

Verdin Digital Bell Controller

DBC 870



USER GUIDE



Since 1842, the finest bells & digital bells in the world.

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0.0.0 -MAIN MENU



Basic Icons:

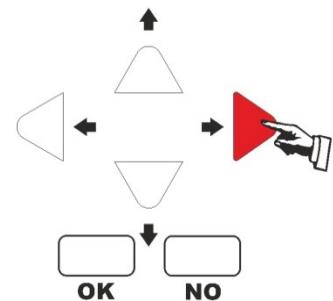
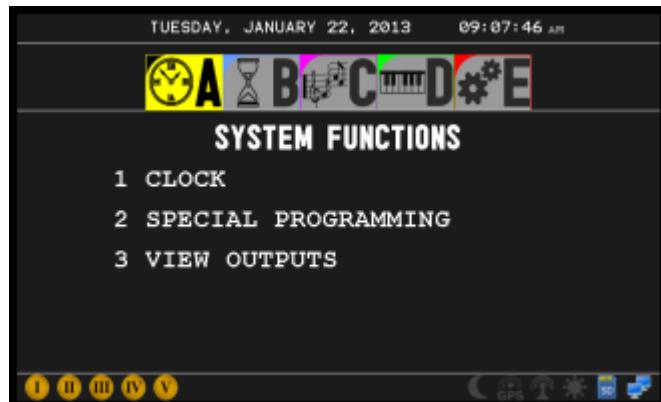
	SYSTEM UNLOCKED. Press "951" to unlock the screen.		SYSTEM LOCKED. Press "951" to lock the screen.
	TIME PROGRAM ACTIVE		TIME PROGRAM INHIBITED
	TIME STRIKE ACTIVE		TIME STRIKE INHIBITED
	TOWER CLOCK ON.		TOWER CLOCK OFF.
	NIGHT SERVICE ON.		NIGHT SERVICE OFF.
	GPS RECEIVING OK. INDICATES THAT AT LEAST ONE VALID TIME ADJUSTMENT HAS BEEN RECEIVED AFTER MIDNIGHT. FLASHING WHEN VALID DATA IS BEING RECEIVED.		GPS OFF. GPS NOT PRESENT OR A VALID TIME ADJUSTMENT HAS NOT BEEN RECEIVED FROM MIDNIGHT.

 <p>REMOTE CONTROL DATA. FLASHING LIGHT INDICATES RX3500 IS RECEIVING DATA.</p>	 <p>REMOTE CONTROL OFF. NO DATA.</p>
 <p>DAYLIGHT SAVING TIME. ENABLED DAYLIGHT SAVING TIME.</p>	 <p>DAYLIGHT SAVING TIME. STANDARD TIME.</p>
 <p>SD-CARD PRESENT.</p>	 <p>SD-CARD ABSENT</p>
 <p>LAN NETWORK, CONNECTED.</p>	 <p>LAN NETWORK, DISCONNECTED.</p>

1.0.0 -DIRECT ACCESS

Press button "1" on the main menu to gain access to the following options:

1. Clock setting.
2. Enable/Inhibit service programs, etc.
3. Relay output status.

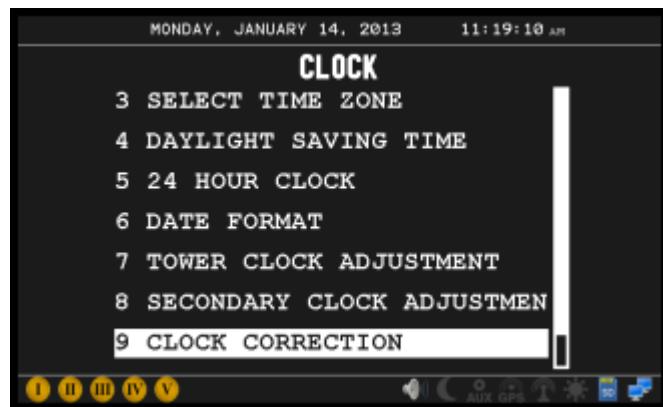


Note:

To select one of the icons **A, B, C, D & E** use either the side arrows or the number keys **1, 2, 3, 4 & 5**.

1.1.0 -CLOCK

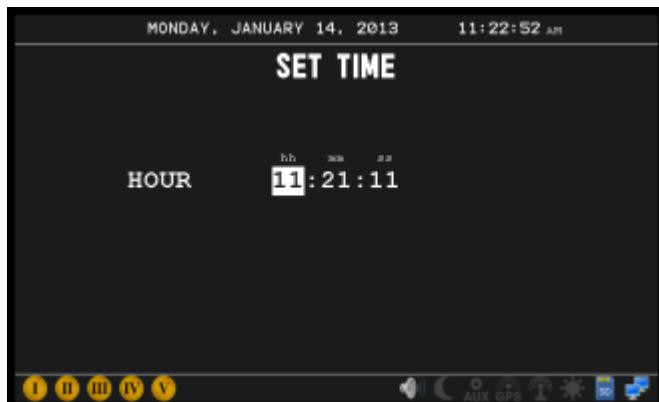
To reset the time on the machine or for any other clock resetting, select option **1** from the direct access menu. The screen will show:



- Select **1** to modify the time on the machine.
- Select **2** to modify the date on the machine.
- Select **3** to set the time zone (must be set when using a GPS receiver).
- Select **4** to automatically set daylight saving time/standard time change.
- Select **5** to set clock type to a 24 hour clock or 12 hour clock with AM/PM.
- Select **6** to set type of date.
- Select **7** to set tower clock hands.
- Select **8** to set secondary clock hands.
- Select **9** for clock correction, + / - seconds per month.

1.1.1 -SET TIME

From the main menu enter **1, 1, 1** to **SET THE TIME**. The screen will show:



Enter the exact hour, minutes and seconds.

Use the left/right arrows to position on the time to be changed, enter the new values.

Use the right and left arrows to change AM/PM and press **OK** to save.

Press **NO** to escape from this menu without saving any settings.

1.1.2 -SET DATE

From the main menu enter **1, 1, 2** to **SET THE DATE**. The screen will show:



Enter in sequence the exact month, day and year or use the arrow buttons to position on the parameter which needs to be changed and enter the new values. Press **OK** to save your settings.

Press **NO** to escape from this menu without saving any settings.

Important:

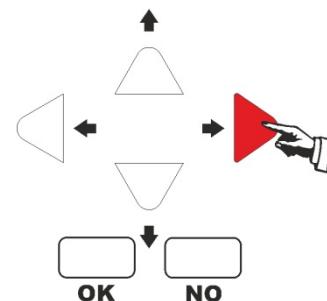
The machine's clock can be automatically synchronized through an internet NTP time server. The machine must be connected to the internet network for clock synchronization to occur. It will automatically update the time once a day and each time the machine is turned on. Be sure the correct time zone and DST setting are selected when using this function.

