



*Zero*

*Beat*

VOL V NO 3  
W4NTR

HEADQUARTERS BATTALION, HQMC,  
HENDERSON HALL, ARLINGTON, VIRGINIA 22214

MARCH 1966  
NOASM

**ZERO BEAT, PUBLISHED MONTHLY BY NOASM/W4NTR, IS A NEWSLETTER DESIGNED FOR THE USE AND BENEFIT OF MARINE CORPS MARS/AMATEUR RADIO STATIONS AND OPERATORS. CONTENTS OF ZERO BEAT ARE THE VIEWS, OPINIONS, AND RECOMMENDATIONS ONLY OF W4NTR/NOASM AND THE VARIOUS CONTRIBUTORS.**

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MARS

PLANS ARE CURRENTLY UNDERWAY FOR THE 1966 AMATEUR TO MILITARY TESTS ON ARMED FORCES DAY. MARK 21 MAY 1966 ON YOUR SCHEDULE OF EVENTS IN ORDER TO TAKE PART IN THIS YEAR'S ACTIVITIES. ....  
ADDITIONAL NAVY MARS FREQUENCIES HAVE BEEN AUTHORIZED IN VIET NAM AND WE ARE CURRENTLY PREPARING TO EXPAND THE PROGRAM IN THAT AREA WITH THE ADDITION OF POSSIBLY THREE OR FOUR STATIONS IN THE NEAR FUTURE..... DIFFICULTY IS STILL BEING EXPERIENCED WITH INCOMPLETE ADDRESSES ON TRAFFIC DESTINED FOR VIET NAM. A COMPLETE MILITARY ADDRESS IS NECESSARY. NAME. RANK. SER NO, COMPANY, BATTALION, DIV, C/O FPO SAN FRANCISCO. CALIFORNIA, ZIP CODE. REMEMBER ALL OF THESE THINGS AND HELP EXPEDITE DELIVERY OF THE TRAFFIC ON THE RECEIVING END.....

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CQ

USMC AMATEURS WHERE ARE YOU?? IF YOU KNOW OF ANYONE WHO IS IN THE MARINE CORP, ACTIVE, RESERVE, OR RETIRED. HOW ABOUT TELLING THEM THAT WE WOULD LIKE TO KNOW WHERE THEY ARE, WHO THEY ARE AND WHY WE HAVEN'T HEARD FROM THEM BEFORE THIS..... ALSO IF THEY WOULD LIKE TO RECEIVE A COPY OF ZB, HAVE THEM LET US KNOW WHEN THEY SEND THEIR 3X5 INFO CARDS TO US. WE'LL BE MORE THAN HAPPY TO SEND THEM A COPY.

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## VFO KEYING FOR TRANSMITTING RTTY WITH THE S-LINE

THIS METHOD INVOLVES DIODE SWITCHING IN THE VFO WITH A HIGH OR LOW-MARK KEYING OPTION. THE CIRCUIT IS SHOWN IN FIGURE 1. WITH S1 IN THE HIGH MARK POSITION AND A GROUND SUPPLIED VIA THE TELETYPEWRITER KEYBOARD, THE CATHODE OF CR1, IN TURN ADDING C1 INTO THE CATHODE CIRCUIT OF THE 70K-2 OSCILLATOR. WHEN THE GROUND IS REMOVED VIA THE TELETYPEWRITER KEYBOARD, CR1 WILL BE REVERSE BIASED DUE TO THE DROP ACROSS R2, IN TURN REMOVING C1 FROM THE CATHODE CIRCUIT OF THE 70K-2 OSCILLATOR. C1 IS ADJUSTED DURING NORMAL OPERATION SO THAT THE ADDED CAPACITANCE SHIFTS THE FREQUENCY OF THE 70K-2 OSCILLATOR UPWARD BY 850 CPS PROVIDING THE DESIRED FREQUENCY SHIFT FOR RTTY OPERATION. WITH S1 IN THE LOW MARK POSITION AND A GROUND SUPPLIED VIA THE TELETYPEWRITER KEYBOARD, CR1 WILL BE REVERSE BIASED (DUE TO THE DROP ACROSS R4) REMOVING C1 FROM THE CATHODE CIRCUIT OF THE 70K-2 OSCILLATOR. WHEN THE GROUND IS REMOVED VIA THE TELETYPEWRITER KEYBOARD, CR1 WILL BE FORWARD BIASED (DUE TO THE DROP ACROSS R1), ADDING C1 INTO THE CATHODE CIRCUIT OF THE 70K-2 OSCILLATOR. IN THE ABOVE MANNER A HIGH OR LOW-MARK KEYING OPTION IS OBTAINED.

