.

**Manual tuning** is achieved using the TUNING keys. Manual tuning permits you to move the tuner point to point, instead of station to station. Manual tuning is useful when you wish to receive weaker signals that the SEEK mode does not lock on to. The keys are operated in an identical manner to the SEEK keys as explained above. When the desired frequency is displayed, release the key.

### Memory Presets

A total of four AM and four FM stations can be programmed in memory for instant recall. To store a station into the Memory Preset keys proceed as follows:

1. Tune the receiver to the desired station.
2. Press and hold down the MEMORY key.
3. Depress the appropriate preset (1-4) key.
4. Release both keys.

This procedure is repeated to assign stations to four AM and four FM preset keys. Once memory presets are assigned, a single press of a preset key will tune the radio to a memorized station.

To view the station frequency without changing the station (when the display has returned to indicate the time), momentarily press and release the memory key.



## **Stereo Operation**

To operate the TM-1 in stereo mode, plug any mini-plug stereo headphone into the jack on the back of the unit. Plugging in a headphone turns off the internal speaker.

You can also enjoy stereo sound and the convenience of a second clock/alarm display by adding the TM-2 Clock Radio Stereo Companion.

When either the TM-2 is connected or a headphone is plugged in, the front panel display will indicate STEREO reception when an FM stereo station is tuned in. Either of these configurations will also activate the balance control on the right side of the TM-1 main unit.

## **FM Mode Switch**

The Clock/Radio is equipped with an FM mode switch which is used to select between mono and stereo output.

When using headphones or the TM-2 Stereo Companion, the switch should be set to stereo. In the event that an FM broadcast sounds excessively noisy or you wish to tune in a weaker FM station, setting the FM mode switch to mono may make the signal more listenable.

## **External Antenna Connections**

FM reception may be improved in fringe areas with the addition of a 300-ohm dipole antenna. (Not included.) Connect the two antenna leads by securing them to the external connection posts (on the back of the unit) using a standard screwdriver.

# Operating Instructions (Continued)

## Clock

### Setting the Time

To set the digital clock to its correct time, depress *and hold* the Time Set key on top of the unit while pressing one of the Time Set/Tuning buttons on the face panel. The clock setting operation is bi-directional so you can move both forward and backward to the correct time. The  $\wedge$  key advances the time forward, and the  $\vee$  key moves the time display backwards. When you have reached the correct time, release all keys.

Be sure that the correct time of day—AM or PM—is indicated to the left of the time display. The Tuning/Time Set keys (on the face of the unit) move one minute at a time with momentary pushes, or rapidly by keeping them depressed.

## Alarms

### Setting the Alarm(s)

The TM-1 features two independent alarms that can be set to either radio or buzzer. To set either alarm you must select the alarm mode (buzzer or music) and set the alarm time:

1. Depress and hold the ALARM (1 or 2) key on top of the unit.
2. Select the Alarm mode (buzzer or radio) by pressing the Alarm Mode key on the top panel. (Symbols for these functions are indicated on the display as  $\blacktriangleleft$  for buzzer and  $\blacktriangleleft$  for radio. If you select "radio" for the alarm mode you should now select the preset memory button for the station you want the alarm to turn on to.)
3. Set the alarm time by holding down the appropriate Alarm (1 or 2) key on the top panel while pressing either of the Time Set/Tuning keys on the front panel.

(In the same fashion as "Setting the Time".) The alarm time will be indicated on the display. Be sure to check for the correct AM or PM setting.

4. When you have reached the desired alarm time, release the keys and the display will return to indicate the time.

### Activating the Alarms

To activate or "arm" either alarm, simply depress the **ALARM 1** or **2** button on the top panel. One touch will illuminate the ALARM indicator (meaning the alarm will sound at the set time) on the front panel. A second touch will deactivate the alarm. Be sure to confirm that the alarm is armed by checking for the illuminated indication "ALARM 1", "ALARM 2" on the digital display.

To turn off the alarm after it sounds, press the **Reset** button on the top panel. This resets the alarm to sound again in 24 hours. The Reset button will reset either or both alarms for the following day. The alarm indicator(s) will remain illuminated on the front display when the alarms are reset.

To deactivate the alarm (so that it will NOT sound in 24 hours) press the ALARM (1 or 2) key on the top panel. (Be sure to check to see that the display's Alarm indicator is NOT illuminated.)

Either alarm will automatically turn itself off and reset for the next day after one hour of continuous operation.

