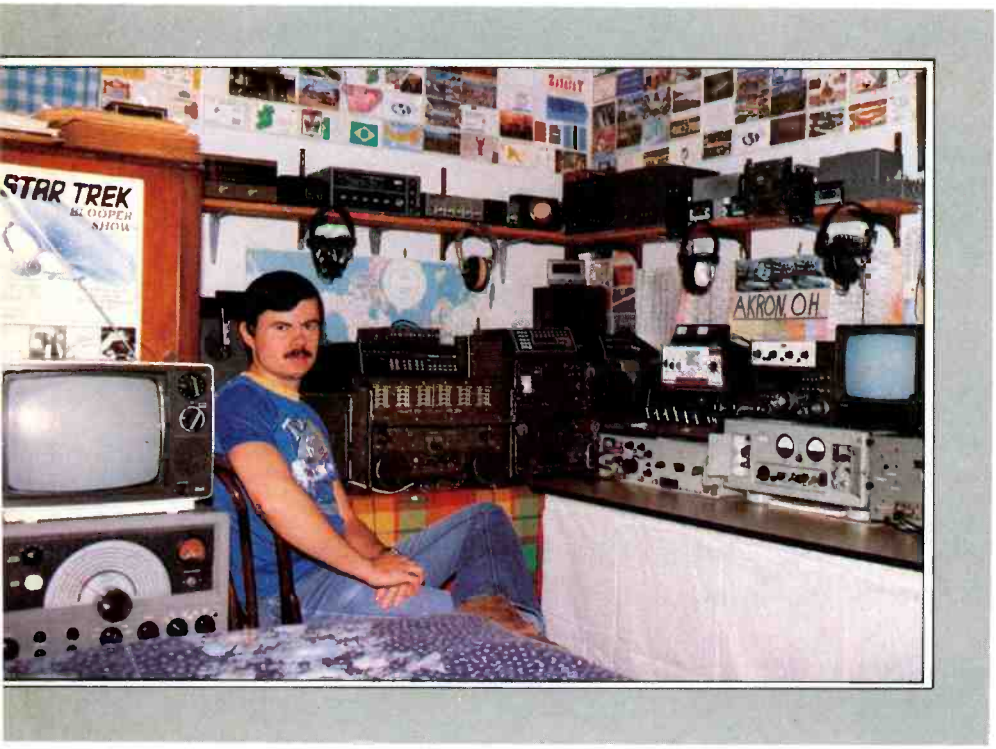
Uncle Sam's High Tech Electronics!

BY TOM KNEITEL, K2AES, EDITOR

A $25,000 receiver you can buy for less than $500! Hobbyists, Hams, Survivalists, Guerilla Forces, & many others are gobbling them up fast! Why not you?



Each time we find our nation involved in military hostilities there is a great rush to design and manufacture items required to take into battle. Just as sure as there are veterans at the end of these conflicts, so are there tons of used and leftover unused pieces of military surplus goods and equipment that became demilitarized. Some of it's your basic uniforms, sleeve patches, typewriters, foodstuffs, blankets, shoes, and boots—even bars of soap and mosquito netting.

It's not always the simple stuff, however. Military vehicles, scientific instruments, complex weaponry, and other sophisticated equipment is also part of the general housecleaning which takes place at the end of every military action. Electronics equipment is there too, some of it consisting of units which, only a few years before, had been considered highly classified. As soon as most of these goods become available to the public, they are gobbled up. Some of it gets shipped overseas (legally and illegally) and ends up in the hands of foreign military forces and guerillas—much of it is (quite legally) purchased by Americans for their own purposes.

After WWII, American Hams, hobbyists, and experimenters were treated to a fabulous bonanza of surplus electronics. While during the war one of our *top secret* trinkets was the famous Norden Bomb Sight, only a few years after the war experimenters were buying these units on the surplus market at prices as low as $25 and stripping them for their component parts—vacuum tubes, capacitors, resistors, lenses, knobs, and whatever. Other pieces of electronics had a better fate. These were military radios bearing such military names as ART-13, BC-348, ARC-5, BC-610, RBL, and dozens of others that were placed into civilian communications use by Hams, DX'ers, and others. Much of this equipment is still in use almost 40 years after it was produced; lots of it is still available from surplus dealers.

The Korean war produced a small crop of surplus electronics equipment, but it has been the recent Viet Nam War that looks like it will be generating the next motherlode of communications and electronics technology for the public. In Korea they made much use of leftover WWII gear, but by Viet Nam our technology had progressed to the point where the military was demanding newer equipment. Some of this equipment is now arriving on the military surplus market, and it's dazzling. Plenty of it hasn't yet reached the military surplus market, but chances are that it will as time goes on.

Earlier military surplus equipment was discussed in detail in Ham publications. Books appeared on the topic (I wrote one myself), and in general there was a huge array of facts on how to make the most of earlier surplus electronics equipment. Yet, only occasional and isolated magazine stories have thus far appeared discussing the new bumper crop of surplus waiting in the wings, even though this newer equipment has high potentials for Hams, hobbyists, survivalists, paramilitary groups, and many others, many of whom are already happily using whatever has been placed on sale by surplus equipment dealers. *POP'COMM*, in this issue, will start filling the information void by itemizing the current surplus communications equipment of highest interest, and previewing the equipment that will probably be arriving at some point in the near future.

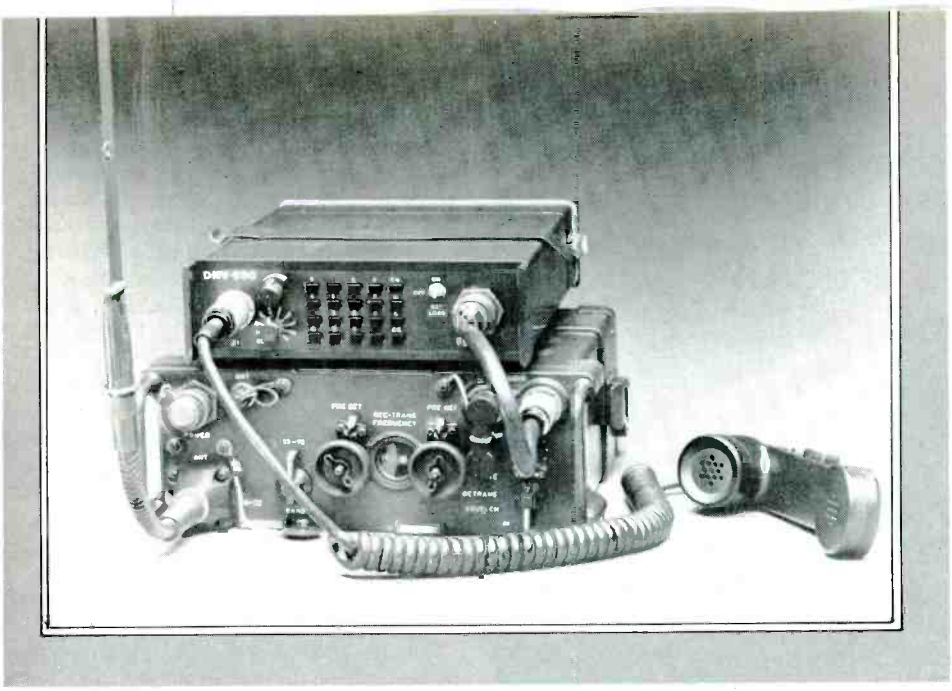
Keep in Mind

With all of its many delights, one must keep in mind that there are significant differences between electronics equipment, which is not commercially made for the consumer, but is produced for the government's military use. With only few exceptions can it, even in new condition, be removed from the box and straightaway be placed into operation. It's good to keep this in mind so that the dream equipment you purchase doesn't turn into a nightmare.

For one thing, if the equipment has been previously used (and 80% of surplus electronics gear has been used), remember that it not only went off to war but it may well have been abused and mistreated by those who used it. Some of it is a bit grungy. Surplus dealers are generally candid in letting you know what kind of condition the equipment is in, freely using descriptive terms such as "used but in working order," "as-is but repairable," "checked and in working order," "missing components," or similar.

Assuming that a particular piece of equipment is either new or in used working condition, it must still be remembered that:

1. A lot of equipment requires operating voltages that differ from 117 VAC or 12 VDC, as required by consumer oriented equipment. Surplus gear may require 28 VDC, or 117 VAC but at 400 Hz rather than the 60 Hz in your household power mains. Or, they may require a special battery of unique size designed only for that specific unit. You may well have to use some inge-



(Left) It's not easy to pass up exotic mil surplus when it becomes available to the general public. This hobbyist, Bob, in Akron, Ohio, has a respectable assortment of these delights. Included are: R-13B, R-19, AM-914/TRC, BC-639A, R-278. AN/GRR-5, R-1121/TRC-87, AN/URR-35C, and AN/APR-4Y. (Above) Datotek's new DNV-630 voice scrambler.

nuity to power various pieces of surplus gear for your own purposes.