FIGURE 2 SHOWS A SUGGESTED METHOD FOR INSTALLATION OF THE RTTY CIRCUIT IN TO THE 32S-(). ALL CIRCUIT COMPONENTS ARE MOUNTED BENEATH THE IMPROVISED CIRCUIT BOARD (MOUNTED ON THE BACK SIDE OF THE 70K-2 OSCILLATOR) EXCEPT FOR THE B+ DIVIDING RESISTORS R5 AND R6. TUNEUP OF THE SYSTEM REQUIRES THAT THE 32S-() BE TUNED FOR 230-MA PA PLATE CURRENT (LOCK KEY EMISSION) WHILE C1 IS ADJUSTED FOR AN 850-CPS SHIFTS BETWEEN SHORTED AND UNSHORTED INPUT CONDITIONS FROM THE TELETYPEWRITER KEYBOARD. THIS METHOD OF KEYING IS NOT RECOMMENDED FOR USE IN THE KWM-2 OR S-LINE EQUIPMENT CONNECTED FOR TRANSCEIVE OPERATION

Figure 1. Low- or High-Mark Keying Option Circuitry for Frequency Shifting the 70K-2 Oscillator

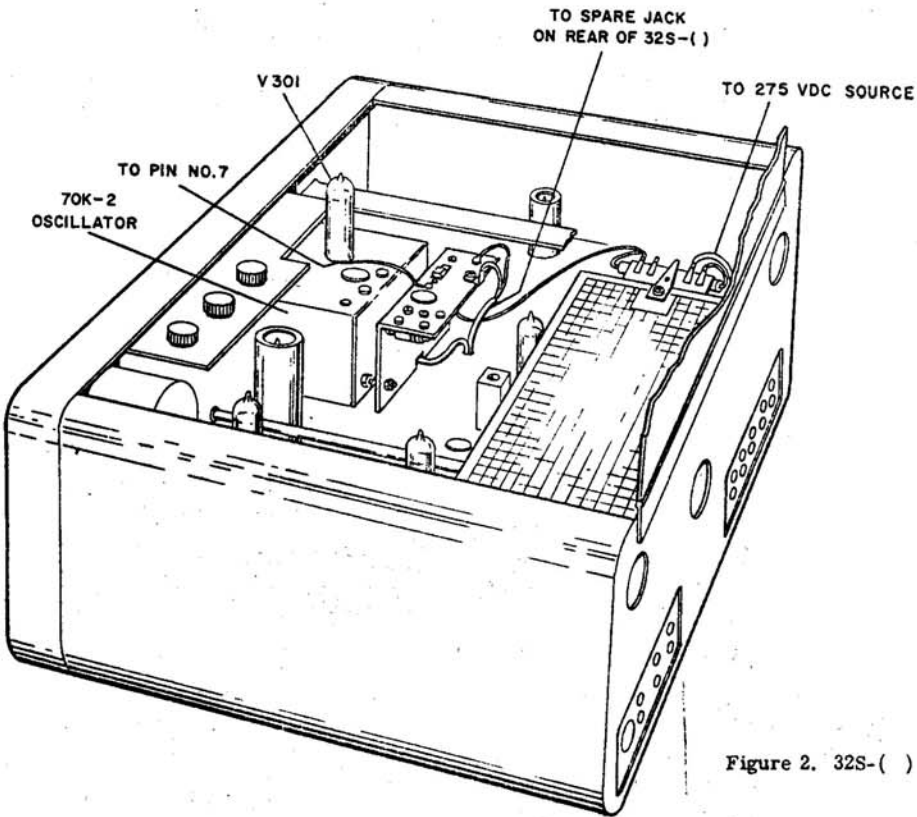
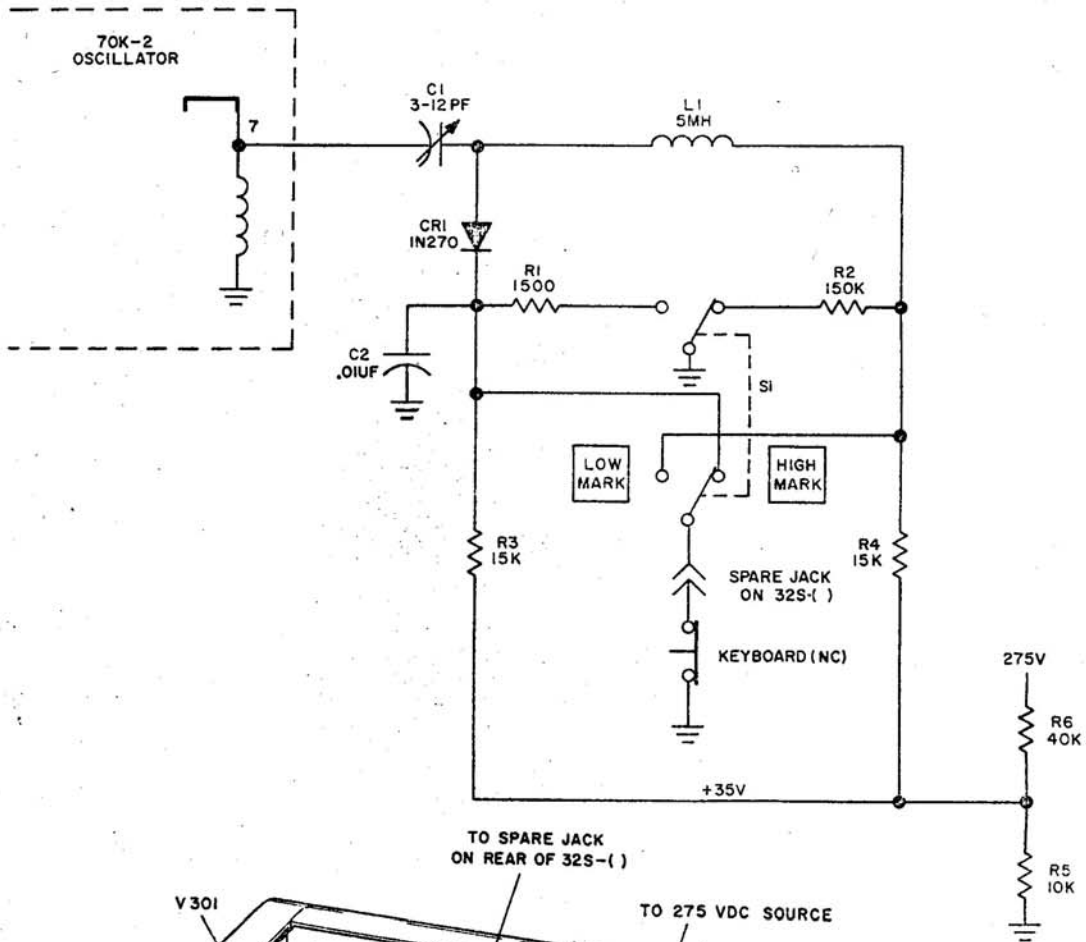
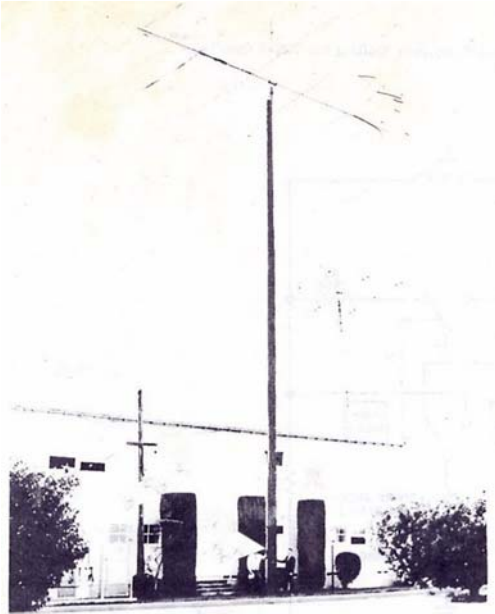
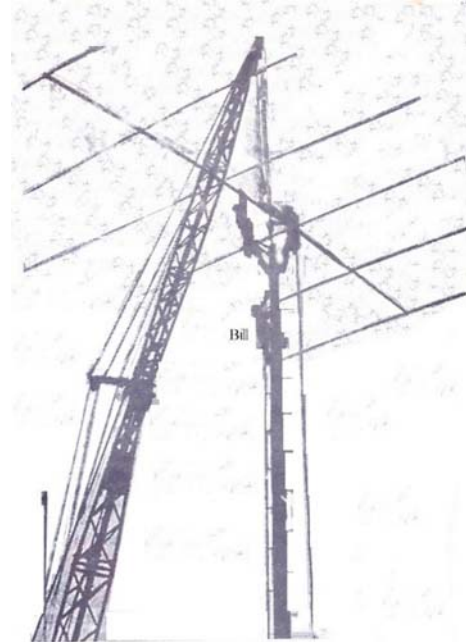


