

# *Albuquerque Duke City Hamfest and Convention*



*'It's a HamFiesta!'*



# **TRLog for Linux:**

A classic DOS contest logger updated to run on modern platforms.

By Wayne Greaves, WØZW

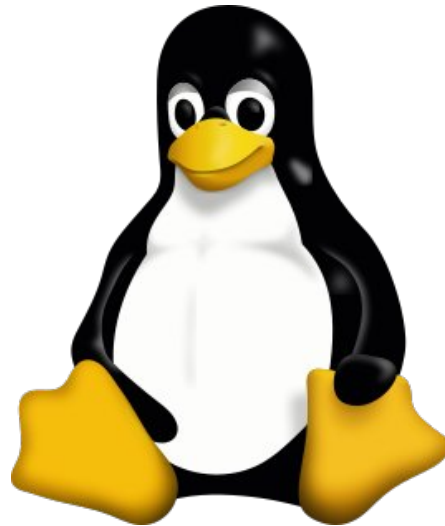
# Topics

- Objective
- The Big Picture
- A Brief History of Computer Logging
- What's so great about TRLog Linux?
- Features, Features, and More Features
- Installing, Configuring, and Using TRLog Linux
- Post-Contest Operations
- Additional Resources



# Objective

To promote TRLog Linux within the Amateur community as a viable alternative to Windows<sup>®</sup> contest logging software.



# The Big Picture

LOW IMPACT

HIGH IMPACT

## Factors Affecting Your Contesting Performance

- Logging Software Selection\*
- Practice
- Stamina
- BIC (butt in chair)
- Murphy
- Skill Level
- Station Config
- Experience
- Goal Setting

\* A relatively minor factor.



# Reasons to Change to a Linux Logger



Allow migration away from Windows.



Choose Open Source OS and Applications.



Don't wish to run Win guest Virtual Machine.



To improve your score, rate, or standing.

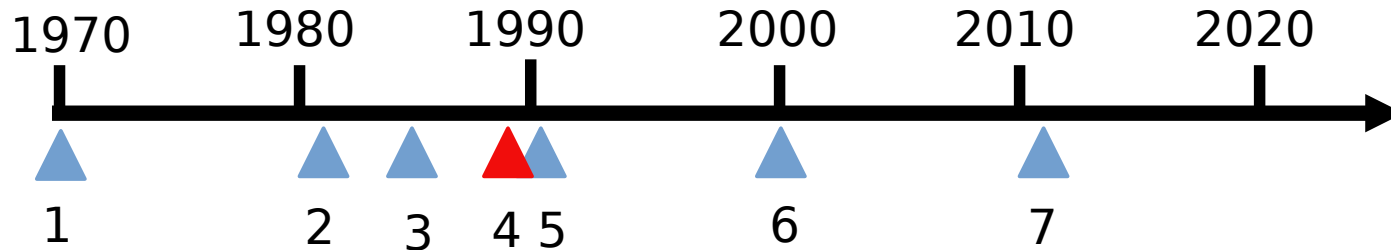


# Caveats

- Proficiency with the Linux operating system is required.
- Users must be comfortable:
  - Navigating Linux directory structure
  - Command line interface use
  - Text editing
- TRLog is not a modern GUI application
  - No drop-down menus or tabbed set-up windows
  - Requires use of Ctrl- and Alt- characters and Fn commands
  - Configuration command set is extensive



# Brief History of Computer Logging



- (1) Bell Labs develops Unix, 1970
- (2) IBM Personal Computer (DOS) is released, 1981
- (3) CT Logging Software by K1EA debuts, 1985
- (4) N6TR releases TRLog (DOS), 1989
- (5) Windows (3.1, 95, 98, et al) replaces DOS, ~1990
- (6) Windows-based loggers gain popularity (N1MM, 2000)
- (7) TRLog ported to Linux by Kevin Schmidt, W9CF, 2011



# Why Consider TRLog Linux?

- One of the few contest loggers to run natively on Linux.
- Displays information in a very compact user window.
- Simple, efficient keyboard-based user interaction.
- Performs many advanced features.
- Extremely modest hardware requirements.
- Focus on the contest, not multiple data windows.
- It's FUN!





