

# AK37/TITANIUM SERVICE MENU

## SERVICE ADJUSTMENTS

|       | Parameter  | Notes                                       |
|-------|--|---|
| OSD   | OSD Horizontal Position                              |   |
| IF1   | IF Coarse Adjust                                     |   |
| IF2   | IF Fine Adjust                                       |   |
| IF3   | IF Coarse Adjust for L-Prime                         |   |
| IF4   | IF Fine Adjust for L-Prime                           |   |
| AGC   | Automatic Gain Control                               |   |
| VLIN  | Vertical Linearity                                   |   |
| VS1A  | Vertical Size for 50 Hz / 4:3 ( AK30 )               |   |
| VS1B  | Vertical Size for 50 Hz / 16:9 ( AK30 )              |   |
| VP1   | Vertical Position for 50 Hz ( AK30 )                 |   |
| HP1   | Horizontal Position for 50 Hz ( AK30 )               |   |
| VS2A  | Vertical Size for 60 Hz / 4:3 ( AK30 )               |   |
| VS2B  | Vertical Size for 60 Hz / 16:9 ( AK30 )              |   |
| VP2   | Vertical Position for 60 Hz ( AK30 )                 |   |
| HP2   | Horizontal Position for 60 Hz ( AK30 )               |   |
| RGBH  | RGB Horizontal Shift Offset                          | CVBS – RGB Horizontal position compensation |
| VSOFF | Vertical Size Offset for 60 Hz ( AK37 )              |   |
| VPOFF | Vertical Position Offset for 60 Hz ( AK37 )          |   |
| HSOFF | Horizontal Size Offset for 60 Hz ( AK37 )            |   |
| HPOFF | Horizontal Position Offset for 60 Hz ( AK37 )        |   |
| HTOFF | Horizontal Trap Correction Offset for 60 Hz ( AK37 ) |   |
| WR    | White Point Adjust for RED                           |   |
| WG    | White Point Adjust for GREEN                         |   |
| WB    | White Point Adjust for BLUE                          |   |
| BR    | Bias for RED   |   |
| BG    | Bias for GREEN                                       |   |
| APR   | APR Threshold  |   |
| FMP1  | FM Prescaler when AVL is OFF                         | STEREO ONLY                                 |
| NIP1  | NICAM Prescaler when AVL is OFF                      | STEREO ONLY                                 |
| SCP1  | SCART Prescaler when AVL is OFF                      | STEREO ONLY                                 |
| FMP2  | FM Prescaler when AVL is ON                          | STEREO ONLY                                 |

|             |  |                               |
|-------------|--|-------------------------------|
| <b>NIP2</b> | NICAM Prescaler when AVL is ON                 | STEREO ONLY                   |
| <b>SCP2</b> | SCART Prescaler when AVL is ON                 | STEREO ONLY                   |
| <b>S1V</b>  | SCART1 Volume                                  | STEREO ONLY                   |
| <b>S2V</b>  | SCART2 Volume                                  | STEREO ONLY                   |
| <b>F1H</b>  | High Byte of crossover frequency for VHF1-VHF3 | Meaningful for only PLL Tuner |
| <b>F1L</b>  | Low Byte of crossover frequency for VHF1-VHF3  | Meaningful for only PLL Tuner |
| <b>F2H</b>  | High Byte of crossover frequency for VHF3-UHF  | Meaningful for only PLL Tuner |
| <b>F2L</b>  | Low Byte of crossover frequency for VHF3-UHF   | Meaningful for only PLL Tuner |
| <b>BS1</b>  | Band Switch Byte for VHF1                      | Meaningful for only PLL Tuner |
| <b>BS2</b>  | Band Switch Byte for VHF3                      | Meaningful for only PLL Tuner |
| <b>BS3</b>  | Band Switch Byte for UHF                       | Meaningful for only PLL Tuner |
| <b>CB</b>   | Control Byte                                   | Meaningful for only PLL Tuner |
| <b>OP1</b>  | Option 1 (see the Option List)                 |                               |
| <b>OP2</b>  | Option 2 (see the Option List)                 |                               |
| <b>OP3</b>  | Option 3 (see the Option List)                 |                               |
| <b>OP4</b>  | Option 4 (see the Option List)                 |                               |
| <b>OP5</b>  | Option 5 (see the Option List)                 |                               |
| <b>TX1</b>  | Teletext Option 1 (see the Option List)        |                               |
| <b>GEOM</b> | Geometry Option (see the Option List) ( AK37 ) |                               |

