ScaleVision®

Communications Software

User's Guide

B14720400A
(2/01).00

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METTLER TOLEDO®

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METTLER TOLEDO ScaleVision® User's Guide B14720400A 2/01

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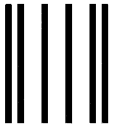

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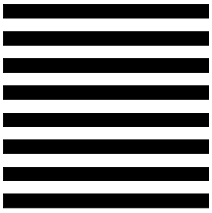

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CONTENTS

1 Introduction

ScaleVision® Communications Software is a software product designed to run on a MSDOS® or UNIX® based in-store processor (ISP) for scale communications. ScaleVision® software receives generic scale information (Items, Extra Text, Price changes, Nutrition Facts, etc.) from the retailer's item/price maintenance system and generates specific, executable commands to communicate with a multi-manufacturer scale system. Item/pricing/nutrition/control information can be created using your own application system or METTLER TOLEDO Intelli-Net®, from one central location, and simply transmit a flat *ASCII file* to the ISP's where the ScaleVision® software then filters and translates the information into a format for immediate or delayed execution by the scales. ScaleVision can also retrieve report information on item totals, etc. from the scales®.

ScaleVision® is divided into three major functioning parts: the *Scheduler*, the *Filter*, and the *Drivers*. The Scheduler locates *Generic Pending Files*, forms an *Event* Record, and prioritizes the Event depending on when it is *due*. The Filter takes the *Event File* record and translates the generic commands into specific commands to be used by the Drivers. The Drivers then send the commands to the different scales. The transitions of ScaleVision® are shown below in Figure 1-1.

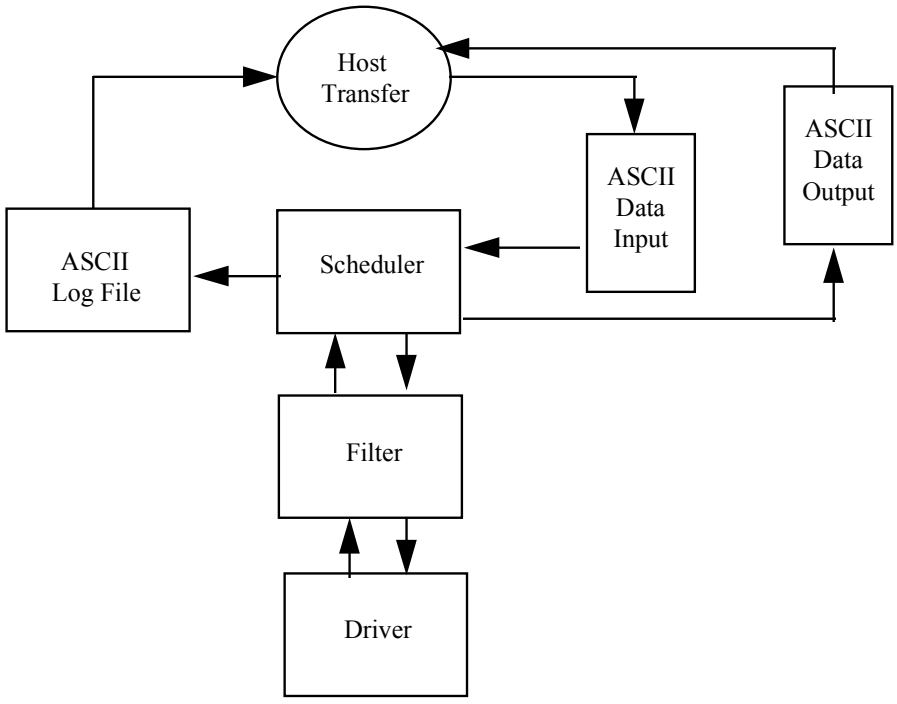


Figure 1-1: Basic Overview of ScaleVision®

ScaleVision® has been designed so that it may be integrated with most major retailers item/pricing management systems. In addition, ScaleVision® allows you to use as few or as many of the main functioning groups as you choose.

Chapter 2, "Getting Started," explains the steps necessary to install and run the ScaleVision® software. Chapter 3 "Using ScaleVision®," explains in detail how ScaleVision® works and addresses the more technical aspects of operation.

In this manual, all words that are italicized are defined in the Glossary (Section 7).

2 Getting Started

First Steps

Checking Scale Vision Package

First check your ScaleVision® package to make sure you have the following items:

- ScaleVision® Users Guide
- Software Registration Card
- "Important Information" Card
- ScaleVision® Program diskette.

If your package is missing any items, contact your METTLER TOLEDO Representative immediately.

Registration Card

The ScaleVision® Software Registration Card supplied with the software must be returned to validate your warranty and license. This card registers you as a licensed user and qualifies you for technical support. Be sure to fill in the serial number found on the program diskette.

Hardware and Software Requirements

Hard Disk Space and Memory Requirements

ScaleVision® requires a minimum 350K free memory and 700K of hard disk space for the executable and command files. Keep in mind, though, that Generic Pending Files may require up to several MB of hard disk space.

Hardware Needs, ISP

ScaleVision® is designed to run on an In-Store Processor (ISP). The platforms supported by ScaleVision® are Windows® NT, SCO®/UNIX®, MSDOS®, IBM® 4680 Machines, NCR® 3000 Machines, and RS 6000 Machines.

ScaleVision® requires communications hardware connecting the ISP to the store's scales. Required communications hardware for METTLER TOLEDO scales and their corresponding Product Numbers are listed in the following tables. Required communications hardware for HOBART® scales must be specified and attained from the respective manufacturer or one of their distributors.

Use the following table if the distance between the ISP and the scale is 100 feet or less, and communicating to 1 scale only (See note in 8427 column). This chart assumes the ISP has a standard RS-232 port.

In Store Processor	Mettler Toledo 8422/8423/8305 8360/8361/8460/8461 (Master Scales)
DB-9 RS-232 port IBM 4680 or NCR 3000 or MSDOS or RS 6000 or SCO/UNIX	0900-0241 (13065400A) 100 feet. or 0900-0298 (14102700A) 25 feet. or 0900-0285 (13816200A) 10 feet.
DB-25 RS-232 port IBM 4680 or NCR 3000 or MSDOS or RS 6000 or SCO/UNIX	0900-0240 (13065500A) 100 feet. Or 0900-0297 (14102500A) 25 feet. Or 0900-0286 (13816300A) 10 feet.

METTLER TOLEDO Scales with 100 feet of ISP

Product Number	Description	Part Number
0900-0240	25 Pin Serial Port to Master Scale 100 ft.	13065500A
0900-0241	9 Pin Serial Port to Master Scale 100 ft.	13065400A
0900-0285	9 Pin Serial Port to Master Scale 10 ft.	13816200A
0900-0285	25 Pin Serial Port to Master Scale 10 ft.	13816300A
0900-0297	25 Pin Serial Port to Master Scale 25 ft.	14102500A
0900-0298	9 Pin Serial Port to Master Scale 25 ft.	141-2700A

Product and Part Numbers for METTLER TOLEDO Cabling within 100 feet of ISP

Use the following table if the distance between the ISP and the scale is over 100 feet, and or communicating to more than 1 scale is required. This chart assumes the ISP has a standard RS-232 port.

In Store Processor	METTLER TOLEDO® 8422/8423/8305 (Master Scales)	METTLER TOLEDO® 8360/8361/8460/8461 (Master Scales)	METTLER TOLEDO® 8427 stand-alone
DB-9 RS-232 port IBM® 4680 or NCR® 3000 or MSDOS® or RS 6000 or SCO®/UNIX®	*0918-0004 (12947000A) and Belden® 8723 cable as needed not to exceed 1200 feet. And 0901-0222 (13066200A) for each master scale.	*0918-0004 (12947000A) and Belden® 8723 cable as needed not to exceed 1200 feet. and 0900-0301 (14519300A) for each 8460 master scale.	*0918-0004 (12947000A) and 0901-0218 (12847800A) and Belden® 8723 cable as needed not to exceed 1200 feet. (Note: Communication to multiple 8427 stand-alone scales can be accomplished by ordering a 0901-0218 (12847800A) for each scale.)
DB-25 RS-232 port IBM® 4680 or NCR® 3000 or MSDOS® or RS 6000 or SCO®/UNIX®	*0918-0004 (12947000A) and Belden® 8723 cable as needed not to exceed 1200 feet. And 0901-0222 (13066200A) for each master scale.	*0918-0004 (12947000A) and Belden® 8723 cable as needed not to exceed 1200 feet. and 0901-0222 (13066200A) for each 8460 master scale.	*0918-0004 (12947000A) and 0901-0218 (12847800A) and Belden® 8723 cable as needed not to exceed 1200 feet.. (Note: Communication to multiple 8427 stand-alone scales can be accomplished by ordering a 0901-0218 (12847800A) for each scale.)

*Only one 0918-0004 (12947000A) is required per ISP.

Required Hardware when using METTLER TOLEDO® scales in excess of 100 ft. from ISP

Product Number	Description	Part Number
0900-0301	Scale Cable Kit 8460	14519300A
0901-0218	Scale Cable Kit 8422/8423/8305/8460	12847800A
0901-0222	RS232/RS422 Converter and Cable Kit	13066200A
0918-0004	RS232/RS422 Converter/Switch and Cable Kit	12947000A

Product and Part Numbers for METTLER TOLEDO Cabling in excess of 100 feet

Wiring Scales into System

UNIX/RISC PC's Only:

The scales do not supply any handshaking lines back to the serial port, therefore jumpers need to be added to the connectors on the serial ports (except PC's running MSDOS and NT) to loop handshake signals back to the computer to prevent the Port not Available error message. The signals to be looped are:

RTS to CTS
(on most DB25 connectors - Pins 4,5)
(on most DB9 connectors - Pins 7,8)

DSR to DCD to DTR
(on most DB25 connectors - Pins 6,8,20)
(on most DB9 connectors - Pins 6,1,4)

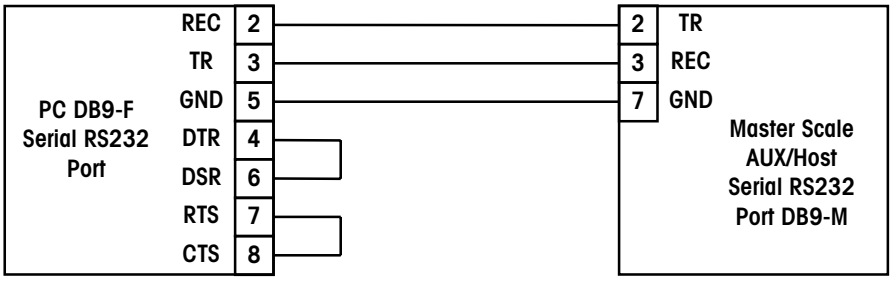
Figures 2-1 and 2-2 are the wiring diagrams for METTLER TOLEDO® scales. For HOBART® scales, wiring instructions must be obtained from the respective manufacturer or distributor.

For METTLER TOLEDO® scales, the main data cable used to run from the ISP to each scale on the network is 22 gauge, 4-conductor, color coded, shielded data cable. The wiring diagram in Figures 2-2 show wire color codes. The cable shown in the diagrams is standard cable supplied by METTLER TOLEDO®. If data cable from other vendors is used (with different color codes), exercise care to match up the correct colors in the Junction Boxes (J-Boxes). Sufficient cable must be used to run within 25 feet (7.62 m) of each scale to allow connection to the 25 foot scale interconnect cables in the J-Boxes.

The scale interconnect kits are supplied with a 25 foot scale interconnect cable and a J-Box. The connections in the J-Boxes are made using the supplied wire-nuts. To connect the cables at each J-Box, cut the main data cable at each J-Box and strip the ends of the wires approximately ½ inch. Insert the cable ends in the J-Box. Connect the wires by matching the color codes, then use the wire-nuts to terminate the connection. Each termination has three wires (of matching color codes) connected at each J-Box (other than the starting and ending J-Box). There will be a main cable in, main cable out, and scale drop cable connected in each J-Boxes (other than the end boxes).

Note: 100 ft.(30.5 m) maximum cable length for RS232

0900-0285 (*13816200A) Cable, PC DB9 to Scale 10 ft/3 m
0900-0297 (*14102600A) Cable, PC DB9 to Scale 25 ft/7.62 m
0900-0241 (*13065400A) Cable, PC DB9 to Scale 100 ft/30.5 m



0900-0286 (*13816300A) Cable, PC DB25 to Scale 10 ft/3 m
0900-0298 (*14102800A) Cable, PC DB25 to Scale 25 ft/7.62 m
0900-0240 (*13065500A) Cable, PC DB25 to Scale 100 ft/30.5 m

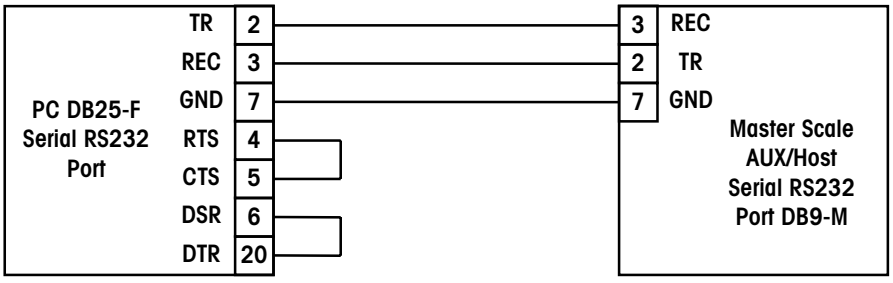


Figure 2-1: Wiring Diagram for METTLER TOLEDO scales within 100 ft. of ISP

RS422 Interface

When the cable length will exceed 100 feet (30 meters) or multi-drop capability is needed, RS422 must be used. ***The maximum cable length for RS422 is 1200 feet (366 meters).*** A typical Intelli-Net® wiring diagram is shown in Figure 2-2 using the METTLER TOLEDO® RS232 to RS422 Converter. A cable kit is available for the 8361 by ordering kit 0900-0301 (p/n 14519300A). The kit contains cable p/n 14519200A.

Note: The National Fire Protection Association (NFPA) standards require that data cable be subject to local regulations governing such installations. Data cable must be installed in conformance with applicable local, state, and national codes (National Electrical Code, NEC, Etc.). Check with the local organization (e.g., building inspector, fire marshal) for local requirements.

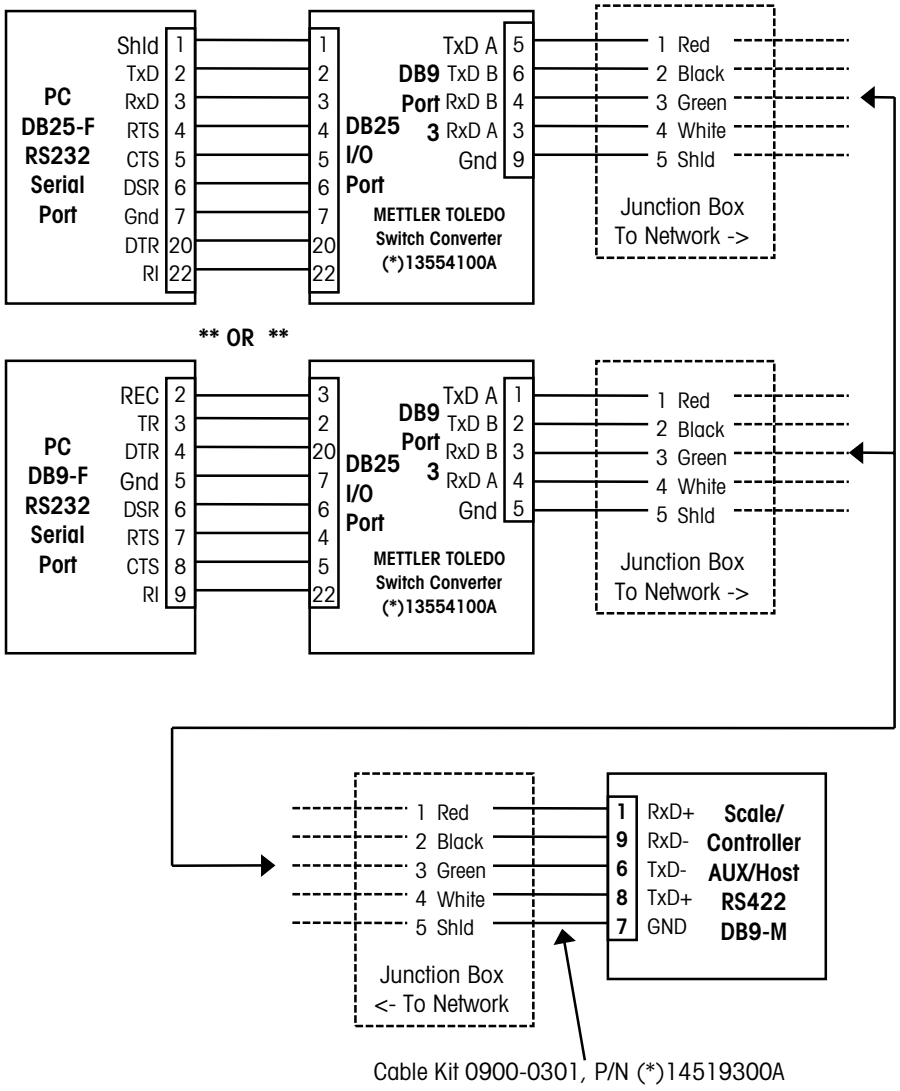


Figure 2-2: Wiring Diagram for METTLER TOLEDO Scales in excess of 100 feet (30 m) of ISP

Some general guidelines regarding the installation of data cable are as follows:

- Do not route data cable in conduit with AC power lines.
- Do not route data cable adjacent to high voltage radiating power lines.
- Do not route data cable over sharp edges.
- Do not route unprotected data cable across walkways where the cable could become a hazard, or become damaged.
- Do not locate J-Boxes in wet or damp areas.
- Do not locate data cable in locations where the cable could be pinched or smashed.

Installing ScaleVision®

IBM 4680 Installation Instructions

Note that these instructions are specific for the generic set up of the IBM 4680; if your system is configured differently from the standard, you many need to modify these steps according to your machine set up. Also, the system must be re-booted before any of the following configuration changes will take place. For more information on Systems Operations for an IBM 4680 Machine, refer to the instructions supplied with your machine.

Text that is displayed on you computer screen appears below in **bold face**.

Scale Communications Setup

First, log on to your IBM 4680 and go to the **System Main Menu**. From here, the communications must be set up. Choose Option 4 - **Installation and Update Aids**

TYPE: 4

PRESS: [ENTER]

Choose Option 1 - **Change Configuration Data**,

TYPE: 1

PRESS: [ENTER]

Choose Option 3 - **Host Communication**,

TYPE: 3

PRESS: [ENTER]

Choose Option 4 - **ASYNC Communication**,

TYPE: 4

PRESS: [ENTER]

Choose Option 1 - **Define a Telecommunication Line**,

TYPE: 1

When prompted for the name of the telecommunication line, enter a unique port identifier e.g., "ARTIC01".

TYPE: (Type in the identifier here; anything can be entered, but it should be made easy to remember.)

PRESS: [TAB]

TYPE: (Type in your store controller family number here)

PRESS: [ENTER]

Accept the default for the name of the telecommunications line.

PRESS: [ENTER]

You should now be at the **Define ASYNC Line** Menu. The serial port (COM1) on the back of the store controller system unit is **Serial 1**. Note that options 9 and 10 are for ARTIC card serial port extension blocks.

TYPE: (Type in the number for your specific adapter here)

PRESS: [Page Down]

If you are using an ARTIC card serial port, you must now enter in the particular port number. If you are not using and ARTIC card, then skip this step.

TYPE: (Type in specific port number here)

PRESS: [PAGE DOWN]

ASYNC DRIVER RESIDENT must be "N" if an ARTIC card is used.

PRESS: [PAGE DOWN]

Using the [TAB] key to move between fields and [Page Down] to move down the screens, make sure that the following fields are set to the values below (Remember - do not press [ENTER] until you are done making *all* the changes).

CONNECTION TYPE = Direct attached

RECORD I/O = 2, Supported

LINE RATE = 8
(2400bps if using the Serial 1 port). If using an ARTIC® Serial Port Expansion block, the line rate can be up to 9600.

PARITY = 1, Even

SEND BUFFERS = 1

RECEIVE BUFFERS = 1

CHARACTER SIZE = 7

STOP BITS = 1.0

FLOW CONTROL = 1, No Flow Control

READ TIMEOUT = 5 seconds

Now save,

PRESS: [ENTER]

You should now be at the **HOST COMMUNICATIONS** menu. If you need to set up more ports, you will have to choose **ASYNC** again and then **Modify** the unique port identifier. Then you must repeat the previous steps for setting up the ports. When all the ports have been set up and saved, return to the **Configuration Menu**.

PRESS: <F3>

Logical File Name Definition

You should now be at the **Configuration Menu**, choose Option 2 - **Controller Configuration**,

TYPE: 2

On the **Multiple Controller Feature** option,

TYPE: N (for stand-alone/single controller installations)

Y (for controllers mirrored together)

PRESS: [ENTER]

A list of **ALLOWED DEFINITIONS** will be shown, use the [TAB] key to move to **User Logical File Names,**

TYPE: X

PRESS: [ENTER]

Choose, Option 1 - **Define a Logical File Name**

TYPE: 1

TYPE: INETXDIR: (don't forget the colon!)

PRESS: [ENTER]

TYPE: C:\\SCALEVIS\

PRESS: [ENTER]

Note: The expanded name here is "C:\\SCALEVIS\" where C:\SCALEVIS is our suggested directory that contains all of the ScaleVision system objects and from where the system runs. Note that you can run the system from another directory by moving all of the system objects to this new directory and changing the expanded definition of the INETXDIR: logical file name to this new directory.

