

FX41

LIVESTOCK WEIGHING SYSTEM

MANUAL



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1. SYSTEM CARE

The FX41 weighing system has been designed to work reliably for long periods of time under adverse conditions. However like any equipment, common sense and care will assist in keeping it in good operating condition.

ESSENTIAL CARE

- ◆ Fit caps to cable ends and indicator sockets when not in use to protect from dirt and moisture. Hang the cable ends up, out of mud and dust.
- ◆ Damage may occur if the capacity of the scale is exceeded.
- ◆ Loadbar cables must be kept in good condition.

BATTERY CARE

**IMPORTANT !
BATTERY LIFE WILL BE CONSIDERABLY SHORTENED
IF IT IS NOT PROPERLY CARED FOR**

- ◆ Always recharge the battery with the *Iconix* AC Adaptor provided for 8 - 12 hours **AFTER USE** with the loadbars disconnected from the indicator.
- ◆ For long term storage, recharge ONCE PER MONTH with the loadbars disconnected.
- ◆ When the battery is low on charge (the LOW BAT pointer ▲ is on), weighing may continue by connecting the AC Adaptor if mains power is available or by using the battery clip leads to connect to an external 12V battery.
- ◆ The AC Adaptor should not be left plugged into the indicator for long periods of time.

SITE PREPARATION

- ◆ The choice of weighing site is important for accurate weighing and ease of use.
- ◆ A well chosen site that is level will ensure the best conditions for accurate weighing.
- ◆ The loadbars must be bolted to the platform or crate and be firmly attached to the ground or concrete pad.
- ◆ Any rocking or twisting of the platform could result in weighing errors.
- ◆ Adequate clearance around the platform is essential. Any binding or rubbing with posts or gates will produce weighing errors.
- ◆ The race bracket is best mounted on a fence or post and not the crate.
- ◆ Mount the indicator in a well-lit position for best readability.
- ◆ A well chosen site will help animals flow smoothly through the system.
- ◆ Mounting the indicator away from the crate will help to keep hands free of the crate when the weigh cycle is started.

2. GETTING STARTED

- ◆ Connect the two loadbar cables to the loadbar sockets marked on the rear of the indicator.

Either: Use the internal rechargeable battery. Ensure that the battery is fully charged.

or: Use the *Iconix* AC adaptor

or: Attach the optional battery cable to the FX41 and clip onto a 12V DC battery (car, tractor battery etc.). ENSURE CORRECT POLARITY: red clip to +, black clip to —.

The internal battery cannot be recharged from an external battery, however it can be handy for continuing to weigh when the internal battery is flat.

- ◆ Press the **ON** key. The FX41 initially displays the firmware version number e.g. “ICONIX FX41 V4.12”.
- ◆ Then the FX41 shows the currently selected group (mob file), which is the same as the group last used in the previous weighing session. If this is a new weighing session, you will probably want to select a new group from the range 1 to 99. See the section GROUPS (MOB FILES).
- ◆ The scale will automatically return to zero. When complete, the ZERO pointer ▲ will show that the scale is at zero.

NOTE: If a large load (such as a partly filled wool bale in a wool press) remains on the scale from previous use, the last weight will be displayed. The operator can continue the weighing session from where last finished. Alternatively, press **ZERO** to return the scale to zero.

- ◆ For all normal livestock weighing applications check that the HOLD mode pointer ▲ is showing. If not, use **WEIGH MODE** to select, as shown on the display by WEIGH MODE: HOLD.

- ◆ Check that the ZERO pointer ▲ is displayed. Load the animal onto the platform.

If required, enter the ID (tag number) of up to 8 digits using the numeric keypad.

If required, press **CODE/MULTIPLE** once the correct ID is on the display, then enter a condition code (0.0 to 9.9). This may also be entered without an ID.

Press **WEIGH**. The animal is accurately weighed and the result locked on the display (in HOLD mode). A new record is added to the currently selected group in memory.

The record consists of:

Tag Number (if used), Group, Condition Score (if used), Weight

If an *Iconix* FX Printer is attached, the record will be printed.

- ◆ In the event of a problem with the weighing, press **DELETE** to delete the new record from memory. The message “RE-(WEIGH) or (DEL)” is displayed. Press **WEIGH** to re-weigh the animal using the ID already entered or **DELETE** to clear the ID as well.
- ◆ Remove the animal from the weighing platform. The last animal’s weight remains locked on the display. Check that the ZERO pointer ▲ is displayed between animal weighings. If the ZERO pointer does not appear, hold the next animal back, keep hands etc. clear of the crate and press **ZERO**. The scale will be returned to zero and the weighing session can proceed.
- ◆ At the end of the weighing session, switch the indicator **OFF**.
- ◆ Recharge the internal battery overnight (see BATTERY CARE section above). It is very important for battery life to store the FX41 with the battery fully charged.

IF THE FX41 IS DETACHED FROM THE LOADBARS, ENSURE THAT THE WEATHERPROOF CAPS ARE FIRMLY INSTALLED ON ALL CONNECTORS

DISPLAY EXAMPLES

If the DRAFT LIMITS are active, the large LCD will show *H* (high), *C* (centre) or *L* (low) alongside the weight. See the section DRAFTING (Sorting By Weight).

The lower display will show the ID (if used), Group and Condition Code (if used).

For example:

H 568

ID=3456 GRP = 5 CODE = 5.8

A press of ↓ shows the kill-out weight, according to the Kill-out Percent setting:

For example:

% OF WEIGHT = 312 GRP = 5 CODE = 5.8

DUPLICATE TAG PROTECTION

Protection is provided against accidental duplication of an ID number within a group file. This feature may be selected ON or OFF in **SET-UP**.

The user is offered, by way of display prompts, the choice of either over-riding the duplicate number protection or deleting the number before it is stored in memory along with its associated weight.

For example, animal number 223 has previously been weighed and stored in the current group file. Then 223 is re-entered and **WEIGH** is pressed.

