

Firmware Library



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AV Products

FM_232-ATSC.TXT

*
* 232-ATSC HDTV Tuner RS-232 controlled
*
* V1.1 03-12-07 Initial release similar in style to 232-STA/STS firmware V4.5
*
* V1.3 04-21-07 Fixed that Air/Cable could get out of sync. Added PCM Variable
* as FP mode 47.2 and for 'KK=160' command
*
* Following versions require HD processor V0.62 and higher firmware
*
* V1.4 09-10-07 Adds FP mode 6 and 'T^' command for initiating channel scan.
* Adds FP mode 0 and 'S0=' command for setting RF tune mode.
* Adds external contact closure inputs for channel up and down.
*
* Important update HD processor V0.65 and higher firmware fixed a major bug
* that could randomly create a vertical line with a video wrap
* problem in an analog video channel
*
* V1.5 02-06-08 Fixes bug when reading switches during power up when a
* null modem cable with the extra wires is used
* V1.6 04-03-08 Fixes bug for show channel numbers 100-109 whereby the
* middle 0 digit was showing as a blank. Adds unit 0 global
* commands. Adds 'IB' show bootloader version, and 'U3' pass
* thru to HD processor commands
*
* Following versions require HD processor V0.68 and higher firmware
*
* V1.7 04-28-08 Adds 'U3' responses. Adds 'D0=' command for setting channel
* scan mode. Adds 'D4=' command for setting overscan 0-9%
* Adds 'XD=' channel delete and 'XA=' channel add commands.
* Adds '>1\$D ' prefix to display memory responses
*

FM_IP-HDTV.TXT

- * IP-HDTV tuner with Ethernet and RS-232 control
- * V1.1 06-05-05 Ethernet uses fixed IP addr and Telnet port 23
- * V1.2 06-28-05 Adds KK= cmds for setting output and format. No FP modes yet.
- * V1.3 07-01-05 Adds FP Setup modes for output, format, baud, unit, and show
* firmware version
- * V1.4 07-23-05 Added 38.4K, 57.6K, and 115.2K baud rates. Adds Disp Line 2
* feature. Adds front panel lockouts
- * V1.5 08-08-05 Adds DHCP mode. Adds FP Setup modes for IP, IM, IG, and IX
- * V1.6 08-10-05 Adds PASS mode via TCP or UDP port 2001. Adds IY cmd.
- * V1.7 08-11-05 Adds FP Setup mode for setting the IP Mode (IY)
- * V1.8 08-17-05 Adds Z! cmd and FP Setup mode for setting to factory defaults.
* Adds IY= to the end of the \$IP status string
- * V1.9 09-01-05 Adds RS-232 control port enable/disable. Adds RS-232 comm
* param selections (Num of Data bits, Parity, Stop Bits)
- * V2.0 11-18-05 Shows number keys on LCD display as the keys are entered.
* Adds HTML based web control panel page
- * V2.1 12-20-05 Fixes link/connection problem with Dell 2624 ethernet switch
* whereby the auto-negotiate was not working with this unit
- *

FM_232-STA_MTA.TXT

*
* 232-STA Stereo TV Tuner, RS-232 controlled
* 232-MTA Mono TV Tuner for V1.5 and up
*
* V1.0 07-28-97 Initial release
* V1.01 07-31-97 Enables COP on power up (was not being enabled with EMP20 pgm)
* V1.1 08-28-97 Fixes bug for HRC chan 6 not working. Defaults TR thru chan 69.
* If EESSR is set to 0, then RS-232 send of Stereo/Mono disabled
* V1.2 12-15-97 Fixes bug where chan down would not wrap back around if tune
* ring was exactly just one range (example range chans 2-99).
* Adds 'TT' and 'QT' tune chan if in tune ring cmds. Adds 'P0',
* 'P1', 'PT' and cmds. Adds 'TP' tune previous chan (if in chan
* ring) cmd
* V1.3 06-29-98 Fixes bug where for chans 100-109 the middle digit '0' would
* not appear on the display. Defaults TR thru chan 99 and 126
* V1.4 04-03-99 Adds support for STV5730 OSD with numeric channel labels. Adds
* 'TM' cmd for enabling labels, 'Q?' tune cmds without labels,
* and 'DM' cmd for clear OSD
* V1.5 12-27-99 Adds support for 232-MTA Mono tuner with AEN hardware pin
* V1.6 03-14-00 Adds 'KC=0..9' and 'KT=0..9' keypad chan cmds with auto-enter
* 05-08-00 Adds support for alpha labels (must have STV5730 CG and 25160).
* Adds 'TN=8,ABC' cmd for setting channel label 8. Adds 'TN=0,0'
* cmd for clearing all channel labels. Reinit's STV5730 regs
* during each clear OSD. Adds new var NV_SIZE (0=25040, 1=25160)
* V1.7 08-08-02 Greatly expands CG cmds and capability to include moving
* cursor pos and writing generic text all over the screen
* V1.8 08-08-02 Took out cvt lower to upper case because lower case chars
* were not able to be displayed on the CG. Removed the RTI
* time delayed clear OSD because sometimes a 'DM' followed
* closely with a move cursor cmd would not work correctly
*
* The following versions require hardware rev P (and higher).
* This product has a software bootloader for firmware update capability:
*
* V3.2 12-03-03 Initial release for the new 9S12 chip. Press and hold both
* channel up and down buttons while powering up to enter
* bootloader mode. Adds FP modes 10 through 14
* V3.3 12-04-03 Adds 'ZQ' cmd to enter bootloader mode
* V3.4 03-02-04 Adds '\$R' and '\$N=' request tune ring and chan label cmds.
* Adds 'KK=' simulate IR remote button press cmd.
* Adds 'KD' cancel a KC or KT cmd in progress.
* V3.5 08-30-04 Adds 19.2K baud to FP mode 1. Expands number of units loopable
* from 3 to 9.
* V3.6 03-03-05 Fixes infrequent power glitches resulting in no audio output.
* V3.7 04-18-05 Compatible with Mk5 and Mk3 byte sequencing.
* V4.0 08-25-05 Adds commands for new global unit number '0' to All units.
* V4.1 11-30-05 Adds support for MK3 and MK5 tuner modules.
* V4.2 02-03-06 Fixes bug when entering FP modes 10-14 whereby the current
* value was being shown incorrectly (shown same as modes 0-4)
* V4.3 02-07-06 RF input levels and video work better for MK3 tuner modules
* V4.4 04-05-06 Fixes bug where IRC mode not working (except chans 5 and 6)
* V4.5 09-16-06 Adds ability to use 25C160 memory chip. Added power up delay
* of about 8mS to allow tuners with new tuner power switch
* more time to come up

