



# Downloader Module

## Operation & Installation Manual

DIGI-STAR  
790 WEST ROCKWELL AVENUE  
FORT ATKINSON, WI 53538  
PHONE (920) 563-1400  
FAX (920) 563-9721

[www.digi-star.com](http://www.digi-star.com)

# Digi-Star Downloader

The Digi-Star Downloader is designed to work with the Digi-Star EZ 150, EZ 210, and 320 Scales; all must have RS232 (print) option. Foreign language is not supported, use English only. The Downloader can hold as many as 682 different print cycles from the scale; enough for a whole day's worth of use. The Downloader's advanced electronics requires no batteries, and there is no bulky interface box to attach to your computer. The Downloader can be used over and over again for about (11) eleven years of daily use.

Each entry shows a Load, Unload, or Total Load operation, as well as the Time, Date, Weight, and ID number (when available).

For Example:

```
GROSS      ID 60110      -54321 LB   05:01 17 OCT 96
MEMORY+   ID   54      769830 LB   17:22 11 OCT 96
          RECIPE          57
          05:01 17 OCT 96
          INGRD#          34 12345LB
          INGRD#          56 67890LB
          TOTAL          80235LB
```

To retrieve information from the Downloader Module, attach the interface cable to your PC's printer port and plug the Downloader Module into the cable. The program provided with the Interface Cable will transfer all information from the Downloader Module into your PC. The Downloader program will run from DOS on any IBM compatible PC. You can run the Downloader program from a floppy disk, or create a directory in your computer's hard drive. In either case, make certain to copy the contents of the supplied floppy disk and keep the original in a safe place.

Example: Make a directory on your hard drive. From the DOS C: prompt type

```
CD\MKDIR DOWNLOAD
CD DOWNLOAD
```

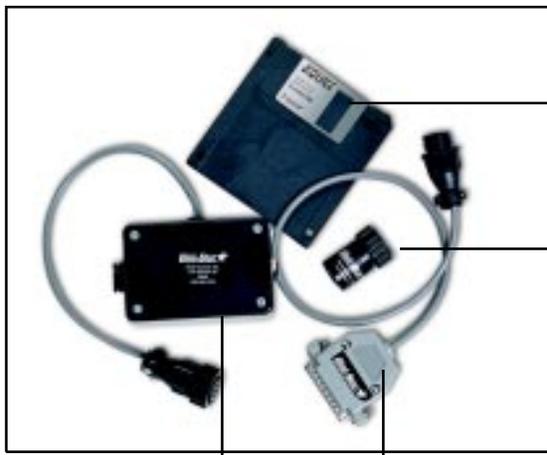
Then copy all of the files on the supplied floppy disk over to the new directory. The following line assumes that you have the floppy disk in your A drive.

```
COPY A:*.*
```

```
C: If the supplied floppy is in your B drive then type COPY: B:*.*
```

```
C: Now type: DLOAD
```

and the Downloader program will start.



Software

Downloader  
Module

Memory Converter

Interface Cable

The program makes the assumption that you are using LPT1 for the Downloader Cable and LPT1 for your printer cable. We strongly recommend that you use a second printer port if you have one in your computer or purchase an “AB switch”, so that you can switch between your printer and the Downloader. This will make it easier for you to use your computer and your Downloader, so that you won’t have to reach behind your computer and play with the cables every time you want to use your printer. If you use your Downloader in a printer port other than LPT1 than start the program by typing:

### DLOAD LPTn

where LPTn can be LPT1, LPT2, or LPT3, depending on where the Downloader is connected.

You can also have the program work in Kilograms, but keep in mind that it will only print “KG”, it won’t perform a conversion. Both the Scale and the Downloader must be set up for “Kg”.

As an example: DLOAD KG would start the Downloader program with the Downloader port in LPT1 and KG units. DLOAD LPT3,KG would start the Downloader program with the Downloader in port 3 and KG units. DLOAD LPT2 would start the program with port 2, etc.

The optional parameters can be in any order.

When using the Downloader with a Digi-Star scale. **MAKE CERTAIN** that you are using an EZ150, Model EZ 210, or 320 [all with print option] Also, **MAKE CERTAIN** to use the Memory Converter. The one line print mode is part of the scale’s “Long Form Calibration” and is set by selecting {1L PRT} to ON.