Next, define the logical file names,

Choose Option 1 **- Define a Logical File Name**

TYPE: 1

TYPE: INET.CFG

PRESS: [ENTER]

TYPE: C:\\SCALEVIS\INET.CFG

PRESS: [ENTER]

Choose Option 1 **- Define a Logical File Name**

TYPE: 1

TYPE: ISP.CFG

PRESS: [ENTER]

TYPE: C:\\SCALEVIS\ISP.CFG

PRESS: [ENTER]

Choose Option 1 **- Define a Logical File Name**

TYPE: 1

TYPE: CFG.WRK

PRESS: [ENTER]

TYPE: C:\\SCALEVIS\CFG.WRK

PRESS: [ENTER]

Choose Option 1 **- Define a Logical File Name**

TYPE: 1

TYPE: CORP.CFG

PRESS: [ENTER]

TYPE: C:\\SCALEVIS\CORP.CFG

PRESS: [ENTER]

Choose Option 1 **- Define a Logical File Name**

TYPE: 1

TYPE: EVNT.TMP

PRESS: [ENTER]

TYPE: C:\\SCALEVIS\EVNT.TMP

PRESS: [ENTER]

Choose Option 1 **- Define a Logical File Name**

TYPE: 1

TYPE: EVENTS

PRESS: [ENTER]

TYPE: C:\\SCALEVIS\EVENTS

PRESS: [ENTER]

Choose Option 1 **- Define a Logical File Name**

TYPE: 1

TYPE: SCHD

PRESS: [ENTER]

TYPE: C:\\SCALEVIS\SCHD.BAT

PRESS: [ENTER]

Choose Option 1 **- Define a Logical File Name**

TYPE: 1

TYPE: FIT

PRESS: [ENTER]

TYPE: C:\\ADX_SPCM\COMMAND.286

PRESS: [ENTER]

Choose Option 1 **- Define a Logical File Name**

TYPE: 1

TYPE: SHELL

PRESS: [ENTER]

TYPE: C:\ADX_SPCM\COMMAND.286

PRESS: [ENTER]

PRESS: <F3>

Secondary Application Menu Definition

You should now be at the list of **ALLOWED DEFINITIONS**, use the Tab key to move to **the Secondary Application** line.

TYPE: X

PRESS: [ENTER]

In the **Secondary Application Title**,

TYPE: METTLER TOLEDO ScaleVision

Using the [TAB] key to select and move around the screen,

SELECT: **APPLICATION NAME**

TYPE: C:\SCALEVIS\EVNTLIST.286

SELECT: **SELECTION TEXT**

TYPE: Events List

SELECT: **APPLICATION NAME**

TYPE: C:\SCALEVIS\ISPCFGM.286

SELECT: **SELECTION TEXT**

TYPE: In-Store Parameter Maintenance

SELECT: **APPLICATION NAME**

TYPE: C:\SCALEVIS\SCHDKILL.286

SELECT: **SELECTION TEXT**

TYPE: Unload the Scheduler

PRESS: [ENTER]

When complete go back to the **CONFIGURATION** menu.

PRESS: <F3>

Note that the programs are called by the menu with the full path statement "C:\SCALVIS\" as defined for the logical file name "INETXDIR:" The 4680 menu's are unable to recognize logical file names, so we had to use the physical rather than the logical path. If you choose to use a directory other than our suggested directory, the new directory name should be substituted in each of the program calls above.

Configuring the Event Scheduler as a *Background* Task

You should now be at the **Configuration** Menu

Choose Option 2 - **Controller Configuration**,

TYPE: 2

For the **Multiple Controller Feature,**

TYPE: N (for stand-alone/single controller installations)

Y (for two controllers mirrored together)

PRESS: [ENTER]

On the list of **ALLOWED DEFINITIONS**, use the Tab key to move to the **Background Application**,

TYPE: X

PRESS: [ENTER]

Choose, Option 1 - **Define a Background Application**

TYPE: 1

PRESS: [ENTER]

For the **INITIAL MESSAGE**,

TYPE: Mettler Toledo ScaleVision Scheduler

PRESS: [TAB]

For the **PROGRAM NAME**,

TYPE: INETXDIR:SCHDCALL.286

PRESS: [TAB]

For the **PARAMETER LIST**,

TYPE: C:\SCALEVIS\ (Do not forget the final "\" !)

PRESS: [TAB]

For **IPL START**,

TYPE: Y

PRESS: [ENTER]

Now, return to the **CONFIGURATION** menu,

PRESS: <F3>

PRESS: <F3>

Activating the Configuration Changes/Additions

From the **CONFIGURATION** menu, choose Option 5 - **Activate Configuration**,

TYPE: 5

PRESS: [ENTER]

Choose Option 2 - **Controller Configuration**,

TYPE: 2

PRESS: [ENTER]

When processing completed, use F3 to return to the **System Menu**.

PRESS: <F3>

PRESS: <F3>

PRESS: <F3>

The system must now be re-booted (switch off, then back on) for the configuration changes to be effective.

Note that all of the previous changes to logical file names, menus and communications definitions can be activated with one activation and re-boot.

To check that the logical file names are correct after activation and re-boot, at the command line,

TYPE: define -s -n inetxdir:

PRESS: [ENTER]

TYPE: define -s -n inet.cfg

PRESS: [ENTER]

Software Installation

Insert the ScaleVision® Disk into the drive, and go to the ScaleVision® working directory,

TYPE:	cd scalevis
PRESS:	[ENTER]
TYPE:	copy a:*.* c:\scalevis*.*

Enabling ScaleVision® to use the IBM® 4680 Application Messaging System

This feature integrates ScaleVision® with the IBM® 4680 Application Messaging System, allowing an alert message to be displayed on the IBM® 4680 Message Display screen when a scale communications error occurs.

To use this feature, the file C:\ADX_IPGM\ADXCSOZF.DAT must include the S001 message line. A sample ADXCSOZF.DAT file is supplied. The file cannot be written on the 4680 OS as supplied by IBM® as a security feature. The easiest way to update this file is to re-boot the controller under MSDOS® from a boot diskette to create/append to this file. If the file does not exist, simply copy the file into the C:\ADX_IPGM directory.

If the file exists, append the ScaleVision entry to it using a DOS append command.

Insert the DOS boot diskette into the drive.

TYPE:	copy adxcsozf.dat adxcsozf.bak
PRESS:	[ENTER]
TYPE:	copy adxcsozf.dat+a:adxcsozf.dat adxcsozf.dat
PRESS:	[ENTER]

Modifying the PORTS.CFG and SCALES.CFG Files

Now , you need to modify two ScaleVision® files to test the system. Using your system editor, open the PORTS.CFG file in your scalevis directory.

Activate the ports and their corresponding scale types by making sure the Scale ID, Port, Baud, Bits, Parity and Stopbits values are correct. The semicolon (;) must be deleted to activate a line in the file (lines beginning with a semicolon are treated as comment lines and have no effect on configurations). Save and exit PORTS.CFG.

Using your system editor, open the SCALES.CFG file. Modify the values according to what types of scales are present. Again, the semicolon (;) must be deleted to activate a line in the file. Save and exit SCALES.CFG.

For more information on the PORTS.CFG and SCALES.CFG files, see Chapter 3, ScaleVision® Files in this manual.

Testing Scale Communications

A simple test can be performed to ensure that ScaleVision® is communicating to all of the connected scales.

From the ScaleVision® working directory,

TYPE: filt wu

PRESS: [ENTER]

After a short delay, the file will execute and request a response from connected scales. You will then be returned to your user prompt. The following displays the results of the test:

TYPE: type wu.out

PRESS: [ENTER]

All responding scales will be listed in this file as **On line**. If a scale does not appear in this file or responds with **No Port** or **No Response**, then the particular port/scale has not been set up correctly either in the software or the hardware. Make the necessary changes and try the "filt wu" command again.

IBM® 4680 Memory Constraints

Because of memory constraints (the old 64k barrier) on the IBM® 4680 platform, there can only be 3 different scale types per in-store processor. This should not create a large problem because METTLER TOLEDO® types can always be set to METTLER TOLEDO 8427, which supports the most used commands.

List of Included Files for IBM® 4680

Error Code Listing

INET_ERR.MST	List of all Error codes generated by ScaleVision

Configuration Files

CORP.CFG	Configuration parameters(Corporate level configuration.)
ISP.CFG	Configuration parameters(Store level configuration.)
INET.CFG	License file (DO NOT MODIFY THIS FILE!!!)
PORTS.CFG	Ports Configuration
PORTS.MT	Backup copy of Ports configuration
SCALES.CFG	Scale Configuration
SCALES.MT	Backup copy of Scale Configuration

Scale Drivers

MASTER.CMD
HOB5000.CMD
HOBNUTRI.CMD
HOBSP.CMD
TEC59.CMD
TEC66V4.CMD
TEC66V5.CMD
TOL8422A.CMD
TOL8422B.CMD
TOL8427A.CMD
TOL8460A.CMD

Test Files

wu.tst	Wakeup (Test scales availability)
wl1.tst	Read all linked records (1=Extra Text)
wl3.tst	Read all linked records (3=Nutrifact)
wl4.tst	Read all linked records (4=Graphics)
el1.tst	Delete linked records(1=Extra Text)
el3.tst	Delete linked records(3=Nutrifact)
al1.tst	Add linked record (1=Extra Text)(add ET# 15,17,340)
al3.tst	Add linked record (3=Nutrifact)(add NF# 15,17,340)
ex.tst	Delete all linked records
xs.tst	Extended Status test(Mettler Toledo only)
ai.tst	Add Plu (PLU #15,17,340)
dv.tst	Delete PLU by Dept/plu
pv.tst	Price change by Dept/plu
ra.tst	Read all PLU's from scale
cd.tst	Clear PLU from department
cl.tst	Clear all PLU's
ct.tst	Clear all Totals
dc.tst	Read Totals and clear
dn.tst	Read Totals and no clear
cm.tst	Compress memory
tx.tst	Read specific cutting test
cx.tst	Clear cutting test

Script Files (Used for testing)

commtest.bat
cleanup.bat
filt.bat
filtd.bat

Script files (Used by Scheduler)

tohost.bat	This script will be executed by the scheduler after a Generic Pending file has been communicated to the scale. NOTE: The Generic Pending file header must have a Y at position 18 for this script to run.
toschd.bat	This script is run by the scheduler each time that it wakes up. This is done before checking for any *.END files or the EVENTS list.
hstshell.bat	This file called by inetschd when *.END file found
inetxdir.bat	Called by inetschd, Builds file dirlist of files with .HST extension.
svi.bat	Builds file svi.lst of files with .SVI extension (.svi files used with menu program)
prefilt.bat	This script is called by inetfilt application before processing of the GPF
postfilt.bat	This script is called by inetfilt application after preprocessing of GPF

Executable Files to Assist in File Manipulation

translf.286	Translates carriage returns into line feed characters
crlf.286	Translates line feeds into carriage returns line feeds

ScaleVision Executable files

evntlist.286	Event List
inetfilt.286	Filter that processes data to the specific scales
inetschd.286	Schedules the processes
ispcfgm.286	Configuration interface(isp.cfg and corp.cfg)
menu.286	User interface at store level
schdcall.286	Executable called by the scheduler
schdkill.286	Executable called by the scheduler
readme	Installation Readme file

SCO®/UNIX® MACHINES

Please note that these instructions are specific for the general set up of SCO®/UNIX® Machines; if your system is configured differently from the standard, you may need to modify these steps according to your machine set up. For more information on Systems Operations for a SCO®/UNIX® Machine, refer to the instructions supplied with your machine.

Also note that SCO®/UNIX® Machines are case sensitive, so text must be entered exactly as it appears below; text that is displayed on your computer screen appears in bold face.

User and Group Creations

Log on to your SCO/UNIX machine as root or super user. Then enter the System Administration Shell:

TYPE: sysadmsh

PRESS: [ENTER]

Using the arrow keys,

SELECT: Accounts

PRESS: [ENTER]

SELECT: User

PRESS: [ENTER]

SELECT: Create

PRESS: [ENTER]

In the **Username** field,

TYPE: cps

PRESS: [ENTER]

In the **Comments** field,

TYPE: Corporate Scales

PRESS: [ENTER]

Using the arrow keys,

SELECT: Yes

PRESS: [ENTER]

SELECT: Specify

PRESS: [ENTER]

The following creates a group, "scales",

TYPE: scales

SELECT: Yes

PRESS: [ENTER]

Group ID defaults to the next available number, but can be changed if required.

PRESS: [ENTER]

Under the **Home directory** field, choose the default,

PRESS: [ENTER]

Choose **Create home**,

PRESS: [ENTER]

The **User ID** defaults to the next available number, but can be changed if required.

PRESS: [ENTER]

Accept the **Type of user** default,

PRESS: [ENTER]

When prompted to confirm creation of the new user,

SELECT: **Yes**

PRESS: [ENTER]

You have now created a new user, cps, and a new group, scales. A message will appear displaying the new home directory and created shell file. You now need to continue to set the password of this new user:

PRESS: [ENTER]

Assign a new password,

PRESS: [ENTER]

SELECT: **Yes** (to force the user to change the password at his/her first login)

No (not to force the user to change the password at his/her first login)

PRESS: [ENTER]

You may either pick your own password or have one chosen for you (below demonstrates choosing your own),

PRESS: [ENTER]

TYPE: (enter your chosen password here)

PRESS: [ENTER]

TYPE: (re-enter your chosen password here to verify)

PRESS: [ENTER]

PRESS: [ENTER]

Note, when logging on, using the new user, cps, you may need to edit your ".profile" file to set the terminal type. This can be done using you system editor and adding to the file, "TERM = termtype" where *termtype* is your terminal type (e.g. ansi).

Now, return to the Main Menu,

PRESS: [ESC]

PRESS: [ESC]

Communications Ports Set Up

If your communications ports are not already installed, you must first do so; consult the instructions that come with your multi-port hardware. Set up the ports so the Logins are Disabled; Baud Rate is 9600; Parity is **EVEN**; and Stop Bits = **1**.

After your communications ports are installed, you must log on as the root user and go to the System Administration Shell (if you are not there already).

SELECT:	**Accounts**
PRESS:	[ENTER]
SELECT:	**Terminal**
PRESS:	[ENTER]
SELECT:	**Examine**
PRESS:	[ENTER]
TYPE:	(Enter in your port here)
PRESS:	[ENTER]

Confirm that **Consecutive unsuccessful login** is set to **NONE**. The default settings may be used for **Delay between attempts** and **Time to Complete**. Also, make sure the ports are **Unlocked**. Save if any changes were made and return to the Command Line using the [ESC] key.

Software Installation

Insert the ScaleVision® Disk into the drive. Log on as the root or super user and create a working directory for ScaleVision®,

TYPE:	mkdir /usr/scalevsn
PRESS:	[ENTER]
TYPE:	chmod 777 /usr/scalevsn
PRESS:	[ENTER]
TYPE:	cd /usr/scalevsn
PRESS:	[ENTER]
TYPE:	tar -xvf/dev/rfd0135ds18 .
PRESS:	[ENTER]

Using your system editor, you must now edit the ".profile" file. Add to the path statement the following,

TYPE:	/usr/scalevsn:

Save and exit the ".profile" file.

Now log out as the root user by pressing the following:

PRESS:	[Ctrl-d]

You now have installed ScaleVision® on your SCO/UNIX Machine.

Modifying the PORTS.CFG and SCALES.CFG Files

Now, you need to modify two ScaleVision® files to test the system. Using your system editor, open the PORTS.CFG file in your scalevsn directory.

Activate the ports and their corresponding scale types by making sure the Scale ID, Port, Baud, Bits, Parity, and Stopbits values are correct. The semicolon (;) must be deleted to activate a line in the file (lines beginning with a semicolon are treated as comment lines and have no effect on configurations). Save and exit PORTS.CFG.

Using your system editor, open the SCALES.CFG file. Modify the values according to what types of scales are present. Again, the semicolon (;) must be deleted to activate a line in the file. Save and exit SCALES.CFG.

For more information on the PORTS.CFG and SCALES.CFG files, see Chapter 3, "ScaleVision® Files" in this manual.

Testing Scale Communications

A simple test can be performed to ensure that ScaleVision® is communicating to all of the connected scales.

Log on as the user, cps.

TYPE: filt wu

PRESS: [ENTER]

After a short delay, the file will execute and request a response from connected scales. You will then be returned to your user prompt. The following displays the results of the test:

TYPE: more wu.out

PRESS: [ENTER]

All responding scales will be listed in this file as **On line**. If a scale does not appear in this file or responds with **No Port** or **No Response**, then the particular port/scale has not been set up correctly either in the software or the hardware. Make the necessary changes and then try the "filt wu" command again.

Starting Scheduler Automatically on Boot Up

This procedure will automatically run the ScaleVision® Scheduler in the SCO®/UNIX® environment on boot up.

1. Create a file in the ScaleVision directory called INITSCHD.BAT
2. Add the following lines to this file:

```
CD/USR/TOLEDO/TEST    ##this should be your ScaleVision directory.
    ./INETSCHD
```

3. Create a file called S90INETSCHD in the directory /ETC/R2.D
4. Add the following lines to this file:

```
/USR/SU CPS -C "/USR/TOLEDO/TEST/INITSCHD.BAT"
```

List of Included Files for SCO®/UNIX® Machines

Error Code Listing

INET_ERR.MST	List of all Error codes generated by ScaleVision

Configuration Files

CORP.CFG	- Configuration parameters(Corporate level config.)
ISP.CFG	- Configuration parameters(Store level config.)
INET.CFG	- License file (DO NOT MODIFY THIS FILE!!!)
PORTS.CFG	- Ports Configuration
PORTS.MT	- Backup copy of Ports configuration
SCALES.CFG	- Scale Configuration
SCALES.MT	- Backup copy of Scale Configuration

Scale Drivers - Scale Specific Drivers

MASTER.CMD
HOB5000.CMD
HOBNUTRI.CMD
HOBSP.CMD
TEC59.CMD
TEC66V4.CMD
TEC66V5.CMD
TOL8422A.CMD
TOL8422B.CMD
TOL8427A.CMD
TOL8460A.CMD

Test Files

wu.tst	Wakeup (Test scales availability)
wl1.tst	Read all linked records (1=Extra Text)
wl3.tst	Read all linked records (3=Nutrifact)
wl4.tst	Read all linked records (4=Graphics)
el1.tst	Delete linked records(1=Extra Text)
el3.tst	Delete linked records(3=Nutrifact)
al1.tst	Add linked record (1=Extra Text)(add ET# 15,17,340)
al3.tst	Add linked record (3=Nutrifact)(add NF# 15,17,340)
ex.tst	Delete all linked records
xs.tst	Extended Status test(Mettler Toledo only)
ai.tst	Add Plu (PLU #15,17,340)
dv.tst	Delete PLU by Dept/plu
pv.tst	Price change by Dept/plu
ra.tst	Read all PLU's from scale
cd.tst	Clear PLU from department
cl.tst	Clear all PLU's
ct.tst	Clear all Totals
dc.tst	Read Totals and clear
dn.tst	Read Totals and no clear
cm.tst	Compress memory
tx.tst	Read specific cutting test
cx.tst	Clear cutting test

Script Files (Used for testing)

commtest
cleanup
filt
filtd

Script Files

tohost	This script will be executed by the scheduler after a Generic Pending file has been communicated to the scale. NOTE: The Generic Pending file header must have a Y at position 18 for this script to run.
toschd	This script is run by the scheduler each time that it wakes up. This is done before checking for any *.END files or the EVENTS list.
hstshell	This file called by inetschd when *.END file found
prefilt	This script is called by inetfilt application before processing of the GPF
postfilt	This script is called by inetfilt application after preprocessing of GPF

Report (script to generate a report at store level for Price change or Modify PLU data)

awkprt	Script that calls awk program prt.awk
prt.awk	Awk program that prints a report.

Executable Files to Assist in File Manipulation

translf	Translates carriage returns into line feed characters
crlf	Translates line feeds into carriage returns line feeds
up2low	Translates Upper case characters to lower case
low2up	Translates Lower cars characters to lower case

ScaleVision Executable Files

evntlist	Event List
inetfilt	Filter that processes data to the specific scales
inetschd	Schedules the processes
ispcfgm	Configuration interface(isp.cfg and corp.cfg
menu	User interface at store level
Make_Executable	Changes Mode of all executable files to 777(rwx)
readme	Installation Readme file

NCR® 3000 Machines

Note that these instructions are specific for the general set up of NCR® 3000 Machines; if your system is configured differently from the standard, then you may need to modify these steps according to your machine set up. For more information on Systems Operations for an NCR® 3000 Machine, refer to the instructions supplied with your machine.

NCR® 3000 Machines are case sensitive, so text must be entered exactly as it appears below; text that is displayed on your computer screen appears in **bold face**.

Sign-on and Group Creation

Before installing ScaleVision® on your NCR 3000 Machine, you must first sign on as the root user and create a group.

At the Console Login prompt, login as the root user:

TYPE: root

PRESS: [ENTER]

TYPE: (enter the necessary password here)

PRESS: [ENTER]

At the command line enter the System Administration Menu,

TYPE: sysadm

PRESS: [ENTER]

You should now be at the **UNIX Systems Administration Menu**, using the arrow keys,

SELECT: **Users**

PRESS: [ENTER]

SELECT: **ADD**

PRESS: [ENTER]

Now, using the <F2> key to toggle between selections,

SELECT: **group**

PRESS: [ENTER]

Choose the **SAVE** option,

PRESS: <F3>

TYPE: scales

Group ID defaults to the next available number, but can be changed if required.

SAVE the information,

PRESS: <F3>

A message appears that a group, "scales" was added to the system.

Now return to the **User Login & Group Administration** Shell:

PRESS: <F6>

Using the <F2> key to toggle between selections,

SELECT: **User**

PRESS: <F3>

TYPE: Corporate Scales

PRESS: [ENTER]

TYPE: cps

User ID defaults to next available but can be changed if required.

Using the [ENTER] key to move down, go to the **Primary group field**.

PRESS: <F2>

Using the arrow keys,

SELECT: **scales**

PRESS: [ENTER]

All other fields should be correct, so press SAVE <F3>.

Now, you should be at the **Define User Password Information** screen. Using the <F2> key to toggle display different choices,

SELECT: **password**

PRESS: [ENTER]

Leave all fields at defaults and save,

PRESS: <F3>

A new password is then requested. At the password prompt,

TYPE: (type in your desired password here)

PRESS: [ENTER]

TYPE: (type in your password again to verify)

PRESS: [ENTER]

Standard password recommendations apply. A message appears stating the password has been defined.

Now exit the program,

PRESS: <F7>

Using the arrow keys,

SELECT: **exit**

PRESS: [ENTER]

Communications Port Setup For NCR® 3000

Log on as the root user again and go to the System Administration Menu,

TYPE: sysadm

PRESS: [ENTER]

SELECT: **ports**

PRESS: [ENTER]

SELECT: **port_monitors**

PRESS: [ENTER]

SELECT: **list**

PRESS: [ENTER]

SELECT: **all**

PRESS: [ENTER]

If there is at least one "ttymon" under the **PMTYPE** heading, a port monitor exists. Note its **PMTAG** (this will probably be 'ttymon3').

If no port monitor exists, consult your hardware configuration manual that comes with your NCR 3000 machine to define one.

Now return to the **Service Access Management Menu** (menu 2) using the CANCEL key,

PRESS: <F6>

PRESS: <F6>

PRESS: <F6>

SELECT: **port_services**

PRESS: [ENTER]

Now you must ensure that each port has the correct field values. This can be done using the **Modify** option:

SELECT: **Modify**

PRESS: [ENTER]

SELECT: (select that specific port number here)

PRESS: [ENTER]

Make sure that field values are set up as follows; if they differ, modify the values.

