

SD by EI5DI - PC Contest Logger

SD is fast, simple and effective! It is written for contesters, not for IT specialists who happen to be contesters. Your logs are standard ASCII text files that look like Cabrillo, with no cryptic characters – and no binary files or Access databases.

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 networks and does not integrate with the internet.

SD concentrates on the basics and does them right – with instant display of relevant information, but no visual overload. All the critical information is right where you need it – right by the callsign.

SD sets the standard for ESM (Enter Sends Message) in both Run and S&P modes.

SD is the only contest logger to offer ASCII files, full-screen editing of any QSO, no multiple keystrokes, and status fields above and below the callsign that update as you type calls – with no need to touch any other key.

SD is comprehensive! It supports all the major international contests, the FOC Marathon, QSO Parties, and dozens of others events worldwide – with over 200 templates supplied.

SD – single keystrokes for all logging and editing functions.

SD – shows your correct score after each QSO or Edit.

SD – real-time duping, and auto prefix checking, as you type callsign characters.

SD – permits any combination of real-time or post-contest logging.

SD – supports WinKey and SO2R.

SD – combines ASCII (plain text) logs with real-time editing of *any* QSO.

SD – shows multiplier status and bearing/distance display, as prefixes are typed.

SD – provides an audit trail of QSOs logged and edited.

SD – Cabrillo, ADIF and CSV output files.

This manual has 18 pages: Help stamp out bloatware – use **SD**.

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

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WARNING.

Before using SD, you must have a general understanding of the Windows file system. In particular, you need to know how to find, copy, rename, view, edit and delete text files, how to attach files to emails, and how to save email attachments. **If you can't do all these, you should not attempt to use SD.** It's useful, too, to know how to use WinZip and save unzipped files to your SD folder.

File Extensions: Your key file must always be named SD.KEY, otherwise SD will not find it and will start in DEMO mode. At times, text editors and word processors add .TXT or .DOC extensions to the key file – everything may look “right” to you, but not to SD. You can tell whether your computer is showing file extensions by looking for the program file SD.EXE in your SD folder. If the .EXE extension is missing, you need to change a Windows parameter to show all file extensions. Try a Google search with the words **show file extensions** to find references for your version of Windows. This procedure must be done, otherwise you may not be able to find some of your SD program and data files. This is a Windows issue – not an SD issue.

INTRODUCTION

If you prefer not to read this manual in full – please read the last page, the **Feature Summary**.

SD is not free, apart from the following events which are free and unrestricted for everyone.

- CQIR – Ireland Calling
- CW Open
- CWops Mini Tests
- FOC Marathon
- FOC QSO Party
- IRTS 80m Counties – both sides
- INORC
- RSGB Commonwealth (BERU)
- WAPC – both sides

For all other contests, you should take as long as you need to test SD and satisfy yourself that it works as required, **before you register**. The fee is €25, by PayPal, at www.ei5di.com, and this is the only payment option. You do not need to have, or open, a PayPal account – any valid credit card may be used.

When you register you get a key file SD.KEY, by email, corresponding to a single callsign of your choice. The key file is a standard text file with 57 numeric digits which may be viewed and printed with NotePad. Your callsign and update expiry date (month and year) for activating new versions of SD, are encrypted in the key. The key file itself does not expire, and any version of SD downloaded before the update expiry date will continue to run indefinitely, without restriction, in the presence of the key file.

It is your responsibility to move SD.KEY to your SD folder, to print it, and to keep a backup copy. The only way to get a new or replacement key file is via the normal registration process – lost key files are not replaced for free.

SD operates as normal when used with the registered callsign – allowing for country identifier changes. With no key file, or when used with an unrelated call, SD runs in

demo mode, "DEMO" appears in the Score Window and logging is delayed after 30 QSOs – by 30 seconds for each additional QSO. In demo mode, a corresponding delay is included in all SDCHECK (post-contest) options.

SD is a Windows program operating in text (console) mode. It may look like DOS, but it's not. It runs on all versions of Windows, but will not run on a DOS PC. Please read your HISTORY.DOC file, or follow the What's New link on the website, for information about recent additions and changes.