2. The connectors used on military electronics equipment are invariably types that differ from the kind you can pick up at your corner electronics store. Power, antenna, control, microphone, headset, and other connectors may have to be obtained which match up with these, or else you can change the connectors to suit your preferences. Some surplus dealers sell military connectors or you can match them up with "civilian" types made by companies such as Amphenol and others if you can obtain a cross reference of the mil types and the commercial type numbers.

3. Schematics and tech manuals aren't always available for every piece of mil surplus electronics, although many manuals do seem to be available from equipment dealers. If you can't locate adequate paperwork, you could have difficulty in operating it properly, or aligning it, or servicing it.

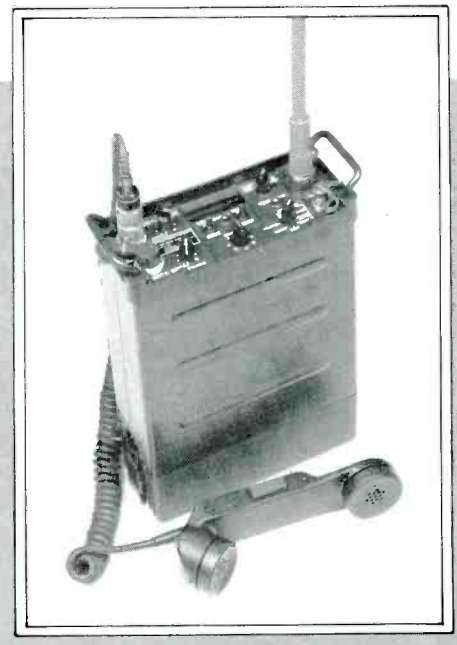
4. Parts and accessories for some pieces of gear are either getting scarce or cannot be located at all. This could include special i.f. components, relays, panel meters, connecting cables, etc. This is especially true for WWII and Korean War equipment, and even some more recently produced gear. In particular, equipment such as the AN/PRC-6, -8, -9, -10, AN/URC-11, AN/GRC-8, -9, -10 (all of which have been plentiful on the surplus market) may be difficult to use effectively because of component and accessory unavailability, although many persons are using them nevertheless. A flair for being resourceful is a definite asset when dealing with certain pieces of surplus.

5. With the exception of the Amateur and Experimental Radio Services, you can forget about getting a license from the FCC to operate mil surplus transmitters in the United States. In any event, aside from the off-limits 225 to 400 MHz mil aircraft band, there are many individuals and groups using unlicensed mil surplus radios on all sorts of unauthorized frequencies and not suffering any consequences—although I don't recommend using any transmitting equipment without proper licenses.

6. Some pieces of surplus equipment requires (to one extent or another) conversion work be performed to power supply, frequency determining, modulation, control, or other circuits in order to get it to do whatever it is you seek. Even with adequate schematics, bench equipment, and conversion information, such efforts are generally beyond the talents of a beginner and are best left to those with some experience in servicing. Neighborhood service shops probably won't touch such jobs.

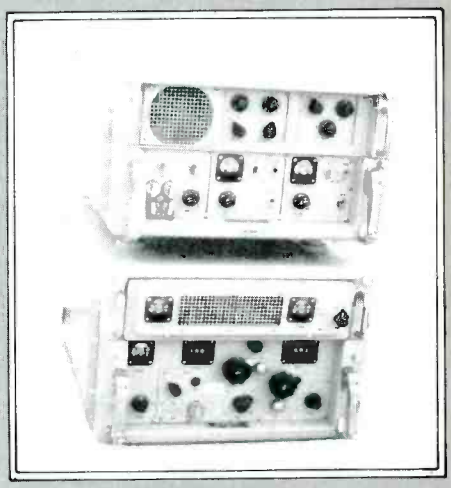
7. The best feature of mil equipment is its quality, durability, and price (as compared to its original cost or that of comparable commercial gear). The government doesn't skimp when it doesn't have to worry about cost—the AN/URC-68 costs about $1200, the R-1121/TRC-87 about $25,000. The equipment on the surplus market is a mere fraction of that cost. It is, nevertheless, wise to keep in mind that while Hollywood and TV show mil communications gear as some fantastic medium that surpasses all the laws of nature and physics, mil equipment is not without its definite limitations. As a mil surplus expert (and equipment dealer) candidly told me, "I would much rather sell equipment to people who have some idea of the capabilities and limitations of the equipment."

Keeping all of these things in mind, let's move ahead.

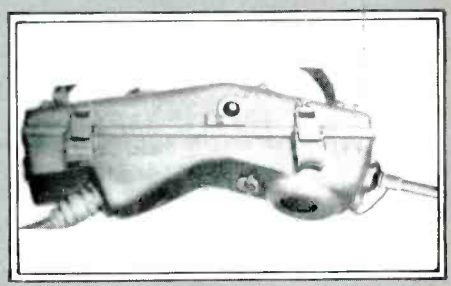


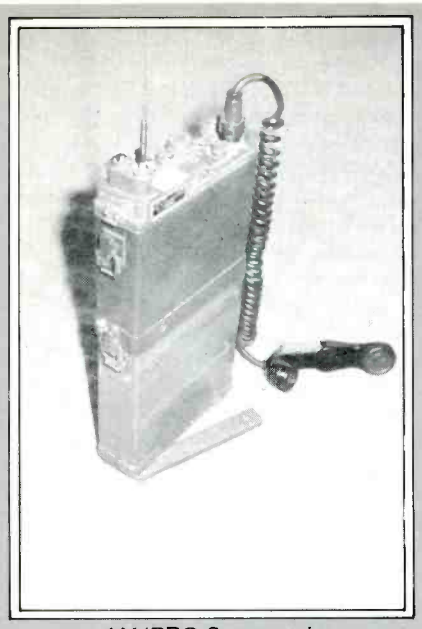
The Harris Corp. recently designed this exotic manpack transceiver known as the AN/PRR-117. It offers anti-jamming and anti-detection type communications features and it's doubtful that it would ever be placed in the hands of the public. It operates from 30 to 90 MHz.

AN/PRC-6 transceiver.
(Courtesy Fair Radio Sales)



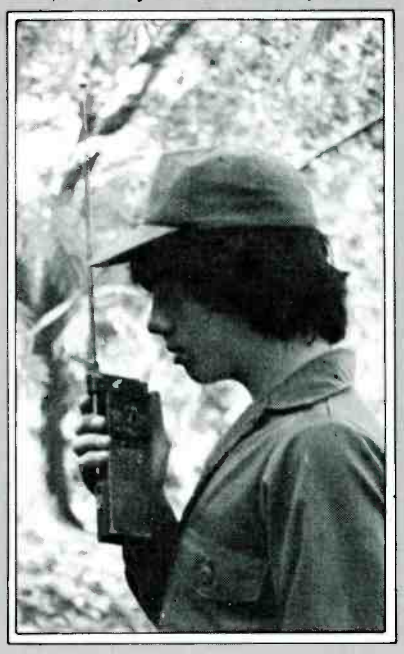
AN/FRR-59 receiver.
(Courtesy Fair Radio Sales)





AN/PRC-8 manpack.
(Courtesy H. Ancery's Communications)

AN/PRT-4 transmitter.
(Courtesy Michael P. Murphy)



Our Listings

We have assembled here an overview of some of the more interesting and/or (perhaps) useful appearing mil equipment. Some of the equipment dates back many years and is included not so much for nostalgia, but instead because it is still available on the surplus market and is currently being sought-after for communications tasks. Much of the equipment we list is Viet Nam era hardware and has not yet been seen on the surplus market, but it is mentioned in various texts and (hopefully) will be showing up as surplus in the future. This equipment is included for informational and reference purposes and gives you a capsulized view of what the equipment is and what it does. While some of these yet-unreleased sets will undoubtedly never show up as surplus, we've included them here because they are so totally fascinating.

Where equipment is generally known to be available on the surplus market, we have tried to include some idea of the price range in various conditions.

Nomenclature

One of the first things you'll notice about mil electronics is that each piece of the stuff has been assigned a special identification code by Uncle Sam. This consists of various letters and numbers. The letters aren't random at all and are usually assigned from within the Joint Electronics Designation System. This system is shown in Table 1. These coded identifications are known as the *nomenclature* for a particular piece of equipment and they are quite informative in relating the nature and purpose of each set or its major component equipment.

