CASH TRACK PROGRAMMING GUIDE

1. Purpose

The purpose of the Text Insertion function is to make the DVR accept the text information coming from external devices like ATM machines, cash registers, and access control systems. The DVR stores the text information in the hard disk, and shows the information on the screen during a video playback. Through various interfaces for text review, the user can search for and playback a desired video.

The main functions include:

1. DISPLAY – Desired text information will be shown on the screen in the playback mode.
2. Various TEXT REVIEW interfaces, including:
   - FULL LIST – Lists all the recorded text information page by page for selection.
   - BY STRING – Searches all the text information including the desired strings.
   - BY DATE/TIME - Lists some of the records with the text information within a desired period.
   - BY AMOUNT - Lists some of the records with the text information whose cash amount meets the desired range.
   - BY COMBINATION – Combines the above search interfaces on one and the same page.
3. Various EXCEPTION ALERT monitoring functions, including:
   - ALERT: A Trigger Alert signal after a specific number of exceptions. The number of exceptions and the reset time for the alert can be configurable.
   - BUZZER: The DVR Buzzer sound for exceptions.
   - FLAG: The DVR OSD flag display for exceptions.
   - NOTIFY: Notifies the remote viewer software after an ALERT has been generated.
   - FTP: Transfers images to an FTP server after an ALERT.

2. Specifications.

2.1 Hardware connection.

Connect the DVR and the text device through the RS-232 Null Modem Cable (Pin 2, Pin3 Cross over , Pin5 Ground).

2.2 RS-232 baud rate setting.

Baud rates can be set in the DVR, the baud rate selections including

2400, 4800, 9600, 19200, 28800, 38400, 57600 and 115200.

2.3 The maximum number of text information records.

For every 10.24 Giga bytes of hard disk capacity, the DVR reserves space for 32768 text records. Each hard disk keeps its own data in itself. In a DVR with two hard disks, the user can remove any one of them, and the remaining one will keep working.

For example, in the case of an 80G hard disk, the maximum number of recorded text information is   (80 / 11) x 32768 = 229376.

2.4 Data size.

Each text information contains up to 100 characters.

2.5 PROTOCOL.

The DVR supports the following two protocols; please set the appropriate one in the Setup Menu.

2.5.1 **GENERIC**.

All the text data is delimitated by CR (Carriage Return = 0x0d) and LF(Line Feed = 0x0a).

.

2.5.2 **VSI-ADD**.

The text data includes CHANNEL information for application in the multi-channel environment as follows:

0x1b, <CH>, <TEXT> , 0x0d.

3. Operation

3.1 Settings.

3.1.1 Text Insertion Protocol.

SETUP / RECORD / TEXT INSERTION.

Set one of the following:

3.1.1.1 **GENERIC**:

Text format : <TEXT >+ CR(0x0d) + LF (0x0a)

3.1.1.2 **GENERIC 2 CH**:

Text format : <TEXT >+ CR(0x0d) + LF (0x0a)

RS-232(Text channel 1) , RS-485(Text channel 2)

3.1.1.3 **VSI-ADD**:

Text format: 0x1b + Ch + <TEXT> + CR(0x0d)

Note: The Text Insertion activates both the text data and the channel information in a DVR, and the remote viewer software takes effect after this option has been turned on.

3.1.2 RS232 Baud Rate.

SETUP / COMMUNICATION / BAUD

Set at the same speed as that in the Text Input device.

3.1.3 Firmware version and capacity usage.

SETUP / SYSTEM / VERSION.

```
MAC : 00:0C:0C:00:00:10
BIOS : 1.00
SW   : 1.11GBT
DATE: Feb 24 2006


TEXT# : 0/ 229376




PRESS ENTER TO RETURN
```

The 2 numbers after "TEXT # :" are the current index number of the TEXT data and the total number of TEXT data.

3.1.4 Text color setting.

There are 8 options (BLUE, ORANGE, RED, MAGENTA, GRAY, WHITE, YELLOW, and GREEN); if the **TEXT INSERTION** option has been set as **VSI-ADD** protocol, and incoming texts come from different channels, all the messages of the channels could be set in different colors are shown as below.

```
        TEXT   INSERTION

TEXT INSERTION      : OFF
TEXT COLOR          : SET
TEXT DISPLAY        : BY CHANNEL
TEXT STAMP          : ???
REVIEW CONSTRAINT   : ???
PHRASE              : #1..10
EXCEPTION           : #1..10




  ⬆  MAIN PAGE

TEXT COLOR
```

```
        TEXT   COLOR



CH1      ■   WHITE
CH2      ■   YELLOW
CH3      ■   GREEN
CH4      ■   BLUE
```

3.1.5 Text display setting.

There are 2 options (BY CHANNEL, MIXED); If the **TEXT INSERTION** option has been set as **VSI-ADD** protocol, and incoming texts come from different channels, all the messages of the channels could be set in different channels.

By channel: This mode shows a 4-channel screen where each channel displays information text against a background of images -- both the text and the images belong to that channel only.

Mixed: This mode shows a 4-channel screen where each channel shows its own images only; but the entire screen shows information text overlapping across all the channels. The data for all the channels will show as it comes in, without following any channel sequence by numerical order.

```
          TEXT   INSERTION

TEXT INSERTION        : OFF
TEXT COLOR            : SET
TEXT DISPLAY          : BY CHANNEL
TEXT STAMP            : ???
REVIEW CONSTRAINT     : ???
PHRASE                : #1..10
EXCEPTION             : #1..10




   ⬆  MAIN PAGE

TEXT DISPLAY
```
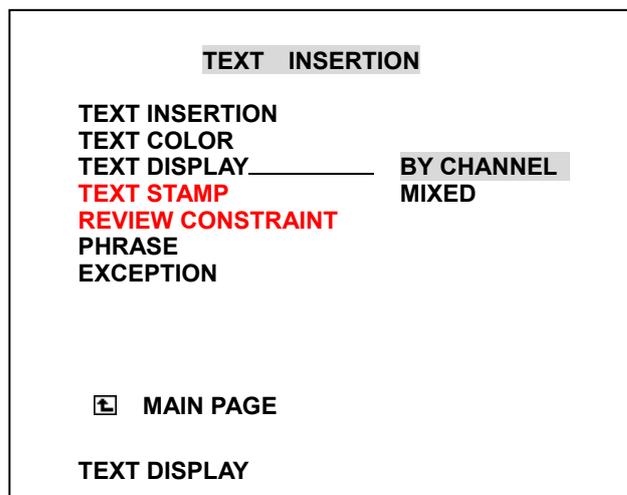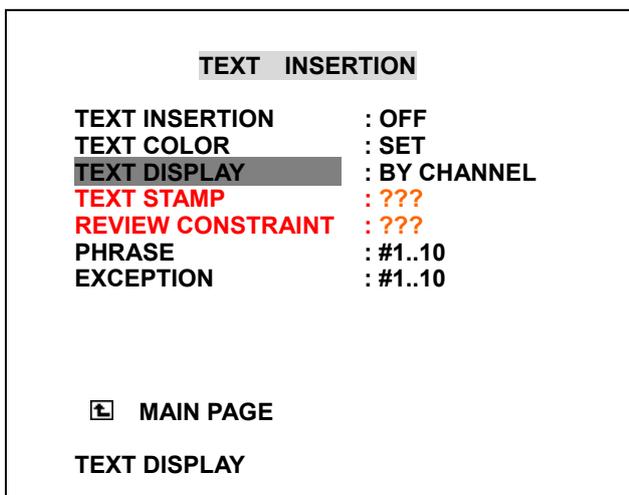
```
          TEXT   INSERTION

TEXT INSERTION
TEXT COLOR
TEXT DISPLAY_____  BY CHANNEL
TEXT STAMP                MIXED
REVIEW CONSTRAINT
PHRASE
EXCEPTION




   ⬆  MAIN PAGE

TEXT DISPLAY
```

3.1.6 Phrase setting.

The 100 built-in phrases enable the user to input the strings more quickly. Since users need to change the characters one by one when they input the string value in the search menu or search menu, the phrase offers another shortcut to input the common strings.

