



Leaders in device programming, copying, simulation

ELAN
EASYCOM REMOTE DRIVER SOFTWARE
USER MANUAL

Elan Digital Systems

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EASYCOM REMOTE DRIVER (Elan ASynchronous COMMunications Program)

INTRODUCTION

"Easycom" is a program for controlling any ELAN editing programmer or copier. The program operates on IBM PCs (TM) and compatible computers under the MS-DOS Operating System versions 2.0 or higher and Digital Equipment Ltd. Vax computers using the VMS operating system (Unix Pending).

EASYCOM 1 allows remote programmer control and bi-directional file transfer for the following Elan programmers ;-

C41, E12C, E9C and any Elan Universal programmer.

EASYCOM 2 has the additional features of Editing, Program From File for handling large files and for IBM versions, Label Printing.

EASYCOM Demonstration Disk allows remote programmer control but limits file transfer to one direction only, from programmer to IBM. The Easycom 2 features are suppressed. The disk can also be used without connection to a programmer by typing EASYCOM/D after installation.

The following pages describe installation, getting started, the use of the computer keyboard function and control keys and the Easycom 2 features.

EASYCOM INSTALLATION INSTRUCTIONS: IBM PC & Compatibles

Before installing the disk, please check your connections between the PC and the Elan Programmer. The serial link cable connections are as follows:

ELAN	IBM XT	IBM AT
2	3	2
3	2	3
4	5	8
5	4	7
6	20	4
7	7	5
20	6	6
25 Way Cannon D	25 Way Cannon D	9 Way Cannon D

Note: Connectors are female at both cable ends.

The text files may be printed off for a copy of the operating instructions. (files on EASYCOM disc with .txt extentions)

Installation Procedure:

Insert disc in drive A:

Type A:EASYINST (return)

Follow on-screen instructions,

When the installation is complete:-

Type EASYCOM1 (return), or EASYCOM2 (return) as appropriate, EASYCOM (return) for the demonstration disc connected to an Elan programmer, or EASYCOM/D for the demonstration disc alone.

EAsyCom Installation guide for VAX VMS Systems

Create a directory on SYS\$SYSDEVICE called SYS\$SYSDEVICE:[ELAN]. Load the EAsyCom software from tape into this directory. The tape was created using the VMS BACKUP command at 1600 BPI and the tape is called "EASYCOM".

Also create a null file in this directory called "EASYCOM.INI"

Running EAsyCom with the programmer on a separate Terminal Port

If EAsyCom is to be run with the programmer on a separate terminal port, then the system startup procedure SYS\$SYSMANAGER:SYLOGIN.COM should include a command to assign the Logical name ELAN to the required port and to define the symbol EASYCOM to point to the EAsyCom software eg.

```
ASSIGN TXA1: ELAN                               )
EASYCOM :-- $SYS$SYSDEVICE:[ELAN]EASYCOM.EXE ) Must set all 3
EASYDEMO :-- 'EASYCOM'/D                       )
```

The EASYDEMO symbol is used to invoke the software without enabling communication with the programmer.

In addition, the startup command file SYS\$SYSMANAGER:SYSSTARTUP.COM should be modified for the terminal port that will be used. The required terminal characteristics are as follows:

```
SET TERMINAL/PERMANENT/ALTYPEAHD/NOWRAP/NOBROADCAST <port>
```

Running EAsyCom with the programmer connected to the Auxiliary Port of a Terminal

In this case, the SYS\$SYSMANAGER:STARTUP.COM file should be modified for all the terminal ports which are required to operate with the programmer. However, the NOBROADCAST option should be left out. Otherwise, the terminal will be unable to receive broadcast messages when not running the EAsyCom software. For this option it may be better to create a command file to set NOBROADCAST before running EAsyCom and then reset it afterwards, eg:

File EASYCOM.COM in directory SYS\$SYSDEVICE:[ELAN]

```
$ SET TERMINAL/NOBROADCAST
$ EASYEXE/A
$ SET TERMINAL/BROADCAST
$ EXIT
```

In this case. the SYS\$SYSMANAGER:SYLOGIN.COM file should contain the following symbol definitions:

```
EASYCOM :-- $SYS$SYSDEVICE:[ELAN]EASYCOM.COM )
EASYEXE :-- $SYS$SYSDEVICE:[ELAN]EASYCOM.EXE ) Must set all 3
EASYDEMO :-- 'EASYEXE'/D                       )
```

Easycom; Getting Started

The organization of these instructions corresponds to the steps to take in operating the EASYCOM program. First the Elan programmer must be connected to the computer, the power turned on and the programmer put in remote mode to enable it to communicate with the EASYCOM program. These steps are described under "Set up Programmer". Then the EASYCOM program is initiated, as described under "Start Program". After the initial EASYCOM information screens have been displayed, all control of the Elan programmer takes place from the Programmer Control Screen. The programmer 'Reset' key should not be used to reset from remote control mode until the Easycom program has been terminated.