FM_232-STS.TXT

*
* 232-STS Stereo TV Tuner, S-Video, Captions, RS-232 controlled
*
* This product has a software bootloader for firmware update capability:
*
* V3.1 07-05-03 Initial release similar to 232-STA V1.8 but for the new 9S12 chip.
* Press and hold both channel up and down buttons while powering
* up to enter bootloader mode
* V3.2 12-03-03 Now allows lower case characters in alpha channel labels
* V3.3 12-04-03 Adds 'ZQ' cmd to enter bootloader mode
* V3.4 03-02-04 Adds '\$R' and '\$N=' request tune ring and chan label cmds.
* Adds 'KK=' simulate IR remote button press cmd.
* Adds 'KD' cancel a KC or KT cmd in progress.
* V3.5 07-12-04 Adds 19.2K baud to FP mode 1. Expands number of units loopable
* from 3 to 9. Adds Q2=2 to video loss detection mode
* whereby audio is not muted but still has blue screen video.
* Selecting Ext A/V input (channel 126) now does not mute the
* audio, regardless of Q2 mode. Reduces blue current draw 10mA.
* V3.6 03-03-05 Fixes infrequent power glitches resulting in no audio output.
* V3.7 04-18-05 Compatible with Mk5 and Mk3 byte sequencing.
* V3.8 06-05-05 Adds video loss cmds Q2=1 and Q2=3 (FP modes 12.1 and 12.3)
* so as to not switch to blue screen upon video loss detected.
* V3.9 06-24-05 Adds discrete IR codes for Power On, Power Off, Input selects.
* V4.0 08-25-05 Adds commands for new global unit number '0' to All units.
* V4.1 11-01-05 Fixes issue with no video or problem with CG on power up.
* Fixes reset problem with new date code Zilog parts in
* SN 271-5033-001 through 271-5033-109. Adds support for
* MK3 and MK5 tuner modules.
* V4.2 02-03-06 Fixes bug when entering FP modes 10-14 whereby the current
* value was being shown incorrectly (shown same as modes 0-4)
* V4.3 02-07-06 RF input levels and video work better for MK3 tuner modules
* V4.4 04-05-06 Fixes bug where IRC mode not working (except chans 5 and 6)
* V4.5 09-16-06 Adds ability to use 25C160 memory chip. Added power up delay
* of about 8mS to allow tuners with new tuner power switch
* more time to come up

FM_232-STSi.TXT

*
 * by cursors) does a toggle of the TV Standard
 * V6.1 08-01-07 Adds ability to use 25C160 memory chip. Fixes external
 * audio input to pass through even if no external video input*
 * 232-STSi Stereo PAL Tuner with 9S12 chip, S-Video, Captions, RS-232 controlled
 *
 * V3.6 10-14-04 Initial release like 232-STSi software V3.5 but for PAL tuner.
 * Only supports PAL B/G/H for Europe plans 0 and 1.
 * Press and hold both channel up and down buttons while
 * powering up to enter bootloader mode
 * V3.7 12-08-04 Added PAL B/G/H for Australia/New Zealand plans 0 to 6.
 * V3.8 01-18-05 Added PAL B/G/H for Europe plans 2 and 3. Adds Mega8 full
 * blue screen support
 * V3.9 02-01-05 Adds PAL I for UK, Ireland, So Africa as plan 5. Adds Ni cam
 * stereo audio for plans 3 and 5
 * V4.0 04-08-05 Fixes bug in text display where only 8 lines of text were
 * visible at a time. Moves text lines down by one line reducing
 * an intermittent vertical jitter problem on some displays. Now
 * there are only 12 text lines available instead of 13. Extends
 * the text write default timeout to 30 secs instead of 15
 * V4.1 04-21-05 Compatible with Mk5 and Mk3 tuner modules
 * V4.2 05-02-05 Adds 294.5MHz as channel 70 to PAL B/G/H broadcast.
 * Adds 49.75MHz as channel 1 to PAL B/G/H broadcast Europe.
 * Adds 47.25MHz as channel 1 to PAL B/G/H broadcast Italy
 * V4.3 09-10-05 Added PAL D/K with Ni cam as TV Std 4. Adds TV plans up to 7.
 * Adds discrete IR codes for Power On, Power Off, Input selects.
 * Adds commands for new global unit number '0' to All units
 * V4.4 12-10-05 Fixes issue with no video or problem with CG on power up.
 * Fixes possible reset problem with new date code Zilog parts.
 * Adds video loss cmds Q2=1 and Q2=3 (FP modes 12.1 and 12.3)
 * so as to not switch to blue screen upon video loss detected.
 * Adds \$F request tune freq and TV Std cmd
 * V4.5 07-24-07 Adds ability to use 25C160 memory chip
 *
 * V6.0 12-17-05 Adds auto-search tune with channel presets (instead of fixed
 * channel plans). Adds TS=x set preset, TE=x-y delete preset
 * commands. Adds \$G= request chan preset info command.
 * Adds T] search up, and T[search down tuning commands.
 * Adds IR remote functions for: cursor up does search up,
 * cursor down does search down, cursor right adds preset
 * cursor left deletes preset, and Top (or unmarked button
 * by cursors) does a toggle of the TV Standard
 * V6.1 08-01-07 Adds ability to use 25C160 memory chip. Fixes external
 * audio input to pass through even if no external video input
 *

FM_AV6x4.TXT

- * 08-30-94 V1.0 Initial release
- * 09-12-94 V1.1 Added '>EN' Echo On, '>EF' Echo Off, Front Panel disable levels (changeable from RS-232 or FP Mode 4), and show software version on FP Mode 6
- * 05-09-95 V1.2 Changes switch/LED scan rate from 3.33 to 3.0mS and adds an extra 5uS delay before reading switches
- * 07-28-95 V1.3 Fixed bug where a '>PV=T3' command did not work (a T in the output select B/D position does not set lock-out level to 3)
- * 04-22-96 V1.4 Required for the 330 and 0.1uF RC network from AVRST to MT8814s Also, helps reinforce outputs for ESD immunity
- * 07-24-96 V1.5 Fixes bug in front panel gain mode when switching back and forth between inputs (crosspoint switches were not getting reset properly because of timings and the RC network added)
- * 02-21-97 V1.6 Adds PA2 switch override to Audio Input 6 (for Associated Air)
- *

FM_IR-232.TXT

- * IR-232 IR to RS-232 Converter
- * With S12 firmware update capability
- * V1.2 08-27-04 Initial release. With 12.2K user memory
- * V1.3 09-01-04 Adds Sony 20 bit codes (such as for DVD player)
- * V1.4 09-13-04 Fixes bug for NEC and Samsung codes to custom strings
- * V1.5 09-14-04 Relaxes NEC timings to work better with RCA universal remote.
- * Makes Sony more selective to require exactly 12,15,or 20 bits
- * V1.6 11-19-04 Adds Tivo IR as type 9 with 8 hex bytes

iC-Net and QMOD

FM_QMOD-HD.TXT

- * QMOD HDTV Modulator
- * V1.4 11-09-09 Adds 1080i, 480p, Video, S-Video inputs
- * V1.5 11-12-09 Adds ADV status poll. Helps stabilize 720p
- * V1.6 11-30-09 Adds many RS-232 commands (except status responses). Default changed to QAM 256
- * V1.7 12-02-09 Fixes video freeze when encoder has a status Read timeout.
* Requires Encoder version 02A1
- * V1.8 12-13-09 Adds RGBHV input
- * V1.9 01-04-10 Adds YPbPr(Component) at 480i. Changes video bitrate to 18M instead of 25M
- * V2.0 01-15-10 Adds Setup Menu and RS-232 command selection for 18 or 25M video bitrate.
* Video bitrate for Video and S-Video fixed at 6M.
* Forces QAM256 if power up reset in CW mode last.
- * V2.1 01-21-10 Fixes PAT and PMT to remove null adaptation field.
* Makes slight RF output frequency changes to channels 14-16, 25-53, 98, 99 for cable Std, and most cable IRC channels
- * V2.2 01-30-10 Changes upconverter from 250KHz to 2MHz steps to make higher channels more reliable
- *
*

