

**Keywords:** Factory Talk, Allen Bradley, Rockwell, gfx, display, import, export, edit, xvi32

**Product:** Factory Talk View Studio 7.0 (CPR 9 SR6)

**Problem:** Raw edit GFX files / Changing Tag values in multiple Factory Talk display files (\*.gfx)

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Raw Factory Talk view display files cannot be edited with a normal text editor, you can only edit this by exporting. When you export and import a Factory Talk studio display it's converted to a xml file. When importing this display, objects lose their connection with the corresponding global object.

If you need to change object names without export/import you can edit the \*gfx file by means of an Hex-editor. This way it will not break the global object links.

This HowTo explains how to use the Xvi32 hex editor to edit \*.gfx files. This editor can be downloaded from the internet for free. It has a command line scripting engine which is used in this howto. The use of a windows batch file makes it possible to automate this task.

#### Prerequisites:

1. Xvi32 v2.55 is located in root folder (c:\xvi32\).
2. Create a script called "universalreplace.xsc", this will be used by the batch file to replace hex values. More information about the xvi32 scripting engine can be found at the Xvi32 website.

```
REM goto begin of file (always zero-based)
```

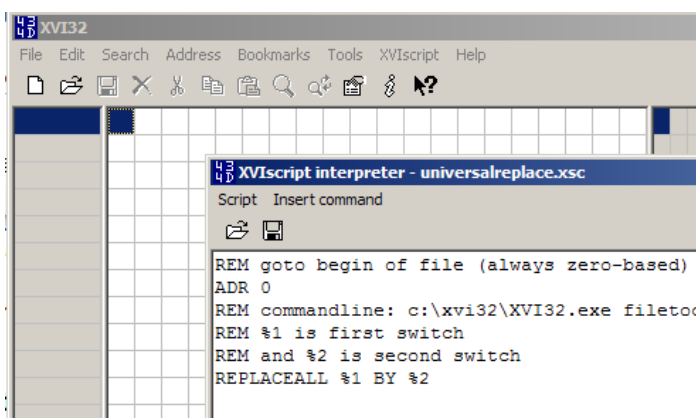
```
ADR 0
```

```
REM commandline: c:\xvi32\XVI32.exe filetochange.gfx /S=c:\xvi32\universalrepl.xsc old  
"new"
```

```
REM %1 is first switch
```

```
REM and %2 is second switch
```

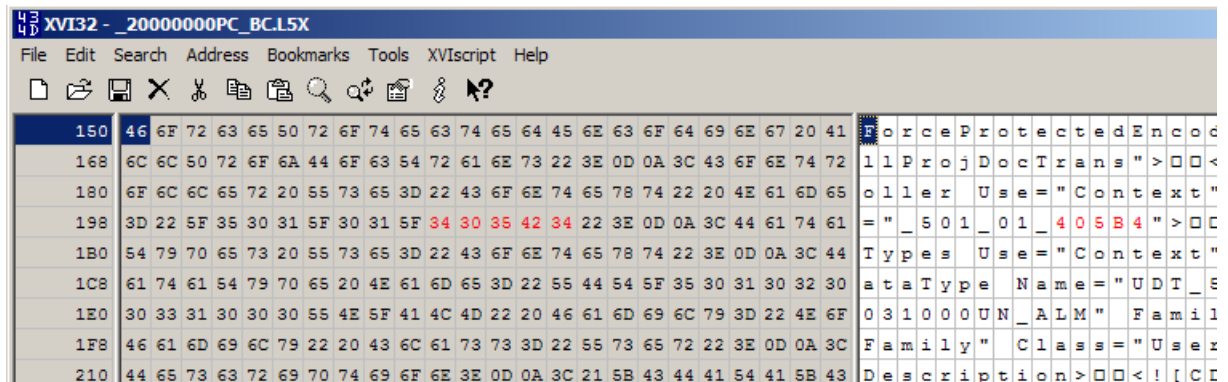
```
REPLACEALL %1 BY %2
```



3. Xvi32 script "universalreplace.xsc" is located in Xvi32 folder (c:\xvi32\universalreplace.xsc)
4. Make a windows batch file (\*.bat), see code below. This batch file processes all the gfx files located in the same folder as the script.

## Find and replace:

1. copy \*.gfx files to temporary folder
2. copy \*.bat file "Batch replace hex code vx.x.bat" to the same temporary folder
3. Find the string you want to replace by opening the gfx file with Xvi32.