1.1.7 -SETTING THE TOWER CLOCK HANDS

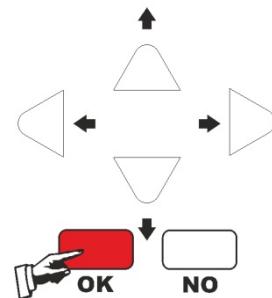
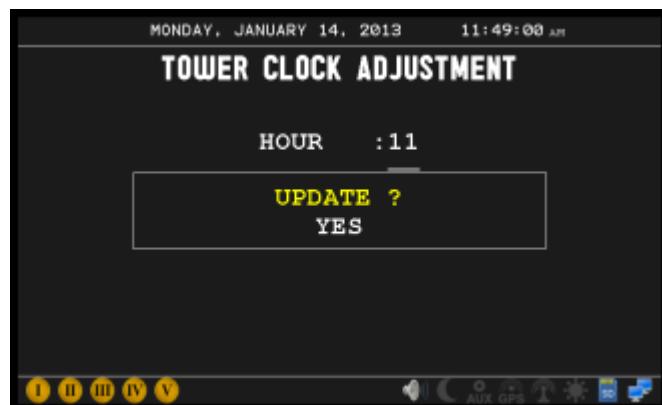
To set the tower clock hands press **1 1 7** from the main menu. The screen will show:



Enter the actual position of the tower clock hands. Press **OK** each time to confirm the settings. The following screen will appear:



Use the side arrows to confirm the upgrade to either **YES** or **NO**



Confirm by pressing **OK**.

Press **NO** to escape without saving any settings.



When the time is being adjusted through this menu, the tower clock hands are temporarily stopped to enable the user to correctly identify the position of the clock hands. Remember to enter the ACTUAL position of the hands NOT the desired position.

1.1.4 -ENABLE/INHIBIT STANDARD TIME OR DAYLIGHT SAVING TIME

Press **1 1 4** from the main menu. The screen will show:



To modify, use the top/bottom arrows to the correct position and change the settings.

DST = DAYLIGHT SAVING TIME

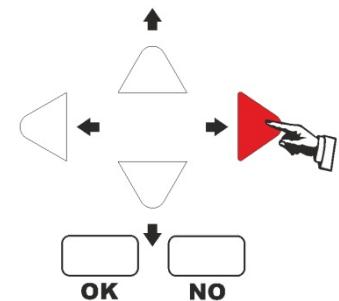
Use the side arrows to change the parameter of the selected setting.

The above time will automatically change at 02:00 AM.

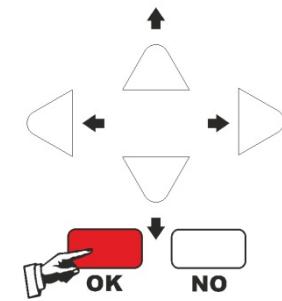
Press **NO** to escape from this menu.



Use the side arrows (left/right) to Change **NO** to **YES**,



Confirm by pressing **OK**.



1.1.3 -TIME ZONE

Press **1 1 3** from the main menu. The screen will show:



US TIME ZONES

-04	Atlantic Time Zone
-05	Eastern Time Zone
-06	Central Time Zone
-07	Mountain Time Zone
-08	Pacific Time Zone
-09	Alaska Time Zone
-10	Hawaii Time Zone

UTC = *Universal Time Zone*

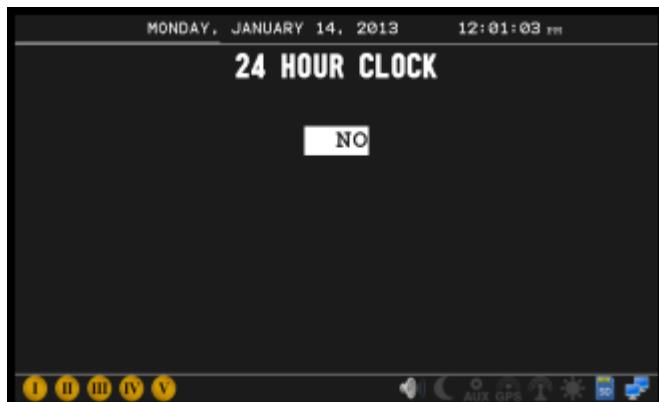
GMT = *Greenwich Mean Time*.

The value must be set properly in order for the GPS receiver and NTP server to correctly update the clock.

UTC -05 Indicates the number of hours to be subtracted or added to the Greenwich time. (From UTC -12 to UTC +12), in this case the time corresponds to Eastern Time -5 hours USA.

1.1.5 -24/12 HOUR CLOCK

Press **1 1 5** from the main menu, the screen will show:



This menu gives the option to choose and set either a 24 hour clock or the 12 hour clock (AM/PM).

Confirm **YES** to set the time using a 24 hour clock. The screen will show:

Select **NO** to set the time using a 12 hour clock (am/pm).

1.1.6 -DATE FORMAT

Press **1 1 6** from the main menu. The screen will show:



This menu offers the ability to change the date format according to the following abbreviations:

DD = Day of the month.
MM = Month.
YYYY = Year.

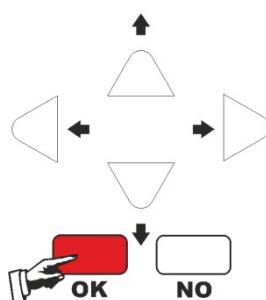
The available formats are as follows:

DD/MM/YYYY
MM/DD/YYYY
YYYY/MM/DD

To change the format use the left/right side arrows.
Press **NO** to escape from the menu.

Use the left/right side arrows to upgrade the changes made "**YES**".

Press **OK** to confirm.



1.1.9 -CLOCK CORRECTION

The unit can be set to automatically adjust the internal clock once a month. This is useful if you are experiencing a consistent monthly time drift

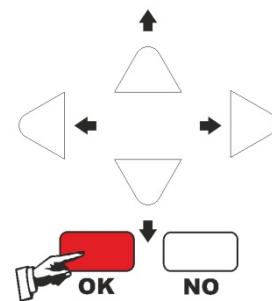
Press **1 1 9** from the main menu to view:



Where necessary, enter the number of seconds in place of the "0" in the menu. The machine will consequently either go forward or backwards for the number of seconds entered each month. The correction will occur on the first of each month.

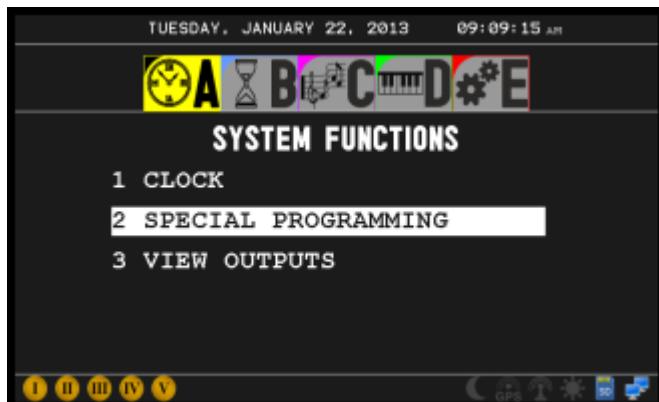
Below is the procedure for setting the clock correction to compensate for a clock which is losing 5 seconds per month:

Press 5, press **OK**, use the side arrow to scroll and view **FORWARD**, confirm by pressing **OK**.



