

SUBJ: MARS COMMUNICATION STATION
REF (A) NTP (8)D
(B) CENTRAL AREA OPERASTIONS GUIDE

MARS COMMUNICATION STATION GUIDANCE

REFERENCE (A) AND (B) INDICATE THE IMPORTANCE OF THE MARS OPERATOR HAVE A STATION THAT IS CAPABLE OF OPERATION ON MARS HF FREQUENCIES (2.0 - 30.0 MHZ). THIS REQUIREMENT IS COMPATABLE WITH THE GENERAL REQUIREMENTS OF A HF AMATEUR RADIO STATION. THE ONLY VARIATION IS THAT SOME OF THE FREQUENCIES ARE WELL OUTSIDE OF THE AMATEUR STATION OPERATING PARAMETERS. "SOME" OF THE FREQUENCIES ARE CLOSE ENOUGH TO THE AMATEUR BANDS AND WILL NOT REQUIRE ANY MODIFICATION OF THE MARS OPERATOR'S PERSONAL EQUIPMENT.

THE MARS COMMUNICATION STATION MAY BE DIVIDED INTO TWO AREAS; FIRST THE BASIC STATION NEEDS AND SECOND STATION ENHANCEMENTS.

BASIC STATION NEEDS:

A. HF TRANSMITTER AND RECEIVER OR TRANSCEIVER.

SINCE MOST OPERATORS HAVE TRANSCEIVERS TODAY AS OPPOSED TO SEPARATE TRANSMITTERS AND RECEIVERS THE DISCUSSION WILL FOCUS ON THIS TYPE OF EQUIPMENT. THE FREQUENCIES THAT THE MARS OPERATOR MUST BE ABLE TO TRANSMIT AND RECEIVE ARE THE FLORIDA STATE NET FREQUENCIES AND THE EMERGENCY FREQUENCIES FOR THE AREA AND REGION. THESE FREQUENCIES ARE NAW, NBJ, NCK, NCR, NCK, NFC, AND NFL. NFL (7385 KHZ) IS USED AS A REGIONAL AND NATIONAL EMERGENCY CALLING FREQUENCY. THERE ARE ADDITIONAL REGIONAL FREQUENCIES THAT MAY BE FOUND IN REFERENCE (B). MANY PRIMARY FREQUENCIES LISTED ARE OPERABLE ON YOUR TRANSCEIVER WITHOUT ANY MODIFICATION. FOR THOSE FREQUENCIES THAT YOUR TRANSCEIVER WILL NOT OPERATE ON, THERE MAY BE A RELATIVELY SIMPLE MODIFICATION WHICH WILL OPEN THE TRANSMITTING RANGE. THESE MODIFICATIONS MAY BE FOUND ON THE INTERNET AT SEVERAL SITES. NOTE: EFFECTIVE 1 DEC 2005 REF(A) ANNEX(B) SPECIFIED NEW FREQUENCY TOLERANCE FOR VOICE OPERATIONS.

B. ANTENNAS AND TUNER

MOST ANTENNAE (TRAP DIPOLES, VERTICALS, AND BEAMS) DESIGNED FOR OPTIMUM OPERATION IN THE AMATEUR BANDS WILL LOAD SATISFACTORILY WITH A TUNER FOR THOSE FREQUENCIES NEAR THE EDGES OF THE AMATEUR BANDS. FOR THOSE FREQUENCIES THAT DEVIATE SIGNIFICANTLY FROM THE AMATEUR FREQUENCY IT WILL BE NECESSARY TO HAVE AN ANTENNA AND TUNER TO ASSURE REASONABLE OPERATIONS. EXPERIENCE HAS SHOWN THAT AN INVERTED "L" LONG WIRE OR AN INVERTED VEE SUCH AS A G5RV WITH A TUNER WORK WELL OVER A WIDE RANGE OF FREQUENCIES. WITH THESE ANTENNA CONFIGURATIONS A TUNER IS A "MUST HAVE".