Enter SETUP/ RECORD/ TEXT INSERTION/ PHRASE

There are 11 options (1..10,11..20,…. 99..100," FACTORY DEFAULT"); please select one, and then enter the inner page for the string settings. The last one, "FACTORY DEFAULT", is used to go back to the default values.

```
          TEXT   INSERTION

TEXT INSERTION
TEXT COLOR
TEXT DISPLAY
TEXT STAMP
REVIEW CONSTRAINT    # 1..10
PHRASE_____  #11..20
EXCEPTION            #21..30
                     #31..40
                     #41..50
                     #51..60
                     #61..70
                     #71..80
                     #81..90
                     #91..100
   ⬆  MAIN PAGE
 #   1..10
```

```
          TEXT   INSERTION

TEXT INSERTION
TEXT COLOR
TEXT DISPLAY
TEXT STAMP
REVIEW CONSTRAINT    #11..20
PHRASE_____  #21..30
EXCEPTION            #31..40
                     #41..50
                     #51..60
                     #61..70
                     #71..80
                     #81..90
                     #91..100
                     FACTORY DEFAULT
   ⬆  MAIN PAGE
FACTORY DEFAULT
```
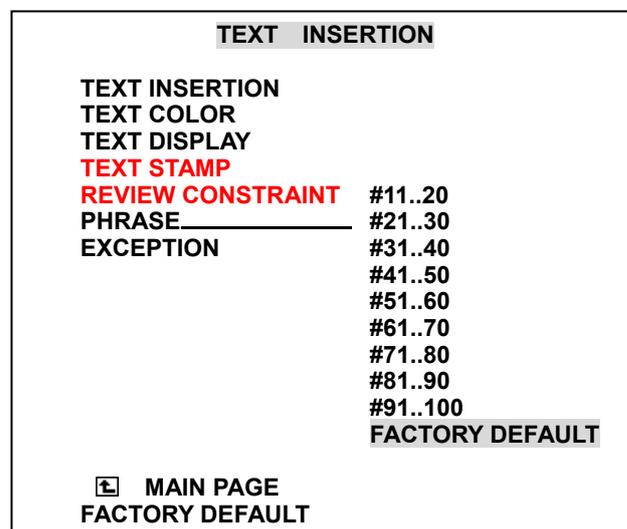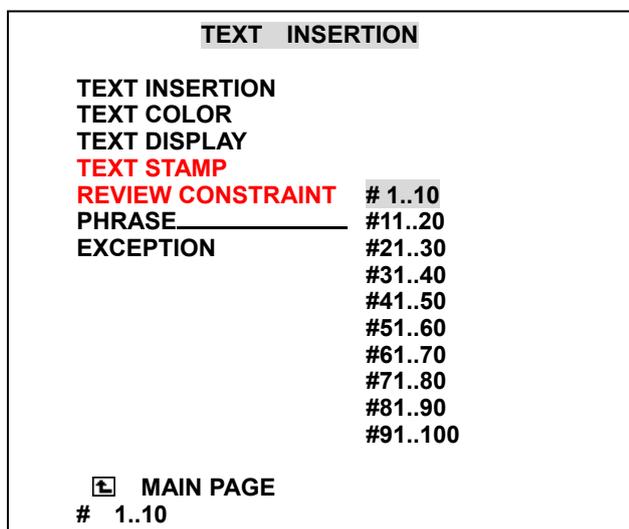
```
PHRASE       # 1..10

  1  [ACCOUNT                    ]
  2  [ALCOHOL                    ]
  3  [ALE                        ]
  4  [AMERICAN EXPRESS           ]
  5  [ATM                        ]
  6  [AX                         ]
  7  [BALANCE                    ]
  8  [BASS                       ]
  9  [BEER                       ]
 10  [BOURBON                    ]
```

While the users input string data in the setup menu or search menu, they can also press the **SETUP** button to quickly acquire the required or relevant phrases; please see the following examples.

```
              BY STRING


CHANNEL       ALL


TEXT    [                    ]




              03-20-2006   13:36:08
```

```
                PHRASE      PAGE   5

                EXTRA
                EXTRA LARGE
CHA           ►FISH
                GAS
                GASOLINE
TEX             GIN                      ]
                GUINESS
                HEINKEN
                INPORT
                KEG


              03-20-2006   13:36:08
```

```
EXCEPTION #   1..10

  1  [ALE                      ] [00]
  2  [CAN   PHRASE      PAGE   5  ] [00]
  3  [CAS                        ] [00]
  4  [CAS   EXTRA                 ] [00]
         EXTRA LARGE
  5  [CHA ►FISH                   ] [00]
         GAS
  6  [CHE   GASOLINE             ] [00]
         GIN
  7  [CIG   GUINESS              ] [00]
  8  [CIG   HEINKEN              ] [00]
         INPORT
  9  [CON   KEG                  ] [00]
 10  [COR                        ] [00]
```

3.1.7 Exception setting.

Enter SETUP/ RECORD/ TEXT INSERTION/ EXCEPTION

The purpose of using the exceptions is to filter some special string and alter the remote users. There are 4 options (1 ..10, 11..20, 21..25, "FACTORY DEFAULT"); please select one, and then enter the inner page for the string settings. The last one, "FACTORY DEFAULT", is used to go back to the default values.

In the right-hand side of the Exception Setting page is the exception count. If a number has been specified, the DVR will alert the remote Viewer Software when the number of the exceptions exceeds the number set here.

```
              TEXT   INSERTION

      TEXT INSERTION
      TEXT COLOR
      TEXT DISPLAY
      TEXT STAMP
      REVIEW CONSTRAINT
      PHRASE
      EXCEPTION ————— # 1..10
                         #11..20
                         #21..25
                         FACTORY DEFAULT

        ⏏   MAIN PAGE

      #   1..10
```

```
   EXCEPTION #   1..10

     1  [BEER                   ]
     2  [CANCEL                 ]
     3  [CASH BACK              ]
     4  [CASH OUT               ]
     5  [CHARGE                 ]
     6  [CHECK                  ]
     7  [CIGARETTES             ]
     8  [CIGS                   ]
     9  [COMP                   ]
    10  [CORRECTION             ]

                        NEXT PAGE
```

3.1.8 EXCEPTION PARAMETER.

In the EXCEPTION setting page, press the SEARCH button to enter the EXCEPTION
PARAMETER setting page. In the PARAMETER EXCEPTION setting page, press the
SEARCH button to return to the EXCEPTION setting page.

For each EXCEPTION, the user can set the following parameters.

3.1.8.1 CNT (Count) 0..99

When the number of exceptions exceeds this number, the DVR will generate an
ALERT event. If this number is set as 0, any exception will be ignored.

3.1.8.2 RST (Reset Time) 0..24

If no exception has been detected for a certain number of hours, the Exception count
(in 3.1.8.1) will be reset to 0.

Note: For exception #26, CNT is not used.

3.1.8.3 BUZ (Buzzer) Off/ On.

If the BUZ has been set as ON, the DVR will generate a buzzer sound as a warning
when an exception has been detected. The duration depends on the DWELL setting
(3.1.8.7).

**Note: The buzzer setting in SYSTEM/ BUZZER must also be set as ON, or the
function will not take effect.**

3.1.8.4 FLG (Flag).

If the FLG has been set as ON, the DVR will show a mark (*)   on the screen, and
keep flashing for a duration depending on the setting in DWELL(3.1.8.7).

3.1.8.5 NFY (Notify Remote).

If the NFY setting has been set as ON, the DVR will notify the remote viewer software
when the ALERT event has been generated. At the same time, a message "ALT" will
be shown on the screen.

3.1.8.6 FTP.

If the FTP setting has been set as ON, the DVR will start to send pictures to an FTP
server after the ALERT event has been generated. The rate is fixed at 1f/ 1s, and the
duration is 10 sec.

Note: The settings in the **FTP SETTING** must also be properly set, or the function will
not take effect. The **FTP SETTING/ FTP MODE** item must be set especially as
EXCEPTION.

3.1.8.7 DWE (DWELL).

The durations for the above BUZ (3.1.8.3) and FLG(3.1.8.4)functions are shown as below.

```
EXCEPTION #   1..10

      CNT  RST  BUZ  FLG  NFY  FTP  DWE
   1  05   01   ON   ON   ON   OFF  03
   2  05   01   ON   ON   ON   OFF  03
   3  05   01   ON   ON   ON   OFF  03
   4  05   01   ON   ON   ON   OFF  03
   5  05   01   ON   ON   ON   OFF  03
   6  05   01   ON   ON   ON   OFF  03
   7  05   01   ON   ON   ON   OFF  03
   8  05   01   ON   ON   ON   OFF  03
   9  05   01   ON   ON   ON   OFF  03
  10  05   01   ON   ON   ON   OFF  03


     PREV   PAGE
```

3.1.9 AMOUNT EXCEPTION.

In the EXCEPTION setting page, #25 is a special item for amount exception. When the amount exceeds this number, the DVR will generate an Exception event, too.

```
EXCEPTION #   21..25

  21  [RETURN                      ]
  22  [TOTAL                       ]
  23  [VOID                        ]
  24  [WINE                        ]
  25  AMOUNT  >=   000000.00 (OR <= -N)




                      NEXT PAGE
```

3.1.10 POS DATA LOSS EXCEPTION

In the EXCEPTION setting page, the #26 is a special item for POS data loss exception. If no data enters the DVR over a specified time, the DVR will generate an alert to notify the remote viewer, start the FTP function, etc.

To activate this function, please set the start and end time for the POS DATA LOSS monitoring int the TIMER page in setup menu.

