

SD by EI5DI - Free HF Contest Logger

SD is fast, simple and effective. It is written for contesters, not for IT specialists. The logs are standard text files that look like Cabrillo. No binary files or proprietary databases are used.

SD is different! It combines the power and capacity of Windows with the efficiency and visibility of a character-based user interface – function takes precedence over appearance. SD supports CW and SSB operation in single-op unassisted entries. It does not support networking.

SD is comprehensive! It supports all major HF international contests, the FOC Marathon, QSO Parties, and hundreds of others events worldwide – with over 270 templates supplied.

The screenshot shows the SD contest logger interface with several data panels:

- ARRL DX CW - DX side:**

Band	10	15	20	40	80	160	All
QSOs	12	217	35	.	.	.	264
Dupes
Mults	8	48	18	.	.	.	74
v19.00	States 50		Score 58608				
- States - 20m:**

AL	AR	AZ	CA	CO	ct	DC	de	FL	ga
IA	ID	IL	in	ks	KY	LA	ma	md	ME
MI	MN	MO	MS	MT	nc	ND	NE	nh	nj
NM	NV	ny	oh	OK	OR	pa	ri	sc	SD
TN	TX	UT	va	vt	WA	WI	WV	WY	
AB	BC	LB	MB	NB	NF	NS	NT	NU	on
PE	QC	SK	YT						

worked 18 Need 45
- 31 Dec 2016 - 15:26:05 - EI5DI**
06:44
- Band Time QSO Call RST State**

20m	19:15	259	W1VE	599	VT
20m	19:16	260	K1KI	599	CT
20m	19:17	261	WA1Z	599	NH
20m	19:17	262	N3RS	599	PA
20m	19:18	263	N2NT	599	NJ
20m	19:18	264	K3ZO	599	MD
20m	15:26	265		

OVR 40 CW
- QSOs per hour:**

Last 10	-	0.0
Last 100	-	0.0
Overall	-	39.2
QSOs/Mult		3.6
- Enter HELP to get help**
SD by EI5DI

- Single keystrokes for all logging and editing functions.
- Real-time duping, and prefix-checking, as you type callsign characters.
- Permits any combination of real-time or post-contest logging.
- Supports WinKey and rig control.
- Combines ASCII (plain text) logs with real-time editing of *any* QSO.
- Shows multiplier status and bearing/distance display, as prefixes are typed.
- Runs on Windows, Linux with Wine, and Raspberry Pi with Exagear & Wine.
- Provides an audit trail of QSOs logged and edited.

This manual has 17 pages: Help stamp out bloatware – use SD.

If you read only one page, read Page 17 – the **Feature Summary**.

Index - by Page:

Notice:	3
File Extensions in Windows:	3
Introduction:	3
Installing SD	3
Getting Started	3
Running SD	4
UTC	4
Logging QSOs	4
Operating Time	5
Changing Band and Mode	5
Comms Parameters	5
Rig Control	6
CW Keying & WinKey	6
Keyboard Mode - CW	7
CW & WinKey Commands	7
ESM - Enter Sends Message - CW	7
ESM - Run Mode	7
ESM - S&P Mode	7
CW Memories - Initial Contents	8
Help	8
Serials Sent	8
Variable RST Sent	9
Editing QSO Fields	9
Data Entry Modes	9
AutoInsert	9
Dupes	9
Search & Pounce	10
DXpeditions & Special Events	10
Super Check Partial (SCP)	10
Keyboard ASCII Character Mapping	10
Skeds & Reminders	11
Band Map	11
Multipliers	11
Navigate the Log	11
Editing Previously Logged QSOs	12
Voice Keyer	12
ESM - Enter Sends Message – SSB	12
Edit Band or Mode on logged QSOs	12
QSO Rate Meter	12
Call History Files	12
Leaving SD	13
Backups	13
Colours	13
IOTA Contest	13
After the Contest - SDCHECK	13
Initialisation Files SD.INI	14
Program & Reference Files	15
Editing the .ALL Files	15
Template Files	15
Template Parameters	15
FAQs	15
Contests Supported	16
CW Demos - impress your Friends	16
Linux & Raspberry Pi	16
Feature Summary	17

Index - Alphabetic:

After the Contest - SDCHECK	13
AutoInsert	9
Backups	13
Band Map	11
Call History Files	12
Changing Band and Mode	5
Colours	13
Comms Parameters	5
Contests Supported	16
CW Demos - impress your Friends	16
CW Keying & WinKey	6
CW & WinKey Commands	7
CW Memories - Initial Contents	8
Data Entry Modes	9
Dupes	9
DXpeditions & Special Events	10
Edit Band or Mode on logged QSOs	12
Editing your .ALL Files	15
Editing Previously Logged QSOs	12
Editing QSO Fields	9
ESM - Enter Sends Message - CW	7
ESM - Enter Sends Message – SSB	12
ESM - Run Mode	7
ESM - S&P Mode	7
FAQs	15
Feature Summary	17
File Extensions in Windows	3
Getting Started	3
Help	8
Initialisation File SD.INI	14
Installing SD:	3
Introduction:	3
IOTA Contest	13
Keyboard ASCII Character Mapping	10
Keyboard Mode - CW	7
Leaving SD	13
Linux & Raspberry Pi	16
Logging QSOs	4
Multipliers	11
Navigate the Log	11
Notice:	3
Operating Time	5
Program & Reference Files	15
QSO Rate Meter	12
Rig Control	6
Running SD	4
Search & Pounce	10
Serials Sent	8
Skeds & Reminders	11
Super Check Partial (SCP)	10
Template Files	15
Template Parameters	16
UTC	4
Variable RST Sent	9
Voice Keyer	12

NOTICE

Anyone can use SD but, to be effective, you need to have a general understanding of the Windows file system. In particular, you should be able to find, copy, rename, view, edit and delete text files, to attach files to emails, and to save files attached to incoming emails. Otherwise, you may be dependent on someone else.

SD runs equally well on Linux, with Wine/Wineconsole, and even on a Raspberry Pi 3 with Wine and Exagear (from eltechs.com).

FILE EXTENSIONS in WINDOWS

It is recommended to have all file extensions displayed – as Windows hides common extensions by default. After installation, look for the program file SD.EXE in your C:\SD folder. If the .EXE extension is not visible, you need to change a Windows parameter. For Windows 10, it's simple - select the View tab in Windows Explorer, then tick the "File name extensions" option. For older versions of Windows, try a Google search with the words **show file extensions**. When file extensions are not shown, you will have difficulty finding some of your SD program and data files. This is a Windows issue, unrelated to SD.

INTRODUCTION

SD is a Windows program operating in text (console) mode, and is intended for single-operator unassisted entries.

All relevant information is displayed as you type callsign prefixes, with no need to touch another key. In contests with multipliers, you get an instant multiplier summary below the callsign.

SD.INI, a configuration file, is created the first time you run SD, and is updated as you select options while logging.

SD runs on Linux, under Wine/Wineconsole and on the Raspberry Pi 3 under Wine/Wineconsole and Exagear – from eltechs.com.

INSTALLING SD

Installation is fast and simple. With Windows 10, when you click the [download link](#) at ei5di.com, a small window appears with the heading "What do you want to do with sdsetup.exe?". Select "Run", if available, or "Save" (and then "Run" when sdsetup.exe has been downloaded). Please ignore any warning messages – SD will not harm your computer! Next, accept all the installation defaults. Note: **Do not change the default folder** C:\SD without good reason – it is where **all** your program and reference files are held. There is no need to remove previous versions of SD; your contest logs will not be affected.

GETTING STARTED.

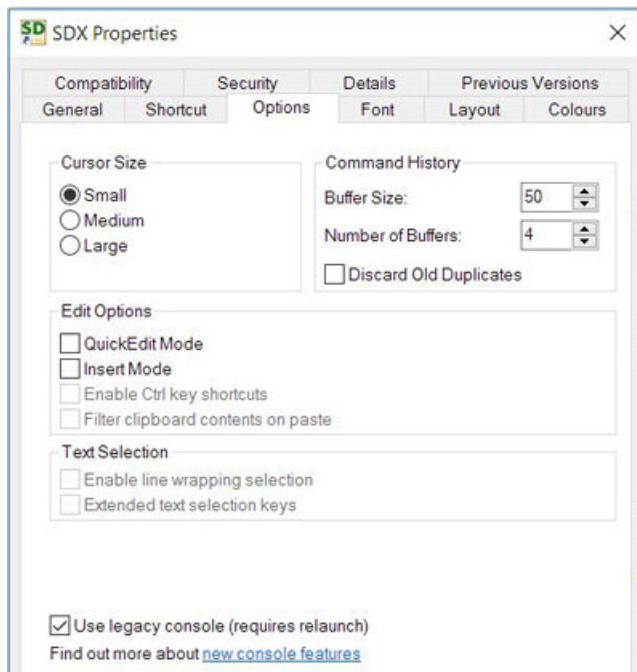
SD's window is character-based, and its dimensions are defined in terms of the number of rows (27) and the number of columns (82). The size of its window depends solely on the font size you select - a larger font size gives a larger window.

Each time you install or update SD, apply the following Properties parameters for both SD and SDCHECK. Otherwise, the display may be corrupt.

To apply the parameters, right-click SD's desktop start-up icon and select Properties (the last item on the list). The only tabs of interest are Options, Layout and Font - in that sequence

Follow these Options and Layout examples exactly.