C. WORK SPACE AND STORAGE

YOUR WORK SPACE AND STORAGE AREA SHOULD BE ADEQUATE FOR STATION EQUIPMENT. THIS MEANS THAT THE SPACE NEEDS TO BE LARGE ENOUGH TO HAVE YOUR STATION ARRANGED FOR OPTIMUM USE AND BE COMFORTABLE ENOUGH FOR OPERATING A SUSTAINED PERIOD OF TIME THAT MIGHT ARISE IN AN EMERGENCY COMMUNICATIONS SITUATION. THE SPACE SHOULD ALLOW FOR READY ACCESS TO MARS PUBLICATIONS AND OPERATING GUIDES. YOU SHOULD HAVE A READY AREA SUPPLYING LOG SHEETS, MESSAGE FORMS, CURRENT ROSTER, CALL-UP TREE, ETC. FOR USE DURING NORMAL OPERATIONS AND ECOM. THE STORAGE AREA WILL KEEP YOUR MESSAGE FILES, LOGS, AND OTHER DOCUMENTS RELATED TO MARS OPERATIONS.

D. COMPUTER WORK STATION

A FEW YEARS AGO THIS ITEM WOULD HAVE APPEARED IN THE ENHANCEMENT LISTING. TODAY WITH MORE OF OUR ROUTINE ADMINISTRATIVE COMMUNICATIONS AND DOCUMENTS BEING TRANSMITTED VIA E-MAIL OR IN CDROM FORMAT, IT HAS BECOME NECESSARY FOR THE MARS OPERATOR TO HAVE A COMPUTER SYSTEM WITH AN ISP (INTERNET SERVICE PROVIDER) ADJUNCT TO THE STATION. IN THE STATION ENVIRONMENT THE COMPUTER IS VERY USEFUL FOR MAINTAINING LOGS, GENERATING PROFORMA MESSAGES AS REQUIRED, GENERATING MARSGRAMS, AND OTHER STATION DOCUMENTS. THE MAY ALSO BE CONNECTED TO THE STATION TRANCEIVER OR STATION PERIPHERALS ENHANCING THE STATION CAPABILITY. WITH THE AVAILABLE FREE/ SHAREWARE SOUND CARD PROGRAMS THE COMPUTER WILL ALLOW THE OPERATOR TO OPERATE SOME OF THE DIGITAL MODES WITH A SIMPLE CABLE INTERFACE BETWEEN THE COMPUTER AND THE TRANSCEIVER.

E. VHF TRANSCEIVER AND ANTENNA

THERE IS ONE OPERATIONAL REPEATERS OR DIGIPEATERS IN KISSIMEE AREA. THERE ARE 5 DESIGNATED SITE LOCALES; JACKSONVILLE, TAMPA, ORLANDO, FORT LAUDERDALE/MIAMI, AND FORT MYERS. ADDITIONALLY THERE ARE A NUMBER OF AIR FORCE AND ARMY MARS REPEATERS OR DIGIPEATERS THAT ARE AVAILABLE FOR MEMBER PARTICIPATION. VHF CAPABILITY PROVIDES THE MARS OPERATOR WITH ACCESS TO LOCAL EMERGENCY MANAGEMENT OFFICIALS IN SUPPORT OF EMERGENCY COMMUNICATIONS AS AN OUTLET FOR LONG HAUL TRAFFIC.

ENHANCING THE STATION

THE ENHANCEMENTS SUGGESTED WILL ALLOW THE OPERATOR TO PARTICIPATE IN A BROADER GROUP OF MARS ACTIVITIES THAN THE BASIC STATION CONFIGURATION. AS THE OPERATOR BECOMES MORE FAMILIAR WITH THE NAVMARCOR MARS PROGRAM IT IS HOPED THAT THE OPERATOR WILL INCLUDE MORE OF THESE OPTIONS. THE SUGGESTIONS LISTED ARE NOT IN ANY PARTICULAR ORDER BUT THE OPERATOR MAY DECIDE THAT ONE OR MORE MIGHT HAVE A HIGHER DESIRABILITY IN ENHANCING HIS PERSONAL OPERATIONS HABITS IN BOTH THE MARS AND AMATEUR COMMUNITIES.

