

InSight & FX-7400G+ Information Pack For DEALERS

FX-7400G+ and *InSight* Authorised Distributor:

Marco Corporation (M) Sdn. Bhd.

- Contact: +603-4043 3111 (Consumer Technology Section)
- Homepage: www.marco-groups.com

InSight Software Support:

- Email: insight4survey@yahoo.com
- Weblog: <http://insight4survey.wordpress.com>

What is *InSight*?

InSight is a library of land surveying utility programs written specifically for Casio FX-7400G+. The latest version on Feb 2007 is Version 1.1, which can perform thirty four (34) land surveying and civil engineering functions. The list of functions is shown on page 2.

About Casio FX-7400G+

This model is a light weight version of the CFX-9850 series. It has graphing capability, over 400 scientific functions and is programmable.

User has access to 20KB of memory area. It uses a List mode to handle data, and we use these lists to store values calculated in programs such as Traverse, Radial, Circular Curve Set out and so on. The programming language of FX-7400G+ is BASIC-like.

Compatibility

The programming language of FX-7400G+ is compatible with the following models:

- CFX-9750G+
- CFX-9850GC+
- FX-9860G
- CFX-9850GB+
- FX-9860G SD

Warning: When we say compatible, it means that *InSight* should run smoothly on these models mentioned. However, programs that work in these models may not work properly in FX-7400G+. The reason is FX-7400G+ lacks of some functions which only exist in these models.

Quick Facts

1. *InSight* Program Listing:

Program	Descriptions	No. of Functions
START	Start menu to access all library functions available. Initializes the list.	-
AREA	Has 3 area calculation methods: Heron, Coordinates and Simpson's method.	3
CIRCLE	Solves a circle using coordinates of 2 points or 3 points on the circle.	2
CIRCULAR	Sets out circular curve using one of the 3 methods: Tangent Offset, Deflection Angle and Coordinate methods.	3
LEVEL	Perform leveling using height of instrument method.	1
OFFSET	Find offset and chainage given coordinates of offset points, and the coordinates of offset points given chainage and offset.	2
RADIAL	Sets out point given WCB and distance, and inversely given coordinates. Also, there is a program for stadia mapping.	3
TRISOLVE	Solves triangles given 3 sides, or 2 sides 1 angle, or 2 angles with 1 side.	3
TRAVRS	Does closed loop Traverse, Connect line, Open Traverse and Inverse.	4
SPIRAL	Sets out transitional curve using Deflection Angle and Coordinates methods.	2
VOLUME	Finds volume using End Areas, Prismoidal and Grid Level with Triangle.	3
UTILITY	Let user sets decimal places to between 2 and 5, sets out 2 points, find mean of 2 angles in DMS, and convert area from m ² to Acre.	4
XSECT	Finds intersection with Distance-distance and Bearing-bearing methods. Also does 2-point and 3-point resection.	4
	Total	34

2. **FX-7400G+ Specifications**

User Memory	: 20KB	Variables	: 26
Lists	: 6	Display digit	: 10 (9+2)
Internal Digit	: 15	No. Of Function	: 406
Functions	: Trigonometric Functions, Logarithm, Exponential Function, Statistics, Regression, Table of Function, Polar Coordinates, Derivative, Probability, Graphing.		
Accessories	: FA-123USB for Unit to PC Link and Link to Another Unit		

Installation Process and Quality Check

We put some free items into the FX-7400G+ package during installation:

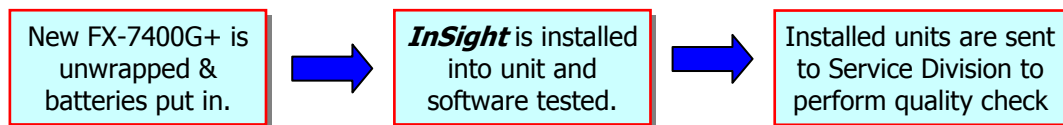
Before Installation

2 FX-7400G+ Manuals
Label Sticker
2 AAA Batteries

After Installation

2 FX-7400G+ Manuals
Label Sticker
2 AAA Batteries
***InSight* Reference Sticker**
2 AAA Batteries
***InSight* User Manual**

During installation of ***InSight***, we put in 2 **FREE** AAA alkaline batteries in addition to the two which come with the original package. Also, to ensure product and software quality, we practice the following process flow.