All mil sets commence with the letters, "AN/." However, in our equipment listings here we have arranged the equipment in alphabetical order, ignoring the "AN/" component of the JEDS designation. Thus, the R-108/GRC is listed ahead of the AN/URC-100, since the latter set is shown under the letter "U." Individual components of sets (such as RT-524/VRC, T-195/GRC-19, etc.) are not assigned the prefix "AN/."

Look & Learn

You can learn all sorts of interesting things by checking out mil surplus sets, even if you aren't into using them on the air. The manuals are also quite informative. For instance, the AN/URC-68 saw Viet Nam service by the CIA's MACV Special Operation Group (amongst others). Now that these are on the surplus market it's informative to note which crystals are installed in the sets—our listing for the AN/URC-68 discusses them! Try 'em in your scanner! They're still active.

If you check out the manuals you'll learn that the 20 to 28 MHz equipment was deployed to Armored Divisions; Artillery Divisions were given 27 to 39 MHz gear; while the Infantry Divisions operated from 38 to 55 MHz. Note the frequency overlaps so that Artillery can intercommunicate with Armored and Infantry.

Table 1
The Joint Electronics Type Designation System

1. A complete set — AN/GRC-103
   - Indicates system
   - Installation
   - Type of equipment
   - Purpose
   - Model number
   - Modification letter
2. Sample of a component used with a particular set: AB-952/GRC-103
3. Sample of a component not used with a particular set: S-69/GRC
4. Table of equipment indicator letters:

Installation

A-Airborne
B-Underwater
C-Air transportable
D-Pilotless carrier
F-Fixed
G-Ground, general
K-Amphibious
M-Ground, mobile
P-Pack, portable
S-Water surface craft
T-Ground, transportable
U-General, utility
V-Ground, vehicular
W-Water, surface, and underwater

Type of Equipment

A-Invisible light, heat radiation
B-Pigeon
C-Carrier
D-Radiac
E-Nupac
F-Photographic
G-Telegraph or Teletypewriter
I-Interphone and PA
J-Electromechanical
K-Telemetering
L-Countermeasures
M-Meteorological
N-Sound in air
P-Radar
Q-Sonar
R-Radio
S-Special types
T-Telephone (wire)
V-Visual

Purpose

A-Auxiliary assemblies
B-Bombing
C-Communications
D-Direction finding
E-Ejection release
G-Fire control
H-Recording
L-Searchlight control
M-Maintenance and test assemblies
N-Navigational aids
P-Reproducing
Q-Special or combination of purposes
R-Receiving
S-Detecting range bearing
T-Transmitting
W-Control

Our listing makes no claim to being an all-encompassing compendium of each and every communications set and component available (or unavailable) as surplus; only those we feel are of particular interest to our readers. There is older and outdated equipment that has been left out. We have also omitted some of the newer exotic equipment, which is either too "classified," too dangerous, or too useless for non-military use to include—such as the AN/ALQ-136 radar jammer, AN/UXC-4 tactical digital facsimile unit, AN/USQ-81 tactical display system, AN/TSQ-111 communications nodal control element, AN/TRC-170 tropo terminal and its associated digital multiplex terminal, and many others of that ilk. Oh well, we couldn't resist including a few of these just for good measure!

If you're interested in seeing which pieces of mil surplus equipment are available, we invite you to contact dealers who handle this hardware. A listing of some of these dealers is included here.

Military Communications Equipment

AN/ARC-44. FM air/air and air/ground transceiver operating 24 to 52 MHz. Has been replaced by the AN/ARC-54 transceiver. Major component is the RT-294B.

AN/ARC-45. UHF AM transceiver which replaced the AN/ARC-60. Major component is the RT-295.

AN/ARC-51BX. UHF AM transceiver for air/air, air/ground, and air/ship communications. Major component is the RT742. Another version is the AN/ARC-51A which has the RT-702 as its major component. The ARC-51BX is the standard UHF radio used by all services.

AN/ARC-54. Lightweight VHF FM transceiver for aircraft use; replaced by the ARC-131. Major component is RT-348.

AN/ARC-55. UHF AM transceiver for aircraft use. Was replaced by AN/ARC-51BX and AN/ARC-51X. The major component is RT-349, RT-349A, or RT-349B.

AN/ARC-60A. Lightweight VHF-AM transceiver for aircraft use. Was replaced by the AN/ARC-45. Major components are the R-508 and CV-431.

AN/ARC-73. VHF AM transceiver for aircraft use. Major components are the T-879 and R-1123.

AN/ARC-102. Lightweight HF AM/SSB transceiver for aircraft use. This replaced the AN/ARC-59 set. Major component is the RT-698.

AN/ARC-114A. VHF FM transceiver for aircraft use. Major components depend upon type of aircraft in which used. Transmits (10 watts) and receives on 920 channels between 30 and 76 MHz. Also guards 40.50 MHz. Requires 28 VDC. Can also transmit low power (1 watt). Weighs 7 lbs.

AN/ARC-115. VHF AM transceiver for aircraft use. Covers 1360 channels between 116 and 150 MHz, 10 watt output. Also guards 121.5 MHz. Requires 28 VDC. Weighs 7 lbs.

AN/ARC-116. UHF AM transceiver for helicopter use. Puts out 10 watts on 3500 channels between 225 and 400 MHz. Requires 28 VDC. Weighs 8 lbs.

AN/ARC-131. VHF FM transceiver for aircraft use. Major component is the RT-823. Replaces the AN/ARC-54.

AN/ARC-134B. VHF AM transceiver for aircraft use. Major component is the RT-857.

AN/ARC-164(v). Lightweight UHF AM transceiver for aircraft use. Major component is the RT-1167.

AN/ARC-515R-1. Combination navigational receiver and VHF AM transceiver. Major component is the RT-514R-1. For use in T-41B aircraft.

AN/ARC-524A. VHF AM transceiver for aircraft use. Major component operates on 360 channels 118 to 140 MHz with 15 watts output. Requires 28 VDC. For use in TH-55A aircraft.

AN/ASC-15. A grouping of sets (3 AN/ARC-131) in a compact housing for use in choppers for forward area observation.

CV-431. A component of ARC-60A. This is a frequency converter/transmitter operating AM from 228 to 258 MHz (16 channels), 2 watts output. Requires 28VDC.

AN/FRC-93. An HF SSB set for fixed or semifixed operation. Major component is the RT-718 transceiver. Used at Special Forces bases, USACC and Field Artillery units. A component of the AN/FRC-93 is the AM-3979 linear amplifier, which can step up the power output to 1kW (PEP). The AN/FRC-93 is made by Collins Radio.

AN/FRR-59A. This is an older tube-type triple conversion AM/CW/SSB communications receiver with full carrier suppression from 2 to 32 MHz in 4 bands. Offers simultaneous USB/LSB reception of different stations operating on the same frequency. Mechanical digital frequency readout. Operates from 117 VAC (60 Hz). Must have easily cost the government $25,000, weighing in at almost 300 lbs. and looking very impressive. But it has 88 tubes and is very difficult to service unless you have the very thick service manual, lots of experience, parts, and patience. In used condition, these are valued at $250.

G-133. HF communications receiver for AM/CW/SSB from 200 kHz to 30 MHz. Older tube-type receiver is actually a Collins 51S1 receiver repackaged and modified for mil use by LTV-Temco. Operates from 117 VAC (60 or 400 Hz), plus 24 VDC for the AM BFO. Weighs 40 lbs. In top condition, valued at $850; in repairable condition, sells for about $700.

AN/GRC-10. VHF FM set for mobile, fixed, and semifixed installation by the National Guard and Army Reserve. Major components are the T-235 and R-125.

AN/GRC-19. An HF medium-power AM/CW set for mobile use by National Guard and Army Reserve units. Major components are the T-195 and R-392.

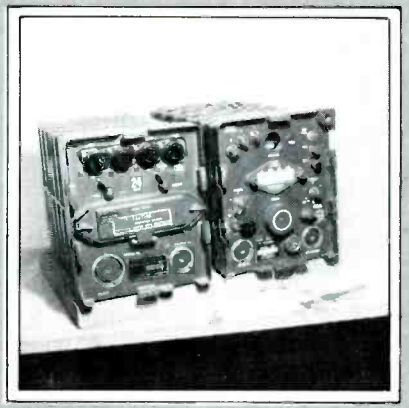
AN/GRC-26D. A high-power, shelter-mounted, RTTY station for mobile, fixed, or semifixed operation. Major components are the T-368 and R-390. Has been replaced by the AN/GRC-122 set. Used by National Guard and Army Reserve units.