The Downloader will store all information that the scale normally sends to a printer.

When using the Downloader with a Digi-Star scale you first attach the Memory Converter to the scale’s printer connector and then attach the Downloader Module to the Memory Converter. All power to run the Downloader and its memory Converter is taken from the scale, there are no additional cables to attach. Data will be saved into the Downloader each time the scale normally sends information to the printer.

The Downloader will retain 682 lines of information before it is full and then all additional information will simply be lost. All the information will be retained even after the Downloader has been disconnected from the scale. No information is erased from the Downloader until you erase it. A Downloader Module can be removed from the scale, send its information to the computer, and then be plugged back into the scale without losing any information. All new data is added into the end of the existing information, but remember that the Downloader Module can only hold 682 lines of information. This means that you should clear the Downloader Module once you have retrieved all the information from it.

The Memory Converter never needs to be removed from the Digi-Star scale, since only the Downloader Module needs to be plugged into your computer. You can unplug the Downloader Module or Memory Converter at any time, but it's best to turn the scale off before removing either unit from the scale.

To use a computer with your Downloader, first install your software in a hard drive, or save it to another floppy so that it's safe.

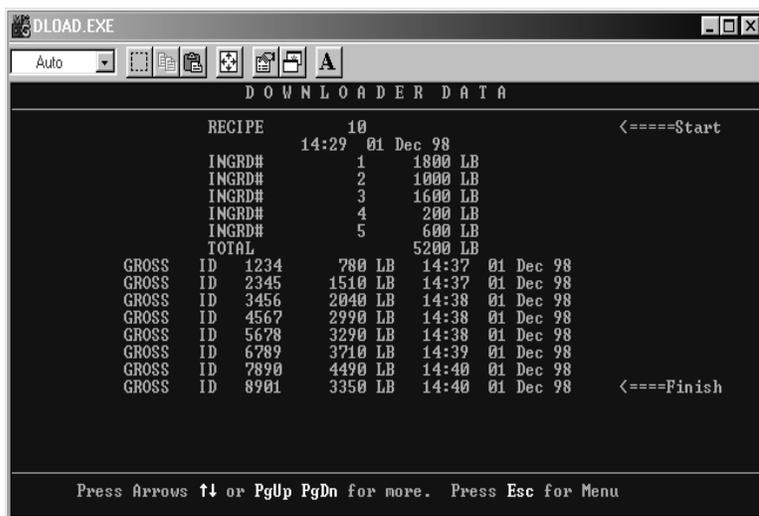
Attach the Interface Cable to your computer's printer port.

Start the program by typing DLOAD and any of the optional parameters.

Plug the Downloader into the Interface Cable.

The screen now shows three options; **D**isplay, **C**lear, **H**elp, and **Q**uit.

"**D**isplay" will attempt to receive all information from your Downloader. "**C**lear" erases all information in the Downloader module. "**H**elp" gives a quick description of how to use the Downloader, and "**Q**uit" exits you to DOS.



When you press **D**, the screen then displays Reading Downloader Modules, and when it's finished all the stored data will be displayed.



If the information is too large to fit on a screen you can press the arrow keys, PgUp, or PgDn to display all of the information retrieved. The first entry is labeled “Start” and the last is labeled “Finish”. Pressing ESC will exit you back to the main menu, but now there are a few extra choices.