# Instead of This...

The screenshot displays a ham radio logging software interface with several windows:

- Kenwood VFO A:** Shows frequency 28025.00 and mode SH/DX. A list of stations is visible on the left, including S50K 54°, EA5FV 68°, HG6N 51°, 9A7A 54°, UA6AF 36°, OK2RZ, C31LJ 63°, OE5CWL/51° N7-M, LY7Z 42°, SM6M 39°, ON5ZD 52°, RM6A 36°, UA3ABJ 36°, LA9VDA 40°, SN5N, MO1TT 53°, F5MUX 55°, RK4FF 36°, SM6K, OK1CF 50°, and YL2SM 40°.
- ARRL DX CW - D:\vb60\N1MM Logger\ham.mdb:** A log table with columns TS, Call, Freq, SNT, RCV, Powe, Mult, and Prefi. The table contains 10 rows of log entries.
- ARRL DX CW - 02/16/02 15:50:54Z [10:50]:** A control panel for the SM6M station, showing Snt, Rcv, and Pwr meters, and buttons for Wipe, Log It, Edit, Mark, Store, Spot It, and Buck. It also displays a menu with options like F1 CQ, F2 5NN CT, F3 TU, F4 N1MM, F5 His Call, F6 QSO B4, F7 ?, and F8 Agn.
- Info - N1MM - Exch: 599 CT Operator: N1MM:** Provides station information: SM6M - 28025 [K4OJ @ -15 min] - SM, SM - Sweden, Zone 14, EU, Bearing = 39°, 3818 mi, 6144 km, LP = 219°, Sunrise: 06:20Z, Sunset: 15:42Z [Sunset was 8 minutes ago.], W/W: SFI=195 A=3 K=3 LOW/QUIET-UNSET;LOW/QUIET-UNSET 2/16/2002 15:00Z, Rates -- Last 10 Minutes: 4; Last Hour: 6.
- Telnet Window - Host: 207.41.161.220:** Shows a list of packets received from various stations on Feb-16-2002, including LZ <K4OJ>, OK <W6TK>, UR <K4OJ>, K <RV4HIE>, 3V <N1DG>, N1DG de N2TX 16-Feb 1551Z arc >, DX de VE7WJ: 28466.0 9L1BTB up 4, DX de K3LR: 21056.7 OM7M, and 9L 1551Z BC, OM 1550Z PA.
- Available Mult's Q's:** A table showing available multipliers and quality factors.
- Kenwood VFO B:** Shows frequency 21038.30 and mode SH/DX. A list of stations is visible on the right, including K4JA, K1XM, W3BGN, R26FA 36°, NY4A, HG0HQ 51°, YU7CB 53°, MU2K 56° NEW, DL1IAO 50°, OT2H 52°, PI4TUE 50°, EA1DAV 68°, 8P9JA 155°, GM3PO1 48°, SV1BSX 57° NEW, T97M 55° NEW, and T5C 55°.



