A full manual has been not written yet. Briefly and with apologies for the
bad English:

In version 0.97 a try has been made to correctly manage the saved size setting
of the main window on screens with different PPIs. That size, at least on my
main system (Ubuntu 20.04 LTS/KDE, 3840x2160 monitor), when set, is
automatically resized by the ratio ActualScreenPPI/DesignTimePPI, leading to a
restored size which grows with each program start. Now, when the saved size is
set, it is pre-resized by the inverse amount so that the restored size is
correct. If your system doesn't have this (mis)behaviour, set the "Reverse
scaling OFF" option. The "Start always in LP mode" has been revised to work as
expected also when the RTX state is read from the CU itself (on the CU v92 only
and if the "CU firmware 92.0" option is set) and not restored from the saved
state. The main Linux 64 bit version is compiled on my radio/development system
(Ubuntu 20.04 LTS/XFCE, Lazarus 2.0.10 and 1366x768 monitor). Having at last
found the time, a check has been made for the correct behaviour of the resize
code on all systems I have. If You find some unexpected one, please report. No
new features have been added.

In the 0.96a version the font-rescale code has been rewritten to use the font
Height property, which is DPI-independent, instead of the Size property, which
is DPI-dependent. No new features were added.

The 0.96 version adds some cosmetic corrections and a feature requested by Mark
G4FPH. Now the 2182 and 500 buttons can be remapped to switch to any wanted
state. If a state file named "F2182-XXXXXX.dat" or "F500-YYYYYY.dat" exists in
the state directory, the 2182 and/or 500 buttons are renamed "XXXXXX" and/or
"YYYYYY" and by pressing them the program switches to the relevant saved state.
XXXXXX and YYYYYY must contain only valid characters for a file name and can be
of any length, but only 6 characters are shown. If XXXXXX or YYYYYY are omitted
(i.e. the saved file name is F500-.dat or F2182-.dat), then the button caption
defaults to 'CH1' or 'CH2'.

To help maintaining a common appearance across all operating system supported,
the font used for texts in the program main window has been changed to Arial
from the msttcorefonts package, a copy of that font has been stored in the
fonts subdirectory and the Linux packages now install that font also. Windows
users should have already that font installed, if not, please install it in
your system.

The versions 0.95 rev.1 and 0.95 rev.2 (not released) do not add new functions,
but only small correction to the appearance of the program (revised the
position and/or size of some texts). Some call to SerFlushInput and
SerFlushOutput has been also added to get rid of any extra character present in
the receive and transmit buffers.

In version 0.95 all TButtons and TBitButtons have been replaced by TJButtons
from the jujibo package by Julio Jiménez Borreguero. These are customizable
buttons that can have more than one line of text, a user-selectable colour
regardless of system and window manager used, themed or not, and the ability to
resize the image, if any. So, if you want to recompile the sources, install
first in Lazarus that library. The version used by the author (2.3, the latest
available at the time) is included in the source package. These changes, while
purely cosmetic, required an extensive overhaul of the the source code of the
program, so please report any wrong behaviour.

Having (at last) installed in the CU of my own TRP8255 the latest firmware
available (CU v92.0), the program has been modified to support the "Read
CU8000R status" command available in that release. In the "Options" menu there
is a new item called "CU firmware 92.0". If selected, after a check whether the
CU firmware is really the 92.0 version, at program start the status is not
restored from the last saved state but instead directly read from the CU. The

last state saved on disk is loaded anyway before the status reading from the CU, if enabled, since there is no way to read the programmable tune step value directly from the CU, so it must be read from the last state file.

The programmable tune step handling is the major feature added in the 0.95 version. There are two new menu items dealing with it, the "Enable prog tune step" in the "Options" menu, and the "Program receiver tune step" in the "Other functions" menu. By default, the programmable tune step value is set to 10 kHz. Using the "Program receiver tune step" menu entry, it is possible to program any tune step value from 0.1 kHz to 99.9 kHz, with 100 Hz resolution. To activate the function, both in the program and in the CU, check "Enable prog tune step" in the Options menu. Doing that, a fourth state is added in the "TUNE RATE" button behaviour, which becomes 10→100→1000→programmable step. That state is shown in the program as well in the CU as all step LEDS OFF. NOTE. To enable in the CU the programmable tune step bit 4 of the Option register must be set to 1, i. e. 00010000 binary or 16 decimal. That is done automatically by the program when "Enable prog tune step" is selected.

To accommodate the new functions, some modifications were required in the format of the configuration, state and channel files. An effort has been made to make the new format compatible with the old, as far as common parameters are involved. When starting the program with an old format configuration file, the default value is assigned to the missing parameters and the configuration file updated. A warning message is also issued. When loading a state/channel file in the old format, a warning message is issued, the current value is assigned to the missing parameters and the file is automatically saved in the new format.