Port/service state: DISABLED
Create utmp? Yes
Ttylabel: 9600 (other baud rates can be used if desired)
Timeout: 0
Hangup: No
Connect-on-carrier: Yes if modem, No if direct attach
Bidirectional: Yes
Wait-read: Yes (Wait-read count: 0)
Service invocation identity: root
Name of TTY device: /dev/term/s00 (see note below on 8 port adapter)
Service command: /usr/bin/login
Modules to be pushed:
Prompt message: login:
Disabled response message:

Note: If the 8 port serial adapter for the NCR® 3000 is installed, the installation of this hardware device creates Service Tags s01 through s08, corresponding to ports 1 through 8 on the adapter card. We recommend that Service Tag s01 be related to TTY device /dev/term/s00, Service Tag s02 to TTY s01 and so on in the definition of Port Services.

If changes were made,

PRESS: <F6>

If no changes were made,

PRESS: <F3>

Now exit the program,

PRESS: <F7>

Using the arrow keys,

SELECT: **exit**

PRESS: [ENTER]

Software Installation for the NCR® 3000

You must log on again as the root user and create a working directory for ScaleVision®. Insert the ScaleVision® Disk in the drive.

TYPE: mkdir /usr/scalevsn

PRESS: [ENTER]

TYPE: chmod 777 /usr/scalevsn

PRESS: [ENTER]

TYPE: cd /usr/scalevsn

PRESS: [ENTER]

TYPE: tar -xvf /dev/rdsk/f03h

PRESS: [ENTER]

Using your system editor, you now must edit the " .profile" file. Add to the path statement the following:

TYPE: /usr/scalevsn:

Now, log out as the root user by pressing the following:

PRESS: [Ctrl-d]

You have now installed ScaleVision® on your RS6000 Machine.

Modifying the PORTS.CFG and SCALES.CFG Files

Now, you need to modify two ScaleVision® files to test the system. Using your system editor, open the PORTS.CFG file in the ScaleVision® working directory.

Activate the ports and their corresponding scale types by making sure the Scale ID, Port, Baud, Bits, Parity and Stopbits values are correct. Also, the semicolon (;) must be deleted to activate a line in the file (lines beginning with a semicolon are treated as comment lines and have no effect on configurations). Save and exit PORTS.CFG.

Using your system editor, open the SCALES.CFG file. Modify the values according to what types of scales are present. Again, the semicolon (;) must be deleted to activate a line in the file. Save and exit SCALES.CFG.

For more information on the PORTS.CFG and SCALES.CFG files, see Chapter 3, "ScaleVision® Files" in this manual.

Testing Scale Communications

A simple test can be performed to ensure that ScaleVision® is communicating to all of the connected scales.

Logged on as the cps user,

TYPE: filt wu

PRESS: [ENTER]

After a short delay, the file executes and request a response from connected scales. You will then be returned to the user prompt. The following displays the results of the test:

TYPE: more wu.out

PRESS: [ENTER]

All responding scales will be listed in this file as **On line**. If a scale does not appear in this file or responds with **No Port** or **No Response**, then the particular port/scale has not been set up correctly either in the software or the hardware. Make the necessary changes and then try the "filt wu" command again.

List of Included Files for NCR® Machines

Error Code Listing

INET_ERR.MST	List of all Error codes generated by ScaleVision

Configuration Files

CORP.CFG	Configuration parameters(Corporate level config.)
ISP.CFG	Configuration parameters(Store level config.)
INET.CFG	License file (DO NOT MODIFY THIS FILE!!!)
PORTS.CFG	Ports Configuration
PORTS.MT	Backup copy of Ports configuration
SCALES.CFG	Scale Configuration
SCALES.MT	Backup copy of Scale Configuration

Scale Drivers - Scale Specific Drivers

MASTER.CMD
HOB5000.CMD
HOBNUTRI.CMD
HOBSP.CMD
TEC59.CMD
TEC66V4.CMD
TEC66V5.CMD
TOL8422A.CMD
TOL8422B.CMD
TOL8427A.CMD
TOL8460A.CMD

Test Files

wu.tst	Wakeup (Test scales availability)
wl1.tst	Read all linked records (1=Extra Text)
wl3.tst	Read all linked records (3=Nutrifact)
wl4.tst	Read all linked records (4=Graphics)
el1.tst	Delete linked records(1=Extra Text)
el3.tst	Delete linked records(3=Nutrifact)
al1.tst	Add linked record (1=Extra Text)(add ET# 15,17,340)
al3.tst	Add linked record (3=Nutrifact)(add NF# 15,17,340)
ex.tst	Delete all linked records
xs.tst	Extended Status test(Mettler Toledo only)
ai.tst	Add Plu (PLU #15,17,340)
dv.tst	Delete PLU by Dept/plu
pv.tst	Price change by Dept/plu
ra.tst	Read all PLU's from scale
cd.tst	Clear PLU from department
cl.tst	Clear all PLU's
ct.tst	Clear all Totals
dc.tst	Read Totals and clear
dn.tst	Read Totals and no clear
cm.tst	Compress memory
tx.tst	Read specific cutting test
cx.tst	Clear cutting test

Script Files (Used for testing)

commtest
cleanup
filt
filtd

Script Files

tohost	This script will be executed by the scheduler after a Generic Pending file has been communicated to the scale. NOTE: The Generic Pending file header must have a Y at position 18 for this script to run.
toschd	This script is run by the scheduler each time that it wakes up. This is done before checking for any *.END files or the EVENTS list.
hstshell	This file called by inetschd when *.END file found
prefilt	This script is called by inetfilt application before processing of the GPF
postfilt	This script is called by inetfilt application after preprocessing of GPF

Report (script to generate a report at store level for Price change or Modify PLU data)

awkprt	Script that calls awk program prt.awk
prt.awk	Awk program that prints a report.

Executable Files to Assist in File Manipulation

translf	Translates carriage returns into line feed characters
crlf	Translates line feeds into carriage returns line feeds
up2low	Translates Upper case characters to lower case
low2up	Translates Lower cars characters to lower case

ScaleVision Executable Files

evntlist	Event List
inetfilt	Filter that processes data to the specific scales
inetschd	Schedules the processes
ispcfgm	Configuration interface(isp.cfg and corp.cfg
menu	User interface at store level
Make_Executable	Changes Mode of all executable files to 777(rwx)
readme	Installation Readme file

MSDOS®

MSDOS is supported only through version 5.1.

Software Installation

On your MSDOS® Machine, create a ScaleVision® working directory from a hard drive prompt (e.g. C:\ )

TYPE: mkdir scalevsn

PRESS: [ENTER]

Go to that directory:

TYPE: cd scalevsn

PRESS: [ENTER]

Insert the ScaleVision® Disk into the floppy drive type:

TYPE: a:\install c:\scalevsn

PRESS: [ENTER]

NOTE: In the above command, "a" refers to the floppy drive and "c" refers to the hard drive. If your drives differ, you may need to modify the above command (e.g. TYPE: b:\install d:\scalevsn*.*). Do not include a trailing backslash.

All programs should be run from the ScaleVision® working directory, as they look for files in the current directory. The program SCHDCALL.EXE or batch file SCHD.BAT can be used to change the directory to a command-line parameter directory name.

Modifying the PORTS.CFG and SCALES.CFG Files

Now, you need to modify two ScaleVision® files to test the system. Using your system editor, open the PORTS.CFG file.

Activate the ports and their corresponding scale types by making sure the scale ID, Port, Baud, Bits, Parity and Stopbits values are correct. The semicolon (;) must be deleted to activate a line in the file (lines beginning with a semicolon are treated as comment lines and have no effect on configurations). Save and exit PORTS.CFG.

Using your system editor, open the SCALES.CFG file. Modify the values according to what types of scales are present. Again, the semicolon (;) must be deleted to activate a line in the file. Save and exit SCALES.CFG.

For more information on the PORTS.CFG and SCALES.CFG files, see Chapter 3, "ScaleVision® Files" in this manual.

Testing Scale Communications

A simple test can be performed to ensure that ScaleVision® is communicating to all of the connected scales.

From the ScaleVision® working directory (C:\SCALEVSN\),

TYPE: filt wu

PRESS: [ENTER]

After a short delay, the file executes and requests a response from connected scales. You will then be returned to the DOS prompt in the ScaleVision® directory. The following displays the results of the test:

TYPE: type wu.out

PRESS: [ENTER]

All responding scales will be listed in this file as "On Line". If a scale does not appear in this file or responds with No Port or No Response, then the particular port/scale has not been set up correctly either in the software or the hardware. Make the necessary changes and then try the "filt wu" command again.

Performance Constraints

ScaleVision® Version 4.0 supports a maximum of 3 scale types per In-Store-Processor.

Because MSDOS® is an interrupt-based operating system, it does not have the capability to run ScaleVision® in the background; it is therefore recommended that ScaleVision® be run on a dedicated PC.

List of Included Files for MSDOS®

This file

dosfile.tst	Description of all file supplied with ScaleVision

Error Code Listing

INET_ERR.MST	List of all Error codes generated by ScaleVision

Configuration Files

CORP.CFG	Configuration parameters(Corporate level config.)
ISP.CFG	Configuration parameters(Store level config.)
INET.CFG	License file (DO NOT MODIFY THIS FILE!!!)
PORTS.CFG	Ports Configuration
PORTS.MT	Backup copy of Ports configuration
SCALES.CFG	Scale Configuration
SCALES.MT	Backup copy of Scale Configuration

Scale Drivers - Scale Specific Drivers

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HOBNUTRI.CMD
HOBSP.CMD
TEC59.CMD
TEC66V4.CMD
TEC66V5.CMD
TOL8422A.CMD
TOL8422B.CMD
TOL8427A.CMD
TOL8460A.CMD

Test Files

wu.tst	Wakeup (Test scales availability)
wl1.tst	Read all linked records (1=Extra Text)
wl3.tst	Read all linked records (3=Nutrifact)
wl4.tst	Read all linked records (4=Graphics)
el1.tst	Delete linked records(1=Extra Text)
el3.tst	Delete linked records(3=Nutrifact)
al1.tst	Add linked record (1=Extra Text)(add ET# 15,17,340)
al3.tst	Add linked record (3=Nutrifact)(add NF# 15,17,340)
ex.tst	Delete all linked records
xs.tst	Extended Status test(Mettler Toledo only)
ai.tst	Add Plu (PLU #15,17,340)
dv.tst	Delete PLU by Dept/plu
pv.tst	Price change by Dept/plu
ra.tst	Read all PLU's from scale
cd.tst	Clear PLU from department
cl.tst	Clear all PLU's
ct.tst	Clear all Totals
dc.tst	Read Totals and clear
dn.tst	Read Totals and no clear
cm.tst	Compress memory
tx.tst	Read specific cutting test
cx.tst	Clear cutting test

Script Files (Used for testing)

commtest.bat
cleanup.bat
filt.bat
filtd.bat

Installation Batch File

install.bat

Script Files (Used by Scheduler)

tohost.bat	This script will be executed by the scheduler after a Generic Pending file has been communicated to the scale. NOTE: The Generic Pending file header must have a Y at position 18 for this script to run.
toschd.bat	This script is run by the scheduler each time that it wakes up. This is done before checking for any *.END files or the EVENTS list.
hstshell.bat	This file called by inetschd when *.END file found
inetxdir.bat	Called by inetschd, Builds file dirlist of files with .HST extension.
svi.bat	Builds file svi.lst of files with .SVI extension (.svi files used with menu program)

Executable Files to Assist in File Manipulation

crlf.exe	Translates line feeds into carriage returns Line feeds

ScaleVision Executable Files

evntlist.exe	Event List
inetfilt.exe	Filter that processes data to the specific scales
inetschd.exe	Schedules the processes
ispcfgm.exe	Configuration interface(isp.cfg and corp.cfg
menu.exe	User interface at store level
schdcall.exe	Executable called by the scheduler
schdkill.exe	Executable called by the scheduler
readme	Installation Readme file

RS 6000 Machines

Note that these instructions are specific for the general set up of RS 6000 Machines; if your system is configured differently from the standard, then you may need to modify these steps according to your machine set up. For more information on Systems Operations for an RS 6000 machine, refer to the instructions supplied with the RS 6000 Hardware.

Also, note that RS 6000 machines are case sensitive so the following text must be entered exactly as it appears below. Text that is displayed on your computer screen appears in **bold face**.

Sign-On And Group Creation

Before installing ScaleVision® on your RS 6000 machine, you must first log on as the root user and create a group.

At the Console Login prompt, log on as the root user:

TYPE: root

PRESS: [ENTER]

TYPE: (enter the necessary password here)

PRESS: [ENTER]

At the command line,

TYPE: smit

PRESS: [ENTER]

You should now be at the **System Management Menu**. First, add a group to your system; using the arrow keys,

SELECT: **Security & Users**

PRESS: [ENTER]

SELECT: **Groups**

PRESS: [ENTER]

SELECT: **Add a Group**

PRESS: [ENTER]

TYPE: scales

PRESS: [ENTER]

Return back to the **Security & Users Menu** by using the <F3> key:

PRESS: <F3>

PRESS: <F3>

PRESS: <F3>

Next, you must add users to the scales group. Using the arrow keys,

SELECT: **Users**

PRESS: [ENTER]

SELECT: **Add a User**

PRESS: [ENTER]

TYPE: cps

SELECT: **PRIMARY Group**

TYPE: scales

SELECT: **User INFORMATION**

TYPE: Corporate Scales

PRESS: [ENTER]

Return back to **Security & Users** using the <F3> key:

PRESS: <F3>

PRESS: <F3>

PRESS: <F3>

Next, the passwords need to be set up.

SELECT: **Passwords**

PRESS: [ENTER]

TYPE: cps

PRESS: [ENTER]

TYPE: (enter your desired password here)

PRESS: [ENTER]

TYPE: (re-enter your desired password to confirm)

PRESS: [ENTER]

Return back to the **System Management Menu** using the <F3> Cancel key:

PRESS: <F3>

PRESS: <F3>

Communications Port Setup

In order to set up your communications ports, you must know what hardware devices you are using. First, choose you device,

SELECT: **Devices**

PRESS: [ENTER]

SELECT: **TTY**

PRESS: [ENTER]

SELECT: **List all defined TTYs**

If a DIGIBOARD is being used, select the "digiboards" option.

The following procedure must be done for *each* scale communications line to be configured. Every communication line is plugged into a physical port and then this port must be defined. If the ports to be used for the scales already exist, make sure that they are set up to match with the following configurations:

SELECT:	**Add a TTY**
PRESS:	[ENTER]
SELECT:	**RS232**
PRESS:	[ENTER]
SELECT:	(Select the adapter corresponding to your hardware)
PRESS:	[ENTER]
SELECT:	**PORT number**
TYPE:	(Type in the appropriate number)
SELECT:	**BAUD rate**
PRESS:	<F4>
SELECT:	**9600**
PRESS:	[ENTER]
SELECT:	**PARITY**
PRESS:	<F4>
SELECT:	**even**
PRESS:	[ENTER]
SELECT:	**BITS per character**
PRESS:	<F4>
SELECT:	**7**
PRESS:	[ENTER]
SELECT:	**STATE to be configured at boot time**
PRESS:	<F4>
SELECT:	**available**
PRESS:	[ENTER]
SELECT:	**Enable LOGIN**
PRESS:	<F4>
SELECT:	**disable**
PRESS:	[ENTER]

NOTICE!! The Enable Login MUST be set to disable, otherwise ScaleVision® will not execute!

Now, return to the Command Line by using the <F10> Exit key:

PRESS: <F10>

TYPE: cd /

PRESS: [ENTER]

TYPE: chmod 777 dev

PRESS: [ENTER]

TYPE: cd dev

PRESS: [ENTER]

The following command must be performed for *each* port:

TYPE: chmod 777 tty# (where # is the specific port number)

PRESS: [ENTER]

Software Installation

Insert the ScaleVision® Disk in the drive.

TYPE: mkdir /usr/scalevsn

PRESS: [ENTER]

TYPE: chmod 777 /usr/scalevsn

PRESS: [ENTER]

TYPE: cd /usr/scalevsn

PRESS: [ENTER]

TYPE: tar -xvf /dev/fd0

PRESS: [ENTER]

Using your system editor, you now must edit the ".profile" file. Add to the path statement the following:

TYPE: /usr/scalevsn:

Now, log out as the root user by pressing the following:

PRESS: [Ctrl-d]

You have now installed ScaleVision® on your RS6000 Machine.

Modifying the PORTS.CFG and SCALES.CFG Files

Now, you need to modify two ScaleVision® files to test the system. Using your system editor, open the PORTS.CFG file in your ScaleVision® directory.

Activate the ports and their corresponding scale types by making sure the Scale ID, Port, Baud, Bits, Parity, and Stopbits values are correct. The semicolon (;) must be deleted to activate a line in the file (lines beginning with a semicolon are treated as comment lines and have no effect on configurations). Save and exit PORTS.CFG.

Using your system editor, open the SCALES.CFG file. Modify the values according to what types of scales are present. Again, the semicolon (;) must be deleted to activate a line in the file. Save and exit SCALES.CFG.

For more information on the PORTS.CFG and SCALES.CFG files, see Chapter 3, "ScaleVision® Files" in this manual.

Testing Scale Communications

A simple test can be performed to ensure that ScaleVision® is communicating to all of the connected scales.

Log on as the user, cps,

TYPE: filt wu

PRESS: [ENTER]

After a short delay, the file executes and request a response from connected scales. You will then be returned to your user prompt in the ScaleVision® directory. The following displays the results of the test:

TYPE: more wu.out

PRESS: [ENTER]

All responding scales will be listed in this file as **On line**. If a scale does not appear in this file or responds with **No Port** or **No Response**, then the particular port/scale has not been set up correctly either in the software or the hardware. Make the necessary changed and then try the "filt wu" command again.

Starting the ScaleVision® Scheduler Automatically

(In the following example, replace **/usr/scalevsn** with the path to your ScaleVision® installation.

1. Add the following line to the **/etc/initab** file:

inetschd:2:wait:/bin/su cps -c /usr/scalevsn/initschd& > /dev/console$1#Start the METTLER TOLEDO ScaleVision® Scheduler

2. Create a file in the ScaleVision® directory called **initschd**. The file should contain the following lines:

cd/usr/scalevsn
./inetschd&

Now when the RS6000 boots, it will automatically start the ScaleVision® scheduler.

List of Included Files for RS6000 Machines

Error Code Listing

INET_ERR.MST	List of all Error codes generated by ScaleVision

Configuration Files

CORP.CFG	Configuration parameters(Corporate level config.)
ISP.CFG	Configuration parameters(Store level config.)
INET.CFG	License file (DO NOT MODIFY THIS FILE!!!)
PORTS.CFG	Ports Configuration
PORTS.MT	Backup copy of Ports configuration
SCALES.CFG	Scale Configuration
SCALES.MT	Backup copy of Scale Configuration

Scale Drivers - Scale Specific Drivers

MASTER.CMD
HOB5000.CMD
HOBNUTRI.CMD
HOBSP.CMD
TEC59.CMD
TEC66V4.CMD
TEC66V5.CMD
TOL8422A.CMD
TOL8422B.CMD
TOL8427A.CMD
TOL8460A.CMD

Test Files

wu.tst	Wakeup (Test scales availability)
wl1.tst	Read all linked records (1=Extra Text)
wl3.tst	Read all linked records (3=Nutrifact)
wl4.tst	Read all linked records (4=Graphics)
el1.tst	Delete linked records(1=Extra Text)
el3.tst	Delete linked records(3=Nutrifact)
al1.tst	Add linked record (1=Extra Text)(add ET# 15,17,340)
al3.tst	Add linked record (3=Nutrifact)(add NF# 15,17,340)
ex.tst	Delete all linked records
xs.tst	Extended Status test(Mettler Toledo only)
ai.tst	Add Plu (PLU #15,17,340)
dv.tst	Delete PLU by Dept/plu
pv.tst	Price change by Dept/plu
ra.tst	Read all PLU's from scale
cd.tst	Clear PLU from department
cl.tst	Clear all PLU's
ct.tst	Clear all Totals
dc.tst	Read Totals and clear
dn.tst	Read Totals and no clear
cm.tst	Compress memory
tx.tst	Read specific cutting test
cx.tst	Clear cutting test

Script Files (Used for testing)

commtest
cleanup
filt
filtd

Script Files

tohost	This script will be executed by the scheduler after a Generic Pending file has been communicated to the scale. NOTE: The Generic Pending file header must have a Y at position 18 for this script to run.
toschd	This script is run by the scheduler each time that it wakes up. This is done before checking for any *.END files or the EVENTS list.
hstshell	This file called by inetschd when *.END file found
prefilt	This script is called by inetfilt application before processing of the GPF
postfilt	This script is called by inetfilt application after preprocessing of GPF

Report (script to generate a report at store level for Price change or Modify PLU data)

awkprt	Script that calls awk program prt.awk
prt.awk	Awk program that prints a report.

Executable Files to Assist in File Manipulation

translf	Translates carriage returns into line feed characters
crlf	Translates line feeds into carriage returns line feeds
up2low	Translates Upper case characters to lower case
low2up	Translates Lower cars characters to lower case

ScaleVision Executable Files

evntlist	Event List
inetfilt	Filter that processes data to the specific scales
inetschd	Schedules the processes
ispcfgm	Configuration interface(isp.cfg and corp.cfg
menu	User interface at store level
Make_Executable	Changes Mode of all executable files to 777(rwx)
readme	Installation Readme file

Windows NT®

Software Installation

Use the Windows File Manger to create a ScaleVision® working directory (e.g. C:\ scalevsn).

Insert the ScaleVision® Disk into the floppy drive, then follow this procedure (where c:\scalevsn\ is the directory you created for ScaleVision. You must include the trailing backslash "\"):

CLICK:	START
CLICK:	RUN
TYPE:	a:\install c:\scalevsn\
CLICK:	OK

NOTE: In the above command, "c" refers to the hard drive. If your drives differ, you may need to modify the above command (e.g. TYPE: f:\scalevsn\). Continue to follow the directions on the screen.

After the files are installed on your hard drive, you will be asked Y/N to install the Scale Vision Scheduler. To install the Scheduler type Y, or N to bypass.

Next, you will be asked if you wish to edit the SCALES.CFG and PORTS.CFG files to match your system. You can do it now or later. (See below) If you do it now, you can test the installation by performing the following procedure:

CLICK:	START
CLICK:	RUN
TYPE:	c:\scalevsn\comtest.bat

Any correctly configured scales should be On-Line. You can also run this test anytime from File Manager.

All programs should be run from the ScaleVision® working directory, as they look for files in the current directory. The program SCHDCALL.EXE or batch file SCHD.BAT can be used to change the directory to a command-line parameter directory name.

After the installation is complete, select Services from Control Panel and set the startup options for the ScaleVision Scheduler. You will probably want to start Scheduler automatically.