AN/GRC-41. An HF transmitting and receiving station for CW/AM operation. Can be used for half- or full-duplex operation from mobile, fixed, or semi-fixed installations. Major components are the T-368C and R-390.

AN/GRC-46. Medium-power HF AM/RTTY set. Shelter mounted. Replaced by the AN/GRC-142. Used by National Guard and Army Reserve units. Puts out 100 watts from 1500 kHz to 20 MHz, receives 500 kHz to 32 MHz. Requires 28 VDC. The AN/VRC-29 is the equivalent set.

R-388 receiver. (Courtesy Fair Radio Sales)

R-110/GRC receiver. (Courtesy Fair Radio Sales)



R-390 receiver. (Courtesy Eric Olthwaite)

AN/GRC-50. Transportable FM set for two-way communications in the UHF range. Major components are the T-893 and R-1331.

AN/GRC-87. HF low-power AM manpack transceiver. Similar to the AN/VRC-34 which is for mobile installations. Major component is the RT-77/GRC-9.

AN/GRC-103. Compact transportable UHF FM set which can handle up to 24 telephone channels when used with multiplex equipment. Major components are the T-983 and R-1329.

AN/GRC-106. An HF SSB set intended for use as a mobile link, but can also be used for fixed and semifixed installation. This replaces the AN/GRC-19 set. The major component is the RT-662. A variant set is known as the AN/GRC-106A and uses the RT-834 as its major component.

AN/GRC-109. Compact portable CW set used by Special Forces forward area patrols. Replaced by AN/PRC-70. The major components are the T-784 and R-1004.

AN/GRC-122. This set is one of a family of sets consisting of the AN/GRC-142, AN/VSC-2, and AN/VSC-3. These are vehicular mounted AM/SSB/RTTY stations. The AN/GRC-122 replaced the AN/GRC-26D and is deployed at Division HQ's, and consists of two RT-662's as its major component. An AM-3924 amplifier steps-up the power output to 1 kW.

AN/GRC-125. Vehicular, manpack, or fixed station set consisting of the RT-505 as its major component.

AN/GRC-142. Similar to the AN/GRC-122 but having only a single RT-662 as its major component, plus the AM-3924 amplifier. The AN/GRC-142 replaces the AN/GRC-46.

AN/GRC-143. A general purpose tactical microwave FM set using tropospheric and diffractive scatter modes of operation. Major components are the T-961 and R-1287.

AN/GRC-144. A general purpose tactical microwave FM set. Major components are the T-1054 and R-1467.

AN/GRC-160. See the RT-841 for info on its major component. The AN/GRC-160 is a version of the AN/PRC-77.

AN/GRC-163. Compact, transportable VHF FM terminal used for point-to-point communications in an infantry Division. Major components are modified RT-442 and RT-524 units.

AN/MRC-102. A version of the AN/GRC-50; the major components are two AN/GRC-50's.

AN/MRC-103. A version of the AN/GRC-50; the major components are three AN/GRC-50's.

AN/MRR-8. An air or mobile transportable shelter containing an R-390/URR receiver. Includes RTTY equipment, diversity circuitry, security gear.

AN/MRT-9. An air or mobile transportable shelter containing HF RTTY transmitting and receiving equipment. Major components include the T-368 and R-390.

AN/MSC-57. SHF equipment for FM operation 7.25 to 8 GHz via satellite. Runs 3 to 100 watts and weighs 1375 lbs. Operation is from 115/230 VAC (50 to 60 Hz), 22 to 30 VDC.

AN/MSC-58. UHF equipment for FM operation 240 to 315 MHz via satellite. Runs 1 to 100 watts. Weighs 9500 lbs. Operates from same power as AN/MSC-57.

OA-2648. Transceiver, which is the major component of the AN/VRC-24A set. Operates on 1750 channels (100 kHz spacing) between 225 and 400 MHz, AM mode. Power output is 1½ watts. Requires 24 VDC or 115/230 VAC (50 to 60 Hz).

OA-2649. Similar to OA-2648 except intended for use in set AN/TRC-68A.

AN/PRC-6. The familiar Korean War walkie-talkie. Major component is RT-196.

AN/PRC-8. Korean War manpack transceiver operating 20 to 28 MHz, 1 watt FM. Can also be vehicular mounted or used as fixed station. Weighs 8 lbs. Requires 1½ VDC, 6 VDC, 67½ VDC (receive), 135 VDC (transmit). Intended to be used with mil type BA-279 battery (no longer available), but some have said that these can be operated from two EverReady 457 or 467 types plus one 1½ volt and one 7 volt battery. Any combo of batteries in series to produce appropriate voltages would suffice but may be awkward to use. In good condition, these go for about $30 (without accessories). Accessories may be available from some sources and should run an additional $25 for the handset, antenna, battery box, canvas case, etc. Somewhat outdated rig with oft-encountered problems locating sufficient accessories and establishing appropriate battery arrangements to power it.

AN/PRC-9. The 27 to 39 MHz version of the AN/PRC-8. Similar pricing on surplus market.

AN/PRC-10. Like the AN/PRC-8 but covers 38 to 55 MHz with slightly less than 1 watt output. Similar surplus pricing.

AN/PRC-25. A short range portable FM transceiver. See RT-505/PRC-25 for info.

AN/PRC-41. Lightweight portable VHF/UHF AM transceiver for manpack, vehicular, or fixed operation. Major component is the RT-695. A similar set is the AN/PRC-41A which has the RT-695A as its major component. The primary difference is that the AN/PRC-41A can use "X-MODE" (secure voice, better known as scrambled speech).

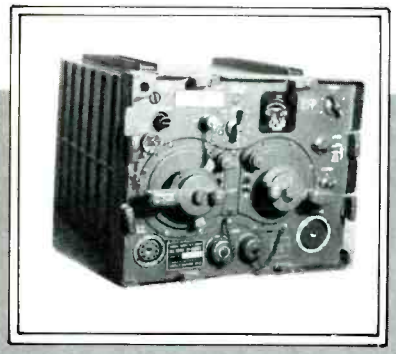
AN/PRC-47. HF SSB set for portable, vehicular, or fixed station use by Special Forces. Major component is the RT-67.

AN/PRC-64A. Battery operated self-contained 4 channel (crystal controlled) HF set for AM/CW operation from 2.2 to 6 MHz, 5 watts on CW, 1½ watts on voice. Intended for use with mil type BA-1509 battery (probably no longer available) for supplying required 31.2 VDC. Probably can be powered by 20 "AA" batteries. Designed for Special Forces use in Viet Nam, now available on surplus market for $180 in good operating condition and including 1 pair of CR-89/U and CR-78/U crystals. Extra crystals should cost about $17 per pair.

AN/PRC-68. Lightweight hand-held transceiver used by Infantry squads and platoons. Operates 30 to 80 MHz on 1000 channels (50 kHz spacing), 1 watt output. Requires 16 VDC and designed to be used with mil battery BA-1588/U.

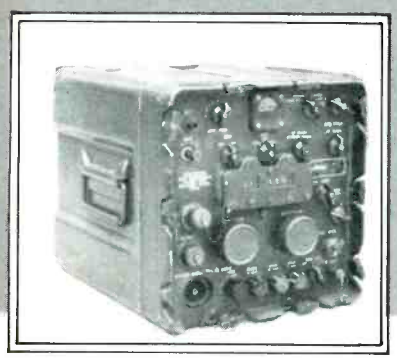
AN/PRC-70. Lightweight manpack set for use in forward combat areas. Operates FM/AM/CW/SSB from 2 to 76 MHz, 30 watts below 50 MHz, 20 watts above 50 MHz. Has 25,000 channels spaced at 100 kHz, detent tuning. This Special Forces transceiver replaced the AN/GRC-109, AN/PRC-74, and AN/PRC-77.

AN/PRC-74. Low powered transistoriz-



RT-66 transceiver. (Courtesy Fair Radio Sales)

R-648 receiver. (Courtesy Fair Radio Sales)



R-392 receiver. (Courtesy Fair Radio Sales)

ed SSB/CW set for Special Forces forward area patrols and air assault uses. Designed for manpack use, it puts out 15 watts (PEP). Operates 2 to 12 MHz. Versions known as AN/PRC-74B and AN/PRC-74C operate 2 to 18 MHz. Requires 10½ to 17 VDC, 12 to 31 VDC, or 110/220 VAC to operate. Battery operated from 70 BA-30 types or 10 BB-418/U types, or from PP-4514/PRC-74 power supply. Replaced by the AN/PRC-70.