3.2 System Connection.

    3.2.1 Single Device Connection.

        When only one Text device (such as a cash register) is used, please set the setting in the Setup Menu according to 3.1.1.1.

```
┌─────────┐  RS-232  ┌──────────────┐  RS-232  ┌──────────┐
│         │          │   VSI-PRO    │          │          │
│   DVR   │──────────│ VSI-PRO MAX  │──────────│   Cash   │
│         │          │  Converter   │          │ Register │
└─────────┘          └──────────────┘          └──────────┘
```

    3.2.2 Two Devices Connection. (without Hydra)

        When only two Text device (such as cash registers) are used, please set the setting in the Setup Menu according to 3.1.1.2.

```
                  RS-232          ┌──────────────┐  RS-232  ┌──────────┐
┌─────────┐                       │   VSI-PRO    │          │   Cash   │
│         │───────────────────────│ VSI-PRO MAX  │──────────│ Register │
│   DVR   │                       │  Converter   │          └──────────┘
│         │                       └──────────────┘
└─────────┘
   RS-485
                                  ┌──────────────┐  RS-232  ┌──────────┐
          OR ─────────────────────│  VSI-PRO MAX │──────────│   Cash   │
                                  │              │          │ Register │
                                  └──────────────┘          └──────────┘

          ┌──────────┐  RS-232  ┌──────────┐  RS-232  ┌──────────┐
          │ RS – 232 │          │          │          │   Cash   │
          │to RS-485 │──────────│ VSI-PRO  │──────────│ Register │
          │Converter │          │Converter │          └──────────┘
          └──────────┘          └──────────┘
```
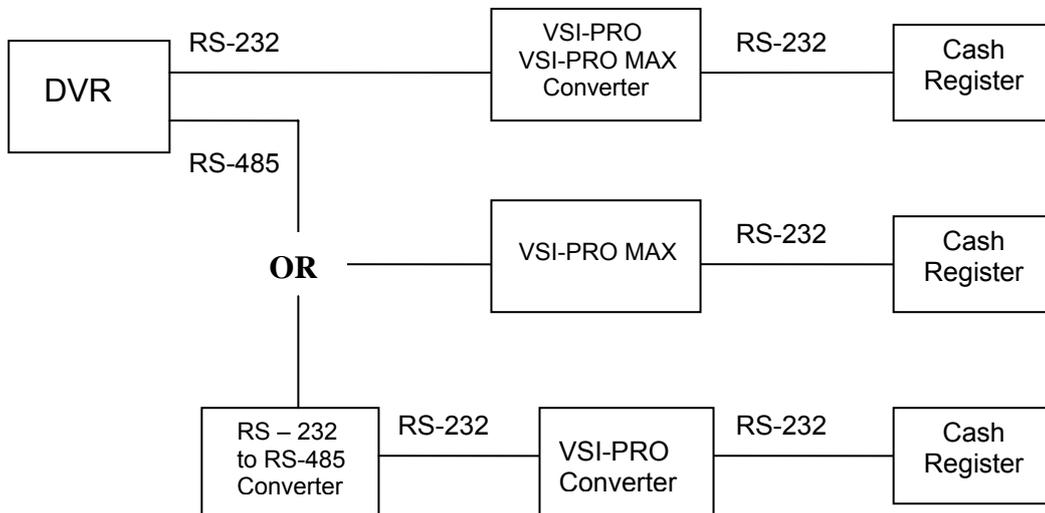
    3.2.3 Multiple Devices Connection.

        By using AVE REGCOM and HYDRA, a multiple cash register can be linked together through an RS-485, and can finally connect to the DVR through the RS-232.

        The following is an example of 4 cash registers connected to a DVR.

        For proper setting, please refer to 3.1.1.3 section in this chapter.

No need Text insertion on the Video.

```
┌──────────┐   RS-232   ┌──────────┐
│  Cash    │───────────│ RegCom   │────┐
│ Register │           │   (1)    │    │
└──────────┘           └──────────┘    │
        RS-232                         │
┌──────────┐           ┌──────────┐    │
│  Cash    │───────────│ RegCom   │────┤
│ Register │           │   (2)    │    │
└──────────┘           └──────────┘    │
        RS-232                    RS-485│
┌──────────┐           ┌──────────┐    │
│  Cash    │───────────│ RegCom   │────┤
│ Register │           │   (3)    │    │
└──────────┘           └──────────┘    │
        RS-232                         │
┌──────────┐           ┌──────────┐    │   ┌───────┐  RS-232  ┌───────┐
│  Cash    │───────────│ RegCom   │────┴───│ Hydra │──────────│  DVR  │
│ Register │           │   (4)    │        └───────┘          └───────┘
└──────────┘           └──────────┘
```
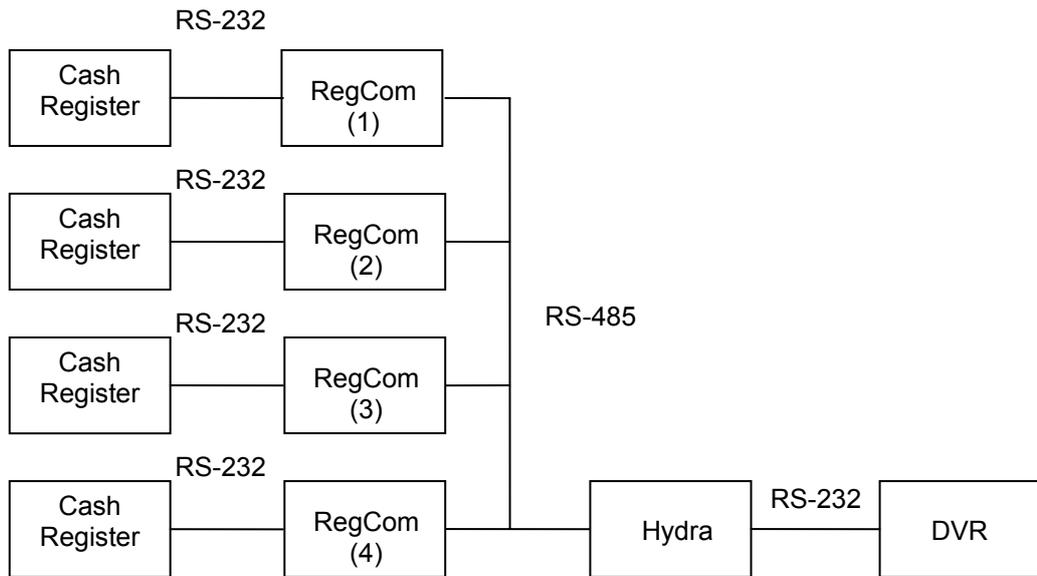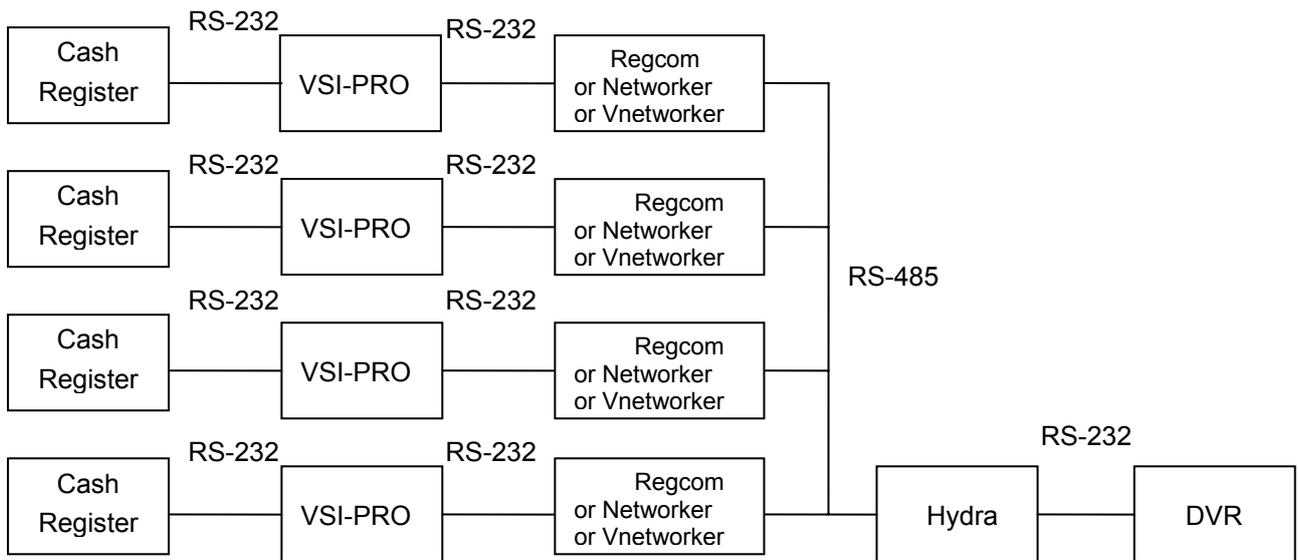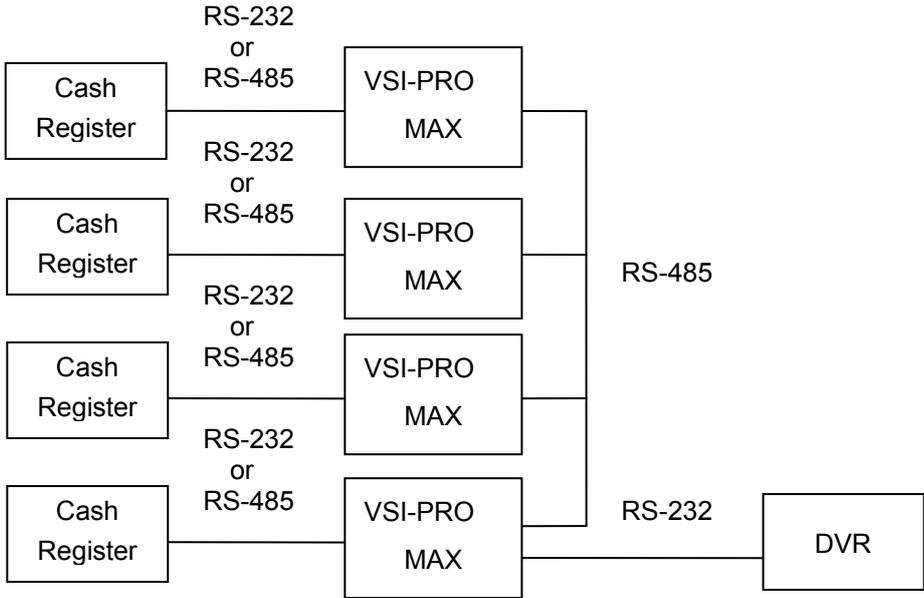
Text insertion on the Video .

```
┌──────────┐ RS-232 ┌─────────┐ RS-232 ┌──────────────┐
│  Cash    │────────│ VSI-PRO │────────│   Regcom     │────┐
│ Register │        │         │        │ or Networker │    │
└──────────┘        └─────────┘        │ or Vnetworker│    │
        RS-232              RS-232      └──────────────┘    │
┌──────────┐        ┌─────────┐        ┌──────────────┐    │
│  Cash    │────────│ VSI-PRO │────────│   Regcom     │────┤
│ Register │        │         │        │ or Networker │    │
└──────────┘        └─────────┘        │ or Vnetworker│    │
        RS-232              RS-232      └──────────────┘  RS-485
┌──────────┐        ┌─────────┐        ┌──────────────┐    │
│  Cash    │────────│ VSI-PRO │────────│   Regcom     │────┤
│ Register │        │         │        │ or Networker │    │
└──────────┘        └─────────┘        │ or Vnetworker│    │
        RS-232              RS-232      └──────────────┘    │      RS-232
┌──────────┐        ┌─────────┐        ┌──────────────┐    │  ┌───────┐      ┌───────┐
│  Cash    │────────│ VSI-PRO │────────│   Regcom     │────┴──│ Hydra │──────│  DVR  │
│ Register │        │         │        │ or Networker │       └───────┘      └───────┘
└──────────┘        └─────────┘        │ or Vnetworker│
                                       └──────────────┘
```