Modifying the PORTS.CFG and SCALES.CFG Files

Now, you need to modify two ScaleVision® files to test the system. Using your system editor, open the PORTS.CFG file.

Activate the ports and their corresponding scale types by making sure the scale ID, Port, Baud, Bits, Parity and Stopbits values are correct. The semicolon (;) must be deleted to activate a line in the file (lines beginning with a semicolon are treated as comment lines and have no effect on configurations). Save and exit PORTS.CFG.

Using your system editor, open the SCALES.CFG file. Modify the values according to what types of scales are present. Again, the semicolon (;) must be deleted to activate a line in the file. Save and exit SCALES.CFG.

For more information on the PORTS.CFG and SCALES.CFG files, see Chapter 3, "ScaleVision® Files" in this manual.

List of Included Files with Windows NT®

This File

ntfile.tst	(This file) Description of all files supplied with ScaleVision

Error Code Listing

INET_ERR.MST	List of all Error codes generated by ScaleVision

Configuration Files

CORP.CFG	Configuration parameters(Corporate level config.)
ISP.CFG	Configuration parameters(Store level config.)
INET.CFG	License file (DO NOT MODIFY THIS FILE!!!)
PORTS.CFG	Ports Configuration
PORTS.MT	Backup copy of Ports configuration
SCALES.CFG	Scale Configuration
SCALES.MT	Backup copy of Scale Configuration

Scale Drivers - Scale Specific Drivers

MASTER.CMD
HOB5000.CMD
HOBNUTRI.CMD
HOBSP.CMD
TEC59.CMD
TEC66V4.CMD
TEC66V5.CMD
TOL8422A.CMD
TOL8422B.CMD
TOL8427A.CMD
TOL8460A.CMD

Test Files

NOTE: See Chapter 6, Appendix 1 for Scale supported commands

wu.tst	Wakeup (Test scales availability)
wl1.tst	Read all linked records (1=Extra Text)
wl3.tst	Read all linked records (3=Nutrifact)
wl4.tst	Read all linked records (4=Graphics)
el1.tst	Delete linked records(1=Extra Text)
el3.tst	Delete linked records(3=Nutrifact)
al1.tst	Add linked record (1=Extra Text)(add ET# 15,17,340)
al3.tst	Add linked record (3=Nutrifact)(add NF# 15,17,340)
ex.tst	Delete all linked records
xs.tst	Extended Status test(Mettler Toledo only)
ai.tst	Add Plu (PLU #15,17,340)
dv.tst	Delete PLU by Dept/plu
pv.tst	Price change by Dept/plu
ra.tst	Read all PLU's from scale
cd.tst	Clear PLU from department
cl.tst	Clear all PLU's
ct.tst	Clear all Totals
dc.tst	Read Totals and clear
dn.tst	Read Totals and no clear
cm.tst	Compress memory
tx.tst	Read specific cutting test
cx.tst	Clear cutting test

Script Files (Used for testing)
commtest.bat
cleanup.bat
filt.bat
filtd.bat
sort.bat

Installation Batch File
install.bat

Script Files

tohost.bat	This script will be executed by the scheduler after a Generic Pending file has been communicated to the scale. NOTE: The Generic Pending file header must have a Y at position 18 for this script to run.
toschd.bat	This script is run by the scheduler each time that it wakes up. This is done before checking for any *.END files or the EVENTS list.
hstshell.bat	This file called by inetschd when *.END file found
inetxdir.bat	Called by inetschd, Builds file dirlist of files with .HST extension.
svi.bat	Builds file svi.lst of files with .SVI extension (.svi files used with menu program)
prefilt.bat	This script is called by inetfilt application before processing of the GPF
postfilt.bat	This script is called by inetfilt application after preprocessing of GPF

Executable Files to Assist in File Manipulation

crlf.exe	Translates line feeds into carriage returns Line feeds

ScaleVision Executable Files

evntlist.exe	Event List
inetfilt.exe	Filter that processes data to the specific scales
inetschd.exe	Schedules the processes
ispcfgm.exe	Configuration interface(isp.cfg and corp.cfg
menu.exe	User interface at store level
schdcall.exe	Executable called by the scheduler
schdkill.exe	Executable called by the scheduler

ScaleVision Scheduler Files (Required to install Scheduler as a service)

DLLS.EXE	Required DLLs for ScaleVision
INST_SRV.BAT	Install Service batch file
INSTALL.EXE	Install Service
REMOVE.EXE	Remove Service
REM_SERV.BAT	Remove Service batch file
readme	Installation Readme file

Starting ScaleVision®

To begin using ScaleVision®, a Generic Pending File is needed. The Generic Pending File is an ASCII file that contains, in a "generic" format, the information to be sent to the in-store scales (i.e. price changes, new PLU's, nutrition facts, etc.). The Generic Pending Files must have a .HST extension; after the file is written, another file must be created with the same name but a .END extension (eg. NEWPLU.HST and NEWPLU.END). The .END file need not contain anything as its purpose is only to ensure that the Generic Pending File is complete before ScaleVision® will start using it.

Chapter 3, "Generic Pending Files" contains details for writing these Generic Pending Files. Because these files are ASCII text they may be created using your system editor, however these files are long and not intuitive, thus it is recommended that you use another program to write the Generic Pending File such as the METTLER TOLEDO® Intelli-Net® program, or you may create your own program to write Generic Pending Files.

Examples of Generic Pending Files are on the ScaleVision® Diskette which should now be on you hard drive; these files have a .TST ending. You may look at these files using the "type" command (for DOS machines) or the "more" command (for UNIX machines). You can actually run these files by changing the .TST extension to a .HST extension and then creating a file with a .END extension.

Once the Generic Pending File and its respective .END file have been created in the ScaleVision® working directory, the following commands may be executed in the ScaleVision® working directory.

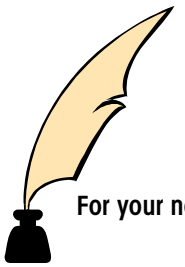
ispcfgm - This executable allows the user to set up Configuration files**.**

inetschd - This program begins running ScaleVision® and thus starts looking for the presence of Generic Pending Files. The Scheduler then automatically processes the pending files at the time they become due.

schdkill - This terminates the Scheduler *gracefully;* this program first unloads any in-progress scale communications and then stops the Scheduler. Using this program avoids sending partial data to the scales.

inetfilt ***infile outfile*** - This program bypasses the Scheduler and immediately sends the Generic Pending File to the filter. Note that the Generic Pending File must have a .pnd extension.

evntlist - This program displays the existing pending files and the time that they are due to be sent to the scales. This program also allows you to delete pending files or make them immediately due.



For your notes

3 Using ScaleVision®

ScaleVision® Menu Program

The ScaleVision® Menu program is used in conjunction with ScaleVision® Communications Software. The Menu is a user interface to ScaleVision® at store level. The Menu is provided on the ScaleVision® diskette along with all other required files. With ScaleVision® installed and configured on the In Store Processor (ISP) the Menu program can be run by typing "menu". The program then displays a menu with six options.

SETUP REQUIREMENTS:

1. Two files need to be within your ScaleVision® directory.

   Menu's executable file.(i.e. menu.exe)
   SVI, Batch file. (i.e. svi.bat)

   Note: The SVI.BAT batch file is needed for MS-DOS®, Windows® NT, and IBM® 4680 operating systems it is not needed in the UNIX environments.

2. Add a line to the hstshell script (batch) file:

cp $1.HST $1.SVI

This will create a backup copy of any Generic Pending that is sent to the scales. These back up files will be displayed when the user chooses to Resend a batch to the scales. (See Figure 5).

3. Make sure the *commtest* script file does not send any info. to the screen. For example, you may need to comment out the line "cat wu.OUT" in the commtest script file.

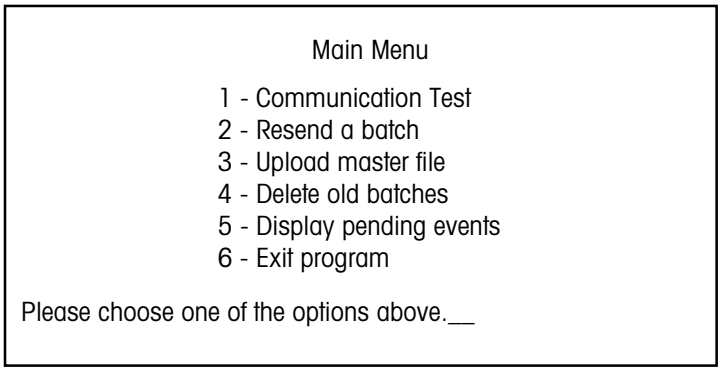


Figure 3-1: Main Menu

1 - Communication test

This option will allow the user to check communication to all scales configured. When a Comm. test is requested, it will return a screen that shows the status of all configured scales, and give the option to Press any key to return to main menu.

```
Scale Communication Test Results
        Dept    ID      Type    Status
1.      0009    36      02      On-Line
2.      0000    36      02      On-Line
Press the ENTER key to continue..
```

Figure 3-2: Communication Test Results

2 - Resend a Batch

This option will allows re-sending a Generic Pending file to individual or all scales within a batch. Once this option is selected the user is prompted to select from the Resend Menu:

```
                Resend Menu
        1 - Individual scales
        2 - All scales in batch
        3 - Return to Main Menu
Please choose one of the options above.__
```

Figure 3-3: Resend a Batch Menu

1 - Individual Scales

Once selected you will be prompted to choose the scale from the list of configured scales (Figure 3-4). Then you will be prompted to select the batch that you wish to re-send (Figure 3-5).

```
Configured Scales
        Dept    ID      Type
1.      0009    36      02
2.      0000    36      02
Please choose one of the options above.__
```

Figure 3-4: Resend a Batch Menu

2 - All scales in batch

Once selected, you will be prompted to select the batch that you wish to resend.

```
                        Choose File
     File name          Date Time      Comment
1.   1_12_99            199801120001   Master file upload 1_12_99
2.   DN.                199801121349   0000 Collect Production

3.   Return to Previous Menu

Please choose one of the options above.__
```

Figure 3-5: Selecting Batch for All Scale mode

3 - Return to Main Menu

This selection will take you back to the Main Menu

3 - Upload Master File

The upload master file will read all PLU's from the scale and save them to a file name of your choice. A list of configured scales is displayed (Figure 3-4) and the user is prompted to select which scale to retrieve the master file from. After selecting the scale, the user is prompted to enter a file name that the menu program will store the master file in.

4 - Delete Old Batches

This option will display all old batches. Select the batch you wish to delete by entering the number. Next the user will be prompted to confirm the deletion by entering Y or N to the question, Are you sure you want to delete the selected batch? (Y/N).

```
                        Choose File
     File name          Date Time      Comment
1.   1_12_99            199801120001   Master file upload 1_12_99
2.   DN.                199801121349   0000 Collect Production

3.   Return to Previous Menu

Please choose one of the options above. 1

Are you sure you want to delete 1_12_98.SVI?  (Y/N) __
```

Figure 3-6: Delete Old Batches Menu

5 - Display Pending Events

Once selected, the program will display all pending events Select (Q) to quit displaying the pending Events.

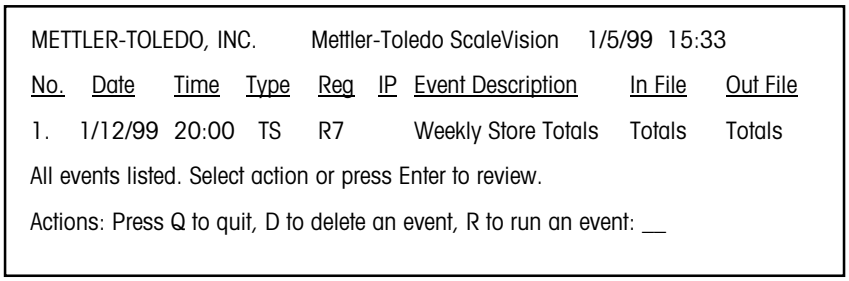


Figure 3-7: Display Pending Events Screen

6 - Exit menu program

This selection will exit the menu program.

Generic Pending Files

ScaleVision® was created so that the pending scale changes, which are passed in a file to the in-store processor, are not format specific to any scale. The incoming file containing the necessary commands, items, pricing, and nutrition facts is called a Generic Pending File. Each Generic Pending File has an apply date in its header (the first line of the file) so that the store system can implement the changes to the scales when they become due. The purpose of ScaleVision® is to take Generic Pending Files and translate the commands into formats recognizable by scales from various manufacturers. The ScaleVision® software takes information provided by the central maintenance system, and applies it to many brands of scales, making true multi-vendor scale networking finally possible.

Since most major retailers will choose to integrate the management of scales item information with their regular item/price management systems, the format and content of the Generic Pending File is made available. Thus, retailers can develop programs that produce the Generic Pending File records.

Details of the Generic Pending File

The Generic Pending File is an ASCII file, with each record ending with a carriage-return character. Note that a line-feed character is optional, since the ScaleVision® Store System has a routine to strip these characters out if found. The file must have a .HST extension and must be in the ScaleVision® working directory to be found by the Scheduler program. A file of the same name but with a .END extension must be created in the ScaleVision® directory to indicate that the pending file is available for use.

All numeric fields are right justified and zero-filled. All character fields are left justified. Records can be variable length where the last field is a character field e.g., Description. The last character field does not have to be padded with spaces to its full length.

Headers

The file must start with a header record that can be followed by any number of *detail records*. The header record must begin with a colon (:) character. Any header within a file that is not the first header will be ignored. A header has the format shown in the table below.

Field	Position	Length	Description
Header Marker	1	1	: (colon)
Due Date/Time	2	12	in format YYYYMMDDHHMM in 24 hour clock
Pend File Type	14	2	PD = Pending Changes M = Manually Applied Changes (*Note* there is a space after the 'M') ST = Store Totals Retrieval
Recur Ind.	16	1	R = Re-occurring (space) = normally, this field is blank and a space is used
Recur Period	17	1	7 = Re-occur every 7 days 1 = Re-occur daily Blank if not re-occurring
Transmit2host	18	1	Value 'Y' causes script/batchfile 'tohost' to be called, with response file name as parameter, on completion of event execution. Can be used to transmit .OUT file back to host.
Response File	19	8	Causes "filename.OUT" to be created
Header Desc.	27	30	Free format text

Generic Pending file Header Format

The ScaleVision® Store system builds an event record from each header. The Scheduler program monitors these events and actions them when due. Manual Event types are not automatically actioned by the Scheduler. The system issues a notification of arrival of a Manual event type.

Detail Records

Following the *Header* in the file are the *Command Records*. Each *Command record* contains a generic command to be executed by the scales. The command has the format outlined in Appendix 1. Appendix 2 contains a list of the all the commands and which scales are able to support the commands. Generally, all *Command Records* begin with the two character Command Code, then a two character Retry Count, then a two character Retry Scale ID, then the data elements that are relevant to that command.

Any lines beginning with ";" (semi-colon) are ignored by the filter and are merely copied to the .OUT file at run time.

Appendix 3 contains a list of the field specifications and definitions necessary for the generic PLU string.

Linked Records

Linked Records are used for communications to scales that include implicit repeating groups, parent child relationships or variable-length binary data. This includes Extra Text, Nutritional Labeling information and Graphic Images. Extra-Text for example has a data header with many line records associated with that header.

All Linked Records use the same commands, AL, DL, EL, GL, WL and EX. The record type is defined in the Generic Linked Record String. This Generic String has been defined to be sort-able, i.e. different types of linked records may have the same number, since each has a different value of Linked Record Header. The records can exceed the single transmission data length of 500 bytes. When this occurs, they are broken up into packets which are tracked by a sequence number. Each packet data stream includes the header information so that the Generic Pending File can be sorted.

Appendix 4 contains the definitions for the Linked Record Strings needed for the Generic Pending File.

Extra Text

The Extra Text are records of recipe's, ingredients, greetings, etc. that are created by the operator and linked to one or more PLU.

The Linked Record Attribute is defined for Extra Text as the number of characters per line of Extra Text.

The number of characters per line is normally up to 42. There is one packet per line of extra text.

Nutrition Fact Fields

The Nutrition Facts are records of nutrients, vitamins, minerals and dietary information. Each Nutrition Fact record is transmitted in an ASCII data string which follows the command-specific header. Appendix E contains the list of the Nutrition Fact field specifications and definitions.

The Nutrition Fact record is less than 500 bytes and is therefore sent as a single packet.

The METTLER TOLEDO® 8460/8461 requires the Generic Pending File nutrition-add command, AL type 3. This results in directly using the nutrition data from this string. The generic nutrition record format was derived from the 8460/8461 communications spec.

The Linked Record Attribute is used to define the HOBART® Nutri-fact template number that is to be used. HOBART® Nutri-Templates are defined in the file HOBNUTRI.CMD and can be changed/added within that file. HOBNUTRI.CMD can support up to 99 templates. The Linked Record Attribute is not used for other scale types.

The default flag values are 01 for flag1 and 00 for the remaining flags. These are used in the case of a non-defined flag value is received.

To make nutrition work on the HOBART® SP1500/ Ultima scales; the nutrition fact number must be numerically the same as the PLU number. For example, if you want to put nutrition on the label of PLU# 123, its linked record type 3 field must quote nutrition number 123 and a linked record type 3 for number 123 must be transmitted. Also, the nutrition template record quoted in the linked record attribute field must exist in the file HOBNUTRI.CMD.

There are two standards of nutrition supported on HOBART® SP1500/ULTIMA scales: pre and post FDA standards. Older scales have the pre-FDA standard. To check if an SP has the FDA standard, use the supervisor function to look at nutrifacts, and check if nutri-template #249 exists on the scale. This is the standard default template for FDA. If it does not exist, do not attempt to add it, as HOBART® warns that the pre and post FDA standards should not be mixed.

For the pre-FDA standard SP1500/Ultimas, HOBART® nutrition has to use a template to define its layout on the label and to define the nutri-facts that are printed. Both template and nutri-data records must be transmitted. The template record is extracted from file HOBNUTRI.CMD. If the generic linked has a linked record attribute value greater than zero, then HOBNUTRI.CMD is accessed to find a template record of this number. If found, the template is extracted and transmitted to the scale prior to transmission of the nutri-data record. If not found, the ScaleVision® default template (currently # 100) is extracted and transmitted. The default template is the record following the new keyword 'DEFAULT' in HOBNUTRI.CMD.

Each line of HOBNUTRI.CMD (except for the 2 line header and trailer literal lines) defines the nutrition-element number from the generic nutrition record definition that will be transmitted to the template position, along with the (up to 10 character) literal that will be sent on the template.

The individual templates can be edited and cloned with an editor using care. The literal for each nutri-fact can be no longer than 10 characters. The default template should only be edited by METTLER TOLEDO®. Note that you should take back-up copies of your edited templates so that your custom templates can be restored following a software update.

For the post-FDA standard SP1500/Ultimas, use the default FDA nutrition template # 249 on the SP1500, and either #249 or #239 on the Ultima. Entries for these templates are included in HOBNUTRI.CMD to make the system work, but these templates are not transmitted to the scales.

Graphics Record

Each Graphic record is transmitted in the following order, with the number of ASCII digits in parenthesis:

comp_type(1)+graphic_name(32)+graphic_width(3)+graphic_height(3)+ ASCII_hex_string = 39 chars plus the ASCII_hex_string

The Linked Record Attribute is not defined for Graphics Records.

The field definitions for the above graphics records can be found in Appendix 6.

Backup and Restore Commands

The following backup and restore commands are only used by the METTLER TOLEDO® 8460/8461. These commands are primarily for THE METTLER TOLEDO® Databack™ application, allowing data-types to be pulled from scale in binary, non-keyed form, and subsequently restored onto a scale. The ScaleVision® output records from these commands is in ASCII (but unintelligible) form and is formatted to be directly useable by the corresponding restore command. The command code literal, at the beginning of the backup data strings, e.g. AB, must be translated into the corresponding restore command e.g., AR, to translate a backup output file into a restore input file.

BB	Backup master misc. parameters to host
BR	Restore master misc. parameters from host
UB	Backup master PLU records to host
UR	Restore master PLU records from host
XB	Backup master Extra Text records to host
XR	Restore master Extra Text records from host
AB	Backup master Nutrition Facts records to host
AR	Restore master Nutrition Facts records from host
EB	Backup master Graphics records to host
ER	Restore master Graphics records from host

Accumulator (Totals) Fields

The output format of totals information is not to one generic file description, since different scale vendors report different types and units of totals. All output totals records therefore contain the Scale Type, Department and Scale Id so that the totals information may be processed by scale type. The totals output record formats in this specification refer to METTLER TOLEDO® scales.

Scale_Type_Code Values:

0	METTLER TOLEDO® 8422 - 4 digit PLU version
1	METTLER TOLEDO® 8427 - 4 digit PLU version
2	METTLER TOLEDO™ 8460/8461 - 4 digit PLU version
3	HOBART® SP1500
4	HOBART® 5000

The accumulators are contiguous blocks defined as follows, where the number in parenthesis is the number of characters.

Scale Types 0 and 1 - METTLER TOLEDO® 8422 and 8427

Auto_PKG COUNT(4) + Auto_WEIGHT(8) + Auto_Value(8) + Auto_RUNS(2) + Manual_PKG_COUNT(4) + Manual_WEIGHT(8) + Manual_VALUE(8) + Manual_RUNS(2) + Rewrap_PKG_COUNT(4) + Rewrap_WEIGHT(8) + Rewrap_VALUE(8) + Rewrap_RUNS(2) + Combination_PKG_COUNT(4) + Combination_WEIGHT(4) + Combination_VALUE(8) + Combination_RUNS(2) = 88 characters.

Scale Type 2 - METTLER TOLEDO® 8460/8461

Auto_WEIGHT(9) + Auto_VALUE(9) + Auto_PKG_COUNT(8) + Auto_RUNS(4) + Manual_WEIGHT(9) + Manual_VALUE(9) + Manual_PKG_COUNT(8) + Manual_RUNS(4) + Rewrap_WEIGHT(9) + Rewrap_VALUE(9) + Rewrap_PKG_COUNT(8) + Rewrap_RUNS(4) + Combo_WEIGHT(9) + Combo_VALUE(9) + Combo_PKG_COUNT(8) + Combo_RUNS(4) + Inv_WEIGHT(9) + Inv_VALUE(9) + Inv_PKG_COUNT(8) = 146 bytes total.

Automatic, manual, rewrap, combination and inv definitions are as follows:

Automatic	= Commodities sold using the programmed unit price.
Manual	= Commodities sold with the price manually entered.
Rewrap	= Commodities, typically meat, which has been repackaged.
Combination	= Rewrapped commodities with manual pricing.
Inv	= An inventory of items selected by the operator.

Definitions of non-METTLER TOLEDO scale totals can be supplied upon request.