1.2.0 -SPECIAL PROGRAMMING/SERVICES

Press 1,



2 from the main menu. The screen will show:



Below is a brief description of the menus:

- Option **1** to inhibit programming for a determined period of time.
- Option **2** to add a program to one particular day.
- Option **3** to modify or erase programming entered in options 1 and 2.
- Option **4** to manually play service programs.
- Option **5** to enable the "weekly cycle" feature.

Note: Options 4 and 5 should only be used if directed by a Verdin technician. Improper changes made in these menus can result in unexpected operation.

1.2.1 -INHIBIT TIME PROGRAMMING

Press **1 2 1** from the main menu.

This function is used to inhibit all time programming for a specific date and time. (However, the clock strike programming will continue to run).

The program will be erased from the memory immediately after it has been executed,



Enter the time (hours and minutes) at which to inhibit the bell events from playing and confirm by pressing **OK**. If necessary, using the arrows, position the cursor on the date to be modified and press **OK** to confirm.



The display will show:

Change the hour and minutes to set the enabling time and confirm by pressing **OK**. If necessary, using the arrows, position the cursor on the date to be modified and press **OK** to confirm.



These two steps are required, as the first step inhibits the time programming and the second step enables it again. Wrong settings could cause the machine to function unexpectedly.

When programming is inhibited the hourglass icon will turn off on the main display.

1.2.2 -SPECIAL PROGRAMMING

Press **1 2 2** from the main menu.



This menu allows you to add a new program to the normal time programming but only for one day. The program will be deleted from the memory after being played.

If programming was made under Normal Programming (section 2.1.1) it will take priority over programming made under Special Programming.



Enter the hour and minutes then confirm by pressing **OK**.

If necessary, using the arrows, position the cursor on the date to be modified and press **OK** to confirm.

The display will show:



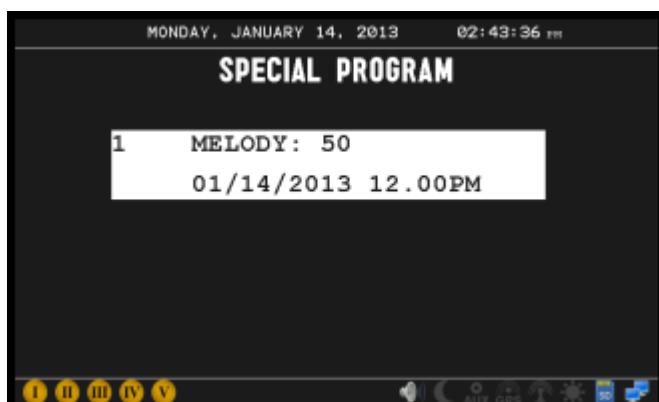
Enter the program number to be played and press **OK** to save the settings or press **NO** to escape from this menu without saving the settings.

1.2.3 -MODIFY SPECIAL PROGRAMMING

Press **1 2 3** from the main menu.



The display will show:



Use this menu to modify or erase programming which has been previously programmed using Inhibit Programming (1.2.1) and Special Programming (1.2.2). Use the top/bottom arrows to scroll and select.

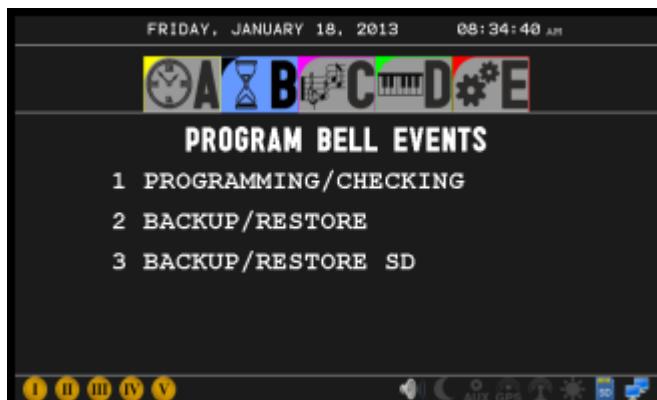
Press **OK** to select and either modify or erase the program:



Press **NO** to escape from this menu without making any changes.

2.0.0 -TIME PROGRAMMING, EDITING, BACKUP

Press **2** to enter the Time Programming Menu.



Use this menu to schedule, edit and delete bell events and to create and recall system backups.

2.1.1 -NORMAL PROGRAMMING

Use this menu to carry out the following type of programming throughout the year:

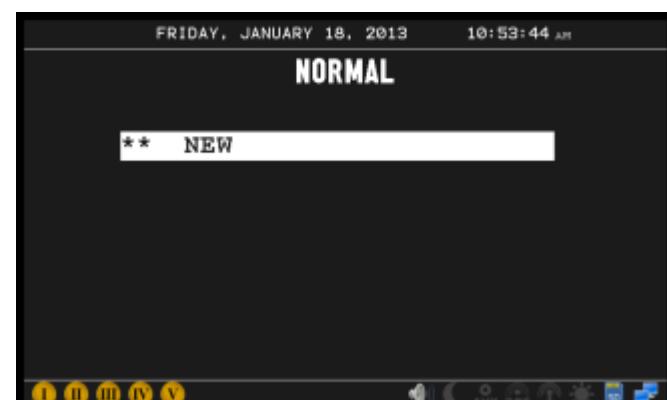


- Melody (Bell Events)
- Service programs
- Clock type
- Enable clock strikes
- Inhibit clock strikes
- Enable Bell Sounds
- Inhibit Bell Sounds

From the main menu, select option **2**, followed by **1**, enter password **(1 1 1 1)**, then press **1**.

Press **OK** in the highlighted **** NEW** field to create a new time programming.

The display will show:



Description of the parameters:

➤ **WD = Week Days**

An event can be filtered to a precise day of the week:

SUN	Only on a Sunday	NO_SUN	Every day except Sunday
MON	Only on a Monday	NO_MON	Every day except Monday
TUE	Only on a Tuesday	NO_TUE	Every day except Tuesday
WED	Only on a Wednesday	NO_WED	Every day except Wednesday
THUR	Only on a Thursday	NO_THUR	Every day except Thursday
FRI	Only on a Friday	NO_FRI	Every day except Friday
SAT	Only on a Saturday	NO_SAT	Every day except Saturday
ALWAYS	Every day	--> 1234567	Day of the week choice 1=Sunday, 2= Monday, etc.