Warning: The main batteries must be changed every 2 years regardless of calculator usage. One serious problem is battery leakage, which will badly damage the calculator. Here are some pointers about checking and preventing battery leakage for all **DEALERS**:

- Check the FX-7400G+'s batteries every 2 weeks for sign of leakage.
- If you are stocking the calculator for more than 1 month, remove the AAA batteries.
- Never place calculator near high temperature (like behind a computer.)
- Advice customers to promptly remove dead or weak batteries from calculator.
- Advice customers to always replace all batteries at the same time. Tell them never to mix battery types, and never mix old and new batteries in the calculator.
- Battery leakage is highly corrosive, do not touch it. Read the page "Handling Precaution" in the FX-7400G+ user manual on how to clean the leakage.

Warranty, Support and Upgrade

1. Warranty:

- a. Casio limited warranty is provided for the hardware, FX-7400G+. Please refer to Marco Corporation or its sales personnel for more information.
- b. The utility software, ***InSight***, is provided as is, without warranty of any kinds.

2. Support:

- a. The software support weblog is insight4survey.wordpress.com, while the email contact is insight4survey@yahoo.com.
- b. FX-7400G+ support is provided by Marco Corporation.
- c. In the event that re-installation is needed (maybe software is deleted accidentally), the unit must be sent back to Marco Corporation. Purchaser shall bear the delivery fee of the unit to Marco Corporation's office. A re-installation fee of RM25 per unit is charged. Please contact Marco Corporation or its sales personnel for more information.

3. Upgrades:

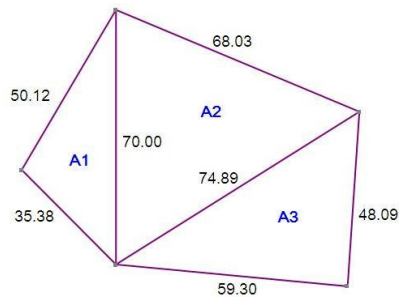
For future upgrades, new programs and new additions to *InSight* which are released under Version 1.X, we shall post their source codes online at insight4survey.wordpress.com. Anyone can then enter the codes into the calculator manually.

We however do not provide any services to install these additional releases or post the programs online for download.

Examples for Testing by Customers

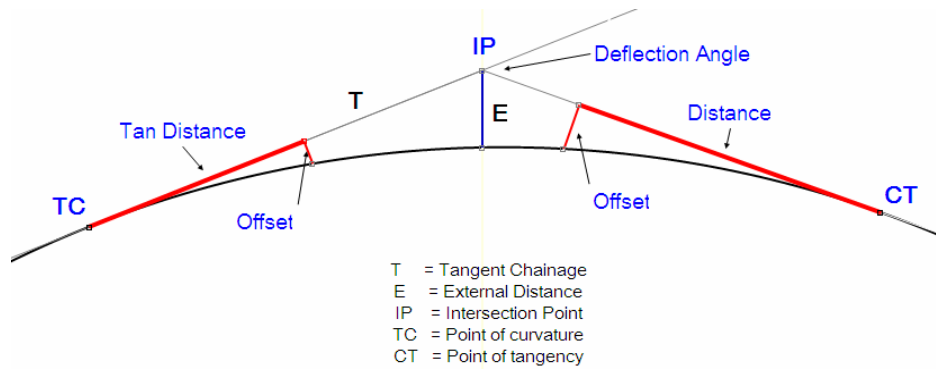
Here are two examples which you can use to help your customers test *InSight* on the FX-7400G+ before they make the decision the purchase the unit.

EXAMPLE 1: Find area of the region shown below, which is divided into three triangular areas. Unit is in *m*.