SS_DX.txt

* SS Display Express
* by Contemporary Research
*

V1.0.0 9/8/2007 Initial version. Developed with VS 2003. Runs under .NET 1.1.
V1.1.0 9/17/2007 Separates .xml and .xsd files -- .xml go into Data and .xsd go into Schema subdirectory. Other changes.
V1.1.1 9/18/2007 Updated manual.
V2.0.0 11/20/2007 Uses two registry entries instead of one --
SignStream/DataFiles and SignStream/SystemFiles. Database access changed so that
accesses only DX Service accesses file system; DX Web no longer
file system.
V2.0.1 11/20/2007 Updated manual.
V2.0.2 12/4/2007
V3.0.0 6/24/2008 Developed with VS 2005. Runs under .NET 2.0. Web pages
changed to use more standard HTML for cross-browser compatibility.
V3.0.1 6/27/2008
V3.0.2 8/19/2008 Fixed control lockout command sent.
V3.1.0 10/13/2008 Added multi-presets, tune rings and export function to write
schedule to comma-delimited file.
V3.1.1 10/15/2008 Updated manual. Added warning about deleting presets used
in multi-presets.
V3.1.2 10/16/2008 Changes to DX manual. Update of DX installation
instructions.
V3.5.0 1/6/2009 Fixed command string when sending a tune ring range. Added
addresses and ability to define up to 4 head ends with different IP
Schedules to send commands to all defined addresses. Events for
multi-step changed so that they do not need a name. Display of
listed. presets in Schedule changed so that only top-level preset is
cancelling. Added Cancel button for Displays Control, which allows
to the a multi-step preset with delays. Added SendPreset command
Telnet/TCP capability for DX.
v3.5.1 1/8/2009 Added updated manual to 3.5.0. Fixed event display in
Schedule so that if an event does not have a name but does have a
preset, the name of the preset is displayed in the Schedule.
v3.6.0 2/18/2009 Replaced old SignStream graphic in header with new Display
Express graphic. Changed date/time display for schedule to show
server date/time.
v3.7.0 7/15/2009 Added implementation of password requirement.
v3.7.1 7/15/2009 Removed password encryption for Doug to try out and see how
that affected the various browsers.
v3.7.2 7/16/2009 Reinstated password encryption. Included updated manual.
v4.0.1 8/13/2009 Beta version of installer for DX.
v4.0.2 8/13/2009 Fix for call of aspnet_regiis, changed from -i to -ir.
v4.0.3 8/18/2009 Fix for firewall exceptions, failure is ignored (when
firewall is not

v4.0.4 9/1/2009 implementation of	<p style="text-align: center;">SS_DX.txt</p> <p>enabled). Includes minimal sample database. Released version. Includes updated user manual and</p>
release.	
v4.1.0 1/25/2009 restores. New Display	<p>Beta version. New Schedule Backup page to do backups and Names page to name devices. New Login page. Demo</p>
functionality for	
in	CR online demo. Checkboxes instead of text to select event
compatibility	Schedule or device name on Names page. Uses WiX v3.5, for
v4.1.1 1/27/2009 Named Display	<p>with IIS 7 used in Windows 7. Released version. Added partially updated manual. Added selection on Displays > Control page.</p>

FM_IC-HE-S12.TXT

- *
 - * ICC-HE (S12 hardware) and ICE-HE Head-end Interface
 - *
 - * V3.1 06-03-04 Initial release for the 9S12 hardware. Adds 'F@=' cmd for pass mode to a device (timeout after 12 secs of no activity). Adds 'ZQ' cmd to enter bootloader mode. A '>' is now optional (ignored) in front of any cmd. Adds 'SN' show numbers cmd. Adds 'AR' receive RF level cmd. Adds 'AS' display front panel DIP switch setting cmd. Adds 'AO' display front panel potentiometer (RF output) setting cmd. Adds 'ID' cmd to request model and software version same as the 'VE' cmd
 - *
 - * V3.2 06-14-04 Fixes bug with memory dump command. Fixes ZQ bug when jumping back to bootloader when the PLL was enabled (disable first)
 - *
 - * V3.3 07-24-04 Adds Ethernet port support and 'IP','IM','IG','I?' cmds. Chars received from the RS-232 or the Ethernet port are placed in the same cmd input buffer for processing. All responses are transmitted out both the RS-232 and Ethernet ports simultaneously. Makes Esc (char 27) instantly wipe out any chars in the cmd buffer. Adds 'IB' request bootloader version cmd

FM_IC-HE.TXT

- * ICC-HE Head-end Interface
- * V1.0 Initial release
- * V1.4 Supports multiple OTP programs
- * V1.5 Modified for ICC-HE Rev 0 PCB (from ICC2 Rev 0)
- * V1.6 Fixes UART RX buffer overflow
- * V1.7
 - * Reads front panel DIP switch S6-S8 to set RS-232 UART baud rate.
 - * Adds dummy input polling for EXP_DEVS=0. Adds var bus baud rate at \$4009 (0=31.25K, 1=9600, 2=20.67, 3=31.25K, 4=41.67K), variable dev response timeout (in uS) at \$400A,\$400B. Supports up to 88 devs on bus
 - * Clearing \$B7F0 Bit 0 acts like ICW-HE wired only
- * V1.71
 - * Command strings start with \$A5 byte instead of '!'. Adds number of transmit retries at \$400C (for multi-dev cmds)
- * 6-26-96 V1.8
 - * Changes show device(s) cmd to 'SD'. Adds missing device(s) cmd 'SM'
 - * Both show cmds devs are now in decimal and with ranges. Adds cmd 'SP' that shows the number of devs present and expected. Adds 'VE' cmd that show HE software title/version. Adds 'Z%' cmd that inits HE SCI Net.
 - * Adds 'Z!' cmd that does a 1.15 sec COP reset on HE
 - * Sends key code responses for the 2 front panel push buttons
 - * Adds Dev 0 string commands for 'Y11', 'Y10', 'Y21', 'Y20' I/O control and 'SP' shortened number of devs present and expected response
- * 10-21-96 V1.9
 - * Adds Dev 0 '?K' status cancel command and 'NT' number of transmit retries.
 - * Increases max number of Net devs to 128
- * 12-05-96 V1.91
 - * Increases max number of Net devs to 160
- * 02-24-97 V2.0
 - * Restores DA to previous from NV for quick return to transmit frequency.
 - * Adds 'DA' show DA val, 'DF' show freq deviation, and 'DL' clear error log cmds to terminal
- * 08-29-97 V2.1
 - * Adds 'SZ' show All devs present and 'Z^' build new dev list table cmds.
 - * Adds COP enable. Increases SCI TX and RX buffers
- * 11-13-97 V2.2
 - * Increases SCI RX buffer and protocol to work with Pioneer barcodes
- * 06-29-01 V2.3
 - * Adds EESF2 bit for new feature where HE front panel Red/White and In2/In1 can send bus cmd to turn On/Off the I/O port 1 on all iC devs