AN/PRC-77. Short range Special Forces voice manpack or vehicular transceiver. Major component is the RT-841/PRC-77. Replaced by the AN/PRC-70.

AN/PRC-90. Compact 3-channel UHF AM rescue transceiver carried aboard aircraft. Operates with ½-watt output, from a mil type 1568/U battery (14 VDC). Equipped with crystals for 243.0 and 282.8 MHz. Weighs 2 lbs. including battery. Waterproof.

AN/PRC-117. A microprocessor-controlled manpack set recently developed by The Harris Corporation. Major component is the RT-1406/PRC-117.

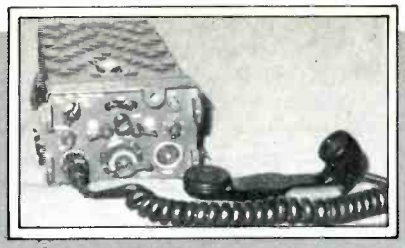
AN/PRR-9. Battery operated VHF receiver intended to be used in conjunction with the AN/PRT-4 transmitter. Small receiver clips to standard mil helmet or can be carried in pocket or harness. Requires mil type BA-505/U (6 VDC) battery. Frequency 47 to 57 MHz, crystal controlled on 2 channels. Weighs 11 oz. with battery. Replaced the AN/PRC-6 when used with matching transmitter. These receivers are in short supply on the mil surplus market and persons using AN/PRT-4 transmitters usually use a small pocket scanner in place of the AN/PRR-9.

AN/PRT-4. Hand-held low power battery operated VHF FM transmitter intended to be used by Infantry squad members. Operates 2 channels in the 47 to 57 MHz band (½-watt on one channel, ¼-watt on the other) and designed for use with the AN/PRR-9 receiver. Intended to be used with mil type BA-399/U (15 VDC) battery but can be adapted to operate from standard 9 volt types. Many sets on surplus market are equipped with 51.0 MHz crystal. In used as-is condition (minus antenna and battery box) are available for $3.50. In top condition with the battery adapter for standard 9 volt types, they go for about $30. A newer PRT-4A model (with 150 Hz tone for use with tone squelch sets) is $35 in top condition. A nice little transmitter, it has been popular with Survivalists and many others.

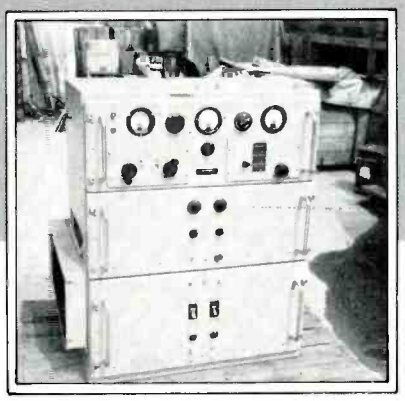
R-48/TRC-8. An older tube-type receiver offering variable tuning 230 to 250 MHz. Operates from 117 VAC. Has built-in speaker and squelch. Probably intended for guarding 243.0 MHz emergency frequency. For $45 on surplus market not a bad deal, but at 75 lbs. its somewhat bulky.

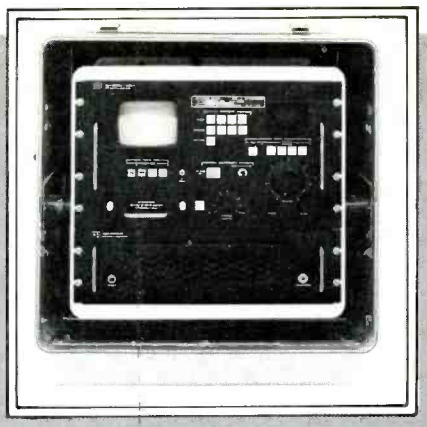
R-108/GRC. Part of the old AN/GRC-8 set, this receiver covers 20 to 28 MHz FM with continuous tuning. An older tube-type rig requires 135 VDC and 6 VDC. Weighs 32 lbs. Can be located for about $30. Not a bad set but powering it and obtaining components for it can be a problem.

R-109/GRC. Same as R-108 but 27 to 39 MHz. $40 in used condition.



RT-70 transceiver.
(Courtesy H. Ancery's Communications)





R-2093 spectrum analyzer.

T-368 transmitter.
(Courtesy Fair Radio Sales)

R-110/GRC. Same as R-108 but 38 to 54 MHz. $20 to $50 in used condition.

R-125/GRC-10. Receiver for 54 to 80 MHz. $20 to $50 in used condition.

R-125/GRC-10. Receiver for 54 to 80 MHz used in conjunction with RTTY, FAX, and data circuits, although can be used for voice too. Continuous tuning. Requires 26 VDC or 115/230 VAC (60 Hz).

R-174/GRR-5. Older tube type (8 tubes) receiver covering 1500 kHz to 18 MHz in 4 bands AM/SSB/CW. Requires 90 VDC and 1½ VDC. Can be operated from standard 90 volt battery or two 45 volt types. No internal speaker but has 8 (and 600) ohm output. Weighs 23 lbs. Excellent condition price is $50, good condition $30.

R-278. UHF receiver covering 225 to 400 MHz in 100 kHz steps, autotune type tuning. Requires external speaker or headphones. Older set has 44 tubes and was made by Collins. Good way to monitor this band although it weighs about 115 lbs. In fair condition sells for $150, in top condition and set to go for 117 VAC about $250.

R-388/URR. Mil version of the Collins 51-J3 receiver. The R-388 covers 500 kHz to 30.5 MHz, has 5-step crystal selectivity, S-meter, crystal calibrator. Linear scale tuning in 30 bands, operates from 117 VAC (60 Hz). Well over 20 years old and not designed for SSB reception, but the BFO can be used to bring in SSB signals. In non-working condition, these sell for about $250. If in top working order, expect to spend $350.

R-390A/URR. Communications receiver for 500 kHz to 32 MHz operation. Older tube type rig has mechanical filters, triple conversion, crystal calibrator, and lots of nice features but requires use of BFO to copy SSB. A version called the R-390 has crystal filters instead of mechanical filters. The R-390A in good condition sells for $225 to $300, in top condition for $450. Weighs 95 lbs., looks impressive. Operates from 117 VAC (60 Hz).

R-391/URR. Similar to R-390A but with autotune arrangement and doesn't have mechanical filters. The autotune requires its own 24 VDC source. Valued at $250.

R-392/URR. Receiver associated with AN/GRC-19 set covers 500 kHz to 32 MHz and operates from 28 VDC. Receives AM/CW (no SSB). Good used condition price: $300.

R-417. Part of the AN/TRC-24, this receiver covers 50 to 1875 MHz in 6 bands and intended for RTTY, FAX, and other specialized emissions. Operates from 115 VAC (60 Hz).

R-418/G. Part of the AN/TRC-29 set. Receiver picks up 1.7 to 2.4 GHz and intended for pulse-position modulated accessory equipment. Operates from 115 VAC (60 Hz).

R-442/VRC. A monitor receiver intended to be set for any of 920 channels between 30 and 76 MHz for monitor/guard purposes. Requires 24 VDC. Part of AN/VRC-12, AN/VRC-44, AN/VRC-47, AN/VRC-48 sets.

R-508. Receiver component of the AN/ARC-60A set covers 228 to 258 MHz continuous tuning. Requires 28 VDC.

R-543/TRC-29. So called "order wire receiver" component of the AN/TRC-29 set. Requires 115 VAC (60 Hz). Operates 1.7 to 2.4 GHz.

R-648/ARR-41. Interesting older tube-type receiver with mechanical digital-type tuning 190 to 550 kHz and 2 to 25 MHz AM/CW. Has mechanical filters, BFO, dial lock. Requires 24 VDC for dynamotor. Weighs 35 lbs. Depending upon condition, these sell for $150 to $200.

R-808/GRC-14. Receiver with built-in RTTY converter will pick up voice/CW/FSK (narrow/wide) from 2 to 32 MHz. Requires 117 VAC or 24 VDC. It sells for $200 or so and weighs in at 130 lbs. All in all, not a bad set.

R-892/URR-44. Older tube-type receiver covering 540 kHz to 19 MHz. Has built-in speaker. Probably intended for broadcast

reception rather than communications. Operates from 117 VAC (60 Hz). Weighs 70 lbs. Decent condition cost $135 and good for broadcast use.