SD is intended for single-operator unassisted entries. Even though it does not integrate with either the internet or CW decoders, you'll soon find it is better at the basics – logging, editing, and identifying potential multipliers. It uses single intuitive keystrokes for all logging and editing functions, and no Alt-This or Ctrl-That! SD was written for contesters, not for other programmers or IT specialists, and function takes precedence over appearance.

SD is unrivalled in displaying all relevant information in real-time as you type callsign prefixes, with no need to touch any other key – and all before you move to the next field. For example, in contests with multipliers, you'll see an instant band/multiplier analysis below the callsign – for both modes when appropriate. You have all the information you need to instantly decide if it's worth moving a station to pick up a multiplier, and the information is where it should be – right by the callsign.

SD provides the simplest and most consistent entry options for any contest logger. You can use any standard character for moving from one field to the next - including Enter (or Return), Tab, Shift_Tab, Right Arrow, and even Space Bar as a substitute for Enter. However, **Enter is recommended** after all fields.

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

INSTALLATION

Installation is fast and simple. When you click on the download link at ei5di.com, a small window appears with the heading “**File Download – Security Warning**” and you are asked whether you want to “**Run**” or “**Save**” sdsetup.exe. Select the **Run** option to see the next message “**The publisher could not be verified. Are you sure you want to run this software?**” Select **Run**, and then the language to use during the installation (English is the default). Select “**OK**” to see “**Welcome to the SD Contest Logger Setup Wizard**”. Select **Next** to continue to the **Select Destination Location** window. Select **Next** to accept the default location **C:\SD** – the SD folder on your computer's C: disk and continue to the “**Start Menu Folder**” window.

Note: **Do not change the default folder** without good reason – it is where **all** SD's program and reference files will be located, together with any logs and other files created by SD and SDCHECK.

Select **Next** to accept the default “**SD by EI5DI**” entry and continue to the “**Select Additional Tasks**” window. Tick the “**Create a desktop icon**” box in the next window (if it's not already ticked) and select **Next**. This will create two

separate icons on your computer's desktop – one to run **SD**, and another to run **SDCHECK**, the post-contest program for creating your Cabrillo entry logs. Finally, select the **Install** button, and you'll be ready to run SD in a few seconds.

GETTING STARTED.

Start SD by double-clicking its desktop shortcut icon. You are asked for a contest (file) name. What happens next depends on whether you enter the name of an existing contest file, a new name, or you enter nothing.

If you leave the file name blank, SD displays all contest files in its folder. Use the arrow keys to select one, and Enter to reload it, or Z (short for Zap) to delete the file. Zap is handy for deleting test files you no longer need – but be careful not to delete any you do need! Esc takes you back to the previous screen.

Contest file names may be any combination of alphabetic and numeric characters, up to a total of eight. SD ignores all other characters, including spaces. It's useful to include the year in each contest name, for example CQWWCW12 or IOTA12, so that you can distinguish one year's log from another. SD's contest files have a .ALL extension.

When you enter a new file name, SD lists all contests supported – the free and unrestricted events are highlighted in blue. Page Down takes you to the second and third page of options. Use the arrow keys, then Enter, to select a contest.

When you give the name of an existing contest file, SD reloads and re-scores it, and displays standard information such as Callsign, Name and Address – normally copied from the initialisation file SD.INI. When you run SD for the first time, SD.INI will not exist and you will be invited to enter this information. Parameters for the remaining fields are taken from whatever template you've chosen. If you need to change any field on this screen, answer "N" to the "Continue?" question, otherwise Enter takes you to the logging screen.

Your starting mode may be CW or SSB. 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. Post-contest mode is supported, but you'll miss out on many of the features that make SD so efficient. To switch, use the commands REAL and POST (for real-time and post-contest). When you switch to post-contest mode, you're asked for the appropriate logging date – this **must** be entered as 8 characters in the format DD-MM-YY. Don't worry about having to change the date later. Once you enter an "earlier" time for the next QSO, SD asks for the new date.

Note that commands apply only to the callsign field on the QSO logging screen. They should not be entered in the callsign field on the opening screen – the one with your name and address.

SCREEN SIZE:

You can change SD's window size to match your screen's dimensions (in pixels). Many users don't know this, because they don't read this manual, and simply use the default installation window – which may be too small.