10

By using AVE VSI-PRO MAX

Cash Register	RS-232 or RS-485	VSI-PRO MAX
Cash Register	RS-232 or RS-485	VSI-PRO MAX
Cash Register	RS-232 or RS-485	VSI-PRO MAX
Cash Register	RS-232 or RS-485	VSI-PRO MAX

RS-485

RS-232 — DVR

ATM application

ATM — SNA — VSSI-PRO — RS-232 — DVR

ATM — TCP/IP — TCPIP 232 — RS-232 — DVR

Multiple ATM application

ATM — SNA — VSSI-PRO — RS-232 — Regcom or Networker

ATM — SNA — VSSI-PRO — RS-232 — Regcom or Networker

ATM — SNA — VSSI-PRO — RS-232 — Regcom or Networker

ATM — SNA — VSSI-PRO — RS-232 — Regcom or Networker

RS-485

RS-232

Hydra — DVR

```
ATM ──TCP/IP── TCPIP
               232 ──┐
                     │
ATM ──TCP/IP── TCPIP │
               232 ──┤
                     │ RS-485
ATM ──TCP/IP── TCPIP │
               232 ──┤
                     │                    RS-232
ATM ──TCP/IP── TCPIP │                 Hydra ──── DVR
               232 ──┘─── Hydra
```
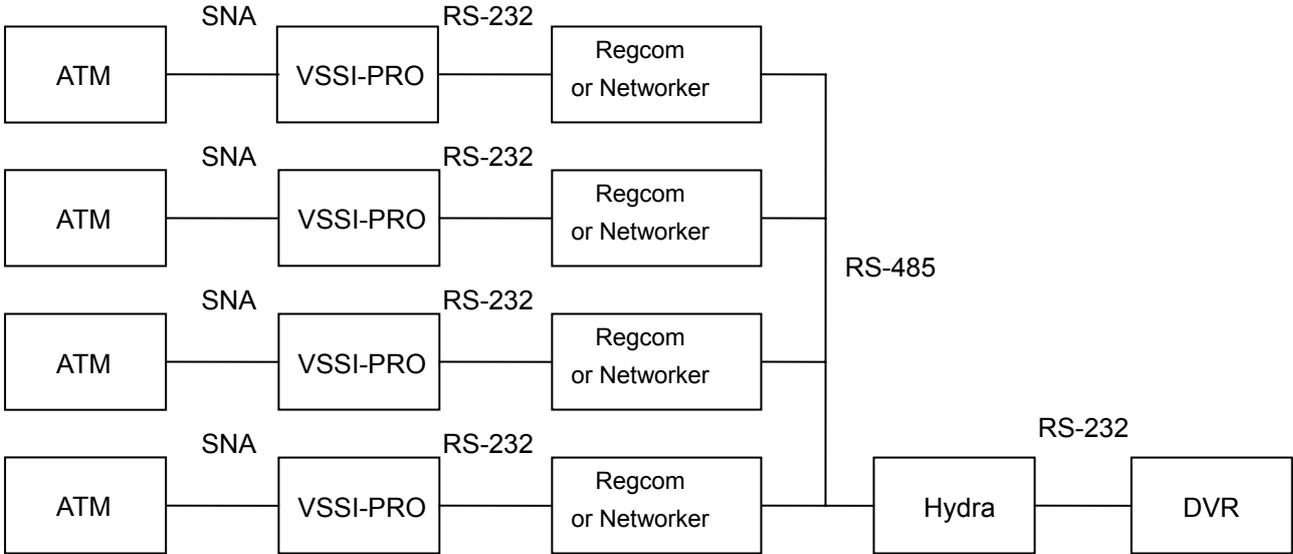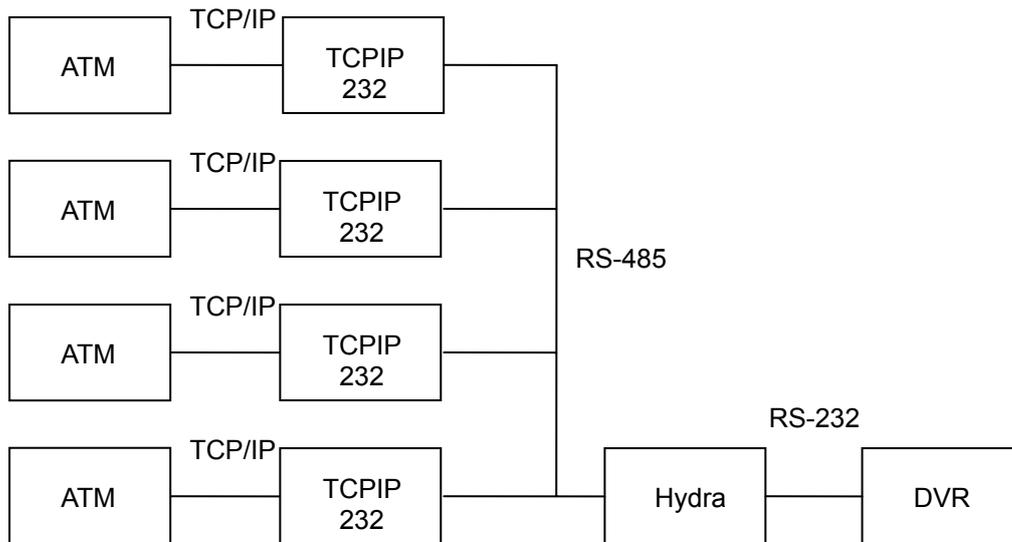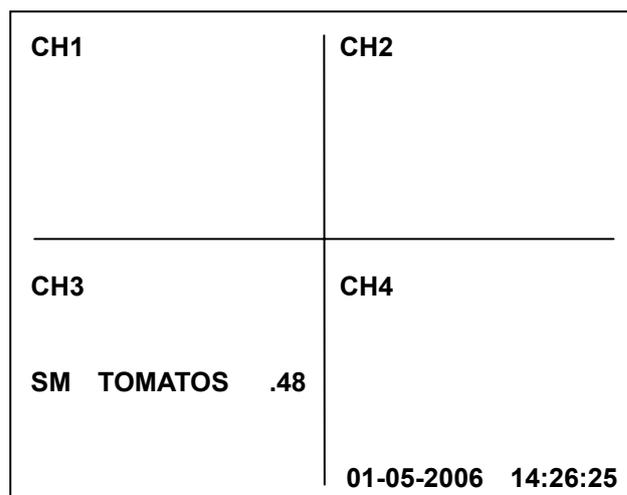
3.2.4 LIVE DISPLAY.

After the hardware has been connected, please power up the DVR. The DVR is by default in the LIVE mode. Press the **DISPLAY** button to switch to different display modes; under any one of the following modes, the contents of the received text data will be shown on the screen.
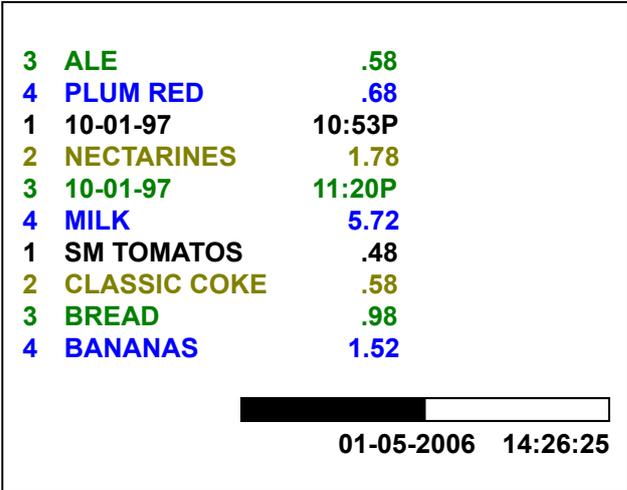
3.2.3.1 Simple Text Display Mode.