➤ **DM = DAY OF THE MONTH**

➤ **MO = MONTH**

➤ **YR = YEAR**

➤ **HR = HOUR**

➤ **MIN = MINUTE**

Below is an example for adding program 50 to play every day at 12:00.



Press the **OK** button to confirm Melody.
Enter 5 0 and press **OK** to confirm.
Press the **OK** button again to position in the
hour setting field and enter 12:00.

Press **OK** to confirm and continue to enter new
time programming.



Press **NO** to escape and save settings.

The following is an example for adding program number 51 to play at 12:00 on Sundays only.

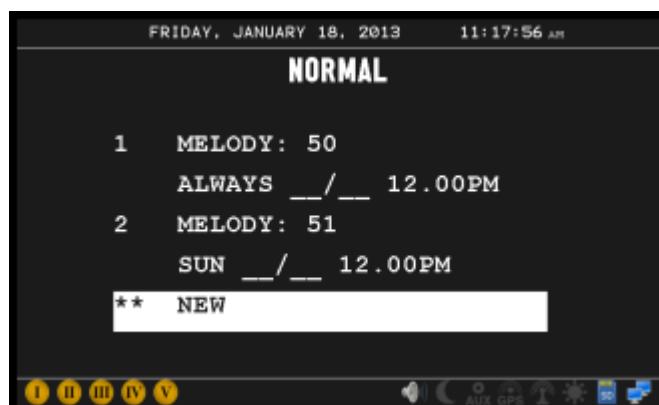


Press the **OK** button to confirm Melody.
Press 5 1 and press the **OK** button to confirm.

Use the left/right arrows until the letters
“**SUN**” appear on the screen and confirm by
pressing the **OK** button.

Now enter the hour and minutes, 12:00.

Press **OK** to confirm and continue to enter new normal programming.



Press **NO** to escape and save settings.

Below is an example for adding program number 52 to play only on the 1st July at 12:00 every year.



Press the **OK** button to confirm Melody.
Press 5 2 and press the **OK** button to confirm.
Press the **OK** button again.
Use the left arrow button to move the cursor to
the month “**MO**”, and enter 07 01 (July 1st)
and enter 12 00.

Press **OK** to confirm and continue to enter new normal programming.

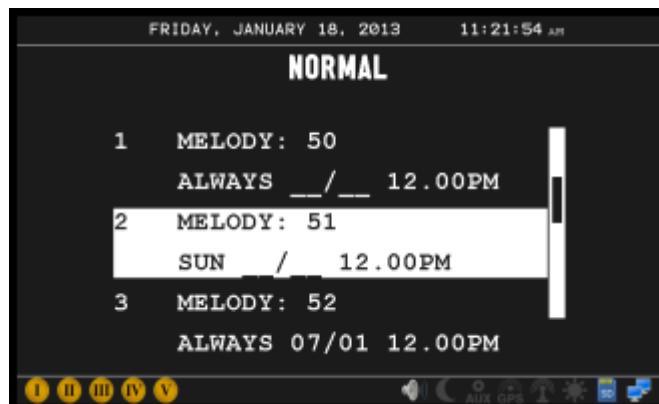
When you are finished adding new programs press **NO** to escape and save settings.

Important:

If other programming has been set to play at the same time, then the programming made in the normal programming section will have priority.

2.1.1 -EDIT / DELETE PROGRAMS

If necessary, programs can easily be modified or deleted from the normal programming menu. (2 1 1)



Highlight the program to be modified or deleted.
Press **OK**, the display will show:

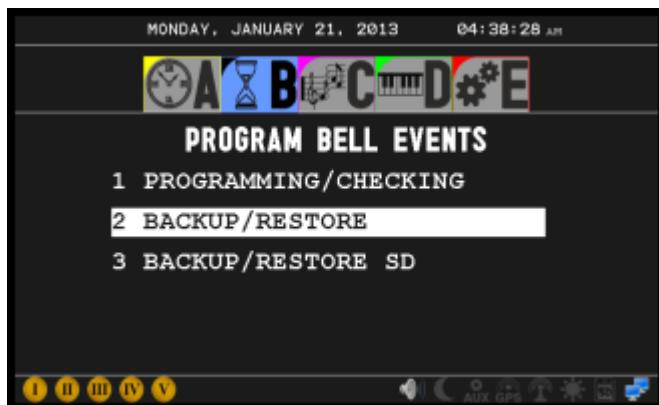


- Option 1 = Modify selected program.
Option 2 = Delete selected program.
- Continue in the same way as directed in section 2.1.1 and modify incorrect information.

2.2 -BACKUP / RESTORE

2.2.1 -INTERNAL BACKUP / RESTORE

This function allows you to copy the data inside the machine to internal flash memory. This backup can then be recalled at a later date.



Press **2, 2, Password (1 1 1 1)** and **2**, from the main menu. The display will show:



These menus allow you to:

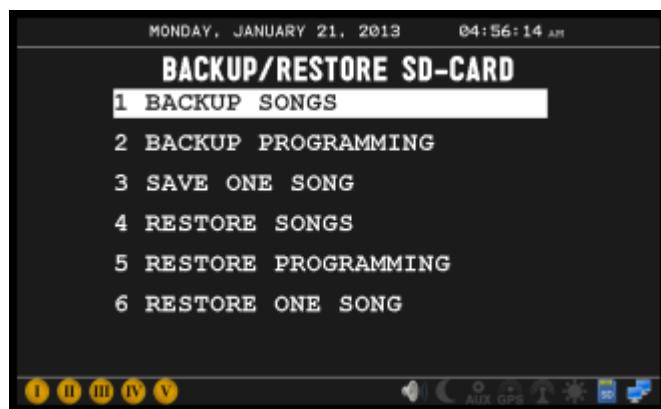
1. **Save all new melodies and libraries.**
2. **Save all time programming and configuration.**
3. **Restore all the new melodies and libraries.**
4. **Restore all time programming and configuration.**

2.3 -CREATING BACKUPS ON A SD-CARD

To create an external backup insert a SD-Card into the slot situated on the back of the machine. Wait a few seconds until the SD-Card symbol appears on screen. Now you can create backup files that can be restored at a later date.

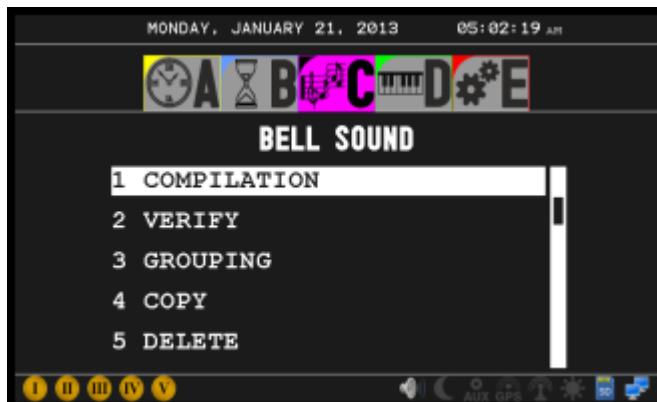


Press **2, 2, Password (1 1 1 1)** and **3**, from the main menu. The display will show:



1. Save all new melodies and libraries on SD-Card in a single file.
2. Save all time programming and configuration on SD-Card.
3. Save an individual melody on SD-Card.
4. Restore all the new melodies and libraries from SD-CARD from a single file
5. Restore all time programming and configuration
6. Restore an individual melody from SD-Card.

