



FIELD DAY FOR HAM “TECHNICIANS”

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2020 - NOT YOUR TYPICAL FIELD DAY

- Need to maintain safe distances so,
- No club tents
- No shared radios or antennas
- No General or Extra control operators available to allow Techs to try out HF operations



BUT WHAT IS “FIELD DAY” REALLY ALL ABOUT?

- **“a premium is placed on developing skills to meet the challenges of emergency preparedness” – ARRL Field Day 2020 Rules**
- Group Skills – normal Field Day
- **INDIVIDUAL SKILLS – Field Day 2020**

APPLICABLE STATION TYPES

- CLASS D – HOME STATION – Line Power
 - Can't count contacts with other CLASS D stations
- CLASS E – HOME STATION – Emergency Power
 - Not hard if you have some spare batteries, or a generator or solar to recharge
- CLASS C – MOBILE
 - Allows you to travel around to get contacts
 - Mountain routes recommended!
 - Can use car power
- CLASS B – PORTABLE
 - Set up using temporary antennas and emergency power
 - If ≤ 5 watts, and operating on battery only, can be a special "Class B Battery"

WHAT
EQUIPMENT
DO YOU
NEED TO
HAVE TO
PARTICIPATE?



A Radio – even
a modest one is
sufficient

ADDITIONAL GOODIES

- A Higher Power Radio
- Better Antennas
 - High-Gain Omnidirectional
 - Directional – Yagi
 - Satellite – Yagi, dual-band
- Better Locations
 - Hills and mountains
- Other Frequencies
 - 6-meters, 10-meters (SSB)
 - Can do CW on many HF frequencies

The Tape Measure Antenna

By jcoman in Circuits > Electronics

92,690

240

30

★ Featured

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Are you looking for an easy kid friendly project? Are you looking for a project to encourage a new generation of ham radio operators?

This project is unusual, so it's something that will certainly capture the attention of anyone, particularly a kid. It's an antenna built out of PVC pipe, a tape measure and a handful of hose



VHF Operation and Field Day: FAQs, Tips and Guides for Getting More Field Day QSOs

By: Steve Ford, WB8IMY, Editor, *QST* & ARRL's Public Relations Staff

When most hams think of Field Day, they automatically envision a stampede of activity on the HF bands. While this may be true, there is a gold mine of contact points on the bands above 30 MHz. **ALL** "Class A" and "Class F" stations can have a free VHF station to make extra QSOs towards their Field Day score.

Adding an experienced VHF team to your Field Day effort can pay big dividends. Many efforts to gain points from a VHF station in the past have not succeeded because the operating protocols on VHF are not known to hams who operate mostly HF, and they simply do not know where or when to transmit. This guide attempts to answer some basic questions about VHF operating so your club can utilize their VHF station to its maximum potential.

Terrestrial VHF Communication

During the summer months, sporadic-E propagation comes into full force, opening the door for possible long-haul QSOs on 6 Meters across the country. During exceptional openings, Sporadic-E is possible on 2 Meters, too. Tropospheric enhancement on 2 meters and 432 can occur as well, allowing communications as far as several hundred miles. Sporadic-E is, by definition, unpredictable; nobody knows when it will occur. While it can occur at any time, it seems to occur most often in the afternoon and evening. Tropospheric conditions are generally best in the early-morning hours, especially on 2 meters and 432 MHz.

It is also possible to have VHF bands that are completely dead, or openings that only last a very short period. VHF bands generally do not function like HF and require some enhanced propagation conditions to come to life. Two of the best tools for using the VHF bands are patience and perseverance.

- NO REPEATERS
 - Simplex ONLY
 - Often 146.52 or 446.00 – but share the frequency
- VHF & UHF DX via Tropospheric Ducting/Sporadic E
 - Best early morning

SATELLITES

Satellites are a blast on Field Day! Of course, to use a satellite you must know when it will be passing across your local sky. One easy way to obtain pass predictions is on the AMSAT Web site at www.amsat.org/track/index.php. Just print the predictions for the satellites you intend to use. There are also satellite tracking apps for iOS and Android mobile devices.

FM Birds: SO-50, AO-91, and AO-92

Do you have a dual band VHF/UHF FM rig that can receive below 437 MHz? If so, you can try any of three satellites that operate as FM repeaters by using the frequency tables below to program the radio's memories so that you can compensate for Doppler shifting by simply changing memory channels. This will help you keep the satellite properly tuned in from Acquisition of Signal (AOS) to Loss of Signal (LOS). Just switch the memory channels for the strongest and least distorted signals. As you'll see in the tables, there is no need to change your transmit frequency; the satellite will automatically compensate for the Doppler shifting of your transmitted signal.

SO-50

<i>Time</i>	<i>Transmit (MHz)*</i>	<i>Receive (MHz)</i>
AOS (start)	145.850	436.805
Zenith -3 Minutes	145.850	436.800
Zenith (maximum)	145.850	436.795
Zenith+3 Minutes	145.850	436.790
LOS (end)	145.850	436.785

*Transmit with a 67 Hz CTCSS tone.

AO-91

<i>Time</i>	<i>Transmit (MHz)*</i>	<i>Receive (MHz)</i>
AOS (start)	435.250	145.970
5Zenith -3 Minutes	435.250	145.965
Zenith (maximum)	435.250	145.960
Zenith+3 Minutes	435.250	145.955
LOS (end)	435.250	145.950

*Transmit with a 67 Hz CTCSS tone

AO-92

<i>Time</i>	<i>Transmit (MHz)*</i>	<i>Receive</i>
AOS (start)	435.350	145.890
Zenith -3 Minutes	435.350	145.850
Zenith (maximum)	435.350	145.880
Zenith+3 Minutes	435.350	145.875
LOS (end)	435.350	145.870

*Transmit with a 67 Hz CTCSS tone

SATELLITES

- <http://www.amsat.org/track/index.php>
- Can be worked with hand-held dual-band YAGI antennas (and sometimes with whip antennas as well)

CW – MORSE CODE ON HF

- Technicians can legally operate on almost ALL the HF bands if they use CW (Morse Code)
- A great time to learn code! Lots of programs to help you.
- Get double the points per contact!!!



THE EXCHANGE

- Calling CQ: **“CQ Field Day, CQ Field Day CQ Field Day”**
- For Field Day you need to exchange:
 - Call signs
 - Number of transmitters and Class (e.g., 1E, 1C, 4A)
 - State
 - As in: **“This is W4DO and I am 1Echo in Virginia, Victor Alpha”**
 - You also record their call sign, # of transmitters, class and state
- For VHF/UHF it is also common to exchange “Grid Squares” (e.g., FM08ra) as well
 - https://www.levinecentral.com/ham/grid_square.php will tell you yours

LOGGING

See the ARRL Field Day web site for the special forms used for sending data from logs to ARRL. Or give your log to someone that has logging software installed that can produce the desired digital forms for submission



Field Day Log

Call Used **KN4XXX**


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Exchange Sent **1D VA**

Frequency	Mode	Date	Time (UTC)	Station Worked	Exchange Received
146.520	FM	6/27/20	0130	KN4YYY	1C MD

Or use logging software such as the N3FJP, Field Day software



MOST IMPORTANT FIELD DAY RULES

- Learn something new!
 - Have fun!
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