Two other submenu items have been added in the "Other functions" menu, the "Switch antenna OFF" item and the "Re-read configuration from CU" item. The first is supposed to switch OFF the antenna and the transmitter, the second will be useful only in case the state of the program has messed up, to reload in it the CU configuration. This menu entry is available only if the "CU firmware 92.0" is checked.

A fixed delay in the SendCommand procedure yet present in the code has been removed, speeding up a bit the program. On the CU firmware V92.0 this was no more required, at least on my CU. If you notice wrong behaviour in issuing commands to the CU, try to increase the "Options▷Inter-character delay" menu item (default is zero). The original delay that has been removed was 10 ms.

Starting from the 0.90 version, code to resize the controls of the main window has been ported from an old Delphi program. The idea and first implementation belongs to Ari Hirviniemi. So no more too big main window, at start the main window is scaled to stay in the screen area and, if maximized, the size of the controls becomes bigger to use all the available space. The size and the X/Y position of the main window are saved in the configuration file when exiting the program and resumed at start-up.

The "SUPPLY/ON OFF" button starts program execution and connection with the Skanti CU. Before clicking on it, be sure to select in the "Options" menu the correct RS232 port and speed. The chosen configuration will be saved automatically.

When you start the program, the last RTX state (frequency, mode, filters, etc) will be restored. When you leave it, the actual state will be automatically saved. If no prior state exists, the program starts with and restores a default configuration (14200.0 MHz, USB, 1 kHz steps, TX on, full power, speaker on, volume attenuation 80, dimmer level 5, CU V92, programmable step and status reading disabled, no inter-character delay, yellow LED colour).

NOTE: this is mandatory, since in the v80.0 and earlier version of the CU firmware there is no way to read the state (frequency, mode, etc.) stored in

the CU. The same holds for channels stored in the CU: there is a command to
select one of them, but it is impossible to know what is the corresponding
state. So, selecting a channel, e. g. 10, the RX and TX displays both show
"CHAN 10" and all the buttons are disabled. To exit this state, select "Other
functions▷Exit Mem/Scan modes" menu entry, which rewrites the last known
configuration in the RTX and reverts to the NORMAL state. When in the CU the
firmware V92.0 is installed and the "Options▷CU firmware 92.0" menu item is
checked, this is no more required, since after recalling the wanted channel the
program can know the state of the CU by issuing the command "Read CU8000R
status".

The state can also be saved to and restored from a file. Default file name is
<frequency>-<mode>.dat, e.g. 10100.8-TELEX.dat or, if split frequency/mode is
in effect, <frequency RX>-<frequency TX>-<mode RX>-<mode TX>.dat, e.g.
900.0-14250.0-AM-USB.dat. If TX is disabled, TXOFF is shown instead of the TX
frequency. State files saved in the Channels subdirectory (menu File▷Save
channel) are automatically read and shown in the Channels menu entry and can be
loaded by just one click. To allow to rename and delete the saved state files
from within the program, a very minimal file manager is built in (menu entries
"File▷Manage states" and "File▷Manage channels").

Most of the buttons behaves as those in the Skanti CU, e.g. pressing "RX" "TX"
"ENTER" the RX frequency is copied to the TX frequency. After clicking on a
command requiring numeric input, the numbers may be entered with the on-screen
numeric buttons or with the keyboard. To allow entering negative BFO frequency
offsets using the on-screen keyboard, if the "Set BFO frequency" command is
selected, a small [+/-] key is shown at right of the [ENTER] key.

There are some functions not present in the Skanti CU, such as "RX = TX", "TX =
RX" and "Receive/Transmit" buttons and the message display. The most useful of
these is the "Transceiver" option, which reflects any modifications in the RX
(or TX) frequency to the TX (or RX) frequency. The TX (or RX) frequency update
can be immediate after any change in RX (or TX) frequency, deferred until about
1s after the RX or TX tuning stops, or disabled.

The "Enable Status" option, if checked, starts polling the CU status (received
and transmitted signal level, etc) every 0.5s and displays two bar-meters, one
for the received signal strength and one for the transmitted signal power.
Although beautiful, this really slows down the program and prevents to release
the priority to the Skanti CU, so the microphone/PTT connected to the CU
remains disabled, TX audio comes always from the TELEX input (for TELEX mode)
or AUX input (for other modes except CW) and the PTT must be operated using the
remote command, i. e. the "Transmit" button. If you want to use the transceiver
in digital modes, e. g. FT8, it is advisable to connect the audio/PTT coming
from the PC to the AUX audio/PTT input and disable the "Enable status" option.

