GX-AN SERIES
GF-AN SERIES

Multi-Function Balance

INSTRUCTION MANUAL

ADDENDUM to GX/F-AN Legal For Trade (LFT) Approved Models

ＧＸ－ＡＮ series

GX-203AN/GX-303AN/GX-403AN/GX-603AN
GX-2002AN/GX-3002AN/GX-4002AN/GX-6002AN
GX-6001AN/GX-10001AN

ＧＦ－ＡＮ series

GF-123AN/GF-203AN/GF-303AN/GF-403AN/GF-603AN
GF-1202AN/GF-2002AN/GF-3002AN/GF-4002AN/GF-6002AN
GF-6001AN/GF-10001AN

1WMPD4004392

A&D Company, Ltd.

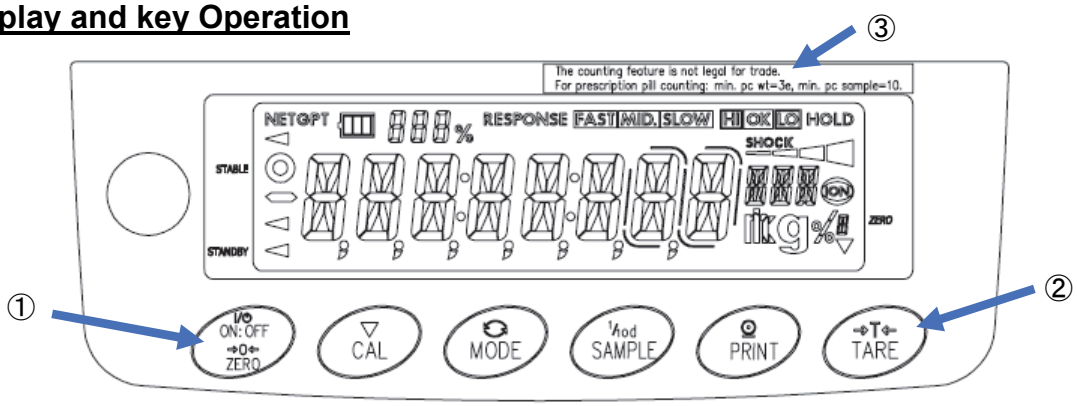
The contents of this manual and the specifications of the instrument covered by this manual are subject to change for improvement without notice.

ADENDUM to GX/F-AN Legal For Trade (LFT) Approved Models

Purchased GX/F-AN balances are LFT/Legal for Trade. The balances can be set following the regulations for the US and Canadian markets. However, there are some differences and limitations in comparison to Standard versions GX/F-A balances, as detailed below.

Note: It is fully the responsibility of the purchaser to set up the balances, including calibration and sealing, in accordance with local weights and measures regulations.

1. Display and key Operation



General Key operation

For the [CAL], [MODE], [SAMPLE] and [PRINT] keys, please refer to the Quick Start Guide, included in the products' box or GX/F-A series instruction manual can be downloaded from our web site: https://www.aandd.jp/

Key Operation for LFT Approved Model

① ON:OFF key will appear as ON:OFF/ZERO key

Press and hold this key for 2 seconds: It turns the display ON/OFF.

Press this key once: It zero's out the display

For other functions of the ON:OFF key mentioned in the Quick Start Guide or GX/F-A series instruction manual, please use the ON:OFF /ZERO key as the equivalent ON:OFF in a STANDARD versions.

② RE-ZERO key in a STANDARD version is changed to TARE key in the legal for trade versions

Press the key: Register/cancel Tare value.

For other functions of the RE-ZERO key mentioned in the instruction manual: Please use the TARE key

③ Supplementary label is required by weight and measure marking for counting features in pharmacy applications. Applies when P mode selected.

2. Mode selection

There are several selectable modes in the LFT versions to address US NTEP, Pharmacy and Measurement Canadian weighing regulatory requirements.