3.0 -BELL SOUND MENU – BUTTON 3 (ICON C)



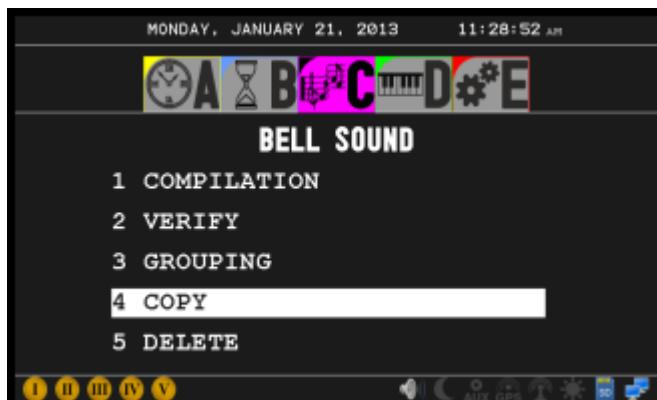
Press button 3 from the main menu to enter the Bell Sound Menu.

C1 COMPILED
C2 VERIFY
C3 GROUPING

WARNING: These sections (C1 – C2 – C3) are to be used exclusively by the installer. DO NOT MAKE ANY CHANGES TO THESE SECTIONS, as it could affect the proper functioning of your unit.

3.4 -COPY BELL SOUND

Use this function to copy an existing bell sound into another free program number.



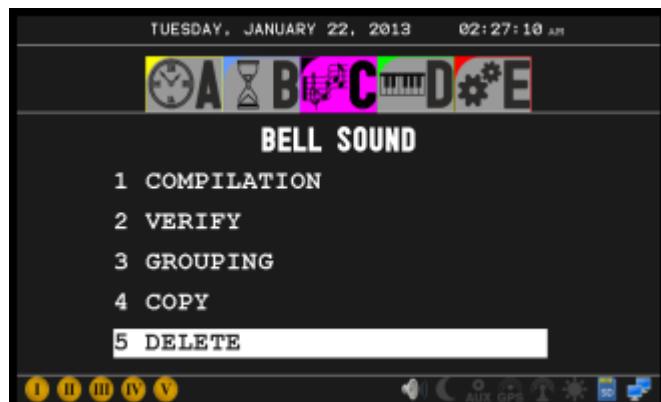
Enter the melody number to be copied and confirm by pressing **OK**. The device will propose the first free available number. It is advised to select a number over 10 as the lower program numbers are reserved for some system functions.



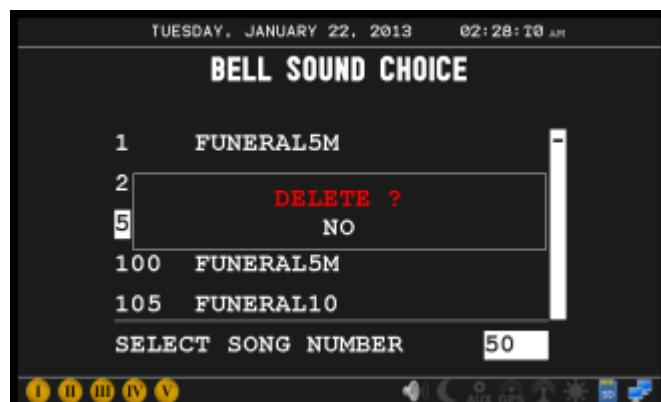
Enter a free program number and confirm by pressing **OK**.

3.5 -DELETE BELL SOUND

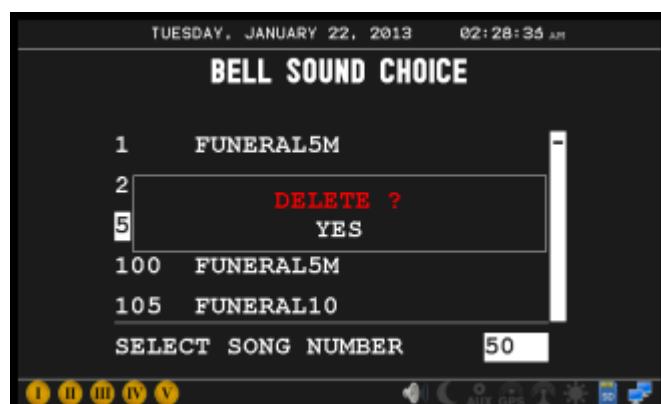
Use this menu to delete a bell sound which has been created.



Only bell sounds which have been created by the user can be deleted
Enter the program number to be deleted and press OK to confirm.



The screen will request confirmation of the bell sound to be deleted.



Use the left/right arrows to select YES and press OK to confirm. The bell sound will be deleted.



IMPORTANT

The bell sounds supplied inside the device cannot be deleted but can be modified. Before making changes to a melody we suggest you make a backup copy.

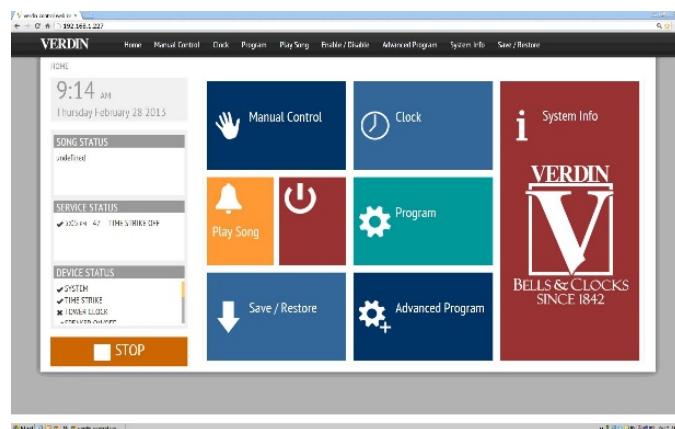
4.0 –LAN NETWORK SETUP

The network connection allows transmission and reception of data via an IP address. After the network has been configured, you can access the unit through any internet browser on YOUR LAN NETWORK for firmware upgrading, adding/editing time programming, playing sounds and more.

The default DBC 870 configuration is “DHCP CLIENT”. It automatically acquires the IP address directly from the network. To view the I.P. address and network information, enter **940** from the main display. The I.P. address can then be entered in the address bar of your browser.

The DBC 870 can also be configured with a static I.P. address, default gateway, and subnet mask. When using this function it is important that the settings are compatible with your network.