Set Up Programmer

Set up the input/output communications configuration of the Elan programmer. The serial port should be transmitting and receiving at a baud rate of 9600 (19200 for IBM AT and compatible), no parity, 8 data bits and 1 stop bit. Use the I/O code setting 2CC for E Series or EA Series programmers, or I/O code setting 8 Db 1 St no/par for EB Series, C41, or Universe programmers. Select the 'Easycom' remote setting for universe programmers (Key 'Select' then 'F3').

The data format to use will be set depending on the type of data file to be transmitted, using the Programmer Control Screen and need not be set up now. Before initiating EASYCOM, the Elan Programmer must be connected to the computer, its power must be "ON" and its initial diagnostic sequence must have been completed. A device type (e.g. "2764") must be displayed without blinking on the Elan Programmer's display. The programmer must be put into the remote control mode by holding down the "ENTER" key before EASYCOM will operate correctly - (shift and Enter for Universe programmers). This will result in a display "REM" or "REMOTE" in the display of the EB/C41 or Universe programmers, or a display of "C" in the E or EA Series programmers. Connect the Elan programmer's serial I/O to port COM1 on the computer.

EASYCOM will return control of the Elan programmer to the manual mode when you have terminated its activity and it exits to the operating system.

Start Easycom

Once the Easycom program has been installed, select the appropriate directory and start the program by typing EASYCOM1 or EASYCOM2 at the MS-DOS prompt (>). You will see a copyright notice followed by directions to press function keys F1, F2 or F9. Use of function key F2 takes the program directly to the Elan programmer control screen and should only be used by operators already familiar with the use of EASYCOM. Users not experienced in the use of this program should depress function Key F9 and proceed through the instruction screens as directed. If you have entered EASYCOM in error, press F1 to exit back to the Operating System.

The Elan programmer will emit one or more "beeps" if F2 is depressed, indicating it is receiving information from EASYCOM.

If the "No Programmer Response" error appears when an attempt is made to first enter the programmer control screen, this indicates that the Elan either programmer is not properly connected to the computer, it is not turned on, or it is not in a mode that allows it to communicate with the EASYCOM program (it may not be in Remote Control Mode. Alternatively it may be executing a command or performing start-up diagnostics). Check that the SYSTEM VARIABLES are set to zero. (E series/C41 programmer manual page 2-3).

NOTE

When Easycom is started with the programmer, the initial screen settings are sent ie. ram start/end
virtual add
device start/end
etc.

If the programmer is reset to manual operation whilst the Easycom control screen is present, ie without leaving Easycom, these screen settings will be lost, and will not be refreshed if the programmer is returned to remote operation without re-entering the Easycom control screen. For example, if a 'File To Ram' Easycom transfer were to be executed using a Virtual Address Off-set of C, then the programmer reset used to allow manual checking of the first few bytes in ram and remote were re-entered, a repeat file to ram transfer would ignore the off set of C and be lost.

Furthermore, if sending a succession of files, it is important to clear ram to FF, using Easycom in between transfer, as transfers using formats with a destination address in each block may not over-write all the existing ram data. In these circumstances the ram checksum would not correspond to the file checksum and resulting programmed eproms would hold file data plus unspecified data.

NOTES Continued

The use of Easycom is dependant upon there being no manual intervention.

From the moment Easycom control screen is entered, the programmer must not be reset out of remote unless Easycom is returned to the title screen using the IBM F1 key.

EASYCOM CONTROL AND FUNCTION KEYS

The IBM PB has 10 Function keys that are programmed by Easycom for use as directed by the control screen. These functions are also accessible by pressing the Escape (Esc) key and a letter key. The IBM can use either method but the DEC VAX only uses the Escape key method as there are no function keys on the DEC keyboard.

Enter/Return key or Cursor-Down key: Press Enter when the current field data is correct, the cursor advances to the next field.

Cursor-Up key: Moves cursor to previous field.