(A) NTEP → NTEP-N for non-pharmacy applications

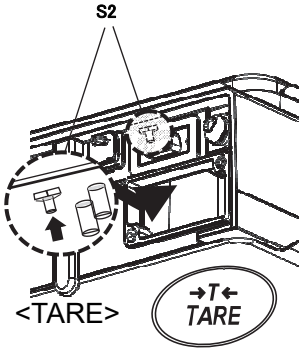
OR → NTEP-P for pharmacy for prescription/pilling counting

THEN e=10d OR e=d Note: NTEP-N/e=10d is the default setting.

(B) MEASUREMENT CANADA (MC) **Note:** MC mode is deactivated for GX-AN

(C) A&D STANDARD (ADE-STD) NON-LFT MODE

2-1. Mode selection - switch and keys/buttons



＜MODE＞ 

＜ON/OFF＞ 

<S2>

＜SAMPLE> 

<PRINT> 

＜CAL＞ 

<TARE>

2-2 Selection procedure

Display: Off

Press and hold the S2 switch and MODE key,

and then press ON/OFF key

←Then present mode displays. Note: NTEP-N/e=10d (Default setting)

The display will allow for following mode selections, NTEP, MC, A&D STANDARD.

Press MODE key to select NTEP-N or -P for pharmacy applications.

Press TARE key to select e=10d or e=d

"LAb" warning on display indicates check & change front stripe label make sure it correlated to mode setting (See 3)

Press and hold the SAMPLE key to toggle

Press the PRINT key to fix NTEP mode (→ End → Weighing mode)

← Inactive (GX-AN)

Press and hold the SAMPLE key to toggle

Press the PRINT key to fix MC mode → End → Weighing mode

Press and hold the SAMPLE key to toggle

Press the PRINT key to fix A&D Standard mode → End → Weighing mode

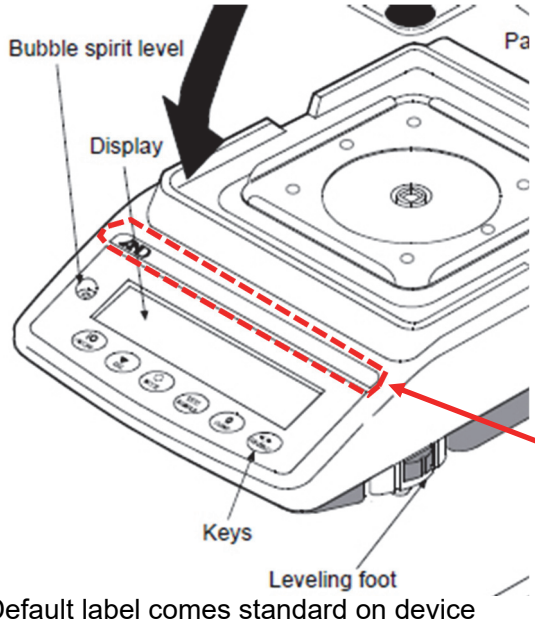
Please refer to standard instruction manual for further detail about the A&D standard.

Note: Please refer to "9. Specification 2 e=10d/e=d" for how selected display looks.

3. Replacing the required label

Replacement of the required label to follow the regulations of each region is the purchasers' responsibility,

in addition to calibration and sealing. (The required label is packed within the box of the product.)



(A) e=10d: Default label comes standard on device

Or (B) e=d: Included in the box

(Drawings of the label are for reference purposes only.)

4. Calibration

Calibration and sealing must be performed by weights and measures official, or an authorized service agent.

In the box comes an extra L shaped sealing plate with screws.

Method

(1) Remove the blank stainless-steel face plate located on back Lower right-hand corner of the balance. (See “Fig.1” for reference)

(2) Enter the weighing mode.

(3) Press and hold the calibration switch S2 (see “Fig.2”), for a few seconds.
GF-AN: The balance displays [CAL out] and then [CAL 0].
GX-AN: Press the PRINT key after [CAL out] is displayed.
The balance displays [CAL 0].
(For details, refer to “Calibration Using an External Weight” on page 9.)

(4) Perform calibration per “Reference” at the end of this addendum.
GF-AN: The display returns to weighing mode automatically after “End” at the end of calibration.
GX-AN: The balance displays [CSin] automatically after “End” at the end of calibration. Then press the CAL key. The display returns to weighing mode.