# All Info in One Window

```
w0zw@epsilon: ~/trlog/contests/dchf
```

6 Pts				2024 CQ WW Contest W0ZW				Mem = A Lot
22:29:05	160	80	40	20	15	10	ALL	
-----	-----	-----	-----	-----	-----	-----	-----	
QSOs	0	0	0	1	0	0	1	QSO needs for G4AMT
DX Mults	0	0	0	1	0	0	1	160 80 40 15 10
Zone	0	0	0	1	0	0	1	
20: 4J 4X 6Y 8P 9A 9M2 9M6 BV BY C6 CE CM CT CT3 CU DL DU EA EA6 EA8 EA9 EI ER ES EU EX EY F FM G GD GI GJ GM GW HA HB HC HC8 HI HK HL I IS J6 JA K KH2 KH6 KL KP2 KP4 LA LU LX LY LZ OA OE OH OK OM ON OZ P4 PA PJ2 PJ4 PJ5 PJ7 PY S5 SM SP SV TG TI UA UA2 UA9 UK UN UR VE VK VU XE YB YL YO YU YV Z3 ZA ZF ZL ZS								Mult needs for G4AMT 160 80 40 15 10
								G 38° 0348z/2016z
20CW	30-May-24	22:28	1	G4AMT	599	599	14	G 14 3
20CW	30-May-24	22:29	2					INSERT
14025.0 kHz								
Rig 1	24 WPM		This hr = 1			Rate = 7		
ENTER a callsign. SPACE for dupecheck. Alt-H for help.								
No calls found								
F1/2-CQ F3-Ex F4-73 F5-Call F6-DECall F7-Wkdb4 F8-Agn F9-? F10-Keybaord CW								



# Comparison

Feature	TRLog Linux	Windows Loggers
Information Display	Single window	Multiple user windows (typ)
Set-up/Configuration	LOGCFG.DAT text file	Various point-and-click config GUIs, pref. menus
User Input	Keyboard only	Keyboard and Mouse
Platform Requirements	Any Linux capatible arch.	Intel x86
Support resources	User forum, legacy DOS user doc. plus Linux update	Wikis, large user forums, updated user docs,email, auto updates, extensive web sites



# Advanced Features

- Rig control (Elecraft, Yeasu, Icom built-in)
- Rotator control (DCU1 and Yeasu protocols)
- Realtime Score Reporting
- Digital Voice Keyer (DVK) support
- K1EL WinKeyer support
- Contest simulator
- Multi-station network support
- SO2R (Two-Radio) Support
- 2BSIQ mode
- RTTY Support (MFJ-1278 TNC, others configurable)
- Telnet Packet spotting
- Bandmap



# Supported Contests

All Asian, All JA, AP Sprint, ARI, ARCI, ARRL 10, ARRL 160, ARRL DX, ARRL RTTY Roundup, ARRL VHF QSO, ARRL VHF SS, Baltic, Cal QSO Party, County Hunter, Croatian, CQ 160, CQ M, CQ VHF, CQ WPX, CQ WPX RTTY, CQ WW, CQ WW RTTY, European HFC, European Sprint, European VHF, Field Day, FISTS, Florida QSO Party, Grid Loc, HA DX, Helvetia, IARU, Internet Sprint, IOTA, JA International DX, KCJ, KVP, Kids Day, Mich QSO Party, MN QSO Party, NA QSO, New England QSO, NRAU Baltic, NZ Field Day, Oceania, Ohio QSO Party, OK DX, PACC, QCWA, QCWA Golden, RAC, Region One Field Day, ROPOCO, Russian DX, SAC, Salmon Run, South American WW, SP DX, Sprint, Stew Perry, Sweepstakes, Ten Ten, TOEC, Texas QSO Party, UBA, Ukranian, WAG, WAE, Wisconsin QSO Party, WRTC, World Wide Locator, XMAS, YO DX



# Installation Options

- Binary Distribution (V 0.60 released 20 June 2024)
  - 64-bit for Intel processors
  - Ubuntu-based
  - Compatible with Mint and other Ubuntu derivatives
- Compile from Source
  - Files hosted on [github.com](https://github.com)
  - Verify needed libraries, header files on your machine
  - Requires C and Pascal compilers



# Set-Up X-Terminal Session

- Requires single xterm window
- Designed to look and function like DOS version
- Two window sizes
  - DosTerm, 80 columns x 25 rows
  - BigDosTerm, 80 columns x 50 rows



