CUSTOMER RELEASE NOTES

X5 Firmware
Version 6.03
10. June 2010

INTRODUCTION:

This release of the X5 Firmware introduces several new features and enhancements to existing features of the Infostream X5 pager. It further improves reception reliability for FLEX and POCSAG paging messages.

It is recommended that one thoroughly review this release note prior to upgrading the firmware on the X5 pager.

FIRMWARE SPECIFICATION:

Version	Reason for Release	Release Date
6.03	Fix watchdog when long encrypted messages are received and keywords 32 keywords are defined. Hide repeat message timeout on FLEX pagers. Optimise and re-factor source code	10/06/10
6.02	Fix button lock logic, fix RX missing message bug, improve sync detection, 4 lines of configurable status text, reduced RIC match tolerance feature, fix cache bug when deleting messages, fix PLL issues, set default config after manufacture. Tradeshow demo application.	04/06/10
6.01	Implement new test mode, disable band select and Antenna alignment when frequency is set.	05/05/10
6.00	Enhanced capcode types, fix I2C protocol, repeat message disable fix, message cache fix.	23/04/10
5.02	Added Italian language support.	12/02/10
5.01	German translation updated. Reminder beep for low battery alert turned off as it is re-issued anyway.	04/02/10
5.00	New stopwatch feature, new flight mode feature, smart fixed message support, message display caching, flat folders, multi-channel (frequency and protocol switch-able by profile).	14/01/10
4.09	Fix issue where some messages had additional characters appended. Fix issue where some new messages would automatically be protected. Fix issue where keyword alerting did not work under some conditions.	04/02/10

4.08	Improved POCSAG sensitivity, slow xtal warmup option, oscilloscope service mode enhancements.	09/12/09
4.07	Fix bug in POCSAG error correction.	07/12/09
4.06	Fix repeat message indexing bug and increase timeout count by one.	03/12/09
4.05	Fix bug relating to repeat messages and fixed message indexing.	02/12/09
4.04	Repeat message alerting improved.	18/11/09
4.03	Low level receive code improved, new FLEX diagnostic tools added.	13/11/09
4.01	New features (Profiles, PIN lock).	28/09/09
3.08	Improve support for various synthesised receiver hardware.	10/09/09
3.07	Adjust receiver timing for synthesiser hardware.	03/09/09
3.06	Add synthesiser code modification to get antenna tune, PLL frequency and receiver frequency from ROM.	24/08/09
3.05	Improve logic of repeat message algorithm.	10/08/09
3.04	Red button bug, repeat message, screen not timing out bugs fixed.	06/08/09
3.03	New feature to hide Move message menu and support for settable background colour in About page. Spinning wheel animation.	30/07/09
3.02	Fix real time clock bug. Fix production hardware test and other production related bugs.	16/07/09
3.01	Improve power saving, configuration data is now saved to ROM.	15/07/09

HARDWARE COMPATIBILITY:

This latest X5 Firmware release supports X5 pagers with crystal as well as synthesised receivers. The X5 pager must have Bootloader v2.02 or later installed.

INSTALLATION AND CONFIGURATION NOTES:

Please refer to Infostream Document: *148-1001E - X3 and X5 Programming Web site*.

FIRMWARE CHANGES AND ENHANCEMENTS:

Current release (this release, v6.03):
- Fix watchdog when long encrypted messages are received and keywords 32 keywords are defined.
- Hide repeat message time-out on FLEX pagers.
- Optimise and re-factor source code

Previous release (v6.02):
- Fix button lock logic
- Fix timer bug that could result in missing a multi-message in same batch.
- Fix bug in message cache that could lead to memory corruption and watchdog when deleting messages from cache.
- Improve PLL operation.
- Set default configuration on newly manufactured pagers.
- Trade show demo application.

Previous release (v6.01):
- Implement new test mode.
- Disable band select and Antenna alignment when frequency is set.

Previous release (v6.00):
- Enhance capcode types.
- Fix I2C protocol.
- Fix bug when deleting message from cache.
- Fix bug where repeat message could not be turned off.

Previous release (v5.02):
- Added Italian language support.

Previous release (v5.01):
- German and Dutch text updated.
- Keyword alerting now uses ROM as well as user defined keywords.
- Turn reminder beep for low battery alert off as it is re-issued anyway. Otherwise a reminder beep will occur every 30 seconds draining the battery unnecessarily.