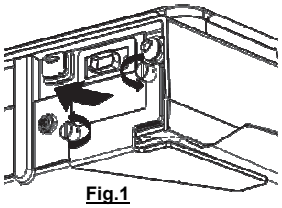


Fig.1

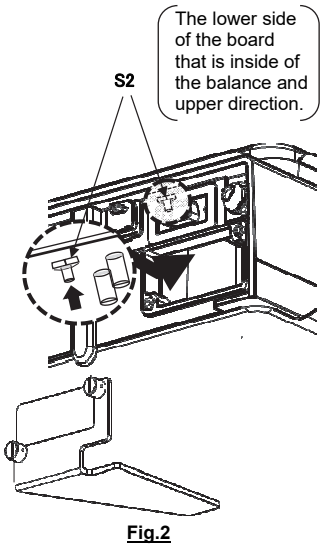
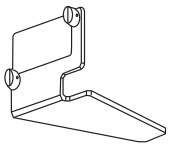


Fig.2

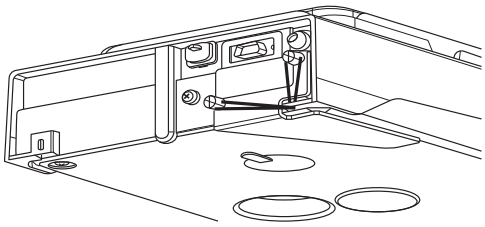
(5) After performing calibration, replace the rubber packing, blank panel, and sealing plate, then seal the balance mechanically. (Refer to “Fig.1” and “Fig.2”)

5. Sealing of the legal for trade approved models



Once calibration per instruction manual is complete then replace the blank plate with L shape sealing plate with sealing screws (Refer to Fig.3).

Fig.3



Once sealing plate is installed, seal by threading wire through round sealing knobs eyelets and through the eyelet at the base or bottom of the balance. (Refer to Fig.4)

Fig.4

Important note:

A selection of option is GXA-03 or GXA-04 and selected option must be installed before sealing.

6. Function switch

Below is setting for LFT modes for your reference.

GF-AN: A-00001
- Function table: 1; To permit change
- Calibration using the internal mass: 0; No function
- Calibration using the external weight: 0; To inhibit (No change to 1)
- Automatic self-calibration: 0; No function
- Internal mass correction:0; No function

GX-AN: A-01011
- Function table: 1; To permit change
- Calibration using the internal mass: 1; To permit
- Calibration using the external weight: 0; To inhibit (No change to 1)
- Automatic self-calibration: 1; To permit
- Internal mass correction:0; To inhibit

7. Function table (the differences and limitation from/on the standard models)

Class	Item		Comments
Environment Display	Condition	Default: MID Selectable	
	St-b Stability band width	Fixed/No change	
	Hold function	NOT available	
	Zero tracking	Selectable 0.5d or OFF	
	Readability	Fixed/No change	e=10d: display e=d: No display
Data output	Data format	Default: DP format Header customized for LFT Selectable	No stable/unstable header
		G_ _ _ _+1.06[2] _ _ g	Gross data stable
		N_ _ _ _+1.06[2] _ _ g	Net data stable
Application function	Application mode	Gross, Net, Tare/Fixed	The other application modes such as statistical calculation and flow rate measurement are not selectable.
Min. Weighing Warning function		NOT available	
Specific gravity measuring function		NOT available	
Data output mode		Default: Key mode, Selectable	Key mode B is NOT available
USB data format		Default: DP format Header customized for LFT Selectable	No stable/unstable header
Correction of internal mass	Auto	Only available for GX-AN	
Correction of internal mass	Manual	NOT available	