FM_ICC-PRZ.TXT

- * ic Series 1-way and 2-way smart port TV controllers (Philips, RCA, Zenith)
- * V1.0 Initial release
- * V1.3 10-10-95 Adds support for Aux Video Input at chan 118 (or 91).
* Adds support for NVRAM TV power and channel restore.
- * V1.4 11-14-95 Aux Video Input is now chan 126. Adds CR (dec 13) and
* transparent space (dec 7) on message display. Alt Chan
* (Flashback) button press now sends key code
- * V1.5 12-20-95 Modified for ICC2 Rev A and IWC PCBs
- * V1.6 02-24-96 Read A/D for RSSI
- * V1.7 05-10-96 Menu choices added. 045678<Enter> for software ver display
* or 045679<Enter> for display/change dev num into NVRAM
- * V1.8 07-01-96 Adds NV chan ring with ranges. Adds 'LM' cmd for front panel
* and IR remote enable/disable. Adds disable for tune 'T' chan
* responses to HE. Adds num and alpha chan labeling. Adds 'G '
* group cmds and 'Z ' power and chan status save/restore cmds.
- * V1.81 07-04-96 REC fn now sends "'F',8" (did nothing in V1.8, sent "'K',100"
* in earlier revs)
- * V2.0 07-11-96 Can compile software as Philips or Zenith. Adds volume disable
* for Zenith. Adds menu selection 'M' responses to HE
- * V2.1 08-22-96 Makes Philips work correctly (V2.0 Philips never finished)
- * V2.2 09-01-96 Adds ext video input selection for all Zeniths. Add 'GN' group
* compare not equal cmd. Adds 65487 menu choice to init TV
* controller
- * V2.3 10-15-96 Adds 'GC' and 'GT' compare chan and recent tune change cmds.
* Adds '?S' status and '?F' status-false request cmds. Adds
* 65480 menu choice for D/A voltage and TXEN always. Adds menu
* timeout with clear on screen display (about 18 secs)
- * V2.4 10-19-96 Uses extra RAM locations to avoid any TVBC and TVCS corruption
* during multiple HE Net transmit retries (NTR>1)
- * V2.5 11-01-96 Adds 65479 menu choice for disabling Smart Port communication.
* Adds 65480 menu for constant Net TX (for iCC2 power level).
* Adds 65481 menu for D/A voltage display (for iCC2).
* Adds 65482 menu for A/D voltage (RF IN) display (for iCC2).
- * V2.6 11-10-96 Changes 65482 menu display from RF IN to NET RX (or !NET RX)
* depending on whether or not receiving the HE heartbeat cmd.
* Adds 65483 menu for TX frequency deviation display (for iCC2)
- * V2.7 11-15-96 Fixes bug that would cause 65483 menu on iCW wired controllers
* from transmitting to the HE anymore. Fixes bug where changing
* dev numbers would sometimes cause the HE not to recognize the
* dev on the new dev number (problem occurred when dev had a
* change to send to the HE before switching to the new dev num)
- * V2.8 01-04-97 Adds Zenith CC (closed captions). Fixes bug where power on,
* change channel, and display msg would not display the msg.
* Adds 'G1' and 'G0' compare TV power on and off cmds
- * V2.81 Makes MENU button on remote act same as our TV/VCR Menu. Makes
* CC buttons work on all remotes and in both modes
- * V2.9 03/05/97 Adds direct chan access
- * V3.0 04/03/97 Adds NV check
- * V3.1 05/08/97 If PE1 is low, then no HC4094 and the LEDs are at PORTB
- * V3.2 06/25/97 Adds ability to change Zenith background color for display msg

FM_ICC-PRZ.TXT

- * (default black)
- * V3.3 07/15/97 When in Menu, chan up is same as Enter. Cursors send key codes
- * V3.4 09/06/97 Fixes vol single step problem with newer Zenith software -04.
 - * Enables COP if not already
- * V3.5 09/24/97 Adds RCA TV, but IR decode is still Mitsu VCR type and cursors
 - * do not all work
- * V3.6 11/03/97 RCA TV now uses RCA VCR type. Menu 0 and 9 were added which
 - * just send 'M' responses to HE. Fixes cursors to work on all TVs
 - * in both modes with the Allegro. Adds previous chan feature.
 - * Adds double size chars for RCA TV. Fixes bug so Philips display
 - * will always unblank correctly. Fixes glitch where turning
 - * Zenith power off was tricky
- * V3.65 11/20/97 Adds Pioneer IR barcode decoding with '2'.. and '3'.. barcode
 - * strings and 'J' key responses to HE
- * V3.7 11/21/97 Adds CR Menu 999 for all of the special service menu choices
 - * Adds variable persist time to 'DM' cmd
- * V3.8 12-13-97 Fixes bug where chan down would not wrap back around if tune
 - * ring was exactly just one range (example range chans 2-99).
 - * Fixes bug where Zenith TV would not stay blanked by 'TC',0 cmd.
 - * Adds 'TT' and 'QT' tune chan if in tune ring cmds
- * V3.9 01-12-98 Fixes bug where unit would randomly send a long Pioneer
 - * response to HE on power up. This would cause HE versions lower
 - * than V2.2 to error cycle and never get any other changes from
 - * the unit again (no OK, menu, func, or key response). Adds 'TP'
 - * tune prev chan (if in chan ring) cmd
- * V4.0 01-14-98 Adds Zenith Enter key (in TV mode) and adds Aux source select
 - * (Chan 125=computer, 126=Ext video, 127=S-Video) **Both adds
 - * require Zenith -04 micros and later. Fixes bugs with all TV
 - * types for blank and unblank logic
- * V4.01 04-02-98 Gets rid of Zenith chan label ending blank space
- * V4.1 04-08-98 Menu 6 added for Select Media. Makes it so Philips Menu
 - * button with TV mode IR won't repeat
- * V4.2 04-24-98 For RCA, makes Enter button on Allegro act like Enter and not
 - * toggle Menu/Enter (although this may be selected by EE byte).
 - * Queries the Zenith TV for software rev and adjusts. Newer
 - * Zenith -05 software sucks (1) changed the clear on screen
 - * transparent space and carriage return chars (2) Auto clears
 - * screen after tune change, so we must wait at least 0.75 secs
 - * (good video) to 1.4 secs (no video) before displaying our
 - * channel label
- * V4.3 08-04-98 Changes Zenith to Aux chans with 91 for -04 micros and up.
 - * Adds Menu 5 for Zenith scan card with PA4/PA3 ctrl. Fixes bug
 - * with prev chan not being locked out for Philips and Zenith
 - * TV mode IR. Adds Menu 30 for Attach All and Menu 31 for
 - * Attach Zone. Removes 2691 UART stuff
- * V4.4 08-07-98 Generates PA6 data to scan card to intercept digit keys to
 - * keep from making scan card adjustments when not trying to
- * V4.5 10-07-98 Fixes bug in Zenith V4.3 and V4.4 with chan 64. Also fixes bug
 - * where Menu 5 did not always allow scan adjust. Adds Menu 912.
 - * Adds timer fn as K-116. Dev num now put in NV on first Enter.
 - * Changes Menu 6 Select Media to Menu 1. Chan down with no
 - * digits acts like enter and exits Menu. Must set OLD OCV=1 on