OPTIONS Tab:



IMPORTANT! Follow this sequence -

Use legacy console - Yes (selected)

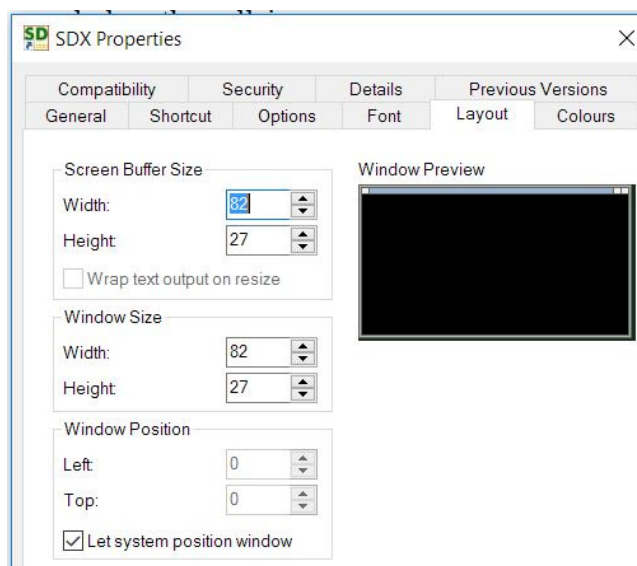
Cursor Size - may be ignored

Command History - may be ignored

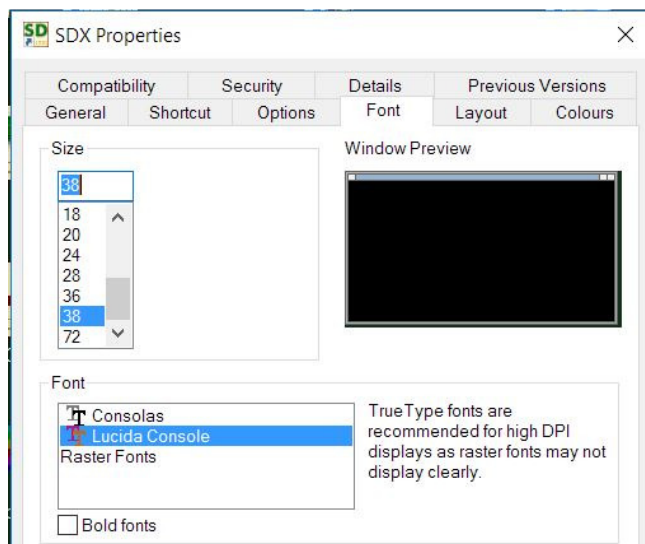
Edit options - All unselected

Text Selection - **all unselected** (no line wrapping)

LAYOUT Tab:



FONT Tab



DO NOT select the Raster Fonts option!

Widescreen monitors (16:9) - select **Lucida Console**
Older monitors (4:3) - try **Consolas**.

Note that Windows 10 offers additional font options;
Courier New is worth trying.

Bold fonts

No

Size

Select the largest font size that fits SD's window
within your screen, or smaller if preferred.

With SD's expanded screen layout (refer to the EXPAND command on Page 10), the Properties Height parameter should be set to 36, not 27. Finally, the Font Size should be reduced to make SD's window fit your screen.

RUNNING SD.

When you start SD it expects a contest (file) name, and defaults to the one you used most recently. If you don't want to reload this log, use Esc to clear the field. If you leave it blank, or enter L, SD displays your contest logs in alphabetic sequence. D, followed by Enter, lists your logs in date sequence - most recent files first. Use the arrow keys to select one, then Enter to reload it, or Z (short for Zap) to delete it. Page Down takes you to the next page of log names. Zap is handy for deleting test files you no longer need - but be careful not to delete those you do need! Esc takes you back.

Contest file names may be any combination of alphabetic and numeric characters, and internal spaces, up to a total of twenty-four. Other characters are ignored. When naming new logs, it help to include the year or date in the names of all logs. If you're just testing the contest options, start the contest file name with TEST - that way you'll not mistake them for "live" logs.

When you enter a new file name, SD lists all contests supported, and you select the one you want. Use the arrow keys, then Enter, to select a contest. Take care not to accidentally select the wrong option. Page Down takes you to the second and third page of options. If you press Enter

when the Contest File field is empty, the .ALL files in your SD folder are listed, and any one may be selected.

When given the name of an existing contest file, SD reloads and re-scores it, and takes you directly to the logging screen. When you run SD for the first time, you should enter your name and address for storage in SD.INI, the initialisation file. Parameters for the remaining fields are taken from whatever template you've chosen, and are shown for information only - they should not be changed. If you do need to change any field on this screen, answer "N" to the "Continue?" question, otherwise Enter takes you to the logging screen.

When asked for mode in a mixed-mode event, choose your initial mode - it may be changed at any time while logging. The band is determined by your radio when rig control is enabled. Otherwise, it's whatever band you last used (stored as SD_BAND in SD.INI). The default is 80m when there is no entry in SD.INI. If you don't have rig control, use any appropriate band change command - try the HELP command or see the "Changing Band or Mode" section, or SD's Feature Summary (the last page of this manual).

SD is optimised for real-time logging, although post-event logging is supported. To switch, use the commands REAL and POST (for real-time and post-contest). With post-contest mode, you're asked for the appropriate date - this **must** be entered as 8 characters in the format DD-MM-YY. Don't worry about having to change the date for later QSOs. Once you enter an "earlier" time for the next QSO, SD asks for the new date.

The commands listed in the Feature Summary apply only to the callsign field on the QSO logging screen. They don't work in the callsign field on the opening screen - the one with your name and address.

UTC.

SD displays UTC, and the corresponding date, at all times - **but only when your PC is set to your correct local time and time zone** - using Windows Control Panel.

LOGGING QSOs.

For most contest QSOs, you record only the callsign and district code or serial (the exchange) received. When logging or editing serials, there's no need to include leading zeros - SD takes care of them for you. A received report of 59(9) is assumed, but can be easily changed.

As you type callsign prefixes, the corresponding countries and zones are identified, and you know instantly whether the QSO will be a multiplier, or a double multiplier - with no need to press Enter, Space or any other key. When only certain countries can be worked for points, other-country callsigns and prefixes turn black as you type them.

Beam headings and distance are shown as you type callsign prefixes, except for own-country calls. Distances are in kilometres. If you prefer miles, change the SD_DISTUNIT record in SD.INI to M rather than K. **Reminder:** SD.INI is created only after you run SD for the first time.

SD takes your own latitude and longitude from your country record on the DXCC.CTY file, converts them to a six-character locator and stores it in SD.INI with the description SD_LCTR. You're free to edit your locator to

increase the accuracy of SD's beam headings and distance calculations.

With SCP (Super Check Partial) enabled – SD's default setting – the callsign colour changes to yellow for a match with any full call displayed in the SCP window. This way, and without moving your eyes from the callsign field, you can be confident that the call you're logging is valid.

While logging, press Enter (Return) after **every** field unless you do not want to complete (log) the QSO. Each QSO will be logged, following an Enter, only when all required data fields are present. Note that "present" is not necessarily the same as "correct". Use Tab to move between fields without logging the QSO.

To edit any QSO, use Up-Arrow and then tab across to any field to be changed – followed by Enter to log the changes. If you happen to log a QSO by mistake, use the ZAP command to delete it. This command works only on the most recent QSO in your log. To delete earlier QSOs, add /ZAP or just /Z to the callsign. This marks the QSO for deletion, and it will disappear the next time you start SD. Note: ZAP may not work for all contests – test it first to avoid surprises.

In contests with serials, Enter takes you directly to the Serial field after entering the callsign. Type 0 (zero) to record no serial – it will appear as blank, or spaces, in your final log. If you need to edit RST Received, press Enter in the **empty** Serial field to get back to the RST field. When you've edited the RST, a further Enter returns you to Serial. By pressing Enter, SD takes you to all QSO fields in the correct sequence – even for those rare occasions when you choose to edit RST Received.

To summarise, press Enter after each field, but use TAB or Right Arrow to move around the QSO fields without logging. The QSO will be logged following Enter, but only when all fields are valid.

In contests where you log serials and district codes, you have the option of entering both values in the "Serial" field. For example, enter 6AB to see 006 AB in their respective fields.

When logging, use quotes " to repeat the callsign from the previous QSO – for example, after moving a multiplier station to another band or mode, or working a "rover" on a county boundary.

As each QSO is logged, you'll see an analysis, by continent, of countries worked and needed on the current band and mode. Use F4 or F5, with Caps Lock Off, to see countries for other continents and bands. Minus restores the Summary Score at any time. **Tip:** Any time you get into trouble, Minus is a good option.

In contests where zones or other fixed district codes are logged, SD pre-fills the field based on what was logged previously, or on the default value (the zone) for the callsign. You are free to overwrite whatever is received. If you enter a different value for a station already logged, all QSOs with that station will be updated accordingly, and mults flagged or unflagged as appropriate on all relevant QSOs on all bands, whether with that station or any other. No other contest logger does this.

If you prefer to do things the "hard" way, with no pre-fills, use the NOFILL command. The FILL command restores pre-fills. SD's default at startup is FILL.

OPERATING TIME.

Your cumulative operating time is shown under the date and time bar. Time starts when the first QSO is logged. Gaps between QSOs of 60 minutes or longer are ignored. Following such gaps, timings starts again from the next QSO logged.

Seconds are ignored in calculating operating time. A QSO logged at 12:00:59 is considered to have been logged at 12:00:00.

The SHOWTIME command toggles the display of operating time. The display reverts to On each time SD is started.

CHANGING BAND AND MODE.

Without rig control, the simplest way to change band is to enter an appropriate frequency (integral kHz) directly. In general, your rig will go to the last used frequency on that band. Note that the frequency logged, and shown in Cabrillo logs, will be the lower band edge frequency.

SD links to most radios to synchronise band and mode, and to keep you logging on the correct band and mode. F11 and F12 change bands corresponding to the band sequence (left or right) in the Score window. In this context, there is no "up" or "down", as it depends on whether you think of bands in term or metres or frequency – "up" for one is "down" for the other. If you prefer, Alt-F1 and Alt-F2 change bands in the same way.