_: Space

8. Specification 1: LFT modes

Item		NTEP-N	NTEP-P	MC
e=10d/e=d		Selectable	Selectable	e=10d fix
last digit		e=10d: ON e=d: OFF	e=10d: ON e=d: OFF	ON
Counting		Min. 1d sample 10-25-50-100-5	min 3e sample 10-25-50-100-10	Min. 1d sample 10-25-50-100-5
Unit	g/Gram	○	○	○
	Counting	○	○	○
	%/ Percent	○	○	○
	OZ/Ounce	○	○	○
	lb/Pound	○	○	×
	LO/Pound/Ounce	×	×	×
	OZT/Troy Ounce	○	○	×
	ct/Metric Carat	○	○	×
	Mom/Momme	×	×	×
	dwt/Penny weight	○	○	×
	GN/Grain	Not available in 0.1g model	Not available in 0.1g model	×
	DS/Density	×	×	×
	MLT/Programable	×	×	×
Operation Temp.		+10 to +30 ℃		

***MC is deactivated for GX-AN**

9. Specification 2: e=10d/e=d

Model		e = 10d						e = d		
Min. display at start		Selectable						NOT SELECTABLE		
		Display			NOT Display			Display		
Unit		0.001g model	0.01g model	0.1g model	0.001gmodel	0.01g model	0.1g model	0.001g model	0.01g model	0.1g model
g	Gram	0.00[1]	0.0[1]	0.[1]	0.01_	0.1_	1_	0.01_	0.1_	1_
OZ	Ounce	0.0000[5]	0.000[5]	0.00[5]	0.0001_	0.001_	0.01_	0.0005_	0.005_	0.05_
lb	Pound	0.00000[5]	0.0000[5]	0.000[5]	0.00001_	0.0001_	0.001_	0.00005_	0.0005_	0.005_
OZT	Troy Ounce	0.0000[5]	0.000[5]	0.00[5]	0.0001_	0.001_	0.01_	0.0005_	0.005_	0.05_
ct	Metric Carat	0.00[5]	0.0[5]	0.[5]	0.01_	0.1_	1_	0.05_	0.5_	5_
GN	Grain	0.0[2]	0.[2]	Not available	0.1_	1_	Not available	0.2_	2_	Not available
dwt	Penny weight	0.00[1]	0.0[1]	0.[1]	0.01_	0.1_	1_	0.01_	0.1_	1_

_ : Space

Reference

Since the balance's resolution is high, weighing values may change due to gravity and daily environmental changes. It is necessary to perform calibration (sensitivity adjustment) with the weight in order to keep the weighing values from changing even if gravity or the environment changes.

It is recommended that you calibrate if the balance is installed for the first time or relocated, or when the weighing values change significantly in daily inspection, etc.

Adjustment means to adjust the weighing value of the balance using the reference weight or internal mass. Calibration is to weigh with the reference weight and compare how much the result deviates from the reference value. (Adjustment is not performed in calibration.)

Calibration (Sensitivity adjustment)

Auto calibration	Automatically adjust the balance using the internal mass depending on the temperature change of the operating environment or the set time and interval time.（GX-AN series）
Calibration using the internal mass	Using the internal mass, adjust the balance with a single touch.（GX-AN series）
Calibration using an external weight	Using an external mass, adjust the balance with an external mass.

Calibration test（Sensitivity calibration）

Calibration test with an external weight	Output the result of checking the accuracy of weighing using your own weight. * No adjustment is made.

Caution

- ☐ Do not allow vibration or drafts to affect the balance during calibration.
- ☐ To output the data for GLP/GMP using the RS-232C interface, set "GLP/GMP output (inFo)" of "Data output (dout)". The time and date can be added to the GLP/GMP report. If the time or date is not correct, adjust them.
- ☐ By setting "Data memory (dAtA)" of the function table, the data of calibration (sensitivity adjustment execution record) and calibration test (sensitivity calibration) can be stored in memory.

Caution when using your external weight

- ☐ The accuracy of the weight used in calibration affects the accuracy of the balance after calibration.
- ☐ Select the mass to be used for calibration and calibration tests from the table below.