The "Start always in LP mode" option if checked, precisely does what it says,
regardless of the power level set in the saved state and is intended for those
who have a non-Skanti automatic remote ATU which does not like to tune at full
power.

Option "Use UTC time", if checked, makes the program use UTC time when
programming the TRP8255 internal real-time clock or displaying the time in the
frequency display when the program is in the "TX OFF" state, doing the required
conversion from the PC local time. If unchecked, the time programmed and shown
will be the PC time. See also the "SET TIME" and "TX OFF" buttons.

The program tries to disable non-active keys for the chosen mode (e.g. the AGC
SLOW and AGC OFF in TELEX mode). If you want to leave all keys enabled
regardless of they are active or not, then check the "Enable all controls"
entry in the "Options" menu.

Frequency can be changed also by clicking on the RX (or TX) display.
Left-clicking on a figure decrements that figure by one, right-clicking
increments that figure by one, in the Skanti CU spirit (decrements at left,
increments at right). This only happens if the final frequency is in the range
of the RTX. Clicking on the decimal point the displayed frequency will be
rewritten.

Last, you can use the mouse wheel to tune up and down. If the wheel is rotated
with the cursor over one of the figures of the RX or TX frequency, that figure
is incremented or decremented. This now works also under Windows. If the wheel
is rotated with the cursor anywhere else, RX frequency is incremented or
decremented by the tuning step in effect. This is the fastest tuning method
since only one character must be sent to the CU. When the
"Transceiver▷Immediate update" option is selected, the wheel must be rotated
very slowly, since at every turn both the transmitter and receiver frequencies
must be set. Mouse wheel events that come in the middle of a previous event are
ignored. If it is wanted to enable the transceiver option, it is advisable to
set it to the "deferred update" mode.

Since the TX frequency can be set only in 100 Hz steps, when RX frequency is
incremented or decremented in 10 Hz steps the TX frequency is set to the
nearest 100 Hz value.

There are also some keyboard shortcuts:

          + or ↑: Tune up
          - or ↓: Tune down
              /: Change tune rate
              *: Invoke TX tune
              R: Set receive frequency
              T: Set transmit frequency
              U: Mode USB
              L: Mode LSB
              A: Mode AM
              C: Mode CW
              M: Mode MCW
              E: Mode R3E
              X: Mode TELEX
              .: Toggle between LOW, MEDIUM and FULL power
     SPACE BAR: Receive/Transmit toggle

The above commands can be issued either upper or lower case. The frequency
value for commands R and T (or RX and TX buttons) can be entered either with
thekeyboard or with the on-screen numeric keys.

OTHER COMMANDS NOT EXISTING IN CU8000
The message display shows informations about the command being executed or
status/info messages (e. g. tuning and reduced power status and info deriving
from the "READ XX VERSION" commands). Double-clicking on it clears display.

Pressing once the "SET TIME" button starts, as usual, the time input on the TX
FREQUENCY/CLOCK display. Pressing it one more time sets the TX FREQUENCY/CLOCK
display to the current PC time. ENTER then writes the new time to the Skanti
CU.

The tuning step can be selected either by pressing the "STEP" button or by
clicking on the corresponding "LED". The behaviour is however different: when
using the "STEP" button, the behaviour is the same of the CU8000, so the 10
Hz figure is left active and displayed. By clicking on the corresponding "LED",
the 100 Hz and/or 10Hz figures are reset to zero and the latter not displayed
anymore.

Example: being at 10 Hz step, frequency 12345.67 kHz:

- clicking the "STEP" button: step becomes 100 Hz, the frequency stays at
  12345.67 kHz and clicking on the "UP" button the frequency becomes
  12345.77 kHz;

- clicking on the "LED" under the 100 Hz figure: step becomes 100 Hz, the
  frequency is reset to 12345.70 and displayed as 12345.7 (no more 10 Hz
  figure) and clicking, as above, on the "UP" button, the frequency becomes
  12345.8 kHz.

NOTE ON CONFIGURATION AND STATE FILES.
All configuration files are kept in the .SkantiControl (Linux) or SkantiControl
(Windows) directory of your home directory. In case the program configuration
has messed up, delete (or move) the "Config.dat" and "LastState.dat" files and
the program at next start will recreate them using the default configuration.

TODO.
* Implement some remote functions that now are either not implemented at all
  (e. g. SCAN commands) or implemented at basic level but not tested due to
  missing options on my TRP8255 (e. g. DUPLEX, SQUELCH) or implemented only
  approximately due to not well understood documentation on my side (e. g.
  SCAN BUFFER commands).

* Thoroughly check correctness of the state machine against the CU8000
  behaviour.