

TEAC®

SERVICE MANUAL

EU-34T

Colour Television with Remote Control

MODEL: EU-34T (AK20 CHASSIS)

PROBLEM: "White Dot Noise" pattern visible on low RF signal input.

File: EU-34T (Whitedot).doc / EU-34T (Whitedot).pdf

White dot noise pattern occurs when signal RF input is too low. This modification will improve the signal/noise vastly.

Instructions:

1. Remove C820 (Ceramic Cap 270pF 1KV)
2. Insert (Ceramic Cap 470pF 1KV) into location C820
3. Add a 0.22nF 630V capacitor in parallel with D806.

Regards,

Fabian Lubanovic
TEAC Australia Pty Ltd.

11AK20 CHASSIS CIRCUIT DESCRIPTION

1. GENERAL INFORMATION :

This document provides detailed information about the fully I²C controlled Television Chassis named 11AK20.

11AK20 is based on the bus controlled circuits in which all the filters, traps and delay lines have been integrated. Therefore the numbers of external components are reduced and the user, service and factory adjustments are made through I²C BUS control.

This chassis has been designed mainly for the 90°, 14" and 15" picture tubes.

This chassis has a SMPS circuitry which has been designed to get low stand-by power consumption (less than 3W) as an option. On the other hand, it also has wide range (90-270V 50/60 Hz) mains as an option.

The chassis covers almost all the existing worldwide transmission and colour standards as PAL B/G/I/M/N, SECAM B/G/D/K/K'/L/L' and NTSC M (3.58), NTSC (4.43) using same Main Printed Circuit Board by means of optional components and settings. Tuning system is Voltage Synthesized for all systems Except NTSC M and PAL M/N applications but it is Frequency Synthesized for NTSC M and PAL M/N applications.

Furthermore, chassis has also European Wide-range teletext solution as an option. This solution supports all the European teletext standards optionally as 1 page normal, fast and top text modes.

The chassis has Euro AV Plug (Scart Socket) for Peritel and SVHS connections. The pictures in 16 - 9 format can be displayed via this Peritel connection. Other optional external connections are front AV input RCA jacks, back AV output RCA jacks and Headphone jack.

The software has been developed with a menu driven user interface supporting all possible chassis versions with a storage capacity of 100 programs.

2. IF STAGE :

The inputs for IF stage are IF inputs from Tuner to produce front-end Video and Audio, Video and Audio from Scart or front AV RCA jack to be able to select the internal or external video and audio according to the control signals which comes from microcontroller and STV 2118. Then, the resultant video and audio signals are sent to video processing stage and audio output stage, respectively. Furthermore, front-end video and audio signals are sent to scart and or back AV RCA jacks. This part also produces some control signals for tuner and microcontroller.

This stage was designed for processing positive (optional) and negative modulated mono and one scart applications.

STV 8223 is the IF IC that is used in only negative modulation. There is an alignment which is the VCO adjustment (VL101). The procedure of alignment can be described briefly as follows :

- The IF signal is applied to the IF inputs in accordance with the standards (for B/G 38.9MHz) at pin # 1 and 2 of SAW filter (Z101).

- Adjust the VL101 until getting 2.5 V_{dc} at pin # 9 of uC (IC501).

This stage is also used for negative and positive modulated, mono applications. STV 8224 (negative and positive modulation and FM sound) (IC 101) and STV 8225 (AM sound) (IC102) are the IF IC's.

There are two alignments in this case, which are the VCO adjustment (VL101) for B/G - L standards and VC101 for L' standard. The procedure of the alignments can be described briefly as follows :

The system is Switched to B/G standard reception,

- The IF signal is applied to the IF inputs in accordance with the standards (for B/G 38.9MHz) at pin # 1 and 2 of SAW Filter Z101.

- Adjust the VL101 until getting 2.5 V_{dc} at pin # 9 of uC.

- The system is Switched to L' standard_{dc} reception,

- The IF signal is applied to the IF inputs in accordance with the standards (for L' 33.9MHz) at pin # 1 and 2 of SAW Filter Z101.

- Adjust the VC101 until getting 2.5 V_{dc} at pin # 9 of uC.

2.1 Video and Sound IF System & Switch IC STV8223:

STV 8223 is a picture and sound IF processor for negative application. The architecture of the video and sound demodulator, which are both based on PLL structure, allows a very good linearity of the Intermediate Frequency Response and an application with very few external components and adjustments.

The volume on the audio signal is controlled through a DC level (pin # 13) which is provided from STV 2112/2116/2118 where all the I²C decoding is realized.

STV 8223 also provides the audio and video switches for scart - AV applications.

The IF inputs at pins # 19 and # 20 are driven by Tuner via Saw filter (Z101). The baseband signal produced from these IF inputs appears at pin # 3. This signal is used to produce sound trapped video signal and intercarrier sound signal. For multi-standard models, a switched trap circuitry is used (Q103, Q104, Q105). This internal video signal is fed to pin # 10 of this IC for internal-external (coming from scart) video switching and to the base of the buffer transistor Q102 for the video output of the scart connector. The intercarrier signal used for reproducing sound, passes through the band pass filter Z103 with center frequency 5.5MHz for B/G standard or Z104 for I (6.0MHz) or Z105 for D/K (6.5MHz) or Z106 for M/N (4.5MHz) in according to selected system by intercarrier signal switching circuitry (D106, D107, D108, D109, D110) and resultant signal is applied to the pin #8 of the IC which is the input of limiter and SIF PLL stage.

