Speedbase Calendar Pop-up

1. Introduction

This document describes a Speedbase coding technique that allows a "Calendar pop-up" button to be associated with a PIC DATE field. Clicking the button executes a Date Pop-Up Program which may return a selected date to the Speedbase application. The technique may also be used for PIC X(n) fields that can accept a string in a date-format.

1.1 Required versions

The new compiler options (see below) are supported in $SDE, $SDL32 & $COMPILE released with GDS SP-23.

The GSM run-time version must be GSM SP-23, or later.

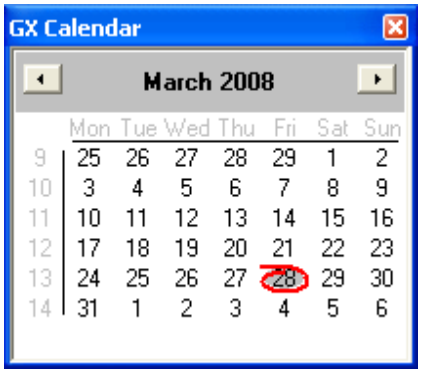
The GX.EXE version must be V4.2n, or later. Note that GX V4.3 is also a relevant version (see section 3.6 below). Note also that GX V4.3 (not V4.2n) is the "minimum GX requirement" assumed by the Calendar Pop-Up changes to Global-3000, and documented in related Global-3000 Enhancement Notes.

The default Date Pop-Up Program, GXCAL.EXE (see below), must be dated 16/01/2008, or later. Note that GXCAL.EXE's dated 18/03/2008 and 26/03/2008 are also relevant versions (see sections 4.1.1 and 4.1.2 below). There is also a visually large version of GXCAL.EXE which is dated 01/05/2012.

1.2 Testing GXCAL.EXE

The Windows "MonthView" control required by GXCAL.EXE may not be available on all Windows installations. It is never available on Windows Vista onwards (see section 8 for details of the special considerations for Vista onwards).

Before attempting to use the Speedbase Calendar Pop-up you should ensure that GXCAL.EXE functions correctly on the PC(s) running GX. Simply double-clicking on the GXCAL.EXE file should result in the appearance of the following window:



If running the GXCAL.EXE does not result in the above window, or a window very much like it, then you must first troubleshoot and solve this problem before continuing.

The most likely cause of a problem with GXCAL.EXE is because the MSCOMCT2.OCX control has not been installed or registered correctly. Download http://www.thedarts.eu/global/pub/gsm/inotes/mscomct2.zip, copy into e.g. C:\WINDOWS\System32 (or C:\WINDOWS\SysWOW64): and register the control by simply opening up a CMD prompt in admin mode and running REGSVR32.EXE and specifying the path/name of the control. The installation/registration procedure is as follows:

- Copy MSCOMCT2.OCX to a suitable directory, e.g. C:\WINDOWS\System32.
- Register the control using:
- REGSVR32 C:\WINDOWS\System32\MSCOMCT2.OCX.

Important Note: The full path name is essential. Running the command REGSVR32 MCCOMCT2.OCX is not sufficient even though REGSVR32 indicates the registration has been successful.

If the control has been successfully installed the following key should be present in the registry:

HKEY_CLASSES_ROOT\CLSID\{232E456A-87C3-11D1-8BE3-0000F8754DA1}

This key holds data about the control. In particular, the InprocServer32 key and its Default value that tells the COM system which DLL that needs to be loaded. This value (e.g. (C:\WINDOWS\System32\MSCOMCT2.OCX) must agree with the full pathname of the MSCOMCT2.OCX file.

2. New Field Attributes

The following new field attributes are supported on PIC DATE and PIC X(n) fields:

PDT Add the Calendar Pop-up button to the field

PDA Add the Calendar Pop-up button to this field, allowing the automatic accept feature

Note that only one of these optional attributes is allowed for a particular field. Note also that these attributes cannot be combined with the UF1 attribute. A compiler error will be generated if such a combination is attempted.

3. New GX.INI File Options

The following options in the [general] section of the GX.INI file enable and configure the Calendar Pop-Up option.