An example:

On the left-lower corner, the OSD message "SM TOMATOS   .48" is the newest incoming TEXT data.

```
┌──────────────────┬──────────────────┐
│ CH1              │ CH2              │
│                  │                  │
│                  │                  │
│                  │                  │
│ ─────────────────┤                  │
│ CH3              │ CH4              │
│                  │                  │
│ SM   TOMATOS  .48│                  │
│                  │                  │
│                  │ 01-05-2006  14:26:25 │
└──────────────────┴──────────────────┘
```

3.2.4.1 Full Text Display Mode.

All the incoming TEXT data are shown in the middle of the screen; the previous data is scrolled up when the latest one arrives.

```
 3   ALE                   .58
 4   PLUM RED              .68
 1   10-01-97           10:53P
 2   NECTARINES           1.78
 3   10-01-97           11:20P
 4   MILK                 5.72
 1   SM TOMATOS            .48
 2   CLASSIC COKE          .58
 3   BREAD                 .98
 4   BANANAS              1.52


                   01-05-2006   14:26:25
```

If the TEXT INSERTION option has been set as **VSI-ADD**, and incoming texts come from different channels.

A percentage bar in the right-lower corner reveals the text data usage. For example, if the total number of text data is 65536 and the number of the current used text data is 32768, the bar will be shown about 50% full. For the precise number please refer to SETUP/ SYSTEM/VERSION in the local device OSD.

3.2.5 RECORDING

When the text data continuously inputs from the Text device, press the REC button to activate recording; while the DVR is in the RECORD mode, there is a small red ball periodically flashing in the right-upper corner of the screen. Please press the DISPLAY button to switch to a desired mode to observe the incoming TEXT data.

.

To stop recording, please press the REC button and hold for more than3 seconds before releasing.
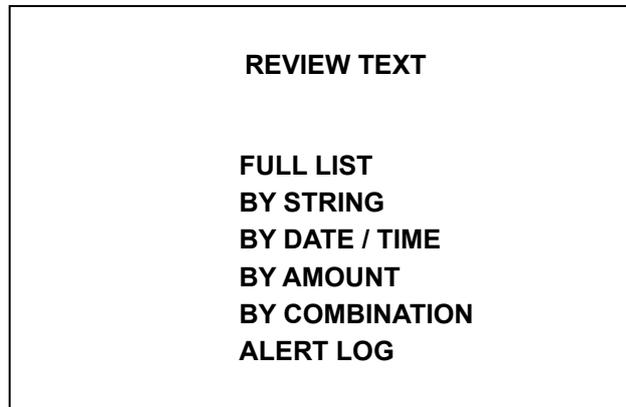
3.2.6 PLAYBACK.

Press the SEARCH button to enter the Search Menu, highlight a desired item in the list, and then press the ENTER button to start playback. During playback, the DISPLAY can also be used to switch to the display modes, to see the Text data that was received when the corresponding video was recorded. The Text data is shown even in the trick play mode, like fast forward and slow motion.

If the TEXT INSERTION option has been set as **VSI-ADD** and incoming texts come from different channels.
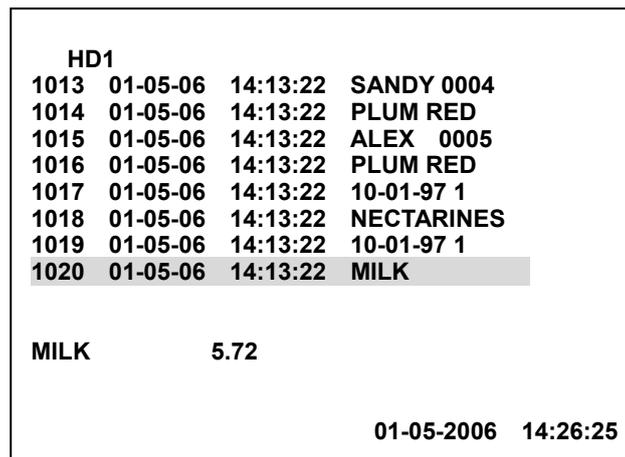
3.2.7 REVIEW TEXT.

Press the **SEARCH** button and hold for more than 3 seconds. The **REVIEW TEXT** mode will then be activated, with 6 items for selection.

```
              REVIEW TEXT


          FULL LIST
          BY STRING
          BY DATE / TIME
          BY AMOUNT
          BY COMBINATION
          ALERT LOG
```

3.2.7.1 FULL LIST.

If the TEXT INSERTION in the Setup Menu is set as **GENERIC** (refer to 3.1.1 section in this chapter), the list is shown as below.

```
   HD1
  1013   01-05-06   14:13:22   SANDY 0004
  1014   01-05-06   14:13:22   PLUM RED
  1015   01-05-06   14:13:22   ALEX   0005
  1016   01-05-06   14:13:22   PLUM RED
  1017   01-05-06   14:13:22   10-01-97 1
  1018   01-05-06   14:13:22   NECTARINES
  1019   01-05-06   14:13:22   10-01-97 1
  1020   01-05-06   14:13:22   MILK


  MILK          5.72


                      01-05-2006   14:26:25
```

Alternately, if the TEXT INSERTION is set as **VSI-ADD**, the following channel selection screen will be shown first as the input of the desired channel. The selectable options are ALL, CH1, CH2, CH3 and CH4.

```
             FULL   LIST

      CHANNEL      ALL




                      01-05-2006   14:26:25
```
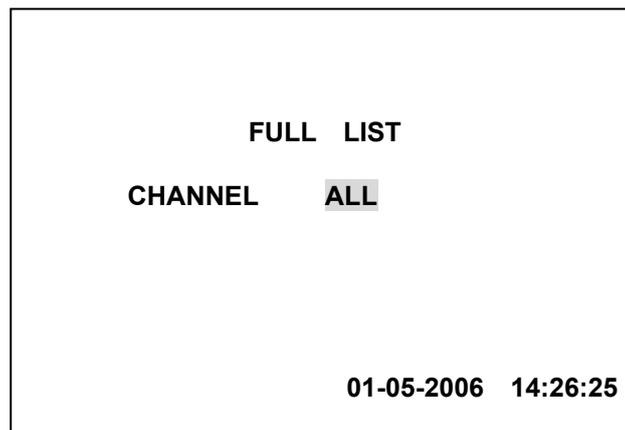
Once a channel is selected and the **ENTER** button is pressed, all the Text Data of the particular channel will be listed.

```
   HD1                  CH  1  2  3  4
 781   01-02-06   11:34:12   CASH
 782   01-02-06   11:34:12   CHANGE
 783   01-02-06   11:34:12   ALEX   0005
 784   01-02-06   11:34:13   PLUM RED
 785   01-02-06   11:34:13   10-01-97 1
 786   01-02-06   11:34:13   NECTARINES
 787   01-02-06   11:34:13   10-01-97 1
 788   01-02-06   11:34:13   SANDY 0004


 SANDY 0004 24536


                           01-02-2006   18:59:25
```

3.2.7.2 BY STRING.

The "BY STRING" function offers an interface to search for some specific material. The text may include names of personnel, goods, cash totals and balances, and/ or other miscellaneous items. If you want to access the records of a particular goods, see the "TEXT" entry and type in its name. At once you may find classifications, appearing under the category of that particular goods if such classifications exist. If you enter "COKE", you'll see both "COKE" and "CLASSIC COKE" listed, for instance. You can highlight the one you want, and start to playback.

If the TEXT INSERTION is set as **GENERIC**, the "BY STRING" screen will have only a "TEXT" string as input. Up to 16 characters can be input for searching.

If the TEXT INSERTION is set as **VSI-ADD**, there is a channel item which will show on the screen, too.

```
                BY  STRING

        CHANNEL      ALL

        TEXT   [                    ]



                    01-02-2006   19:26:55
```

To search for a two-word string, please enter the words with one space between the words, for example, "SANDY 0004"

```
┌─────────────────────────────────────────────┐
│                                             │
│                                             │
│               BY   STRING                   │
│                                             │
│         CHANNEL      ALL                     │
│                                             │
│         TEXT   [SANDY 0004             ]     │
│                                             │
│                                             │
│                                             │
│                      01-02-2006   19:27:30  │
│                                             │
│                                             │
└─────────────────────────────────────────────┘
```

3.2.7.3 BY DATE/ TIME.

This function offers an interface to list the data within a specific time period.

If the TEXT INSERTION is set as **GENERIC**, the "BY DATE/ TIME" screen will have starting DATE TIME items and ending DATE/TIME items as inputs.

If the TEXT INSERTION is set as **VSI-ADD**, there is a channel item which will be shown on the screen, too

```
┌─────────────────────────────────────────────┐
│                                             │
│              BY   DATE / TIME               │
│                                             │
│         CHANNEL      CH1                      │
│         MM   DD   YEAR    HH   MM    -       │
│         01 / 02 / 2006    00   00           │
│                                             │
│         MM   DD   YEAR    HH   MM           │
│         01 / 02 / 2006    23   59           │
│                                             │
│                                             │
│                      01-02-2006   19:29:02  │
│                                             │
└─────────────────────────────────────────────┘
```

3.2.7.4 BY AMOUNT.

This function offers an interface to search above and under a particular amount across the transactions recorded in the different channels.

If the TEXT INSERTION is set as **GENERIC**, the "BY AMOUNT" screen will have only 2 sets of entries each under "OPERATION" and " AMOUNT" as inputs.

The selectable operations are ">=", ">", "=", "<" and "<=".