The switch control signal is supplied by microcontroller. The limiter and SIF PLL output pin # 15 which is connected to the deemphasis capacitor drives audio out of the scart connector and AV jack. The external inputs of IC, which are pin # 12 for video and pin # 16 for audio, are connected to the related scart connector inputs or AV RCA jack inputs. The internal-external signal selection for monitoring is made by control voltage at pin # 8 produced by STV 2118. The selected video at pin # 11 drives video processing stage. On the other hand, the selected audio is processed in volume control stage in according with DC control voltage at pin # 13 and then, it is sent from pin # 14 to sound output stage.

The IF block produces control signals, which are AGC for tuner at pin # 23 in according to voltage of pin # 24 controlled by microcontroller pin # 2.

2.2 Multi-Standard Video and Sound IF System & Switch IC STV 8224 and AM SIF IC STV 8225 :

STV 8224 is a picture and sound IF processor for negative and positive applications. The architecture of the video and sound demodulator, which are both based on PLL structure, allows a very good linearity of the Intermediate Frequency Response and an application with very few external components and adjustments.

The volume on the audio signal is controlled through a DC level (pin #13) which is provided from STV 2112/2116/2118 where all the I²C decoding is realized.

STV 8224 also provides the audio and video switches with STV 8225 for one scart applications.

The IF inputs at pins # 19 and # 20 are driven by Tuner via SAW filter (Z101) which is K6256 for B/G - L/L' applications. This saw filter is switchable according to the control signals produced by microcontroller.

The baseband signal at pin # 3 is produced from these IF inputs according to the control signal at pin # 4.

This control signal comes from STV 2118 Multi-Switch Output according to the selected system standard.

The baseband signal is used to produce sound trapped video signal and on the other hand to produce intercarrier sound signal for B/G standard. This internal video signal is fed to pin # 10 of this IC for internal-external (coming from scart) video switching and to the base of the buffer transistor Q102 for the video output of the scart connector. For the internal and external video switching, external video enters from pin #12, and then, selected video is sent from pin # 11 to video processing part.

The intercarrier signal used for reproducing sound, passes through the band pass filter Z103 with center frequency 5.5MHz for B/G standard and resultant signal is applied to the pin # 8 of the IC STV 8224 which is the input of limiter and SIF PLL stage. The limiter and SIF PLL output pin # 15 which is connected to the deemphasis capacitor drives pin # 5 of the IC STV 8225 as FM Sound Input in order to be able to select the appropriate (FM or AM) audio signal for producing audio out of the scart connector. The selected signal at pin # 9 of STV8225 drives external audio output connections. On the other hand, the audio switch in STV 8224 is used to select the internal FM signal or the output of STV 8225 (pin # 7), which selects the internal AM signal or External audio signal (at pin # 11) coming from scart socket. The selected audio is processed in volume control stage in according with DC control voltage at pin # 13 and then, it is sent from pin # 14 to sound output stage. The IF signal is filtered at Z102 saw filter which is switchable according to the control signals produced by microcontroller for L or L' mode. Output of SAW is connected to pin # 1 and 14 of SIF IC STV 8225(IC 102) for AM sound producing. The audio switches in STV 8225 selects the signals according to DC voltage at # 10 of STV 8225 .

The IF block produces control signals, which are AGC for tuner at pin # 23 in according to voltage of pin # 24 controlled by microcontroller and AFC for microcontroller at pin # 2.

There are two main switching circuits. First one is the VCO Frequency Switching circuit and the second one is the Saw Filter Switching circuit which covers both Video and Sound saw filters.

The control voltage for VCO switching circuitry is the L/L' signal produced by microcontroller. The logic of this signal, which is defined by MAC-15, is as given in Table 2.1.

Table 2.1 The Logic of the L/L' Switching Voltage (based on MAC-15)

Selected Mode L/L'	Switching Voltage	Adjusted Frequency
Modes other than L'	HIGH	38.9 MHz
L'	LOW	33.9 MHz

This control voltage is applied to R121. When this voltage is LOW, diode D105 is ON and VC101, C129 and C130 are connected in parallel to the reference tank circuit VL101. On the other hand, This circuit is disconnected when L/L' voltage is HIGH since D105 is OFF.

In according to selected system configuration, it must be used multistandard switched type SAW filters. For this reason an optional circuitry is applied this stage by D101, D102, (and if using L/L', D103 ,D104 for SIF SAW Z102).

3. SIGNAL PROCESSING PART :

This part processes video coming from IF part, RGB coming from Scart, Teletext and Controller in order to drive Horizontal and Vertical deflection stages and CRT baseboard and to produce some control voltages by means of Bus-controlled PAL-SECAM-NTSC TV Processor IC, STV 2112/2116/2118 and 64msec Delay Line IC, STV2180. The detailed functional descriptions of these IC's are given in the following subsections.

3.1 Bus-controlled Multi-Standard TV Processor IC, STV 2118 :

The STV 2118 (IC 401) is a fully bus controlled IC for TV Luma, Chroma and Deflection processing. In order to make the alignments by microcontroller via I²C, the required data are transferred from microcontroller into the related registers of STV 2118. The main input for this IC are as follows :

- I²C Inputs from microcontroller
- Y/CVBS Input from IF Part, external CVBS coming from scart or front AV RCA jack, external RGB and Fast Blank signals coming from Scart, R input is also used for Chroma input in SVHS Mode
- OSD and TELETEXT RGB and Fast Blank signals coming from both microcontroller and teletext processor IC
- BCI (Black Current Information) coming from CRT Baseboard
- BCL (Beam Current Limiting) information from Horizontal Output Stage
- Line Flyback Sample coming from Horizontal Output Stage
- Delayed R-Y and B-Y signals coming from Delay Line IC STV 2180

Detailed Features and the internal block diagram of the IC STV 2118 are given in following subsections:

3.1.1 Deflection Circuit :

The deflection part includes a fully integrated sync-separator locked to a 500 kHz VCO with external resonator (X401), two phase locked loops for horizontal deflection, vertical count down with 50 Hz and 60 Hz operation for field frequency.