To change the size, click on the SD icon, at the top left of SD 's window – select Properties, followed by Font, then select the Lucida Console font option. Don't use other font options, as they may not display as intended.

The final step is to experiment with values in the Size field (for Lucida Console), so that SD 's window is as large as possible without being truncated.

There is one further option to consider. Depending on your personal preference, Check Partial and Super Check Partial (SCP) callsigns will appear in place of the Score window, or underneath the logging line (the default when SD is first installed).

In terms of operating efficiency, underneath the logging line is probably better - but it may be at the expense of font size and ease of visibility on smaller screens. You can control this with the EXPAND command to toggle the location of the Check Partial display. Please experiment, then make your own choice.

These days, most monitors and all laptops are supplied in widescreen (16:9) format. If you're using a small screen, say 13 inches or less, visibility is generally better with the non-EXPANDED option. Here are suggested font sizes for Lucida Console corresponding to a some common screen pixel dimensions – assuming that no Zoom options are active.

Screen	1366 x 768 pixels
Non-EXPANDED	26
EXPANDED	19

Screen	1920 x 1080 pixels
Non-EXPANDED	38
EXPANDED	28

UTC.

SD displays UTC, and the corresponding date, at all times. This is dependent upon your PC being set to the 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 red 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 whatever .CTY file is first used, converts it 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.

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". With Tab or Right Arrow, you can move between fields without logging the QSO.

Don't worry about logging a QSO too soon, or logging an unwanted QSO. If unwanted, the ZAP command deletes it. To edit a QSO, use Up-Arrow and then tab across to any field to be changed – followed by Enter to log the changes. You can edit any QSO in the log, and what you see on the screen is what's on disk – at all times!

You may ZAP all the way back to the start of your log – a handy way to get a bit of practice before the contest, and to check that everything is set up correctly. Note that ZAP may temporarily distort your QSO Rate figures. The ZAP command works on the last QSO in your log. To delete earlier QSOs, add /ZAP or just /Z to the callsign – this marks it for deletion, and it will disappear the next time you start SD.

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. This replaces the Summary Score window for 15 seconds. 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 overtyping whatever is received. If you enter a different value for a station already worked, all QSOs with that station will be updated accordingly, and mults flagged or unflagged as necessary on all relevant QSOs on all bands, whether with that station or any other. No other contest logger does this.

CHANGING BAND AND MODE.

SD, and the other loggers, link to most Elecraft, Icom, Kenwood, Ten-Tec and Yaesu radios to synchronise band and mode. 2R control is supported.

Rig control is recommended, because SD then follows band and mode changes on the rig – this does away with the risk of logging QSOs on the wrong band or 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. For anyone used to other loggers, 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 Quick Memory. F12 silently logs a QSO when ESM (Enter Sends Message) is enabled – in contrast to Enter which logs a QSO and plays the corresponding ESM message

To change mode, use the **C** command (for CW) and **S** (for SSB). SD follows frequency and mode changes on your radio, however the mode will not change in single-mode events. When you change mode, from SSB to CW, the CW sideband is set to its previous setting on the band concerned

With rig control, you can QSY directly by entering the new frequency in the callsign field. The appropriate mode is automatically selected (CW, LSB, USB). Your original "run" frequency is stored in Quick Memory and you can restore it by pressing F10 twice. This is very 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.

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.

COMMS PARAMETERS.

Use the PORTS command to define ports for rig control and for CW output. If you are operating SO2R, use the 2R command before the PORTS command.

CW/WinKey Port

- 0 Disables CW.
- 1 – 24 Assigns COM1 – COM24
- 51– 54 Assigns LPT1 – LPT4

Rig Control Port

- 0 Disables rig control
- 1 – 24 Assigns COM1 – COM24 for R1
Printer ports cannot be used

Radio-1 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. You can verify your computer’s port numbers as follows (with Windows XP).

With any CW accessories and associated drivers running, select Start - Settings - Control Panel - System - Hardware - Device Manager - Ports (COM & LPT). You cannot assign any port that is not listed.