FM_ICC-PRZ.TXT

- * Zenith -05 micros for scan card use or msg with CR. Enables
- * Zenith -05 internal chan labels just before smart port disable.
- * V4.51 10-07-98 Makes Alarm button act like Menu to work with std TV remote
- * Required for use with ICW Rev B. Fixes Philips PRMAX=4 (not 3)
- * V4.6 12-12-98 Makes units respond to Sharp TV and VCR patterns in addition
- * to the Mit VCR pattern. Menus not displayed if TV power off
- * V4.7 02-03-99 Makes units not respond to Sharp TV pattern. Makes Sharp VCR
- * pattern CC work. Fixes bug where chan up/down when in a menu
- * and locked out did not do Enter/Delete fn
- * V4.8 05-22-99 Works for Zenith 1390/1391 TVs with OLD OCV=0. Previous -05
- * sets should now use OLD OCV=0. External input selects are
- * still not complete for 1391 (needs \$D2 data item set).
- * Adds double buffer for display message to prevent errors.
- * Adds possibility of transmit to Zenith as 1.5 stop bits.
- * V4.9 09-24-99 Works for Zenith 1391 TVs with all external inputs. Repeats
- * the DM and chan label after 3.6 secs because of timings on 1391
- * V4.91 10-28-99 Adds power on Marquee chan and cmd 'T1' to set this. Fixes
- * bug in V4.8 and V4.9 where incorrect chan label could be
- * displayed (mainly when changing chans quickly and repeatedly).
- * Last Zenith software version for second pgm capability.
- * Philips version fixes bug where smart port disable wasn't
- * really stopping communication with TV.
- * 07-12-00 Adds ICC1 equate for possible one-way coax version
- * 08-01-00 Moves Philips and RCA the MARQUEE subroutine to end of code
- * section (instead of beginning). Zenith still uses upper memory.
- * Removes Menu 5 for Philips and RCA
- * V5.0 01-22-01 Adds new IR codes for IC-RC remote. Fixes Philips OSD to work
- * better with newer L9U chassis. Zenith still has second pgm
- * V5.01 04-11-01 Works with newer RCA version 4 (polls TV version and adjusts)
- * V5.1 07-25-01 Fixes bug in bus RX where changes waiting to send to HE were
- * corrupted by acknowledging an indiv cmd received from HE.
- * V5.2 03-14-02 Works only with Zenith 1391-03 (different Aux selecting)
- * V5.3 03-15-02 Works with all Zenith -04 and up, except Presentation 1391-01
- * V5.4 06-08-02 Adds 'T?' query tune chan cmd, and 'YK' simulate IR key
- * press cmd
- * V5.5 07-29-02 Makes 'YK' and 'YK',0 do button release function 'F',0.
- * Changes set Marquee chan to cmd 'T2' instead of 'T1'

FM_ICC1-232.TXT

- * ICC1-232 RS-232 TV controller
- * PCB Rev A (9S12A64)
- *
- * V1.0 03-12-06 Beta release fixed for LG LCD and split Sencore channels
- * V1.1 07-20-06 Beta test fixed for Sharp LCD
- * V1.2 07-22-06 Adds choice of Sharp or LG
- * V1.3 08-12-06 Adds LG lockout and repeat power off
- * V1.4 08-26-06 Makes channels 901..999 always tune analog channels 1..99
- * V1.5 10-24-06 Adds Westinghouse LCD
- * V1.6 10-28-06 Lowers power consumption for Westinghouse
- * V1.7 03-10-07 Adds Air mode selection for LG and Westinghouse. Adds digital 2 part channel selection. Adds support for FM25C160
- * V1.8 04-17-07 Increased timing delays for newer LG displays such as 42LC2D
- * V1.9 05-15-07 Added digital -1 tuning
- * V2.0 06-14-07 Adds Sampo. Adjusts LG timings slightly
- * V2.2 07-12-07 Adds LG inter-character delay mostly to make 26LC7D more reliable
- * V2.3 12-12-07 Adds Revolution HD
- * V2.4 12-26-07 Adds H1 and H2 cmds from the RS-232 port
- * V2.5 05-09-08 Adds Enseco (tuner for Sony). Adds RS-232 delay esc sequence
- * V2.6 05-09-09 Adds NEC LCD tuning, volume, IR lockout
- * V2.7 11-03-09 Changes Sharp power on and off strings

FM_ICC1-IR.TXT

- * ICC1-IR IR TV controller
- * PCB Rev 0 and Rev B (68HC11)
- * V1.0 05-28-98 Initial release for Panasonic TV
- * V1.1 10-21-98 Adds Zenith TV. S2 DIP SW 6 off=Zenith, on=Panasonic
- * V1.2 03-16-99 Changes PN_TIMER to be at 50mS intervals (instead of 32.77mS)
 * Makes Zenith now send up to 3 digits with Enter for chans>=100
 * Makes Zenith send 1,2 or 3 digits with Enter depending on chan
- * V1.3 03-26-99 Adds option for Rev 0 or Rev B PCB
- * V1.4 06-03-99 New IR table scheme for IR types 1-4. Adds 'T1' cmd for
 * setting IR type. Also, set IR type at S1 with S2 DIP SW 6 on.
 * Supports ICC1-IR emulator with HC11E9 (REV=2)
- * V1.5 08-12-99 Adds Sony TV as IR type 5
- * V1.6 08-18-99 Adds Grundig TV as IR type 6
- * V1.7 10-20-99 Adds Philips/Magnavox and RCA as IR types 7 and 8
- * V1.8 01-24-00 Adds another Sony_2 TV as IR type 9
- * V1.9 02-17-00 Adds another Panasonic_2 TV as IR type 10 and Mitsubishi TV
 * as IR type 11
- * V2.0 10-18-02 Adds Panasonic_3 TV as IR type 14 and Sharp TV as IR type 15
- * V2.1 06-01-03 Adds Finlux TV as IR type 12 and JVC as IR type 19.
 * Adds PSE digital power sensor input. Adds ability to ignore
 * the power sensor by adding 64 to the IR type
- * V2.2 08-05-03 Adds Viewsonic as IR type 20 but takes away Finlux type 12
- * V2.3 09-06-03 Makes Mitsubishi IR type 11 have more exact IGS repeat time.
 * Adding 64 to the IR type now bypasses power sensing for tune
 * channel and volume change cmds (immediate even if power off).
 * Adds var pulse on time NV_PN at address \$4003 (in 50mS incs).
 * If NV_PN=0 or NV_PN>60 then use default pulse on time (6)
- * V2.3E 09-06-03 European version has Finlux as IR type 12 but takes away
 * Viewsonic as IR type 20
- * PCB Rev P (S12 processor)
- * Note that the following firmware is not compatible with older PCB rev hardware
- * V3.0 03-04-04 Restores Finlux as IR type 12
- * V3.1 04-06-04 Adds Zenith_2 (discrete power on, power off) as IR type 21.
 * Adds Philips_2 (discrete power on, power off) as IR type 22.
 * Adds 'N1=' set pulse on time cmd (in 0.1 secs), default
 * is 6 (0.6 secs) do not change unless absolutely necessary
- * V3.2 09-07-04 Adds JVC_2 (discrete power on, power off) as Type 23.
 * Adds Sampo/NetTV (discrete power on, power off) as Type 24.
 * Adds 'ZQ' cmd to put into bootloader mode
- * V3.3 10-22-04 Adds Samsung plasma as Type 25 and Gateway LCD TV as Type 26
- * V3.4 11-02-04 Adds ViewSonic LCD TV as Type 27
- * V3.5 12-02-04 Adds JVC_3 (discrete power on, power off) as Type 28. This is
 * same as JVC_2 but for one single channel digit 1-9.
 * Adds LG/Zenith_3 (togglng power) as Type 29
- * V3.6 01-14-05 Adjusted timings to accomodate Dell LCD TV as Type 29
- * V3.7 06-17-05 Adds Sharp_2 (discrete power on, power off) as Type 30.
 * Adds Daewoo TV (togglng power) as Type 31.
 * Adds 'T3=' cmd to set chan entry format. Also can change
 * chan entry format via DIP switches
- * V3.8 12-23-05 Adds Viewsonic N2750W LCD TV as Type 32 (togglng power)
- * V3.9 03-13-06 Adds Enter fn to channel selection for LG/Zenith Type 21
- * V4.0 06-03-06 Adds H&B B series as Type 33, H&B V series as Type 34,
 * and Sony LCD TV discrete as Type 35
- * V4.1 09-02-06 Adds Dell W4201C as Type 36. Adds 'LQ=' do IR pulse cmd.
 * Adds ability to use 25C160 memory chip
- * V4.2 01-17-07 Reserve Type 37 for Mitsubishi. Adds Olivia as Type 38
- * V4.3 05-05-07 Adds Akai as Type 39, Sanyo as Type 40, and
 * ILO/Insignia/Dynex as Type 41
- * V4.4 06-05-07 Fixes bug in V4.2 and V4.3 whereby the repeat power time