Vertical output pulse is 10.5 lines long at pin # 35, furthermore horizontal output pulse is 28 msec on open collector pin # 36.

The horizontal output is at high level when Vcc increases from 0V to 6.8V. On shutting down, the horizontal pulse is disabled when Vcc is below 6.2V.

When vertical pulses are disappeared, horizontal output is disabled by microcontroller for keeping CRT phosphor.

Line position adjustment is controlled by bus using related service mode.

Bus controlled output voltage at pin # 34 is used to adjust vertical amplitude at vertical output stage via R705, R706 and R707.

Bus controlled vertical position information is produced from high level of the vertical pulse pin # 35 and this signal is used to adjust vertical positioning at vertical output stage via R701, R703, R704, C701, D701 and Q701.

The sandcastle signal at pin # 37 is used to control the external baseband chroma delay line (STV 2180 -IC 402- pin # 6).

3.1.2 Filters :

All filters (integrated trap filter, integrated chroma bandpass, integrated bell filter for SECAM, integrated delay line) are tuned with a reference PLL.

The PLL consists of a lowpass filter, a phase comparator, a loop filter (an external capacitor C423 on pin # 8). The reference signal is the continuous carrier wave from the VCO (4.43 MHz or 3.58 MHz). The PLL will adjust the center frequency of the lowpass so that it will be equal to the reference signal. The tuning voltage of the PLL (memorized on pin # 8) will adjust all other filters.

The cloche filter is fine-tuned with a second PLL operating during frame retrace. Tuning voltage is memorized on an external capacitor C424 at pin # 9.

3.1.3 Video Circuit :

Video part includes two RGB inputs, automatic cut-off control, DC cut-off adjustment, RGB gain adjustments, beam current limiting. Furthermore, user video settings (contrast, saturation, brightness and sharpness controls) are performed by this block. RGB output pins are as follows: R output is pin # 29, G output is pin # 28 and B output is pin # 27.

The beam current information is fed to pin # 31 via R411 and D403. This control voltage will act on contrast first, then the brightness will be decreased when contrast attenuation reaches -5dB.

Automatic cut-off function is realized according to the BCI information at pin # 30. Sequential cut-off current measurements are made during three lines after frame blanking signal.

3.1.4 Chroma Circuit :

The chroma part includes PAL, SECAM, NTSC demodulator. An external base band delay line (STV 2180 IC402) is used in this concept. R-Y and B-Y outputs of STV 2118 (pin # 40 and pin # 41) are sent to STV 2180 to get 64msec delayed signals.

The PAL, SECAM or NTSC standard selection is made by automatic standard identification.

Three X'tals for PAL M (X404), PAL N (X405) and NTSC M (X403) and their switching circuitry (Q401, Q402, Q403, Q404, D401, D402) are used in PAL M/N and NTSC M models only.

SVHS selection is made by microcontroller via bus control.

3.1.5 Other Functions :

Volume Control and Mute output is pin # 10. The voltage range for volume control is 0.5V to 5V, whereas below 0.1V is used for muting. The output of this pin is controlled by microcontroller via bus and the value is saved in related register of the STV 2118.

The selection of the IF standard (Positive or Negative Vision Modulation) and the TV / SCART(AV) mode is controlled by bus. The selection is converting in four voltages which are used to control the IF IC's STV 8224 and STV 8225 on pin # 11. Related voltage levels and their situations are tabulated as follows:

Table 3.1 Related voltage levels and their situations for pin # 11 of STV 2118.

SITUATION		VOLTAGE RANGE (V ₁₁)	
STANDARD	SOURCE	MIN.	MAX.
NEGATIVE	TV	0	0.7
POSITIVE	TV	2.9	3.8
POSITIVE	SCART	5.2	6.1
NEGATIVE	SCART	7.88	9

3.2 Base Band Chroma Delay Line IC STV 2180 :

The STV 2180 is an integrated base band chroma delay line with one line delay, which has been designed to match chroma decoders with color difference signal outputs (R-Y) and (B-Y). This IC has dual switched capacitors delay line with 3 MHz clock and integrated filters to suppress the residual clock components. It designed to work in conjunction with STV 2112/2116/2118 and it allows an adjustment free application.

The inputs for this IC are as follows :

- (R-Y) at pin # 2 coming from STV 2118
- (B-Y) at pin # 14 coming from STV 2118
- Sandcastle Pulse at pin # 6 coming from STV 2118

On the other hand, outputs of this IC are as follows :

- Delayed (R-Y) at pin # 3
- Delayed (B-Y) at pin # 4

4. HORIZONTAL OUTPUT AND EHT STAGE :

The horizontal pulses, from pin #36 of IC401, are connected to base of driver transistor Q601 through Q601, R603, C601. The driver circuitry (Q601, R604, C602, L602, R608) drives the horizontal deflection output transistor BU808DFI (Q602). TR601 is the EHT (Extra High Tension) transformer. The 112V supply voltage for the stage is connected at # 2. TR601 transformer generates EHT, focus and G2 voltages, required by picture tube. Furthermore, the 200V supply for video output, 26V supply for vertical output and heater drive current are derived from this transformer. The beam current information from pin #8 of TR601 is used for reducing the contrast at excessive long term average beam current and compensation voltage to vertical output to stabilize picture height. The flyback signal sample (AC coupled and clipped by R606, C614, C604, D602, D601) is used to generate sandcastle pulse for video processor IC and horizontal pulse (Q603) required by uC.