The Nakamichi clock radio features ramp-up alarm volume for gentle awakening.

This feature gradually increases the alarm volume of either buzzer or music over a 5 second period. Additionally, the the buzzer sound for Alarm 1 is different from the buzzer sound for Alarm 2, so you can identify which of the two buzzer alarms is sounding.

## **Alarm Volume**

The relative alarm volume level can be adjusted by selecting "Low", "Medium", or "High" on the three-position switch on the back of the unit. The radio volume control does not affect the alarm volume.

## **Snooze Button**

Once an alarm sounds (radio or buzzer), depressing the snooze button shuts off the alarm and resets it to sound again in 6 minutes. Snoozing can be repeated for an hour before the alarm is automatically deactivated and reset for operation the following day.

## **Sleep Timer**

The Sleep feature lets you to fall asleep to your favorite radio station. The timer is programmable so the radio will turn itself off in 5 to 60 minutes. To set:

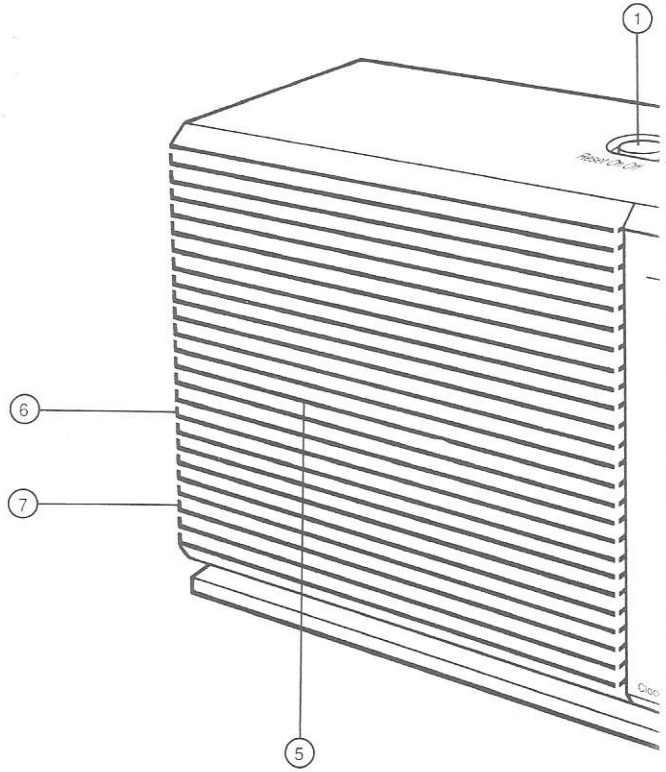
1. Depress the sleep key on the top panel and the radio will turn on. The display will show "60" minutes of time remaining. By holding down the sleep button, you can count down in five minute increments to the desired length of time the radio will play for. The minimum setting for the sleep timer is five minutes.

2. Once the sleep function has been activated, you may choose any station setting of your choice. The station selected for the sleep function will not interfere with any of the alarm station settings.

## **Battery Back-up**

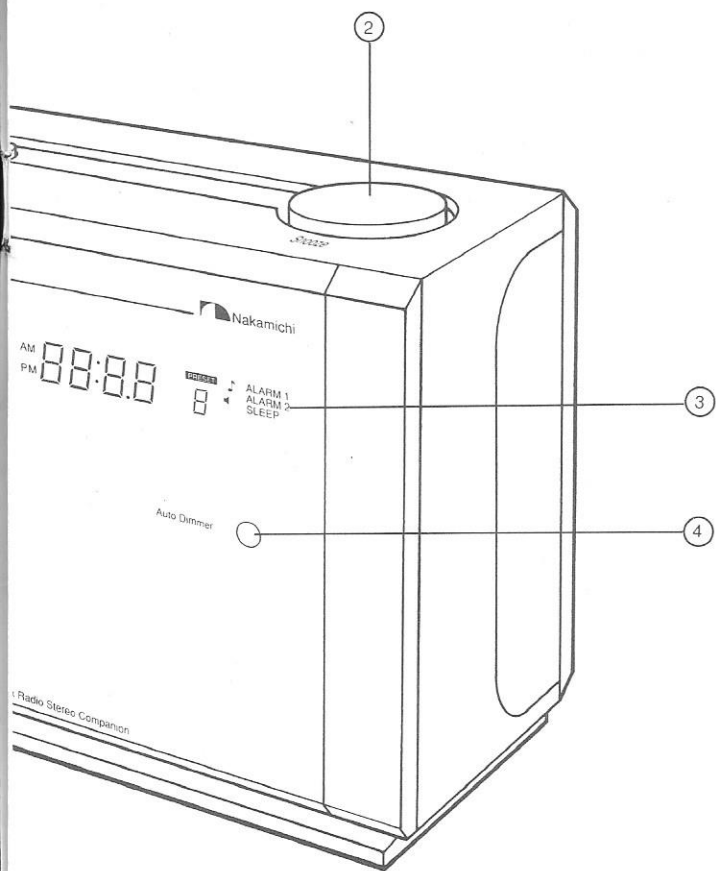
A 9V battery (not included) can be installed in the base of the unit to preserve the radio presets and time/alarm settings in the event of a power failure. To install the battery, remove the door on the bottom of the base and attach per the illustration in the housing and replace the cover door. It is not recommended that a battery be left in place when the radio is placed in storage or not used for extended periods of time.