# Configure

- Guided Set-Up
  - Upon start-up TRLog will step you through setting up a new contest
  - Initializes necessary parameters for quick start
- Manual Set-Up
  - Create/edit LOGCFG.DAT file
  - Extensive set of configuration commands available (100+)
  - Tailor TRLog for specific behavior





# Example LOGCFG.DAT

```
MY CALL = W0ZW  
MY SECTION = NM  
MY FD CLASS = 1B  
CONTEST = FIELD DAY  
DISPLAY MODE = COLOR  
SIMULATOR ENABLE = FALSE  
SOUNDCARD DEVICE = hw:0,0  
CODE SPEED = 20  
CW SPEED INCREMENT = 2  
RADIO ONE TYPE = K2  
RADIO ONE CONTROL PORT = SERIAL /dev/ttyUSB0  
RADIO ONE BAUD RATE = 4800  
WINKEYER PORT = SERIAL /dev/ttyUSB1  
SHIFT KEY ENABLE = FALSE
```



# Edit LOGCFG Values On-The-Fly

```
w@pluto: ~/TRlog/contests/FD2023
11330 Pts                2024 Field Day W0ZW                Mem = A Lot
QTC EXTRA SPACE = TRUE      Add extra spaces when sending QTCs
QTC QRS = TRUE              QRS when sending QTCs
QUESTION MARK CHAR = ?      Keyboard character used for ?
RADIO ONE ID CHARACTER =     Char appended to QS0 number for rig 1
RADIO ONE TRACKING ENABLE = TRUE  Radio 1 band/mode tracking enabled
RADIO ONE UPDATE SECONDS = 0     Normal operation
RADIO ONE CW REVERSE = FALSE    Radio 1 use normal cw
RADIO TWO ID CHARACTER =     Char appended to QS0 number for rig 2
RADIO TWO TRACKING ENABLE = TRUE  Radio 2 band/mode tracking enabled
RADIO TWO UPDATE SECONDS = 0     Normal operation
RADIO TWO CW REVERSE = FALSE    Radio 2 use normal cw
RANDOM CQ MODE = FALSE         Auto CQ works normally
RATE DISPLAY = QS0s          Rate displays show QS0s
REMAINING MULT DISPLAY MODE = HiLight  Unworked remaining mults highlighted
RADIO ONE RESPONSE TIMEOUT = 0    Response timeout in ms
RADIO TWO RESPONSE TIMEOUT = 0    Response timeout in ms
SAY HI ENABLE = FALSE         Name sending is disabled

80CW 03-Jun-24 16:02 104 [redacted] INSERT

Rig 1 20 WPM This hr = 0 Rate = 0
Arrow/pageup/pagedn keys or 1st letter to select item. RETURN to modify
Alt-W to save to cfg file Alt-G to save all changes to file ESCAPE exits
F1/2-CQ F3-Ex F4-73 F5-Call F6-DECall F7-WkdB4 F8-Agn F9-? F10-Keybaord CW
```



# Linux Considerations

- Run TRLog as a normal user (vs. superuser)
- File names are all Upper Case (as in DOS version)
- Use full Unix I/O device path instead of DOS port nos.
- Need R/W permissions to ports
  - Add username to Group which owns port (e.g., dialout group)
- To access PC speaker use "beep soundcard enable" command