FUNCTION OR ESCAPE (ESC) KEYS:-

F1/ESC Q "PREVIOUS SCREEN/EXIT"

Pressing this key displays the screen previously examined, or allows exit from the initial copyright screen or from the Programmer Control Screen.

F2/ESC F "DOS SHELL"

Returns to DOS command level. Type 'Exit' to return to Easycom.

F3/ESC F or ESC M "MOVE TO FIELD"

Moves the cursor to the next field.

F4/ESC D "DISPLAY CHOICES"

Displays the list of field choices with a highlighted cursor. Press 'Enter' to select current cursor position or key required field number.

F5/ESC P "PREVIOUS CHOICE"

Press once to select the previous choice in the current field. Hold down for rapid scroll.

F6/ESC N or Space Bar "NEXT CHOICE"

Press once to select the next choice in the current field. Hold down for rapid scroll.

F7/ESC E "EDIT SCREEN"(Easycom II only)

F8/ESC C "CLEAR FIELD"

Clears the current field if it is an entry field.

FUNCTION OR ESCAPE (ESC) KEYS CONTINUED

F9\ESC H "HELP"

Displays the "Help" Screen.

F10\ESC X "DO" OR "EXECUTE"

Causes the Elan programmer to execute the function indicated in the "Programmer Function" field. This field doesn't need to be the current field when this Function Key is pressed. The programmer "beeps" when this key is pressed.

CONTROL KEYS ; Entry Field Editing ;-

If the current field is an entry field, the cursor control keys on the numeric keypad can be used to edit or control the field's contents.

LEFT ARROW "CURSOR LEFT"

Cursor moves one character to the left in the current field.

RIGHT ARROW "CURSOR RIGHT"

Cursor moves one character to the right in the current field.

DEL "DELETE"

Deletes the character at the current cursor position.

INS "OVERWRITE"/"INSERT"

Changes from the Overwrite to Insert mode, or vice-versa. This controls the action that occurs when a character is typed at the cursor position. In the "Overwrite" mode, the typed character replaces the character at the cursor position; in the "Insert" mode, the typed character moves all the other characters in the field to the right without replacing any. The "default" condition when "EAsyCom" is entered is the "Overwrite" mode.

BACKSPACE

Deletes the character to the left of the cursor.

CONTROL KEYS CONTINUED ;

IBM KEY-BOARD:-

"HOME"

Moves the cursor to the first character of the current field.

"END"

Moves the cursor to the last character of the current field.

"PG UP "

The first field on the programmer control screen is selected.

"PG DN" LAST FIELD

The last field on the programmer control screen is selected.

EASYCOM 2: Buffer Editing

Edit

The Screen allows choice of buffer size up to 32K (7FFF) with any buffer start address up to 64K (FFFF).

Data can be entered into the buffer from Programmer ram or IBM disc file using control screen commands "COPY RAM TO BUFFER" or "LOAD FILE TO BUFFER". There are 4 file formats available for buffer transfer, these are Intel Standard/8086, Motorola S Records, Tek Hex or Extended Tek Hex.

Key F7 To Select The Editing Screen

This is a 256 Byte window on the selected buffer area. The data is arranged with the address field on the left, 8 hex characters (max. allowable address 00 007F00).

The central area is data, normally presented in a row of 16 bytes (16 pairs of hex characters). The ASCII equivalent of the data is presented on the right hand side of the display.

Cursor Control

ARROW KEYS	step 1 character in any direction.
HOME END KEYS	move between beginning and end of buffer.
PAGE UP KEY PAGE DOWN KEY	move whole buffer window by 256 bytes, ie:- to the adjacent window area.
RETURN KEY	moves cursor to beginning of current field.
TAB KEY	moves cursor to beginning of next field.

EDITING CONTINUED

Address Field

Any valid address (within the user selected buffer size) can be entered. On pressing RETURN the buffer window will automatically adjust accordingly. HOME, END, PAGE UP & PAGE DOWN can also be used.

Hex Data Field

Any hex character can be entered from the keyboard. Where this is a valid ASCII code the ASCII equivalent will be displayed on the right hand side of the display area.

ASCII Data Field

Any keyboard character can be entered, the equivalent hex code will be displayed in the central data field.

Function Keys

F1 PREV. SCREEN; Reverts to control screen.