Figure 2. 32S-( ) Radio Teletypewriter Modification



**W6YDK**



**POLECATS** - Additional range needed to reach Western Pacific stations was given Depot's Amateur Radio Station (W6YDK) with installation Tuesday of a 46-foot-wide antenna atop 80-foot pole.

(Photo by Sgt. J. A. Cothran)

THE TWO GENTLEMEN ON THE LEFT HOLDING UP THE POLE ARE FROM THE SAN DIEGO GAS AND ELECTRIC. THANKS TO THEM W6YDK WAS ABLE TO GET THIS MONSTER OFF THE GROUND WITH THE ASSISTANCE OF A CRANE AND A FEW OTHER MEN PLUS ALL THE OPERATORS THERE AT THE STATION. WHICH INCLUDES CARL, CHOP: BILL, OP: AND JOE, OP:..... WHAT IS IT ?? WELL IT'S A NEW 20 METER BEAM ON A 80 FOOT POLE, AND IT SURE HELPS WITH OKINAWA. THE BAND SEEMS TO OPEN ONE HOUR EARLIER AND CLOSES ONE HOUR LATER IN COMPARISON TO THE TRIBANDER THEY HAVE..... APPARENTLY THE GANG OUT THERE IN SAN DIEGO ARE REALLY GOING ALL OUT FOR THAT TRAFFIC THIS YEAR AND ARE TRYING TO BEAT LAST YEARS BIG BIG TOTAL OF 64640... IF ANYONE CAN DO IT THE CREW THAT THEY HAVE OUT THERE ARE THE ONES THAT CAN.....