# CQ Mode Example (1 of 2)

```

w0zw@epsilon: ~/trlog/contests/dchf
0 Pts          2024 CQ WW Contest W0ZW          Mem = A Lot
22:28:06  160   80   40   20   15   10   All
-----
QSOs          0     0     0     0     0     0     0
DX Mults      0     0     0     0     0     0     0
Zone          0     0     0     0     0     0     0

20: 4J 4X 6Y 8P 9A 9M2 9M6 BV BY C6 CE CM CT CT3 CU
DL DU EA EA6 EA8 EA9 EI ER ES EU EX EY F FM G GD GI
GJ GM GW HA HB HC HC8 HI HK HL I IS J6 JA K KH2 KH6
KL KP2 KP4 LA LU LX LY LZ OA OE OH OK OM ON OZ P4 PA
PJ2 PJ4 PJ5 PJ7 PY S5 SM SP SV TG TI UA UA2 UA9 UK
UN UR VE VK VU XE YB YL YO YU YV Z3 ZA ZF ZL ZS

G 38° 0348z/2016z
G4AMT

20CW  30-May-24 22:28   1  G4AMT          England
14025.0 kHz
Rig 1   24 WPM   14   This hr = 0   Rate = 0
Enter exchange. Press ENTER to log, ESCAPE to abort QSO.
No calls found
F1-W0ZW F2-EXCH F3-5NN F4-NR RPT   F8-EE F9-AGN
  
```



# CQ Mode Example (2 of 2)

```

w0zw@epsilon: ~/trlog/contests/dchf
-----
6 Pts      2024 CQ WW Contest W0ZW      Mem = A Lot
22:29:05  160    80    40    20    15    10    All
-----
QS0s      0      0      0      1      0      0      1    QS0 needs for G4AMT
DX Mults  0      0      0      1      0      0      1    160 80 40   15 10
Zone      0      0      0      1      0      0      1
-----
20: 4J 4X 6Y 8P 9A 9M2 9M6 BV BY C6 CE CM CT CT3 CU    Mult needs for G4AMT
DL DU EA EA6 EA8 EA9 EI ER ES EU EX EY F FM G GD GI    160 80 40   15 10
GJ GM GW HA HB HC HC8 HI HK HL I IS J6 JA K KH2 KH6
KL KP2 KP4 LA LU LX LY LZ OA OE OH OK OM ON OZ P4 PA
PJ2 PJ4 PJ5 PJ7 PY S5 SM SP SV TG TI UA UA2 UA9 UK
UN UR VE VK VU XE YB YL YO YU YV Z3 ZA ZF ZL ZS      G 38° 0348z/2016z
-----
20CW  30-May-24 22:28    1  G4AMT                599 599 14          G 14    3
20CW  30-May-24 22:29    2  ██████████             INSERT
14025.0 kHz
Rig 1   24 WPM                This hr = 1   Rate = 7
ENTER a callsign. SPACE for dupecheck. Alt-H for help.
No calls found
F1/2-CQ F3-Ex F4-73 F5-Call F6-DECall F7-Wkdb4 F8-Agn F9-? F10-Keybaord CW
  
```



# Alt-H for Help

```
w0zw@epsilon: ~/trlog/contests/dchf
24 Pts      2024 CQ WW Contest W0ZW      Mem = A Lot
22:14:02 Alarm set      Alt-P - Pgrm CW mem      Ctrl-B - Talk to packet TNC
Alt-B - Band up      Alt-Q - Auto CQ setup    Ctrl-J - LOGCFG value edit
Alt-C - Auto CQ resume Alt-R - Radio toggle     Ctrl-K - Clear dupesheet
Alt-D - Dupecheck    Alt-S - Set CW speed     Ctrl-L - LOG.DAT file view
Alt-E - Edit QS0s    Alt-T - Time/date set    Ctrl-N - Note entry into log
Alt-F - Floppy save  Alt-U - Flush edit log   Ctrl-O - Missing mult report
Alt-G - Swap mults   Alt-V - Band down        Ctrl-P - Possible call redo
Alt-H - Help menu    Alt-W - Wake up reset    Ctrl-Q - QTC functions
Alt-I - Inc rcvd #   Alt-X - Exit program     Ctrl-R - Last erased call
Alt-J - Mult bell    Alt-Y - Delete last QS0  Ctrl-U - Last 10 packet spots
Alt-K - Kill CW      Alt-Z - Redo initial ex  Ctrl-V - Execute config file
Alt-L - Log search   Alt-= - CW tone/Backcopy Ctrl-Y - Retime band map call
Alt-M - SSB/CW Mode  Alt-- - AutoSend toggle  Ctrl-- - 2 radio dualing CQs
Alt-N - XMIT freq    Alt-1 - Increment time   Ctrl-Ent Same as RET w/o msg
Alt-O - Add reminder " - Send multi message   ` - Send spot to packet.
SPACE BAR - Check if dupe or if no call, go into S&P and send call
Press the key you want more information for or ESCAPE to exit help:

20CW  22-Aug-24 22:14  3  ██████████  INSERT

Rig 1  24 WPM  This hr = 0  Rate = 0
ENTER a callsign. SPACE for dupecheck. Alt-H for help.

F1/2-CQ F3-Ex F4-73 F5-Call F6-DECall F7-WkdB4 F8-Agn F9-? F10-Keybaord CW
```