F2 DISPLAY MODE; Toggles between hex data group in :-

Bytes (2 hex characters)

Words (4 hex characters)

Long words (8 hex characters)

F9 INVERT BUFFER; Entire buffer controls inverted.

BLOCK COMMANDS

NOTE : CURSOR MUST BE IN THE HEX DATA AREA

Defining the Block

F3 BEGIN BLOCK; Displays message begin block at (current cursor
address)

F4 END BLOCK; Displays message end block at (current cursor
address)

The chosen block will be highlighted.
(must be different from begin block address).

F5 HIDE BLOCK; Terminates use of current block on the screen.
The block highlight will be removed.

EASYCOM2 Buffer Editing continued.

- F6 COPY BLOCK; The current block will be copied to the current cursor address. This will become the current block and be highlighted.
- F7 FILL BLOCK; Data in current block will be filled with data specified in "Ram Fill" data on control screen.
- F8 CLEAR BLOCK; Data in current block will be cleared on FF.

EASYCOM 2: PROGRAM FROM FILE

This facility is provided to allow programming from a file that may be much larger than the programmer RAM area. By selecting the Program From File function from the Easycom control screen, together with the relevant file name entered in the File Name field, Easycom will calculate and display the parameters required on a program-from-file screen.

This screen allows programming of devices as specified on the previous control screen. As devices are programmed, Easycom automatically transfers the next block of data and prompts for the next device(s) to be inserted for programming.

EASYCOM 2 LABEL PRINTING (IBM computer only)

"PRINT LABELS" Selected from the control screen: Programmer Functions. (Field number 20).

The Print Labels facility will allow printing of rows and columns of labels of up to 5 lines of 25 characters per line per label.

MAX FIELD SIZE 25 CHARACTERS

LABEL SET UP FILE: User choice of file save name.

PRINT DEVICE: PRN for parallel Centronics printer interface.

- COM1 or COM2 for serial printer interface.

PRINTER INITIALIZATION STRING:

Control codes to suit the printer in use may be entered here if required. (They may also be used in the label fields)

& character is used as meaning 'control'.

& [characters are used together as meaning 'escape'.

for Epsom RX80FT+, condensed print code is control 0

so &0 would be entered for the initialization string.

double-strike print code is ESC G so &[G would be entered for the initialization string.

PRINTER DE-INITIALIZING STRING:- Control codes to restore printer to previous mode

NUMBER OF LABELS PER ROW:- Any number up to 9999, only restricted by printer & character size.

NUMBER OF LABELS TO PRINT:- Any number up to 9999.

INITIAL LABEL NUMBER:- Incremental numbers can be printed from any starting number in the range 0-9999.

INTER LABEL GAP:- Row spacing can be defined by using space bar to introduce up to 25 character spaces. A space can also be filled with any character.

PRINT LABELS (continued)

- Line 1 These lines can accept up to 25 characters each.
 - Line 2 If more than one line is used, each line must contain
 - Line 3 the same number of characters and spaces
 - Line 4 (not including any printer control codes).
 - Line 5 The # sign may be used to produce an incrementing number on any label line. To preserve constant label size there should be one # per digit in the number e.g use ### for numbers up to 999.
- PRINTER CONTROL CODES may be used in these lines.

This example shows the printer control codes for the Epsom RX80FT+ printer to print line 3 in bold (double strike). Code "& [G" represents ESCape G for double strike and "[H" represents ESCape H to cancel double strike.

Note that the total number of characters and spaces for lines 1, 2, 4 & 5 must be 15, and for line 3 the total number 21 to allow for the 6 control code characters.

If line 3 had no control codes, then all 5 lines would need an allowance of 9 characters to remain equal.

- Line 1 TEXT
- Line 2 TEXT
- Line 3 &[G BOLD TEXT &[H
- Line 4 TEXT
- Line 5 TEXT

AFTER SALES SUPPORT AND SERVICE

In case of operating difficulties (and before making any returns) please contact:-

For U.K. and rest of the world (excluding U.S.A., Canada, Mexico and S. America):

- i) Your Distributor or
- ii) Customer Support Engineering at Elan Digital Systems Ltd
Tel: (0293) 510448

For U.S.A., Canada, Mexico and S. America; the Technical Support Representative, Tel: (408) 734 2226

Advice can be given on all aspects of the programmer's operation and the problems encountered when interfacing with other systems.

In the event of a return being necessary please use the original packing material or pack very carefully to minimise damage in transit. Items received in inadequate packing will be returned in new packing which will be charged for.