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 PARITY, DATABITS, STOPBITS and BPS commands to edit your serial port parameters. Remember that your rig must be set up to match all these parameters. You should use the highest BPS value your rig supports. Two radios must share the same parameters, with the exception that BPS1 and BPS2 set separate BPS values, and STOPBIT1 and STOPBIT2 set separate stop bit values.

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.

The RESET command restores the comms parameters to their default values. RESET will reset the screen colours and set the Com ports to 0.

The POLLTIME and LINKTIME parameters (in SD.INI) influence how your rig responds to SD’s control signals, and they may be changed with the PT and LT commands.

Link Time represents the time, in milliseconds, for you rig to fully respond to a polling request for its frequency and/or mode. What you have to do is determine the lowest Link Time that is 100% reliable

When you first install SD, the initial values are 750 ms for Poll Time, and 500 ms for Link Time. If rig control works right away, SD will be slow to respond to frequency changes on your rig. Regardless of whether rig control works immediately, here’s what you might experiment with – assuming you have previously used the PORTS command to define the COM port and to identify your rig.

1. Set the BPS to the maximum supported by your rig - and ensure your rig is set to the same value (if variable).
2. Use the STATUS command to confirm your POLLTIME and LINKTIME settings.
3. Confirm that rig control is working. If not, there is a separate issue. If working, reduce LINKTIME until rig control fails. Then increase it by 25% or so, and confirm the frequency displays correctly even when continuously turning the VFO dial.

4. Reduce POLLTIME to its minimum value – this will be either 300 ms, or 50% greater than the current Lead Time value – whichever is the larger. There’s nothing to stop you experimenting with larger values of Poll Time (up to 1500 ms), but they make rig-control less responsive.

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

For 2R operation, use backslash “\” to swap rigs, comma “,” to swap frequencies (but keep the same rig active), and equals “=” to send the active rig’s frequency to the other rig. R1 or R2 appears to the left or right of the Date/Time heading to indicate the active radio.

Again, for 2R operation, Pin 14 on LPT1 is set high when Rig 2 is active. Otherwise, it remains low.

CW KEYING - & WinKey

CW keying defaults to SD’s internal keyer, and **keying occurs only when your PC’s sidetone is disabled**. Use the STATUS command to show your settings, and the SIDETONE command to toggle sidetone, if necessary. With an external WinKey or microHAM keyer (with an internal WinKey chip), the WINKEY command toggles between internal and external, WinKey, keying. The default is internal, with WINKEY=0 in your SD.INI file. With WinKey enabled, SD sets the required serial port parameters directly – the ones in SD.INI are ignored

If you find that SD’s internal keying is irregular (often a problem with Windows PCs) try the PRIORITY command – it toggles SD’s runtime priority between 0 and 1. In any case, WinKey is **recommended**, as it guarantees smooth CW from all PCs.

WinKey is an external dedicated keyer. It is controlled by, and integrates with, SD directly from your PC’s USB port. It 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.

Because of an issue with SD’s code for callsign type-ahead (completing a callsign while WinKey sends earlier callsign characters), you should use Esc to stop keying while sending the F2 message (callsign and exchange).

For more information about WinKey, see www.k1el.com. Try www.microham.com for units which combine rig control and WinKey – all from a single USB port.

microHAM Notice: For microHAM units with an internal WinKey chip, their router software ignores (discards) many standard WinKey control commands. Instead, you must set these parameters separately using the router Control Panel. This does not apply to WinKey units supplied by K1EL – no separate router or driver is required.

If you use a microHAM device and have a keying problem, I may not always have the solution.

NOTE: When you use SD’s internal keyer with sidetone enabled, you’ll not have internal keying (from a port), and vice versa. What you hear from the computer speaker’s sidetone is only an approximation of the actual keying – in particular, spacing may vary (and callsign type-ahead will not work).

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.

See the PORTS command to assign your keyer and rig-control ports. To see the current parameters, use the STATUS command. You can assign a single serial port for both keying and rig control, **but not when using WinKey**. Note that, when a port is used in this way, its DTR and RTS pins are used for keying and PTT, and will not provide power to level converters (if any) for rig control. With WK2, you can assign the same (virtual) serial port to both R1 and R2.