Generic Pending File Example

Below is a sample of a Generic Pending File. More samples can be found on the ScaleVision® Diskette which is already on your hard drive. These files have a .TST extension.

Sample Generic Pending File: DI

```
:199404270829PD
DI00001234567890
DI00009876543210
DI00001234543210


 :1994 04 27 0829 PD  {Pending changes to be made on
4/27/1994 at 8:29 AM.}

DI 00 00 1234567890  {no retry if fail, item to be deleted
is #1234567890}

DI 00 00 9876543210  {no retry if fail, item to be deleted
is #9876543210}

DI 00 00 0000000002  {no retry if fail, item to be deleted is #0000000002}
```

Figure 3-8: Generic Pending File Example

ScaleVision® Files

Configuration Files

These files setup ScaleVision® for your scale system. The configuration files answer the following:

What?: Licensing, scale types, actions to take in response to commands.

Where?: Port configurations, location of files.

When?: The circumstances under which ScaleVision® needs to respond.

How?: The steps ScaleVision® should take to complete a task.

Each section below discusses a different *configuration file* in detail.

INET.CFG

Note: Do not change the INET.CFG file.

INET.CFG is the master control file. This file is not normally edited because it contains an encryption code which determines whether or not ScaleVision® will run. When you purchase ScaleVision®, you will be given the necessary drivers for your scale system. In the future, when you purchase new types of scales, you will need to contact METTLER TOLEDO® to get the new drivers. When METTLER TOLEDO® sends you the new drivers, you will also be given a new encryption code to replace the old. If you tamper with the present encryption code or do not properly install the new code in the future with the new drivers, ScaleVision® will not run. Instead, the error message: "INET.CFG file corrupt - contact Mettler-Toledo, Inc." will be written to the log file, INET.LOG. If you install the new drivers and need to make the necessary changes to INET.CFG, your system text editor should be used to make the changes.

Record Format of INET.CFG:

01 Customer Name

02 License #, 12 digits

03 Authorized Scale Types. These must match the file name for the Scale command file.

04 Operating System Type:

0 = IBM4680
1 = MSDOS
2 = NCR Tower
3 = NCR 3000 / RS/6000 [1-3]

05 Eval Copy (Eval or Licensed) Values "E" or "L". If "E", the system will log a warning message that the system is on trial and the evaluation will end on a specified date.

06 Evaluation End Date [CCYYMMDD]. This will be checked on loading the INET.CFG file only for Evaluation copies. If the date is past, the system will give the message "Evaluation End Date exceeded - contact Mettler-Toledo, Inc." and will not load.

07 Software Release Number. Up to 12 digits, alphanumeric. This number is checked against a hard-coded number at system load time. If they do not match, the message "Incompatible Software Release - contact Mettler-Toledo, Inc." will be output and the system will not load.

99 Encryption code.

```
;License Name [xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]
01 METTLER TOLEDO Super Markets
;License # [xxxxxxxxxxxx]
02 123456789012
;Authorized Scale Types [xxxxxxxx]
03 TOL8460A TOL8422A TOL8427A HOBSP HOB5000 TEC66V4
;OS Type 0 = IBM4680, 1 = MSDOS, 2 = NCR Tower, 3 = RS6000/NCR3000 [1-3]
04 03
;Eval Copy (Eval or Licensed) [EIL]
05 L
;Evaluation End Date [CCYYMMDD]
06 19951212
;Software Part Number
07 A123456
99 7777
```

Figure 3-9: INET.CFG Example

CORP.CFG, ISP, CFG

CORP.CFG, ISP, and CFG are the corporate and in-store control files containing parameters for logging, totals retrieval times, trigger times, etc. There is an important fundamental difference between CORP.CFG and ISP.CFG. The master control file is CORP.CFG. From this file, any parameter can be changed. CORP.CFG identifies whether certain parameters can be set or overridden by the in-store parameter control file called ISP.CFG. When a particular parameter is designated as corporate control only, it is flagged with a "C." If in-store changing/overriding of a particular parameter is possible, no "C" appears next to the field number. If the parameter field number is flagged with a "C," the ISP.CFG file will deny any attempt by the in-store operator to make changes to the parameter.

To set up your scale system's parameters, you can run a convenient user software interface already installed in ScaleVision® called "*ispcfgm*". This program will show you the optional parameters and bring up sub-menus when the individual parameters are selected.

To edit the configuration files, call the interface program by typing "ispcfgm". When no extension follows the program call, the ISP.CFG file is edited. If you wish to edit CORP.CFG, call the interface program using "ispcfgm CORP.CFG" (Capitals letters are essential). By using operating system passwords in your system, you can restrict who can edit CORP.CFG.

The following screen appears when editing CORP.CFG and ISP.CFG. Only when editing CORP.CFG can you change the parameters designated with a "C". Field descriptions are enclosed in parenthesis and do not appear on the screen.

METTLER TOLEDO's Super Market — METTLER TOLEDO ScaleVision — 09/09/00
ISPCFGM — Configuration Maintenance

No. Parameter

---

01 - **Store Closing** (the time of closing in the form HHMM. Some Pending Files will not run until the store is closed.)
02 - Trigger Interval (how often the Scheduler looks for new Generic Pending Files. This field is in the form HHMM. The shortest interval is 1 minute)
03 - **Print Changes Destination** 0=None, 1=File, 2=Printer, 3=Both [0-3] (this field is for future expansion)
04 - **Print Changes File Name** [xxxxxxxx] (this field is for future expansion)
05 - **Print Changes Printer Name** [xxxxxxxx] (this field is for future expansion)
06 - **Print Errors Destination** 0=None, 1=File, 2=Printer, 3=Both [0-3] (specifies to where errors are written)
07 - **Print Errors File Name** [xxxxxxxx] (to which file errors are written if a file is an error destination)
08 - **Print Errors Printer Name** [xxxxxxxx] (to which printer do errors get printed if printer is an error destination)
09 - **Log Level** (how much logging is desired: 0-3 low detail, 4-6 communication level, 6-9 everything)
10 - **Log File Name** [xxxxxxxx] (usually INET)
11 - **Abort Level** [0-9] (the higher the number, the more often aborted)
12 - **Retry** (If attempted communication is not completable because a scale is busy or off-line, contact is retried for predetermined number of times specified below in field #18. If contact is not made during these trials, the Event Record is stored in a Retry File. The name of that Retry File is specified in this field. Refer to "The Filter-Open Retry/Pending File" section in Chapter 2 for more information on the Retry File).
13 - **Retrieve Store Totals Period in Days** (0=no totals retrieved) [0-7]
14 - **Retrieve Store Totals Time** [HHMM]
15 - **Price Decimal Position** (used for foreign currencies)
16 - **Tare Decimal Position** (used for foreign currencies)
17 - **Display Event List on Scheduler Monitor** 0=Off, 1=On [0-1] (this option is available so that it is possible to not tie up the terminal display)
18 - **Number of Attempts to communicate with scale** [00-99] (This field specifies the number of times communication is attempted with a busy/off-line scale before a due Pending File is stored in the Retry File specified above)

Figure 3-10: User Interface: "ispcfgm"

SCALES.CFG

This is the control file that describes the configuration of the scales in the store. Maintained by a text editor, control of access is to be managed by operating system permissions. The list of currently supported scales is found in Figure 3-11. The format of this file (see Figure 3-12) is as follows:

Department	4 characters
	1 space
Scale ID	2 digits
	1 space
Port	11 characters. (/dev for UNIX is assumed)
	1 space
Scale Type	2 digits
	1 space
HOBART® Template	3 digits - Note that for the SP1500 HOBART® the only permitted value is "249." The ULTIMA can have either # 239 or #249. Blank or zero values in this field mean none, in which case ScaleVision® assumes your HOBART® scales are pre-FDA and applies the respective rules, usually resulting in the ScaleVision® template #100 being used.
	1 space
Quantum Style	1 digit (Nutrifact)

00 - METTLER TOLEDO 8422 / 4 digit PLU Number.
01 - METTLER TOLEDO 8427 / 4 digit PLU Number.
02 - METTLER TOLEDO 8460/8461
03 - HOBART SP1500
04 - HOBART 5000
05 - (Not Used)
06 - (Not Used)
07 - (Not Used)
08 - METTLER TOLEDO 8422 / 6 digit PLU Number

Figure 3-11: Current Scale Types Supported

```
;#################################################################
;####                   Department (4 digits)
;     ##                 Scale ID(Reference ID for TCP/IP)
;        ##########      TCP/IP Port number the Scale is listening to.
;                  ##   Scale Type (00=8422-4, 01=8427-4, 02=8460-4)
;                                  (03 = Hobart SP, 04=Hobart 5000)
;                                  (05=TEC SL66V4, 06=TEC SL66V5, 07=TEC59)
;                                  (08=Toledo 8422-6)
;                      ## Tec59 Type
;                         ## Tec59 Capacity
;                            # Send Item Check Digit after item number (1 = yes)
;                              ### Hobart default nutri-template #
;                                  #Quantum style nutrifact
;                                    ###.###.###.### Scales TCP/IP Address.
; ** HOBART **
;TCP/IP
0000 21 2306       03       1 249 1 166.209.104.206
0001 21 2306       03       1 249 1 166.209.104.206
0005 21 2306       03       1 249 1 166.209.104.206
;SERIAL
0000 23            03       1 249 1
0001 23            03       1 249 1
0005 23            03       1 249 1
;
; ** TOLEDO **
;TCP/IP
0000 12 2305       02              166.209.104.199
0001 12 2305       02              166.209.104.199
0005 12 2305       02              166.209.104.199
;SERIAL
0000 11            02
0001 11            02
0005 11            02
;#################################################################
```

Figure 3-12: SCALES.CFG Example

PORTS.CFG

PORTS.CFG is the control file that describes the physical attachment of scales to the in-store processing system. It is maintained by a text editor, and control of access should be managed by the operating system permissions. The format is as follows:

Scale ID	2 digits
	1 space
Port	11 characters (/dev for UNIX is assumed)
	1 space
Baud	5 digits (2400 / 9600 / 19200)
	1 space
Bits	1 digit (7 / 8)
	1 space
Parity	1 character (E = Even, N = None, O = Odd)
	1 space
Stopbits	1 digit (0 / 1)

```
;#################################################################
;##                        Scale ID(Reference ID for TCP/IP)
;  xxxxxxxxxxx             Port (Do not include /dev)
;             #####         Baud
;                  #       Bits
;                    x     Parity
;                      #   Stopbits
;Hobart
21 TCP/IP
22 TCP/IP
23 COM1       9600  7 E 1
;Toledo
12 TCP/IP
11 COM1       9600  7 E 1
;#################################################################
```

Figure 3-13: PORTS.CFG Example

Command and Miscellaneous Files

MASTER.CMD

This is the control file that defines the contents of the Generic Pending File to the system. This file is maintained by METTLER TOLEDO®. Control of access is to be managed by operating system permissions.

SCALE COMMAND FILES (TOL8460, TOL8422, TOL8427, HOB5000, HOBSP, TEC66V4, TEC66V5, TECSL59, Exact H960)

These are the control files that define the format conversion of the Generic Pending File for each scale type supported. These files are maintained by METTLER TOLEDO®. Control of access is to be managed by operating system permissions. Format to be provided.

INET.LOG

This is the Log File; the file name is identified by CORP.CFG and ISP.CFG. The file extension ".LOG" is set by the system. All logging output goes to this file. The value Log Level in CORP.CFG and ISP.CFG controls the amount of logging. This value can be of the range 0 - 9, where 9 is the highest level of logging. Detailed logging of all Scheduler and Filter processing is directed to this file and is generally used for debugging. For each error / warning (see below) there is a corresponding log entry with more detailed information describing the error / warning.

ERRORS.ERR

This file is the Errors / Warnings file, and its name is identified by CORP.CFG and ISP.CFG. The file extension ".ERR" is set by the system. All error / warning output goes to this file. The value Abort Level in CORP.CFG and ISP.CFG controls the level at which the system will abort or merely issue a warning. This value can be of the range 0 - 9, where 9 is the highest level, and will cause a program exit for any exceptions.

INET_ERR.MST

This file is the master file of all error / warning messages issued to ERRORS.ERR. When an error occurs, a message number is used to index into this file to get the message text. This file is maintained by METTLER TOLEDO®. Control of access to this file is to be managed by operating system permissions. The format is below:

Key	3 digits
Line Count	1 digit 1 space
Error Text	up to 72 characters per line

The list of error messages can be found in Appendix G.

SCHDKILL

The presence of this file will cause the Scheduler to terminate gracefully. If this file becomes present in the working directory, the Scheduler will stop and unload after any in-progress scale communications. When not communicating with scales, the Scheduler looks for *SCHDKILL* once per *trigger* period, so it may take up to one trigger period for the Scheduler to unload, even if no scale communications are in progress. The Scheduler deletes the SCHDKILL file prior to unloading. Note that the file name must be in upper-case characters on case sensitive machines.

Scheduler

The Scheduler is the organizer of ScaleVision®. The role of Scheduler is to initiate the configuration procedures and watch for new pending files. The Scheduler "sleeps" for a defined period of time until it "awakens" through an action called triggering. After being triggered, the Scheduler checks for new *Generic Pending Files* or Configuration Files. The sleep time interval is set through a parameter of the CORP.CFG or ISP.CFG file (It is possible to give the local ISP control of this parameter through CORP.CFG). When a Generic Pending File is detected by the Scheduler an Event is created. The Scheduler stores this Event relative to other Pending Records in an Event File based on the time/date that it is due. When the ISP time/date matches the Event time/date, the Scheduler initiates the Filter program.

The flow chart of the process is described below (see Figure 3-14). Each step of the process is explained in more detail following the diagram.

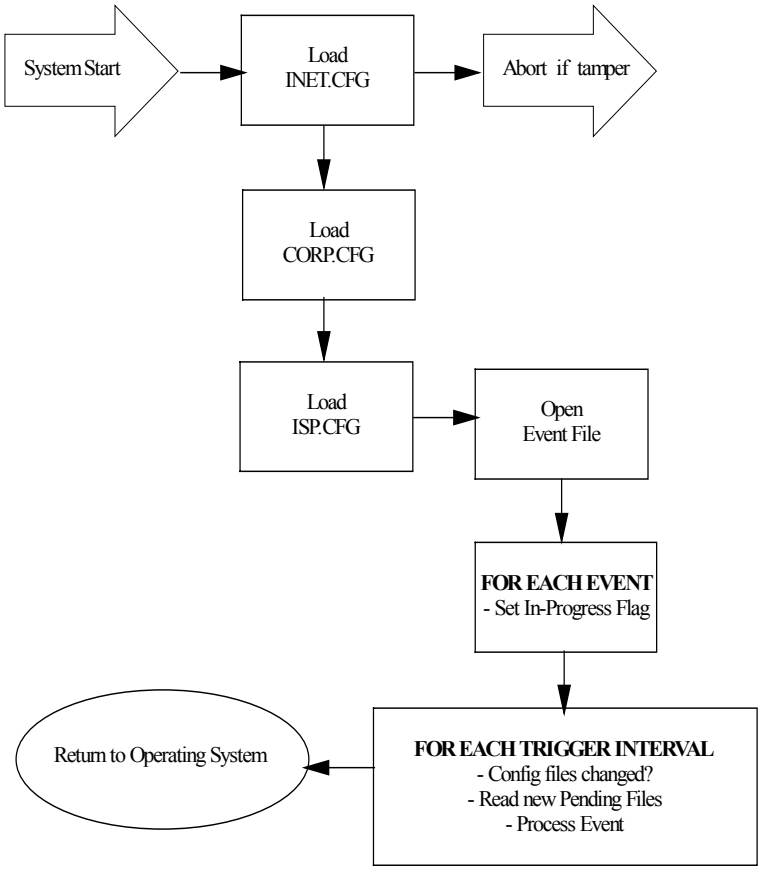


Figure 3-14: Scheduler Flow Chart

THE FOLLOWING ARE EXECUTED ONLY AFTER INITIALIZATION

System Start

ScaleVision® may run in the background of a UNIX system. The Scheduler is initialized by typing "inetschd" at the UNIX or DOS prompt. To get the Scheduler to run in the background on UNIX machines, type "&inetschd" at the prompt.

Load INET.CFG

The setup of ScaleVision® is found in the INET.CFG file.

Load CORP.CFG

Corporate and in-store control is setup through CORP.CFG. This file contains parameters for logging, totals retrieval, trigger times, and other control parameters (see section 3.4) and is maintained by the program "ispcfgm CORP.CFG."

Load ISP.CFG

By comparing the in-store *configuration file* (ISP.CFG) with the corpora*te configuration* file (CORP.CFG), control of certain parameters can be relinquished to the store.

Open Event Folder

Each time the system is initialized, the Scheduler prepares for new Pending Files by opening an Event Folder file. This file is where Pending Files are stored until they are due. The role of the Event Folder will be explained in more detail in the section below entitled "Process Event."

Initialize in-Progress Flag

The purpose of this flag is so that in the *Event Editor,* an Event that is still occurring will be flagged as such. The Scheduler will initialize the *In-Progress flag* when an Event becomes due and will clear the flag when the Event has finished.

Config Files Changed?

It is necessary for the Scheduler to watch for new configuration files (CORP.CFG and ISP.CFG). If a new configuration file is detected, the Scheduler loads the new files and compares them to the old files to determine the new differences between the CORP.CFG and ISP.CFG file. New configuration files can be loaded even if Events are scheduled.

Read New Pending Files

If a new Pending file has arrived at the ISP since the last trigger, it is captured and proceeds to be processed. After being processed, it is stored in an Event Folder.

Generic Pending Files must have a **.HST** extension. The Generic Pending Files will be detected by the Scheduler when a corresponding **.END** file is identified. The .HST should be placed in the working directory followed by the corresponding **.END** file (i.e. ADDitem.HST, ADDitem.END). The **.END** file can have anything in it, as its contents are not used. Using the .END file to detect the presence of the .HST file assures that the .HST file resides in the directory completely before the Scheduler tries to access it.

Process Event

When an Event becomes due, it is processed through the Scheduler. The Event folder is opened and the due Event type checked. It is either passed to the Filter or deleted if complete. Either way, the Event is logged into a file called INET.LOG.

How to Exit the Scheduler

A graceful exit of the Scheduler is essential to maintain pending Event integrity. The proper way to exit the Scheduler is to create the file SCHDKILL. The contents of SCHDKILL are unimportant because the contents of this file are never used. The presence of this file will cause the Scheduler to stop at the next trigger and retain its Event data. After SCHDKILL has been identified, "inetschd" will stop executing.

Note that this option is our recommended way to stop the Scheduler running, since it allows any scale communications still in-progress to complete before stopping. In the event that no scale communications are in progress, this option may take up to one minute to bring down the Scheduler. We recommend that the F8 Stop option on the Background Applications Control Screen not be used, as this will kill the process regardless of any scale communications still in progress.

How to Manually Override Events

Event Files can be manually overridden using the built-in ScaleVision® Event Editor. Once a Generic Pending File has been processed by the Scheduler and stored in the Event File, it is no longer possible to override it by creating a new Generic Pending File. Instead, you must override an Event through a program called "evntlist". By typing "evntlist" at the UNIX or DOS prompt, a screen appears showing all Events in the Event File. This editor is available at the store level and can be used to cancel or execute Events. The screen which comes up when the program is called is shown in Figure 3-15 and is explained in detail in Figure 3-16.

```
Mettler Toledo Super Market            Mettler Toledo ScaleVision            [date]
EVNTLIST                               Event Lister

No.  date    Time    Type    Key    IP    Event Description    In File  Out File
---- ------  ------  ------  -----  --    -------------------  -------- ----------

All events listed.  Select Action or press Enter to review
Actions: Press Q to quit, D to delete an event, R to run an event: _
```

Figure 3-15: "EVNTLIST" Screen (as seen)

```
Mettler Toledo Super Market            Mettler Toledo ScaleVision            [date]
EVNTLIST                               Event Lister

No.  date    Time    Type    Key    IP    Event Description    In File  Out File
---- ------  ------  ------  -----  --    -------------------  -------- ----------
                                                                  - destination
                                                 ------ source file
                                          ------ description of event
                                    ------ in progress?
                             ------ reference number of event
                     ------ type of event
             ------ time due
     ------ date due
------ Event Number

All events listed.  Select Action or press Enter to review
Actions: Press Q to quit, D to delete an event, R to run an event: _
```

To edit an Event from the Event editor, select the Event by typing the Event number. To update or refresh the screen, hit Enter. When an Event is selected, it can be deleted by hitting "d," or it can become immediately due by typing "r." To quit the Event editor, type "q."

Figure 3-16: "EVNTLIST" Screen Description

The Filter

The Scheduler arranges to have the Events execute, but does not actually process them. When the date/time for an Event is due, the Scheduler calls the Filter program. The Filter translates the Records into formats to go to the Driver. This is done by taking the different formats of the scales in the system and creating commands to go to the different types of scales in the system. A description of each part of the flow chart of Figure 3-17 is explained in the sections following the diagram.

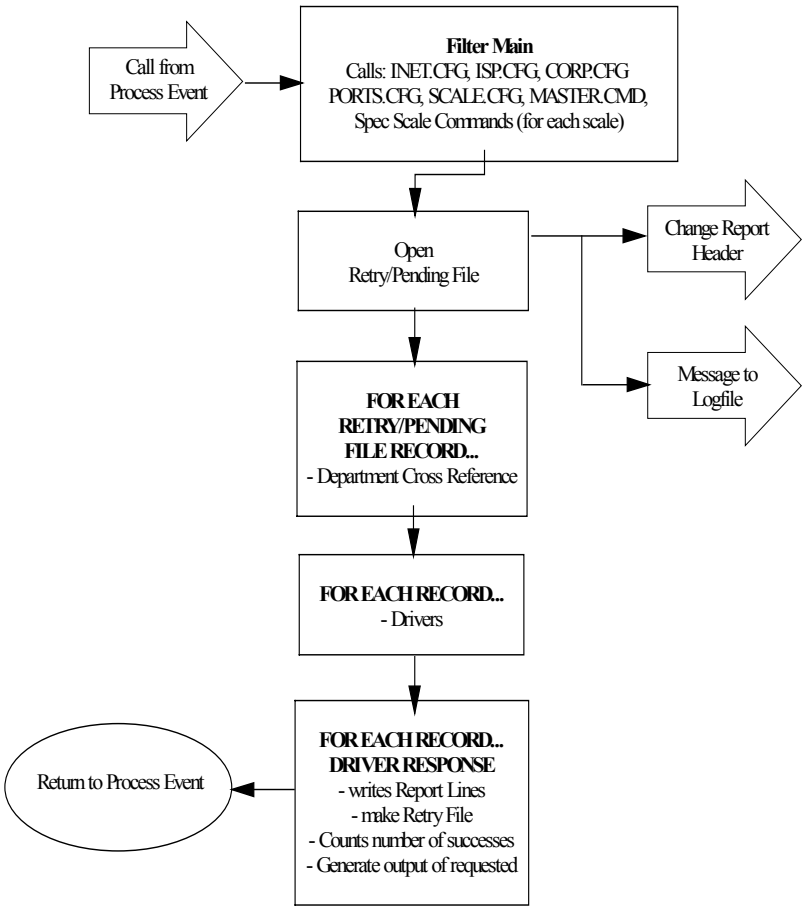


Figure 3-17: Filter Flow Chart

Call From Process Event

From the flow chart of the Scheduler (Figure 3-17), one of the last steps was to process the Event. This is what gives control to the Filter.