If the TEXT INSERTION is set as **VSI-ADD**, there is a channel item which will show on the screen, too.

```
┌─────────────────────────────────────────┐
│                                         │
│            BY   AMOUNT                   │
│                                         │
│        CHANNEL      CH1                  │
│                                         │
│        OPERATION    AMOUNT               │
│                                         │
│           >=        0000.00              │
│                                         │
│           --        0000.00              │
│                                         │
│                                         │
│                     01-02-2006   19:31:33│
│                                         │
└─────────────────────────────────────────┘
```

The following are some examples for your operations.

A. To search Amount >= 1.00, the following items are shown on the screen.

    >=   00001.00
    --   00000.00

B. To search Amount <= 1.00, , the following items will be shown on the screen.

    <=   00001.00
    --   00000.00

C. To search Amount = 1.00 , the following items appear on the screen.

    =   00001.00
    --   00000.00

D. To search 1.00 <= Amount <= 10.00, the following items will show on the screen.

    >=   00001.00
    <=   00010.00
    or
    <=   00010.00
    >=   00001.00

E. To search Amount <= 1.00 OR Amount >= 10.00, the following items will be shown on the screen.

    >=   00010.00
    <=   00001.00
    or
    <=   00001.00
    >=   00010.00

Note: If two operations are set and those two are exclusive of each other, the system will automatically add an "OR" between them. Otherwise, the system adds an "AND" between them.

3.2.7.5 BY COMBINATION

```
┌─────────────────────────────────────────┐
│                                         │
│          BY   COMBINATION               │
│                                         │
│      CHANNEL              ALL           │
│                                         │
│      STRING              SET            │
│      BEER                               │
│      DATE/ TIME          SET            │
│      00/00/0000  00:00:00   -           │
│      00/00/0000  23:59:00               │
│      AMOUNT             ┌─────┐         │
│      >=   0010.00       │ SET │         │
│                         └─────┘         │
│                                         │
│  ◄► MOVE   ▲▼CHANGE  ☐  SEARCH          │
│                                         │
└─────────────────────────────────────────┘
```
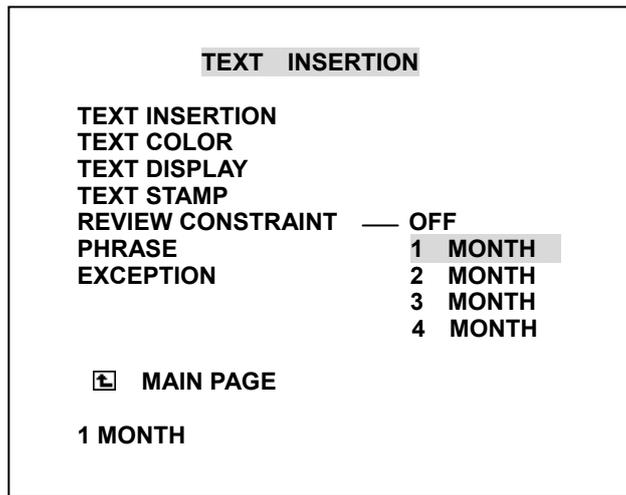
BY COMBINATION is the combination of the above search interfaces. The user can give the different conditions on the same page. The search procedure can be repeated between the BY COMBINATION page and the search result page (TEXT LIST).

If the TEXT INSERTION is set as **VSI-ADD**, there is a channel item which will show on the screen, too.

In this page, please use the **<** and **>** buttons to move between items, and use the **^** and **v** buttons to change the values. Once the value has been set to "SET", please press the **ENTER** button to enter the "BY STRING"," BY DATE/ TIME" and " BY AMOUNT" pages for further settings. For the operations in the lower level pages, please refer to section 3.2.6.2, 3.2.6.3 and 3.2.6.4 in this chapter. When you are in those lower level pages, press the **ENTER** button to go back to " BY COMBINATION". After all the conditions have been set properly, please press the SEARCH button to start searching. In the "TEXT LIST" page, please press the ENTER button to start playback, and press the **SEARCH** button to return to the "BY COMBINATION" page.
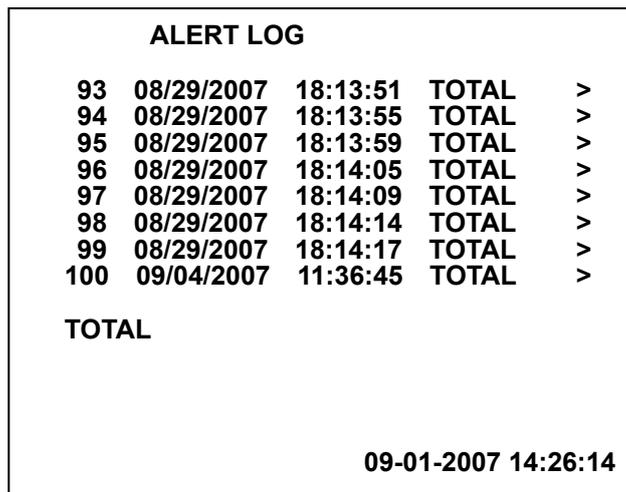
3.2.7.6 REVIEW CONSTRAINT

If the item has been set as any of the monthly options(between 1-4 months), all search functions on the REVIEW TEXT page will fall within that constraint. This function is for improving the speed for the REVIEW TEXT function.

```
                TEXT   INSERTION

    TEXT INSERTION
    TEXT COLOR
    TEXT DISPLAY
    TEXT STAMP
    REVIEW CONSTRAINT  ——  OFF
    PHRASE                 1   MONTH
    EXCEPTION              2   MONTH
                          3   MONTH
                          4   MONTH


      ⬆  MAIN PAGE

    1 MONTH
```

3.2.8 ALERT LOG

The Alert Log keep the latest 100 alerts for check and playback, the records marked as ">" are playable. Some alert could not be playbacked since it occurred when DVR was not in the RECORD mode. Please press ENTER button on the playable item to start the playabck.

```
        ALERT LOG

    93   08/29/2007   18:13:51   TOTAL     >
    94   08/29/2007   18:13:55   TOTAL     >
    95   08/29/2007   18:13:59   TOTAL     >
    96   08/29/2007   18:14:05   TOTAL     >
    97   08/29/2007   18:14:09   TOTAL     >
    98   08/29/2007   18:14:14   TOTAL     >
    99   08/29/2007   18:14:17   TOTAL     >
    100  09/04/2007   11:36:45   TOTAL     >

    TOTAL




                09-01-2007 14:26:14
```
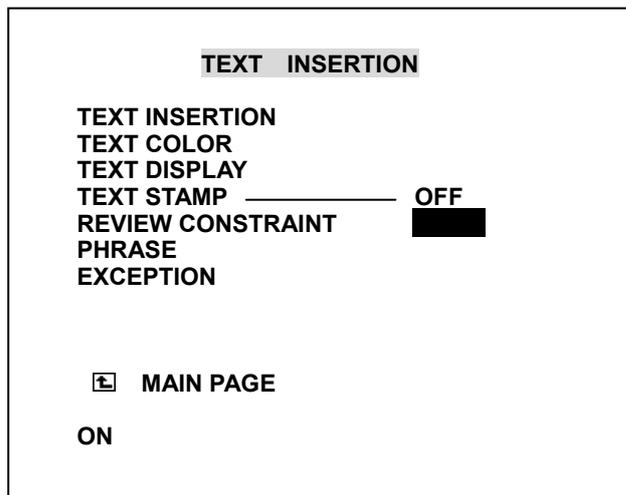
3.2.9 LOAD/ SAVE the Text Insertion Setting

For quickly save and load the settings onto the SD card, please enter the setup menu, SETUP/ SYSTEM/ SD SETUP/   (LOAD/ SAVE)
The filename is TEXTINS.BIN

3.2.10 Text data stamp on AVI file

The successive text data will be stamped as continuously input feedback over the AVI pictures. The text data will either be stamped on different corners for different channels, or there will be a mixed display (combining all the channels together), depending on the TEXT DISPLAY setting in the Setup menu/ RECORD/ TEXT INSERTION page.

```
            TEXT   INSERTION

      TEXT INSERTION
      TEXT COLOR
      TEXT DISPLAY
      TEXT STAMP  ──────── OFF
      REVIEW CONSTRAINT      ▉▉▉
      PHRASE
      EXCEPTION


         ⊡   MAIN PAGE

      ON
```

The AVI file playbacked in Microsoft Media Player

3.2.11 POS data backup

The DVR will extract the POS data from the video data and save it to an SD card as a text-only file.