The first time you use the PORTS command to set the com port for WinKey, followed by the WINKEY command to enable WinKey, SD may report "No external keyer detected". Should this happen, restart SD, and repeat the WINKEY command.

Should WinKey not work or stop working, try the WKINIT (or INIT) commands.

If nothing seems to work, re-start your PC and run SD again. If you still can't get CW or rig control, delete the SD.INI file in your SD folder, then start SD and use the PORTS command again.

Serial Keying: 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. Again, when using WinKey, you must select separate serial ports for rig control and keying.

Parallel Keying: 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).

With internal keying, some portables expand the first character in a message – it seems they take a while to "waken up", and it's especially noticeable when the first character is a dot. The PTTLEAD command sets any necessary delay (0 to 999 ms) before sending a message (if

necessary, use PTTON to enable PTT). This forces the processor into a hard loop, before keying, which seems to fix the problem. Once again, a reminder that WinKeyer USB is preferred – it eliminates CW timing errors with Windows.

I recommend you connect the TX end of the keyer lead in parallel with the output of your present key(er) rather than connecting it to any of your keyer inputs, or directly to the TX. 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. 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 hold Ctrl down for any length of time. Note that keyboard mode does not work unless a CW ports has been enabled using the PORTS command. Use Esc, Minus or Enter to return to logging mode. The initial CW speed is 28 words per minute, and may be set to any value between 99 and 5 wpm using Page Up and Page Down. Right-Arrow increases weight, Left-Arrow reduces it, and Home restores it to 50%.

Page Up and Page Down change your CW speed at any time, but you must use keyboard mode to change the weight. With WinKey, by default, the speed pot controls your speed.

SD provides 8 CW memories and three methods of using them. When Caps Lock is 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.

The second keyer option is to use the numeric keypad (with Num Lock OFF). I'd recommend this option as it gives you continuous access to the keyer *and* all the function key options. If you need an alternative, try Alt-F1 to Alt-F8.

With internal keying, SD performs an automatic CW speed calibration each time it starts. Nevertheless, if the speed seems to be incorrect for any reason, 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.
CWSTART / START	Select start character for F2 auto playback.
CWZERO	Select CW zero - Ø, T or O.
PORTS	Set keyer & rig ports.
PTTON	Enables PTT.
PTTOFF	Disables PTT.
PTTLEAD	Set PTT lead delay, 0 – 250 ms.
PTTTAIL	Set WinKey PTT lead delay, 0 – 250 ms.
R	Toggles auto-repeat of F1 (CQ) message
R1 to R15	Sets auto-repeat with 1 – 15 seconds interval.
RANDOM	Generate Random RST Sent
SIDETONE	Toggles WinKey's Sidetone – not for WK1.
SWAP	WinKey – reverses paddles.
TUNE	CW key down.
WINKEY	Toggles between WinKey and SD's keyer.
WKPOT	Control speed with the Pot or the Keyboard.
WKINIT / INIT	Initialises WinKey.
WKCOMP	Adds a fixed amount to all dots & dashes.
WKEXTN	Adds a fixed amount to the first dot or dash.
IAMBICA	WinKey – emulates Iambic A.
IAMBICB	WinKey – emulates Iambic B.
ULTIMATIC	WinKey – emulates Ultimatic.
BUG	WinKey – emulates a bug key.
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 enabled a CW port using the PORTS command. Hint: your keyer speed 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. The Apostrophe key toggles ESM On and Off, and 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.

SD's ESM standard for 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 R1 to R15 commands. The number corresponds to the interval in seconds – including the time to send your F1 message. Use the R command to toggle auto-repeat without changing the interval. Auto-repeat works only in RUN mode, and stops once you type anything in the callsign field.

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.

SD's ESM standard for 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
7.	?

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.
- #1,9** Increase speed (1 – 9 wpm)
- #-1-9** Reduces speed (1 – 9 wpm)
- #0** Restores normal speed
- ^** 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. In addition, 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 # keyer parameter followed by a single digit 1 to 9 to temporarily increase speed, and #0 to reset speed to normal. Use a minus for speed reductions.

For example, #6 gives a temporary speed increase of 6 wpm, #8#6 an increase of 14 wpm, and #-4 a reduction of 4 wpm.