F11 and F12 work this way only when all QSO fields, apart from RST, are empty. Otherwise, their alternative functions are unchanged. F11 deletes (wipes) an unlogged QSO without updating the Band Map. F12 silently logs a QSO when ESM (Enter Sends Message) is enabled – in contrast to Enter which also plays the corresponding ESM message

In mixed-mode events, use the **C** (CW) or **S** (SSB) commands to change mode.

With rig control, you can QSY by entering the frequency in the callsign field. The appropriate mode is automatically selected (CW, LSB, USB). Your original "run" frequency is stored in the Band Map and you can restore it by pressing F10 twice. This is useful for returning to your run frequency after moving a multiplier.

If you prefer, you can move directly to any band – the B40 command takes you to 40m, B20 to 20m etc. These command work with or without rig control.

To reverse the sideband, on either SSB or CW, use the **X** (eXchange) command. Why should anyone worry about reverse sideband on CW? There are two reasons. The first is to reduce QRM (this may not always work), and the second is for consistency with regard to whether you're tuning up or down the band. On CW, I prefer to tune towards zero beat, not away from it.

COMMS PARAMETERS.

Use the PORTS or SET(UP) or CON(FIG) commands to define ports for rig control and/or keying. Separate ports are required for each - they may not be shared.

CW Port – internal or WinKey.

- 0 Disables CW.
- 1 – 48 Assigns COM1 – COM48
- 51– 54 Assigns LPT1 – LPT4 (not WinKey)

Rig Control Port

- 0 Disables rig control
- 1 – 48 Assigns COM1 – COM48
Printer ports cannot be used

Model

- Enter (leave blank) to list supported rigs.
- Enter NONE to clear the previous model.

If you enter a COM port number and get the message “No COMx on this computer”, it means that SD cannot see that port number - it may be held by another program. You can verify your computer’s port numbers using Windows Device Manager - select Ports (COM & LPT).

When rig-control is active, SD, by default, asserts DTR and RTS on the corresponding port, and either of these may be used to power external level converters for rig control. The SETUP or CONFIG commands let you toggle DTR and/or RTS.

RIG CONTROL

The following default rig-control parameters apply the first time you run SD. They are held in SD.INI and stay in effect until you change them.

- Bits per second: 4800
- Data bits: 8
- Stop bits: 2
- Parity: N (None)

Use the SETUP or CONFIG commands to edit your rig-control parameters. Remember that your rig must be set up to match all of them. **Use the highest BPS value your rig supports.**

Again, the STATUS command displays your settings.

The LINK command toggles rig-control On and Off - this can be useful when you need to temporarily break the link.

With rig control enabled, your frequency (to 10Hz) is held in each QSO record, and in Cabrillo or ADIF logs (1 kHz) created by SDCHECK.

CW KEYING & WinKey.

CW keying defaults to SD’s internal keyer. With an external WinKey or microHAM keyer, use the SETUP or CONFIG commands to enable WinKey, or to revert to SD's internal keying. The default is internal keying, corresponding to WINKEY=0 in your SD.INI file.

WinKey (www.hamcrafters.com) is **recommended**, because it guarantees smooth CW from all PCs, and connects to the PC with a standard USB Cable. WinKey lets you change speed with a pot, even while sending a message, and is fully integrated with the paddles – just touch either paddle to interrupt WinKey, and then continue manually at the same speed. The output of WinKey connects directly to your rig, no level converter of any kind is required.

The Flex 6000 series rigs support WinKey emulation - open SmartSDR CAT, create a new port with Winkeyer as the Port Protocol and save your settings.

microHAM Notice: For microHAM units with an internal WinKey chip, use microHAM's USB Device Router software to create a virtual USB port (any number of your choice, for example COM9). Then use SD's SETUP or CONFIG commands to assign that port for keying. Note that the microHAM device router software ignores WinKey control commands issued by SD - you must select your parameters with microHAM’s device router.

The WKPOT command lets you choose between control of WinKey’s speed with its internal pot, or with the keyboard. The default is P (Pot) – corresponding to SD_WKPOT=1 in SD.INI.

Internal keying and PTT are supported via both parallel and serial ports. If you already have leads which work with other contest loggers, they're likely to work with SD. Note that PTT is a CW feature and is unrelated to rig-control, regardless of whether a PTT connection is made to the rig. SD's PTT control is an alternative to any integrated PTT function on your rig - you may not need it. The STATUS command displays your keying and rig-control ports configuration.

Serial Keying: (for internal keying only - not applicable to WinKey). You'll need any general-purpose small signal NPN transistor, such as 2N2222, BC182A or BC317, and a 2k resistor. They should fit inside the cover of your 9 or 25-pin D connector to the computer. Data Terminal Ready (DTR) is pin 20 on a 25-pin connector, or pin 4 on a 9-pin connector. Signal Ground is pin 7 on a 25-pin connector, or pin 5 on a 9-pin connector.

Signal ground connects to ground on the transmitter key input. The 2k resistor goes between the base of the transistor and DTR. The emitter goes directly to signal ground, and the collector goes to the positive side of the transmitter key input. A PTT signal is available from RTS. That’s pin 4 on a 25-pin connector, and pin 7 on a 9-pin connector.

Parallel Keying: (for internal keying, and only for older PCs with a parallel port - not applicable to WinKey). The standard parallel interface is a 25-pin female D connector. Again, use an NPN transistor and a 2k resistor. Connect the resistor between Pin 17 and the base of the transistor. Connect Pin 1 to the emitter. Connect the collector to the positive side of the transmitter key input, and Pin 18 is the keyer return (Earth/Ground). A PTT signal is permanently available from Pin 16. To use it, you'll need another 2k resistor and NPN transistor. The resistor goes between Pin 16 and base. Connect Pin 1 to the emitter, and the collector to PTT input. Pin 25 is the PTT return (Earth). (Note: Pins 18-25 on the parallel port are all Earth).

SD's internal keying works perfectly well most of the times, but you can't always depend on it because of Windows background activities on individual PCs. WinKey is preferred, because it eliminates the possibility of CW timing errors caused by Windows.

On some computers, when you start your computer with a serial cable connected, DTR may be set to ON which will key your rig. Once you use the keyer from within SD, DTR will be set to OFF.

Remote Band-Switching signals are available from the parallel port (if present on your PC). You'll need the same

cables and control circuits that are standard with other contest loggers.

	Pin 9	Pin 8	Pin 7	Pin 2
160m	0	0	0	1
80m	0	0	1	0
40m	0	0	1	1
20m	0	1	0	1
15m	0	1	1	1
10m	1	0	0	1

Pin 14 is set high when Rig 2 is active – otherwise, it's low.

KEYBOARD MODE (CW).

Switch to keyboard mode with Ctrl (Alt-K may be necessary for old versions of Windows). A quick tap of Ctrl is all that's needed – it does **not** work when you press Ctrl for any length of time. Note: - keyboard mode does not work unless a CW port has been enabled. Use Esc, Minus or Enter to return to logging mode. You must be in keyboard mode to change the weight. Right-Arrow to increase, Left-Arrow to reduce, and Home to restore it to 50%.

Page Up and Page Down change your CW speed at any time. With WinKey, by default, the speed pot controls your speed.

SD provides eight CW memories and three methods of using them. With Caps Lock ON, F1 to F8 play the memories. The only disadvantage is that you must have Caps Lock OFF to get the standard F1 to F8 functions. You'll know Caps Lock is ON when the symbol ^ is visible to the left of the Callsign field. Esc instantly stops playback of any CW memory. With WinKey, you have the option of touching either paddle to do the same.

The numeric keypad (with Num Lock OFF) gives another memory playback option.. It has the advantage of giving continuous access to the keyer *and* all the function key options.

With internal keying, SD performs an automatic CW speed calibration each time it starts. If the speed seems to be incorrect, use the CALIBRATE command to reset it. Calibration takes place only when your selected keyer port is non-zero. WinKey does not need to be calibrated.

The T(UNE) command enables continuous keying as soon as you press Enter. Once you've started tuning, you can toggle it On and Off using only the Enter key. Use Esc or Minus to clear the callsign field when you've finished.

CW & WinKey COMMANDS (In the Callsign field)

CAL (IBRATE)	Calibrates internal keyer – not WinKey.
SETUP or CONFIG	Configure CW & rig-control ports.
CQTIMER / CQT	Sets CQ interval in seconds : 0=Off.
CWSTART / START	Select start character for F2 auto playback.
CWZERO	Select CW zero - Ø, T or O.
PTTON	Enables PTT.
PTTOFF	Disables PTT.
PTTLEAD	Set PTT lead delay, 0 – 250 ms.
PTTTAIL	Set WinKey PTT lead delay, 0 – 250 ms.
SIDETONE	Toggles WinKey's Sidetone – not for WK1 .
SWAP	WinKey – reverses paddles.
TUNE	CW key down.
WKPOT	Control speed with the Pot or the Keyboard.
WKCOMP	Adds a fixed amount to all dots & dashes.
WKEXTN	Adds a fixed amount to the first dot or dash.
AUTOSPACE	WinKey – toggles AutoSpace support
MINWPM	WinKey – sets minimum WPM.
WPMRANGE	WinKey – sets WPM range.
Esc	Stops memory playback.

ESM – ENTER SENDS MESSAGE – CW.

To use ESM, you must have configured a CW port using the SETUP or CONFIG commands. Hint: your WPM is shown only when a CW port has been enabled.

ESM lets you log CW QSOs, and send the “correct” CW messages at all times without the need to “play” function key memories. Alt-M, or the Apostrophe key, toggles ESM On **and** Off, and Alt-R or Alt-S or the Grave Accent key, above Tab, toggles between RUN and S&P modes.

In RUN mode, other stations are calling you. In S&P mode, you're calling other stations. You just have to be aware of which mode you're in (not too difficult), and toggle the mode as necessary.

At all times SD displays your ESM mode, together with the message it will send after the next Enter.

