SATELLINE-EASy and –TR1radio modem family firmware version 3.52 release note

APPLICABILITY

The firmware version **3.52** is the new **default firmware** for following SATELLINE-EASy and –TR1 family modems (SATEL product code YM6xxx).

This version replaces the previous version 3.48.12 in deliveries for following products, unless a specific other firmware version has been indicated:

- ➢ YM6300 SATELLINE-M3-TR1
- ➢ YM6500 SATELLINE-EASy w/o display
- ➢ YM6550 SATELLINE-EASy w display
- ➢ YM6803 SATELLINE-EASy Pro 35W

CHANGES

The new features and fixes to the previous released version 3.48.12 are:

1. **ADDED:** New/modified SL commands

2. **ADDED:** "LCD Read-only" mode

3. **ADDED:** "Channel list in use" parameter

4. **ADDED:** Firmware variant with limited access to modem parameters via display (SURV)

5. **ADDED/MODIFIED:** "Add RSSI to Data" functionality

6. **IMPROVED:** Source routing functionality

7. **IMPROVED:** Radio Compatibility modes presented in understandable format

8. **IMPROVED:** LCD back light timing adjusted

9. **FIXED:** Channel list allows frequency 0 MHz and power 0 mW

10. **FIXED:** 0 is accepted as Call Sign Id value

1. New/modified SL commands (SL$L?nn / SL$C? / SL@S=n / SL@S?)

SL$L?nn (= Get Channel Info):
Command returns the channel information. The "nn" in this command is the channel index of the desired channel (not channel number in decimal format). "00" as index returns the first channel of the channel list, "01" second channel… etc.

The response includes the information in following syntax:
CH -123, 438.000 MHz, 12.5 kHz, 100 mW\0D (in this example the channel number is -123)

Modem responds with **ERROR** in case the index is missing from the commands, the "Channel list in use" parameter is set to OFF state or the channel list is empty.

SL$C? (= Get number of channels in Channel list):
Command returns the number of available channels in the channel list. The number is presented in decimal format.

SL@S=n (= Set radio compatibility mode)
One compatibility mode has been added to the previous Compatibility mode list:

- ✓ **SL@S=n** , where "n" defines the *Radio Compatibility* mode to be used
    - o "0" is the SATEL 3AS mode
    - o "1" is the Pac Crest 4FSK (Option1) mode
    - o "2" is the Pac Crest GMSK (Option2) mode
    - o "3" is the Trimtalk GMSK (P) (Option3) mode; RX fits to Pac Crest modems
    - o "4" is the Trimtalk GMSK (T) mode; RX fits to Trimble modems)

SL@S? (= Get radio compatibility mode)
Command returns the current Compatibility mode in use. One additional option added.
    - o "0" is the SATEL 3AS mode
    - o "1" is the Pac Crest 4FSK (Option1) mode
    - o "2" is the Pac Crest GMSK (Option2) mode
    - o "3" is the Trimtalk GMSK (P) (Option3) mode; RX fits to Pac Crest modems
    - o "4" is the Trimtalk GMSK (T) mode; RX fits to Trimble modems)

2. LCD WriteLock mode
When enabled the user can use the LCD display for verifying the modem settings, but changing/saving the parameters cannot be done without accessing the programming menu without the computer.
This parameter can be found from the programming menu (accessible with SATERM, and from Misc tab from Configuration Manager).

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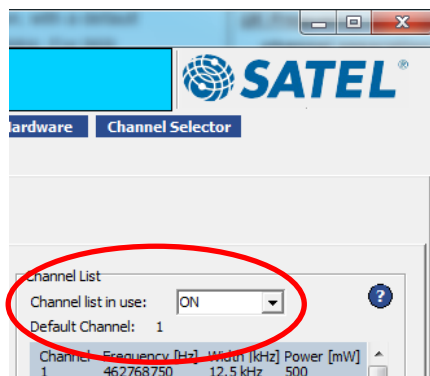www.satel.com

3. "Channel list in use" parameter
   The channel list may be forced into use by enabling this parameter. When this is set to OFF state, the user can define operating frequency within whole 70 MHz tuning range. OFF state is also required, when defining separate TX and RX frequencies.

   In new SURV firmware this parameter is set to ON state by default.

   NOTE!
   When upgrading the firmware version from SURV variant to standard one, this parameter is not automatically changed. It can be changed with the Configuration Manager at the same time, when the other modem parameters are set.

4. Firmware variant with limited access to modem parameters via display (SURV)
   This firmware variant was developed basing on the customer requests for easier access to e.g. surveying relevant parameters. The user can change the following settings from the display (unless it is in Read-only mode):

   - **Channel** (channel list includes operating frequency, channel spacing and channel related TX power)
   - **Compatibility** (PCC and Trimtalk 450s options)
   - **Repeater** (ON/OFF)
   - **FEC** (ON/OFF)

   From Info view the user can still double-check the other modem parameters in use.

   NOTE!
   When this firmware variant is in use, the "Channel list in use" parameter is set to ON state by default. In case the channel list is empty, the power amplifier doesn't start up at all.

   More details related to this specific firmware variant is available in technical training material from Vienna (May 2012).

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5. **Add RSSI to Data functionality**
   When enabled the receiving modem adds the RSSI signal level information to the data packet, when giving it out from the serial interface.

   The syntax is the following:
   DATA-MESSAGE\02RSSI:-nnn dBm\03\0D\0A

   NOTE!
   The maximum signal level the modem indicates on display or via with this method is -80 dBm.

6. **Source routing functionality**
   There are several smaller modifications for improving source routing functionality in repeater/over-hopping cases.

7. **Radio Compatibility modes presented in understandable format**
   The following descriptions for different modulation options are shown:
   - o SATEL 3AS mode
   - o Pac Crest 4FSK (in previous versions Option1)
   - o Pac Crest GMSK (in previous versions Option2)
   - o Trimtalk GMSK (P) (in previous versions Option3; RX fits to Pac Crest modems)
   - o Trimtalk GMSK (T) (new option; where RX fits to Trimble modems)

8. **LCD back-light timing adjusted**
   The back light leds are now lit for 10 s. The timer restarts from every button push.

9. **Channel list accepts frequency 0 MHz and TX power 0 mW**
   This change was required for allowing the CM software to set and save (=erase) the channel list, so that possible previous values are not left written into modem memory.

10. **0 is accepted as Call Sign Id**
    When 0 is given as Call Sign Id, all related parameters are set to factory defaults (CallSignMode=OFF, CallSignInterval= 1 min).

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COMPATIBILITY

The released software version is downwards compatible to v.3.xx basic software.

NOTES

Note 1.   **The flash update of the firmware versions starting from 3.00 requires Saterm version 4.0 or later.** Saterm recognizes whether the software to be updated matches the hardware of the radio modem. The SATELLINE-EASy and other –TR1 modem family products the Configuration Manager software can be used for flashing the modem firmware.

Note 2.   **The numbering of the software versions:**
The software versions starting from number 3.00 apply for the radio modems labeled with "E2" marking. (=equipped with the 3069 microprocessor). The name extension of those Flash files is **.sf2** instead of .sff.

The software versions 0.xx...2.xx apply for the radio modems which do NOT have the marking "E2" on the label (=equipped with the 3048 microprocessor).

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