Filter Main

This is the main Filter Module. The Filter Main manages the loading of the various configuration files, command files, and calling of scale drivers. It also handles error reporting and log updates. The Filter Main also loads the scale specific commands for the authorized scales listed in SCALES.CFG.

Open Retry/Pending File

This procedure first opens the *Retry File* if found (Retry File name is on the CORP.CFG and ISP.CFG file) and calls the specific drivers specified in the retry record. After consuming the Retry File, this routine opens the Pending File which has been specified by the Scheduler.

THE FOLLOWING ARE EXECUTED FOR EACH RETRY/PENDING FILE RECORD

Department Cross Reference

The Event Record is used to determine in which department the Event is to occur. This returns the scale ID and type of communication needed to make the Event happen.

Drivers

The Event is finally sent to the necessary drivers for actioning.

Driver Response

Four responses take place, called to action by the Filter Main.

- First, the number of *Pending File Records* (Events) processed successfully and unsuccessfully is written to the log file.
- The report lines are written to the Report Line if the Event requested feedback.
- An output file is generated.
- If the scale was busy or off line and communication was not successful, a Retry File is made with a Generic Pending File format. The Driver will try, for a predetermined number of times, to make contact with the off-line scale. If no contact is made after this period, then the off-line scale ID is stored in a Retry File. Upon the next communication, the Retry File will be opened first to "take care of any old business" before going on to new Generic Pending Files.

AT THE END OF THESE STEPS, CONTROL RETURNS TO PROCESS EVENT OF THE SCHEDULER

Drivers

The Driver does the actual communication to the scales. The Driver takes the message string from the Filter and communicates the message to the scale using the scale's protocol. The goal of ScaleVision® is to create a means to communicate and maintain a scale system composed of scales from different manufacturers. This requires drivers capable of converting data into different formats so that networking can be universal. The different drivers supported by ScaleVision® are listed in Figure 3-18.

METTLER TOLEDO® 8460/8461
METTLER TOLEDO® 8422/23
METTLER TOLEDO® 8305
METTLER TOLEDO® 8427(SA)
HOBART® 5000
HOBART® SP1500

Figure 3-18: Supported Scales

The Drivers will allow transmission and retrieval of data from these scales.

Intelli-Net® and ScaleVision® Process Flow

This section describes how Intelli-Net® DX is used with ScaleVision® and process flow for Intelli-Net® and ScaleVision®.

Intelli-Net® DX Configuration

From the main menu of Intelli-Net® DX, press F5 to select the Configuration Menu (see Figure 3-19). From the **Configuration Menu,** use the up/down arrow keys to highlight the **Add/Modify/Delete Stores**, then press ENTER to select.

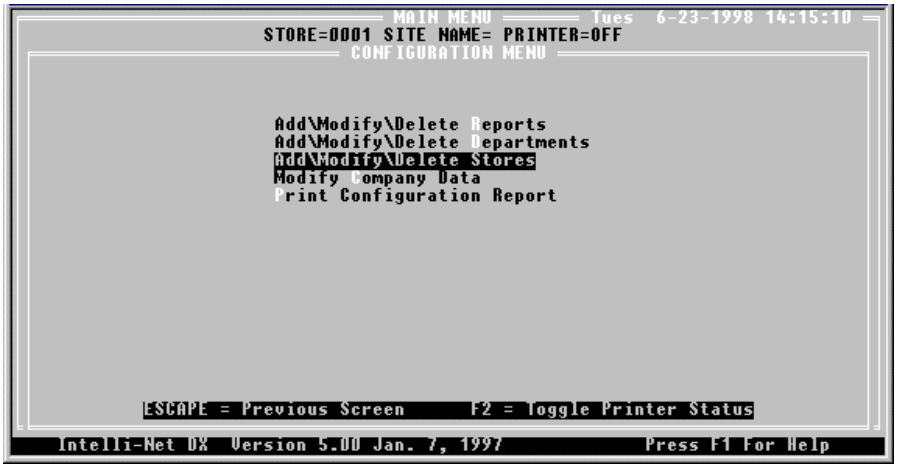


Figure 3-19: Intelli-Net® Configuration Menu

The **Add/Modify/Delete Stores** menu will display (Figure 3-20).

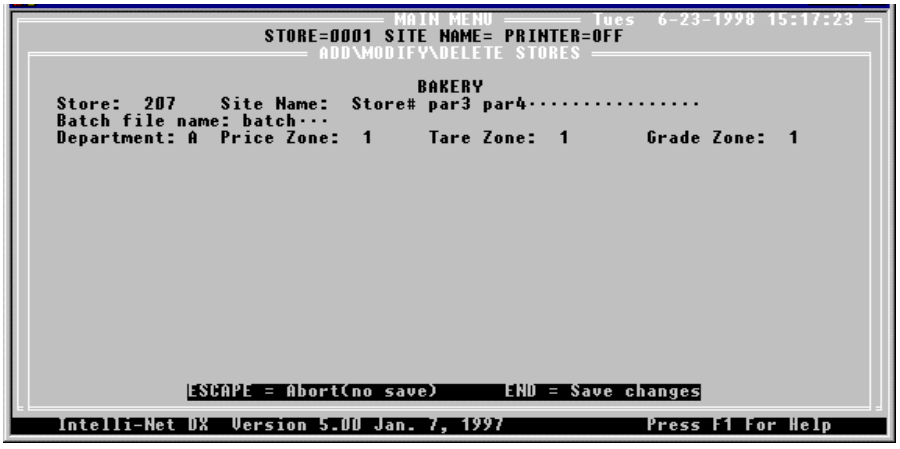


Figure 3-20: Add/Modify/Delete Stores Menu

NOTE: Each parameter being passed must be separated by a space.

From the **Add/Modify/Delete Stores** menu, select a store by entering the store number. Within the **Site Name** you have the option to enter parameters to be passed to the batch file configured in the next line **Batch File Name**.

The Batch file configured in **Add/Modify/Delete Stores** configuration is called after Intelli-Net® DX produces the *.HST and *.END file. (See below for Batch file example.)

NOTE: The batch file batch.bat must be within the Intelli-Net® DX directory.

NOTE: This batch file is configured to copy the *.hst and *.end files from the Intelli-Net® DX directory to a network directory specific to the store number\scalevis to enable ScaleVision to process the files.

Example Batch File: Batch file name "batch.bat"

```
rem %1 is the file name produced by Intelli-Net DX (i.e. PLUNUM01)
rem %2 Store number from Intelli-Net DX Configuration (Site Name)(Enter Store number here)
cls
echo off
if exist %1.end
  copy %1.hst   M:\filemove\%2\scalevis\%1.hst
  copy %1.end  M:\filemove\%2\scalevis\%1.end
rem NOTE It is very important that the *.hst file is completely copied before the
rem *.end file
```

Intelli-Net® DX Process Flow

Intelli-Net® DX Process Flow - Copy a Pending File to a store

- Main Menu
- Select Store
- Department Functions
- Select Department
- Pending File Maintenance
- Create Pending File - Regular
- Select Pending File
- Add/Modify/Delete PLUs
- Edit PLU information
- Save to Pending File
- Copy Pending File to Scale
- Identify Generic Pending File Name (ie- PLUNUM01)
- Intelli-Net DX will:
  - Create a file PLUNUM01.HST - contains items in the Intelli-Net Pending File
  - Create a file PLUNUM01.END - trigger file for ScaleVision
  - Shell out to MSDOS and call BAT program defined in STORE CONFIG for the currently selected store - as it does so it will:
    - Pass the filename (ie - PLUNUM01) as the first parameter to the BAT program (%1)
    - Pass the parameters that are defined in the Site Name in the STORE CONFIG as additional parameters (%2 %3 %4) (See Figure 20)
- Return to Intelli-Net DX

Intelli-Net DX Process Flow - Copy an existing Pending File to a store(s)

- Main Menu
- Setup Autodial Session
- Identify Generic Pending File first four characters (ie - PLU1, remaining four will be the store number
- Select Pending File(s) to send - all Pending files will be placed into one Generic Pending File to be sent to the Store(s)
- Select Store(s)
- Answer questions
- Specify the Date and Time the Generic Pending File is to be applied by ScaleVision to the scale(s)
- Answer questions
- Intelli-Net DX will for each store selected:
    - Create a file PLU10001.HST (0001 is store number) - contains items in the Intelli-Net Pending File
    - Create a file PLU10001.END - trigger file for ScaleVision
    - Shell out to MSDOS and call BAT program defined in STORE CONFIG for the currently selected store - as it does so it will:
        - Pass the filename (ie - PLU10001) as the first parameter to the BAT program (%1)
        - Pass the parameters that are defined in the Site Name in the STORE CONFIG as additional parameters (%2 %3 %4) (See Figure 3-19)
- Return to Intelli-Net DX for next store until complete

ScaleVision® Process Flow - includes Scheduler

The Scheduler (INETSCHD.EXE) wakes up at prescribed time interval. The configuration parameter is in ISP.CFG and CORP.CFG and can be modified with ISPCFGM program

The Scheduler checks license file (INET.CFG) for rights to run - information and errors will be appended to files INET.LOG and ERRORS.ERR

The Scheduler runs TOSCHD.BAT (script program for UNIX is toschd) - this program can be used to pull files from somewhere else and place them into the ScaleVision® subdirectory (Preprocessing of file). See Figure 3-21 for example of TOSCHD.BAT.

Scheduler looks for any *.END files. If found, the Scheduler:

- Runs HSTSHELL.BAT (See Figure 3-22 for example of HSTSHELL.BAT), passing the filename found (ie PLU10001) without the extension (script file for UNIX is hstshell) - this program can be used to remove carriage returns at the end of each line of the Generic Pending File. UNIX does not use the carriage return to indicate the end of the file, and this can cause hard returns to be embedded in the Extra Text. (Preprocessing of file)
- Places the filename on the EVENTS list as filename.PND (ie PLU10001.PND) with the designated Date/Time for communication to the scale

The Scheduler then compares the current Date/Time to the scheduled EVENTS

If the Date/Time to apply is now or past for an Event, the Scheduler runs INETFILT.EXE passing the input filename as parameter 1 and output filename as parameter 2 (ie INETFILT.EXE PLU10001 PLU10001) - this program is inetfilt on UNIX systems

Inetfilt checks license file (INET.CFG) for rights to run, including scale types

Inetfilt checks for a file RETRY.PND. If it exists, it will change the name to RETRY.INP and communicate these changes to the proper scales. Records that cannot be communicated are placed back in RETRY.PND with their retry count incremented and the scale id.

Inetfilt changes the input filename to *.PNF (ie PLU10001.PNF).

Inetfilt runs prefilt.bat with parameters input file name and output file name.

Inetfilt communicates the changes to the proper scales based on the configuration of SCALES.CFG and PORTS.CFG.

Inetfilt appends information and errors to INET.LOG and ERRORS.ERR and appends records that cannot be communicated to RETRY.PND (See Figure 3-23 for example of TOHOST.BAT).

Inetfilt will put any data coming back from the scale (ie PLUs on a Read All) into an output file (ie PLU10001.OUT).

Inetfilt runs postfilt.bat with parameters input file name and output file name.

Inetfilt returns to the calling program (Scheduler).

The Scheduler runs TOHOST.BAT passing the output filename (ie PLU10001) (script file for UNIX is tohost) - this program can be used to copy the *.OUT, INET.LOG, and ERRORS.ERR files back to another location (typically Corporate) for reporting, checking problem downloads, verification, totals, etc. (Postprocessing of file). See Figure 3-23 for example of TOHOST.BAT.

The Scheduler continues for each Event that is past due

The Scheduler then goes to sleep for the prescribed time interval

Example TOSCHD.BAT

```
rem toschd - this script is run by the scheduler each time that it wakes up.
rem This is done before checking for any *.END files or the EVENTS list.
rem Thes script could be used to pull files from corprate to store level via a WAN.
copy  M:\filemove\store207\*.end .
copy  M:\filemove\store207\*.hst .
```

Figure 3-21: Example TOSCHD.BAT Batch File

Example HSTSHELL.BAT

```
rem This script file is called by inetschd when *.END file found
rem This script file can be used to do some preprocessing of the *.hst files
rem the .SVI file is used by the menu program to resend batches to the scales.
copy $1.HST $1.SVI

rem translf script is used to translate carrage return / linefeeds to only line feeds  (This need to
be rem done when moving a file from a MSDOS machine to a UNIX machine)

if [ -f *.hst ]
    then
    translf *.hst
fi
```

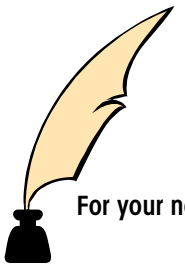
Figure 3-22: Example HSTSHELL.BAT Batch File

Example TOHOST.BAT

```
rem tohost - this script will be executed by the scheduler after a Generic Pending file
rem has been communicated to the scale.
rem The Generic Pending file header must have a Y at position 18 for this script to run.
rem This file can be used for processing the log file and error files back to corporate
rem This file can be used to resend the retry records immediately.

cp RETRY.PND RETRY.PNF
 ./inetfit RETRY RETRY
```

Figure 3-23: Example TOHOST.BAT Batch File



For your notes

4 Customer Support

Software Registration and Updates

Registration

A software registration card was supplied with your ScaleVision® software package. This card should be filled out and mailed to METTLER TOLEDO® to register your ScaleVision® program. This registration card must be received to validate you as a licensed user and entitles you to technical support, warranty, and product updates. If METTLER TOLEDO® does not have your ScaleVision® Software Registration card (including your Program Disk serial number), the company reserves the right to refuse you technical support.

ScaleVision® Software Updates

METTLER TOLEDO® may occasionally make software updates to ScaleVision®. Only registered users will be notified of these updates. Depending on the nature of the change, a fee may be charged for the update.

Software Support

If you experience a problem installing ScaleVision®, you should take the following actions:

1. Check the hardware configuration to verify it meets the minimum requirements. This includes the computer, scale interface, signal converter, data cabling, and scales. Consult the Getting Started section of this manual for configuration requirements.
2. Contact your local METTLER TOLEDO® representative or dealer on problems relating to the scales, interfacing of scales and computers, and software operation. If you determine the problem is related to your computer hardware or operating system software, consult the computer hardware manufacturer or the dealer where you purchased your computer hardware.
3. If you cannot resolve the problem by consulting the User Guide, or by contacting your local METTLER TOLEDO® representative, contact METTLER TOLEDO® Product Support at: 800-786-0040 between the hours of 8:00 A.M. and 4:45 P.M. (EST), Monday through Friday.

Before calling METTLER TOLEDO® for technical support, be sure to fill out the ScaleVision® problem checklist (following page). By having this information available, you can save time and greatly improve the chances of getting your problem resolved quickly.

Problem Checklist

- ❑ Software Serial Number: _____
  (Located on Program Disk)
- ❑ Software Version Number: _____
  (Located on Program Disk)
- ❑ Computer Brand Name: _____

  Model: _____ RAM Memory Installed: _____

  Operating System and version: _____

  Monitor Brand and Type: _____
- ❑ Signal Converter (If Used): _____
- ❑ List All Connected Scales:

  Manufacturer and Model: _____ Manufacturer and Model: _____
  Manufacturer and Model: _____ Manufacturer and Model: _____
  Manufacturer and Model: _____ Manufacturer and Model: _____
  Manufacturer and Model: _____ Manufacturer and Model: _____
  Manufacturer and Model: _____ Manufacturer and Model: _____
  Manufacturer and Model: _____ Manufacturer and Model: _____
  Manufacturer and Model: _____ Manufacturer and Model: _____
  Manufacturer and Model: _____ Manufacturer and Model: _____
  Manufacturer and Model: _____ Manufacturer and Model: _____
- ❑ Has ScaleVision® operated properly before the problem occurred? _____
- ❑ List the exact steps you performed prior to observing the problem:

_____

_____

_____

_____

_____

_____

_____

- ❑ Save any printed reports or error messages. Record any error messages displayed on the screen when the problem occurred.

METTLER TOLEDO® ScaleVision® PROGRAM DISK REPLACEMENT REQUEST

As a registered end-user of ScaleVision® METTLER TOLEDO® software, you have been supplied with an original software program which includes one backup provision. METTLER TOLEDO® will replace the software diskette for a $50.00 fee, if damaged within one year of the date of purchase. To request a replacement, make a copy of this Program Disk Replacement Form and submit the form to your local METTLER TOLEDO® representative.

Software Version #: _____

Serial Number: _____

In-Store Processor: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Site Location: _____

PLEASE FORWARD THIS FORM WITH FEE TO:

Mettler-Toledo, Inc.
1900 Polaris Parkway
Columbus, OH 43240
ATTN: Retail Marketing

5 Software License and Warranty

Software License

Before opening the sealed program diskette envelope, you should carefully read the following terms and conditions. Opening the envelope indicates your acceptance of the terms and conditions. If you do not agree with the terms and conditions, you should promptly contact your METTLER TOLEDO® representative and return the software package with the unopened envelope for a refund.

METTLER TOLEDO® (The Company) provides this "software" and "related materials" to access the Company's scales. You assume responsibility for the selection of the software to achieve your intended results, for the acquisition of the computer, use, and results obtained from the software.

Definitions

1. "Software" means the set of object code programs contained on the program disks that are in the sealed envelopes, as well as any updates subsequently supplied by METTLER TOLEDO®.
2. "Related Materials" means all of the printed matter supplied with this package, as well as any subsequently supplied by METTLER TOLEDO®.
3. "METTLER TOLEDO®" means Mettler-Toledo, Inc., 1900 Polaris Parkway, Columbus, Ohio 43240, the author and owner of the Software and Documentation covered in the license agreement.

Allowed Uses

This license permits you to:

1. Operate the Software on one (1) computer at a time.
2. Install the Software on a hard disk storage device, as described in the User Guide.
3. Copy the Software, provided the copies are used for backup purposes only and are kept in your possession.

This license agreement allows you to use the software and related materials; however, METTLER TOLEDO® retains title to all of the software and related materials. You also agree to take precautions against unauthorized use, reproduction, publication, or distribution of the software and related materials.

Prohibited Use

You may not:

1. Make copies of the Software marked other than backup purposes.
2. Make copies of the Related Materials.
3. Lend, lease, rent, sub-license or transfer the Software or Related Materials or your rights under the license.
4. Alter the Software or attempt to bypass or unlock the copy protection key.
5. Remove or obscure the METTLER TOLEDO® name, copyright, or trademark notices.

Terms

This license is effective upon opening the sealed envelope containing the program diskettes. You may terminate the license at any time by destroying the Software and Related Materials together with all copies, modifications, and merged portions in any form. It will also terminate upon conditions set forth elsewhere in this Agreement, or if you fail to comply with any terms or conditions of this Agreement. You agree upon such termination to destroy the Software and Related Materials together with all copies, modifications, and merged portions in any form.

General

The Software Registration Card must be returned within fifteen (15) days of your purchase and receipt of the software. This registration card must be received by METTLER TOLEDO® before you are eligible for technical support. The Company provides this Software and licenses its use in the Continental United States, Alaska, Hawaii, Puerto Rico, and such other geographic areas as The Company may from time to time designate. The laws of the State of Ohio will govern this agreement.

Software Warranty

METTLER TOLEDO® Retail Software Products Limited Warranty

METTLER TOLEDO® expressly warrants the equipment manufactured by it as set forth herein. The Company make no other warranties, either expressed or implied (including without limitation warranties as to merchantability or fitness for a particular purpose.) In addition, the following shall constitute the sole and exclusive remedies of buyer for any breach by company of its warranties hereunder.

The Company warrants that the program disks on which the Software is recorded and the Documentation provided will be free of defects in materials and workmanship under normal use. The Company warrants that the Software will be free from errors in program logic, clerical program preparation and transcription, and will execute accordingly when installed in accordance with the Companies instructions. The warranty shall not apply when the Software is operated concurrently with other software programs not supplied by the Company or if defects occur as a result of interaction from software programs not supplied by the Company. The warranty period shall be one year from the date of shipment to the original buyer.

If the Software does not meet the above warranty and if the buyer promptly notifies the Company and provides the description of the error and complete information about the manner of its discovery, the Company shall thereupon correct any defect or error (at its option) by either:

1. Modifying or making available to the buyer instructions for modifying any erroneous program.
2. Making available necessary corrected or replaced programs.

The foregoing warranty shall not apply to defects resulting from unauthorized modification.

Disclaimer of Damages

In no event shall the company be liable for any type of special, consequential, incidental or penal damages, whether such damages arise out of, or are a result of breach of contract, warranty, tort (including negligence), strict liability, or otherwise. Such damages shall include but not be limited to loss of profits or revenues, loss of data, loss of use of the software, loss of use of the equipment or associated equipment, cost of substitute equipment, facilities, down time costs, increased construction costs, or claims of buyer's customers or contractors for such damages.

You acknowledge that you have read this agreement, understand it, and agree to be bound by its terms and conditions. You further agree that it is the complete and exclusive statement of the agreement between us that supersedes any proposal or prior agreement, oral or written, and any other communications between us relating to the subject matter of this agreement.

6 Appendices

Appendix 1: Detail Record Listing

Code	(T)o/(F)rom Scale	Seq.	Description	Field Length	Field Position	
AI	**Add Item/PLU**					
	T					
		1	Command Code	2	1	Value 'AI'
		2	Retry Count	2	3	Value '00'
		3	Retry Scale ID	2	5	Value '00'
		4	Generic PLU string	232	7	
AL	**Add a Linked Record**					
	T					
		1	Command Code	2	1	Value 'AL'
		2	Retry Count	2	3	Value '00'
		3	Retry Scale ID	2	5	Value '00'
		4	Linked Record Hdr	2	7	
		4	Department Number	4	11	
		5	Linked Record No.	6	17	
		6	Packet Sequence Number	3	20	start at zero
		7	Linked Record Attribute	2	22	'42' for METTLER TOLEDO
		8	Total Packet Length	5	27	(zeroes or spaces)
		9	Packet Length	3	30	
		10	ASCII Data String	491*	32	
	*Total max. record length: 522 max. ASCII Data String is a left-justified variable length character field. There is no need to pad with spaces to 491 chars.					
AP	**Add Pending PLU (8460 only)**					
	T					
		1	Command Code	2	1	Value 'AP'
		2	Retry Count	2	3	Value '00'
		3	Retry Scale ID	2	5	Value '00'
		4	Generic PLU string	232	7	
BB	**Backup Master Misc. Parms. to Host (8460 only)**					
	T					
		1	Command Code	2	1	Value 'BB'
		2	Retry Count	2	3	Value '00'
		3	Retry Scale ID	2	5	Value '00'
	F (any number of packets)					
		1	Command Code	2	1	Value 'BB'
		2	Scale Type	2	3	
		3	Department	4	5	
		4	Scale ID	2	9	
		5	Data Packet	97	11	
	See section on backup/restore					

BO Turn on Bell (8460/8461 only)

T

1	Command Code	2	1	Value 'BO'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	

BR Restore Master Misc. Parms. from Host (8460 only)

T (any number of packets)

1	Command Code	2	1	Value 'BR'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Data Packet	97	11	

See section on backup/restore

CD Clear PLU records for a Dept.