ESM - RUN mode:

Enter in an empty Callsign field plays your F1 message, (TEST or CQ). To repeat your CQ (F1) message at fixed intervals, use the CQTIMER or CQT command. This sets the CQ interval in seconds. Auto-repeat works only in RUN mode, and stops with Esc or when anything is typed in the callsign field. A value of zero disables repeats.

Enter, after a callsign (minimum 3 characters) plays your F2 message (callsign + exchange). Your F2 message should end with the #E (Enter) parameter. Callsign type-ahead is supported. For example, W3L Enter PL sends W3LPL followed by the exchange.

To leave the callsign field without playing a memory, use TAB.

With ESM enabled, a duplicate callsign followed by Enter plays the F4 message. If you're happy to log dupes, make your F4 message the same as your F2 message - using Shift_F4. Otherwise, set F4 to your dupe message (with #E as the last parameter).

When the QSO is logged, F3 (TU MyCall) plays – but only if you previously used Enter (not Tab) to leave the Callsign field. If you change a callsign before logging the QSO, the new callsign is added to your F3 message to confirm the correction to the other station.

If you want to log a qso (while ESM is enabled), but not play the keyer, use F12 instead of Enter.

With ESM enabled, you have the option of starting the F2 (exchange) message automatically after a given number of callsign characters – you then complete the callsign while the exchange is being sent. Use CWSTART (or START) to select the starting character – 4 is a good initial option. The status line, under the callsign, then shows RUX instead of RUN – where X represents your chosen starting character.

ESM - S&P mode:

Enter, in the callsign field, plays F5 (MyCall) and, if a callsign is present, takes you to next field – Serial or District.

If the next (exchange) field is empty, Enter again sends MyCall, otherwise it send the exchange (F6) and logs the QSO.

When SD identifies district codes from the callsign, or from previous QSOs, it auto-fills the data in the exchange field.

This can be a nuisance in S&P mode – you must then use F5 to repeat your own call

Esc stops the keyer instantly.

If you run into problems, simply disable ESM with Apostrophe. Once again, F12 lets you log a QSO (assuming all fields are valid) without playing the “normal” ESM message.

When using SD's internal keyer, apostrophe does not work during message playback.

Shift+Enter, while in S&P mode, toggles to RUN mode and sends your CQ message – handy when you find an unused frequency.

CW MEMORIES - INITIAL CONTENTS.

- 1 TEST OwnCall OwnCall TEST (Where OwnCall is from the opening screen)
- 2 Call Logged, Exchange, Enter
- 3 TU OwnCall Enter
- 4 Call Logged, Exchange, Enter (Dupe message)
- 5 OwnCall
- 6 TU RST, Serial
- 7 RST Previous Serial
- 8 ?

The following parameters may be embedded in any preset memory message.

- #R** Own callsign.
- #C** Current or most recent callsign logged.
- #S** Current serial (or other exchange data)
- #T** RST Sent - Default 5NN
- #P** Previous serial
- #N** Name (after callsign match with LOAD)
- #E** Simulates the Enter key.
- #B** Simulates the Space Bar.
- <** Increase speed by 2 wpm
- >** Reduce speed by 2 wpm
- ^ or ~** One-half dot space.

For example, #C #T #S#E would send callsign + full exchange followed by Enter - all with a single keystroke. When you get a callsign match after LOADING a .LST file (see Reference Lists below) such as FOC or CWOPS, the #N parameter will send the other op's name. If there is no match, nothing is sent. When editing keyer memories, with Shift-F1 etc, do not insert a space in front of #N - the space is assumed when a callsign matches.

In contests with serials, leading zeros are sent as "T" and other zeros are sent in full. CWZERO allows you to choose abbreviations for non-leading zeros, the number 1, and the number 9. Also, you may choose to omit leading zeros, or add extra spacing (serial padding factor) to variable exchange items such as serials, making them easier to copy.

Use the < parameter to temporarily increase speed by 2 WPM, and > to reduce speed by 2 WPM. Use a minus for speed reductions. For example, <<< gives a temporary speed increase of 6 wpm.

If your normal speed is 32 wpm, then the message

```
<<<<<TEST>>>> EI5^DI EI5^DI <<<<<<<<TEST
```

```
sends
TEST at 40 wpm
EI5^DI EI5^DI at 32 wpm
TEST at 48 wpm
```

Normal speed is reset at the end of each message – there's no need to add a parameter to do this.

Another example - with normal speed of 25 wpm:

```
#C <<<<<<<#T >>>>>>>#S#E sends
Callsign (#C) + 1 space at 25 wpm
5NN (#T) + 1 space at 37 wpm
Serial (#S) at 21 wpm
Enter (#E) - automatic move to next field
to be logged.
```

The ^ or ~ characters represent a half-dot space. They may be strung together to give better readability with some callsigns. Try G3RTE and G3R^T^E to hear the difference for yourself. I use EI5^DI for my own callsign – it's subtle but effective, and makes it more readable. If your callsign doesn't need any "tailoring", simply use the #R parameter in keyer messages to represent your callsign.

To edit keyer messages, use Shift-F1 etc. This will display the current message and invite you to enter a new one. If you don't change anything, or use Esc after changes, the original message will be unchanged.

If you get into trouble, either in keyboard mode or when sending a preset message, Esc will stop the message instantly. On the numeric keypad, + works like Esc to stop memory playback.

Use Tab to leave the callsign field without playing a memory. When the QSO is logged, F3 plays, but only if you previously used Enter (not Tab) to leave the Callsign field.

When using SD's internal keyer, I'd recommend you connect it in parallel with whatever alternative keying method you have. If you make a mistake in entering a callsign, it's often quicker to send it on your normal key or paddle and then correct the computer entry later.

In contests with serials, if you've already logged a QSO and need to repeat the exchange, F2 sends the correct callsign and serial - but only when the current callsign (on the logging line) is blank.

HELP.

The HELP (or H) command displays a summary of all SD's commands and edit functions, as held in the HELP.TXT file.

SERIALS SENT.

SD displays the current serial on the logging line, regardless of whether you have typed any data in any logging field.

In CW contests, it is sometimes necessary to repeat the exchange, including Serial Sent, after a QSO has been logged – using F2 or F6. Until recently, the test for sending the "previous" serial (the one just logged) was an empty callsign field for the “next” or “current” QSO

This test is not appropriate when you have already entered a Serial Received or, more specifically, typed any printable character in the Callsign, RST, or any exchange field for the current QSO. In such cases, SD now sends the current serial - even when those characters have been edited or, perhaps, cleared in the meantime.

Therefore if you have to repeat the previous serial sent it is better to wipe all fields with Minus or F11 so that the exchange repeated will be the previous one.

To reset the Serial Sent to any arbitrary value, use the SERIAL command.

VARIABLE RST SENT.

In some HF contests, you may prefer to send something other than 59(9) – even though it's not recommended, because it slows everyone down. The RST command toggles between fixed and variable reports.

With fixed RST 59(9), SD's default setting, RST Sent is not shown, and you're taken directly to the Serial or District Code field once you've entered the callsign. You don't have to worry about RST Received unless it's anything other than 59(9).

If you do receive something other than 59(9), press Enter, in the empty Serial Received field, to return to RST Received. Type the changed RST, followed by Enter, to return to the Serial Received field.

With variable RST, you're taken in sequence between Callsign, RST Sent, RST Received, Serial or District.

If you need to, you can tab between all fields regardless of the status of variable RST. This way, you can log any value of RST Sent even though fixed RST has been selected. In most circumstances, Enter is the recommended terminator for all fields.

<Soapbox> In the major international contests, including ARRL DX and 10m, CQWW and WPX etc. there is no need to log anything other than 59(9), regardless of what was actually sent or received, because signal reports are ignored during log-checking. Why, then, is 59(9) still required as part of the exchange? I've asked that question many times, but no one has given an answer – other than the circular answer that it's in the rules. It seems to me there's no point in persisting with a redundant exchange – a legacy of contesting from the last century. After all, no signal reports of any kind are required on QSLs for ARRL awards including DXCC – and LOTW dumps all reports.

</Soapbox>

EDITING FIELDS - Call, RST, Serial, Locator.

SD offers versatile editing functions. They're efficient, but may differ slightly from other loggers, and it's worthwhile taking time to get used to them. Many, but not all, of the "standard" multiple keystrokes are supported – so please experiment before the contest.

- Esc** Clears any single field - a second Esc restores it.
- Minus** Wipes the current QSO Entry, or abandons an Edit and returns to QSO Entry mode. (Think of Minus as "take away" - it's useful if you get into trouble during an edit or if making corrections to a new QSO takes too long - it lets you start again from the beginning). ESM is initialised, and the Band Map is updated (call and frequency is stored).
- F11** As Minus, but the Band Map is not updated.
- Home** or [**]** Moves to the start of a field.
- End** or [**]** Moves to the end of a field.
- Delete** Deletes the character above the cursor.
- Backspace** Deletes the character to the left of the cursor.

Use the **arrow keys** to move right and left within fields, or to move from one field to the next (Right-Arrow only). Up

Arrow, in an empty Callsign field, lets you edit previous QSOs. Up Arrow, when there is one or more characters in the Callsign field, retrieves partial calls – and is very useful when there is a single call in the Check Partial window, as Up Arrow instantly transfers that call to the Callsign field.

DATA ENTRY MODES.

The entry mode options are **Overwrite** and **Insert**. Unlike other contest loggers, the default is overwrite, as shown by OVR under the Callsign field. You can toggle to insert mode, if you prefer, by pressing the Insert key.

In Overwrite mode, anything you type replaces what's under the cursor. In Insert mode, whatever you type is inserted (added) before the cursor.

Insert mode can be useful when you have missed the prefix in a callsign and need to complete it after recording the remaining QSO information. In this mode, when you return to the Callsign field, press Home or [**]** to move the cursor to the first character, ready to insert the prefix.

If you're in OVR mode, and need to insert callsign characters, place the cursor as necessary and press the space bar to create a few spaces. You can then type the missing characters. It's usually faster to do this than to switch to Insert. Don't worry about leaving extra spaces in the callsign – they disappear when you leave the field.