The display will show:

ID=223 RE-USED (DELETE), OK=(ENTER)
--

- ◆ If the ID for the animal on the scale has been incorrectly entered, press **DELETE** one or more times to backspace through the digits of the ID. Then re-enter the ID and press **WEIGH** again.
- ◆ If the ID is correct, press **ENTER** to accept it. Note that there will now be two records with identical IDs in the current group file. The previous ID is probably incorrect and should be carefully noted.

ID ENTRY – ALTERNATIVE MODE

In most situations, typing an ID and pressing **WEIGH** is the quickest and most suitable method of operation. There may however be times when it is useful to type an ID, then press **ENTER** to have the display respond to the weight of the animal, instead of continuing to display the ID. **WEIGH** is pressed when the operator is ready to record the ID and weight.

For example, when weighing cattle on a platform in a race, the weight can be viewed to ensure that the animal is properly on the scale and it's true weight is being measured. **WEIGH** is pressed when the operator is ready to record the ID and the accurate weight of the animal.

3. WEIGH MODES

WEIGH MODE allows the operator to choose HOLD or FREE mode. When the auto-draft option is enabled, 3 additional versions of HOLD mode are available. A pointer ▲ on the display shows whether HOLD or FREE is selected. At switch-on, the weighing mode last used in the previous weighing session is automatically selected.

HOLD Mode

HOLD mode should be used for weighing live animals. Pressing **WEIGH** starts an averaging process, which then displays the accurate weight of the animal. A new record is added to memory. The weight is locked on the display until the next key press.

FREE Mode

FREE mode is suitable for static load weighing, not for weighing animals. The display is continuously updated with the weight currently on the scale. If **WEIGH** is used, the averaged weight is briefly displayed and added to the statistics.

Auto-Drafting Option: When DRAFT/EID ON-LINE and AUTO-DRAFT = ON are selected in Set-Up, three additional settings are available when **WEIGH MODE** is pressed.

SPEED Mode

A fast version of the standard HOLD mode with a 1.3 second weigh time. Only for use with special crates that restrict animal movement, allowing faster weighing. For example, the Racewell sheep crate and Rite-Weigh portable sheep crate.

HIGH SPEED Mode

The fastest version of the standard HOLD mode with a 0.7 second weigh time. Only suitable for use with special crates that restrict animal movement, allowing faster weighing. For example, the Racewell sheep crate.

COUNT Mode

This is a non-weighing mode for use with the Racewell sheep crate. The animal is held for a fixed amount of time, as set by the operator, then released automatically from the crate. When changing to this mode, the currently set Count Delay Time is displayed and may be changed by pressing ▲. Next select from DEFAULT DRAFT = LEFT, CENTRE, RIGHT the fixed gate direction that applies when operating in Count Mode.

It is recommended that a new Group is selected before using the Count Mode. The "weight" statistics for this group will then display the number of animals that have been held and released. When already in the Count Mode, a press of ▲ allows an adjustment to the Count Delay Time and a press of ▼ key allows an adjustment of the Default Draft Direction.

While the Count Delay is in progress, "HOLDING..." is displayed. To extend the hold time for as long as the operator wishes, press the 0 key (remember 0 for 0verride). When ready to release the animal, press **ENTER** (or any other key).

4. GROUP FILES

A new record is stored in permanent memory in the selected group (mob file) whenever **WEIGH** is pressed. A record consists of:

Weight, Group, Date, ID (if used), Condition Code (if used)

The FX41 has an in-built clock-calendar and the date is automatically recorded every time **WEIGH** is pressed.

In normal operation, before starting a new weighing session, the operator would select a previously unused group from the range 1 – 99. At the end of the session, or at any time during, the statistics for the group may be displayed or printed. Individual records for the selected group may also be printed.

Memory Capacity: 6000 weighing records plus
 3000 EID/VID Cross-Reference Table records

The weighing records capacity may be shared between the groups in any manner. i.e. any number of groups may be used with any number of records in each, providing the total number of records does not exceed 6000. To check the total number of records used, press ***** then ***RECS USED**.

When the record limit is reached, the message "MEMORY FULL !" will be displayed when **WEIGH** is pressed again. No more records are able to be stored until some or all of the existing records are cleared. Usually records from a previous weighing session (stored in another group) can be cleared so that more records can be added to the currently selected group.

A press of **GROUP** shows the currently selected group (mob file) and the date of the most recent weighing for the group.

For example:

```
GRP=28      25AUG23
NEW #, (ENTER), ↑ or ↓
```

To exit from group file display, press **GROUP** again or press **ENTER**.

At switch-on the last used group file remains selected, as indicated during start-up.

SELECTING GROUP FILES

Press **GROUP** to display the currently selected file number. For example:

Type new file no.: **2 9**

```
GROUP (0 - 99) = 29
(ENTER) WHEN OK
```

Press **ENTER**

```
GRP=29  NO RECORDS
NEW #, (ENTER), ↑ or ↓
```

The display advises that there are no records in Group 29. Press **ENTER** to accept this group file selection and return to the normal operating mode. Group files may be selected from the range 1 to 99.

Scrolling Through Group Files

Within the group files display function, use the scroll keys **↑** and **↓** to step through the active group files checking for the presence of records and the date of last use.

Only group files with records in them are displayed, allowing the operator to quickly scroll through to find a particular group.

DELETING RECORDS

To delete all records in a particular group file, select that group then press **DELETE**. The user is prompted to confirm this action by pressing **ENTER**.

```
GRP=15    20MAY23
NEW #, (ENTER), ↑ or ↓
```

Press **DELETE**

```
GRP=15    20MAY23
(ENTER) TO DELETE
```

Press **ENTER**
within 2 seconds

```
RECORDS DELETED
```

All records in Group 15 have now been deleted from memory.

Using The Global Group File: Group = 0

Selecting “GRP = 0 ALL RECORDS” allows access to all of the contents of memory regardless of which group files individual records are stored in. The user may:

- ◆ View global statistics. For example the average weight, total weight and the drafting numbers are the totals for all records in memory.
- ◆ Search for an ID number from an unknown group file.
- ◆ Delete the total contents of memory.