## OPTION LIST

### OP1 – Peripheral Options

|   |   |   |   |   |   |   |   |  |  |
|---|---|---|---|---|---|---|---|--|--|
| 7 |   |   |   |   |   |   |   |  | NOT USED   |
|   | 6 |   |   |   |   |   |   |  | 1, Display "AV-3" as "F-AV"<br>0, Display "AV-3" as "B-AV"   |
|   |   | 5 |   |   |   |   |   |  | 1, Turn back TV mode after the last AV (with AV key)<br>0, Turn back first AV mode after the last AV |
|   |   |   | 4 |   |   |   |   |  | 1, SVHS is available in AV key stream<br>0, SVHS is NOT available in AV key stream                   |
|   |   |   |   | 3 |   |   |   |  | 1, RGB is available in AV key stream<br>0, RGB is NOT available in AV key stream                     |
|   |   |   |   |   | 2 |   |   |  | 1, AV-3 is available in AV key stream<br>0, AV-3 is NOT available in AV key stream                   |
|   |   |   |   |   |   | 1 |   |  | 1, AV-2 is available in AV key stream<br>0, AV-2 is NOT available in AV key stream                   |
|   |   |   |   |   |   |   | 0 |  | 1, AV-1 is available in AV key stream<br>0, AV-1 is NOT available in AV key stream                   |

### OP2 – Reception Standard Options

|   |   |   |   |   |   |   |   |  |   |
|---|---|---|---|---|---|---|---|--|---|
| 7 |   |   |   |   |   |   |   |  | 1, 3-button keyboard (V-, P+, V+)<br>0, 4/5 button keyboard (V-, V+, P-, P+, Menu)                |
|   | 6 |   |   |   |   |   |   |  | 1, L/L' is available<br>0, L/L' is not available  |
|   |   | 5 |   |   |   |   |   |  | 1, I is available<br>0, I is not available  |
|   |   |   | 4 |   |   |   |   |  | 1, DK is available<br>0, DK is not available  |
|   |   |   |   | 3 |   |   |   |  | 1, BG is available<br>0, BG is not available  |
|   |   |   |   |   | 2 |   |   |  | 1, 3D PANORAMA is visible<br>0, DOLBY VIRTUAL is visible  |
|   |   |   |   |   |   | 1 |   |  | 1, for SECAM LLP, EXT MONO INPUT is available<br>0, inner demodulation is available for SECAM LLP |
|   |   |   |   |   |   |   | 0 |  | 1, LOW POWER is available<br>0, LOW POWER is not available  |

### OP3 – Video Options

|   |   |   |   |   |   |   |   |                               |
|---|---|---|---|---|---|---|---|-------------------------------|
| 7 | 6 |   |   |   |   |   | Xtal Configuration<br>00, 1 Xtal PAL 4.43<br>01, 2 Xtal PAL/NTSC 4.43/3.58<br>10, 1 Xtal PAL/SEC/NTSC 4.43<br>11, 2 Xtal PAL/SEC/NTSC 4.43/3.58 |                               |
|   |   | 5 |   |   |   |   | 1, Enable Blue back when no signal in AV modes<br>0, No blue back in AV modes   |                               |
|   |   |   | 4 |   |   |   | 1, White Insertion is ON<br>0, White Insertion is OFF   |                               |
|   |   |   |   | 3 |   |   | 1, Blue Background when no signal<br>0, Disable Blue Background   |                               |
|   |   |   |   |   | 2 |   | 1, Semi-transparent background for menu<br>0, Solid Menu background for menu  |                               |
|   |   |   |   |   |   | 1 | 1, Black Stretch is ON<br>0, Black Stretch is OFF   |                               |
|   |   |   |   |   |   |   | 0   | 1, APR is ON<br>0, APR is OFF |

