

THE RECHARGEABLE ALKALINE BATTERY

NEW BATTERY OFFERS ECONOMY AND LONG OPERATING LIFE

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THE RECHARGEABLE alkaline is a relatively new type of battery. Similar in construction to the regular alkalines (but marked "rechargeable"), these batteries have a potential of 25 or more recharges. They require no added electrolyte or water; and they are available in the conventional 1.5-volt D, C, and AA sizes.

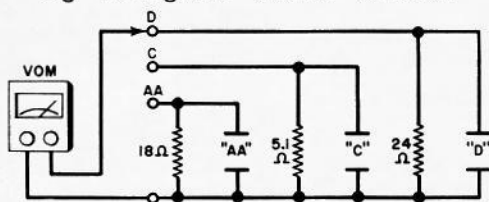
The exclusive product of the Mallory Battery Co., the rechargeable alkaline should not be confused with nor can they be used to replace nickel-cadmium batteries. They can, however, be used for radios, cameras, toys, flashlights, portable TV receivers, record players, tape recorders, etc. Higher priced initially than carbon-zinc types, the rechargeable alkaline's cost, divided by the number of charges it can take, yields excellent overall economy.

Rechargeable alkaline batteries are sold fully charged and have a shelf life of two years or more. Charging should be done at frequent intervals and *always before they discharge below 1.2 volts*. If the output is allowed to drop to 0.9 volt, these batteries may suffer irreparable damage.

The AA, C, and D cells are sold two on a card and list for \$2.00, \$3.00, and \$3.50, respectively, for the pair. (Fortunately, there is usually a substantial trade discount.) The applicable charger lists at \$6.00. Specifications for the 1.5-volt battery types are listed in the Table.

Mallory is also making available a 6-volt version of the alkaline rechargeable battery.

Fig. 1. Simple test circuit for checking rechargeable alkaline batteries.



It is roughly 6" high and weighs 3½ pounds. It can furnish 2.5 amperes for 1½ hours. The recharge capacity of this battery is 7 A-hr and a maximum recharge rate of 600 mA. It has an internal 10-ampere fuse; so, use a 5-ampere fuse externally.

The rechargeable 6-volt battery is a natural for any type of portable or mobile application. Two in series can be used as a convenient bench supply for testing 12-volt solid-state mobile equipment.

The charging time for any battery can be estimated from the recharge capacity of the battery in ampere-hours (A-hr) multi-

Type Number and Size	Recharge Capacity	Charge Rate 36 Hr. Max.	Charge Rate 16 Hr. Max.
SA15AA (AA)	0.3 A-hr	13.5mA	27 mA
SA14C (C)	1.0 A-hr	40 mA	80 mA
SA13D (D)	2.0 A-hr	80 mA	160 mA

plied by the percentage for recharge losses. For example, the SA15AA battery's recharge capacity is 0.3 A-hr. If this battery is recharged at 13.5 mA for 33 hours, this would result in 0.445 A-hr—or 50 percent extra, which is an average amount.

Charging rates for rechargeable alkaline batteries can be increased, thus decreasing the charging time required, if a voltage-limiting charger circuit is used. This would remove the battery electrically from the charging circuit when the desired voltage level is attained. However, if the previously stated rates and charging times (see Table) are used as a guide, or the maker's relatively simple charger is used, nothing more is needed except patience.

It is recommended that you make up some sort of chart to log all battery recharge times and dates. Make the charts small enough to be rubber-cemented or taped to the equipment in which the rechargeable alkaline batteries are used. Also,

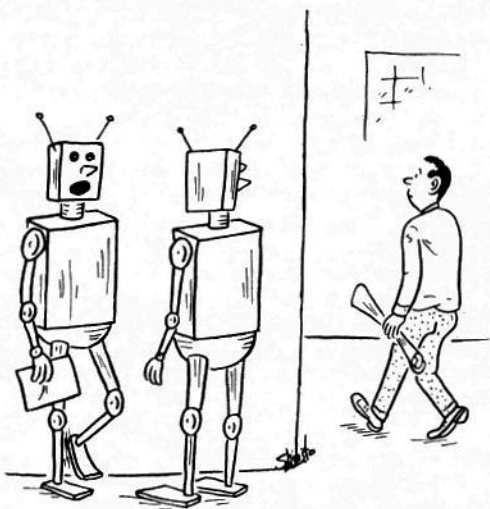
unit you buy will meet your requirement, not someone else's.

Specifications Are Important. The good receivers have crystal filters. The result is that you hear the signal you want, and all the others are rejected. Look for specifications on sensitivity, selectivity, spurious rejection and adjacent-channel rejection. Good specifications mean equipment that does the job right.

When talking about scanners, the subject of antennas is important but often overlooked. Vhf and uhf are line-of-sight frequencies so the higher the antenna, the better performance you can expect. The little antennas that come with the sets do a surprisingly good job; but if you are on the fringe of a channel you want to hear, put an antenna on your roof and the signal will probably come booming in.

Today's scanners are very versatile when it comes to installation. They are all solid-state with very low power consumption. This also keeps down the size. Mounting brackets for installation in car, truck or boat are usually standard. To use at home, just plug into the ac line and away you go. Both ac and dc operation are common.

Perhaps the most common problem regarding scanners is finding out the frequencies to listen to. Your best bet is to ask your local dealer. If he is going to sell this equipment he's got to know what's going on in the area. Give him a chance and he'll put you in the know. ♦



"It's OK, but don't expect too much—it's only made of fat, jelly, and water."