GROUP = 0 may not be used for storing records in a weighing session. If an attempt is made to do so, the message “GRP=0, CANNOT STORE, SELECT A VALID GROUP” is displayed. A group file in the range 1 to 99 must be selected.

Making Good Use of Group Files

Management of weighing records is improved by placing groups of records in separate group files. Please note the following suggestions:

- ◆ Use a separate group file for each new weighing session on a different day.
- ◆ Use a separate group file for different categories of animal.
- ◆ Keep careful notes on the use of the group file numbers.

5. STATISTICS

Statistics apply to all records in the currently selected group. In the case of Group 0, statistics apply to all records in memory, regardless of which groups they are located in.

Displaying Statistics

Pressing *****, the display shows "PRESS KEY FOR REQUIRED STATS".

Press the number key **1** to **9** for the required statistics or function. While the statistics are being calculated, "PLEASE WAIT..." is displayed.

For the number of records used / remaining in the entire memory:

Press ***RECS USED**

# RECS USED =	1500
# RECS LEFT =	4500

For average condition code:

Press ***AVG CODE**

AVG COND. CODE =	5.5
------------------	-----

For average weight, total weight and number weighed:

Press ***WGT STATS**

GRP=28	AVG=540 kg
TW=38880 kg	#0072

For the total weight of animals in the High range, Centre range and Low range:

Press ***DRAFT TOT**

HI TOT =	14976 kg
C=19084	L=4820

For the average weight of animals in the High range, Centre range and Low range:

Press ***DRAFT WGTS**

HI AVG =	576 kg
C=530	L=482

For the number of animals in the High range, Centre range and Low range:

Press ***DRAFT NO'S**

DRAFT TOTALS	
H=0026	C=0036 L=0010

NOTE: Draft statistics are not available for DRAFT BY WEIGHT GAIN or DRAFT BY GAIN/DAY

For the average weight gain (in average number of days) and average daily weight gain of the mob:

Press ***WGT GAIN**

AVG 23.0kg	62DAYS
GAIN/DAY = 0.371kg	

Kill-Out Statistics

After pressing ***WGT STATS**, ***DRAFT TOT** or ***DRAFT WGTS**, the corresponding weight statistics are displayed. A press of **↓** will now re-display these weight statistics, applying the Kill-out Percent setting (accessed in **SET-UP**) to the weights:

For example:

AVG WT % =	297kg
TOT WT % =	21384

Exit From Statistics

Press * to exit back to the weighing mode.

“What If” Drafting Statistics

Since statistics are recalculated on entry to the statistics display functions, the operator may change the draft limits and re-examine the drafting statistics to determine how many animals would have been drafted into each weight range with different settings.

ICONIX FX PRINTER OPTION

The *Iconix* FX Printer is a rugged, portable printer that uses standard adding machine paper rolls. It is powered from the internal battery of the FX41 indicator. Note that use of the printer reduces the number of hours of operation before recharging is required.

- ◆ Switch **OFF** the FX41, then attach the printer cable to the “OPTIONAL I/O” connector on the back of the FX41.
- ◆ Switch **ON** the FX41 and check that PRINTER ON-LINE is selected in **SET-UP**.
- ◆ Check and select if necessary the required group file using **GROUP**. If a printout is required of all records in memory, or the statistics for all records, select Group 0 before doing the printouts. See the section GROUP FILES - Using the Global Group File.
- ◆ Press the **ON-LINE** key on the printer to light the ON-LINE lamp.

Press *, then ***PRINT STATS** for a full statistics printout for the selected group.

Press *, then ***PRINT RECS** to print all records in memory for the selected group.

- ◆ To print the records arranged in ID order, select "PRINT BY ID".
- ◆ To print the records arranged in weight order, select "PRINT BY WEIGHT".

Using The Printer On-Line During A Weighing Session

The FX Printer may be used to print a record as each animal is weighed, rather than at the end of a weighing session. Each time **WEIGH** is pressed, a new record will be printed.

NOTE: Use of the 25 pin “Optional I/O” Connector

This connector is reserved for the use with the *Iconix* FX Printer, the *Iconix* AutoDrafter and *Allflex* EID readers. **DO NOT ATTACH ANY OTHER EQUIPMENT**, as damage is likely due to the power supply voltages brought out on this connector.

6. MEMORY

VIEWING RECORDS

First check and select if necessary the required group file using the **GROUP** key.

Press **MEMORY**.

Now use **↑** to step through the options:

SCROLL BY ID ?
SCROLL BY WEIGHT ?
EXIT ?

Press **ENTER** to perform the selected function.

Scroll By ID

The user is prompted to “ENTER START ID”, the ID from which to start scrolling through memory. The first record at or above the start ID is displayed.

For example: **H 68.5**

ID=4321 * ↑ ↓ EXIT = (ENTER)

Press ***** for additional details:

Example:

GRP=3 25SEP23 CODE=0.0

The user can then scroll up **↑** or scroll down **↓** through the records in ID order.

The “NONE HIGHER” and “NONE LOWER” messages indicate that the records with the highest and lowest IDs have been reached in the currently selected group.

To exit from the memory search, press **ENTER**.

Scroll By Weight

The user is prompted to “ENTER START WEIGHT”, the weight from which to start scrolling through memory. The first record at or above the start weight is displayed.

The record details are displayed in the same way as for scrolling by ID (see above).

The “NONE HIGHER” and “NONE LOWER” messages indicate that the highest and lowest record weights have been reached in the currently selected group.

To exit from the memory search, press **ENTER**.

DELETING OR EDITING A RECORD

While scrolling through records in memory, the displayed record may be deleted or edited. The various entry points to the Delete/Edit menu can be accessed by pressing the following keys:

DELETE	DELETE THIS RECORD ?
0 to 9	EDIT ID ?
WEIGH	EDIT WEIGHT ?
CODE / MULTIPLE	EDIT CONDITION CODE / COUNT ?
	EXIT ?

Use **↑** to step between the different options in the menu.