AUTOINSERT (or **AI**) is a powerful data-entry option exclusive to SD. It toggles SD's auto-insert feature for Callsign entry in the callsign field on the logging line. It applies only when you have not selected INS (Insert) as your default date-entry mode.

With Auto Insert On (the default with effect from V16), the "V" in OVR is highlighted. Then, any time you move to the start of callsign field, SD switches temporarily to Insert, so that you can enter prefix characters directly. When you use any other character to change the position of the cursor, the mode reverts to OVR.

DEALING WITH DUPES.

SD gives auto-prefix checking once you've typed two or more callsign characters. This lets you know about potential and actual dupes without having to type the full callsign.

If a callsign is a dupe, its colour changes to black, with the word Dupe above it. You can delete the callsign with Esc, Minus or F11. If you have moved to another field, Minus or F11 will wipe the QSO. Enter, in an empty Serial or District Code field, will wipe a dupe.

To log the QSO as a dupe, type (or accept) the exchange followed by Enter.

When SD flags a callsign as a dupe, press F9 to see the full QSO details.

<Soapbox> When the caller is a dupe, it's nearly always quicker to send your normal exchange and log the QSO. No one likes to hear QSO B4 – you may have logged his call incorrectly or he may have logged your call incorrectly. You may have thought he had worked you when he had actually logged someone else on the same frequency. Either way, if you don't log the QSO this time, you will lose points.

With Cabrillo logs **there is no penalty for dupes**, whether marked or not. Cabrillo QSO records contain no scoring

information whatsoever – whether points, mults or dupes. Now that Cabrillo is universal, contest organisers independently score and dupe each log – and the concept of “unmarked dupes” has gone forever. </Soapbox>

For duping purposes, SD tests for calls of the type W6AA, W6AA/9, KP2/W6AA, W6AA/KP2, and ignores the following suffixes.

/P /M /A /MM /AM /QRP

For example, if GI3OTV/M has already been logged, GI3OTV will be flagged as a dupe on the same band. This applies both to new QSOs and to edits of earlier QSOs.

Use SETDUPE to reset dupe checking at any time – it’s intended for contests that are divided into separate time periods and permit you to log, without penalty, the same stations in each period. SETDUPE optionally resets multiplier checking. You should not edit any QSO logged before the time of the most recent SETDUPE command – otherwise dupe checking may fail.

SEARCH AND POUNCE.

SD offers fast, simple and powerful options for searching and pouncing.

When searching, the Check Partial window shows potential dupes once you've typed two or three characters of the callsign. It displays a list, in alphabetic order, of all stations already worked, on any band, which include those characters. Callsigns shown in bold, and in upper case, are needed on this band. If blue, they represent multipliers. Those shown in lower case are dupes. If the call would be a dupe, use Esc to clear it – ready for the next callsign or prefix. If the callsign isn't shown in the Check Partial window, or no callsign appears, then it hasn't been logged on any band and you free to call.

The default display option for Check Partial (and Super Check Partial) is to replace the Score Window. Use the EXPAND command to increase the size of SD's desktop, and enable Check Partial display underneath the logging line. This option is worth trying, especially when with SCP enabled, simply because the information you need is close to the Callsign field. When you do this, you must set SD's Properties Height field to 36, and reduce the Font Size (also in Properties) to ensure SD's window fits your screen, .

You can quickly retrieve any needed callsign from the partial call window – sometimes this is faster than typing it in full. Use Up Arrow to go to the window (this works also for SD's expanded screen layout), then any Arrow keys to move around the window. Only non-dupe calls may be selected. Press Enter to retrieve a selected call and place it on the logging line.

As mentioned earlier, when there is only one needed callsign in the Check Partial or SCP window, Up or Down Arrow (on its own) instantly retrieves the call. This is neat – please try it!

Auto-suffix check: Full Stop (period) lists all stations worked with any given suffix. You should then use Comma to revert to standard Check Partial – for advance warning of dupes.

In the IOTA contest, type any IOTA reference in the callsign field to get a corresponding band/mode multiplier analysis. Clear the reference with Esc or Minus.

DXPEDITIONS and SPECIAL EVENTS.

SD supports CW/SSB logging, and tracks new countries on all 10 bands from 6 to 160 meters. Select the DXpedition Logging or Special Events templates.

SUPER CHECK PARTIAL (SCP)

SD uses standard MASTER.DTA callsign databases as references for super check partial with two or more callsign characters.

Use equals = or the SCP command to toggle SCP ON or OFF.

With SCP enabled, comma toggles the display between “Prefix Only” and “All”, and full stop (period) switches the display to “Suffix Only”.

SD uses custom SCP databases for some events, including the FOC Marathon and CWops contests - these are supplied with SD. This feature is controlled by the SCP-FILE parameter in the corresponding TPL (template) files.

Up-to-date SCP files may be downloaded from www.supercheckpartial.com

KEYBOARD ASCII CHARACTER MAPPING.

SD can be used with **all** keyboards – not just UK and USA. SD.MAP, a character-mapping file, lets you convert any character to any other. In the absence of SD.MAP, no character conversion takes place. You can map "standard" characters, including numbers and letters, but not function keys or cursor control keys. SD.MAP files are supplied for French, Belgian and German keyboards. They give access to the number keys without the need for Caps Lock, so that users retain the option of single-key playback for the F1 – F8 keyer messages.

If your keyboard does not display all the top-row numbers correctly (with Caps Lock off), try the FORCENUM command. This is simpler than character mapping and it guarantees numbers at all times – regardless of the status of Shift and Caps Lock. FORCENUM is also appropriate for non-UK/US keyboards (such as French) where Caps Lock must normally be enabled to access the top-row numbers.

Whatever keyboard you're using, even UK/US, should you find that SD will not accept some characters, or displays incorrect ones, use the SHOW command to indicate what SD sees for each character, and to see the corresponding 3-digit ASCII code. Next, create or update SD.MAP with any text editor. Each line in the file has two 3-digit ASCII codes. They represent a mapping from the first character (what SD “sees”) to the second (what you expected to see). This is a low-level process, and no assumptions are made about upper or lower case letters. Therefore, you should map both versions of any letter.

Example - In the SD.MAP file, to exchange A and Q.

113 097	(q a)
081 065	(Q A)
097 113	(a q)
065 081	(A Q)

NOTE: Character mapping applies to logging, but not to the fields on SD's opening screens.

When a district multiplier file (.MLT) contains non-English characters, you may have to use the CODEPAGE command to see them displayed correctly. For Norwegian characters,

set your code page to 865, and ensure you have selected a TrueType font - see Starting SD on Page 4.

SKEDS and REMINDERS.

SD lets you record any event for which you would like a reminder, and you can also record notes or memos for reference after the contest. Use F7, or enter SKED or MEMO to create skeds, reminders and memos. This writes a timed record to NAME.MMO, where NAME is the name of your contest file.

The difference between a sked (or reminder) and a memo is that skeds include a time. For a memo, leave the time blank. SD tracks your skeds and reminders and displays a one-minute warning before the due time, and also during the relevant 60-second period unless another sked is due. F8 displays the next 7 scheduled events in a table that replaces the Score window. Minus returns you to the Score window.

Minus can also be used to abandon data entry for a Sked.

You can use Skeds as a reminder to do backups (with DUMP or BACKUP), or to check for band openings, or change operators, or fill the generator – anything you want! There's no need to include the time with such comments. If you do enter a time, SD assumes you're recording a sked or reminder.

BAND MAP.

When you log a QSO, or use Minus to delete a callsign or wipe a QSO, the callsign is recorded in the band map.

There is usually no need to display this table directly, but F10 will do it! Scroll through the table with Up Arrow and Down Arrow. To retrieve a highlighted entry (and set your radio to that frequency and mode), press Enter (or F10). Delete or Backspace will delete a highlighted entry. Any other key will return to normal logging.

The Band Map saves time in identifying stations already worked or flagged as you tune up and down the bands.

With rig control enabled, calls appear when you tune close to (within the threshold) the recorded QSO frequencies. The default threshold is 300 Hz, and may be changed with the THRESHOLD command.

Calls already worked are shown in lower case. Calls not worked (ones that you deleted from the logging line with Minus) are highlighted.

When you log successive QSOs on the same frequency (while running), only the most recent call logged on that frequency is shown when you next tune across the frequency.

The band map feature is particularly useful in shorter contests, where many stations occupy a fixed "run" frequency for most of the time – you know their "worked" or "not worked" status without having to wait for them to identify.

To retrieve the most recently stored entry, press F10 twice. With rig control, and after a QSY by entering the new frequency, this returns your radio to your original frequency (and mode) – very handy after moving a multiplier station to another band.

MULTIPLIERS.

There are two basic types of multiplier in HF contests. The first type is indicated by the exchange, for example, district codes such as zone, state, county or district. For these, SD uses .MLT reference files. For example, the multiplier file for RSGB contests is RSGB.MLT – a list of the standard UK district codes and names. The second multiplier type is derived from the callsign, and it may represent a country, a zone, a district within the country, or a prefix. These are "country" multipliers. SD's country multiplier files have the .CTY extension. The country multiplier file for most ARRL contests is DXCC.CTY, and for RSGB contests it is RSGB.CTY.

Some contests have both country and district multipliers. In CQWW, SD is the only contest logger to alert you to potential country and zone multipliers, in real-time as you type callsign prefixes, with no need to leave the callsign field or touch another key.

In contests with district multipliers, the multiplier window appears in the top right of the screen. As you log QSOs, this window shows the relevant districts worked and needed on the current band. You can quickly check multipliers for other bands by using F1 and F2 (with Caps Lock off) to go up and down the bands. Multipliers needed remain in bold type, whereas those worked are dimmed and appear in lower-case. As QSOs are logged, callsign or exchange elements that represent mults are highlighted.