R-902A/L. Receiver for AM/CW reception in vehicles/aircraft. Covers 1500 kHz to 8 MHz, requires 5 VDC, 15 VDC, 36 VDC. Intended for remote control operation and controlled by 45-bit serial data stream. Available in new condition for $150 but requires considerable conversion to housebreak it to civilian life.

R-1004/GRC-109. Part of the AN/GRC-109 set. Receiver picks up 3 to 24 MHz AM/CW via crystal control or continuous tuning. Requires 6 VDC, or 75 to 260 VAC (40 to 400 Hz).

R-1121/TRC-87. Motorola-built solid state 225 to 400 MHz UHF AM receiver which supposedly cost the government $25,000 per set. Operates in 50 kHz-separated steps across entire band. Scarce on the surplus market but can be located with effort from $250 to $500. Requires 120/208 VAC (400 Hz—3-phase 4-wire) but most of those sold to surplus market seem to be operable in 117 VAC (60 Hz). Sensitivity can be improved by the addition of an external preamplifier accessory. A beautiful piece of gear.

R-1123/ARC-73. Receiver section of the AN/ARC-73 set picks up AM on 720 channels between 116 and 152 MHz. Requires 28 VDC. Intended to be used with remote control head type C-4074.

R-1134/WRR-3. A VLF receiver covering 14 to 600 kHz, AM/CW/FSK. Has mechanical digital frequency readout. Older tube-type set does a nice job. Operates from 117 VAC (60/400 Hz) and weighs 80 lbs. in repairable condition is available for $215, in top condition about $300.

R-1287/GRC-143. Receiver for use with multichannel PCM equipment (3200F9 mode) receives 4.4 to 5 GHz. Requires 115/230 VAC (47 to 63 Hz).

R-1329. UHF receiver for 500F9 type emission use, covers 220 to 1850 MHz in 4 bands. Requires 115 VAC (47 to 420 Kz).

R-1331. UHF FM receiver for 601 to 1000 MHz and 1350 to 1850 MHz, continuous tuning. Requires 115 VAC (47 to 63 Hz). Recieves 1200F9 emission.

R-1467. Receiver picks up 3000F9 emission from 4.4 to 5 GHz. Requires 120 VAC (60 Hz).

R-2093/TRQ-35V. Mil version of the BR Communications Model RSS-4 HF spectrum monitor. Doubtful if these will reach the surplus market for a very long time to come, if ever. They are new, sophisticated, expensive. Worthy of mention since they employ the latest in receiver, microprocessor, and digital memory techniques. Covers 2 to 30 MHz in 3 kHz steps for AM/SSB/FM reception. A description of the unit could fill a book, but it employs a CRT to give the user a visual display of all signals within 25 kHz of center frequency, including what took place there within the previous 30 minutes! Checks noise levels, relative signal strengths, etc. Awe inspiring!

RC-3A/GSQ-151. Small receiver which is a component of a seismic detection system. Operates from 9 volt battery and is tuned to 126.6 MHz. No speaker included. For $12, it's an interesting little unit which should have some interesting applications.

RT-60. Small VHF AM transceiver for air/sea rescue purposes. Normally set for 243.0 and 282.8 MHz operation, although can operate from 240 to 260 MHz and 270 to 290 MHz. In repairable condition they are less than $15. In good condition (with battery) they are about $35.

RT-66. Older FM transceiver operating 20 to 28 MHz. Produced for Armored Division use in vehicles or fixed installations. Transmitter puts out 2 or 16 watts, continuous tuning or channelized. Circuit has 27 tubes, set weighs 42 lbs. Some of these sets reaching the surplus market have had the panel meters removed by the government. Can be operated from mil power supplies PP-109, PP-112, PP282 which deliver either 12 or 24 volts (depending upon model). With accessories and in good condition they sell for $70 to $75. Batteries and other components could be difficult to locate for these when you need them.

RT-67. Similar to RT-66 but intended for Artillery Division use 27 to 39 MHz. Similar pricing.

RT-67/PRC-47. Major component of the AN/PRC-47 operates 2 to 12 MHz, 20 and 100 watts (PEP) output, SSB and CW. Requires 24 VDC, 26½ VDC, or 115 VAC (400 Hz). Has digital tuning at 1 kHz, steps across operating range.

RT-68. Similar to RT-66 but 38 to 55 MHz Infantry version. Similar pricing.

RT-70/GRC. Older Korean War transceiver for 47 to 58 MHz FM. Operates from portable, mobile, or fixed locations. Puts out ½-watt. Has continuous tuning or 2 preset channels. Requires 90 VDC and 6 VDC, some have powered these with EverReady 479 90-volt battery and a 6-volt battery. Used (with some accessories) seems to be available for $25 to $40. The entire AN/VRC-7 set (which includes the RT-70/GRC, plus accessories) can be had in new condition for $140. Parts and power availability could be a problem with these vintage sets, although they function well.

RT-77/GRC-9. This transceiver is part of the AN/GRC-87 and AN/GRC-34 sets. Runs AM/CW between 2 and 12 MHz, continuous tuning. Operates from 6, 12, or 24 VDC, depending upon set in which it is used. Puts out 15 watts CW and 7 watts AM.

RT-174/PRC-8. See AN/PRC-8.

RT-175/PRC-9. See AN/PRC-9.

RT-176/PRC-10. See AN/PRC-10.

RT-196/PRC-6. Older and somewhat outdated crystal controlled hand-held transceiver from Korean War. Operates short-range in the 47 to 55.4 MHz band. Requires 1½, 45, and 90 VDC. Uses type CR-23 crystal. Has 13-tube circuit, weighs 6 lbs. The AN/PRR-9 and AN/PRT-4 combo replaced these. In poor condition (missing parts) these are only $3. Operable, they cost $20 with crystals $2 each. A nuisance to power and parts are hard to obtain.

RT-246/VRC. Transceiver is part of the AN/VRC-12 set. Automatic tuning capability for 10 preset channels 30 to 76 MHz FM. Can run 10 and 35 watts. Requires 24 VDC and weighs 56 lbs.

RT-294B. Transceiver is part of the AN/ARC-44. Runs FM on 24 to 52 MHz with 8 watts output. Requires 28 VDC. Has 280 channels at 1 kHz spacing. Intended for remote control use with control head SB-327/ARC-44.

RT-295. Transceiver is part of AN/ARC-45. Runs AM on 1750 channels between 225 and 400 MHz. Requires 150 VDC, 28 VDC, 300 VDC. One watt output.

RT-311/ARC-38. AM transceiver for 2 to 25 MHz on 20 preset channels (autotune channel selection). Offers 100 watts output below 14 MHz, 90 watts above 14 MHz. Similar in design to Collins 618-S1, having 25 tubes and weighing 65 lbs. Requires 28 VDC, 250 VDC, 600 VDC, -50 VDC, -65 VDC, 6 VDC, and 117 VAC (400 Hz). Costs $85 in fair condition. Doesn't offer SSB operation and not easily powered. In used condition it costs $85. A used Collins 618-S1 (no VFO and for crystal control) is available for about $55. If modified for SSB, about $100. See RT-594 listing.

RT-348/ARC-54. Major component of the ARC-54. Transceiver runs 10 watts FM from 30 to 40 MHz, 50 kHz channel spacing. Requires 28 VDC.

RT-380/AR. Older 16-tube Collins-built AM/CW transceiver for 2 to 18 MHz. Puts out 100 watts on 10 channels. Has 600 ohm audio output. Requires 400 VDC, 750 VDC, and 28 VDC to fire it up. Similar to the Collins 18S4 rig. In used condition with crystals and dynamotor it runs about $50. No SSB capabilities.

RT-505/PRC-25. Portable transceiver running 1 to 2 watts FM 30 to 76 MHz. Requires 24 VDC from mil battery BA-4386 for portable use. These batteries are available from Marathon Battery Co., Waco, TX. Offers 920 channels spaced at 50 kHz. Weighs 18 lbs. and except for 2DF4 power tube is all solid state. In good condition (with accessories), they are $150 to $200. In fair condition, about $125. Very nice rig popular with Survivalists, etc.

RT-524/VRC. Part of the AN/VRC-12 and AN/TSQ-70A sets, and in modified form a component of the AN/GRC-163 set. Is a manual tuning version of the RT-246/VRC. Has a built-in speaker.

RT-594/ARC-38A. Like the RT-311/ARC-38 but has SSB operation. In used condition sells for about $150..