Press **ENTER** when the required option is displayed.

Use the EDIT options with care, as the change to the record is permanent. An appropriate use is to correct a mis-entered ID, for example when a duplicate ID is detected in a later weighing and the later ID is correct.

If the DELETE THIS RECORD option is selected, press **DELETE** within 2 seconds to confirm.

If the EDIT WEIGHT option is selected, it is possible to change the sign of the weight by pressing **↑**. This feature is not applicable to normal livestock weighing.

For a normal record, the option to EDIT CONDITION CODE will appear. For a multiple animal weighing record, EDIT COUNT allows a change to the number of animals.

UPLOADING RECORDS TO A COMPUTER

Iconix offers the optional WinFX Linker Package that includes a connecting cable and software. WinFX runs under Windows 95 or later versions of Windows.

The FX41 indicator is connected via the cable to the RS232 serial port of an IBM compatible computer. All records in memory are uploaded to the PC for viewing, sorting, printing or passing to another application, such as a spreadsheet, for further analysis.

The FX41 is factory set to a baud rate of 19200 for the speedy transfer of records to the computer. If there is a particular need to change this setting, go into **SET-UP** and select from the range 1200, 2400, 4800, 9600, 19200 and 38400. This setting only changes the RS232 communications port on the 9 pin connector on the back of the FX41. Other devices attached to the 25 pin "OPTIONAL I/O" connector are unaffected.

IMPORTANT NOTES:

FX41 Program Versions 1.xx

Before connecting the FX41 to a PC, you **must disconnect** an *Iconix* FX Printer or an *Allflex* EID reader from the 25 pin "Optional I/O" connector. Later model FX41s running program versions 2.01 or later do not have this restriction.

Use of the 25 pin "Optional I/O" Connector

This connector is reserved for the use with the *Iconix* FX Printer, the *Iconix* AutoDrafter and *Allflex* EID readers. **DO NOT ATTACH ANY OTHER EQUIPMENT**, as damage is likely due to the power supply voltages brought out on to this connector.

7. DRAFTING (Sorting by Weight)

Draft limits may be set to allow sorting of animals into weight ranges.

No Drafting

Set both draft limits to 0.0

2 Way Drafting

Set one draft limit to the required weight and set the other to 0.0

The display will show *H* (high) or *L* (low) alongside the weight.

3 Way Drafting

Set the two draft limits to the required weights.

The display will show *H* (high), *C* (centre) or *L* (low) alongside the weight.

SETTING DRAFT LIMITS, MINIMUM & MAXIMUM WEIGHT

Press **DRAFT LIMITS** to display the current setting for DRAFT LIMIT 1.

Note that additional settings may appear when **DRAFT LIMITS** is pressed, depending on what other features are enabled. See the DRAFTING BY WEIGHT GAIN section below. Also see Section 10: AUTO-DRAFTING.

Example:

```
DRAFT LIMIT 1 = 550.0
OK=(ENTER), or NEW #
```

To change a draft limit, enter the new weight using the numeric keypad.

Step on to DRAFT LIMIT 2 by pressing **DRAFT LIMITS** or **ENTER**.

Example:

```
DRAFT LIMIT 2 = 440.0
OK=(ENTER), or NEW #
```

Step on to MINIMUM WEIGHT by pressing **DRAFT LIMITS** or **ENTER**.

Example:

```
MINIMUM WT = 300.0
OK=(ENTER), or NEW #
```

The minimum weight is the lowest weight that will be accepted in a record. During the weighing session, if the weight is below the minimum, the following message will appear after **WEIGH** is pressed:

```
BELOW MIN. WEIGHT
CANNOT STORE RECORD
```

Step on to MAXIMUM WEIGHT by pressing **DRAFT LIMITS** or **ENTER**.

Example:

```
MAXIMUM WT = 600.0
OK=(ENTER), or NEW #
```

The maximum weight is the highest weight that will be accepted in a record. If the weight is above the maximum, the following message will appear after **WEIGH** is pressed:

```
ABOVE MAX. WEIGHT
CANNOT STORE RECORD
```

After setting the maximum weight, exit to the normal operating mode by pressing **DRAFT LIMITS** or **ENTER**.

DRAFTING by WEIGHT GAIN

If Auto or Manual Weight Gain is selected in **SET-UP**, when **DRAFT LIMITS** is pressed a choice of drafting modes will appear:

1. **DRAFT BY WEIGHT**
For normal drafting according to the weight ranges set by the Draft Limits.
2. **DRAFT BY WEIGHT GAIN**
To draft an animal according to the weight gained since a previous weighing. The amount of weight gained is compared with the Gain Limits, to determine whether the gain is *H* (high), *C* (centre) or *L* (low), as shown on the large display alongside the animal's weight.
3. **DRAFT BY GAIN / DAY**
To draft an animal according to the average daily weight gain since a previous weighing. The average daily weight gain is compared with the Gain/Day Limits, to determine whether it is *H* (high), *C* (centre) or *L* (low), as shown on the large display alongside the animal's weight.

Having selected the required drafting mode, press **DRAFT LIMITS** or **ENTER** to accept.

Depending on the drafting mode, the value of Draft Limit 1, Gain Limit 1 or Gain / Day 1 will be displayed and a new value may be entered. The Gain or Gain/Day Limits may also be changed to negative values by pressing **↑**, allowing drafting by weight loss.

When drafting by Weight Gain or Gain / Day, when the animal has been weighed the display will show the amount of gain (or loss) and the number of days since the earlier weighing. To show the weight gain / day, press **↑**.

Note that when drafting by Weight Gain or Gain / Day, no draft statistics are available.

“What If” Drafting Statistics

Since statistics are recalculated every time they are accessed, the user may change the draft limits and re-examine the drafting statistics to determine how many animals would have been drafted into each weight range with different settings.

Automatic Drafting Option

When the Auto-Draft option is enabled in **SET-UP**, an additional setting for Drafting Direction appears when **DRAFT LIMITS** is pressed. See Section 10: AUTO-DRAFTING for full details.