The layout of .MLT files is shown in the Questions and Answers section of this manual.

There are 9 fields in each record of the country multiplier files (.CTY) – each separated by a colon and with semicolon after the last field. Spacing between fields is not critical, but you must not omit any colons or the final semicolon. I've kept the fields aligned vertically because it looks better. You can edit the files with text editors such as Notepad. Do not use "Word" or other word processors.

- Field 1 Text description
- Field 2 CQ Zone
- Field 3 ITU Zone
- Field 4 Continent
- Field 5 Latitude
- Field 6 Longitude
- Field 7 Time difference
- Field 8 Standard prefix.
- Field 9 Standard and alternative prefixes and calls.
- Field 10 Island References – IOTA Contest only.

NAVIGATE THE LOG.

To see earlier log entries, use the following keys in the Callsign field (which should be empty).

- Up Arrow Back 1 QSO.
- Down Arrow Forward 1 QSO.

To see all QSOs for a particular callsign - type the callsign and press F9. Use this to find the QSO number or the serial corresponding to a specific QSO, in the event that you want to edit the QSO – enter the QSO number in the callsign field. If you press F9 when the Callsign field is empty, you'll get the information for the most recent QSO (or Edit).

EDITING PREVIOUSLY LOGGED QSOs.

SD lets you edit **any** QSO in real-time. There are two simple methods for getting to the one you want. The first is to use Up-Arrow or Down-Arrow.

As an alternative, you can go directly to a QSO by typing its number in the Callsign field followed by Enter. To find the relevant QSO number(s), type the callsign followed by F9. Use Esc to clear the callsign. Note that if you enter a number in the Callsign field followed by TAB, SD assumes you've entered a partial callsign and takes you to the next field (usually RST).

To move between fields, while editing, use TAB or Right Arrow. With Up and Down Arrow, any changes are logged to disk, and you are taken to corresponding fields in other QSOs. If you change your mind, or get into trouble, you can abandon an Edit with Minus.

SD's editing facilities set it apart from all other contest loggers – intelligent, real-time, full-screen editing on any QSO in your ASCII log.

When you edit a callsign, SD examines all QSOs for dupes and multipliers to be marked or unset, and instantly updates all relevant QSOs, and your score. In addition, the state, zone or district on the edited QSO will be reflected in all other QSOs with the callsign concerned. With the single exception of prefix multipliers, you can edit any combination of fields and everything will be kept consistent, with all dupes, multipliers, and points correctly recorded. Do this on SD, then try the same thing with any other contest logger and see the difference for yourself.

Remember that edits take priority over previous log entries. You can change the state/zone/district for all QSOs with a specific station merely by editing any one such QSO. The software prevents inconsistencies in your log, but may not stop you from doing something wrong!

If you log a QSO in error, ZAP deletes it – so long as you have not logged any subsequent QSOs. You can ZAP repeatedly to delete every QSO in your log, if necessary.

Once again, to delete individual earlier QSOs simply add /Z to the callsign. This marks them for deletion – they will disappear when you re-start SD, and your score will be recalculated.

If, for any reason, you log a QSO but want it to be ignored for duping or scoring purposes, add the /X suffix. SDCHECK will include the QSO in your Cabrillo log, but with the tag X-QSO: rather than QSO:

VOICE KEYER.

WAV sound files may be created with any Windows audio utility program, and should be named F1.WAV to F8.WAV.

If your rig has an internal DVR (Digital Voice Recorder) supporting external control, SD's DVR command lets you use it directly – this is an integral component of rig control using the corresponding .SD rig-control file. The options are similar to SD's CW keyer. With Caps Lock ON, press F1 to play your CQ recording. With Num Lock Off, you can use the numeric keypad to play messages. With DVR playback enabled, Esc instantly stops playback. The CQTIMER or CQT commands repeat the F1 (CQ) recordings at intervals up to 10 seconds. Set CQT to 0 to disable repeats. Without an internal voice recorder, SD

plays .WAV files, if any, located in the SD folder (F1.WAV, F2.WAV etc.)

Suggested message contents are:

- F1 – your CQ
- F2 – your Call
- F3 – Thanks + your Call

ESM – Enter Sends Message – SSB:

When running, it's convenient to have your CQ and exchange voice messages (F1 and F3) play automatically when you press Enter. Apostrophe toggles ESM. You'll know it's ON when "SSB", in the status line below the callsign field, is bright. In these circumstances Enter, with no callsign, plays F1. When you have typed the received exchange, Enter plays F3 and logs the QSO.

With your rig's digital voice recorder enabled (if present) with the DVR command, SD triggers playback directly from your rig. Otherwise it plays .WAV files in your SD folder. If you try to play a non-existent or corrupt WAV file, you'll get a Windows beep (error). To stop playback, play an "empty" WAV file. The file must exist, otherwise you'll hear a beep. To stop DVR playback, use Esc.

PTT is enabled and disabled with PTTON and PTOFF. It works in exactly the same way for both CW and SSB, and uses the same serial or parallel ports. On SSB, when PTT is enabled, you cannot abort voice keyer messages.

Use the STATUS command to see the status of PTT and other comms parameters.

When you use apostrophe to enable ESM, PTT is enabled, and remains enabled even when you toggle ESM Off.

EDIT BAND or MODE on LOGGED QSOs.

To edit the band/mode on a QSO, move to it, as for an Edit, and then use F1 or F2 (Caps Lock must be Off) to change band – or F3 to change the mode.

With the exception of prefix multipliers, SD checks your complete log for consistency and instantly updates any relevant QSOs and displays the correct multipliers and score on both the old band and the new band.

QSO RATE METER.

This window gives the QSO rate per hour for your last 10 QSOs, last 100 QSOs, and overall rate since the time of your first QSO. The values are updated every 5 seconds – just to keep you on your toes!

With fewer than 10 or 100 QSOs, the figures relate to the actual number of QSOs completed. They are accurate only when real-time logging is selected for all QSOs. To see your previous rates at any stage of the contest, use the arrow keys to navigate through the log – it's a good way to find if you've broken any personal records for your Last-10 or Last-100 QSOs,

SD does not calculate off-times, and rates may not be accurate when they span off-times.

Points/QSO value is shown for all contests with variable points, whether by band, mode or location.

CALL HISTORY FILES.

The LOAD command allows you to load Call History files with the extension .LST. These files are typically

membership lists showing callsign, name and membership number, and the information will be displayed whenever you enter a corresponding call.

You can use them (with the LOAD command) for lookup either by callsign or by membership number.

For example, with -

```
EI5DI Paul 1905
1905 Paul EI5DI
```

If you type EI5DI, "Paul 1905" is displayed and if you type 1905, "Paul EI5DI" is displayed.

However, in the second case, if you then press Enter, the callsign is extracted and placed in the callsign field. For this to work, the callsign must be the last or only field in the record – apart from the membership number. This feature is particularly useful in the FOC and CWops events.

Use a text editor to create your own reference file. Each record may have up to 12 characters in the callsign and up to 20 characters of other data. There must be at least one space between the end of the callsign and the data.

For IOTA, it's useful to add island references to your .LST records. On a callsign match, the references are extracted and pre-filled. This makes it easy to identify potential multipliers, using the lists of DXpedition callsigns and island references published before each contest.

Three .LST files are distributed with SD, and automatically loaded, as appropriate.

```
CWOPS.LST – CW Open and CWops Mini Tests.
FOC.LST   – FOC Marathon and FOC QSO Party.
RDA.LST   – RDA Contest.
```

The UNLOAD command clears all callsign reference data already loaded, and the SD_LOAD parameter in SD.INI.

LEAVING SD.

To leave the program, type END or QUIT in the Callsign field. If you're using SD in post-contest mode, END and QUIT may be entered in the Time field.

What happens if the power to the computer fails? SD updates your log on disk immediately after logging or editing each QSO. When power is restored, simply restart SD, go to the QSO entry screen and you'll see the last QSO logged immediately above the logging line.

BACKUPS.

All QSOs and edits are written to a separate audit (.AUD) file in the same format as the .ALL file. The audit file is opened in append mode, which means that new or edited records are always written to the end of the file. As a result, the .AUD files serve as very reliable backups, and as references from which your log (the .ALL file) may be recreated if necessary.

To backup your log, use the DUMP or BACKUP commands. Your log (.ALL and audit .AUD) files are copied to any device you choose. In each case, the last letter of the file extension is changed to B (for backup).

COLOURS.

Use the COLOUR (or COLOR) command to change SD's default colours. They

1. SD's windows background – default 1, blue.

2. Logged QSOs – default 7, dim white.
3. Logging Line – default 15, white.
4. Windows Titles – default 0, black
5. Desktop – default 3.
6. Dupes – default 0, black.
7. Worked (Check Partial Window) – 7, dim white.
8. Callsign match with SCP entry – 10, bright green.
9. Multipliers – 11, bright blue

The RESET command restores these default colours. When logging calls, SD uses colour to indicate the status of the QSO so that, generally, there's no need to look away from the logging line.

The default colour when logging calls is "QSO Colour" - white. If, as you type callsign characters, the call becomes a dupe, its colour changes to "Dupe Colour" - black. Otherwise, if it represents a country or prefix multiplier, it changes to "Multiplier Colour" - light blue.

If the call has been worked on another band, there is no change in colour but you get a band analysis under the logging line - bands not needed are shown in black. Otherwise (call not logged before and not a dupe or mult), if there is a match with any call in the SCP window, the call changes to "SCP Colour" - light green. If you don't like this, or think it's too fussy, change SCP colour to the same value as QSO Colour.

Some colour combinations look really bad. If you get in a muddle with them, use the RESET command and try the default colours for a while before changing individual ones as preferred.

IOTA CONTEST.

SD uses SDIOTA.CTY to identify countries from callsign prefixes and to list corresponding IOTA references. IOTA references with lower-case continent abbreviations, for example, **eu115** (mainland Ireland) is the default IOTA reference for the EI prefix. If the continent (eu) is in upper-case, no default value will appear. You're free to edit these as you prefer.