If your normal speed is 32 wpm, then the message

```
#8TEST#0 EI5^DI EI5^DI #8#8TEST sends
TEST at 40 wpm
EI5^DI EI5^DI at 32 wpm
TEST at 48 wpm
```

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

Another example - with normal speed of 25 wpm:

```
#C #6#6#T #0#-4#S#E sends
Callsign (#C) + 1 space at 25 wpm
5NN (#T) + 1 space at 37 wpm
#0 resets normal speed 25 wpm
Serial (#S) at 21 wpm
Enter (#E) - automatic move to next field
to be logged.
```

The ^ character adds a half-dot space between characters. They can be strung together to give better readability with some callsigns. Try G3RTE and G3R^T^A^E to hear the difference for yourself. I use EI^5^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 if 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. The information is held in the HELP.TXT file, and you're free to edit it. For more information, please refer to the Feature Summary at the end of the manual.

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.

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.

To fully reset, or wipe a QSO, use Minus or F11 as usual. When repeating an exchange, SD then sends the previous serial

VARIABLE RST SENT.

In some contests, you may prefer to send something other than 59(9). The RST command toggles between fixed and variable reports.

With fixed RST 59(9), the default, 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, IOTA 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 discards 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** Deletes or 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 Quick Memory is updated (call and frequency is stored).
- F11** As Minus, but Quick Memory 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 under 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 applies only to the callsign field on the logging line and only when you're in OVR mode.

With Auto Insert On, 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. **This option is worth trying – I use it myself at all times.**

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 red, 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.

<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 the introduction of the Cabrillo format for contest logs, together with automated log-checking, **there is no penalty for dupes**, whether marked or not. In fact, 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 yellow, 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 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 recommended, especially when using SCP, simply because the information you need is close by.

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, then any Arrow keys to move around the window. Only calls that are not dupes 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 and SSB operation, 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 = to toggle SCP ON or OFF. Note: Equals does not work when you have configured SD for SO2R operation – use the SCP command instead.

With SCP enabled, comma toggles the display between “prefix only” and “All”, and full stop (period) switches the display to “suffix only”.

Up-to-date SCP callsign databases 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.

Sample SD.MAP file - to exchange A and Q.

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

QUICK MEMORY (QM).

Each time you use Minus to delete a callsign, or to abandon (wipe) a QSO, the callsign is recorded in QM, together with frequency and mode when you're linked to your radio. If you prefer, F11 wipes a QSO without updating QM.

QM holds up to 40 entries, and F10 will display them. Scroll through the table with Up Arrow and Down Arrow. To retrieve a highlighted entry (and set your radio to that frequency and mode, if linked), simply press Enter (or F10). Delete or Backspace will delete a highlighted entry. Any other key will return to normal logging. Please experiment with this – it's useful when searching and pouncing, and it can be used as the equivalent of a Band Map.

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 (SD).

There are only two basic types of multiplier in HF contests! The first type is indicated by the exchange, for example, district multipliers such as zone, state, county or district. For these, SD uses reference files with the .MLT extension. For example, the multiplier file for RSGB contests is RSGB.MLT – this contains a list of the standard UK district codes and names.

The second multiplier type is derived directly 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's RSGB.CTY. Prefix multipliers do not need separate reference files – they're part of the callsign.

Some contests have both country and district multipliers. In most cases, apart from CQWW, a single QSO cannot be both a district and a country multiplier. 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.

To see the layout of .MLT files, refer to the Questions and Answers section later in 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.
Home	Back 50 QSOs.
End	Forward 50 QSOs.

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, the ZAP command will delete it – so long as you've 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.

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 F1.WAV etc. With Num Lock Off, you can use the numeric keypad to play messages. With DVR playback enabled, Esc instantly stops playback.

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.

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.

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 BANDS - QSOs ALREADY LOGGED.

Without rig control, it's easy to change band on-air but forget to do it on the computer. To edit the band on a QSO, move to it, as for an Edit, and then use F1 or F2 (Caps Lock must be Off) as required.

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. No other contest logger does this.

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-periods, and rates may not be accurate when they span off-periods.

