



**POWER SOURCE**—New fuel cell, which produces 30 watts of electricity for eight hours on a solid-type fuel charge the size of a pack of cigarettes and a pint of water, is designed to power a variety of combat equipment.

## FUEL CELLS

Powering such electronic combat equipment as radar and radio sets is a big job. One of the most promising new ways to provide energy in the field is the fuel cell, a field of development in which the Army Electronics Command is among the foremost leaders.

The fuel cell converts the energy of fuels—preferably easily obtainable hydrocarbon fuels—into electric power without the moving parts, noise and vibration found in gasoline or diesel engine generators.

In the advanced development stage at ECOM are easily portable fuel cells producing 60 and more than 150 watts. Much early research on fuel cells such as those used in the Apollo moon flights was conducted in the Command's laboratories.

## NIGHT VISION

Continuing R&D is being carried on toward a second generation of devices which allow American servicemen to see at night without revealing their own locations. They consist of light intensification devices, ranging from the rifle-mounted Starlight Scope to larger crew-served scopes.

Unlike earlier infrared night vision devices, they do not emit telltale electromagnetic waves that can be detected by the enemy. Instead they amplify the faint light of the stars, the moon, or even decaying vegetation to give the viewer a clear picture of what is out front in the dark. This night vision equipment has been so efficient, that it has cut the necessary load of ammunition carried by American soldiers in Vietnam. They no longer have to spray a suspected area with lead, they can see and hit their nighttime targets.