FM_ICC1-IR.TXT

- * was shortened in conjunction with the power sensor. Absorbs
- * 'TH' command but does not tune. Extends Samsung after
- * power on time to 14 secs for newer LCDs with HDTV tuner.
- * Adds Samsung Enter fn after channel digits for quicker tuning
- * V4.5 06-13-07 Adds 2-part dash tuning with 'TH' command. Adds Sony 15 bit
- * IR mode for dash function.
- * V4.6 06-14-07 Adds dash tuning for Sharp 27SF560 (must set T1=15, T3=131)
- * V4.7 06-27-07 Extends Akai after power on delay to 8 seconds
- * V4.8 08-23-07 Adds Viewsonic N2652W, N3260W, N3760W, N4060W as Type 42
- * V4.9 11-12-07 Adds Viewsonic (but do not use) as Type 43
- * V5.0 11-14-07 Adds IR fns for CC and Inputs for Viewsonic Type 42.
- * Removes Type 43

FM_IC-PSC.txt

- *
* ICC2-PSC, ICC2-PSC/AV, ICC1-PSC
- * iC Series 2-way and 1-way TV smart port controller for 9S12 chip
- *
* This product has firmware update capability (V1.1 and higher)
- * Updates are from the IC-HE over the coax (ICC) or wired (ICW) net bus
- *
* V1.0 10-30-03 Initial release, similar to ICC2 V5.5 for 68HC11 chip
- * V1.1 12-02-03 Adds bootloader for firmware update capability
- *

FM_ICC2-ATSC.TXT

- *
* ICC2-ATSC HDTV Tuner coax controlled with RS-232 output
*
- * V1.1 03-12-07 Pre-release like 232-STA software plus ICC1 coax with NEC
- * V1.4 08-08-07 Release with Olevia codes
- * V1.5 08-27-07 Added Panasonic and LG codes
- * V1.6 09-28-07 Fixes bug in 'TR' and 'TN' commands
- * V1.7 02-23-08 Adds NEC Plasma codes and parity options

FM_ICC2-IRC.TXT

*
 * ICW-IRC iC Series 2-way IR controller (or ICC2-IRC for V2.1 and later)
 * with IR receiver and IR output
 *
 * V1.0 Initial release
 * V1.01 09-28-98 Adds LED all illuminate on reset cmd. Adds to INITCMD inits
 * V1.1 09-29-98 Fixes bug where VCR mode MENU fn was not working. Fixes bug
 * where '?0'..'?' were supposed to be 'S0'..'S9' set cmds. Adds
 * Timer fn as K-116. Adds Menu 912. Cursor up and down still do
 * not work (same as other IR fns)
 * V1.2 10-28-98 Adds power on input select at periodic intervals
 * V1.3 01-11-99 Adds AEN (PC6) hardware mute for possible mono tuner
 * V1.4 04-01-99 Adds EEVPS Bit 7 clear for forced input select on tune change
 * V1.6 05-04-00 Reinit STV5730 regs during each clear OSD. Adds read SDI pwr
 * sensor input and IR generation types. Switch inputs are now
 * via HC165 and LED outputs are different from the ICW-STA/VDC
 * V1.7 06-11-01 Adds Panasonic as IR Type 2, and Philips as IR Type 7
 * Changes Monivision Type 11 input select codes
 * V1.8 10-07-01 Changes Monivision Type 11 power on code (for newer Monivision)
 * V1.9 12-10-01 Adds Panasonic_3 as Type 14. Adds Type 13 same as Type 11
 * Fixes bug where Panasonic Type 2 not working
 * V2.0 12-20-01 Adds all other 11 IR types from ICC1-IR V1.9. Adds support for
 * IC-RC cursor up, Menu Media, Media Select, and unused buttons.
 * Changes set IR type command from 'T0' to 'T1' instead
 * V2.1 02-23-02 Adds ability to be ICC2-IRC coax (PE4=1), or ICW-IRC (PE4=0)
 * Adds Sharp as Type 15, Pioneer plasma as Type 16, and NEC
 * plasma as Type 17
 * V2.2 06-06-02 Adds IR carrier NNC control to EEOPT Bit 2 (required for Rev B)
 * Adds 'T?' query tune chan cmd
 * V2.3 06-08-02 Adds equate ability to make ICC2-VDC.
 * Adds 'YK' simulate IR key press cmd
 * V2.4 07-29-02 Makes 'YK' and 'YK',0 stop a vol ramp and do button release
 * function 'F',0. Adds 'T2' set marque chan cmd
 * V2.5 09-04-02 Adds Menu 45702 for setting EEOPT register (like DIP switch)
 * V2.6 09-05-02 Greatly expands CG cmds and capability to include moving
 * cursor pos and writing generic text all over the screen
 * V2.7 04-13-03 Adds PSE digital power detector input.
 * Adds VDET video detect input based on measuring
 * the vert sync interval, and adds the capability of
 * auto-switching to a stable blue screen and muting the audio
 * upon video loss, restored on good signal (requires CG option).
 * Adds 'Q2' cmd for setting video loss action
 * V2.8 04-29-03 Adds IRC as RF tune mode 3 (only channels 5 and 6 different
 * are different from std CATV)
 * V3.0 05-14-03 Adds IR Type 18 for AM-133PV LCD monitor. Adds repeat power off
 * IR out function if power sensor still indicates power is on.
 * Fixes bug in V2.6 through V2.9 whereby the Enter key from
 * the IR remote would respond as 'K' key 80 instead of the
 * expected key 21. Fixes bug in CR Menu 65487 in V2.0
 * through V2.9 whereby 'T1', 'Q2', tune chan 5, power on,
 * and tune ring were not being initialized
 * V3.1 06-18-03 Bug fix for IRC in V2.9 through V3.0 only that could
 * randomly cause pwr sensor input not to be used. Bug fix
 * for video blanking in conjunction with turning power off
 * V3.2 06-26-03 Minor changes
 * V3.3 09-30-04 Adds IR Type 19 for JVC, Type 21 for Zenith/LG discrete,
 * Type 22 for Philips discrete, Type 23 for JVC discrete,
 * Type 24 for NetTV/Sampo/Gateway discrete, and Type 25
 * for Samsung discrete
 * V3.9 01-11-05 Adds IR type 26 for Gateway, Type 27 for Viewsonic,
 * Type 29 for Zenith/LG with sensor, Type 30 for Sharp LCD TV.
 * Adds '?A' query all status cmd
 * V4.0 06-20-05 Adds IR type 31 for Daewoo TV