Enter the Setup menu/ DISK / HD BACKUP/ TXT TO SD CARD

```
              DISK SETTING

  HD REFORMAT          : HD
  HD BACKUP            : TEXT TO SD CARD
  HD FAT32             : BUILD
  SD FILE              : JPEG
  AUTO ERASE           : SET
  SD REFORMAT          : START
  CD ERASE             : START


  MAIN PAGE
```
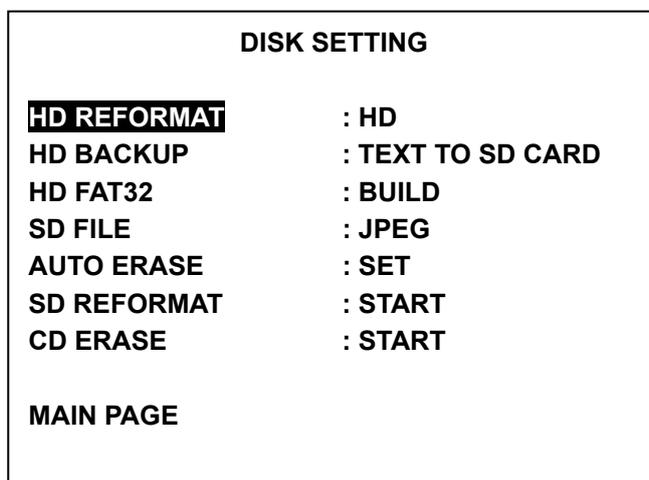
The exported pure text file.


```
T0016.TXT
檔案(F)  編輯(E)  格式(O)  檢視(V)  說明(H)
SANDY 0004 24536
10-01-97 10:53P
ALEX  0005 24537
SM TOMATOS      .48
10-01-97 11:20P
SANDY 0004 24536
PLUM RED        .68
BREAD           .98
10-01-97 10:53P
NECTARINES     1.78
ALEX  0005 24537
PLUM RED        .68
SM TOMATOS      .48
CLASSIC COKE    .58
10-01-97 11:20P
MILK           5.72
PLUM RED        .68
BANANAS        1.52
```
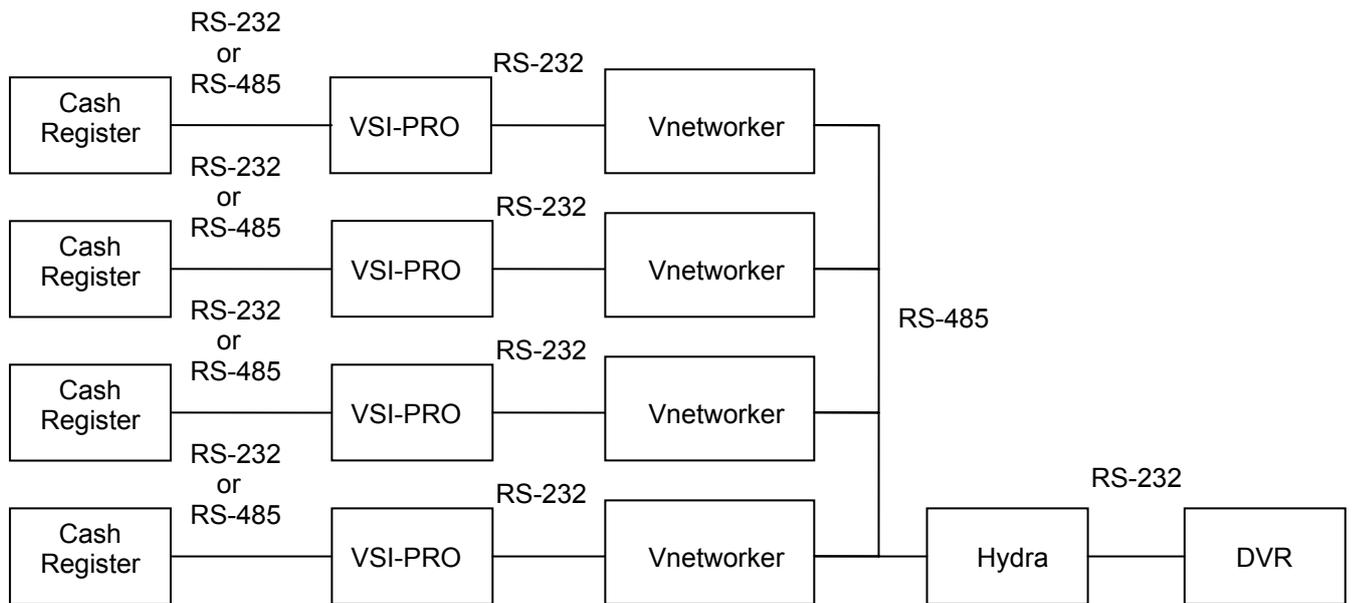
3.2.12 Syncronize to VSI

Connect the DVR with Hydra through RS232 (or RS485). Enter the Setup menu/ TIMER/SEQ/TITLE / CLOCK page, move the highlight to SYNC TO VSI - START, press the ENTER button, and a new date/time will replace the old one.

```
                DATE   /   TIME


        12/28/2007

        13:43:01              GMT: +8

        SYNC TO VSI              START



        <  >  MOVE   ^  v  CHANGE
```
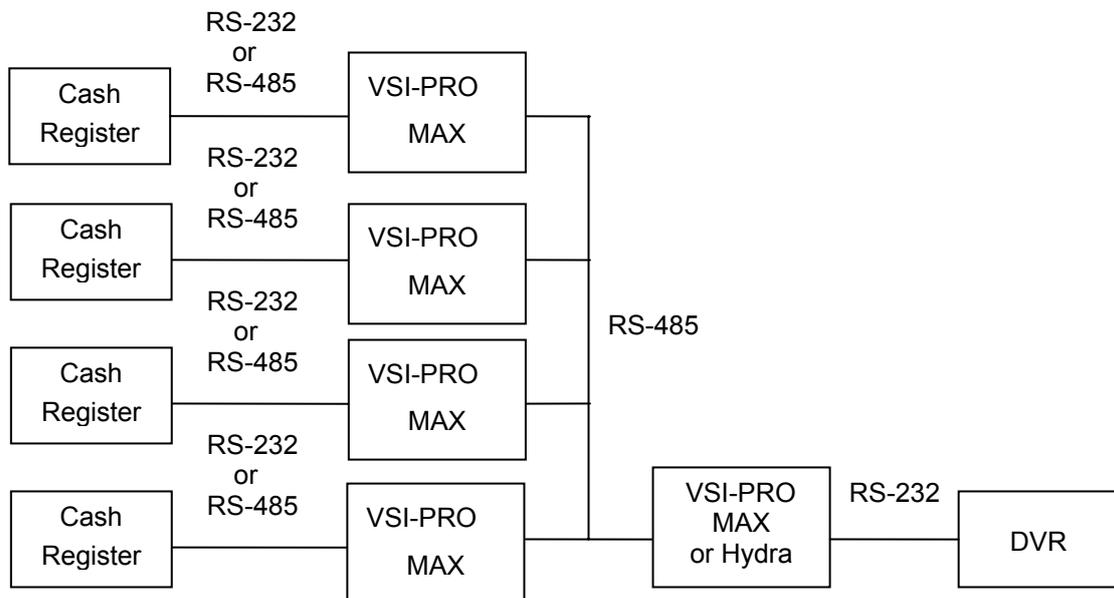
The DVR will automatically start the time synchronization after POWER ON and every midnight (the exact time is 23:59:31) .

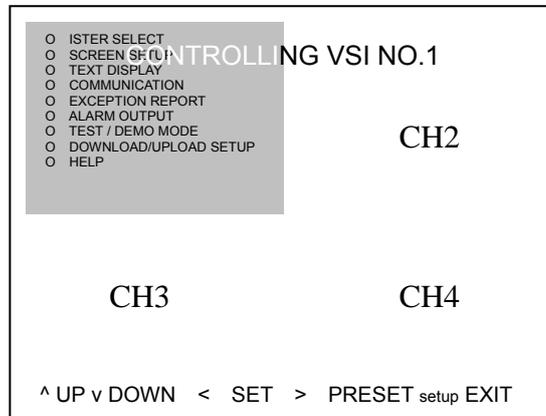## 3.2.13 VSI-Pro Programming via DVR

```
                RS-232
                  or
                RS-485                RS-232
┌──────────┐          ┌─────────┐          ┌────────────┐
│   Cash   │──────────│ VSI-PRO │──────────│ Vnetworker │──┐
│ Register │          └─────────┘          └────────────┘  │
└──────────┘                                                │
                RS-232                                      │
                  or                                        │
                RS-485                RS-232                │
┌──────────┐          ┌─────────┐          ┌────────────┐  │
│   Cash   │──────────│ VSI-PRO │──────────│ Vnetworker │──┤
│ Register │          └─────────┘          └────────────┘  │
└──────────┘                                                │
                RS-232                                      │ RS-485
                  or                                        │
                RS-485                RS-232                │
┌──────────┐          ┌─────────┐          ┌────────────┐  │
│   Cash   │──────────│ VSI-PRO │──────────│ Vnetworker │──┤
│ Register │          └─────────┘          └────────────┘  │
└──────────┘                                                │
                RS-232                                      │          RS-232
                  or                                        │
                RS-485                RS-232                │
┌──────────┐          ┌─────────┐          ┌────────────┐  │   ┌───────┐        ┌─────┐
│   Cash   │──────────│ VSI-PRO │──────────│ Vnetworker │──┴───│ Hydra │────────│ DVR │
│ Register │          └─────────┘          └────────────┘      └───────┘        └─────┘
└──────────┘
```

VSI-Pro MAX Programming via DVR

```
                RS-232
                  or
                RS-485       ┌─────────┐
┌──────────┐                 │ VSI-PRO │
│   Cash   │─────────────────│         │──┐
│ Register │                 │   MAX   │  │
└──────────┘                 └─────────┘  │
                RS-232                     │
                  or                       │
                RS-485       ┌─────────┐   │
┌──────────┐                 │ VSI-PRO │   │
│   Cash   │─────────────────│         │──┤
│ Register │                 │   MAX   │  │
└──────────┘                 └─────────┘  │
                RS-232                     │ RS-485
                  or                       │
                RS-485       ┌─────────┐   │
┌──────────┐                 │ VSI-PRO │   │
│   Cash   │─────────────────│         │──┤
│ Register │                 │   MAX   │  │
└──────────┘                 └─────────┘  │
                RS-232                     │
                  or                       │   ┌──────────┐
                RS-485       ┌─────────┐   │   │ VSI-PRO  │  RS-232
┌──────────┐                 │ VSI-PRO │   │   │   MAX    │           ┌─────┐
│   Cash   │─────────────────│         │──┴───│ or Hydra │───────────│ DVR │
│ Register │                 │   MAX   │      └──────────┘           └─────┘
└──────────┘                 └─────────┘
```