The DBC 870 can act as a DHCP SERVER. This can be useful when a computer is connected directly to it for programming. When using this setting simply connect the PC and the DBC 870 with a crossover cable and boot/restart the computer. Press **940** from the main display of the DBC 870 and enter the I.P. address in the address bar of your browser. The following screen will display:

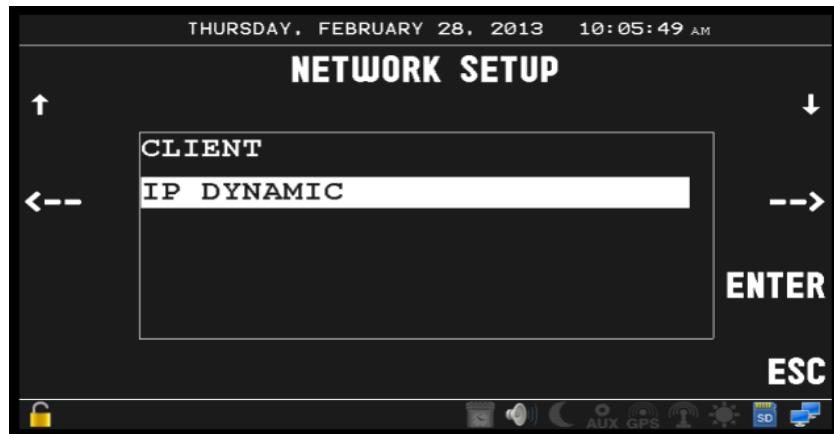


Once the connection has been established use password **7515** to gain access to manual functions and scheduling options.

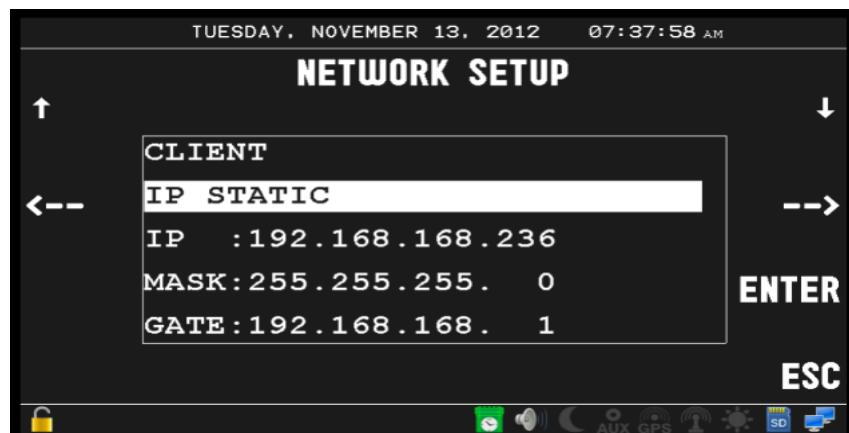
Note: When the machine is connected to a network the time will be automatically updated. For this to work correctly the DBC 870 must be configured with the correct Time Zone and correct DST (Daylight Saving Time) setting. The system will synchronize with the NTP server to obtain the exact GMT/UTC time from every time it is turned on and once a day at 12:00 AM.

Follow these steps to adjust the network settings of your DBC 870 carillon.

- From the Main Menu, press Button 5. The System Setup Screen displays. Press 3 for INFO/SETUP. Enter Password **7515** to show the INFO/SETUP screen. Then press 2 for the NETWORK SETUP.



- Use the arrow buttons to change the network configuration to suit your needs.
- If IP Static is selected the following screen will display.



- Press the up and down arrow buttons to select the parameter you would like to adjust and use the number buttons to enter the new values.
- Press ESC, the screen will display "Update? NO". Use the right arrow buttons to change the display to "Update? YES" and press Enter.

6.0.0 -QUICK FUNCTION KEYS

6.1.0 -TO PLAY A MELODY MANUALLY

Press the button with this symbol



TUESDAY, JANUARY 22, 2013 02:46:34 AM

EXECUTE MELODY

EXECUTE NO.: 0



The display will show:



Enter the program number to be played.
Example: Enter 100 and press **OK** to confirm.

To see the list of program numbers press:



6.1.1 -REPEAT MELODY PLAYING MANUALLY

To increase the number of times a bell event repeats, press **OK** while the melody is playing.



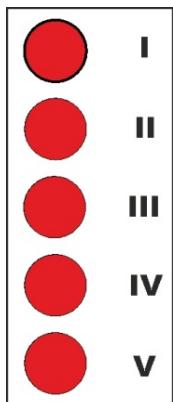
The repetition counter will increase and the melody will play for the number of times indicated on the screen.

To reset the number of repetitions and to end the song playing without interrupting it press **NO** once only.

6.2.0 -MANUAL INTERRUPTION OF A MELODY

To interrupt a melody playing, press the **NO** button three times.

6.3.0 -QUICK FUNCTION KEYS

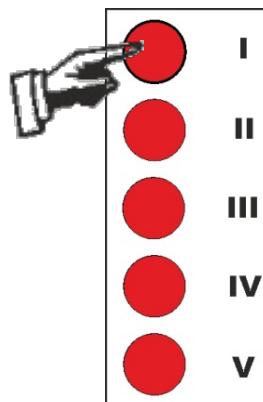
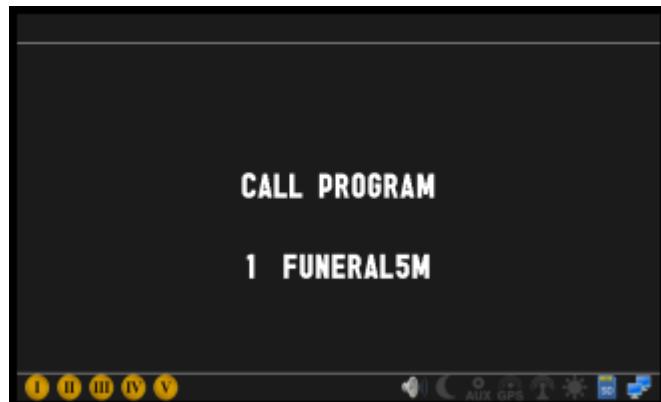


These 5 buttons are associated to program numbers 1 – 2 – 3 – 4 – 5. It is possible to copy or create a bell sound and save it in one of the above program numbers.

See section 3.4 Copy Bell Sounds for more information on this process

6.3.1 -TO PLAY A MELODY IMMEDIATELY

By pressing one of the five quick function keys the title of the melody will appear.



- To confirm your choice press OK or press NO to escape.
- Press the **NO** button twice to interrupt playing at any time.

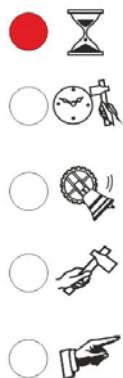
Important:

When one of the 5 buttons is selected but the OK button is not pressed, the menu will remain available for about 5 minutes before returning automatically to the main menu.