4. edit \*.bat file to set the hex strings to find & replace:

Example:

ASCII string old: 405B4, new: 405B5

```
set old=34 30 35 42 34
```

```
set new=34 30 35 42 35
```

5. save, exit and run the \*.bat file
6. when finished, you can add displays into the Factory Talk view application by using "Add Component Into Application.."

## Appendix 1: Windows batch file

*\* Example values*

```
rem @echo off
echo "> Are you sure that this batch file is started in the right directory?"
PAUSE
REM ***
REM *** !! .Bat file to be located in the folder containing the files to be changed!!
REM ***
REM *** Make sure xvi hex editor and the 'universalreplace.xsc' script is located in
c:\xvi32
REM ***
REM ***
REM *** All numeric values are encoded is Chr(ASCII) for Rockwell *gfx files

REM *****
REM *** Replace values
REM *** Old hex value
REM *** 20031
set old=32 00 30 00 30 00 33 00 31

REM *** New hex value
REM *** 20032
set new=32 00 30 00 30 00 33 00 32

REM *****Don't edit below this line*****
echo "> start replacing all hex values.."
FOR %%f IN (*.gfx) DO START /W c:\xvi32\xvi32.exe %%f
/S=c:\xvi32\universalreplace.xsc "%old%" "%new%"
```