F. COMPUTER DEDICATED TO COMMUNICATION STATION

A COMPUTER WORKSTATION DEDICATED TO THE COMMUNICATIONS STATION IS VALUABLE IN MAINTAINING LOGS, PREPARING MESSAGES, AND MAKING PRINTED COPIES OF MESSAGES FOR FILES. IT IS NECESSARY FOR THE MARS MEMBERS WHO PLANS TO PARTICIPATE IN THE DIGITAL MODES. THE STATION COMPUTER DOES NOT HAVE TO BE THE MOST UPTODATE SYSTEM NOR DOES IT NEED TO BE THE FASTEST. IT SHOULD HAVE A SPEED EQUAL TO OR GREATER THAN 250 MHZ WITH 32 MB RAM, A 3-1/2" FLOPPY DRIVE, A HARD DRIVE \geq 750 MB, 2 SERIAL AND 1 PARALELL PORTS. FOR SOUND CARD DIGITAL MODES YOU WOULD NEED A SOUND CARD AND IT WOULD BE NICE TO HAVE A CD-ROM DRIVE. THE OPERATING SYSTEM CAN BE MSDOS 6.2 W/ WIN 3.11 OR HIGHER WITH A PREFERENCE FOR MOST PROGRAMS WIN 98 OR HIGHER. AN INEXPENSIVE PRINTER COMPLETES THE WORK STATION. A UPS IS OPTIONAL AND IS USEFUL IF THE LINE POWER FAILS. a COMPUTER FOR THE STATION MAY OFTEN BE PROCURED FROM THE FLEA MARKET, YARD SALE, OR RUMMAGE SALES FOR A NOMINAL COST. IF YOU PLAN TO UPGRADE YOUR PERSONAL COMPUTER THE OLDER ONE MAY BE DESOGNATED FOR THE COMMUNICATIONS STATION.

H. MULTI-MODE TNC (TERMINAL NODE CONTROLLER)

TO PARTICIPATE AS A TRAFFIC REPRESENTATIVE IN THE MDS(MARS DATA SYSTEM) COLLECTING TRAFFIC FOR THE AREA OR DELIVERING OUT OF REGION TRAFFIC TO THE SYSTEM YOU WILL NEED A TNC CAPABLE OF USING THE HF (ARQ) DIGITAL MODES WITH APPROPRIATE SOFTWARE FOR THE MODEL TNC. THEREARE A NUMBER OF MODELS AVAILABLE FROM DIFFERENT MANUFACTURERS. A USED UNIT MIGHT BE LOCATED THROUGH THE LOCAL AMATEUR RADIO NEWSLETTER OR FOUND AT A HAMFEST.

I. EMERGENCY POWER

DURING AN EMERGENCY/ DISASTER A STATION IN THE AFFECTED AREA IS LIKELY TO EXPERIENCE LOCAL POWER FAILURE. WITHOUT AN EMERGENCY POWER SOURCE THE STATION EFFECTIVE IN MEETING COMMUNICATIONS REQUIREMENTS DURING THE INCIDENT. THE MARS MEMBER NEEDS TO ASSESS HIS STATION AND DETERMINE HOW TO MEET MOST EFFICIENTLY THE REQUIREMENT FOR EMERGENCY COMMUNICATIONS. THIS MAY BE A SUITABLE NUMBER OF 12 VDC DEEP DISCHARGE BATTERIES AND INVERTERS FOR EQUIPMENT THAT REQUIRES 110 VAC, OR A BACKUP 110 VAC GASOLINE GENERATOR, OR SOME COMBINATION OF BOTH.

D. BACKUP HF AND VHF EQUIPMENT

THIS NEEDS NO FURTHER AMPLIFICATION.

J. HF AMPLIFIER

FOR RELIABLE COMMUNICATIONS UNDER ADVERSE BAND CONDITIONS, IT MAY BE DESIRABLE TO HAVE AVAILABLE ADDITIONAL POWER AND THEREFORE A HF POWER AMPLIFIER AS APART OF YOUR STATION EQUIPMENT.

K. GOODIES

THIS ITEM ARE THINGS THAT YOU DESIRE TO ENHANCE YOUR PERSONAL EFFECTIVENESS. THIS MAY INCLUDE; CUSTOM INTERFACES, COMMERCIAL OR HOME BREW, FROM YOUR COMPUTER TO XCVR; SPECIALIZED TOOL KITS FOR ACCESS TO EQUIPMENT; A WORK BENCH FOR TINKERING AND MAKING UP CABLES; A SOFTWARE LIBRARY OF STUFF RELATED TO MARS AND THE AMATEUR HOBBY; FILE CABINET; A JUNK BOX STASH FOR ODD PARTS AND PIECES; ETC.

THIS "MEMBER" GUIDANCE NOTE IS JUST THAT. EACH OF US IS A VOLUNTEER AND HAVE LIMITED RESOURCES TO DEVOTE TO THE MARS PROGRAM. THESE CONCEPTS ALLOW YOU TO DO SOME LONG RANGE PLANNING FOR YOUR STATION, WHICH WILL ALLOW YOU TO BROADEN YOUR PARTICIPATION IN YOUR HOBBY AS WELL AS THE MARS PROGRAM.

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