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

CALLSIGN DATABASES.

The LOAD command allows you to load reference 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. The record length may vary.

For the IOTA contest, it's useful to add island references to your corresponding .LST records. On a callsign match, the references are extracted and placed in the received IOTA field on the logging line. 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 CLEAR 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 the log file on disk after every single QSO is logged or edited. So, 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 – a standard option in SDCHECK.

The AUDIT command gives the option of saving QSOs and edits, in a simplified form, to an additional audit file with a .TXT extension. NOAUDIT stops this feature.

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).

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 **eu005** (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

Finally, you'll probably want to prepare your entry. Use program SDCHECK, after the contest, to generate whatever file(s) you need.

SDCHECK has the following options.

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 – not needed for Cabrillo disk entries.
3. **Dupe Sheets.** These are a legacy from the days of paper entries. Nevertheless, they're useful for finding "broken" callsigns.
4. **Print File.** Again, a legacy from the days of paper entries, but you might like a printout 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.
8. **Restore .ALL File.** Restores your .ALL file from the .AUD audit file. Your original .ALL file is saved to a .OLD copy.

SDCHECK generates a single .LOG file, in Cabrillo (ARRL Standard File) format, which contains all Summary Sheet and QSO information. While running, you're asked to input the Summary Sheet data 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 stands for Amateur Data Interchange Format – you can get more information from www.hosenose.com/adif.

COLOURS

Use the COLOUR (or COLOR) commands to choose the Window background colour, the Log (previous QSOs) colour, the QSO entry colour, the Title text colour and the background colour. Colours will be unchanged if you press Enter without first typing a number from the range indicated.

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. You can change them singly, using the same commands as before, or use the command RESET to reset them all to their default values.

If the .INI files are not present, or have been deleted for any reason, they will be re-created the next time you run SD. RESET does not change keyer messages.

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.
 KEYPORT1 Radio 1 keyer port. 0 if unused.
 KETPORT2 Radio 2 keyer 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).
 CQTIMER F1 (CQ) auto-repeat timer.
 1-10 seconds.
 RIGPORT1 Radio 1 control port – 0 when unused.
 RIGPORT2 Radio 2 control port – 0 when unused.
 SO2R Set to 1 when using 2 radios.
 RADIO1 Radio 1 Name – uses corresponding .SD
 Control File.
 RADIO2 Radio 2 Name.
 POLLTIME Time between polling signals (ms).
 LINKTIME Your rig's response time. Set to lowest
 reliable value.
 STEPFREQ Unused.
 DATABITS Serial Comms – default is 8
 STOPBIT1 Rig 1 – default value is 2
 STOPBIT2 Rig 2 – 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.
 BPS1 Rig 1 BPS – default is 4800
 BPS2 Rig 2 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
 VRSTS
 QTCCHAR Defines field terminator for QTCs.
 BEEP
 AUDIT Additional audit to .TXT file.
 CWSIDETONE Internal Keyer - 0 keying, 1 sidetone.
 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

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 with the .ALL
 extension (looking similar to a Cabrillo log.), for example
 NAME.ALL – where NAME is the name you gave the contest
 when you started the program. This holds all your QSO and
 scoring information. You can edit the QSO records with
 any text editor (NotePad is a good option – 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 files before attempting any
 edits.

TEMPLATE FILES.

SD was developed initially with fixed, hard-coded, contest
 options. Later, some of the options were expanded to let
 users select their own country and district multiplier files,
 and to specify points by band, mode and continent. The
 final step in the process was to introduce separate templates
 with all relevant information for each contest. Template file
 names start with "Q" and have a .TPL suffix. They are
 referenced from the TEMPLATE.TXT file – one record for
 each contest, showing the name of the event and its 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.

TEMPLATE PARAMETERS.

BONUSPOINTS:
CLEARBAND:
CTYFILE:
DUPETIME:
OPTION:
MIXED:
MLTFILE:
MIXED:
MULTSBOTH:
MULTSCOUNT:
NON-AREA MULTS:
NORST:
POINTS:
POINTSAREA:
POINTSCW:
POINTSSSB:
REPLACE_RST:
SCOREMULTS:
SENDSERIAL:
SERIALS:
TIMES:
TOPBAND:
TYPE:
REPLACE_RST:
WORKBOTH:

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.