## Appendix 2: ASCII table

| Dec | Hx | Oct | Chr                         | Dec | Hx | Oct | Html  | Chr   | Dec | Hx | Oct | Html  | Chr | Dec | Hx | Oct | Html   | Chr |
|-----|----|-----|-----------------------------|-----|----|-----|-------|-------|-----|----|-----|-------|-----|-----|----|-----|--------|-----|
| 0   | 0  | 000 | NUL (null)                  | 32  | 20 | 040 | &#32; | Space | 64  | 40 | 100 | &#64; | @   | 96  | 60 | 140 | &#96;  | `   |
| 1   | 1  | 001 | SOH (start of heading)      | 33  | 21 | 041 | &#33; | !     | 65  | 41 | 101 | &#65; | A   | 97  | 61 | 141 | &#97;  | a   |
| 2   | 2  | 002 | STX (start of text)         | 34  | 22 | 042 | &#34; | "     | 66  | 42 | 102 | &#66; | B   | 98  | 62 | 142 | &#98;  | b   |
| 3   | 3  | 003 | ETX (end of text)           | 35  | 23 | 043 | &#35; | #     | 67  | 43 | 103 | &#67; | C   | 99  | 63 | 143 | &#99;  | c   |
| 4   | 4  | 004 | EOT (end of transmission)   | 36  | 24 | 044 | &#36; | \$    | 68  | 44 | 104 | &#68; | D   | 100 | 64 | 144 | &#100; | d   |
| 5   | 5  | 005 | ENQ (enquiry)               | 37  | 25 | 045 | &#37; | %     | 69  | 45 | 105 | &#69; | E   | 101 | 65 | 145 | &#101; | e   |
| 6   | 6  | 006 | ACK (acknowledge)           | 38  | 26 | 046 | &#38; | &     | 70  | 46 | 106 | &#70; | F   | 102 | 66 | 146 | &#102; | f   |
| 7   | 7  | 007 | BEL (bell)                  | 39  | 27 | 047 | &#39; | '     | 71  | 47 | 107 | &#71; | G   | 103 | 67 | 147 | &#103; | g   |
| 8   | 8  | 010 | BS (backspace)              | 40  | 28 | 050 | &#40; | (     | 72  | 48 | 110 | &#72; | H   | 104 | 68 | 150 | &#104; | h   |
| 9   | 9  | 011 | TAB (horizontal tab)        | 41  | 29 | 051 | &#41; | )     | 73  | 49 | 111 | &#73; | I   | 105 | 69 | 151 | &#105; | i   |
| 10  | A  | 012 | LF (NL line feed, new line) | 42  | 2A | 052 | &#42; | +     | 74  | 4A | 112 | &#74; | J   | 106 | 6A | 152 | &#106; | j   |
| 11  | B  | 013 | VT (vertical tab)           | 43  | 2B | 053 | &#43; | +     | 75  | 4B | 113 | &#75; | K   | 107 | 6B | 153 | &#107; | k   |
| 12  | C  | 014 | FF (NP form feed, new page) | 44  | 2C | 054 | &#44; | ,     | 76  | 4C | 114 | &#76; | L   | 108 | 6C | 154 | &#108; | l   |
| 13  | D  | 015 | CR (carriage return)        | 45  | 2D | 055 | &#45; | -     | 77  | 4D | 115 | &#77; | M   | 109 | 6D | 155 | &#109; | m   |
| 14  | E  | 016 | SO (shift out)              | 46  | 2E | 056 | &#46; | .     | 78  | 4E | 116 | &#78; | N   | 110 | 6E | 156 | &#110; | n   |
| 15  | F  | 017 | SI (shift in)               | 47  | 2F | 057 | &#47; | /     | 79  | 4F | 117 | &#79; | O   | 111 | 6F | 157 | &#111; | o   |
| 16  | 10 | 020 | DLE (data link escape)      | 48  | 30 | 060 | &#48; | 0     | 80  | 50 | 120 | &#80; | P   | 112 | 70 | 160 | &#112; | p   |
| 17  | 11 | 021 | DC1 (device control 1)      | 49  | 31 | 061 | &#49; | 1     | 81  | 51 | 121 | &#81; | Q   | 113 | 71 | 161 | &#113; | q   |
| 18  | 12 | 022 | DC2 (device control 2)      | 50  | 32 | 062 | &#50; | 2     | 82  | 52 | 122 | &#82; | R   | 114 | 72 | 162 | &#114; | r   |
| 19  | 13 | 023 | DC3 (device control 3)      | 51  | 33 | 063 | &#51; | 3     | 83  | 53 | 123 | &#83; | S   | 115 | 73 | 163 | &#115; | s   |
| 20  | 14 | 024 | DC4 (device control 4)      | 52  | 34 | 064 | &#52; | 4     | 84  | 54 | 124 | &#84; | T   | 116 | 74 | 164 | &#116; | t   |
| 21  | 15 | 025 | NAK (negative acknowledge)  | 53  | 35 | 065 | &#53; | 5     | 85  | 55 | 125 | &#85; | U   | 117 | 75 | 165 | &#117; | u   |
| 22  | 16 | 026 | SYN (synchronous idle)      | 54  | 36 | 066 | &#54; | 6     | 86  | 56 | 126 | &#86; | V   | 118 | 76 | 166 | &#118; | v   |
| 23  | 17 | 027 | ETB (end of trans. block)   | 55  | 37 | 067 | &#55; | 7     | 87  | 57 | 127 | &#87; | W   | 119 | 77 | 167 | &#119; | w   |
| 24  | 18 | 030 | CAN (cancel)                | 56  | 38 | 070 | &#56; | 8     | 88  | 58 | 130 | &#88; | X   | 120 | 78 | 170 | &#120; | x   |
| 25  | 19 | 031 | EM (end of medium)          | 57  | 39 | 071 | &#57; | 9     | 89  | 59 | 131 | &#89; | Y   | 121 | 79 | 171 | &#121; | y   |
| 26  | 1A | 032 | SUB (substitute)            | 58  | 3A | 072 | &#58; | :     | 90  | 5A | 132 | &#90; | Z   | 122 | 7A | 172 | &#122; | z   |
| 27  | 1B | 033 | ESC (escape)                | 59  | 3B | 073 | &#59; | ;     | 91  | 5B | 133 | &#91; | [   | 123 | 7B | 173 | &#123; | {   |
| 28  | 1C | 034 | FS (file separator)         | 60  | 3C | 074 | &#60; | <     | 92  | 5C | 134 | &#92; | \   | 124 | 7C | 174 | &#124; |     |
| 29  | 1D | 035 | GS (group separator)        | 61  | 3D | 075 | &#61; | =     | 93  | 5D | 135 | &#93; | ]   | 125 | 7D | 175 | &#125; | }   |
| 30  | 1E | 036 | RS (record separator)       | 62  | 3E | 076 | &#62; | >     | 94  | 5E | 136 | &#94; | ^   | 126 | 7E | 176 | &#126; | ~   |
| 31  | 1F | 037 | US (unit separator)         | 63  | 3F | 077 | &#63; | ?     | 95  | 5F | 137 | &#95; | _   | 127 | 7F | 177 | &#127; | DEL |

Source: [www.LookupTables.com](http://www.LookupTables.com)