To check the multiplier status of a specific island on the current band and mode, type its reference in the callsign field - redundant zeros are not required. For example, type **EU1** - if it's a multiplier, "M" appears above, and your multiplier status for EU001 (Dodecanese) on all bands and both modes, appears below. No other contest logger does this. Add 2 to see your status for Shetlands EU012, and add 3 for Scottish Coastal Islands EU123.

Multiplier slots are highlighted. Use Esc or Minus to clear the IOTA reference and multiplier analysis.

SD is unique in displaying all possible island references, if any, as calls and prefixes are typed. For example, G, on its own, instantly shows all possible IOTA references for England, together with their multiplier status on the current band and mode. Add M to see the equivalent for Scotland.

AFTER THE CONTEST - SDCHECK

Use program SDCHECK, after the contest, to generate your log.

SDCHECK has the following options. Note that Options 2, 3 and 4 are legacies from the days of paper logs, and are no longer supported - bugs or formatting errors will not be fixed.

- 1. Entry File.** Creates your Cabrillo .LOG file to be submitted by email or disk. The .LOG file is the **only** file needed with your entry.
- 2. Multiplier Summary.** Lists multipliers by band.
- 3. Dupe Sheets.** Useful for finding “broken” callsigns.
- 4. Print File.** A paper copy of your log to paste into a hard-copy station log.
- 5. Export Log as ADIF.** Exports your log in Amateur Data Interchange Format for integration with your station log.
- 6. Export Log as Text.** An alternative to ADIF, it’s in CSV format with # as the delimiter, and can be imported directly into Excel, or Access and other databases.
- 7. QSO Rate Analysis.** Gives an hourly analysis of your log by QSOs, points and multipliers.

SDCHECK generates a single .LOG file, in Cabrillo format, containing header and QSO information. While running, you’re asked to input the header information one line at a time. You can move around the data fields with Up and Down Arrow.

If you use a general-purpose logger you can import ADIF logs from SDCHECK and then generate QSL labels. ADIF is Amateur Data Interchange Format.

INITIALISATION FILE – SD.INI

All your selected parameters, including the messages in the memory keyer, are recorded in SD.INI. Whenever you start SD, the appropriate parameters are applied.

If the .INI file is not present, it will be re-created the next time you run SD.

Here’s a brief explanation of the parameters.

MSG1 to MSG8	Keyer memories, 1 to 8.
CONTEST	Most recent log name.
VERSION	The version used.
CWSSB	Most recent mode.
BAND	Band last used, 1=10m, 6=160m
CALL	Your Callsign.
NAME	Your Name.
ADD1-5	Your address – lines 1 to 5.
EMAIL	Your email address.
CLUB	Your club
LCTR	Your 6-character locator
CODEPAGE	Most recent code page.
CQZONE	Your CQ Zone.
ITUZONE	Your ITU Zone.
WPM	Keyer speed - WPM
WEIGHT	Keyer weight, default 50%
CALWIN	Your PC’s keyer calibration factor.
KEYPORT	CW port. 0 if unused.
WINKEY	1 = WinKey, 0 = internal keyer.
WKBIT0 - 7	WinKey – internal control bits. See WinKey manual for more info.
WKCOMP	WinKey – all dots/dashes compensation.
WKEXTN	WinKey – first-character extension.
WKRATIO	WinKey – dot/dash ratio – default 50.

WKSWITCH	WinKey – paddle switching point.
WKFARNS	WinKey – Farnsworth WPM.
MINWPM	WinKey – minimum WPM.
WPMRANGE	WinKey – WPM range.
POTRANGE	WinKey – 127 or 255.
PTTON	1 when Enabled.
PTTLEAD	Lead time (ms), before keying.
PTTTAIL	WinKey – PTT tail time (ms).
RIGPORT	Radio control port – 0 when unused.
RADIO	Radio Name – uses corresponding .SD Control File.
STEPFREQ	Unused.
DATABITS	Serial Comms – default is 8
STOPBITS	Default value is 2
PARITY	Serial Comms – default is N (None)
TIMER	Countdown timer (0-10) between allowable band/mode changes.
TIMERTYP	B-Band, M-Mode, BM Band/Mode
SAMERST	If 1, sets previous RST Sent as default.
FORCENUM	1 to force numerals from top row, regardless of state of Shift or Caps Lock
PRIORITY	SD’s runtime priority – normally 0.
BPS	BPS – default is 4800
SCP	Super Check Partial – using MASTER.DTA. Default is 0 (Off). Toggled with the SCP command.
MODE	Mode last used. 0=CW, 1=SSB
AUTOINS	1 – Auto Insert mode enabled.
LOGENTER	Log on Enter – default is 0 (Off)
RSTS	RST Sent always 59(9) – default is Y
QTCCHAR	Defines field terminator for QTCs.
AUDIT	Additional audit to .TXT file.
CWSIDETONE	WinKey – 1 indicates monitor On
CWSTART	Defines callsign start character for F2 exchange message – with ESM enabled.
RUNRANGE	Frequency limit for auto toggle to S&P.
CWZERO	5 characters = 019N0 1 – Character for non-leading zeros. 2 – Character for 1 (in serials) 3 – Character for 9 (in serials) 4 – Omit leading zeros. Y/N 5 – Serial Padding Factor 0 –5.
DISTUNIT	K=kilometres, M=miles
LOAD	Name of .LST names database loaded at startup. Blank if None.
WINCLR	Window background colour.
DESKCLR	Desktop colour
LOGCLR	Logged QSOs colour
QSOCLR	Logging colour
TTLCLR	Window Titles colour
DUPELCLR	Dupe and Zero-Point QSO colour
SCPCLR	Colour for SCP match

PROGRAM and REFERENCE FILES

SDCHECK.EXE	Post-contest program.
*.CTY	Reference files for identifying country and continent from callsign prefixes.
*.MLT	District multiplier reference files.
*.SD	Rig control files.
SD.INI	Preset keyer messages and user preferences. Created by running SD.
HELP.TXT	HELP file – you can edit this yourself.

***.TPL** Templates for individual contests.
TEMPLATE.TXT The template index file.
HISTORY.DOC History of updates and bug fixes.

EDITING THE .ALL FILE.

Your SD log is a plain text (ASCII) file – it looks similar to a Cabrillo log, and has a .ALL extension, for example NAME.ALL – where NAME is the name you when you started SD. It holds all your QSO and scoring information. You can edit your QSO records with any text editor (NotePad is a good option, but word processors are **not** recommended). You should not edit the control records - the ones before the QSO records. Make sure to keep all QSO columns aligned vertically.

Take a copy of your contest log **before** editing.

TEMPLATE FILES.

Template files hold parameters and scoring information for each contest. They begin with “Q” and have a .TPL suffix, and are referenced from the TEMPLATE.TXT file – with one record for each contest, giving the name of the event and the corresponding template file.

The range of template parameters is continuously being extended to support more contest types. You are free to experiment with your own templates. In general, you should experiment only with those with Type 4, 9 or 10 as the first parameter. However, there’s nothing to stop you editing any template and observing the results.

When you start a new contest, SD displays the contents of TEMPLATE.TXT for you to choose a template.

TEMPLATE PARAMETERS.

Here is a summary of the parameters. They may appear in any order, with the sole exception of the TYPE parameter which must be first. You should not experiment with templates other than Type 4, 9, 10 and 11.

OPTION: Associated with certain contest types – **should not be edited.**

BONUSPOINTS: Has a value of 0 when normal multipliers apply, otherwise it defines the score for each bonus QSO.

CTYFILE: This file (.CTY) identifies country multipliers.

DUPETIME: Indicates the number of minutes after which contacts with the same station/band/mode will not be flagged as dupes. Used in the LZ Open and Dnieper Cup contests.

LOGSERIAL: Y means Serial Received is logged.

MAXBAND: Highest band allowed – 160 is “high”.

MINBAND: Lowest band allowed, where 10 is “low”.

MIXED: Y if mixed-mode operation is permitted.

MLTFILE: The file (.MLT) used to identify district multipliers.

MODE: Sets the mode in single-mode events.

MULTSBOTH: Y if multipliers count separately on both mode (in mixed-mode contests).

MULTSCOUNT: B, by Band – O, once only.

NON-AREA MULTS: Y when other countries, the ones that don’t send a district or area code, count as multipliers.

NORST: Y when no reports are exchanged.

POINTS: The value of points of each QSO, regardless of mode, band or location.

POINTSAREA: The value of points for all QSOs with stations giving an area code as part of the exchange (SD Contest Type 10). When set to 0, points are assigned in the same way as QSOs with other stations - the ones not giving an area code.

POINTSCW: QSO points for CW QSOs with own country, own continent and other continent – all bands from 10m to 160m.

POINTSSSB: As above, but for SSB QSOs.

REPLACE_RST: For events (with no RST) in which a district code, or anything else, is entered before a serial. In effect, the district code replaces RST.

SCOREMULTS: Applies only to contests where serials (only) are exchanged and mults do not apply. The only valid value is "N".

SENDFIXED: Y when a fixed element is sent as part of the exchange in every QSO.

FIXEDTEXT: The corresponding (to SENDFIXED) on-screen prompt.

FIXEDSIZE: The maximum size of the FIXEDTEXT field.

FIXEDLOCN: The screen position (column number) for the start of the SENDFIXED data.

LEAVEBLANK: Y if the SENDFIXED field may be left blank..

SENDSERIAL: Y means you send serials in this contest.

SINGLEBAND: 10m, 15m etc.

TIMES: Indicates the number of times each multiplier or bonus (country or district) counts. When not specified, the default is 1. In the template file for the Commonwealth Contest, TIMES is set to three - the first three QSOs with each Commonwealth area count as bonuses.

TRUESERIAL: Y means that cut numbers (letters) will be converted to numbers

TYPE: SD uses Contest Types 1 to 12 – these are for internal use and should not be edited.