Key Stroke/Input	Screen Display
<pre> AC/ON 6 EXE EXE 3 EXE 1 EXE EXE </pre>	<pre> InSight Std Version 1.1 - Disp - 1:COGO 2:CURV [FIND AREA] 3:AREA 4:VOLL 1:HERON 5:TRIG 6:CIRC 2:CORDINATE 7:LEVEL 8:UTI 3:SIMPSON [LAC]Exit? 99:Back? [Heron] Triansle Side a? 1 </pre>
<pre> 5 0 . 1 2 EXE 3 5 . 3 8 EXE 7 0 EXE EXE EXE 1 EXE </pre>	<pre> Area= 839.887 Total Area= 839.887 - Disp - 1~8:Next 99:End? Triansle - Disp - 2 </pre>
<pre> EXE 7 0 EXE 6 8 . 0 3 EXE 7 4 . 8 9 EXE EXE EXE 1 EXE EXE </pre>	<pre> 70 Side b? 68.03 Side c? 74.89 Area= 2170.072 Total Area= 3009.959 - Disp - 1~8:Next 99:End? Triansle Side a? 3 </pre>
<pre> 4 8 . 0 9 EXE 5 9 . 3 0 EXE 7 4 . 8 9 EXE EXE EXE 9 9 EXE EXE </pre>	<pre> Side a? 48.09 Side b? 59.30 Side c? 74.89 Area= 1424.801 Total Area= 4434.76 - Disp - 1:COGO 2:CURV 3:AREA 4:VOLL 5:TRIG 6:CIRC 7:LEVEL 8:UTI [LAC]Exit? </pre>

EXAMPLE 2: Set out using tangent offset method, the following simple curve:
 Intersection Chainage= K5+064.23, Deflection Angle= 18°25'30" and R= 300m.



Key Stroke/Input	Screen Display			
AC/ON 6 EXE EXE 2 EXE 1 EXE 1 EXE	InSight Std Version 1.1 - Disp -	[CURVE] 1:CIRCULAR 2:TRANSITION 99:Back?	[CIRCULAR] 1:Tangent 2:Deflection 3:Coordinate 99:Back?	IP Chain?
5 0 6 4 . 2 3 EXE 1 8 . 2 5 3 EXE 3 0 0 EXE EXE EXE EXE EXE	IP Chain? 5064.23 IP Ans?	Radius? 300	Tan T= 48.657 Arc L= 96.473 - Disp -	TC Chain= 5015.573 CT Chain= 5112.047 - Disp -
EXE 2 0 EXE EXE EXE EXE EXE EXE	Interval? 20	Chain 5020 Tan Dist= 4.426 - Disp -	Tan Dist= 4.426 Offset= 0.033 - Disp -	Tan Dist= 24.4 Offset= 0.994 - Disp -
EXE EXE EXE EXE EXE EXE EXE EXE EXE EXE EXE EXE EXE	Tan Dist= 44.264 Offset= 3.284 - Disp -	Chain 5080 Tan Dist= 31.986 - Disp -	Tan Dist= 12.043 Offset= 0.242 - Disp -	Done. - Disp -
EXE 9 9 EXE 9 9 EXE	[CIRCULAR] 1:Tangent 2:Deflection 3:Coordinate 99:Back?	[CURVE] 1:CIRCULAR 2:TRANSITION 99:Back?	1:COGO 2:CURV 3:AREA 4:VOLL 5:TRIG 6:CIRC 7:LEVEL 8:UTI [FAC]Exit?	

The set out data are stored in list where List 1 is the chainage, List 2 stores the tangent distance while List 3 stores the offset. To view them do the following after the last step above.

Key Stroke/Input	Screen Display		
AC/ON AC/ON MENU 3 ▶ ◀ ▲ ▼	RUN STAT LIST GRAPH TABLE PRGM LINK CONT MEM MEM 40MB	List 1 List 2 1 5015.5 0 2 5020 4.426 3 5040 24.4 5015.573433	List 2 List 3 3 24.4 0.994 4 44.264 3.284 5 31.986 1.71