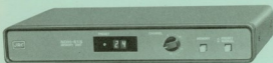


INSTRUCTION MANUAL
FOR
MODEL NDH-515 MEMORY UNIT

JRC

Japan Radio Co., Ltd.



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1. RATING

Number of frequency memories:	24 channels
Channel display:	2 digit LED display
Input/Output data:	22 bits by BCD code
Writing of frequency:	Using the frequency designating knobs of receiver
Display of memory frequency:	6 digit LED display of receiver
Power source:	Supplied from the receiver
Dimensions:	340mm(W) x 50mm(H) x 200mm(D)
Weight:	Approx. 3.5 kg

2. PREPARATION FOR OPERATION

2.1 Connection to Receiver

Connect the rear cable **MEMORY OUTPUT** of the memory unit to the rear connector **MEMORY INPUT** of the receiver.

Connect between the terminal **E** of the memory unit and the terminal **E** of the receiver with the earth lead.

Note: Always turn **OFF** the power switch of the receiver before connecting the cable.

2.2 Insertion of back-up battery

The contents once memorized are lost when the power switch is turned OFF. In case it is desired to store the data for a long period of time, insert the battery into the battery holder of memory unit. Battery can be inserted by the following steps. Loosen and remove four upper screws of the memory unit and draw the upper cover backward. When the upper cover is removed, the battery holder can be found at the inside. Then, insert the battery in the correct polarity.

The battery is not incorporated and therefore please use three pieces of alkali batteries, AM-3 (1.5V).

The manganese batteries of UM-3 type can also be used but if such batteries are used for a long period, they will give damage on the memory unit due to the leak of liquid or corrosion.

3. OPERATING PROCEDURES

3.1 Memory Operation

- (a) Set the **PRESET/MANUAL** switch at the right side of the panel to the **MANUAL** side.
- (b) Turn ON the power switch of the receiver and set the receiver to the desired receiving frequency and also set the **CHANNEL** switch of the memory unit to the desired channel.
Then, push the **MEMORY** button of the memory unit, and the frequency data is immediately memorized.
- (c) Change the channel and memorize a new channel in the same way.
- (d) The memorized frequencies can be confirmed in accordance with the procedures explained in the item 3.2.
(It is recommended for the convenience of operation to previously prepare the correspondence chart of the memorized frequencies.)

3.2 Receiving Method Using Memory

- (a) Push the **PRESET/MANUAL** switch at the right side of panel to the **PRESET** side.
- (b) Select the desired channel by means of the **CHANNEL** switch. The memorized frequency is displayed on the receiver display and the receiver is immediately set to the receiving condition.
- (c) Memory receiving is impossible under the **MANUAL** condition. Therefore, set the receiving frequency with the **MHz** knob and **TUNE** knob of the receiver.

Note: In case an unmemorized channel is designated, display on the receiver becomes incorrect, and simultaneously the sound disappears due to the operation of MUTE circuit.

3.3 Change of Memory Frequency

- (a) Push the **PRESET/MANUAL** switch at the right side of panel to the **MANUAL** side.
- (b) Designate the channel to be changed and set the receiver to the desired frequency.
- (c) Push the **MEMORY** button, and a new frequency data is immediately memorized.
- (d) Memory receiving can be realized by setting the **PRESET/MANUAL** switch to the **PRESET** side.

3.4 Battery Replacing Procedures

In the usual operating condition, the power source of memory unit is supplied from the receiver.

When the power of the receiver is interrupted, an alternative power is supplied from battery to maintain the content of memory. Current consumption is very small because CMOS IC is employed, but battery should be replaced after the use for a year. .

Battery replacement should be performed in such a condition that the power switch of the receiver is set to **POWER** side.

Please refer to the item 2.2 Insertion of Back-up Battery.

Note: If batteries are replaced under the condition that the power switch of receiver is turned **OFF**, the memorized frequency data will entirely be lost.

If data have been lost, memorize again in accordance with item 3.1.

4. DESCRIPTION OF CIRCUITS

The block diagram and connecting diagram of this unit are respectively shown in Fig. 1 and attached drawing 1.

This equipment is composed of the memory circuit, channel designation circuit, channel display circuit, power source voltage detecting circuit and regulated power supply circuit.

The memory circuit is composed of six CMOS RAMs of 256x4-bit. The 3 state buffers are connected to the output terminal of memory for the transfer of frequency data between the receiver and memory unit. Channel can be designated by specifying the address of RAM with the CHANNEL switch. Simultaneously, this data is also sent to the channel display circuit.

The power source voltage detecting circuit controls the chip enable terminal of the RAM when the power switch is turned ON/OFF and when the power source voltage is reduced by some reasons in order to protect the memorized frequency data from being erased.

5. MAINTENANCE AND CHECK

The memory unit is composed of a single PC board including no adjusting point and the area which results in aging variation. Thus, required maintenance or check is only replacement of batteries.

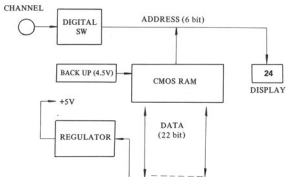


FIG. 1 BLOCK DIAGRAM OF NDH-515 MEMORY UNIT

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