WORKBOTH: When Y, it’s OK to work the same station on both modes (by band) without the second QSO counting as a dupe.

QSOPARTY: When Y, callsigns ending in /M or /R are not dupe-checked.

FAQs.

Q. I've got some QSOs in the .ALL file that I want to delete. What do I do?

A. Use the ZAP command to delete the most recently logged QSO. You can delete earlier individual QSOs in the log by adding /ZAP (or just /Z) to the callsign – they will disappear the next time you load that contest log.

Q. What should I do if the program stops with some strange error message?

A. Assuming there is room on your disk, try reloading your contest file. If you have time to examine the .ALL file, check with NotePad that it appears to be formatted

correctly. If any record appears to be corrupt, copy it from the .AUD file. You have the option, in SDCHECK, of recreating your .ALL file (in full) from the audit .AUD file.

For contests controlled by templates with TYPE=4 or TYPE=10 parameters, district codes are held in separate text files corresponding to each contest type. You can edit the multiplier files, using a text editor, to reflect any necessary changes in existing contests and, more significantly, you can set up new files and templates to cater for other contests. All you have to do is to use the same format as in the existing **MLT** files.

This is a 1 to 5-character multiplier identifier (always the same length for a particular contest, and trailing spaces are allowed), followed by an equals "=" sign. You have the option of adding a description of the multiplier after the equals sign. You may have a maximum of 1000 multipliers.

CONTESTS SUPPORTED.

Templates are supplied for more than 270 contest options. If you would support for another contest, please send me a link to the rules.

WAE Contest.

The QTC command lets you log QTCs (if you're in EU), or send QTCs (if you're outside EU).

For sending QTCs, use the QTCCHAR command to define your preference for the Enter, Tab, or Space keys to send the data in CW – Enter is the default option. To move from one QTC to another, use the Up and Down Arrow keys. You can repeat any QTC when it is highlighted. When finished, use Down Arrow on the last QTC – then confirm the callsign and QTC sequence.

CW DEMOS - IMPRESS YOUR FRIENDS.

The DEMO command is useful when you want to prove to anyone, or an audience, that Morse Code really does work. WinKey must be connected. Ask a volunteer to type a question – followed by Enter. The corresponding CW is then sent at the default speed, and you can impress the audience with your answer. They will all think it's magic, and so it is.

THIS IS THE SMALL PRINT.

SD is provided "as is". You use it at your own risk. It is not warranted to be bug-free. EI5DI reserves the right to

add modify or discontinue program features without notice or obligation.

Please use the SD-User mailing to get help, to keep informed about updates and bug fixes, and for information about using SD in upcoming contests.

<http://lists.contesting.com/mailman/listinfo/SD-User>

Known Bugs.

In CQWW and IARU HF, no zone checking is done following callsign edits. When you edit a callsign, it's your responsibility to edit the zone if necessary.

SD scores /AM and /MM callsigns according to the home callsign. This is not correct for all contests.

RUNNING SD on Linux & Raspberry Pi 3.

Installation is simple, assuming Wine is already installed. Set your internet browser to www.ei5di.com/sd/sdsetup.exe to install SD. Alternatively, open a terminal (console) window, copy SDSETUP.EXE to your home folder, then wine sdsetup.exe will install SD. On the Pi, open an Exagear terminal window, then type wine sdsetup.exe. For Linux, check the option to create a desktop startup icon, but leave it unchecked for the Pi.

On Linux, before running SD, edit the startup icons Properties (for both SD and SDCHECK) to change " wine " to " wineconsole " – note the space at each end. Then run SD by double-clicking the icon.

On Raspberry Pi, from the Exagear terminal window (or on Linux from a standard terminal window -

```
cd .wine
cd drive_c
cd SD
wineconsole sd.exe
```

When SD runs for the first time, it creates an initialisation file SD.INI. One of the parameters is SD_BORDER. Its default value is 1, but it must be set to zero for both Linux and Pi. You can edit SD.INI directly, or use SD's BORDER command.

With SD running, right-click and select Properties, Font, Liberation Mono, and choose a font size to suit your monitor. Then click the Configuration tab, set both Window Size and Buffer Zone to 80x25, and save your settings.

If necessary, use the SD-User mailing list to get help – sd-user@contesting.com

SD Feature Summary - Commands are entered in the Callsign field on the logging screen

LOGGING

Enter	Accepts a completed field. Space is an alternative (not recommended)
TAB	Accepts a partial or completed field. tab delays logging.
Esc	Deletes or clears a single field. A second Esc will restore it.
Minus	Wipes a QSO (all fields) - adds data to the Band Map.
F11	Wipes a QSO - no Band Map update.
F12	Enter, without any ESM message.
Home or [End or]	(In a field) Move to start of the field. (In a field) Move to end of the field.
Home	Back 50 QSOs – in Edit mode.
End	Forward 50 QSOs – in Edit mode.
Serials	No serial received - enter 0

BAND MAP

F10	Display Band Map
Up/Down Arrow	Select entry
Enter or F10	Retrieve entry - Call, Freq, Mode (removes entry from QM table)
Del or Backspace	Delete highlighted entry
Esc	Return to logging.

WHEN WARNED OF A DUPE

To log it	Complete the exchange.
else	Press Minus to wipe the QSO.

SEARCHING & POUNCING

Full Stop	Partial call search by suffix.
F9	List QSOs by Call
SCP	Toggle Super Check Partial
F12 or =	Enable SCP for current QSO only.

CHECK PARTIAL WINDOW

Up Arrow	Move to window
Arrow Keys	Move around the window
Enter	Retrieve callsign
Esc	Return to logging.

EDITING PREVIOUSLY LOGGED QSOs

Use **Up/Down** keys or enter **QSO number**.
Callsign + **F9** gives QSO numbers
Use **TAB** between fields. **ENTER** when complete.

F1	Edit Band HF. (Caps Lock off)
F2	Edit Band LF. (Caps Lock off)
F3	Edit Mode . (Caps Lock off)
Minus	Abandon Edit - leaves QSO unchanged.

SKEDS, MEMOS and REMINDERS (Caps Lock off)

F7	Record them.
F8	Display them.

KEYER

Ctrl or Alt-K	Toggle Keyboard/Logging mode.
Page Up/Down	Increase/Reduce speed
Left/Right Arrow	Reduce/Increase Weight
Home	Restore 50% weight
; (semicolon)	Toggle 20% speed change (QRS)
Alt-M or Apostrophe	Toggle ESM.
Alt-R or Grave Accent	Toggle RUN/S&P in ESM

Memory Playback Options: (Esc or + to abandon)

F1 to F8	With Caps Lock ON ^
Alt-F1 to Alt-F8	With Caps Lock OFF
1 to 8	On Numeric keypad (Num Lock OFF)

Edit Keyer Memories: Shift-F1 to Shift-F8

Running: F1-F4

Search & Pounce: F5-F6

F1 TEST #R #R TEST	F5 #R
F2 #C #T #S#E	F6 #T #S#E
F3 TU #R#E	F7 #T #P
F4 #C #T #S#E (dupe message)	F8 ?
#R OwnCall	#C Callsign logged
#T RST Sent	#S Current serial
#P Previous serial.	#N Name from .LST file
#E Simulates Enter	#B Simulates Space Bar
< Increase WPM by 2	> Reduce WPM by 2
#1 (to 9) increase speed	#-1 (to -9) Reduce speed
#0 Reset speed to normal	
^ Insert one half-dot space	

MULTIPLIER ENQUIRIES (Caps Lock OFF)

F1/F2	District Mults - next band HF/LF
F3	District Mults - all bands.
F4	Countries worked/wanted by Continent.
F5	Countries worked/wanted by Band.
F6	Single country status by Band.

COMMANDS (In the Callsign field while logging)

1B - 2B , etc	List calls logged on 1 – 6 bands.
AB	List calls logged on any band.
AI	Toggle Auto Insert entry mode.
B10 , B15 etc	Change Band - 10m, 15m etc. or enter kHz directly.
BORDER	1 (default) – 0 for Linux or Pi
BPS	Set BPS rate.
CALIBRATE	Calibrate internal CW speed.
COLOUR	Change screen colours.
CQTIMER / CQT	Set time between repeat CQs.
CLEAR or CLS	Resets Screen Formatting.
CW SSB	Change Mode.
CWREVERSE	Toggle the rig's CW "sideband".
CWSTART	Set position for auto-start in ESM.
CODEPAGE	Defines the default code page.
CONFIG	Configure CW & rig-control ports
DUMP	Backup log.
DVR	Enable DVR message playback.
END or QUIT	Leave the program.
EXPAND	Toggles expanded desktop for SCP.
F11 - F12	Change Bands – Up and Down.
FILL / NOFILL	Enables/ Disables exchange pre-fill
FORCENUM	Forces numbers from top-row keys.
HELP	Displays Help Window - HELP.TXT
LINK	Toggle rig comms link on/off.
LOAD / UNLOAD	Load or Unload LST files.
LOGONENTER	Toggle Log on Enter.
MEMO	Enter memo - same as F7 .
OFF/POST	Post-contest logging.
ON/REAL	Real-time logging.
Quotes - "	Repeat previous callsign.
QTC	Log or Send QTCs in WAE .
RESET	Resets screen colours.
RST	Toggle variable RST Sent.
SERIAL	Reset Serial Sent.
SETDUPE	Reset dupe and mult checking.
SETUP	Configure CW & rig-control ports
SHOW	Show input characters - diagnostic.
SHOWTIME	Toggles Operating Time display.
SIDETONE	Toggles sidetone (WinKey only).
SKED	Enter sked - same as F7 .
STATUS	Display user parameters.
SUPER or SCP	Toggle Super Check Partial.
TESTRIG or TR	Manual rig-control commands.
X	Swap sideband – CW or SSB.
ZAP	Delete previous QSO.