FM_ICC2-IRC.TXT

- * V4.1 11-09-05 Adds IR type 32 for X2GEN LCD TV
- * V4.2 03-07-06 Adds DVI input select for IR type 21 (LG/Zenith type)
- * V4.3 06-13-06 Adds IR type 35 for Sony LCD TV discrete
- * V4.4 09-18-06 Adds IR type 37 for Mitsubishi LCD Monitor
- * V4.6 11-07-06 Adds ability to use 25C160 memory chip
- * V4.7 01-06-07 Periodically every 4.2 secs reinforces tuner and volume ctrl
- * V4.9 05-04-07 Selecting Ext A/V input channels now does not mute the
audio, regardless of Q2 mode
- * V5.0 07-06-07 Adds IR type 41 for ILO/Insignia/Dynex/Zenith C27J28B CRT TV
- *

FM_ICC2-VDC-S12.TXT

- * ICC2-VDC iC Series 2-way coax controller with S12 chip, S-Video, Captions, RS-232 controlled
- * V7.0 09-14-07 Initial release like ICW-IRC V5.1 and 232-STS V4.5 software for new 9S12 chip
- * V7.1 09-29-07 Adds Sony FWD42PV1 plasma monitor as type 39. Adds character delay sequence as for Eiki type
- * V7.2 10-04-07 Fixes bug for IRC channels>13. Adds 'Gx' commands
- * V7.3 01-07-08 Adds 38.4K baud and odd/even parity types that were not working in V7.0 through V7.2
- * V7.4 01-30-08 Fixes bug where constant RF transmit was not timing out
- * V7.5 06-21-08 Adds I/O2 to be a logic output for Power state. Adds volume control via aux data RS-232 output to a 232-AMP
- * V7.6 08-21-08 Fixes bug in V7.5 where multi-commands after a VL command were not being executed
- * V7.7 11-03-08 Fixes bug in V7.6 where volume mute would cause a hang up
- * V7.8 01-15-09 Fixes bug where keying in a channel number but not hitting the Enter key would allow selecting that channel outside of the tune ring
- * V7.9 02-23-09 Minor bus update regarding a TXRSND
- * V8.0 08-13-09 Adds Optoma VP as type 40, Samsung 400CXn/460CXn as type 41, Christie VP DHD700 as type 42, and InFocus VP LP500 as type 43

FM_ICC2-VDC.TXT

*
 * ICC2-VDC iC Series Coax 2-way RS-232 controller
 * with IR receiver and RS-232 output
 *
 * V1.9 05-22-01 Adds NEC (and RCA) Plasma panel as type 12. Adds parity gen
 * V2.2 06-06-02 Adds IR carrier NNC control to EEOPT Bit 2 (required for Rev B)
 * Adds 'T?' query tune chan cmd
 * V2.3 06-08-02 Adds equate ability to make ICC2-VDC. Adds VP type 13 for
 * Pioneer plasma, and VP type 14 for Photonics plasma
 * Adds 'YK' simulate IR key press cmd
 * V2.4 07-29-02 Makes 'YK' and 'YK',0 stop a vol ramp and do button release
 * function 'F',0. Adds 'T2' set marque chan cmd
 * V2.5 09-04-02 Adds Menu 45702 for setting EEOPT register (like DIP switch)
 * V2.6 09-05-02 Greatly expands CG cmds and capability to include moving
 * cursor pos and writing generic text all over the screen
 * V2.61 04-21-03 Adds RGB2 at chan 124 to Fujitsu plasma VP type 10 and 11
 * V2.7 04-13-03 Adds PSE digital power detector input. Adds VP type 15 for
 * NEC projector. Adds VDET video detect input based on
 * measuring the vert sync interval, and adds the capability
 * of auto-switching to a stable blue screen and muting the audio
 * upon video loss, restored on good signal (requires CG option).
 * Adds 'Q2' cmd for setting video loss action
 * V2.8 04-29-03 Adds VP type 16 for Sony projector and type 17 for Sampo
 * Adds IRC as RF tune mode 3 (only channels 5 and 6 different
 * are different from std CATV)
 * V3.0 05-14-03 Fixes bug in V2.6 through V2.9 whereby the Enter key from
 * the IR remote would respond as 'K' key 80 instead of the
 * expected key 21
 * V3.1 06-18-03 Adds VP Type 18 for Samsung Plasma and Type 19 for Pioneer_2.
 * Bug fix for video blanking in conjunction with doing power off
 * V3.2 06-26-03 Adds Input B (DVI) select as RGB2 for Sony VP Type 16
 * V3.3 07-28-03 Adds Eiki LC-NB3 as VP type 20
 * V3.4 08-15-03 Adds Zenith LC30W36 LCD monitor as VP type 21
 * V3.5 11-14-03 Adds Hitachi CP-S317, CP-S318, CP-X327, CP-X328 projector
 * as VP type 22
 * V3.6 11-20-03 Adds Sony PFM42B1, PFM42B2 plasma as VP type 23
 * V3.7 05-10-04 Adds Epson 30, 52, 53, 73, 720, 730, 735, S1 as VP type 24.
 * Adds Epson_2 8300, 9300 as VP type 25.
 * Adds NEC_2 VT46, VT465, VT560, VT660 as VP type 26 (same as
 * NEC VP type 15 but with 19.2K instead of 38.4K baud)
 * V3.8 06-17-04 Adds Samsung_2 323T, 423T LCD monitor as VP type 27 (9600 baud).
 * Adds Samsung_3 PPM42S3, PPM42H3, PPM50H3, PPM63H3 plasma as
 * VP type 28 (19.2K baud). Adds S-Video and RGB2 input cmds
 * to Shart VP type 1.
 * V3.9 01-11-05 Adds '?A' query all status cmd
 * V4.0 02-09-05 Adds discrete power off default repeat 3 times
 * V4.1 08-26-05 Makes Samsung VP type 28 repeat Power On fn after 750mS
 * V4.2 10-25-05 Adds LG L3700AK LCD monitor as VP type 29 (9600 baud)
 * V4.3 12-05-05 Adds NEC LCD3210 monitor as VP type 30 (9600 baud)
 * V4.4 03-13-06 Adds LG MU-60PC95V Plasma monitor as VP type 31 (9600 baud)
 * V4.5 07-18-06 Adds NEC PX-42XM4A(42XM4), PX-50XM5A(50XM5), PX-61XM4A(61XM4)
 * Plasma monitor as VP type 32 (9600 baud with odd parity)
 * V4.6 11-07-06 Adds ability to use 25C160 memory chip
 * Reserve VP type 33 for Sharp LCD TV.
 * Reserve VP type 34 for Westinghouse LCD TV
 * V4.7 01-06-07 Adds Panasonic TH-42PH9UK Plasma monitor as VP type 35.
 * Periodically every 4.2 secs reinforces tuner and volume ctrl
 * V4.8 02-15-07 Selecting Ext A/V input channels now does not mute the
 * audio, regardless of Q2 mode
 * V4.9 05-04-07 Fixes bug in V4.8 where audio mute on bad video not working
 * V5.0 08-21-07 Adds LG M3201/M4201 monitor as VP type 36.
 * V5.1 09-10-07 Adds Digital Projecti on 30XG-XB projector as VP type 37.
 * Adds Akira PK-8420 Plasma monitor as VP type 38