# TM-2 Clock Radio Stereo Companion Controls and Features



The Clock Radio Stereo Companion, (sold separately), connects to the TM-1 AM/FM Stereo Clock Radio and provides stereo sound and the convenience of a second clock/alarm display.

1. Reset On/Off Button
2. Snooze Button
3. Clock/Alarm Display
4. Automatic Display Dimmer
5. Internal Speaker
6. Clock Display On/Off Switch (on back)
7. 18 Foot Connection Cable



# Operating Instructions

## Connecting the Stereo Companion

Connect the TM-2 Stereo Companion to the TM-1 main unit via the 18' cable connected to the back of the Stereo Companion. Plug the cord end into the jack provided on the back panel of the TM-1. Be sure that the arrow on the plug lines up with the arrow on the receptacle of the TM-1.

The Stereo Companion should now be plugged into a live AC outlet.

(To operate the full features of the clock, radio, and alarm functions, please consult pages 8-11 of the Owner's Manual.)

## Radio

You can turn the radio on and off using the RESET On/Off button on the top panel. Adjust the listening volume and balance control from the main unit.

## Clock

The clock and alarm functions of the Clock Radio Stereo Companion are set from the main unit (TM-1). The TM-2 time display is synchronized with the main unit.

## Clock Display

You can turn off the clock display using the switch located on the back panel of the Stereo Companion. Turning this switch to off disables the Time display, but not the alarm indicators. The Stereo Companion is also equipped with its own automatic display dimmer that independently controls the display brightness.

## Alarms

ALARM 1 and 2 must be armed using the keys on the top panel of the TM-1 main unit. Alarm status is indicated on both the display panels of the main unit and the Stereo Companion.

Both Alarm 1 and 2 can be turned off and reset for the next day using the Reset On/Off button on the top panel of the Stereo Companion.

When "Radio" is chosen for the Alarm Mode of either ALARM 1 or 2 at the main unit, the alarm will sound through *both* the main unit and the Stereo Companion.

When "Buzzer" is chosen for the Alarm Mode of ALARM 1, the buzzer will sound through the main unit only. When "Buzzer" is chosen for the Alarm Mode of ALARM 2, the buzzer will sound only through the Stereo Companion.

After an hour of continuous operation, either alarm will turn itself off and reset to operate the following day.

## Snooze

Once either ALARM 1 or 2 sounds, the SNOOZE button on the Stereo Companion will turn the alarm off and reset it to go off again in six minutes. This function can be repeated for an hour before the alarm will reset to operate the following day.

## Troubleshooting

In case of difficulty with the TM-1 AM/FM Stereo Clock Radio or the TM-2 Clock Radio Stereo Companion, please check to see that each unit is plugged into a live AC outlet and that all interconnections are firmly in place. The following checks will assist in the correction of most problems you may encounter with your units. Should any problem persist after you have made these checks, please consult your nearest authorized Nakamichi dealer. Please be sure to carefully review the operating instructions when necessary.