5. VERTICAL OUTPUT STAGE (TDA 1771)

The TDA1771 (IC701) vertical deflection integrated circuit is used for output of vertical stage. Trigger pulses from STV2118 feeds to pin # 3 of TDA1771. The signal produced by built in ramp generator synchronizes input trigger pulses. Amplitude is adjusted by an independent input pin (# 4). Built in voltage generator output, feedback information by pin # 8, internal sawtooth signal and amplitude information are applied to output OP-AMP. This output stage has also thermal protection and flyback generator for reliability and effectivity. Applied pulse from STV2118, contains vertical position information as maximum dc level of signal and is extracted by Q701 and fed as a part of feedback to output stage. Vertical shift DC supply is obtained via R716. The amplitude control is supplied by STV2118. Vertical deflection output stage is supplied by +26V output of FBT and D605, C603 circuitry.

6. SOUND OUTPUT STAGE (TDA2822M) :

TDA2822M is used as the AF output amplifier. It is supplied by +12V coming from a separate winding in the SMPS transformer (T802). Pin #14 of the STV8223 (or STV 8224) is AC coupled to the input pin #7 of the TDA2822M via a resistor divider. Maximum audio output power at 10% THD is 1.5W. Q301 for start up muting and Q302 for muting by uC are used, and an alarm signal by uC is fed to this input.

7. POWER SUPPLY (SMPS) :

The DC voltage sources required at various stages of the chassis are provided by an SMPS controlled by the IC801 (MC44603 for common models and MC44604 for 'low power consumption on stand by mode' models). This IC is designed for driving, controlling and protecting the switching MOSFET transistor of SMPS (Q801). This supply has three outputs; one 112V output which is used for horizontal output and 33V generation needed by tuner section, one 16V output for all small signal sections an uC and one for audio output section. This chassis may be used in 90 - 270 volt with appropriate optional circuitry and components. The uC which is supplied by a source designed regulator with zener diode (D814) controls stand by mode by switching Q803 (for 44604 application Q806).

8. uC (MICROCONTROLLER) :

The microcontroller hardware that is member of the ST6 family has a TV receiver control software with menu control. It controls the chassis through IIC bus, PWM outputs and I/O ports. Dominant features of controller are control of optional teletext, outputs for OSD, IR control signal receiving, and internal EEPROM.

The controller has IIC communication port at # 40 , # 41 and OSD driver (R,G,B,FBI) at # 22, # 23, # 24, # 25. PWM control outputs are tuning # 34; vertical linearity adjustment # 1; AGC adjustment # 2. Other control outputs are Muting - video ident # 3; led driver # 4; system switches # 5, # 6, # 8, # 19, # 20, # 36; tuner switches # 18, # 19 and inputs are AFC information from IF # 9; keyboard # 10, # 11, # 13, # 14; scart mode ident (4/3-16-9) # 38, # 39; horizontal sync # 26; vertical # 27; infrared # 35 and reset # 33.

The uC starts system according to option diodes configuration (D501, D503, D505, D506, D508).

The controller has also a software which is able to control some service adjustments: R,G,B gain; R,G cut off; vertical position; vertical linearity; horizontal position; vertical amplitude; AGC; language selection for teletext.

For enter to service mode followed procedure must be act within four seconds:

- 1- Press volume down button on the keyboard;
- 2- Press 'prog' button on the R/C hand set;
- 3- Press '--' button on the R/C hand set;
- 4- Press "TV " button on the R/C hand set;

Parameters can be selected by program up and down, parameter adjustments can be done by volume up and down buttons. Memorizing the adjusted parameters can be done by pressing red button. For exit from service mode Press " TV " button.

9. TELETEXT :

The video signal coming from IF stage is fed to Data Slicer IC001. Then, there are two possibilities for decoding part; CF70095 or CF70195 for 1-Page simple text applications and CF7020X family for fasttext and toptext applications. Finally, R, G, B and FBL signals are sent to the related inputs of STV2118.