### OP4 – TV Features

|   |   |   |   |   |   |   |   |  |  |  |
|---|---|---|---|---|---|---|---|--|--|--|
| 7 |   |   |   |   |   |   |   |  |  | 1, Headphone is available (for STEREO models)<br>0, Headphone is not available   |
|   | 6 |   |   |   |   |   |   |  |  | 1, Arabic/Persian is Available in Menu Languages (for A, D, E, F, and later)<br>0, Arabic/Persian is NOT Available in Menu Languages |
|   |   | 5 |   |   |   |   |   |  |  | 1, Hebrew is Available in Menu Languages (for A, D, E, F, and later)<br>0, Hebrew is NOT Available in Menu Languages                 |
|   |   |   | 4 |   |   |   |   |  |  | 1, Hotel Mode can be activated<br>0, Hotel Mode can not be activated   |
|   |   |   |   | 3 |   |   |   |  |  | 1, No Signal Timer is enabled<br>0, No Signal Timer is disabled  |
|   |   |   |   |   | 2 |   |   |  |  | For PLL Tuner<br>1, Frequency based search<br>0, Channel table based search<br>(No meaning for for VST Tuner)                        |
|   |   |   |   |   |   | 1 |   |  |  | 1, 3-band tuning (VHF1, VHF3, UHF)<br>0, 1-band tuning (only UHF)  |
|   |   |   |   |   |   |   | 0 |  |  | 1, Extra 200 msec blanking for VST<br>0, no-extra blanking   |

### OP5 – Channel Tables

|   |   |   |   |   |   |   |   |  |  |   |
|---|---|---|---|---|---|---|---|--|--|---|
| 7 |   |   |   |   |   |   |   |  |  | 1, Extra 150 msec blanking more for VST (if OP4.b0 = 1, to SECAM color problem)<br>0, no-extra blanking |
|   | 6 |   |   |   |   |   |   |  |  | 1, "Programme" item in AUTOSTORE menu is visible<br>0, "Programme" item in AUTOSTORE menu is invisible  |
|   |   | 5 |   |   |   |   |   |  |  | 1, Force both channel on even no carrier ( carrier mute disable )<br>0, Default value after reset       |
|   |   |   | 4 |   |   |   |   |  |  | 1, French OS Channel Table is available<br>0, French OS Channel Table is not available                  |
|   |   |   |   | 3 |   |   |   |  |  | 1, French Channel Table is available<br>0, French Channel Table is not available                        |
|   |   |   |   |   | 2 |   |   |  |  | 1, England Channel Table is available<br>0, England Channel Table is not available                      |
|   |   |   |   |   |   | 1 |   |  |  | 1, East Europe Channel Table is available<br>0, East Europe Channel Table is not available              |
|   |   |   |   |   |   |   | 0 |  |  | 1, West Europe Channel Table is available<br>0, West Europe Channel Table is not available              |