RT-662/GRC. Transceiver is a major component of AN/GRC-106, AN/GRC-122, AN/GRC-144, AN/VSC-2, and AN/VSC-3 sets. Operates SSB/CW with 200 watts on CW, 400 watts (PEP) on SSB from 2 to 30 MHz (1 kHz channel spacing). Requires 27 VDC. Weighs 47 lbs. Nice set!.

RT-695. Transceiver has AM operation crystal controlled between 225 and 400 MHz, 3 watts output. Requires 24 VDC and is major component of the AN/PRC-41 set. The RT-695A version can be used for scrambled speech with proper equipment and is part of the AN/ARC-41A set.

RT-698/ARC-102. Transceiver running 100 watts on AM/CW, 400 watts SSB (PEP) on 28,000 1 kHz spaced channels between 2 and 30 MHz. Requires 28 VDC. Weighs 64 lbs. To be used with type C-3490 remote control head.

RT-702/ARC-51X. UHF AM transceiver running 16 watts on 1750 channels between 225 and 399.9 MHz (100 kHz channel spacing). An inverter changes the aircraft's 28 VDC to 115 VAC (400 Hz). A guard channel (243.0 MHz) is provided.

RT-718. Transceiver puts out 100 watts PEP 3.4 to 5 MHz and 6.5 to 30 MHz, SSB/CW, continuous tuning. Built by Collins Radio. Requires 110/220 VAC (50 to 400 Hz), or can run on 12 VDC with a Collins MP-1 power supply. Nice rig! Part of AN/FRC-93.

RT-742-/ARC-51BX. Transceiver is similar to RT-702/ARC-51X but has 50 kHz spacing between channels.

RT-823. FM transceiver for 30 to 76 MHz, 1 and 10 watt outputs on 920 channels. Requires 28 VDC. Part of AN/ARC-131. Weighs 27 lbs, plus 3 lbs for the C-7088/ARC-131 remote control head.

RT-834/GRC. Transceiver is another version of the RT-662/GRC but has 100 Hz channel spacing.

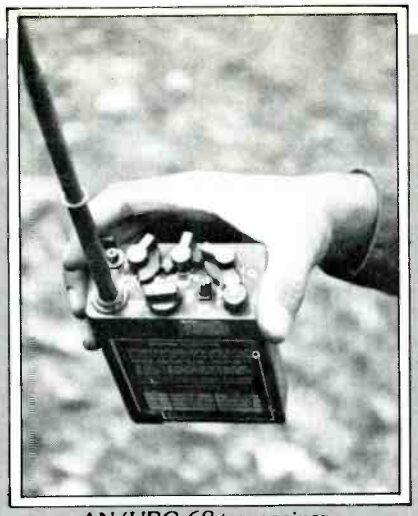
RT-841/PRC-77. Transceiver is part of the AN/PRC-77, AN/VRC-64, and AN/GRC-160 sets. Similar to the RT-505/PRC-25 but is solid state in design. Runs FM on 920 (50 kHz spaced) channels 30 to 76 MHz, 1 to 2 watts output. Requires 24 VDC. The BA-4386 battery can be obtained from Marathon Battery Company, Waco, Texas. In good condition with accessories, it sells for $350; in new condition on the surplus market about $600. A great transceiver that is very popular with Survivalists, mercenary forces, and others.

RT-857/ARC-134. Made by Wilcox, this transceiver runs 25 to 40 watts output on 1360 channels (25 kHz spacing) between 116 and 150 MHz AM. Requires 28 VDC. Needs the C-7197 remote control head for operation. Weighs only 20 lbs. The RT-857/ARC-134B version has 680 channels (50 kHz spacing).

RT-1167/ARC-164. Transceiver which operates CW or scrambled/unscrambled AM from 225 to 400 MHz (25 kHz spacing). Power output from 1 to 10 watts depending upon voltage input, 18 VDC, 24 VDC, or 28 VDC.

RT-1393/USQ. You won't be seeing this sophisticated new transceiver on the surplus market for quite a while. It's an advanced all-purpose HF rig running 100 watts on any of 284,000 channels (100 field programmable memory channels, simplex, duplex, or semi-duplex). Modes are AM/SSB/ISB. Has LED readout for frequency. Photos of this unit show it operating on 13855.5 kHz.

RT-1406/PRC-117. Transceiver operates 30 to 90 MHz, 2400 channels spaced at 25 kHz intervals. Preset channels 8. Requires 12 VDC and puts out 1 or 10 watts FM (a 1/10-watt model is available). Weighs less than 13 lbs. A feature of this transceiver is that it can operate in frequency hopping mode or in non-frequency hopping mode. When frequency hopping, frequency changes hundreds of times per second; is impossible to jam, and cannot be monitored or detected by unauthorized parties.



AN/URC-68 transceiver. (Courtesy Michael P. Murphy)

Survivalists have made excellent use of mil surplus gear, so have DX listeners.

T-74/CRT-3, also called the BC-778. This old warhorse is better known as the "Gibson Girl" rescue transmitter which became famous during WWII and is still in use by the Navy. By grinding the hand crank, distress signals are sent out on 500 and 8364 kHz but can also be hand keyed on 500 kHz. Weighs 18 lbs. With antenna and ready to go they sell for about $40. The older BC-778 version (without antenna) is $30. All required power is supplied by hand crank.

T-195/GRC-19. Transmitter puts out 100 watts AM/CW 1500 kHz to 20 MHz, continuous tuning. Requires 28 VDC. Part of the AN/GRC-19 set. Weighs 125 lbs. A decent rig which suffers from lack of SSB abilities. Has 22 tubes in its circuit. In fair condition it brings $125. A newer rig called the T-195B/GRC is available at higher cost.

T-235/GRC-10. Part of the AN/GRC-10, AN/GRC-39, AN/GRC-40, AN/MRC-68A, and AN/MRC-112 sets. Puts out 10 and 40 watts of 60F9 and 80F9 emission from 54 to 71 MHz, continuous tuning. Requires 26 VDC or 115/230 VAC (60 Hz).

T-302. Part of the AN/TRC-24, AN/MRC-54, AN/MRC-69, and AN/MRC-73 sets. Sends out various special emission types between 50 and 1875 MHz, 10 to 120 watts. Requires 115 VAC (50 Hz).

T-303/G. Transmitter is part of AN/TRC-29, AN/TRC-38, AN/TRC-39, AN/TRC-40, and AN/TRC-41 sets. Emission is 4500F9 via 10 watts output from 1.7 to 2.4 GHz. Requires 115 VAC (60 Hz).

T-368/URT. Transmitter is part of AN/GRC-87, AN/VRC-34, AN/GRC-26D, and AN/MRT-9 sets. Operates AM/CW from 2 to 12 MHz, 400 watts AM, 450 watts CW. Has continuous tuning. Operates from 115 VAC (60 Hz). Can be bought for $500 and has been used by pirate and rebel broadcasters; however, its weight of 650 lbs. makes it rather cumbersome.

T-389/TRC-29. Part of AN/TRC-38, AN/TRC-39, AN/TRC-40, AN/TRC-41, and AN/TRC-29. "Order wire" transmitter component operates on 115 VAC (60 Hz).

T-631/GRC-14. Transmitter runs 400 watts 2 to 20 MHz. Operates from 117 VAC (60 Hz). Worth $175 in good condition.

T-784/GRC-109. CW-only transmitter runs 10 to 15 watts on 24 crystal controlled frequencies 3 to 22 MHz. Requires 75 to 260 VAC (40 to 400 Hz) or 6 VDC.

T-879/ARC-73. Transmitter operates AM on 680 channels 116 to 150 MHz. Requires 28 VDC. Has about 20 watts output on 80 preset channels. Needs remote control head C-4074/ARC-73A.

T-893. Transmitter is part of several different sets. Runs 1200F9 emission, 8 to 30 watts between 601 and 1000 MHz, 1350 and 1850 MHz. Requires 115 VAC (60 Hz).

T-961/GRC-143. Transmitter used with AN/GRC-143, AN/TRC-112, and AN/TRC-121 sets. Uses 3200F9 emission, 1 kW output, 4.4 to 5 GHz. Requires 115/230 VAC (60 Hz).

T-983. Transmitter used with several sets. Runs 500F9 emission, 15 to 25 watts from 220 to 1850 MHz. Requires 115 VAC (47 to 420 Hz).

T-1054/GRC-144. Part of AN/GRC-144 and AN/TRC-138 sets. Transmitter runs 3000F9 emission, ¼-watt output, 4.4 to 5 GHz. Requires 120 VAC (60 Hz).

AN/TRC-24. Transportable multichannel VHF/UHF set. Major components are the T-302 and R-417. National Guard and Army Reserve use.