# Post-Contest Operations

- POST – a program for after-contest log operations
- Check for duplicates
- Generate rate sheet
- Generate Cabrillo file
- Generate ADIF file
- Generate QSL labels
- Other interesting and useful functions



# POST Initial Screen

```
w@pluto: ~/TRlog
TR POST CONTEST PROGRAM Version Linux 0.59

Welcome to the TR Post Contest Program. You will find many procedures and
utilities here to help you after the contest. There are a number of procedures
under the Log procedures menu. These will perform various things to your log
file. The QSL procedures menu has everything you need to support QSLing. The
Report procedures menu has a number of different reports that can be generated
and finally the Utility procedures menu has a number of little programs to make
your life easier. To get more information on any of these, go into the desired
menu and execute the procedure you are interested in. An explanation of the
procedure will be displayed and you will always be able to exit the procedure
before actually doing anything (use ESCAPE or RETURN with no input).

Free memory = 2147483647

F - Change active log filename (active logfile = LOG.DAT).
C - Create Cabrillo File.
L - Log procedures menu.
P - Post contest log processor (steps you through most everything).
Q - QSL procedures menu.
R - Report procedures menu.
U - Utility procedures menu.
X - Exit program.

Enter command : █
```





# POST Utility Menu

```
w@pluto: ~/TRlog
UTILITY PROGRAM MENU

A - Append program (append LOG.DAT to history files).
B - ADIF file to TR Log file convert.
C - Check country and zone for specified callsign.
D - Date/time change for a log.
E - Edit TRMASTER.ASC file (menu).
F - ADIF convert tool.
G - Global log search (list of calls not in a log.
H - Get beam headings and distance between grids.
L - Convert Cabrillo Log to TR Log.
M - Merge Cabrillo files into single file.
N - NameEdit (old NAMES.CMQ database editor).
Q - NAQP exchange checker
S - Show contents of RESTART.BIN file.
T - Transmitter ID assign by band for Cabrillo.
Y - Download new country file.
X - Exit utility program menu.

Enter command : █
```



# User Observations

- No fancy windows, icons, graphics
- Info common to most contest loggers is all there
- Read the manual (278 pgs.)
- Requires experimentation with the various commands
- Doesn't disappoint in the heat of the battle
- Allows focus on the contest, not the contest software



# Summary

- TRLog is a simple and compact, yet surprisingly powerful, contest logger.
- Viable contest logger for the Linux shack computer or for making the switch to Linux.
- Requires a comfort level with Linux administration (not plug and play).



# Additional Resources

- N6TR TRLog website: <https://www.trlog.com/>
- W9CF TRLinux website: <https://www.kkn.net/trlinux/>
- Github TRLog Linux page: <https://github.com/trlinux>
- TRLog mailing list: [http://lists.contesting.com/\\_trlog/](http://lists.contesting.com/_trlog/)



# Acknowledgements

I wish to thank Larry "Tree" Tyree, N6TR, for kindly reviewing this presentation for accuracy and for his unique insights.

I also wish to thank Kevin Schmidt, W9CF, without whom TRLog Linux would not exist.



# Questions