T

1	Command Code	2	1	Value 'CD'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	
4	Department	4	7	

CH Clear hourly totals by Dept.

T

1	Command Code	2	1	Value 'CH'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	
4	Department	4	7	

CL Clear all PLU records in store

T

1	Command Code	2	1	Value 'CL'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	

CM Compress PLU and extra text records

T

1	Command Code	2	1	Value 'CM'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	
4	Department	4	7	

CP Read case pulled items (Mettler Toledo 8422/8460 only)

T

1	Command Code	2	1	Value 'CP'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	
4	Department	4	7	
5	Satellite Num	2	11	

F (a from record for each item)

1	Command Code	2	1	Value 'CP'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Data Packet		11	

CP From Data Packets format is scale-specific and contains item number, total dollars and total packages.

CT Clear all totals in store

T

1	Command Code	2	1	Value 'CT'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	

CX Clear all Cutting Tests in Satellite (METTLER TOLEDO® 8422/8423/8460/8461/8361)

T

1	Command Code	2	1	Value 'CX'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	
4	Department	4	7	
5	Satellite Number	2	11	

DC Read all active totals for a dept, then clear

T

1	Command Code	2	1	Value 'DC'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	
4	Department	4	7	

F (METTLER TOLEDO® 8422, 8427 and 8460/8461 - a from record for each item)

1	Command Code	2	1	Value 'DC'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Date/Time Retvd	19	11	CCYY/MM/DD,HH:MM:SS
6	Generic Total Type	2	30	01=Automatic 02=Manual 03=Rewrqp 04=Combination 05=Inventory
7	ID Type	1	22	I=Item #, P=PLU #, C=Class #
8	PLU/Item Num	10	33	
9	Total Weight	9	43	
10	Total Value	9	52	
11	Package Count	4	61	
12	Run Count	4	69	

*see Section on Accumulators.

DD Delete Pending PLU by Item/Effective Date/Time (8460/8461 only)

T

1	Command Code	2	1	Value 'DD'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	
4	Item Num	10	7	
5	Effective Date	4	17	
6	Effective Time	2	21	

DE Delete Pending PLU by Dept/PLU/Effective Date/Time (8460/8461 only)

T

1	Command Code	2	1	Value 'DE'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	
4	Department	4	7	
5	PLU	10	11	
6	Effective Date	4	21	
7	Effective Time	2	25	

DI Delete PLU called by item number

T

1	Command Code	2	1	Value 'DI'
2	Retry Count	2	3	
3	Retry Scale ID	2	5	
4	Item Num	10	7	

DL Delete a Linked Record

T

1	Command Code	2	1	Value 'DL'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Linked Record Hdr	2	7	
5	Linked Record No.	10	9	

DN Read all active totals for a dept, no clear

T

1	Command Code	2	1	Value 'DN'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	

F (METTLER TOLEDO® 8422, 8427 and 8460)

1	Command Code	2	1	Value 'DN'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Date/Time Retvd	19	11	CCYY/MM/DD,HH:MM:SS
6	Generic Total Type	2	30	01=Automatic 02=Manual 03=Rewrqp 04=Combination 05=Inventory
7	ID Type	1	22	I=Item #, P=PLU #, C=Class #
8	PLU/Item Num	10	33	
9	Total Weight	9	43	
10	Total Value	9	52	
11	Package Count	4	61	
12	Run Count	4	69	

*see Section on Accumulators.

DV Delete PLU called by dept/PLU

T

1	Command Code	2	1	Value 'DV'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	
5	PLU	10	11	

EB Backup Master Graphics records to Host (8460/8461 only)

T

1	Command Code	2	1	Value 'EB'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F (any number of packets)

1	Command Code	2	1	Value 'EB'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Data Packet	97	11	

See section on backup/restore

ER Restore Master Graphics records from Host (8460 only)

T (any number of packets)

1	Command Code	2	1	Value 'ER'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Data Packet	97	11	

See section on backup/restore

EL Delete all Linked Records by Type

T

1	Command Code	2	1	Value 'EL'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Linked Record Hdr	2	7	

EX Delete all Linked Records, All Types

T

1	Command Code	2	1	Value 'EX'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

GL Read a Linked Record

T

1	Command Code	2	1	Value 'GL'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Linked Record Hdr	2	7	
5	Linked Record No.	10	9	

F (extra text: 1 packet/line, nutrition: 1 packet, graphics: multiple packets, as-is format)

1	Command Code	2	1	Value 'GL'
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Linked Record Hdr	2	7	
5	Linked Record No.	10	9	
6	Packet Sequence Number	3	19	
7	Linked Record Attribute	2	22	
8	Linked Tot Packet Length	5	24	(can be 99999)
9	Packet Length	3	29	(0 - 491, can be 000)
10	ASCII Data String	491*	32	

Total max. record length: 522 max.

ID **Read all inactive records for a dept.**

T

1	Command Code	2	1	Value 'ID'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	

F

1	Command Code	2	1	Value 'ID'
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Generic PLU string	232	7	

IS **Read all inactive records for the store**

T

1	Command Code	2	1	Value 'IS'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F

1	Command Code	2	1	Value 'IS'
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Generic PLU string	232	7	

LB **Backup label printer parameters (8460 only)**

T

1	Command Code	2	1	Value 'LB'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F (any number of packets)

1	Command Code	2	1	Value 'LB'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Data Packet	97	11	

See section on backup/restore

LC **Change store address, dept. name and/or dept. UPC (8460 only)**

T

1	Command Code	2	1	Value 'LC'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	
5	Store Address	64	11	
6	Department Name	12	75	
7	Department UPC	10	87	

LR **Restore label printer parameters (8460 only)**

T (any number of packets)

1	Command Code	2	1	Value 'LR'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Data Packet	97	11	

See section on backup/restore

MA Read all active totals in store, no clear

T

1	Command Code	2	1	Value 'MA'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F (METTLER TOLEDO® 8422 - a from record for each item)

1	Command Code	2	1	Value 'MA'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Item Num	6	11	
6	Department	2	17	
7	PLU	4	19	
8	Group	2	23	
9	Accumulators	88	25	

*See section on Accumulators.

F (METTLER TOLEDO® 8460 - a from record for each item)

1	Command Code	2	1	Value 'MA'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Item Num	6	11	
6	Department	2	17	
7	PLU	6	19	
8	Group	3	25	
9	Accumulators	88	28	

*See section on Accumulators.

MB Read all active totals in store, then clear

T

1	Command Code	2	1	Value 'MB'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F -as per MA command

PB Backup presets to host (8460 only)

T

1	Command Code	2	1	Value 'PB'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F (any number of packets)

1	Command Code	2	1	Value 'PB'
2	Scale Type	2	3	
3	Scale ID	2	9	
4	Department	4	5	
5	Data Packet	97	11	

See section on backup/restore

PC Change price via item number

T

1	Command Code	2	1	Value 'PC'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Item Num	10	7	
5	Price	6	17	
6	Price Multiplier	3	23	
7	Price Divider	2	26	
8	Package Code	2	28	
9	Control Flags	2	30	

PR Restore presets from host (8460/8461 only)

F (any number of packets)

1	Command Code	2	1	Value 'PR'
2	Scale Type	2	3	
3	Scale ID	2	9	
4	Department	4	5	
5	Data Packet	97	11	

See section on backup/restore

PV Change price via dept/PLU

T

1	Command Code	2	1	Value 'PV'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	
5	PLU	10	11	
6	Price	6	21	
7	Price Modifier	3	27	
8	unused (spare)	2	30	
9	Package Code	2	32	
10	Control Flags	2	34	

RA Read all PLU's in store

T

1	Command Code	2	1	Value 'RA'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F

1	Command Code	2	1	Value 'RA'
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Generic PLU string	232	7	

RC Read record totals via item number, then clear

T

1	Command Code	2	1	Value 'RC'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Item Num	10	7	

F (METTLER TOLEDO® 8422 and 8460)

1	Command Code	2	1	Value 'RC'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Item Num	6	11	
6	Department	2	17	
7	PLU	6	19	
8	Group	3	25	(length 3 from 8460)
8	Group	2	25	(length 2 from 8422)
9	Accumulators	88	27/28	

RI Read record called by item number

T

1	Command Code	2	1	Value 'RI'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Item Num	10	7	

F

1	Command Code	2	1	Value 'RI'
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Generic PLU string	232	7	

RM Read all Pending PLUs (8460/8461 only)

T

1	Command Code	2	1	Value 'RM'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F

1	Command Code	2	1	Value 'RM'
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Generic PLU string	232	7	

RN Read record totals via item number, no clear

T

1	Command Code	2	1	Value 'RN'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Item Num	10	7	

F - as per RA command

RO Read Pending PLU by Item/Effective Date/Time (8460/8461 only)

T

1	Command Code	2	1	Value 'RO'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Item Num	10	7	
5	Effective Date	4	17	
6	Effective Time	2	21	

F

1	Command Code	2	1	Value 'RO'
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Generic PLU string	232	7	

RP Read Pending PLU by Dept/PLU/Effective Date/Time (8460/8461 only)

T

1	Command Code	2	1	Value 'RP'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	
5	PLU	10	11	
6	Effective Date	4	21	
7	Effective Time	2	25	

F

1	Command Code	2	1	Value 'RP'
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Generic PLU string	232	7	

RT Read hourly totals by dept.

T

1	Command Code	2	1	Value 'RT'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	

F

1	Command Code	2	1	Value 'RT'
2	Scale Type	2	3	
3	Dept Code	4	5	
4	Scale ID	2	9	
5	Hourly totals string, by scale-type as follows:			

METTLER TOLEDO® 8422 and 8427 Hourly totals string:

hour00HourlyTotals(count(3) + weight(6) + value(7) = 16) + hour01HourlyTotals + ...
hour23HourlyTotals = 16 bytes/hour x 24 hours = 384 bytes string length.

METTLER TOLEDO® 8460 Hourly totals string:

Two records, each with the leader described above, as follows:

First Record: hour00(2) + hourly_weight_total(9) + hourly_value_total(9) + hourly_count_total(8) = 28 bytes/hour x 12 hours (hour00 - hour11) = 336 bytes string length

Second Record: hour12(2) + hourly_weight_total(9) + hourly_value_total(9) + hourly_count_total(8) = 28 bytes/hour x 12 hours (hour12 - hour23) = 336 bytes string length

RV Read record totals via dept/PLU, no clear

T

1	Command Code	2	1	Value 'RV'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	
5	PLU	10	11	

F (METTLER TOLEDO® 8422, 8427 and 8460)

1	Command Code	2	1	Value 'RV'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Department	2	11	
6	PLU	4	13	(on 8422/27)
6	PLU	6	13	(on 8460)
7	Accumulators	88	17/19	

SG Send grade table

T

1	Command Code	2	1	Value 'SG'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Grade No 1	2	7	Value '01'
5	Grade 1 Description	23	9	
6	Grade No 2	2	32	Value '02'
7	Grade 2 Description	23	34	
8	Grade No 3	2	57	Value '03'
9	Grade 3 Description	23	59	
10	Grade No 4	2	82	Value '04'
11	Grade 4 Description	23	84	

etc. through

34	Grade No 16	2	382	Value '16'
35	Grade 16 Description	23	384	

Total record length: 406

SM Send action code message table

T

1	Command Code	2	1	Value 'SM'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Action Code Number	2	7	(length 2 not 10)
5	Action Type	2	9	
6	Action Message	63	11	

Action Code notes:

1. Action code number is length 10 in PLU string but length 2 in SM string. Range 1-50 for METTLER TOLEDO scales.
2. Action Type values:
   1 = Override store address on label
   2 = Override PLU description on label
   3 = Scrolling Display / Marquee message
3. Action message text field must be space-filled to 63 chars.

TE Read cutting test

T

1	Command Code	2	1	Value 'TE'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
5	Department	4	7	
6	Satellite Num	2	11	

F (any number of packets)

1	Command Code	2	1	Value 'TX'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Record Type	1	11	Value 0 or 1

If Record Type = 0, use the following layout:

6	Satellite Num	2	12	Value 'TX'
7	Cutting Test Num	2	14	
8	Operator Dept Num	4	16	
9	Operator Num	6	20	
10	Vendor Code	10	26	
11	Product Num	10	36	
12	Product $/lb	9	46	
13	Product Weight	9	55	
14	Product Cost	9	64	
15	Start Date/Time	12	73	CCYYMMDDHHMM
16	End Date/Time	12	85	CCYYMMDDHHMM

If Record Type = 0, use the following layout:

6	Department Num	4	12
7	PLU Num	10	16
8	Item Num	10	26
9	Item Weight	9	36
10	Item Price	9	45
11	Total Packages	8	54

TX Read Multiple Cutting Tests

T

1	Command Code	2	1	Value 'TX'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
5	Department	4	7	
6	Satellite Num	2	11	
7	Cutting Test Num	2	13	

F (any number of packets)

1	Command Code	2	1	Value 'TX'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Record Type	1	11	Value 0 or 1

If Record Type = 0, use the following layout:

6	Satellite Num	2	12	Value 'TX'
7	Cutting Test Num	2	14	
8	Operator Dept Num	4	16	
9	Operator Num	6	20	
10	Vendor Code	10	26	
11	Product Num	10	36	
12	Product $/lb	9	46	
13	Product Weight	9	55	
14	Product Cost	9	64	
15	Start Date/Time	12	73	CCYYMMDDHHMM
16	End Date/Time	12	85	CCYYMMDDHHMM

If Record Type = 0, use the following layout:

6	Department Num	4	12
7	PLU Num	10	16
8	Item Num	10	26
9	Item Weight	9	36
10	Item Price	9	45
11	Total Packages	8	54

VC Read record totals via dept/PLU, then clear

T

1	Command Code	2	1	Value 'VC'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	
5	PLU	10	11	

F - as per RV command

VR Read record called by dept/PLU

T

1	Command Code	2	1	Value 'VR'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Department	4	7	
5	PLU	10	11	

F

1	Command Code	2	1	Value 'VR'
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Generic PLU string	232	7	

VT Read Void Totals

T

1	Command Code	2	1	Value 'VT'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F (METTLER TOLEDO® 8422 and 8460)

1	Command Code	2	1	Value 'VT'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Void Totals	160	11	

WL Read all Linked Records by Type

T

1	Command Code	2	1	Value 'WL'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'
4	Linked Record Hdr	2	7	

F (extra text: 1 packet/line, nutrition: 1 packet, graphics: multiple packets, as-is format)

1	Command Code	2	1 Value 'WL'	
2	Retry Count	2	3	
3	Scale ID	2	5	
4	Linked Record Hdr	2	7	
5	Linked Record No.	10	9	
6	Packet Sequence Number	3	19	
7	Linked Record Attribute	3	22	
8	unused (spare)	7	24	(zeroes or spaces)
9	ASCII Data String	491*	32	

Total max. record length: 522 max.

WU Generic Wake-Up (scale network communications test)

T

1	Command Code	2	1	Value 'WU'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F

1	Command Code	2	1	Value 'WU'
2	Scale Type No.	2	3	
3	Department	4	5	first dept for scale only.
4	Scale ID	2	9	
5	space	1	11	
6	Response message	15	12	left justified text.

Response messages returned: On-Line, No-port, No-response or Busy.

XS Extended Status (8460 Master Version 4 or later only)

T

1	Command Code	2	1	Value 'XS'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F (any number of packets)

1	Command Code	2	1	Value 'XS'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Data Packet		11	

The 8460 data Packet looks like this:

```
BUILD DATE=710170953
PART NO.=4.00  C145237R
CURRENT DATE=1998/04/28 13:04
MEM SIZE=01048576
MIN MEM AVAIL=01044198
SAT STATUS(1-30)=S.... ..... ..... ..... ..... .....
```

BUILD DATE is the date of the currently running software in this format YMMDDHHmm where:

Y is last digit of the Year
MM is the Month
DD is the Day
HH is the Hour
mm is the Minute

PART NO. is the Version and Part number of the master software.

CURRENT DATE is the date and time in the master.

MEM SIZE is the total memory in the master.

MIN MEM AVAIL is the amount of memory between the bottom of PLUs to the Top of ET/NF/GRAPHICS. (There may be more memory available that is occupied by deleted PLUs).

SAT STATUS (1-30) is the status of each of the satellites on T-NET. Each position represents 1 Satellite. Starting at 1 on the left and 30 on the right. The possible values are:

"." means this satellite is not communicating.
"4" means this satellite is using 4-digit T-NET.
"6" means this satellite is using 6-digit T-NET.
"O" means this satellite is using either 4 or 6 digit T-NET. (Master has not determined which protocol yet, but satellite is on-line.)
"S" means this satellite is using Smart-Touch protocol.

ZB Backup misc. parameters to host (8460 only)

T

1	Command Code	2	1	Value 'ZB'
2	Retry Count	2	3	Value '00'
3	Retry Scale ID	2	5	Value '00'

F (any number of packets)

1	Command Code	2	1	Value 'ZB'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Data Packet	97	11	

See section on backup/restore

ZR Restore misc. parameters from host (8460/8461 only)

T (any number of packets)

1	Command Code	2	1	Value 'ZR'
2	Scale Type	2	3	
3	Department	4	5	
4	Scale ID	2	9	
5	Data Packet	97	11	

See section on backup/restore

Appendix 2: Supported Commands by Scale Type

Generic Command	Function Description	METTLER TOLEDO® 8422/8423	METTLER TOLEDO® 8427	METTLER TOLEDO® 8460/8461	HOBART® 5000/18nn	HOBART® SP80/1500	HOBART® ULTIMA®
AI	Item/PLU, Add	X	X	X	X	X	X
AL	Linked Record, Add	X	X	X		X	X
AP	Pending PLU, Add			X			
BB	Misc. Parms, Backup Master			X			
BO	Bell, Turn on			X			
BR	Misc. Parms, Restore Master			X			
CD	PLU records, Delete all in a Dept.	X	X	X	X	X	X
CH	Hourly Totals, Clear by Dept.	X	X	X			
CL	PLUs, Delete all in store	X		X	X	X	X
CM	Memory, Compress	X	X	X			
CP	Case Pulls, Read	X		X			
CT	Totals, clear all in Store	X		X	X	X	X
CX	Clear all cutting tests in satellite	X		X			
DC	Totals, read & clear for a Dept.	X	X	X	X	X	X
DD	Pending PLU, Delete by Item			X			
DE	Pending PLU, Delete by Dept/PLU			X			
DI	PLU, Delete by Item	X		X			
DL	Linked Record, Delete	X	X	X			
DN	Totals, read for a Dept, noclear	X	X	X	X	X	X
DV	PLU, Delete by Dept/PLU	X	X	X	X	X	X
EB	Graphics Record/Picture, Backup			X		X	X
EL	Linked Records, Delete all by Type	X	X	X		X	X
ER	Graphics Record/Picture, Restore			X		X	X
EX	Linked Records, Delete all, all Types	X	X	X		X	X
GL	Linked Record, Read	X	X	X			
ID	Inactive records, Read for a Dept.	X		X			
IS	Inactive records, read all	X		X			
LB	Label Printer/Form Parameters, Backup			X		X	X
LC	Store Address and Dept. name, Change	X		X			
LR	Label Printer/Form Parms, Restore			X		X	X
MA	Totals, active, read for Store, noclear	X		X	X	X	X
MB	Totals, active, read for store & clear	X		X			
PB	Presets/Speed Keys, Backup			X		X	X
PC	Price, change via item number	X		X			
PR	Presets/Speed Keys, Restore			X		X	X
PV	Price, change via Dept/PLU	X	X	X	X	X	X
RA	PLUs, Read all in store	X	X	X	X	X	X
RC	Item totals, read and clear	X		X			
RI	Item, read by item number	X		X			
RM	Pending PLUs, Read all			X			
RN	Item totals, read by item no., no clear	X		X			
RO	Pending PLU, read by Item			X			
RP	Pending PLU, read by Dept/PLU			X			
RT	Hourly Totals, Read by Dept.	X	X	X			
RV	Dept/PLU totals, read, no clear	X	X	X			
SG	Grade Table, send	X		X			
SM	Action code message table, send	X	X	X		X	X
TE	Cutting Test, read	X		X			
TX	Specific Cutting Test, read	X		X			
VC	Dept/PLU totals, read & clear	X		X			
VR	Dept/PLU, read	X	X	X			
VT	Void Totals, read	X		X			
WL	Linked Records, Read all by Type	X	X	X		X	X
WU	Generic Wake-Up (comms. test)	X	X	X	X	X	X
XS	Extented Status			X			
ZB	Misc. parms Sat/Hobart Classes,			X		X	X
ZR	Misc. parms Sat/Hobart Classes, Restore			X		X	X

Appendix 3: Field Specifications and Definitions for Generic PLU Strings

Field Seq.	Field Description	Field Length	Field Posn. #	Int.
1	Item Num	10	7	3
2	Department	4	17	4
3	PLU	10	21	5
4	Group	3	31	6
5	Price	6	34	7
6	Price Modifier	3	40	8
7	unused (spare)	2	43	9
8	Package Code (PLU Type)	2	45	10
9	Grade	2	47	11
10	Shelf Life	4	49	12
11	Eat By (Use By Days)	3	53	13
12	Tare/Std. pack net wgt	5	56	14
13	Class number	3	61	55
14	Spare	2	54	
15	Action Code	5	66	15
16	Record Status	2	71	32
17	New Price/FS Price	6	73	33
18	Effective Date	4	79	34
19	Effective Time	2	83	35
20	Tare Alternate	5	85	36
21	Special Code Number	4	90	37
22	Control Flags	2	94	17
23	Print Field Flags	3	96	18
24	Bar Code Type	2	99	19
25	Random Weight Type	2	101	20
26	Linked Record 1 Hdr	2	103	38
27	Linked Record 1 No.	10	105	39
28	Linked Record 2 Hdr	2	115	40
29	Linked Record 2 No.	10	117	41
30	Linked Record 3 Hdr	2	127	42
31	Linked Record 3 No.	10	129	43
32	Linked Record 4 Hdr	2	139	44
33	Linked Record 4 No.	10	141	45
34	Linked Record 5 Hdr	2	151	46
35	Linked Record 5 No.	10	153	47
36	Frequent Shopper Price Type	2	163	48
37	Spare.	9	165	49
38	Apply Bottom Label	1	174	50
39	PLU Description	64	175	21

Total max. record length: 232, not including the command-specific header, e.g. AI0000.