8. SET-UP

The operation of the FX41 system can be modified to suit individual needs by pressing **SET-UP** and configuring various options.

- ◆ At each option the user may change the setting or move on to the next.
- ◆ For an early exit from set-up, press **SET-UP** rather than stepping through all options.
- ◆ All set-up parameters are stored in permanent memory.

NOTE: Ensure that the correct set of loadbars or platform is connected to the FX41 indicator before attempting to change any set-up parameters. There are three possible scale types that are automatically recognised when plugged in, as shown by the Scale 1,2,3 annunciators on the right of the display. All of the set-up parameters are independently set and stored for each scale type.

PREFIXING: ON / OFF

When selected ON, allows an ID prefix of up to 8 digits to be entered. When weighing, the ID is automatically set to the prefix number, then extra ID digits may be manually added if required. This feature is useful where the first part of the IDs will be identical for all or part of a weighing session.

WEIGHT GAIN: OFF / AUTO / MANUAL

If weight gain analysis is not required, for best operating speed set to WEIGHT GAIN = OFF. When there are large numbers of records in memory, gain comparisons may take some time to calculate.

In AUTO mode, the weight gain calculations are performed automatically. In MANUAL mode they are under user control. Refer to Section 9: SPECIAL MODES - WEIGHT GAIN for full details.

If the MANUAL mode is selected, the user is prompted to enter the group file number to be used in the weight comparisons.

NOTE 1: If either weight gain mode is enabled, options to Draft by Weight Gain and Draft by Gain Per Day become available when **DRAFT LIMITS** is pressed.

NOTE 2: If either weight gain mode is enabled, ensure that MULTIPLE WEIGH = OFF.

KILL-OUT PERCENT

The percent setting (range 0.0 – 999.9%) is the value used for calculating kill-out weight or projected growth weights, as displayed by a press of **↓** after a new weighing is done.

COMMUNICATION WITH EXTERNAL DEVICES

The FX41 may be configured as follows:

OFF-LINE	No external devices connected
COMPUTER ON-LINE	For a computer connected to the 9 pin RS232 socket
PRINTER ON-LINE	For an <i>Iconix</i> Printer on the 25 pin "OPTIONAL I/O" socket
DRAFT / EID ON-LINE	Many options. See AUTO-DRAFT / EID section

The baud rate setting applies to the 9 pin RS232 communications port for connection to a computer. Selecting DRAFT / EID ON-LINE still allows a computer to be connected.

The *Iconix* FX Printer, *Iconix* Auto-Draft Controller or an EID reader are all connected via the 25 pin "OPTIONAL I/O" socket. This is a dedicated port for these devices. It is possible to run an Auto-Draft Controller and EID Reader simultaneously - *Iconix* can provide a special adaptor cable for this purpose.

DUPLICATE ID CHECK: ON / OFF

When Duplicate Checking is enabled, when **WEIGH** is pressed after entering a tag number, all records in the selected Group are checked for previous use of the same (non-zero) tag number in the current weighing session (records with the present date).

MULTIPLE WEIGH: ON / OFF

When selected ON, allows the weighing of several animals at a time. When weighing, the number of animals is entered via **CODE/MULTIPLE**, then **WEIGH** is pressed. When Multiple Weigh is enabled, statistics are displayed for the average animal weight.

Note that the Condition Code entry is not available when Multiple Weigh is enabled.

NOTE: Ensure that Multiple Weigh is only enabled if needed, as records stored in this mode may not be used for weight gain comparisons with a later weighing session.

DISPLAY RELEASE: ON / OFF

The standard factory setting is Display Release OFF, which in the HOLD modes keeps the last weighing locked on the display, until the next weighing. For Display Release ON, when the animal that has been weighed is moved from the scale, the displayed weight will not remain locked on the display.

ZERO-TRACK: ON / OFF

Zero-tracking automatically restores the scale to zero, by “tracking out” small amounts of dung and dirt left on the scale. It should be enabled for most weighing applications.

UNITS: KG / LB

Select between kilograms and pounds. **Note that a change to this setting should only be made when there are no records in memory.**

TIME & DATE SETTING

The settings for the internal clock-calendar are accessed in the following order:

HOURS, MINUTES, YEAR, MONTH, DAY

9. SPECIAL MODES

MULTIPLE WEIGH

When this feature is selected, several animals may be weighed together. Note that the Condition Code entry is not available when Multiple Weigh is enabled.

- ◆ Normally a new unused group should be selected before starting a session of multiple animal weighings.
- ◆ Load the animals on to the platform.
- ◆ If required, enter the ID (tag number) of up to 8 digits on the numeric keypad.
- ◆ Press **CODE/MULTIPLE**, then set the COUNT equal to the number of animals.
- ◆ Press **WEIGH** to store a new record and display the details. The top display shows the average animal weight and H (high), C (centre) or L (low) according to the weight range of the average weight compared with the draft limits.

For example: *H 82.5*

ID=321 TOT WT = 990 kg

A press of **↓**, shows additional details on the lower display.

For example:

% OF WEIGHT = 45.4 GRP = 5 COUNT = 12
--

“% OF WEIGHT = 45.4” is the average kill-out weight of the animals, according to the Kill-out Percent setting.

The record added to memory in the currently selected group consists of:

Count, Total Weight, Group, Date, ID Number (if used)

When weight statistics are displayed, the average weight of an individual animal is shown (calculated from the sum of the Total Weights divided by the sum of the Counts).

When drafting statistics are calculated, the average animal weight in each multiple weighing record is compared with the draft limits and the Count from that record added to the High, Centre or Low numbers.

WEIGHT GAINS

If weight gain analysis is not required, in **SET-UP** select WEIGHT GAIN = OFF for best operating speed.

When there are large numbers of records in memory, gain comparisons may take some time to calculate.

For weight gain comparisons, ensure in **SET-UP** that MULTIPLE WEIGH = OFF during all weighing sessions.