Error 7	Out of memory.
Error 14	Out of string space.
Error 57	Device I/O error.
Error 61	Disk full.
Error 68	Device unavailable.
Error 70	Disk is write protected.
Error 71	Disk drive not ready.
Error 72	Disk media error.

For Type 4 and Type 10 contests, 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 – 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 some 200 contest options, with additions every month.

WAE Contest.

The QTC command lets you record QTCs (European entries) or send QTCs – for stations outside Europe. For CW QTCs, whether sent or received, ESM should first be enabled.

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 done, use Down Arrow on the last QTC – then confirm the callsign and QTC sequence.

Type 11. No multipliers:

Type 11 may be used as a last resort option for any other contest not catered for specifically, and at least it will do all the logging and duping, if not the scoring.

CW DEMONSTRATIONS.

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 chosen speed, and you can impress them with your answer. They will all think it's magic, and so it is!

THIS IS THE SMALL PRINT.

All SD users must accept this disclaimer of warranty.

“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”.

Users are reminded that software is never finished and is never entirely bug-free – just ask Microsoft. The fact that there may be bugs in SD at the time of initial registration, or bugs introduced in subsequent versions released during the registration period, does not entitle users to an extension of their registration period.

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.

Following mode edits, on QSOs already logged in mixed-mode contests, there are no consistency checks for dupes or

multipliers. It's not a problem, because SD rescores your log each time it's loaded.

In Type 6 (Prefix multipliers), no multiplier consistency checking is performed after callsign or band edits on previously logged QSOs.

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. In CQWW, there's no need to worry about logging "wrong" zones,

because CQ uses callsigns only to rescore logs, and discards all other QSO data – strange but true!

SD scores /AM and /MM callsigns according to the home callsign. This may not be correct in all contests.

The next page is the Feature Summary. Please experiment with them all, otherwise you will miss some of the features that make SD so efficient.

SD Feature Summary - Commands apply to the Callsign field on the QSO logging line.

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 Quick Memory (QM) Table.
F11	Wipes a QSO - no QM 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

QUICK MEMORY (QM)

F10	Display QM table
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.

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 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)
Apostrophe	Toggle ESM – Enter Sends Message.
Grave Accent	Toggle RUN / S&P mode (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
#1 1 - 9, increase speed - wpm	
#-1 1 - 9, reduce speed - wpm	
#0 Reset speed to normal	
^ 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.
2R	To define COM ports for second radio.
AB	List calls logged on any band.
AI	Toggle Auto Insert entry mode.
B10, B15 etc	Change Band - 10m, 15m etc.
BPS	Set bits per second.
CALIBRATE	Calibrate CW speed.
COLOUR	Change screen colours.
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.
DATABITS	Set databits parameter.
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.
FORCENUM	Forces numbers from top-row keys.
HELP	Displays Help Window - HELP.TXT
LINK	Toggle rig comms link on/off.
LINKTIME (LT)	Set your rig's response time – ms.
LOAD	Load *.LST files.
LOGONENTER	Toggle Log on Enter.
MEMO	Enter memo - same as F7 .
OFF/POST	Post-contest logging.
ON/REAL	Real-time logging.
PARITY	Set parity parameter.
POLLIME (PT)	Set Rig Polling interval – ms.
PORTS	Set keyer & rig ports.
PRIORITY	Toggle between 0 and 1 levels.
Quotes - "	Repeat previous callsign.
QTC	Log or Send QTCs in WAE .
R1 to R10	Set time between repeat CQs.
RESET	Reset comms/colours/ports.
RST	Toggle variable RST Sent.
SETDUPE	Reset dupe and mult checking.
SHOW	Show input characters - diagnostic.
SIDETONE	Toggle between sidetone and keying.
SKED	Enter sked - same as F7 .
STATUS	Display user parameters.
STOPBITS	Set stopbits parameter.
SUPER or SCP	Toggle Super Check Partial.
TESTRIG or TR	Send Control Sequence to Rig.
X	Swap sideband – CW & SSB.
ZAP	Delete previous QSO.