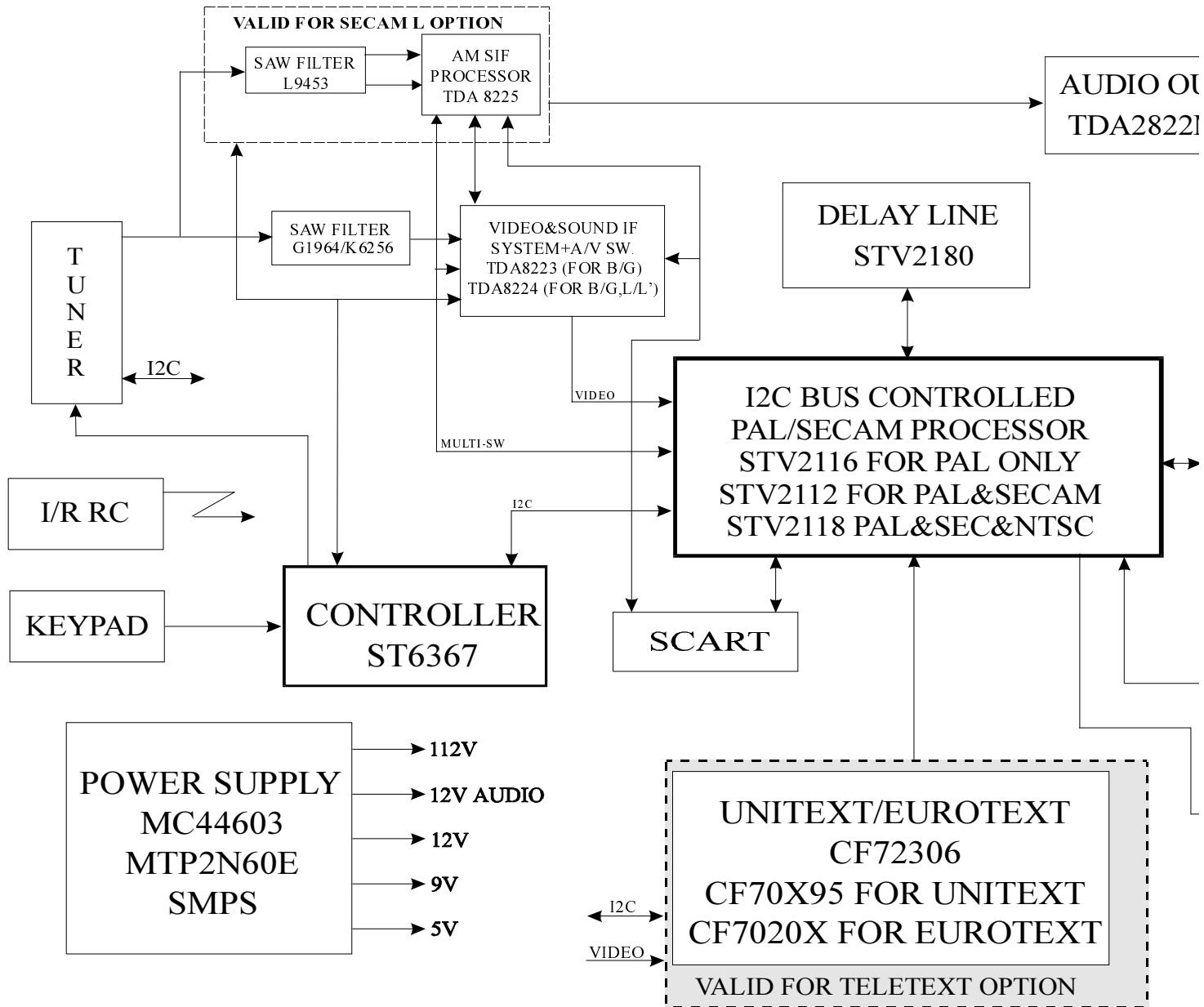
The alignment procedure for CF70095 or CF70195 application is as following:

- 1- Apply a video with teletext transmission and select for teletext.
- 2- Adjust the coil (VL001) for the voltage at pin # 28 2.5V.

10. CRT BASE-BOARD :

When RGB signals enter the input of the video amplifier stage (CRT base-board), they are amplified by means of three symmetrical video amplifier stages. For this purpose three 2SC2482 high voltage, video output transistors are used. So, high gain-bandwidth product is achieved. Furthermore black level changes at the output amplifiers caused by temperature or component agings are compensated by means of a closed loop control system. For this reason the cathode current information (ICAT) is sent to STV2118.

BLOCK DIAGRAM OF THE CHASSIS : 11AK20



MC44603

Advance Information

Mixed Frequency Mode GreenLine PWM Controller:

Fixed Frequency, Variable Frequency, Standby Mode

GENERAL DISCRPTION

The MC44603 is an enhanced high performance controller that is specifically designed for off-line and dc-to-dc converter applications. This device has the unique ability of automatically changing operating modes if the converter output is overloaded, unloaded, or shorted, offering the designer additional protection for increased system reliability. The MC44603 has several distinguishing features when compared to conventional SMPS controllers.

These features consist of a foldback facility for overload protection, a standby mode when the converter output is slightly loaded, a demagnetization detection for reduced switching stresses on transistor and diodes, and a high current totem pole output ideally suited for driving a power MOSFET. It can also be used for driving bipolar transistor in low power converters (<150 W). It is optimized to operate in continuous mode. It's advanced design allows use in current mode or voltage mode control applications.

FEATURES :

Current or Voltage Mode Controller

- Operation up to 250 kHz Output Switching Frequency
- Inherent Feed Forward Compensation
- Latching PWM for Cycle-by-Cycle Current Limiting
- Oscillator with Precise Frequency Control

High Flexibility

- Externally Programmable Reference Current
- Secondary or Primary Sensing
- Synchronization Facility
- High Current Totem Pole Output
- Undervoltage Lockout with Hysteresis

Safety/Protection Features

- Overvoltage Protection Against Open Current and Open Voltage Loop
- Protection Against Short Circuit on Oscillator Pin
- Fully Programmable Foldback
- Soft-Start Feature
- Accurate Maximum Duty Cycle Setting
- Demagnetization (Zero Current Detection) Protection
- Internally Trimmed Reference

GreenLine Controller: Low Power Consumption in Standby Mode

- Low Startup and Operating Current
- Fully Programmable Standby Mode
- Controlled Frequency Reduction in Standby Mode
- Low dV/dT for Low EMI Radiations.