FeatherTouch

FM_ICC-STA.TXT

- * IC-STA ICC Series Stereo TV Tuner/Demod
- * Initial release works with DPI panel with 8 char display with 10 byte RS-232 protocol and switch closure inputs for chan up(select), vol up, and vol down
- * V3.0 03-14-97 Adds 'DA', 'DF', 'AD', 'TX' cmds to 1200 baud user terminal.
Also adds 'DV#' show/set dev num cmd
- * V3.1 03-21-97 Adds NV vars for input level and the 2 stereo alignment regs
- * V3.2 03-24-97 Sequences non-volume control outputs on 9855 to minimize pop
- * V3.3 12-10-97 Adds support for Matsushita panel by jumpering IN5 and IN6 to GND. Requires PCB mod to Rev A2. User terminal cmds must be preceded with a '>' start character now. Adds 'ID' cmd
- * V3.4 12-12-97 Attempted bug fix where chan down would not wrap back around if tune ring was exactly just one range (example one range of chans 7-10 would chan down to 7 but then never wrap to 10)
Problem not noticed with DPI panel since it did not have a chan down button. Adds NV var for Matsu mode LEDs
- * V3.5 12-15-97 Fixes bug in V3.4 that made all ranges wrap around to end!
- * V3.6 05-09-98 Adds 'UX' cmd to transmit up to 36 chars out 1200 baud UART.
Adds 'TT' and 'QT' tune chan if in tune ring cmds
- * V3.7 09-07-99 Adds 'TC=', 'TU', 'TD', 'VL=', 'VU', 'VD', 'VV', 'VX', 'VM', 'VW', 'KK=', 'KF=', 'TM=', 'ST', 'SV', 'P0', 'P1', 'PT', 'XM', 'XU', 'XT' cmds at UART.
'DV=' can be used same as 'DV#'. Removes 'SS' cmd at UART.
Removes IR receive/decoding and menuing stuff
- * V3.8 12-08-99 Fixes V3.7 bug where 'TX' and 'VE' cmds at UART not working
- * V3.9 07-12-00 Adds 'V2' show STA dev num on display and 'V6' show STA software version on display cmds
- * V4.0 11-30-00 Makes the '=' optional for the V3.7 UART cmds
- * V4.1 01-24-01 Adds 'A1' and 'A2' bus cmds to show A/D and D/A on display.
Adds 'LM=' cmd at UART. Fixes bug where 'TU' and 'TD' at UART were not sending 'T' tune changes even if 'LM=2'. Cmds 'TU', 'TD', 'TC=' at UART are now able to be locked out with cmd 'LM=1' (KB disable). Cmds 'TU', 'TD', 'KK=' cmds at UART now blink the yellow LED
- * V4.2 06-11-01 Makes Input 4 be chan down instead of vol mute in previous revs
- * V4.3 06-25-01 Fixes bug in bus RX where changes waiting to send to HE were corrupted by acknowledging an indiv cmd received from HE.

FM_ICA-IO1_FI1.TXT

- *
- * ICA-FI1 ICC Series Panel Interface for ICA-FT1,FT2,FT3
- * ICA-IO1 ICC Series General I/O
- *
- * Initial release
- *
- * V1.0 11-30-00 Switch/LED auto test mode. Makes the '=' optional
- * V1.1 12-21-00 Initial release
- * V1.2 01-09-01 Adds assembler switch for ICA-FI1 or ICA-IO1
- * V1.3 04-06-01 Adds cmd '?' for requesting input status as 'M' menu change
- * No longer sends 'K' input changes on power-up or reset, but
- * does send 'M' input status change when RF TX freq locked on
- * V1.4 06-23-01 Fixes bug in bus RX where changes waiting to send to HE were
- * corrupted by acknowledging an indiv cmd received from HE

FM_ICA-PP1_PP3.TXT

- * ICA-PP1 ICA Series TV Tuner with FM Stereo demod
- * ICA-PP3 without video (no TV Tuner)
- * Initial release works with DPI panel with 8 char display with 10 byte RS-232 protocol and switch closure inputs for chan up(select), vol up, and vol down
- * V3.0 03-14-97 Adds 'DA', 'DF', 'AD', 'TX' cmds to 1200 baud user terminal.
* Also adds 'DV#' show/set dev num cmd
- * V3.1 03-21-97 Adds NV vars for input level and the 2 stereo alignment regs
- * V3.2 03-24-97 Sequences non-volume control outputs on 9855 to minimize pop
- * V3.3 12-10-97 Adds support for Matsushita panel by jumpering IN5 and IN6 to GND. Requires PCB mod to Rev A2. User terminal cmds must be preceded with a '>' start character now. Adds 'ID' cmd
- * V3.4 12-12-97 Attempted bug fix where chan down would not wrap back around if tune ring was exactly just one range (example one range of chans 7-10 would chan down to 7 but then never wrap to 10) Problem not noticed with DPI panel since it did not have a chan down button. Adds NV var for Matsu mode LEDs
- * V3.5 12-15-97 Fixes bug in V3.4 that made all ranges wrap around to end!
- * V3.6 05-09-98 Adds 'UX' cmd to transmit up to 36 chars out 1200 baud UART.
* Adds 'TT' and 'QT' tune chan if in tune ring cmds
- * V3.7 09-07-99 Adds 'TC=', 'TU', 'TD', 'VL=', 'VU', 'VD', 'VV', 'VX', 'VM', 'VW', 'KK=', 'KF=', 'TM=', 'ST', 'SV', 'P0', 'P1', 'PT', 'XM', 'XU', 'XT' cmds at UART.
* 'DV=' can be used same as 'DV#'. Removes 'SS' cmd at UART.
* Removes IR receive/decoding and menuing stuff
- * V3.8 12-08-99 Fixes V3.7 bug where 'TX' and 'VE' cmds at UART not working
- * V3.9 07-12-00 Adds 'V2' show STA dev num on display and 'V6' show STA software version on display cmds
- * V4.0 11-30-00 Makes the '=' optional for the V3.7 UART cmds
- * V4.1 01-24-01 Adds 'A1' and 'A2' bus cmds to show A/D and D/A on display.
* Adds 'LM=' cmd at UART. Fixes bug where 'TU' and 'TD' at UART were not sending 'T' tune changes even if 'LM=2'. Cmds 'TU', 'TD', 'TC=' at UART are now able to be locked out with cmd 'LM=1' (KB disable). Cmds 'TU', 'TD', 'KK=' cmds at UART now blink the yellow LED
- * V4.2 06-11-01 Makes Input 4 be chan down instead of vol mute in previous revs
- * V4.3 06-25-01 Fixes bug in bus RX where changes waiting to send to HE were corrupted by acknowledging an indiv cmd received from HE.
* Adds cmd 'T?' request 'T' tune chan response to HE
- * V4.31 Adds FM tuning capability (one of 2 freqs in EE or 98.2,104.8)
- * V4.32 Adds EE var for FM/Stereo, Local/DX modes
- * V4.4 10-07-01 Adds 'FC' bus cmd for setting TV chans to a certain FM freqs
- * V4.5 01-15-02 Adds 'P0', 'P1', 'PT', 'TC=0', 'TC=128' power and picture mute cmds
* Adds 'LX' cmd. Removes vol mute from I/O1