AN-TRC-29. Transportable tactical microwave FM set for National Guard and Army Reserve use. Normally used in rear area multichannel system. Major components include the T-389/TRC-29, T-303/G, R-543/TRC-29, and R-418/G.

AN/TRC-38. Similar to AN/TRC-29 but containing dual transmitting and receiving equipment (same major components).

AN/TRC-39, AN/TRC-40, AN/TRC-41. Similar to AN/TRC-29 but has triple transmitting and receiving facilities.

AN/TRC-68A. VHF/UHF AM set for

Airborne assault operations, close support fixed installation on ground. Major component is the OA-2649/TRC-68A.

AN/TRC-80. Transportable microwave FM station for tropo scatter propagation. Provides 5 voice and 1 RTTY channels. Deployed with Pershing missile systems. Type 120F9 emission, 1 kW output, 4.4 to 5 GHz frequency range. Requires 120/280 VAC, 4-wire 3-phase 400 Hz, power.

AN/TRC-87. Ground UHF station. A major component is the R-1121.

AN/TRC-90. Transportable microwave FM terminal set deployed with National Guard and Army Reserve units. AN/PRC-47 sets are used to communicate between these units during initial installation.

AN/TRC-97B. Transportable tactical microwave FM set for line-of-sight, tropo scatter, or obstacle gain diffraction propagation. Deployed to National Guard and Army Reserve units. Operates with 10,000F9 emission, 4.4 to 5 GHz, 1 kW output. Requires 120/208 VAC (400 Hz).

AN/TRC-108. Similar to the AN/GRC-50 and with same major components.

AN/TRC-109. Similar to the AN/GRC-50 but with dual set of major components.

AN/TRC-110. Similar to the AN/GRC-50 but with triple set of major components.

AN/TRC-117. Similar to the AN/GRC-50 but with dual set of major components.

AN/TRC-129. Similar to AN/TRC-90.

AN/TRC-132. Tropo scatter microwave FM system. Has multiplex operation, 1 kW output, 4.4 to 5 GHz. The AN/TRC-132A version runs 10 kW output. Requires 208 VAC 3-phase 60 Hz.

AN/TRC-138. This is a version of the AN/GRC-144 that can function as a radio repeater. Same major components.

AN/TRC-143. Similar to the AN/GRC-50 and with same major components.

AN/TRC-151. Similar to AN/GRC-50 but with dual set of major components.

AN/TRC-152. Similar to AN/GRC-50 but with triple set of major components.

AN/TRC-156. Advanced TACSAT-COM-1 ground terminal operating FM 240 to 315 MHz, 2 or 20 watts output. Requires 20 to 28 VDC. Weighs 120 lbs.

AN/TRC-157. Advanced TACSAT-COM-1 ground terminal operating FM 240 to 315 MHz, 1 to 500 watts output. Requires 115/230 VAC (60 Hz).

AN/TRC-177. You won't see this one on the surplus market. A time signal set intended for use with the TRANSIT satellite to be used with the new "HAVE QUICK" anti-jamming systems. System depends upon use of precise time signals.

AN/TRR-30. Advanced TACSATCOM-1 ground FM receiver for monitoring alert signals. Receives 7.25 to 8 GHz. Requires 18 to 30 VDC.

AN/TRR-32. Advanced TACSATCOM-1 ground FM receiver for monitoring alert signals. Receives 240 to 315 MHz. Requires 18 to 30 VDC.

AN/TSC-61A. Transportable air traffic control ground station. Contains AN/ARC-51BX, AN/ARC-73A, AN/ARC-102, and AN/VRC-46 sets.

AN/TSC-74. Shelter mounted control center for ground communications system. Contains AN/GRC-106, AN/VRC-46 sets.

AN/TSC-79. Advanced TACSATCOM-1 ground terminal running up to 3 watts FM on 7.25 to 8 GHz. Requires 20 to 28 VDC.

AN/TSC-80. Transportable SHF TAC-SATCOM ground terminal running 1.5 to 500 watts FM from 7.25 to 8 GHz. Requires 115/230 VAC (60 Hz).

AN/TSC-85. Similar to AN/TSC-80 but running 500 watts.

AN/TSC-93. Similar to AN/TSC-85.

AN/TSQ-70A. Transportable air traffic control ground station. Contains AN/ARC-51BX, AN-ARC-73A, AN/ARC-102, RT-524, R-511.

AN/TSQ-71A. Shelter for dual GCA installations, including AN/ARC-51BX, AN/ARC-73A, AN/VRC-46.

AN/TSQ-72A. Air traffic ground control station containing AN/ARC-51BX, AN/ARC-73A, AN/ARC-102, AN/VRC-46, amongst other equipment.

AN/URC-10A. Portable VHF AM transceiver for air/sea rescue. Has 2 channels 240 to 260 MHz, puts out 2/10 of a watt. Requires 16 VDC.

AN/URC-11. Single channel (243.0 MHz) UHF AM hand-held air/sea rescue transmitter. On the surplus market for $45 each. Power requirements and lack of parts availability make this Korean War vintage set less than fully appealing.

AN/URC-68. Transceiver used in Viet Nam by Special Forces and CIA related units. Small and compact, it operates 38 to 42 MHz and 230 to 250 MHz via 4 preset channels. Requires battery BA-1112/U (11 to 16 VDC) but can be adapted to operate from 10 standard "AA" batteries with slight modification. Built-in speaker and mic, but external 8-ohm speaker can be used for fixed station operation. Puts out 2/10-watt on UHF, ½-watt on FM low band. Crystals commonly encountered in these sets include 38.90, 40.10, 40.50, 41.00, 235.0, 241.0, and 245.5 MHz. These cost the government $1200 each and are quite popular with Survivalists, mercenaries, and others. Seem to be available in top condition with battery and some crystals for $150. Extra low-band crystals go for $12 each. Terrific little rig.

AN/URC-100, AN/URC-101, and AN/URC-104. Newly designed Motorola transceivers with latest innovations. Don't expect to see these on the surplus market for a very long time. Formerly known as AN/PRT-250, they offer UHF AM, satellite UHF FM (via SATCOM) and VHF low band. The URC-100 and URC-104 operate 30 to 88 MHz, 225 to 400 MHz. The URC-101 operates 116 to 150 MHz and 225 to 400 MHz. These sets can operate with scrambled speech. They are all man-pack type units. Photos of the URC-101 show it tuned to 120.6 MHz.

AN/VRC-7. See RT-70 for information.

AN/VRC-12. Short range vehicular and fixed station units designed for general tactical uses. Can run scrambled speech. Major components include the RT-246/VRC, RT-524/VRC, and R-442/VRC.

AN/VRC-24A. Similar to the AN/TRC-68A but for vehicular installation. Major component is the OA-2648/VRC-24A.

AN/VRC-29. Similar to the AN/GRC-46 but intended for use in armored personnel carriers. Same major components (AN/GRC-19). Deployed to National Guard and Army Reserve units. Replaced by AN/VSC-3.

AN/VRC-34. A vehicular installed version of the AN/GRC-87.

AN//VRC-12, -43, -44, -45, -46, -47, -48, -49. A series of short-range vehicular and fixed station units for general tactical use. All consist of various combinations of the following major components: RT-246/VRC, RT-524/VRC, R-442/VRC.

AN/ARC-53. Vehicular version of the AN/PRC-25 and GRC-125. Same major component.

AN/VRC-64. See the RT-841. This is a vehicular version of the AN/PRC-77.

AN/VSC-2. Medium power vehicular mounted HF SSB set for RTTY/AM/SSB/CW. Major component is the RT-662 This set replaced the AN/VSC-1 and is a version of the AN/GRC-122 and AN/GRC-142. Airborne and Air Assault division use.

AN/VSC-3. Similar to the AN/VSC-2. Replaces the AN/VRC-29. Used by Infantry and Armored divisions.

Dealers In Surplus Electronics Equipment

H. Ancery's Communications
P.O. Box 614
Antioch, CA 94509

Fair Radio Sales Company
P.O. Box 1105
1016 E. Eureka Street
Lima, OH 45802

Baytronics
Box 591
Sandusky, OH 44870

Michael P. Murphy
11621 Villa Vista Road
Lakeside, CA 92040
(catalog $1 with SASE)

Atlantic Surplus
3730 Nautilus Avenue
Brooklyn, NY 11224

Space Electronics
35 Ruta Court
S. Hackensack, NJ 07606

Slep Electronics Company
P.O. Box 100
Highway 441
Otto, NC 28763

Leeds Radio Co. Inc.
57 Warren Street
New York, NY 10007