Host PLU Record Notes:

1. Leading zeroes are always included.
2. Price does not include a decimal point. The correct currency increment and decimal point may be set at each scale.
3. Tare does not include decimal points.
4. PLU Description is left-justified variable length - no need to pad with spaces to 64. The PLU Description field can be considered to be two lines of 32 chars maximum each. A '^' character causes a new line in the description. Only the first '^' will cause a new line on the scale label, since only 2 item description lines are supported.
5. Linked records are position sensitive. Linked record 1 is Extra text, Linked record 2 is not currently used, record 3 is Nutrition Facts and Linked record 4 is not currently used.

PLU Field Descriptions: (alphabetical order)

ACTION CODE NUMBER values:

0 - None
1-50 - Range of valid Action Codes

BAR CODE TYPE values:

0 UPC general merchandise
1 not identified
2 UPC random weight
3 UPC national drug & nation health
4 UPC in store marking of non food items
5 UPC for use on coupons
6 UPC random weight
7 not identified
8-98 - not identified
99 - use scale setup

CONTROL FLAGS values:

0 no force
1 force unit price
2 force tare1
4 manual mode (force PLU)
8 force tare2
The value of the field is the sum of the individual values

DAYGLO NUMBER

Dayglo is used to cause a second label to be printed on those scale types that allow a secondary printer to be attached. For example, an entry of "07035" will cause the word "Boneless" (Dayglo text number 035) to be printed on a HOBART® secondary label printer, and the label positioned in position 07 on the item package.

EAT BY (USE BY DAYS) - in days

EFFECTIVE DATE

Only used by METTLER TOLEDO® 8460/8461, ignored by all other scale types. Defined as the Julian date in the form of 0130, where 0 is the last digit of the year and 130 is the day of the year.

EFFECTIVE TIME

Only used by METTLER TOLEDO® 8460/8461, ignored by all other scale types. Effective time is the hour (0-23) that a pending PLU record activates.

DEPARTMENT NUMBER values: 0-25 note that zero is a valid dept.

GRADE NUMBER values:

0 - None
1-16 - range of valid Grades

GROUP NUMBER values:

0 - None (not a reportable group)
1-500 - range of reportable groups)

ITEM NUMBER (UPC) values: 0 9999999999 Cross-store unique identifier

NEW PRICE (not used) default 0

PLU NUMBER values: 1 999999 Unique within Dept. Number.

PLU TYPE (Package Code) values:

0 - By-Weight or Pounds For. (default)
1 - By Count.
2 - By-Weight Fractional Pricing.
3 - Standard Pack.
4-9 - not defined

PRICE meanings:

PLU Type	= Price Meaning
By Weight, LB/for	= Unit Price, in cents
Std Pack, By Cnt	= Total Price, in cents

PRICE MODIFIER values:

PLU Type	= Modifier Meaning
0 (Pounds For)	= Number Of Pounds
1 (By Count)	= Number Of Items
2 (By Fraction)	= Divisor (e.g. 4 means quarter lb.)
3 (Standard Pack)	= Number Of Items in pack

PRINT FIELD FLAGS values:

1 blank shelf life
2 blank eat by date
4 blank pack date
8 blank weight
16 blank unit price
32 blank total price

The value of the field is the sum of the individual values

RANDOM WEIGHT TYPE values:

This field is only used for bar code types 2 and 6

0 NNNNN C$$$$ X (price check digit)
1 NNNNN 0$$$$ X (hard zero price)
2 NNNNN N$$$$ X (6 digit item number price)
3 NNNNN $$$$$ X (5 digit price)
4 NNNNN C#### X (weight check digit)
5 NNNNN 0#### X (hard zero weight)
6 NNNNN N#### X (6 digit item number weight)
7 NNNNN ##### X (5 digit weight)
8-99 - not defined

RECORD_STATUS values:

0 - not used (default)
1 - not used
2 - unlocked pending record
3 - unlocked active record
4 - locked pending record
5 - locked active record
6-99 - not defined

SHELF LIFE - in days

SPECIAL CODE NUMBER

(ASCII Encoded Hex, Range 0-FFFF)

Byte Fxxx
0 - no turn
1 - turn 90°
2 - turn 180°
3 - turn 270°
4 - tare 2 is proportional
8 - tare 1 is proportional

Byte xFxx (Size of 2nd line of description relative to line 1)
1 - increase by one
2 - increase by two
4 - decrease by four
8 - use date forwarding

Byte xxFx
0 - no satellite graphic
1-F represents satellite graphic number 1-15

Byte xxxF
0-7 label style number
8-F not used

TARE/OUNCES

The net weight of the container to be printed on the label. For standard pack items, this field holds the net weight that is to be printed on the label.

TARE ALTERNATE (TARE2)

Only used by METTLER TOLEDO® 8460/8461, ignored by all other scale types.

Appendix 4: Definitions for Generic Linked Record Strings

LINKED RECORD HDR

2 digit ASCII number (00-99)

Value	Meaning
00	No linked record
01	Extra Text record
02	not used by host
03	Nutrition Fact record
04	Graphic
05-99	Not Used

DEPARTMENT NUMBER

4 digit ASCII number (0000 - 9999)

LINKED RECORD NUMBER

6 digit ASCII number (000000 - 999999)

The unique identifier of the linked record. Where Linked_record_hdr is "01" then linked_record_number is the extra-text/Nutrifact/Graphic number.

PACKET SEQUENCE NUMBER

3 digit ASCII number (000 - 999)

The packets are numbered in the sequence they are sent in order to track the packet transmissions and to re-assemble the message at the receiving device. The number of the child record within the parent, starting at "000". For extra text, this is the line number.

LINKED RECORD ATTRIBUTE

2 digit ASCII number (00 - 99)

Non-identifying information about the linked record header. For extra text, this is the maximum length of the text lines, for nutrition it is the number of the HOBART® Nutri-template to be used.

LINKED TOTAL PACKET LENGTH

5 digit ASCII number (00000 - 99999)

The Total Record Length is the numerical sum of the number of bytes of the ASCII Data Strings in all the data packet messages of the linked record. The sum of the Packet Lengths must be equal to the Total Record Length. Value can be set to "99999" from central.

PACKET LENGTH

3 digit ASCII number (000-500)

The Packet Length is the number of bytes of data to be transmitted in the ASCII Data String of the packet. It does not include control characters like STX, ETX, or BCC, or Linked Record control data like Packet Length, Sequence Number, Linked Record Hdr, Linked Record No, or Total Record Length. It was originally intended to be calculated by the central system but can be set to "000" from central.

ASCII DATA STRING

The ASCII Data String is a left-justified variable length character field. There is no need to pad with spaces to 491 chars.

The ASCII characters may not be the control codes used in host communication, EOT, ENQ, SOH, ETX, ACK, NAK or STX. Any other ASCII character may be used.

The meaning of the characters within the ASCII Data String are different for each type of linked record. They are defined below.

Appendix 5: Field Specifications and Definitions for Nutrition Facts

Nutri Field #	Nutri Field Name	Start Posn.	Field Length	Value
n/a	flag1	32	2	
n/a	flag2	34	2	
n/a	flag3	36	2	
n/a	flag4	38	2	
n/a	flag5	40	2	
n/a	flag6	42	2	
1	serving_size_text	44	28	text
2	serv_size_oz_pcs_value	72	4	
3	serv_size_oz_pcs_units	76	6	'ounces 'or'pieces'
4	serving_size_g_value	82	4	
5	serving_size_g_units	86	2	'g '
6	Servings_per_cont_text	88	10	text
7	Calories	98	4	
8	Calories_from_fat	102	4	
9	Calories_from_sat_fat	106	4	
10	Total_fat_g_value	110	4	
	Total_fat_g_units	114	2	'g '
	Total_fat_%_value	116	4	
	Total_fat_%_units	120	2	'% '
11	Saturated_fat_g_value	122	4	
	Saturated_fat_g_units	126	2	'g '
	Saturated_fat_%_value	128	4	
	Saturated_fat_%_units	132	2	'% '
12	Polyunsat_fat_g_value	134	4	
	Polyunsat_fat_g_units	138	2	'g '
13	Monounsat_fat_g_value	140	4	
	Monounsat_fat_g_value	144	2	'g '
14	Cholesterol_mg_value	146	4	
	Cholesterol_mg_units	150	2	'mg'
	Cholesterol_%_value	152	4	
	Cholesterol_%_units	156	2	'% '
15	Sodium_mg_value	158	4	
	Sodium_mg_units	162	2	'mg'
	Sodium_%_value	164	4	
	Sodium_%_units	168	2	'% '
16	Potassium_mg_value	170	4	
	Potassium_mg_units	174	2	'mg'
	Potassium_%_value	176	4	
	Potassium_%_units	180	2	'% '
17	Tot_carbohyd_g_value	182	4	
	Tot_carbohyd_g_units	186	2	'g '
	Tot_carbohyd_%_value	188	4	
	Tot_carbohyd_%_units	192	2	'% '
18	Dietary_fiber_g_value	194	4	
	Dietary_fiber_g_units	198	2	'g '
	Dietary_fiber_%_value	200	4	
	Dietary_fiber_%_units	204	2	'% '
19	Soluble_fiber_g_value	206	4	
	Soluble_fiber_g_units	210	2	'g '
20	Insoluble_fiber_g_value	212	4	
	Insoluble_fiber_g_units	216	2	'g '
21	Sugar_g_value	218	4	
	Sugar_g_units	222	2	'g '

Nutri Field #	Nutri Field Name	Start Posn.	Field Length	Value
22	Sugar_alcohol_g_value	224	4	
	Sugar_alcohol_g_units	228	2	'g '
23	Other_carbohyd_g_value	230	4	
	Other_carbohyd_g_units	234	2	'g '
24	Protein_g_value	236	4	
	Protein_g_units	240	2	'g '
	Protein_%_value	242	4	
	Protein_%_units	246	2	'% '
25	Vitamin_A_%_value	248	4	
	Vitamin_A_%_units	252	2	'% '
26	Beta_carotene_%_value	254	4	
	Beta_carotene_%_units	258	2	'% '
27	Vitamin_C_%_value	260	4	
	Vitamin_C_%_units	264	2	'% '
28	Calcium_%_value	266	4	
	Calcium_%_units	270	2	'% '
29	Iron_%_value	272	4	
	Iron_%_units	276	2	'% '
30	Vitamin_D_%_value	278	4	
	Vitamin_D_%_units	282	2	'% '
31	Vitamin_E_%_value	284	4	
	Vitamin_E_%_units	288	2	'% '
32	Thiamin_%_value	290	4	
	Thiamin_%_units	294	2	'% '
33	Riboflavin_%_value	296	4	
	Riboflavin_%_units	300	2	'% '
34	Niacin_%_value	302	4	
	Niacin_%_units	306	2	'% '
35	Vitamin_B6_%_value	308	4	
	Vitamin_B6_%_units	312	2	'% '
36	Folate_%_value	314	4	
	Folate_%_units	318	2	'% '
37	Vitamin_B12_%_value	320	4	
	Vitamin_B12_%_units	324	2	'% '
38	Biotin_%_value	326	4	
	Biotin_%_units	330	2	'% '
39	Pantothenic_acid_%_value	332	4	
	Pantothenic_acid_%_units	336	2	'% '
40	Phosphorus_%_value	338	4	
	Phosphorus_%_units	342	2	'% '
41	Iodine_%_value	344	4	
	Iodine_%_units	348	2	'% '
42	Magnesium_%_value	350	4	
	Magnesium_%_units	354	2	'% '
43	Zinc_%_value	356	4	
	Zinc_%_units	360	2	'% '
44	Copper_%_value	362	4	
	Copper_%_units	366	2	'% '
45+	spare	368	48	

384 total characters total, not including the command-specific header, e.g.
'AL0000030000000001000010000000'

Field Definitions for Nutrition Facts

FLAG1

Value	Meaning
00	Single label PLU/NF format
01	Alternate, NF first label
02	Alternate, PLU first label
03	Group, NF first label
04	Group, PLU first label
05-99	Not Used

FLAG2

Value	Meaning
00	Vertical NF template
01	Tabular NF template
02	Linear Portrait NF template
03	Linear Landscape NF template
04-99	Not Used

FLAG3

Value	Meaning
00	Standard data, may include voluntary
01	Simplified data: required, optional and may include voluntary
02-99	Not Used

FLAG4

Value	Meaning
00	Compute Servings/Container, use Serving Size (oz and pieces) and Serving Size (g)
01	Do not compute Servings/Container, use Serving Size - text and operator entered servings
02-99	Not Used

FLAG5 and FLAG6

00-99	Not defined at this time

SERVING SIZE - TEXT

28 character ASCII Text, left justified.

SERVING SIZE (OUNCES or PIECES)

10 bytes, the first four (4) bytes are the value in right justified ASCII numbers or decimal point. The last 6 bytes are the units, 'ounces' or 'pieces', in left justified ASCII alpha characters.

SERVING SIZE (g)

6 bytes, the first 4 bytes are the value in right justified ASCII numbers or decimal point. The last 2 bytes are the units, 'g', a left justified ASCII alpha character.

SERVINGS PER CONTAINER

10 char ASCII text. Only used when serving size is text.

CALORIES, CALORIES FROM FAT, CALORIES FROM SATURATED FAT

Each is a 4 byte ASCII number for a total of 12 bytes.

NUTRITION FACT DATA ELEMENTS

43 NF data and 8 spare 6 byte fields. The first 4 bytes are the value and are right justified ASCII numbers or decimal point. The last 2 bytes are the units, e.g. none, 'g', 'mg', or '%' and are left justified ASCII alpha characters.

Appendix 6: Field Definitions for Graphics Records

COMPRESSION TYPE

0 No Compression

1-9 Not defined

GRAPHIC NAME

32 ASCII Alpha/numeric characters, left justified.

GRAPHIC WIDTH

3 ASCII digits that define the width of the graphic in pixels.

GRAPHIC HEIGHT

3 ASCII digits that define the height of the graphic in pixels.

ASCII HEX STRING

2-99,999 bytes of ASCII encoded hex.

The length of the string is calculated for each graphic as {[(width in pixels)/8] rounded up} x (height in pixels) x 2.

The 'x 2' multiplier is due to Hex ASCII encoding which represents an eight bit binary byte as two seven bit ASCII characters. A hex ASCII pair is formed by splitting the high 4 data bits + 30H and the low 4 data bits +30H. E.g. 8 bit binary data byte A5H is the hex ASCII pair 3AH, 35H.

If greater than 500 bytes, it is broken into separate ASCII_Data_Strings and transmitted in multiple packets.

Appendix 7: Error Messages

00011 Error opening INET.CFG file. Problem may be a file permission
00012 problem or file may have been deleted.
00021 Error opening CORP.CFG file. Problem may be a file permission
00022 problem or file may have been deleted.
00031 Error opening ISP.CFG file. Problem may be a file permission
00032 problem or file may have been deleted.
00041 Error opening SCALES.CFG file. Problem may be a file permission
00042 problem or file may have been deleted.
00051 Error opening PORTS.CFG file. Problem may be a file permission
00052 problem or file may have been deleted.
00061 Fatal Attempt to load more Ports than compiled for
00071 Fatal Attempt to load more Scales than compiled for
00081 Error opening MASTER.CMD file. Problem may be a file permission
00082 problem or file may have been deleted.
00091 Fatal Attempt to load more Master Index Commands than compiled for
00101 Fatal Attempt to load more Master Commands than compiled for
00111 Error opening SCALE.CMD file. Problem may be a file permission
00112 problem or file may have been deleted.
00121 Authorized Scale not in initialization table, cannot proceed!
00131 Fatal Attempt to load more Scale Commands than compiled for
00141 Error opening PENDING file. Problem may be a file permission
00142 problem or file may have been deleted.
00151 Error opening OUTPUT file. Problem may be a file permission
00152 problem.
00161 Cannot open PORT
00171 Alarm error opening Port
00181 ERROR: Alarm timeout receiving from scale
00191 Error opening RETRY file. Problem may be a file permission
00192 problem.
00201 Alarm error awaking scale
00201 Alarm error awaking scale
00211 Unknown Scale Command for this Scale
00221 Command in pending file not a known command
00231 Error opening extra text scratch file
00241 Alarm error awaking scale
00251 Error opening LOGFILE file. Problem may be a file permission
00251 problem or file may have been deleted.
02001 TOLEDO NAK: unknown command
02011 TOLEDO NAK: message length error
02021 TOLEDO NAK: checksum error
02031 TOLEDO NAK: non-numeric item
02041 TOLEDO NAK: Item/PLU not found
02051 TOLEDO NAK: data error
02061 TOLEDO NAK: internal error
02071 TOLEDO NAK: More items than allowed were found in department
02081 TOLEDO NAK: Scale is not available
02091 TOLEDO NAK: Restoration number program or date error
02101 TOLEDO NAK: Unknown NAK return
02111 TOLEDO NAK: Plu file error
05001 Error opening EVENTS file for read. Problem may be a file permission problem
05011 Error opening EVENTS.TMP file for write.
05012 Problem may be a file permission problem
05021 Error opening EVENTS.TMP file for write.
05022 Problem may be a file permission problem
05031 Error opening EVENTS file for write. Problem may be a file permission problem
05041 Error opening EVENTS.TMP file for read. Problem may be a file permission problem
05061 Error deleting PENDING file. Problem may be a file permission problem

05071 Warning: Manual Event Due - Access Event Manager option to view and
05072 trigger the Event.
05081 Error on executing filter module for Pending File update
05091 Error on executing filter module for hourly totals
05101 Error on executing filter module for department totals
05111 Error on executing filter module for store totals
05121 Error deleting PENDING file. File does not exist
05131 Error opening file from host. May be a file permission problem
05141 Warning: File name received from host already exists, replaced by host file
05151 Error deleting PENDING file. Problem may be a file permission problem
05161 Error renaming PENDING file. Problem may be a file permission problem
05171 Error: First record of Pending File not a header record
05181 Error deleting END file. Problem may be a file permission problem
05191 Error deleting evntsort.wrk file.
05191 Error opening EVENTS file for append. Problem may be a file permission problem
05201 Error renaming events file.
05211 Error sorting event file.
05221 Error listing .HST files. No host files will be processed.
05231 Error opening EVENTS file when scanning for event to be deleted
05231 Error opening directory list. No host files will be processed.
05241 Error file not found.
05241 Host file not found for End file
05251 Error on executing filter module for Manual Event
05261 Error PENDING file for selected manual event does not exist
05271 Error replacing Config File
05281 Failure calling shellscript hstshell
05291 The INET.CFG License File is corrupt - contact your distributor
05301 The INET.CFG License File is corrupt - contact your distributor
05301 Your evaluation period has ended - contact your distributor
05311 The INET.CFG Software Release is incompatible - contact your distributor
05321 Error opening TOTALS.PND file. Problem may be a file permission problem
05331 Error opening EVENTS.TMP file. Problem may be a file permission problem
05341 Error opening EVENTS file for read. Problem may be a file permission problem
05351 Error opening EVENTS file for read. Problem may be a file permission problem
05361 Error opening EVENTS file for read. Problem may be a file permission problem
05371 Failure calling shellscript to host
06001 TEC SL66 communication failed with 00 status code
06011 TEC SL66 failed data check response: PLU does not exist
06021 TEC SL66 failed data check response: Over PLU capacity
06031 TEC SL66 failed data check response: Over PLU capacity
06041 TEC SL66 failed data check response: Mismatch Category 1 #
06051 TEC SL66 failed data check response: Format Error
06061 TEC SL66 failed data check response: NC
06081 TEC SL66 failed data check response: Data Error
06121 TEC SL66 failure response: Terminal Busy - Label or Receipt Printing
06201 TEC SL66 failure response: Terminal Busy - Before Read and Reset
06301 TEC SL66 failure response: Terminal Busy - Waiting 890 data check command
06331 TEC SL66 failure response: Terminal Busy - Invalid command
06341 TEC SL66 communication failed with unknown response

7 Glossary

ASCII File: A plain text file that has not been created or used by a formatting software. An ASCII file contains text from the keyboard characters.

Background: ScaleVision® can run in the foreground or background of your UNIX system. When ScaleVision® runs in the background of your UNIX system, this means that it does not use the terminal interface for output. To run ScaleVision® in the background, the software call must be led by an "&" character. For more information on running software in the background, see your UNIX system information.

Configuration Files: Files that contain the parameters used to setup and control ScaleVision®.

Detail records: Part of the Generic Pending File that contains the specific commands to be executed by the scales.

Driver: One of the three basic parts of ScaleVision®. Its job is to do the actual communication with the scales.

Due: When it is time for ScaleVision® to complete a task with the scales, the task is said to be "due."

Event File: Where Events are stored until they are due.

Event Editor: A software interface to delete or make due an Event. This software interface is initialized by the call "evntlist."

Event: When a Generic Pending File is acknowledged by the Scheduler, the Pending File is then referred to as an Event.

Filter: The second of three main parts of ScaleVision®. The job of the Filter is to translate and reformat an Event (a Generic Pending File) so that it can be passed to the Driver.

Generic Pending File Header: The first line of a Generic Pending File containing information about time due and type of Event.

Generic Pending File: The file containing scale changes, commands, new items, pricing, and nutrition facts passed to the in-store processor. This file is not format specific to any scale.

In-Progress flag: A notice meaning that an Event is still occurring.

"ispcfgm": A software interface which allows the user to set up Configuration files.

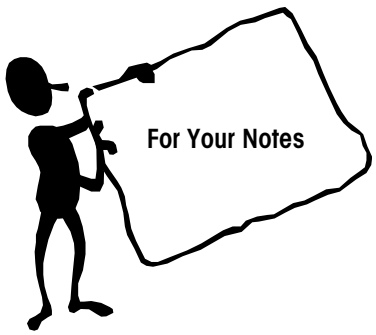
Pending File Record: Another name for an Event.

Retry File: The location where ScaleVision® stores a Generic Pending File after attempts have been made to contact an off-line or busy scale.

SCHDKILL: The program that causes a graceful exit from the Scheduler.

Scheduler: The first of three parts of ScaleVision®. The Scheduler recognizes incoming Generic Pending Files and prioritizes the Events that are due.

Triggering: The increment time in which the Scheduler "wakes up" to check for new Generic Pending Files.


For Your Notes

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