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**KG4AM**

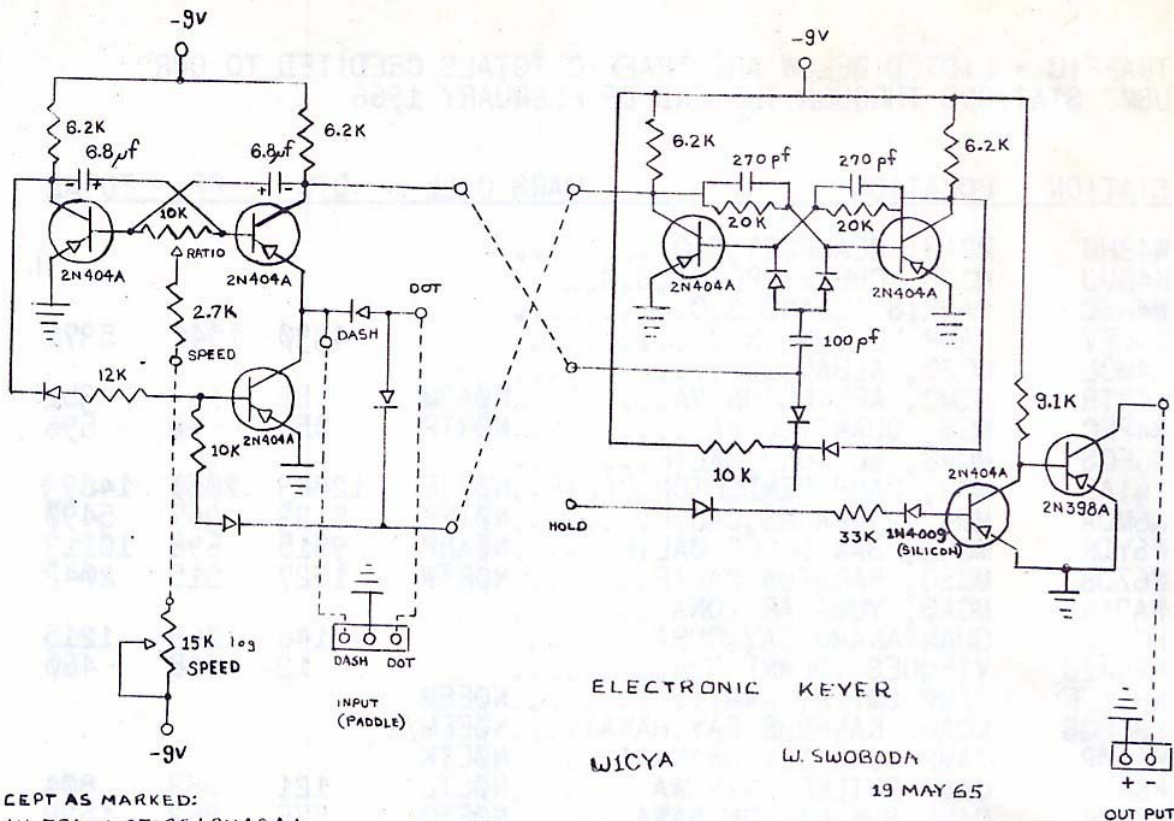
WELL YOU WON'T HEAR DON LOOKING FOR HIS NEW RIG ANYMORE BECAUSE AT LAST HE FOUND IT. BUT, IS HE EVER MAD! FOR SOME REASON HE CAN'T SEEM TO GET IT TO WORK... DID YOU TRY THE O-N/O-F-F SWITCH IN THE O-N POSITION?? IT MIGHT HELP... JUST KIDDING DON WE'RE ALL PULLING FOR YOU TO GET THE NEW R!G ON THE AIR.....

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**W4NTR**

WILL IF THINGS GO AS PLANNED WE SHOULD BE UP ON 40 AND 75M WITH IN THE NEXT TWO WEEKS PROVIDED WE DON'T GET SNOW BOUND. THAT IS IF WE CAN EVER GET THE CLIFF-DWELLER DUG OUT FROM UNDER ALL THAT SNOW...

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A SOLID STATE AUTOMATIC KEYER

WADE, W1CYA

THE DESIGN OF THIS KEYER WAS THE RESULT OF MY FUTILE SEARCH FOR A REASONABLY INEXPENSIVE AUTOMATIC KEYER WHICH WOULD PROVIDE SELF COMPLETING OPERATION AND CORRECT UNIFORM DOTS AND DASHES THROUGHOUT IT'S SPEED RANGE. SINCE NO SUTIBLE COMMERCIAL UNIT COULD BE FOUND, I DECIDED TO START FROM SCRATCH AND PUT IN THE FEATUERS THAT I WANTED. THE FINISHED KEYER COST ABOUT \$20 USING ALL NEW PARTS. IT'S SPEED RANGE IS 8 TO 60 WPM. DOTS AND DASHES ARE SELF COMPLETING ONCE INITIATED. THE OUTPUT TRANSISTOR (2N398) IS CAPABLE OF KEYING UP TO A -105V AT 50MA. THE POWER SUPPLY IS A 9V BATTERY (EVEREADY 216) AND WILL PROVIDE ABOUT, 75 HOURS OF CONTINUOUS OPERATION. THE KEYER IS BUILT IN A 1-1/2" X 2" X 3-3/4" MINI-BOX AND INCLUDES THE BATTERY. THE CIRCUIT WAS BUILT ON TWO 1-1/2" X 1-7/8" PHENOLIC BOARDS. THESE BOARDS WERE STACKED AT ONE END OF THE MINI-BOX AND THE BATTERY WAS PLACED ON IT'S SIDE AT THE OTHER. THIS LEFT ABOUT 3/5". JUST ENOUGH FOR THE SPEED CONTROL POT WITH PWR SWITCH ON THE FRONT AND THE INPUT AND OUTPUT JACKS ON THE BACK. THE CIRCUIT POINT MARKED "HOLD", WHEN GROUNDED, WILL OVER-RIDE THE AUTOMATIC CIRCUITRY AND KEY THE OUTPUT STAGE. THIS COULD BE USED FOR SEMI-AUTOMATIC CIRCUITRY OPERATION OR SIMPLY AS A KEY DOWN SWITCH IF DESIRED. FOR ANY OTHER INFORMATION PERTAINING TO THE W1CYA ELECTRONIC KEYER. DROP A LIND TO WADE SWOBODA AT 6 ARIZONA TERR, ARLINGTON, MASS 02174