Previous release (v5.00):
- New Stop-Watch feature with LAP times.
- New Flight Mode feature (only turn receiver off).
- New Flat-Folder feature (folders can now be displayed in the main menu).
- New Multi-Channel support feature. Frequency and Protocol are switch-able by profile.
- Caching of message display to improve rendering speed.
- Improved recalculation speed of message lines.

Previous release (v4.09):
- Fix issue with messages occasionally having extra characters appended to the message.
- Fix issue where some new messages would automatically be protected.
- Fix issue where keyword alerting did not work under some conditions.

Previous release (v4.08):
- Improve POCSAG receiver sensitivity.
- Add option for slow receiver XTAL warm-up.
- Enhance Oscilloscope display to measure XTAL warmup time.

Previous release (v4.07):
- Fix bug in POCSAG error correction.

Previous release (v4.06):
- Fix repeat message indexing bug and increase time out count by one.
- Improve repeat message handling on Tone-Only messages.

Previous release (v4.05):
- Fix bug relating to repeat messages and fixed message indexing.

Previous release (v4.04):
- Improve handling of repeat messages during alerts, now updates alert window text.
- Fix alerting stack for repeat messages (mini-beep on linked text will not override currently playing alarm tone).
- Fix bug relating to About page being exited when pager is placed and removed from charger while in About page.

Previous release (v4.03):
- Improve receive code reliability for FLEX and POCSAG.
- Add FLEX error diagnostic tool.

Previous release (v4.01):
- Add support for 16 user profiles.
- Add support for turn on PIN lock.
- Only set LCD brightness if display is actually turned on.
- Set screen to black before turning all peripherals off (results in no flickering when turning pager back on).
- Fonts can now individually be unpacked to improve start-up speed.
- Add support for individual keyword alert tones.

Previous release (v3.08):
- Improve synthesised receiver board configuration.
- Fix 2400 Baud POCSAG receiver code (broken in v3.06).

Previous release (v3.07):
- Add support for various synthesised receiver board designs.

Previous release (v3.06):
- Change SYNTH (PLL) code to get crystal frequency from ROM configuration block.

Previous release (v3.05):
- Improve repeat message matching algorithm.

Previous release (v3.04):
- Fix bug, repeat message detection matches almost identical messages incorrectly.
- Fix bug relating to screen sometimes not timing out.
- Fix bug, red button needs to be pressed twice when the pager is on the charger to bring it out of screen saver mode.
- Fix bug, when turn off time specified and pager is in About or Clock page and receives messages it does not turn off at the specified time.

Previous release (v3.03):
- Add new feature to hide Move Message menu using bit in global folder flags (settable via programming web site only).
- Add new feature to set background colour of About page via programming web site.
- Replace blue LED animation with spinning wheel animation during startup.
- Fix bug relating to reminder beep not working properly.
- Fix bug, when pager is on charger, a message is received and the green button is pressed, the pager displays the home screen instead of the message display.

Previous release (v3.02):
- Fix bug in production hardware tests where test got stuck in PCLINK mode.
- Fix ESN display bug in PCLINK when ESN is 0.0.0.0.
- Set language to English when configuration ROM is not initialised.
- Fixed language initialisation so that calendar months appear in correct language after battery removal
- Improved I2C code to use correct timing.

Previous release (v3.01):
- Fixed bug, when pager is turned off and placed on charger and alarm or auto-turn on time is set, the pager would not turn on.
- Fixed bug, when pager is on charger and Auto-Off time is set, pager did not turn off at specified time.
- Improve power save.
- Disable/remove Sleep mode from menu.
- Fix '!' in digital16m_font (it needs 1 pixel space to the left of it).
- Fix bug in Folder menu. The capcode menu is shown when no capcodes are assigned to the folder, it should be hidden.
- Remove time scale from LiPo Log (too confusing and not required).
- Add support for synthesised receivers.
- Re-group hardware tests to improve testing on production floor.
- Add support for FLASH ROM configuration.
- Add support for fixed (canned) messages.
- Move Advanced menu to About page menu (enabled via feature mask).
- Hide Holster menu (enabled by feature mask).
- When pager is turned off and placed on charger it now goes in a special state that displays the charger screen only, it remains "turned off".
- Allow to turn pager off while it is charging.
- Replace blue led animation during start-up with spinning wheel.
- Force button text to be English in battery reconnected message.

KNOWN RESTRICTIONS AND LIMITATIONS:

The repeat message buffer can handle 12 repeat messages simultaneously.

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