7.0.0 -INTERRUPTION OF TIME PROGRAMMING - CLOCK STRIKE

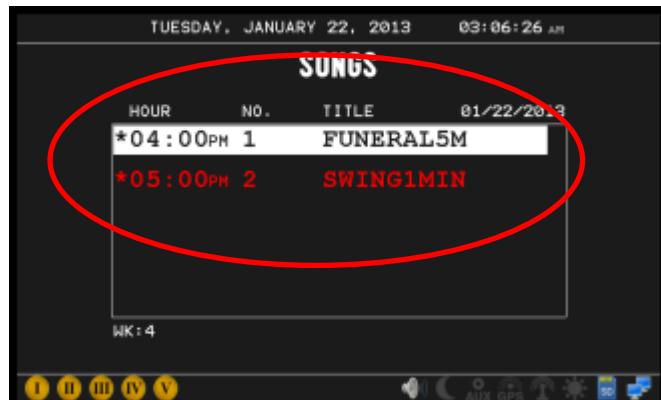
7.1.0 -INHIBIT TIME PROGRAMMING

To inhibit all time programming for an indefinite time (excluding clock chimes):



Press and hold this button  for about 5 seconds, the sign will turn off. 

To check that time programming has been inhibited, press OK.



An asterisk * will appear next to the time. 

Otherwise, check that the symbol  on the screen is off.

Note: If Clock Chimes are active, they will remain on when using this function.

7.1.1 -ENABLE TIME PROGRAMMING

To enable the time programming press and hold the symbol  for about 5 seconds.

The led on the  symbol will turn on.



7.1.2 -CLOCK STRIKE INTERRUPTION

To inhibit clock strike for an indefinite time (the clock strike will automatically turn on if a time clock strike has been programmed to turn on at a certain hour)



Press and hold the clock strike symbol

for more than 5 seconds.



Check that the clock strike led is OFF



To manually enable the clock strike:



Press and hold the clock strike symbol for more than 5 seconds.



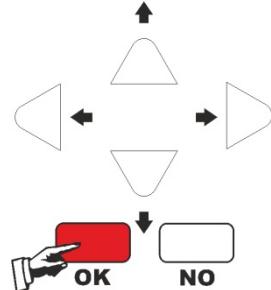
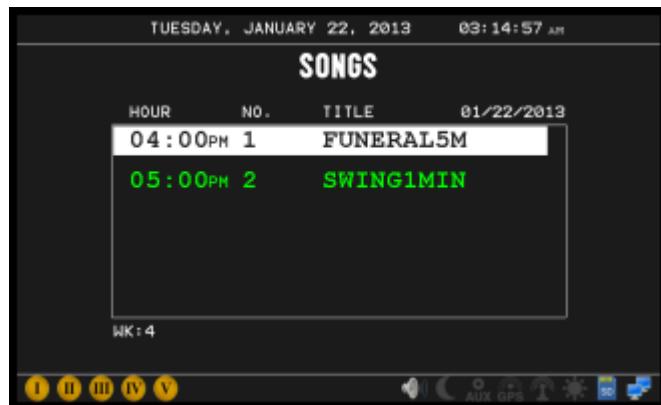
Check that the clock strike led is ON.



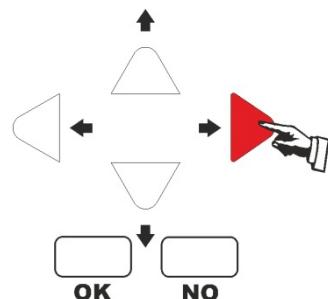
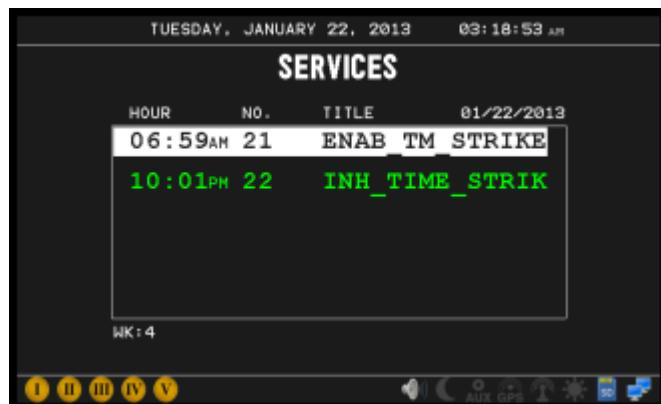
8.0.0 -CHECKING DAILY EVENTS

8.1.0 -USING THE "OK" BUTTON TO CHECK DAILY EVENTS

From the main menu press the **OK** button to view all the events programmed to play on this day. The display will show:



Press the **→** arrow key to see the service programs which have been programmed to play.



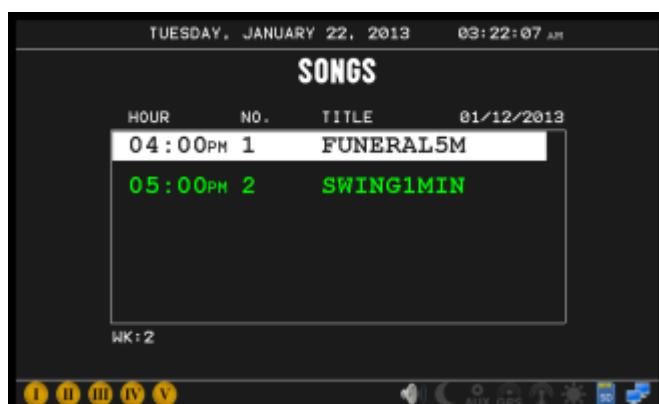
Press **NO** to escape.

8.1.1 -USING THE "OK" BUTTON TO INHIBIT EVENTS FOR ONE DAY

From the main menu press **OK + 0**
The display will show:



Check the date and modify if necessary.
Press **OK**.

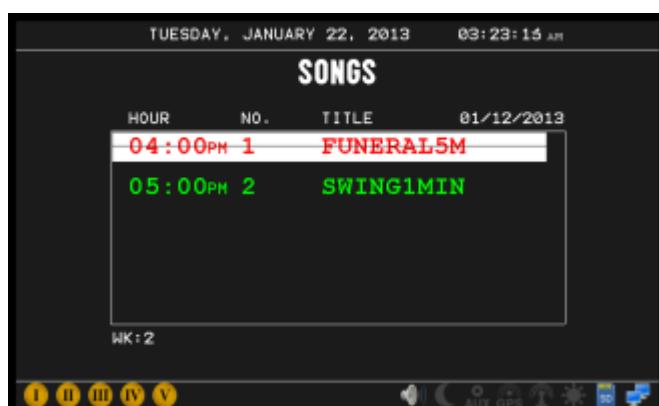


The menu will show all the melodies programmed to play on that date.

