DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

OPERATION OF WIRELINE ADAPTER INTERCONNECT CABLE CX-13310/VRC WITH SINCGARS GROUND RADIO SETS

Headquarters, Department of the Army, Washington, DC

1 APRIL 1993

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this technical bulletin. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and blank forms) direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-LM–LT, Fort Monmouth, New Jersey 07703-5007. A reply will be furnished direct to you.

---

1. **Purpose.** This technical bulletin provides the information and procedures for operating the Wireline Adapter Interconnect Cable CX-13310/VRC with a Ground SINCGARS Family Radio Set using Communications Security Equipment TSEC/KY-57 and Wire Line Adapter HYX-57/TSEC. This technical bulletin is a supplement for the purpose of interoperability.

2. **Application - Radio Sets.** The radio sets covered by this technical bulletin are AN/VRC-87, AN/VRC-87A, AN/VRC-88, AN/VRC-88A, AN/VRC-89, AN/VRC-89A, AN/VRC-90, AN/VRC-90A, AN/VRC-91, AN/VRC-91A, AN/VRC-92, and AN/VRC-92A.

3. **References.** Refer to the following technical publications for normal operation and maintenance of the equipment:

PUBLICATION NUMBER	DATE	TITLE
TM 11-5810-256-OP-6	May 1983	Operating Procedures For Communications Security Equipment TSEC/KY-57 (With HYX-57/TSEC) FM Secure Remote Communications
TM 11-5820-890-10-1	1 September 1992	SINCGARS ICOM Ground Combat Net Radio
TM 11-5820-890-10-3	1 September 1992	SINCGARS NON-ICOM Ground Combat Net Radio

4. **Equipment Setup/Operation.** Assemble and install the radio set, KY-57, and HYX-57 individually per applicable technical manuals. Perform Preventive Maintenance Checks and Services (PMCS) and/or Built-In-Test (BIT) functions. Load all frequencies, hopsets, and variables into the radio set. Load required COMSEC data into the KY-57 and connect equipment as described in the following paragraph.

5. **Cabling Instructions.** The following figure illustrates the typical configuration for the connection between the radio set and the KY-57 with Wire Line Adapter, HYX-57.

Refer to figure 1 and perform the following cabling procedure:

- Connect Cable Assembly CX-13072 to RADIO connector on KY-57 and the RADIO/KY connector on the HYX-57.

- With field wire, WD-1, connect the two HYX-57 Wire Line Adapters using the two set's binding posts marked "T R".

- Connect a Wire Line Adapter Interconnect Cable (CX-13310) from the RXMT connector on the RT to the RADIO/KY connector on the Wireline Adapter.
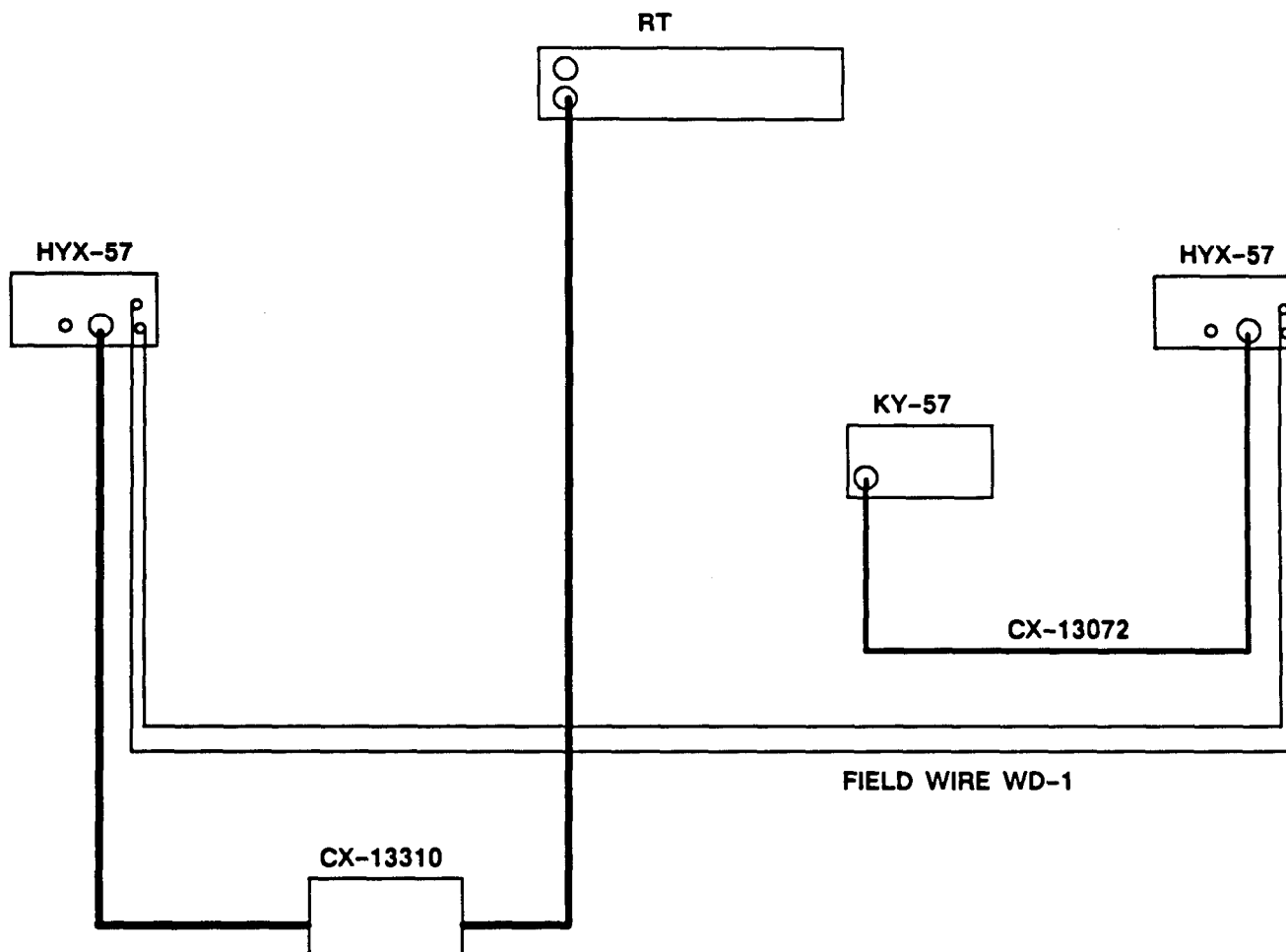