Press and hold " Setup " button 3 second   then release " Setup " button

VSI CONTROL MENU appear

```
VSI CONTROL MENU


        VSI NO . 1
        VSI NO . 2
        VSI NO . 3
        VSI NO . 4
```
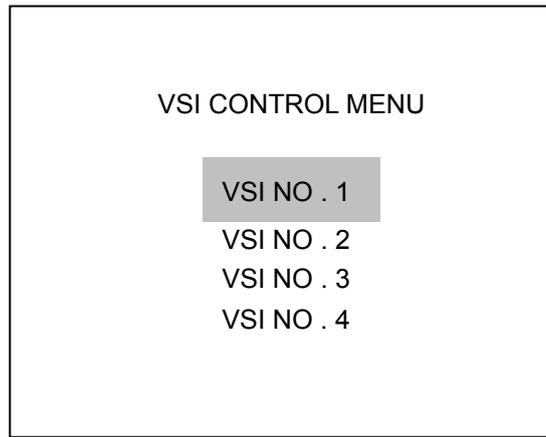
Press " ^ " or " v " button for select the VSI PRO NO. then press " Enter "

Button for go to the VSI PRO Menu.

```
O  ISTER SELECT
O  SCREEN SETUP       NTROLLING VSI NO.1
O  TEXT DISPLAY
O  COMMUNICATION
O  EXCEPTION REPORT
O  ALARM OUTPUT
O  TEST / DEMO MODE                 CH2
O  DOWNLOAD/UPLOAD SETUP
O  HELP




           CH3                      CH4



^ UP v DOWN   <   SET   >   PRESET setup EXIT
```

Press " ^ " or " v " button for select VSI-PRO menu press " < " for enter the menu

press " > " for reset and press " SETUP " for exit   and turn back to VSI CONTROL MENU

and press " SETUP "   again for turn back to normal operating .

4. Simulation by using PC software "RegOnPC".

4.1 **Enable the Text Insertion function of the DVR.**

1. Enter the COMMUNICATION page in the SETUP Menu, check if there is an item
   named "TEXT INSERTION". Please set it as GENERIC or VSI-ADD; here we
   recommend you set it as VSI-ADD to test the multiple-channel text input.

2. Set BAUD at 9600 in the SETUP Menu/ Communication page.

3. Connect at least one video source to the DVR for the recording.

4.2 **Connect PC and DVR.**

Please connect your PC and DVR with the RS232 Null Modem Cable.

4.3 **Install the simulation software.**

1. RegOnPC is a cash register simulation software. Please double click "Setup.exe" to
   install it, and then just follow the instructions on the screen for each step.

2. If you have a previously installed version, please remove the former one first.

3. After the installation is successfully completed, please run it; the screen will look like the following.
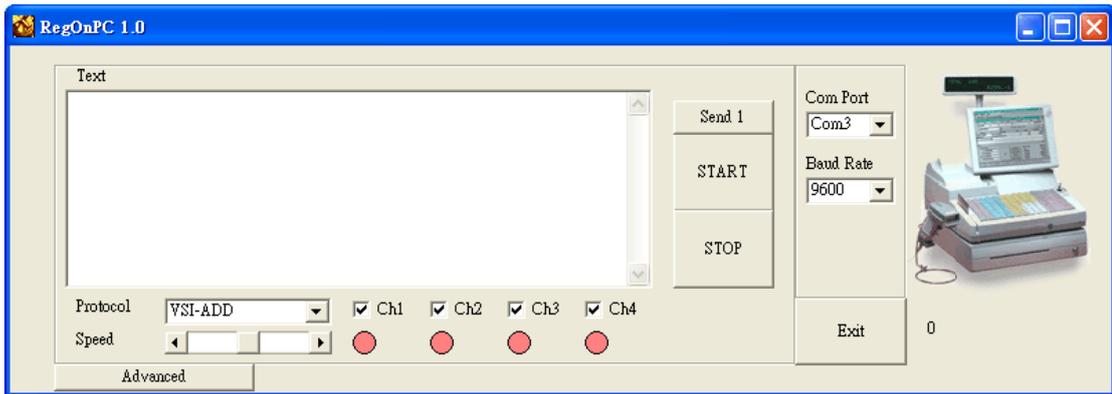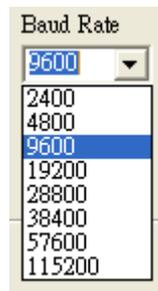

4.3.1 Com Port setting.

Please set the Com Port to an appropriate setting, depending on which port is used in the PC.

4.3.1 Baud Rate setting

Please set the BAUD Rate at 9600, the same as the setting in the DVR.

4.3.2 Protocol setting.

There are two protocols for selection. Here we suggest you set your software to VSI-ADD for multi-channel testing.

A. GENERIC

If the GENERIC has been chosen, the output text will be delimitated by CR(0x0d) and LF(0x0a).

Under the GENERIC option, only CH1 output will be enabled.

To test the "GENERIC 2CH" on DVR, please use this option, too. The only difference is the RS232/ RS485 connection.

B. VSI-ADD.

If VSI-ADD has been selected, the output text will be in the VSI-ADD format; please ref. to 3-1-1-1.

Under the VSI-ADD option, CH1, CH2, CH3 and CH4 can all be turned ON or OFF separately.

4.3.3 START/ STOP Transmission.

Click the START button to start transmission and click END to stop transmission.
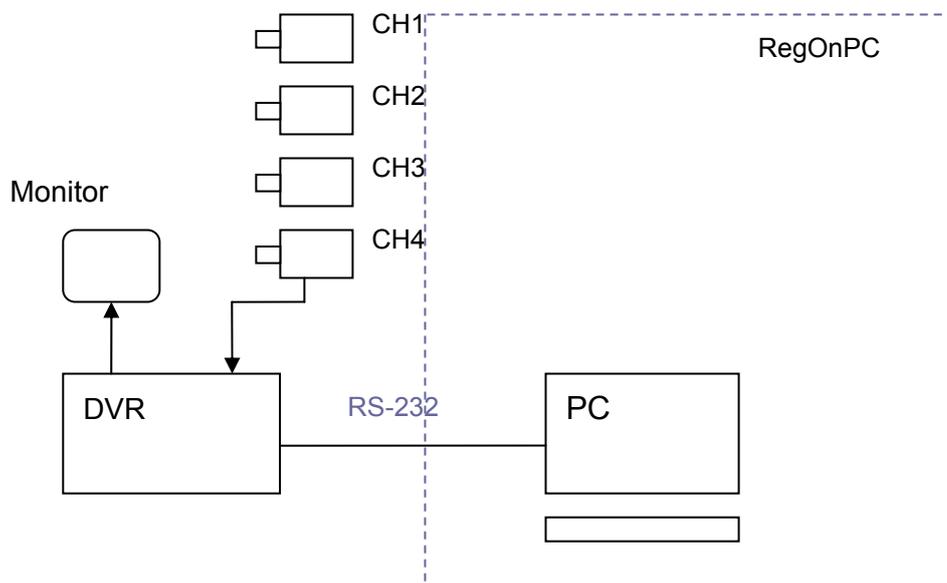

4.3.4 Speed Adjustment.

Please adjust the transmission with the SPEED Slide Bar.

4.4 Test Procedure

The Simulation software "RegOnPC" acts as the "Hydra", 4 "RegCom", and 4 cash registers.

Please follow the steps below to test the DVR.

Step 1. Please make sure that the DVR is in the LIVE mode. Press the DISPLAY button and switch the DVR display to the Full Text Display Mode.
Now the continuously scrolled text will show on the screen.

Step 2. Press the REC button to start recording for about 30 seconds or more.

Step 3. Press the REC button and hold for at least 3 seconds to stop the recording.

Step 4. Press the SEARCH button, select FULL LIST and press the ENTER button to playback the latest recorded video. Please check if the just recorded text can be shown at the same time.

Step 5. Press the STOP button to stop the above playback, then go back to the LIVE mode, press the SEARCH button and hold for at least 3 seconds; now enter the REVIEW TEXT

Step 6. Select FULL LIST and press the ENTER button, select ALL in the CHANNEL item, and press the ENTER button again to enter the FULL LIST page. All the recorded texts will be shown in list and display in different colors. If CH1. has been set in the CHANNEL item, the FULL LIST page will only show all the data coming from CH1.

Step 7. In Step 5, select " BY STRING" and input the string, for example, "COKE", and press ENTER; all the search results will be shown in a list.

Step 8. In Step 5, select "BY DATE/ TIME", then input the desired channel and the time range, including the starting time and the ending time; next, press the ENTER button, and all the search results will be shown in a list.
If the time period you input is wrong(like 01/01/2006 2:00 to 01/01/2006 1:00),your request will be ignored.

Step 9. In Step 5, select "BY AMOUNT", then input the desired channel, operations and amounts. For example, if >= 1.00 , <= 2.00, press the ENTER button, and all the search results will appear as a list.
Please ref. to 3-2-6-4 for a detailed description of the above complete operations.