Auto Weight Gain Mode

In AUTO weight gain mode, the FX41 searches through all records in memory for the most recent previous weighing of the animal just weighed. For a match the record must have the same non-zero ID number and the most recent date (but not the current date). The record can be in any group, including the currently selected group.

Manual Weight Gain Mode

To compare weights with other than the most recent weighing, select MANUAL mode then enter the number of the group file with the previous weighings. Each weighing session for a particular mob of animals should be recorded in a different group file. Weight gains can then be compared with the nominated earlier weighing session.

Display Examples

For either gain mode, after the ID is entered and **WEIGH** pressed, the new record is stored and the displays updated. The weight gain and number of days since the previous weighing are shown:

For example: [5 4 6

ID=321	
34.5kg	61 DAYS

A press of **↑**, shows the weight gain per day.

For example:

GAIN/DAY =	0.565kg
GRP = 5	CODE = 0.0

Weight Gain Statistics

For the average weight gain (in average number of days) and average daily weight gain of the mob:

Press ***** then ***WGT GAIN**

AVG 25.1kg	61 DAYS
GAIN/DAY =	0.411 kg

Each animal with a non-zero ID weighed in the current weighing session (today's date) in the currently selected group file is compared with the most recent previous weighing of that animal (AUTO mode) or nominated previous weighing (MANUAL mode). All records with a valid previous weighing are used in the calculation of the average weight gain, average number of days since the previous weighing and the average daily weight gain.

10. AUTO-DRAFTING

USING THE *ICONIX* AUTO-DRAFT CONTROLLER

The auto-drafting feature allows the FX41 to be used for automating the drafting of cattle and sheep when used with suitable crates fitted with the *Iconix* Auto-Draft Controller. The FX41 communicates with the Auto-Draft Controller via the 25 pin "OPTIONAL I/O" connector. To enable this feature:

1. In **SET-UP**, first select DRAFT / EID ON-LINE.
2. Select AUTO-DRAFT = GENERAL or RACEWELL (see below for a description of the two operating modes).
3. If GENERAL auto-drafting is selected, settings for WEIGH DELAY and RELEASE DELAY will follow. These delays only apply when Trigger is set to External.
4. Select TRIGGER = EXTERNAL for automatic starting of the weigh / draft cycle
or TRIGGER = WEIGH KEY for manual starting of the weigh / draft cycle

Drafting Modes

The GENERAL mode assumes that a conventional type of crate is being used, where an "IN gate" controls the entry of the animal into the crate and an "OUT gate" controls its release when weighing is complete.

The RACEWELL mode requires that the crate clamps a sheep once it has entered the crate. The clamping action occurs automatically and controls the release of the sheep from the crate. IN and OUT gates are not present in this system.

For both types of crate, the drafting gates are installed at the exit point of the crate. The *Iconix* Auto-Draft Controller opens the appropriate gate according to the weight range of the animal or other drafting criteria.

Starting the Weigh / Draft Cycle

Where it is desired to enter tag numbers and/or condition codes or to start the weigh / draft cycle manually for any other reason, select TRIGGER = WEIGH KEY. Weighing and drafting are then initiated by a press of **WEIGH**, having first typed the tag number and/or condition code if required.

To automate weighing and drafting whenever an animal enters the crate, select TRIGGER = EXTERNAL. In the case of the Racewell crate, a signal is sent from the crate to the FX41 when the clamping of the sheep occurs. Similarly for a cattle crate fitted with a microswitch that closes when the "IN gate" has been closed, automatic starting of the weigh cycle can be achieved. For both types of crate, the external switch contacts activate the Weigh function, eliminating the need to manually press **WEIGH**.

Delay Settings in General Mode

In the GENERAL auto-draft mode, instead of the weigh cycle starting as soon as the External Trigger has occurred, it is delayed by the value set for the WEIGH DELAY.

The automatic opening of the "OUT gate" at the end of the weigh cycle may also be delayed by the value of RELEASE DELAY. This feature may be used to allow the drafting gates to fully change to the required direction before releasing the animal from the crate. A RELEASE DELAY setting of 0.0 seconds allows the operator to control the release manually by pressing ENTER when ready, as prompted by a message on the display.

Drafting Gate Direction (access using **DRAFT LIMITS**)

When auto-draft is enabled in **SET-UP**, an additional drafting setting is available when **DRAFT LIMITS** is pressed.

H C L	H igh weights=left	C entre weights=centre	L ow weights=right
H L C			
C H L			
C L H			
L H C			
L C H	L ow weights=left	C entre weights=centre	H igh weights=right

For 3-way drafting, the High, Centre and Low weight animals may be drafted left, right or straight through.

For 2-way drafting, set one of the draft limits to zero and select the direction for the High and Low weight animals (ignore the Centre weight direction).

Default Draft Direction (access using **DRAFT LIMITS**)

When auto-draft is enabled in **SET-UP** and a drafting mode other than DRAFT BY WEIGHT is selected, an additional drafting setting is available when **DRAFT LIMITS** is pressed.

Select from DEFAULT DRAFT = LEFT, CENTRE, RIGHT

This is the direction in which an animal will be drafted if:

1. DRAFT BY WEIGHT GAIN or DRAFT BY GAIN/DAY is selected and a gain comparison for the animal is not able to be made.
2. DRAFT BY EID or WEIGH, DRAFT BY EID is selected and there is no EID drafting record for this animal in memory.

Manual Override of Auto-Drafting

When auto-drafting is in progress, it is possible to override the FX41-selected drafting direction, using the **0** key on the numeric keypad (remember **0** for **0**verride).

Press **0** to select the CENTRE GATE

Press **0** again to select the RIGHT GATE

Press **0** again to select the LEFT GATE

At any time during manual override, press any key other than **0** to exit manual override and return to the weighing mode. On exit, all gates will be left in the closed state.

Note that if the override feature is used to send animals in a different direction from that indicated by FX41, then the draft statistics will not be the same as the number of animals physically drafted through each gate.