Model		Usable calibration weight			Factory setting	Adjustable range
	GF-123AN	50g,	100g		100g	-9.999g ~ +9.999g
GX-203AN,	GF-203AN	50g,	100g,	200g	200g	
GX-303AN,	GF-303AN	50g,	100g ~	300g (100g interval)	200g	
GX-403AN,	GF-403AN	50g,	100g ~	400g (100g interval)	400g	
GX-603AN,	GF-603AN	50g,	100g ~	600g (100g interval)	500g	
	GF-1202AN	500g,	1000g		1000g	-99.99g ~ +99.99g
GX-2002AN,	GF-2002AN	500g,	1000g,	2000g	2000g	
GX-3002AN,	GF-3002AN	500g,	1000g ~	3000g (1000g interval)		
GX-4002AN,	GF-4002AN	500g,	1000g ~	4000g (1000g interval)	4000g	
GX-6002AN,	GF-6002AN	500g,	1000g ~	6000g (1000g interval)	5000g	
GX-6001AN,	GF-6001AN	500g,	1000g ~	6000g (1000g interval)	5000g	-99.9g ~ +99.9g
GX-10001AN,	GF-10001AN	500g,	1000g ~	10000g (1000g interval)	10000g	

Display

This indicator means calibration data (sensitivity adjustment and sensitivity calibration) is being imported.
Do not allow vibration or drafts to affect the balance while the indicator is displayed.

Automatic Calibration (GX-AN Series Only)

This function automatically calibrates the balance according to ambient temperature change, setting time and interval time. If GLP output is selected in the function table, the balance outputs the calibration report after the calibration.

- ☐ In the auto calibration mode, either the temperature change (CFnc 0), the setting time (CFnc 1), or the interval time (CFnc 2) can be set with the function setting CFnc.
- ☐ For the setting time, the three function setting of CtiME 1, CtiME 2 and CtME 3 can be set.
- ☐ Interval time can be set from 0.5h to 24h with function setting Cint.

Caution

If something is on the weighing pan, the balance judges that it is in use and does not perform automatic self calibration.

The criteria that the balance judges in use are as follows.

0.001g models	0.01g models	0.1g models
Lower than 2g	Lower than 20g	Lower than 20g

To maintain the accurate calibrated state, keep the weighing pan clear while not in use.

This mark blinking (◄) indicates that the automatic self calibration will start. If the balance is not in use, after blinking for a while, the balance will start automatic self calibration using the internal mass. The blinking duration depends on the environment.

This indicates that the balance is importing calibration data. Do not allow vibration or drafts to affect the balance while this indicator is displayed. After calibration, the balance returns to indicate the previous display.

Note: The balance can be used while the indicator blinks. But, it is recommended that to maintain the accuracy, stop using the balance and confirm that there is nothing on the pan and allow the balance to perform self calibration.

One-Touch Calibration (GX-AN Series Only)

This function calibrates the balance using the internal mass.

1. Connect the AC adapter and warm up the balance for at least 30 minutes with nothing on the weighing pan.
2. Press the CAL key. The balance displays CAL in .
3. The balance performs calibration using the internal mass. Do not allow vibration or drafts to affect the balance.
4. After the calibration, If the "GLP output (inFo)" parameter of the function table is set, the balance outputs a sensitivity adjustment execution record.
5. The balance will automatically return to weighing mode after calibration.

Calibration Using an External Weight

This function calibrates the balance using an external weight.

1. Connect the AC adapter and warm up the balance for at least 30 minutes with nothing on the weighing pan.
2. Press and hold the calibration switch S2 for 2 seconds until CAL out is displayed, then release the switch.
   GF-AN: CAL 0 is displayed.
   GX-AN: Press the PRINT key. CAL 0 is displayed.
3. Make sure that nothing is on the weighing pan and press the PRINT key to weigh the zero point. Do not apply vibration, etc.
4. Place the external weight on the weighing pan and press the PRINT key. Do not apply vibration etc.
5. Remove the external weight from the weighing pan.
6. After calibration, if GLP output is set, "sensitivity adjustment execution record" is output and also stored in data memory.
7. End is displayed at the end of calibration.
   GF-AN: The display then returns to weighing mode automatically.
   GX-AN: CS in is then displayed automatically. Press the CAL key to return to to weighing mode.
8. Place the external weight again and check that the set value is ± 2 digits.
   If it is out of range, pay attention to the surrounding environment and start from "1".