PINNING

1- VCC	This pin is the positive supply of the IC. The operating voltage range after startup is 9.0 to 14.5V.
2- VC	The output high state (V_{OH}) is set by the voltage applied to this pin.
3- OUTPUT	With a separate connection to the power source, it can reduce the effects of switching noise on the control circuitry. Peak currents up to 750mA can be sourced or sunk, suitable for driving either MOSFET or Bipolar transistor. This output pin must be shunted by a Schottky diode, 1N5819 or equivalent.
4- GND	The ground pin is a single return, typically connected back to the power source; it is used as control and power ground.
5- Foldback Input	The foldback function provides overload protection. Feeding the foldback input with a portion of the VCC voltage (1.0V max) establishes on the system control loop a foldback characteristic allowing a smoother startup and sharper overload protection. Above 1.0V foldback input is inactive.
6- Overvoltage Protection	When the overvoltage protection pin receives a voltage greater than 17V, the device is disabled and requires a complete restart sequence. The overvoltage level is programmable.
7- Current Sense Input	A voltage proportional to the current flowing in to the power switch is connected to this input. The PWM latch uses this information to terminate the conduction of the output buffer when working in a current mode of operation. A maximum level of 1.0V allows either current or voltage mode of operation.
8- Demagnetization Detection	A voltage delivered by an auxiliary transformer winding provides to the demagnetization pin an indication of the magnetization state of the flyback transformer. A zero voltage detection corresponds to complete core saturation. The demagnetization detection ensures a discontinuous mode of operation. This function can be inhibited by connecting Pin 8 to Gnd.
9- Synchronization Input	The synchronization input pin can be activated with either a negative pulse going from a level between 0.7V and 3.7V to Gnd or a positive pulse going from a level between 0.7 and 3.7V up to a level higher than 3.7V. The oscillator runs free when Pin 9 is connected to Gnd.
10- CT	The normal mode oscillator frequency is programmed by the capacitor CT choice together with the Rref resistance value. CT, connected between Pin 10 and Gnd, generates the oscillator sawtooth.
11- Soft-Start/Dmax /Voltage-Mode	A capacitor, resistor or a voltage source connected to this pin limits the switching duty-cycle. This pin can be used as a voltage mode control input. By connecting Pin 11 to Ground, the MC44603 can be shut down.
12- RP Standby	A voltage level applied to the RP Standby pin determines the output power level at which the oscillator will turn into the reduced frequency mode of operation (i.e. standby mode). An internal hysteresis comparator allows to return in the normal mode at a higher output power level.
13- E/A Out	The error amplifier output is made available for loop compensation.
14- Voltage Feedback	This is the inverting input of the Error Amplifier. It can be connected to the switching power supply output through an optical (or other) feedback loop.
15- RF Standby	The reduced frequency or standby frequency programming is made by the RF Standby resistance choice.
16- R _{ref}	R _{ref} sets the internal reference current. The internal reference current ranges from 100µA to 500 µA. This requires that $5.0k\Omega \leq R_{ref} \leq 25 k\Omega$.

ST 6385

8 BIT HCMOS MCUs FOR TV VOLTAGE SYNTHESIS WITH OSD

GENERAL DESCRIPTION

The ST6385,86,87,88 microcontrollers are member of the 8-bit HCMOS ST638X family, a series of devices specially oriented to TV applications. Different pin-out and peripheral configuration are available to give the maximum application and cost flexibility. All ST638X members are based on a building block approach: a common core is surrounded by a combination of on-chip peripherals (macrocells) available from a standard library. These peripherals are designed with the same Core technology providing full compatibility and short design time. Many of these macrocells are specially dedicated to TV applications. The macrocells of the ST638X family are : two Timer peripherals each including an 8-bit counter with a 7 bit software programmable prescaler (Timer), a digital hardware activated watchdog function (DHWD), a 14-bit voltage synthesis tuning peripheral, a serial peripheral interface (SPI), up to six 6-bit PWM D/A converters, an AFC A/D converter with 0.5V resolution, an on-screen display (OSD) with 15 characters per line, 128 characters (in two banks each of 64 characters). In addition the following memory resources are available: program ROM (20K), data RAM (256 bytes), EEPROM (384 bytes). Refer to pin configurations figures and to ST638X device summary (Table 1) for the definition of ST638X family members and a summary of differences among the different types.

FEATURES

- 8-bit Architecture
- HCMOS Technology
- 8Mhz Clock
- User Program ROM: 20140 bytes
- Reserved Test ROM: 336 bytes
- Data ROM: User selectable size
- Data RAM: 256 bytes
- Data EEPROM: 384 bytes
- 42-Pin Shrink Dual in Line Plastic Package
- Up to 22 software programmable general purpose Inputs/Outputs, including 2 direct LED driving nOutputs
- Two Timers each including an 8-bit counter with a 7-bit programmable prescaler
- Digital Watchdog Function
- Serial Peripheral Interface (SP) supporting S-BUS/ I²C BUS and standard serial protocols
- Up to Six 6-Bit PWM D/A Converters
- 62.5KHz Output Pin (ST6386,88 Only)
- AFC A/D converter with 0.5V resolution
- Five interrupt vectors (IRIN/NMI, Timer 1 & 2, VSYNC, PWR INT.)
- 14 bit counter for voltage synthesis tuning
- On-chip clock oscillator
- 5 Lines by 15 Characters On-Screen Display Generator with 128 Characters
- Byte efficient instruction set
- Bit test and jump instructions
- Wait and Bit Manipulation instructions
- True LIFO 6-level stack
- All ROM types are supported by pin-to-pin piggy-back versions.
- The development tool of the ST638X microcontrollers consists of the ST638X-EMU emulation and development system to be connected via a standard RS232 serial line to an MS-DOS Personal Computer.