TRAFFIC - LISTED BELOW ARE TRAFFIC TOTALS CREDITED TO OUR USMC STATIONS THROUGH THE END OF FEBRUARY 1966

STATION	LOCATION		QTC	PP	TOTAL
W4BHU	MCAS, BEAUFORT, S.C.				
K4BUJ	MCAS, CHERRY POINT, S.C.				
W4HBC	MCRD, PARRIS ISLAND, S.C.				
W4LEV	MCB, CAMP LEJEUNE		4330	1041	5371
K4MCL	MCSC, ALBANY, GA				
W4NTR	HQMC, ARLINGTON, VA	NOASM	188	163	351
W4PFC	MCS, QUANTICO, VA	NORTP	556	40	596
W6FCS	MCAS, EL TORO, CALIF				
W6IAB	MCB, CAMP PENDLETON, CALIF	NORSE	12843	2050	14893
K6MCA	MCB, 29 PALMS, CALIF	NOTEF	5123	367	5490
W6YDK	MCRD, SAN DIEGO, CALIF	NOANP	9515	698	10213
W6ZJB	MCSC, BARSTOW CALIF	NORTW	1527	515	2042
WA7AAJ	MCAS, YUMA, ARIZONA				
KG4AM	GUANTANAMO BAY, CUBA		146	1069	1215
KP4AZJ	VIEQUES ISLAND, P.R.		12	448	460
KH6AJF	CAMP SMITH, HAWAII	NOEEM			
KH6BGS	MCAS, KANEOHE BAY, HAWAII	NOEEM/1			
KR6CP	CAMP COURTNEY, OKINAWA	NOETK			
KR6DI	CAMP BUTLER, OKINAWA	NOETL	121	683	804
KR6GF	CAMP SUKIRAN, OKINAWA	NOETG	576	962	1538
KR6MB	CAMP SCHWAB, OKINAWA	NOETJ	234	823	1057
KR6MD	CAMP HAUGE, OKINAWA	NOETI	102	570	672
KR6MH	CAMP HANSEN, OKINAWA	NOETH	157	776	933
KR6FQ	MCAF, FUTEMA, OKINAWA				
TOTAL FOR 1966			35370	9849	45219

FLASH!!!

CONGRATULATIONS TO THE GANG ON OKINAWA. THEY FINALLY GOT THEIR NAVY MARS CALLS, NOW ALL THEY NEED ARE THE FREQUENCIES AND THEY' LL BE READY TO ROLL, AND IT WON'T BE TO MUCH LONGER TILL THEY HAVE THEM . . .

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HELP ?

SOME PEOPLE JUST DON'T SEEM TO REALIZE THE TIME AND EFFORT THAT GOES INTO MAKING THIS PUBLICATION POSSIBLE. BUT WITHOUT YOUR COOPERATION, SUGGESTIONS, ETC., ETC., ZB WOULD ONLY BE ONE PAGE LONG. . . THIS IS YOUR PUBLICATION, SO HOW ABOUT SUPPORTING IT!

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TNX

AS YOU ALL NOTICED, JOHN MOLNAR HAS REALLY OUT DONE HIMSELF WITH THE PHOTOS IN THIS ISSUE. THANKS TO HIM WE ARE ABLE TO WRAP THIS ISSUE UP WITH A FULL SIX PAGES. THANKS JOHN

WELL THAT'S ABOUT IT FOR THIS MONTH, SO TILL NEXT TIME,

73 DAVE K3UCY