The highlighted program can be inhibited for just that time and day by pressing OK.



Press **OK** when the INHIBIT is highlighted.
The program will not play at that time and day.
The display will show:



A line through the program will indicate that it has been inhibited only on that day.
Press **NO** to escape.

9.0.0 -PLAY BELLS MANUALLY

9.1.0 -TOLL BELLS MANUALLY



Press the  button. The display will show:



1 – BUTTONS 1-9

(Use buttons from 1 to 9 on the machine)

2 – EXT. KEYBOARD

(Use a midi keyboard)

Option 1 and Option 2 the display will show:



Press keypad buttons from 1 to 9 to play for Option 1.

Use the external keyboard to play for Option 2.

9.2.0 -PEAL BELLS MANUALLY

Press the  button. The display will show:



Enter the bell numbers you would like to swing and use the top/bottom arrows to set the duration.

Press OK to start playing.

Press NO three times to interrupt playing.

10.0.0 -RECORD A MELODY USING THE KEYPAD OR KEYBOARD

Select option 4. The display will show

Procedure:



1- Choose which keyboard to use to record the melody.



2- When recording is completed press NO.

To listen to the recording select 1 Test.
Press 3 to save the new melody.
Press 2 to verify/edit song.

11.0.0 –REMOTE CONTROLS

The four button remote control enables you to play one of three pre-set bell functions by pressing a key.

- Key 1 plays Bell One.
- Key 2 plays the Funeral Toll.
- Key 3 plays the Instant Toll.
- Key 4 is the Stop key.

Note: These functions are set at the factory and may differ from what is listed above.



The full function remote offers great flexibility. Much like finger button, it can play any song as long as the song number is known. Below is a picture that shows the front of the full-function remote.



To Play a Song

- Begin by typing the digits of the song number you want to play, use the numeric buttons to enter the song number to be played. For example, type 0085 to play song number 85. All entries need to consist of 4 digits. Add 0s as first digits to any song less having less than 4 digits.
- Press the Enter key to start playing the song. The remote will send the data to the receiving system.
- The display will then go blank.
- When playing is finished, the remote will automatically turn off.

Note: To interrupt playing enter 0 in to the remote and press the ENTER button. Playing will immediately be interrupted.

- Remote will automatically turn off after 15 seconds of no button use.

TECHNICAL FEATURES – DMC/GM 870

Easy user instructions on a graphic LCD display or PC monitor.

Multilingual menu. Up to 999 melodies remote controlled. Automatic daylight saving time. Real bell control.

TIME PROGRAMMING:

Perfect synchronism for management of time programmed melodies: Fully automatic daily programming, weekdays, pre-holidays, holidays, weekly, periodic, yearly programming. Modify/checking of any programming. Automatic cancelling of programs which will no longer be repeated.

BELL SOUND PROGRAMMING:

999 bell sounds can be programmed, internal keypad or (optional) external keyboard, and remote control. Possibility of programming repetitive tolls in time, number of tolls (Angelus), peals, bell sounds in sequence, volumes, routines, chromatic scale, playing speed, etc. Modify/Verify any of the programming.

TOWER CLOCK

Full management of clock tower hands. Automatic gaining after power loss.

Power supply at 24, 110 or 220 Volts. Impulse every 30, 60 or 1 sec.

SECONDARY CLOCK

Full management of secondary clock hands. 12 or 24 hour clock. Adjustable power tension from 12 to 24 Volts 1A. Impulse every 30 or 60 sec. (optional circuit board RL085)

HOUR STRIKE

All types of systems available for hour strikes: regional, national and international types according to local traditions.

Hour strike repetitions can be personalized. Automatic Westminster clock. Any type of program can be carried out before or after hours/quarters strikes.

QUICK FUNCTION KEYS

5 keys for playing recurring bell sounds.

SERVICES

Automatic turning on of lights, even by remote control (optional).

SAFETY MEASURES:

Access codes can be programmed to prevent tampering.

PARTICULAR FUNCTIONS:

- Automatic turning ON of panel board only during melody playing and tower clock strikes.
- It is possible to enable/inhibit time programming using the remote control.
- All time programming of bell sounds are stored on inerasable non-volatile memory (no power necessary).
- Programming via Internet or PC via web browser

TECHNICAL CHARACTERISTICS:

Container	: Metal box with grounding.
Menu viewing	: LCD graphic display.
Multilingual menu	: English, Italian, French, Spanish, Portuguese, German, Polish, Russian, Romanian.
Minimum time programming time between two melodies	: 1 minute.
Clock precision	: +/- 2 seconds/day.
Absolute clock precision adjustment	: VIA RST Receiver (DCF/GPS or NTP internet server).
Clock memory keeping	: By means of lithium type battery (10 year life).
Time & melody programming memory keeping	: Indefinite on non volatile flash memory.
Functioning temperature	: From 50 to 90 degrees Fahrenheit.
Rear Mini-Din 4 pole socket	: Remote control receiver input.
Rear Mini-Din 4 pole socket	: DCF - GPS input signal (time & calendar automatic reset).
D-Sub 15 pole socket	: MD61 Keyboard, Midi Standard.
Data backup	: On external SD.
Number of relay outputs available	: 22+2 (3 RL085 relay modules).

OPTIONALS:

- Radio time radio synchronisation GPS
- 1,000/10,000 channels remote control – 433 MHz frequency

Interface for connection to relay power section:

- Twisted pair (By Contractor Other Than Verdin)

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General Warnings



This symbol is used to alert the user to the presence of important operating and maintenance (servicing) instructions.



This symbol is used to alert the user to the presence of un-insulated dangerous voltage within the product's enclosure which could constitute a risk of electric shock to persons.



All information and warnings inside this instruction manual have been carefully checked, however the contents of this manual can be changed without further notice. Verdin and its suppliers are not liable for damage caused by improper use of the product.



Inappropriate installation, improper use or incorrect maintenance can increase the risk of un-repairable damage of the product and cause damage to persons.
Carefully read the precautions, warnings and instructions indicated in this manual.

Do not remove the warranty seal. If the warranty seal is not perfectly intact then the warranty conditions are to be considered invalid.

General Electric Precautions



Do not attempt to dismantle the equipment or power supply. The electric shock caused by contact with exposed parts can cause serious damage to people and the equipment. Do not damage the power cord. It should be positioned so that it is not likely to be walked on or pulled in anyway. Use 120 Vac 60Hz direct power supply. Only use the power supply supplied with the appliance. The device is powered by the network through a plug transformer.

Environmental conditions

- Room temperature from 50° to 90°F
- Operational temperature from -50° to a 90°C
- Operational humidity 5% - 80% (without condensation)
- Do not place the appliance on an unstable surface
- Do not expose the appliance to humidity. Make sure that liquids are not spilled on the appliance.
- Do not position the appliance near any other appliance that produce heat or expose it to direct sunlight.
- Dispose of the appliance in accordance to environmental regulations.