Calibration Test Using an External Weight

This function tests the weighing accuracy using an external weight and outputs the result. This is available only when the GLP/GMP output parameter is set to (dout info 1). (Calibration test does not perform calibration)

1. Connect the AC adapter and warm up the balance for at least 30 minutes with nothing on the weighing pan.
2. Press and hold the CAL key for 2 seconds until [C out] is displayed and release the key.
   (If [CAL H,S] is displayed (displayed only when dout, data 2 is set), keep holding down the CAL key until [C out] is displayed again.)
3. Make sure that nothing is on the weighing pan and press the PRINT key and weigh the zero point. Do not apply vibration etc.
4. The weighing value of zero point is displayed for several seconds. Place the external weight on the weighing pan and press the PRINT key. Weigh the external weight. Do not apply vibration, etc.
5. Weighing value of the external weight is displayed for several seconds.
6. Remove the external weight from the weighing pan.
7. The sensitivity calibration status is output and also stored in the data memory.
8. It automatically returns to the weighing display.

How to Set the External Weight Value

When calibrating the balance or performing a calibration test, the external weight you have on hand can be set. (Refer to "Usable calibration weight" on page 8.)

1. From calibration [CAL 0] or calibration test [CC 0] display, press the [SAMPLE] key.
2. Using the [TARE] key, select the calibration weight (refer to page 8) while all digits are blinking.
3. Specify the calibration weight value by the following keys.

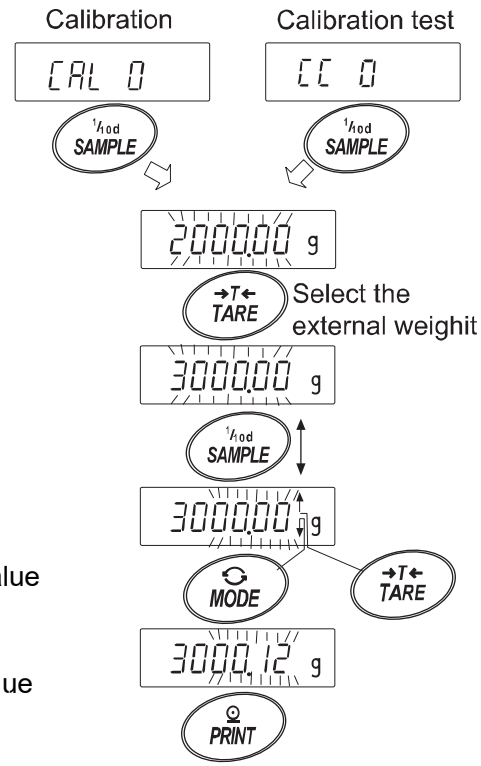
[SAMPLE] key ···· Switches the display condition to "All digits blinking" (calibration weight selection mode) or "The last four digits blinking" (value adjustment mode).

[TARE] key····· (+) In the adjustment range setting, the value becomes +9999 digits after -9999 digits.

[MODE] key ····· (-) In the adjustment range setting, the value becomes -9999 digits after +9999 digits.

[PRINT] key ····· Registers the changed external weight value. Registered values are stored even when the power is turned off.

[CAL] key····· Suspends setting. (Returns to [CAL 0] or [CC 0].)



Ex:
Updated the external weight 3000.12g

Correcting the Internal Mass Value of the GX-AN Series

Internal mass value can be corrected with function setting CS in.

Setting procedure

1. Connect the AC adapter and warm up the balance for at least 30 minutes with nothing on the weighing pan.
2. Press and hold the calibration switch [S2] for 2 seconds until [CAL out] is displayed, then release the switch.
3. Press the [PRINT] key to display [CAL 0] and perform calibration using an external weight (refer to page 9). [CS in] is displayed after calibration. (Alternatively, press the [SAMPLE] key to display [CS in] if calibration using an external weight has already been performed.)
4. Press the [PRINT] key. [CAL. SET] is displayed, and the balance automatically loads and unloads the internal mass and corrects the internal mass value.
5. When adjustment of the internal mass value is completed, [CAL. in] is displayed and calibration is performed automatically with the adjusted internal weight.
6. [CAL out] is displayed automatically after [End] is displayed. Press the [CAL] key to return to weighing mode.

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