PINNING

1- DA0	Output, Open-Drain, 12V
2- DA1	Output, Open-Drain, 12V
3- DA2	Output, Open-Drain, 12V
4- DA3	Output, Open-Drain, 12V
5- DA4	Output, Open-Drain, 12V
6- DA5	Output, Open-Drain, 12V
7- 62.5KHz OUT	Output, Open-Drain, 12V
8- AFC	Input, High Impedance, 12V
9- VS	Output, Push-Pull
10- R,G,B, BLANK	Output, Push-Pull
11- HSYNC, VSYNC	Input, Pull-up, Schmitt Trigger
12- OSDOSCIN	Input, High Impedance
13- OSDOSCOUT	Output, Push-Pull
14- TEST	Input Pull-Down
15- OSCIN	Input, Resistive Bias, Schmitt Trigger to Reset Logic Only
16- OSCOUT	Output, Push-Pull
17- RESET	Input, Pull-up, Schmitt Trigger Input
18- PA0	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input

19- PA1	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
20- PA2	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
21- PA3	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
22- PA4	I/O, Open Drain, 12V, No Input Pull-up, Schmitt Trigger Input
23- PA5	I/O, Open Drain, 12V, No Input Pull-up, Schmitt Trigger Input
24- PA6	I/O, Open Drain, 12V, No Input Pull-up, Schmitt Trigger Input, High Drive
25- PA7	I/O, Open Drain, 12V, No Input Pull-up, Schmitt Trigger Input, High Drive
26- PB0	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
27- PB1	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
28- PB2	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
29- PB3	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
30- PB4	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
31- PB5	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
32- PB6	I/O, Push-Pull, Software Input Pull-up, Schmitt Trigger Input
33- PC0	I/O, Open Drain, 5V, Software Input Pull-up, Schmitt Trigger Input
34- PC1	I/O, Open Drain, 5V, Software Input Pull-up, Schmitt Trigger Input
35- PC2	I/O, Open Drain, 5V, Software Input Pull-up, Schmitt Trigger Input
36- PC3	I/O, Open Drain, 5V, Software Input Pull-up, Schmitt Trigger Input
37- PC4	I/O, Open Drain, 12V, No Input Pull-up, Schmitt Trigger Input
38- PC5	I/O, Open Drain, 12V, No Input Pull-up, Schmitt Trigger Input
39- PC6	I/O, Open Drain, 12V, No Input Pull-up, Schmitt Trigger Input
40- PC7	I/O, Open Drain, 12V, No Input Pull-up, Schmitt Trigger Input
41- PC8	I/O, Open Drain, 12V, No Input Pull-up, Schmitt Trigger Input
42- V _{DD} , V _{SS}	Power Supply Pins

STV8224B

MULTISTANDARD VIDEO AND SOUND IF SYSTEM WITH AUDIO AND VIDEO SWITCHES

GENERAL DESCRIPTION

The STV8224B is a picture and sound IF processor for multistandard application with very few external components and adjustments.

It provides the audio and video switches for one SCART plug application.

AM sound demodulation is performed with the STV8225 add-on.

FEATURES :

- Video PLL Demodulation
- Sound PLL Demodulation
- Positive and Negative Modulation
- AGC for BG and L Standards
- Audio Switch
- DC Volume Control
- Video Switch

PINNING

- 1- P_{if} PLL Filter
- 2- AFC Output
- 3- CVBS Output
- 4- Switching Input (Standard+INT/EXT)
- 5- IF LC
- 6- IF LC
- 7- Audio High Pass Filter
- 8- 2nd IF Sound Input
- 9- Audio and 2nd IF Decoupling
- 10- Internal Video Input
- 11- Video Switch Output
- 12- External Video Input
- 13- Volume Control+mute
- 14- Audio Switch Output
- 15- FM Demodulated Audio Output
- 16- External Audio Input
- 17- V_{CC}
- 18- Ground
- 19- IF Input
- 20- IF Input
- 21- ACG Capacitor (L Standard)
- 22- ACG Capacitor
- 23- Tuner AGC Output
- 24- Tuner AGC starting point Adjustment

CF72416

TELETEXT

GENERAL DESCRIPTION

The CF72416 is a new device comparable with the currently available CF72306 but having the added capability of extracting 'Video Programming System' (VPS) data. The CF72416 forms the Analogue component of the Texas Instruments (TI) teletext system.

The device performs the functions of composite sync separation and both teletext and VPS data extraction and clock regeneration from the received video signal and passes clock, data and composite sync to the digital decoder chip. The same pins are used for either teletext or VPS data and are identified by the appropriate decoder.

The CF72416 device has the following features and enhancements over the CF72306:-

- (a) VPS data decoding.
- (b) Improved adaptive slicing level for the Sync separator and sync noise information added to composite sync which when used with Texas Instruments' Multipage and Eurotext decoders gives improved locking performance.
- (c) Minor board changes are required to upgrade to the CF72416 from the CF72306.

The crystal oscillator is the same as used with the CF72306. The crystal specification is given below:-

13.875MHZ Crystal Specification

- Oscillation Mode	Fundamental Parallel
- Frequency	13.8750 MHz
- Crystal Frequency Stability	± 150ppm *
- Maximum Crystal ESR (steady-state)	60 Ohms
- Maximum Crystal ESR (start-up)	120 Ohms
- Maximum Shunt Capacitance	7 pF
- Maximum Motional Capacitance	30 fF
- Crystal Load Capacitance	18 pF
- Free Air Operating Temperature Range	0 to 70 ° C
- Drive Level	1 mW max.
- Ageing	± 5 ppm max for first year

* Includes temperature stability and manufacturing tolerance.

FEATURES

- Extracts both Teletext and VPS data
- Forms a custom 2-chip solution when used with an ASICTEXT decoder
- Low power 1µm CMOS (<100mW)
- Standard 20 pin/300mll package.
- Tolerates a range of video distortions
- Operates with 13.875 MHz fundamental mode crystal.