3.1 EnableDatePopup

This setting enables/disables the Calendar Pop-Up option. If this setting is "off" PIC DATE (or PIC X(n)) fields with the PDT or PDA option, will behave as they currently do.

If this setting is "On" a pop-up iconic button will be displayed to the left of the input field. When this button is clicked, or when the <UF1> key is pressed, the Date Pop-Up Program (see below) will run. If the field contains an initial date value GX will pass this as a parameter to the Date Pop-Up Program. The Date Pop-Up Program should default to the passed date, if one is supplied. When the Date Pop-Up Program exits the selected date will be returned to the Speedbase field via the clipboard. If the field had the PDA attribute then the reply will be automatically accepted.

The default setting is "Off".

3.2 DatePopupProgram

This setting allows the name of the Date Pop-Up Program to be specified. The default setting is GXCAL.EXE.

The guidelines described in section 4 should be followed when writing a bespoke Date Pop-Up Program.

3.3 DatePopupBitmap

The setting allows the icon associated with the active "Calendar pop-up" button to be changed. For most applications the default button displayed by GX should be adequate.

3.4 DatePopupBitmapGreyed

The setting allows the icon associated with the greyed-out "Calendar pop-up" button to be changed. For most applications the default button displayed by GX should be adequate.

3.5 DatePopupLegacyTabCRProcessing

The setting should agree with the "LegacyTabCRProcessing" setting in the "..\Global\Client\Customisations" key of the registry on the server running GLOBAL.EXE (or GlobalClientService.exe).

The default setting is "Off".

3.6 DatePopupCenturyStartDate

This setting, which is only supported by GX V4.3, and later, should agree with the "Century Start Date" setting in $CUS.

The default is 60.

4. Date Pop-Up Program Requirements

This section is only relevant if you intend to write your own equivalent of GXCAL.EXE.

This section describes the requirements of the Date Pop-Up Program with respect to the interface with GX. The latest version of the GXCAL.EXE program (16/01/2008) has been written to adhere to this specification.

4.1 GXCAL.EXE

The GXCAL.EXE program uses a generic Windows control to display a calendar. The control allows navigation through years and months and to select a specific date within a month. In addition to this functionality the following keystrokes enter a formatted date as a text string into the Windows Clipboard:

F2	dd/mm/yy
F3	dd/mm/ccyy
F4	dd month ccyy

i.e. the same keystrokes and formatting options as <SYSREQ> D.

These date formats can also be selected by choosing the appropriate option from the drop-down menu that appears upon clicking the right-mouse button.

4.1.1 GXCAL.EXE (date 18/3/2008)

The version of GXCAL.EXE allows a date to be returned (in dd/mm/yy) by double clicking the left-mouse button.

GXCAL.EXE recognises the following command line arguments:

/S	Single instance
/D=YYYY-MM-DD	Set initial date
/O=xxxx:yyyy:ww:hh	Button position and size

4.1.2 GXCAL.EXE (date 26/3/2008)

The version of GXCAL.EXE automatically closes when a date-format is selected, and the current date copied to the clipboard, from the small menu displayed in response to a right-mouse-click.

4.2 External Date Pop-Up Program Requirements

The primary requirement is to support the two command line arguments specified above. The single instance option ensures only one copy of the program is running. For example, if the user starts the Date Pop-Up Program, returns to GX and clicks the button again then the existing instance will be restored on screen instead of a new instance being run. The initial date option is required to allow GX to supply any pre-initialised date in the field.

The second requirement is that the program must return an exit code of 0 if a formatted date has been entered into the Windows Clipboard. GX uses this return code as a signal to extract data from the Clipboard and populate the date field. If no date has been entered into the Clipboard (e.g. if the user escapes from the Date Pop-Up Program) an exit code of 1 must be returned.

5. The Speedbase Calendar Pop-up and the $$USA Flag

The Speedbase Calendar Pop-Up option can only be used on sites that have a DD/MM/YY date format (i.e. $$USA=0). If a site has been configured to use the USA date-format (i.e. MM/DD/YY with $$USA=1) do **not** attempt to use this option.