Figure 1. Cabling for Wire Line Adapter to SINCGARS Radio Set and HYX-57/TSEC

6. **Switch Settings and Initialization.** The following table provides the necessary switch settings and communication parameters for interoperability.

Table 6-1. SINCGARS Radio Set

MODE	SWITCH SETTINGS				
	RT-1523 ICOM	RT-1439 NON-ICOM	HYX-57	KY-57	CX-13310
SC-PT	SC, RXMT, PT	SC, RXMT	PWR-LO 2-WIRE, 16K	P	PT-SC
FH-PT	FH, RXMT PT	FH, RXMT	PWR-LO 2-WIRE, 16K	P	PT-FH
SC-CT	SC, RXMT, PT	SC, RXMT	PWR-LO 2-WIRE, 16K	C, TD	CT
FH-CT	FH, RXMT, PT	FH, RXMT	PWR-LO 2-WIRE, 16K	C, TD	CT
OW	N/A	N/A	PWR-LO/HI 2-WIRE, 16K	P	OW

NOTES:

When using the SINCGARS Ground Combat Net Radio, ICOM, RT-1523 for the remote operation, the COMSEC switch on the radio must be turned to the PT position.

HYX-57 Interconnect Cable CX-13310 has a control box with a control switch for selecting the positions listed under CX-13310.

When using order wire ("OW"), the H-250 handset should be connected to the RADIO/KY connector on the HYX-57 at the remote site.

The maximum allowable wireline distance between the HYX-57s used to remote the radio system is 4 miles.
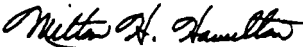
CAUTION

DO NOT USE THE HI POWER POSITION OF THE HYX-57s WHEN REMOTING A RADIO SET.

7.   System Troubleshooting Procedures. These steps will assist you in isolating faulty system components when you have a problem using the Wire Line Adapter Cable CX-13310. These procedures assume you have loaded all required SC, FH, and COMSEC data.

- CHECK COMSEC KEY. If you can communicate in plain text (P) but have no communication in the secure mode (C), you may have an incorrect key loaded into the KY-57 COMSEC device.

- CHECK WITH OTHER NET MEMBERS. Do You have communication with some stations but not others? The other station may be out of range, temporarily off the air, or has not checked into the net. If communication can be established with another station, your system is probabiy O.K. and the problem may be at the distant net station.

- CHECK SYSTEM CONFIGURATION. Verify proper cabling and switch settings for the particular MODE you wish to use.

- NOTIFY MAINTENANCE. If the problem cannot be isolated, notify unit maintenance personnel of your communication problem.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
03912

DISTRIBUTION:

To be distributed in accordance with DA Form 12-36-E, block 9442, requirements for TB 11-5820-890-10-3.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?

THEN . . . JOT DOWN THE DOPE ABOUT IT ON THIS FORM, FOLD IT, AND DROP IT IN THE MAIL!

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE

BE EXACT . . . PIN-POINT WHERE IT IS

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE

PS--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS

This fine document...

Was brought to you by me:

[Liberated Manuals -- free army and government manuals](http://www.liberatedmanuals.com/)

Why do I do it? I am tired of sleazy CD-ROM sellers, who take publicly available information, slap "watermarks" and other junk on it, and sell it. Those masters of search engine manipulation make sure that their sites that sell free information, come up first in search engines. They did not create it... They did not even scan it... Why should they get your money? Why are not letting you give those free manuals to your friends?

I am setting this document FREE. This document was made by the US Government and is NOT protected by Copyright. Feel free to share, republish, sell and so on.

I am not asking you for donations, fees or handouts. If you can, please provide a link to liberatedmanuals.com, so that free manuals come up first in search engines:

<A HREF=http://www.liberatedmanuals.com/>Free Military and Government Manuals</A>

- Sincerely
  Igor Chudov
  http://igor.chudov.com/
- [Chicago Machinery Movers](#)