Speed Weighing / Hi-Speed Weighing / Count Mode

(see Section 3: WEIGH MODES)

11. ELECTRONIC ID (EID)

EID SET-UP OPTIONS

The FX41 provides the flexibility to handle a range of EID applications. A summary of the EID set-up menus follows:

1. In **SET-UP**, first select PREFIXING = OFF. Prefixing is not compatible with EID.
2. Select DRAFT / EID ON-LINE.
3. Step past the AUTO-DRAFT mode selection (and delay settings for General Mode).
4. Select EID = ON.
5. Select READ CONTINUOUS for full time operation of the EID reader - suitable for an EID reader placed in the race prior to the weighing crate or platform, or select READ AFTER TRIGGER depending on the application.
6. Enter EID TIMEOUT(sec), the number of seconds after the trigger for which the FX41 continues to wait for a valid EID from the reader. A setting of 0 seconds means that a valid EID is expected to have already been received prior to the trigger.
7. Select HALT IF NO EID = ON / OFF. If enabled, when there is no EID present (a timeout occurs without scanning a valid EID), the FX41 will halt until the user decides whether to continue weighing the animal or not. This allows the operator to fit a new EID to replace one that is missing.
8. Select HALT IF NO XREF = ON / OFF. If enabled, when an EID is scanned but there is no corresponding entry in the cross-reference table, the FX41 will halt until the user decides whether to continue or to add a new cross-reference entry on-the-fly.
9. To view entries in the EID/Visual ID (tag number) cross-reference table, manually add new entries or delete all entries, choose ENTER X-REF MENU. See the section EID/VID Cross Reference Table below for further details.
10. Select EID = ALLFLEX, TIRIS or AGRIDENT, according to the type of reader.
If EID = ALLFLEX is selected, an option to INITIALISE READER? is provided. The Allflex reader will then be set up to work optimally with the FX41.
11. Select from TRIGGER = WEIGH KEY Manual operation

TRIGGER = EXTERNAL	Signal from Racewell sheep crate
TRIGGER = EID	Valid EID received
TRIGGER = WEIGHT	Weight is above the Minimum Weight

The trigger occurs when the animal is in the correct position on the platform/crate for weighing and recording. For example, with the TRIGGER = EID option, placement of the EID reader can be used to determine when the animal is in the correct position for weighing.

NOTE: FX41 Program Versions 1.xx

Before connecting an Allflex EID reader to the 25 pin "Optional I/O" connector on the FX41, you **must disconnect** any computer or other device attached to the 9 pin RS232 connector. Later model FX41s running program versions 2.01 or later do not have this restriction.

DRAFTING BY EID

Instead of normal drafting operation (drafting according to weight range or weight gain), animals may be drafted in a pre-determined direction according to their EID. A file containing EIDs and drafting directions may be loaded from a computer using the *Iconix* WinFX linker program. When the animal's EID is received from the reader, the FX41 will drive automatic drafting gates in the required direction via the *Iconix* Auto-Draft Controller. An animal may optionally be weighed first, before it is drafted according to the direction in the pre-loaded file.

1. Use the WinFX linker program to download the EID drafting file to the FX41. Full details on this are provided in the on-line help in WinFX.
2. The drafting file will have been stored in a Group in memory according to data in the file. Select this Group in the FX41.
3. In **SET-UP**, first select DRAFT / EID ON-LINE.
4. Select AUTO-DRAFT ON and EID = ON.
5. Using **DRAFT LIMITS**, select DRAFT BY EID or alternatively if the animal is to be weighed first, select WEIGH, DRAFT BY EID.
6. Ensure that the other FX41 settings are correct for normal EID based weighing.

Now when an EID is scanned, the currently selected group is checked for the presence of an EID drafting record with a matching EID. If a match is found, a drafting gate will be opened in the direction specified in the record.

Note that the drafting record will be converted to a normal weighing record, except that the weight stored will be zero (except in the case of WEIGH, DRAFT BY EID). This means that this drafting record is no longer present and cannot be re-used unless it is downloaded again by WinFX.

EID-VID CROSS REFERENCE TABLE

The FX41 may be set up with a cross reference table supplied by a computer, using the *Iconix* WinFX Linker Package, or scanned/entered manually. The cross-reference table has a maximum of 3000 entries. Each entry in the table has 2 components:

VID (Visual ID or tag number)	up to 6 digits
EID (Electronic ID)	up to 16 digits

Whenever an EID is received from the reader, the cross reference table is checked and if that EID is found, the corresponding VID is used on the display instead.

For access to the cross-reference table, go into **SET-UP** and follow steps 1 to 8 in the section EID SET-UP OPTIONS above. Press **↑** to ENTER X-REF MENU.

Now use **↑** to step through the options:

ADD X-REF ENTRIES ?	Manually add new entries
X-REF SCROLL ?	View entries, optionally edit the VID, or delete an entry
DELETE X-REFS ?	Delete all entries in table
EXIT ?	

Press **ENTER** to perform the selected function.

Adding Cross-Reference Entries

Type the tag number for a new entry in response to "VISUAL ID = 0". If a mistake is made, use **DELETE** to backspace then correct.

After pressing **ENTER** to accept the new VID, the message "SCAN NEW EID NOW...." appears. The reader must scan a new EID within about 3 seconds for the VID / EID entry to be valid. The EID must be a unique number and duplicates are not permitted in the cross-reference table, with a warning appearing if an attempt is made to add a duplicate. No check for duplicate VIDs is made.

Scrolling Through the Cross-Reference Table

For each entry, the VID is displayed and a press of * will allow viewing of the associated EID. The user can then scroll up ↑ or scroll down ↓ through the entries. While scrolling through records in memory, the displayed record may be deleted or edited. The various entry points to the Delete/Edit menu can be accessed by pressing the following keys:

DELETE	DELETE X-REF ?	Delete the currently selected entry
0 to 9	EDIT VISUAL ID ?	Edit the VID of the currently selected entry
	EXIT ?	

Use ↑ to step between the different options and press **ENTER** to select.

PLANNING AN EID BASED SYSTEM

EID offers power and flexibility, especially when combined with auto-drafting. However some planning is required in setting up and using such a system to full advantage. The following recommendations will assist that process.