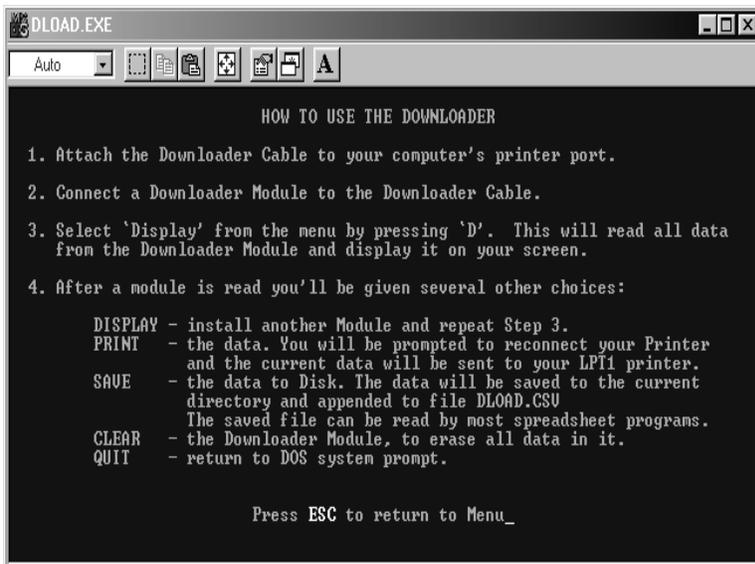
“Print” will allow you to send the stored information to your printer. You will be reminded to hook your printer back up, since you may have disconnected it. If you are using an A/B switch to switch between the printer and the Downloader, simply flip the switch over to the printer position. If you have been using a different printer port for the Downloader, than you don’t have to do anything.

Save is used to save all the data to a CSV file. CSV stands for Comma Separated Value, and is the type of file that most spreadsheet and database programs use to import information. When you press Save all the data will be appended to the file DLOAD.CSV in the current directory. This means that if the file does not exist, it will be created and if it does exist the new information will be added to the end of the existing file. If you always want a new file, instead of adding to the old one, then start the Downloader with the command DLOADER (as in, DLOAD Erase). This batch file that erased DLOAD.CSV before starting so that you always have a fresh file.

Quit will take you back to the main menu.

## Quick Guide

1. Plug the Memory Converter into the scale and the Downloader Module into the Memory Converter.
2. Operate the scale normally, making sure to press PRINT whenever you want the Downloader to store data.
3. Remove only the Downloader Module when you are finished weighing.
4. Plug the Interface Cable into your computer’s parallel (printer) port and attach the Downloader Module to the Interface Cable.
5. Start the Downloader program by typing DLOAD. (Use DLOADER if you want to save only new data to your file.)
6. Follow the onscreen instructions to Display, Save, or Print your data.
7. Clear the Downloader Module when you have finished so that more data can be stored into it.



# Trouble Shooting

The Downloader has been tested with all computers from a base XT to a Pentium. Most problems are caused by not knowing which parallel port you are using and by attempting to read an empty module.

Problem: Downloader Module Not Found.

Make sure that all connections are tight.

Make sure that you have plugged ONLY the Downloader Module into the Adapter Cable. Start the program by typing DLOAD LPT2, and DLOAD LPT3 to see if you are in a different parallel port than LPT1. Some computers have their ports swapped.

Problem: Downloader Module Garbled.

Clear the Downloader Module and attempt to store new data in it.

Problem: Downloader Module is empty.

Make sure that the Downloader Module AND the Memory Converter are plugged into the scale.

Make sure that the scale is configured for one line print.

## Scale Setup

In order for the scale to store data in the Downloader Module, you must make certain that the scale is configured properly. Follow these instructions carefully, since changing any calibration parameters will make the scale read improperly.

Press and hold the scale's NET/GROSS key, and the ON key. This will place the scale in the Calibration Mode.

Now press the ON key until the display reads "PRESS NET/GROSS FOR CALIBRATION - TARE FOR SETUP - ON TO EXIT"

Now press the TARE key and then press the ON key until the display reads "TAREAP". This is Tare Auto Print and must be on so that the scale will store data in the Downloader Module each time you press the TARE key on the scale. Press the NET/GROSS key if the display does not read "ON".

Now press the ON key again and the display will read "1LPRT". This tells the scale to print all information on one line and must be set ON for the Memory Converter to work. If the option is not ON press NET/GROSS until the scale displays "ON".

Now press the OFF key to exit the calibration mode.

**NOTICE:** Downloader will only work with EZ Series Indicators with help messages programmed in English.

# Memory Converter Protocol

1200 Baud RS232, +/- 8 VDC. Pin2 Data, Pin6 Signal Ground.

1 Start bit

7 Data bits

1 Even Parity (ignored)

1 Stop bit

Digi-Star Single line format, each line terminated with a carriage return (0X0D) and a line feed (0X0A).