**TX1 – Teletext Options**

|   |   |   |   |   |   |   |   |  |  |
|---|---|---|---|---|---|---|---|--|--|
| 7 |   |   |   |   |   |   |   |  | 1, Auto APS after Stand-By<br>0, no APS after Stand-By   |
|   | 6 |   |   |   |   |   |   |  | RESERVED (must be 0)   |
|   |   | 5 | 4 | 3 |   |   |   |  | Teletext Language Groups<br>000, Group 1 – West<br>(English, French, Swedish, Czech, German, Portuguese, Italian, Rumanian)<br>001, Group 2 – West/East<br>(Polish, French, Swedish, Czech, German, Serbian, Italian, Rumanian)<br>010, Group 3 – West/Turkish<br>(English, French, Swedish, Turkish, German, Portuguese, Italian, Rumanian)<br>011, Group 4 – East/Cyrillic<br>(English, Cyrillic, Swedish, Czech, German, Serbian, Lettish, Rumanian)<br>100, Group 5 – Arabic<br>(English, French, Swedish, Turkish, German, Hebrew, Italian, Arabic) |
|   |   |   |   |   | 2 | 1 | 0 |  | Device type selection<br>000, EPROM M6 A<br>001, ROM H5 P<br>010, ROMLESS H5 P<br>011, EPROM M6 R<br>100, ROM M6 R<br>101, OSDEPROM M6 R<br>110, ROM M6 P<br>111, Read Auto Gain Table for the device from EEPROM  |

**GEOM – Geometry Options ( for AK37 )**

|   |   |   |   |   |   |   |  |
|---|---|---|---|---|---|---|--|
| 7 |   |   |   |   |   |   | NOT USED   |
|   | 6 |   |   |   |   |   | 1, SVHS audio input in FAV/BAV in<br>0, SVHS in AV2  |
|   |   | 5 |   |   |   |   | 1, AK37 adjustment values are valid ( default for AK37 )<br>0, AK30 adjustment value are valid |
|   |   |   | 4 |   |   |   | 1, ZOOM mode is available<br>0, ZOOM mode is not available                                     |
|   |   |   |   | 3 |   |   | 1, SUBTITLE mode is available<br>0, SUBTITLE mode is not available                             |
|   |   |   |   |   | 2 |   | 1, CINEMA mode is available<br>0, CINEMA mode is not available                                 |
|   |   |   |   |   |   | 1 | 1, 14:9 mode is available<br>0, 14:9 mode is not available                                     |
|   |   |   |   |   |   | 0 | 1, Tube Format16:9<br>0, Tube Format 4:3   |

**TUNER SETTINGS**

|                       | VHF1-VHF3<br>Frq. (Mhz) | VHF3-UHF<br>Frq. (Mhz) | AK30 SERVICE MENU ITEMS |          |          |          |          |
|-----------------------|-------------------------|------------------------|-------------------------|----------|----------|----------|----------|
|                       |                         |                        | F1H                     | F1L      | F2H      | F2L      | BS1      |
| Philips UV1316S MK3   | 156,25 MHz              | 441,25 MHz             | 00001100                | 00110010 | 00011110 | 00000010 | 00000001 |
| Thomson CTT5020       | 114,25 MHz              | 401,25 MHz             | 00001001                | 10010010 | 00011011 | 10000010 | 00000011 |
| Samsung TECC2949PG28B | 170,25 MHz              | 465,25 MHz             | 00001101                | 00010010 | 00011111 | 10000010 | 00000001 |
| Samsung TECC2949PG35B | 170,25 MHz              | 449,25 MHz             | 00001101                | 00010010 | 00011110 | 10000010 | 00000001 |
| Alps TEDE9X226A       | 142,25 MHz              | 425,25 MHz             | 00001011                | 01010010 | 00011101 | 00000010 | 00000001 |
| Alps TEDE9-004A       | 149,25 MHz              | 424,25 MHz             | 00001011                | 11000010 | 00011100 | 11110010 | 00000001 |

| Explanations |   |
|--------------|---|
| F1H          | High byte of VHF1-VHF3 cross-over frequency |
| F1L          | Low byte of VHF1-VHF3 cross-over frequency  |
| F2H          | High byte of VHF3-UHF cross-over frequency  |
| F2L          | Low byte of VHF3-UHF cross-over frequency   |
| BS1          | Band switching byte for VHF1                |
| BS2          | Band switching byte for VHF3                |
| BS3          | Band switching byte for UHF                 |
| CB           | Control byte                                |