The Cross-Reference Table

If animals are already fitted with visual IDs (VID) and it is intended to use the EID/VID cross reference table, attach the EIDs as a separate operation. Then bring the animals to the location of the FX41 and EID reader, having selected ADD X-REF ENTRIES in **SET-UP**. Type the visual ID and scan in the EID for each animal.

With all animals cross-referenced, it is important to use WinFX to upload the cross-reference table to a PC and save as a back-up before proceeding any further.

WinFX can be used for downloading a cross-reference table from the PC to the FX41. Note that if this is done, the FX41 will add the cross-reference entries to those already in memory. First decide whether to clear the existing cross-reference table in the FX41.

WinFX allows the deletion of cross-reference entries by connecting the EID reader directly to the PC. For example, culled animals may have had their EIDs removed for later re-use. Load the required cross-reference file into WinFX, then scan the removed EIDs one at a time to delete them from the file. WinFX provides more details on this feature. The edited cross-reference file may then be downloaded to the FX41.

12. SPECIFICATIONS

FX41 Version 4.01 onwards, 2007 onwards

Supply Voltage: Nominal 12V DC
Maximum 19V DC
Reverse polarity protection diode fitted.

Low Battery Indication: Below approximately 11.5V the LOW BAT pointer ▲ will be on.
The FX41 switches off at approximately 10.5V.

Supply Current: Approximately 160 mA including loadbar set.

Temperature Range: -5°C to +50°C

Zero Tracking: Small residual weights left on the scale between weighings (dirt build up) are automatically 'zero-tracked' out and the scale restored to zero. As this occurs the ZERO pointer ▲ will indicate that ZERO has been reached.

The zero-tracking amount is set to 0.5% of the weight displayed after the last press of **WEIGH**, with a 2.2kg maximum.

At switch-on the zero-tracking amount is initialised to 0.015% of capacity (0.3kg for 2000kg loadbar set).

Resolution: Autoranges in graduated steps from the zero point of the scale.

Scale 1:

Standard Loadbars	Metric Model	Resolution	Imperial Model	Resolution
	0 - 20 kg	0.1 kg	0 - 40 lb	0.2 lb
	20 - 50 kg	0.2 kg	40 - 100 lb	0.5 lb
	50 - 200 kg	0.5 kg	100 - 400 lb	1 lb
	200 - 500 kg	1 kg	400 - 1000 lb	2 lb
	500 - 2000 kg	2 kg	1000 - 4000 lb	5 lb

Minimum Capacity: 20kg (The 0-20kg range is available but is not part of the EMC specification).

Scale 2:

Vet Scale	0 - 100 kg	0.05 kg	0 - 200 lb	0.1 lb
	100 - 300 kg	0.1 kg	200 - 600 lb	0.2 lb

Scale 3:

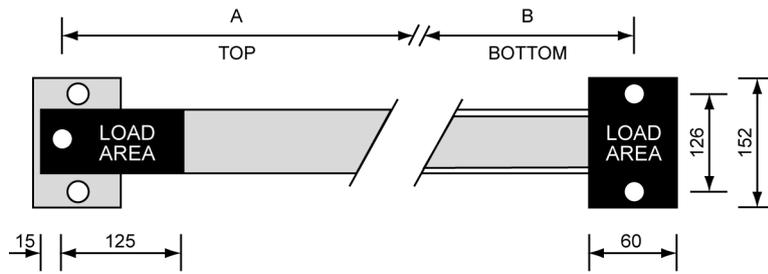
Heavy-Duty Loadbars	0 - 100 kg	0.5 kg	0 - 200 lb	1 lb
	100 - 200 kg	1 kg	200 - 400 lb	2 lb
	200 - 1000 kg	2 kg	400 - 2000 lb	5 lb
	1000 - 3500 kg	5 kg	2000 - 7000 lb	10 lb

Accuracy: ± 0.5% of Displayed Reading ± 1 Division (where 1 division is 0.1kg, 0.5kg etc. depending on weight range)

RF Immunity: Maximum additional error in a 3V/m RF field in the range 27 - 500 MHz is:
± 2 divisions for 20 - 50kg
± 1 division for 50 - 200kg
± 0 division for 200 - 2000kg

EMC Approvals: Meets or exceeds the following standards:
IEC801-2 Electrostatic discharge
EM50081-1 Free radiation measurements
EM50082-1 RF immunity

STEEL LOADBAR SET 2000kg



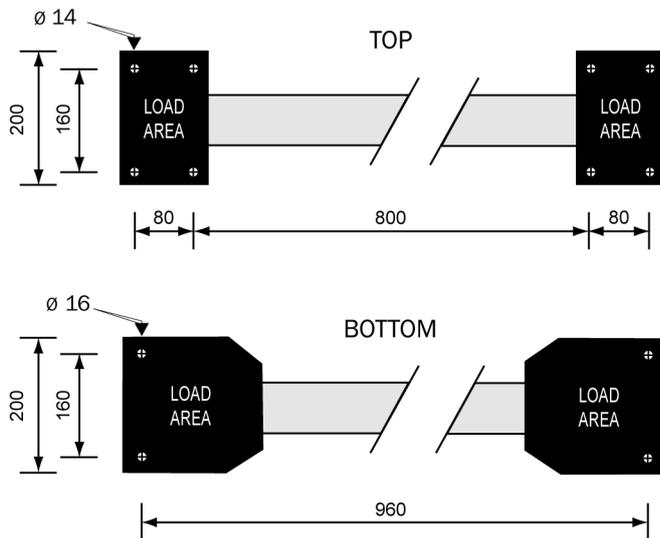
600mm

A: 570
 B: 546
 Length: 600
 Width: 152
 Height: 95
 Capacity: 2000kg

1000mm

A: 970
 B: 946
 Length: 1000
 Width: 152
 Height: 95
 Capacity: 2000kg

HEAVY DUTY LOADBAR SET 3500kg



Length: 1000 Width: 200 Height: 115
 Capacity: 3500kg



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