<b>Condition</b>	<b>Probable Cause</b>	<b>Remedy</b>
No output from speaker(s)	Headphones are plugged in Connections not secure	Remove headphone Secure TM-2 connecting cable
Alarm does not sound	Alarm not set Alarm not armed	Set alarm (see instructions) Activate alarm using Alarm key
Clock reads incorrect time after interruption of AC power	Memory back up battery dead or missing	Check and replace battery
Tuner preset memory is lost after interruption of AC power	Memory back up battery is dead or missing	Check and replace battery
Clock display on Stereo Companion does not show	Clock display switch is set to Off. Cable to TM-1 is not connected	Turn switch to "On" Secure TM-2 connecting cable
"Stereo" indicator on display will not turn on when tuned to an FM stereo station	Not in stereo mode	Connect TM-2 or headphones Set FM mode switch to stereo

# TM-1/TM-2 Specifications

## FM Section

Frequency Range	87.5 - 108.0 MHz in 100 kHz steps
IHF Usable Sensitivity	18 dBf
50dB Quieting Sensitivity	
Mono	20 dBf
Signal to Noise Ratio at 65dBf	
Mono	Better than 65 dB
Stereo	Better than 60 dB
Frequency Response	40 - 12,000Hz, $\pm 3$ dB
Total Harmonic Distortion (1kHz)	
Mono	Less than 0.5 %
Stereo	Less than 0.9 %
Stereo Separation (1kHz)	Better than 30 dB

## AM Section

Frequency Range	530 - 1,610 kHz in 10 kHz steps
Usable Sensitivity	57 dB $\mu$ /m
Total Harmonic Distortion at 90 dB $\mu$ /m	Less than 0.9 %

## Amplifier Section

Tone Controls	
Bass	$\pm 10$ dB, 100Hz
Treble	$\pm 10$ dB, 10 kHz
Output Power	2 W
Headphone Rated Output (40 ohms)	16 mW

## General

Power Source	120 V AC, 60 hZ
Power Consumption	
TM-1 AM/FM Stereo Clock Radio	18 Watts maximum
TM-2 Stereo Companion	3 Watts maximum
Dimensions	266 (W) x 140 (H) x 82 (D) mm 10 7/16 (W) x 5 1/2 (H) x 3 1/4 (D) inches
Approximate Weight	
TM-1 AM/FM Stereo Clock Radio	1.9 kg, 4 lbs. 3 oz.
TM-2 Stereo Companion	1.5 kg, 3 lbs. 5 oz

**Nakamichi**

## AM/FM Stereo Clock Radio

Experience full, rich sound and impressive features of the ultimate AM/FM Stereo Clock Radio.

- Quartz clock with bi-directional time setting and full feature w/ sleep timer
- Balance control (works with Stereo Companion) and optional headphones.
- Stereo headphone jack for private listening (on back).
- Capacitively coupled FM antenna via AC cord.
- External antenna connections for fringe area reception (external antenna optional).
- Ramp-up alarm volume for gentle awakening.
- Adjustable alarm volume.
- Automatic loudness compensation enriches tone quality at low listening levels.
- Battery back-up maintains clock radio and alarm settings in case of power failure (9V battery optional).
- Non-skid, no-scratch base.

Add the matching Stereo Companion and enjoy true stereo sound and the convenience of a second clock/alarm display.



FM 1 - AM/FM Stereo Clock Radio

FM 2 - Stereo Companion.  
Stereo Companion sold separately.

Two independent programmable alarms

Alarm mode can be set to radio or buzzer

60 minute sleep timer lets you fall asleep to your favorite station

Easy to reach, six minute snooze button

Stereo/Mono Selector Switch (on back)

Volume

Treble

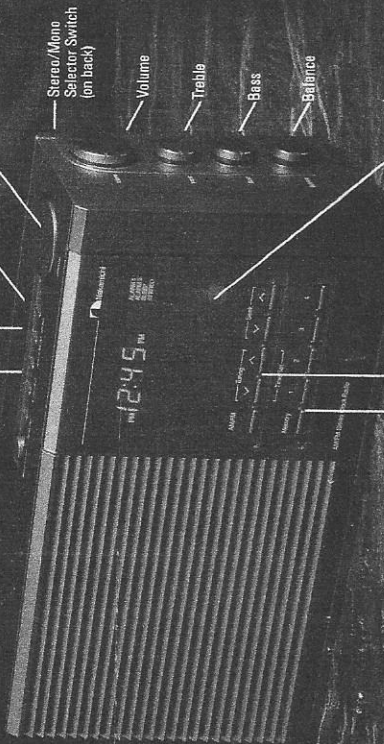
Bass

Balance

Four AM and four FM memory presets

Eight light sensor adjusts display brightness automatically

Precise, drift-free digital quartz-synthesized PLL tuning



## Vintage Audio Consulting



### Expertise in Nakamichi Cassette Decks

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