6. Compatibility Issues

The software compatibility dependencies for this feature are complex. This table summarises the situation:

Compiler version	PDA/PDT Option used?	GSM version	GX version	Comments
GDS SP-22	No	Any	Any	The situation before GDS SP-23
GDS SP-22	Yes	Any	Any	Impossible. The PDA/PDT options are only supported by $SDL32/$COMPILE released with GDS SP-23.
GDS SP-23	No	Any	Any	No Calendar Pop-up changes attempted. All GX windows will be displayed correctly.
GDS SP-23	Yes	SP-22, or earlier	Any	The Calendar Pop-up option will be ignored. However, all GX windows that include fields with either the PDA or PDT attribute will continue to be displayed correctly.
GDS SP-23	Yes	SP-23	Earlier than V4.2n	The Calendar Pop-up option will be ignored **but all GX windows that contain fields with either the PDA or PDT attribute will NOT be displayed correctly. The fields with the PDA or PDT attributes will be incorrectly positioned on the top-line of the window.**
GDS SP-23	Yes	SP-23	V4.2n, or later	The Calendar Pop-up option will be recognised. All GX windows will be displayed correctly.

7. GX.EXE and GXCAL.EXE Downloads

Since this option depends on new versions of GX.EXE and GXCAL.EXE this is an appropriate place to review the options that allow GX.EXE and related files to be downloaded from a central server.

7.1 Downloading new versions of GX.EXE

This technique, which involves a compressed version of GX downloaded from a “gxupdates” folder is fully described in Technical Note IN257.

7.2 Downloading new versions of GXCAL.EXE

The various techniques described in Technical Note IN271 can be used to download a variety of files from the central server to the GX PC. The technique that is most appropriate for

GXCAL.EXE, which involves no additional GX.INI file changes, is described in section 6.1. To summarize:

- Create a new folder “gxini” in the “gxupdates” folder on the central server;

- Create a new folder “gxini” in the “gxupdates\gxini” sub-folder on the server. Note that although the “gxupdates” folder may be overridden by the “Global\Client\ServicePacks\GXUpdateDirectory” registry setting the 2 “gxini” folders are hard-coded as such;

- Copy the new GXCAL.EXE into the “gxupdates\gxini\gxini” sub-folder. For example, if GSM is installed into folder E:\GSM and the “gxupdates” folder has not be overridden by the “Global\Client\ServicePacks\GXUpdateDirectory” registry setting, the full pathname of the GXCAL.EXE file should be:

  E:\GSM\GXUPDATES\GXINI\GXINI\GXCAL.EXE

- Ensure the following registry setting is enabled:

  ..\Global\Client\ServicePacks\UpdateGXFiles=On

The GSM start-up processing will detect that a new version of GXCAL.EXE is available in the “gxupdates” folder hierarchy on the central server and will automatically download the file to the GX folder on the PC running GX.

8. Special Considerations for Microsoft Vista onwards

The “MonthView” control required by GXCAL.EXE is not available on Vista, Windows 7, Windows 8 etc. The appropriate file, MSCOMCT2.OCX is available from the link above. To use GXCAL.EXE on Microsoft Vista onwards, download this file and register the control as per Section 1.2

Important Note 2: Windows 64 bit platforms.

If this is on a 64 bit platform, copy MSCOMCT2.OCX to the \WINDOWS\SysWOW64 directory (eg C:\WINDOWS\ SysWOW64) and register the control using:
REGSVR32 C:\WINDOWS\SysWOW64\MSCOMCT2.OCX

If the control has been successfully installed the following key should be present in the registry:

HKEY_CLASSES_ROOT\CLSID\{232E456A-87C3-11D1-8BE3-0000F8754DA1}

This key holds data about the control. In particular, the InprocServer32 key and its Default value that tells the COM system which DLL that needs to be loaded. This value (e.g. (C:\WINDOWS\SysWow64\MSCOMCT2.OCX) must agree with the full pathname of the MSCOMCT2.OCX file.