TCL M113A chassis alignment instruction

Enter factory mode in production line

Simply press the D-mode key on the factory remote handset.

Enter service mode

Press and hold the VOLUME DOWN key tightly on the unit until minimum level and don't release the VOLUMN DOWN key, then press the DISPLAY key on the remote handset.

"D" letter on the screen indicated that the factory mode was entered. Now you can use the shortcut key to access the factory menu. All change in factory data will save in EEPROM automatically

Note:

1. You can disable the D-Mode key (on factory remote handset) by change "BIT-0" of "OPT" to "0". If the D-Mode key was disabled, you can't enter D-Mode by the D-mode key on the factory remote (but you can still enter service mode). It is suggested to disable the D-Mode key before the set leave the factory.
2. On the factory remote handset, you can find the "I²C" key. It can cut off the I^2C control from the CPU to other IC. This is only useful when automatic adjustment of white balance.
3. All system data in menu of "key 6" must keep unchanged when servicing. Otherwise, the set may not work properly.

Setting method:

No	Adjustment Items	Data Name (default value inside blanket)	Conditions and input signal	Setting method (need enter D-mode)
1	Screen voltage	----------	"IRGB cut off" must set to 80 (all pattern)	● Press "MUTE" key on the remote handset and the screen will become a horizontal line. Then adjust the "screen" VR on the flyback until the horizontal line can just be seen (minimum visible intensity).
2	Focus voltage	----------	Cross hatch pattern.	● Adjust the "focus" VR on the flyback until the screen becomes clear.
3	Vertical geometry for PAL system (Key 1)	HIT(11) VP50(04) VLIN(0B) VSC(09) VBLK(00) VCEN(1B) OSDH(1F) DPC43(00)	Input a PAL cross hatch pattern.	● Adjust HIT for vertical amplitude. ● Adjust VP50 for vertical position. ● Adjust VLIN for vertical linearity. ● Adjust VSC for vertical S-correction ● (Normally use default value) ● Adjust VCEN for vertical position ● Adjust OSDH for OSD position ● Same as DPC, adjust it on EXPAND 4:3 mode.

4	Vertical geometry for NTSC system (Key 1)	HITS(11) VP60(02) VLIS(0A) VSS(08) VBLK(00) VCEN(1C) OSDHS(1D) DPC43S(00)	Input a NTSC cross hatch pattern.	● Adjust HITS for vertical amplitude. ● Adjust VP60 for vertical position. ● Adjust VLINS for vertical linearity. ● Adjust VSS for vertical S-correction ● (normally use default value) ● Adjust VCEN for vertical position. ● Adjust OSDHS for OSD position ● Same as DPC, adjust it on EXPAND 4:3 mode.
5	Horizontal geometry for PAL system (Key 2)	HPOS(0C) DPC(23) KEY(20) WID(22) ECCT(09) ECCB(0A) VEHT(04) HEHT(04)	Input a PAL cross hatch pattern with black and white background.	● Adjust HPOS for horizontal position. ● Adjust DPC, KEY, ECCT and ECCB until the vertical line at left and right side of the picture become straight. ● Adjust WID for horizontal width. ● VEHT and HENT is for the picture size stability when changing the brightness of the screen. Receive pattern of cross hatch with black background and then change to white background, then compare the vertical and horizontal size between black and white background. Adjust VEHT and HEHT until you get the minimum difference of screen size. After you adjust VEHT and HEHT, you must re-adjust vertical and horizontal amplitude.
6	Horizontal geometry for NTSC system (Key 2)	HPS (10) DPCS(1F) KEYS(1F) WIDS(22) ECCTS(0E) ECCBS(10) VEHTS(04) HEHTS(04)	Input a NTSC cross hatch pattern with black and white background.	● Adjust HPS for horizontal position. ● Adjust DPCS, KEYS, ECCTS and ECCBS until the vertical line at left and right side of the picture become straight. ● Adjust WIDS for horizontal width. ● Adjust VEHTS and HEHTS using same method of PAL system. Also need re-adjustment of vertical and horizontal amplitude.
7	Key 3 (Status adjustment)	CNTX (5A) CNTN (07) BRTX (20) BRTN (1D) COLX (3F) COLN (00) TNTX (42) TNTN (28)	----------	● (all use default value)
8	Key 4 (Status adjustment)	BRTC (30) COLC (57) COLS (47) COLP (F0) SCOL(04) SCNT (0F) CNTC (40) TNTC (48)	----------	● (all use default value)

9	Key 5 (sharpness adjustment)	ST3 (20) SV3 (20) ST4 (20) SV4 (20) SVD(15) ASSH(04) SHPX (3F) SHPN (1A)	----------	● (all use default value)
10	Key 7 (Status adjustment)	RFAGC (1A) SBY (08) SRY (08) BRTS (0D) TXCX (1F) RGCN (00) SECD(08) MUTT(20) STAT(60)	Receive a 60dB grey scale + color bar signal	● Adjust RFAGC until the picture noises disappear exactly. ● Adjust SBY and SRY to get the optimal color for SECAM system. ● For the adjustment of BRTS, receive an 8 step grey scale pattern and adjust all picture settings to 50%. Then adjust BRTS until the first and second step on the screen can just be distinguished. ● (the other use default value)
11	Key 8 (curve of volume control, curve of B.E./WOO-FER)	V01(3A) V25(B0) V50(DC) V100(FF) BASC(40) BASX(72) TREC(40) WOFC(39) AVC(0E)	----------	● (all use default value)
12	Key 9 (curve of B.E./WOO-FER)	NEWS(14) SPACES(5A) NEWT(14) SPACET(5A) WOFF(00) B01(4F) B25(68) B50(7F)	----------	● (all use default value)
13	Key calendar (other adjustment)	SVM(05) SVM1(05) SVM2(05) SVM3(05) PYNX(28) PYNN(15) PYXS(22) PYNS(04)	----------	● (all use default value)
14	Key note (other adjustment)	CLTO(4B) CLTM(4C) CLVO(4D) CLVD(48) ABL(27) DCBS(33) DEF(01)	----------	● (all use default value)

15	Key game (other adjustment)	OSD1(2B) OSDF1(63) OSD2(1C) OSDF2(63) HAFC(09) NOIS(01) UCOM(00)	----------	● (all use default value)
16	Key 0 (White balance adjustment)	R CUT (80) G CUT (80) B CUT (80) G DRV (40) B DRV (40)	Black and white pattern (PAL)	1. Measure the dark side of the picture with a color analyzer and set RCUT to 80. Then adjust BCUT and GCUT until the data on the analyzer become x = 284, y = 299. 2. Measure the bright side of the picture, Then adjust BDRV and GDRV until the data on the analyzer become x = 284, y = 299. 3. Repeat step 1 and 2 until you get right color on both dark and bright side of the screen.

System data:

Item	Adjust item	Default value
Key6	OPT	36
	FLG0	02
	FLG1	CD
	STBY	12
	HD-DELAY	0C
	MODE0	A2
	MODE1	D7
	MODE2	0C

FACTORY-OUT SETUP：In D-MODE, press **RECALL** button to initialize to the FACTORY-OUT status.

AGING MODE: In D-MODE, press **OK** button to entry AGING MODE.

EEPROM INITIALZATION: In D-MODE, press "**0752**" to initialize EEPROM.

NOTICE: Before to be released, any M113A chassis must be initialized to the FACTORY-OUT status. Don't try to initialize EEPROM, unless software can't work normally.