PINNING

1- TSIG	Video Sync Reference
2- SSIG	Video Sync Input
3- SSIG	Video Data Input
4- AGND1	Analogue Ground
5- OSC1	13.875 MHz Oscillator
6- OSC2	13.875 MHz Oscillator
7- AVCC	Analogue Vcc
8- CREF	Video Data Reference Input
9- AGND2	Analogue Ground
10- BIAS	Internal Reference
11- TSTAPLB	Test/Application
12- TCLK	Teletext Clock
13- TDATA	Teletext Data
14- DGND2	Digital Ground
15- OSCOU	Oscillator Output
16- DVCC	Digital Vcc
17- WIND	Timing Signal
18- DGND1	Digital Ground
19- SYNC	Separated Sync Output
21- TEXTSEL	Sync Noise Select Note 1

Signal pins = 14

Power pins = 6

STV 2118B

BUS CONTROLLED PAL/SECAM/NTSC TV PROCESSOR

GENERAL DESCRIPTION

The STV2118B is fully bus controller IC for TV luma, chroma and deflection processing. Used with STV8224 (PIF/SIF/switches), TDA 1771 or TDA8174 (frame booster), STV2180(delay line), it allows to desing a PAL/SECAM/NTSC (BGDKILMN) set with very few external components and no adjustment.

FEATURES :

- I²C Bus Control Of All Functions
- Integrated Filters (Trap,Badpass,Cloche)
- Integrated Luminance Delay Line
- PAL/SECAM/NTSC Chroma Demodulators
- Automatic Cut-Off Current Loop
- Two PLLs Horizontal Deflection
- Vertical Cont down
- Very Few External Components

PINNING

1-	GND2	Chroma/Scanning Ground
2-	CXTL2	3.58 MHz XTAL
3-	CXTL1	4.43 MHz XTAL
4-	CLPF	Chroma Loop Filter
5-	ACC	Acc Control Capacitor
6-	SDA	Data Wire I ² C Bus
7-	SCL	Clock Wire I ² C Bus
8-	FTUN1	Filter Tuning
9-	FTUN2	Cloche Filter Tuning
10-	VOL	Volume and Mute Control Voltage
11-	SWI	If Standart and switch selection
12-	BOS D	Os d Blue Input
13-	GOS D	Os d Green Input
14-	ROS D	Os d Red Input
15-	FBOS D	Os d RGB Insertion
16-	BEXT	External Blue Input
17-	GEXT	External Green Input
18-	REXT	External Red Input
19-	FBEXT	Extrenal RGB Insertion
20-	Y/CVBS	CVBS or Luminance Input
21-	GND1	Bus/Video Ground
22-	V_{cc1}	Video Supply
23-	CHR/S VHS	Crominance INPUT/SVHS Selection
24-	CG	Green Cut-Off Capacitor
25-	CB	Blue Cut-Off Capacitor
26-	CR	Red Cut-Off Capacitor
27-	BO	Blue Output
28-	GO	Green Output
29-	RO	Red Output
30-	ICAT	Cathode Current Measurement
31-	BCL	Beam Current Limiter
32-	SXTL	503 kHz Ceramic
33-	SLPF	CScanning Loop Filter
34-	VAMP	Amplitude Control Voltage
35-	VOUT	Vertical Output
36-	HOUT	Horizontal Output
37-	LFB/SC	Line Flyback INPUT/SANDCASTLE Output
38-	BYI	B-Y Input
39-	RYI	R-Y Input
40-	RYO	R-Y Output
41-	BYO	B-Y Output
42-	V_{cc2}	Chroma/Scanning/Bus Supply

M3004LAB1

REMOTE CONTROL TRANSMITTER

GENERAL DESCRIPTION

The M3004LAB1/M3004LD transmitter IC are designed for infrared remote control systems. It has a total of 448 commands which are divided into 7 sub-system groups with 64 commands each. The sub-system groups with 64 commands each. The sub-system code may be selected by a press button, a slider switch or hard wired.

The M3004LAB1/M3004LD generate the pattern for driving the output stage. These patterns are pulse distance coded. The pulses are infrared flashes or modulated. The transmission mode is defined in conjunction with the sub-system address. Modulated pulses allow receivers with narrow-band preamplifiers for improved noise rejection to be used. Flashed pulses require a wide-band preamplifier within the receiver.

FEATURES :

- Flashed or modulated Transmission
- 7 Sub-System Address
- High-Current Remote Output at $V_{DD} = 6V$ ($-I_{OH} = 80\text{ mA}$)
- Low Number Additional Components
- Key Release Detection by toggle bits
- Very Low Stand-by Current ($<2\mu\text{A}$)
- Operational Current $< 1\text{mA}$ at 6V Supply
- Supply Voltage Range 2 to 6.5V
- Ceramic Resonator Controlled Frequency (typ. 450kHz)

PINNING

1- Remo	11- V_{DD}
2- SEN 6N	12- DRV 6N
3- SEN 5N	13- DRV 6N
4- SEN 4N	14- DRV 6N
5- SEN 3N	15- DRV 6N
6- SEN 2N	16- DRV 6N
7- SEN 1N	17- DRV 6N
8- SEN 0N	18- DRV 6N
9- ADRM	19- OSC OUT
10- V_{SS}	20- OSC IN

TDA1771

VERTICAL DEFLECTION CIRCUIT

GENERAL DESCRIPTION

The TDA1771 is a monolithic integrated circuit in SIP10 package. It is a full performance and very efficient vertical deflection circuit intended for direct drive of a TV picture tube in Color and B & W television as well as in Monitor and Data displays.

FEATURES

- Ramp Generator
- Independent Amplitude Adjustment
- Buffer Stage
- Power Amplifier
- Flyback Generator
- Internal Reference Voltage
- Thermal Protection

PINNING

1. Flyback Generator
2. V_S
3. Inverting Input
4. Buffer Output
5. Ramp Generator
6. Ground
7. Height Adjustment
8. Trigger Input
9. Output Stage V_S
10. Power Output

ELECTRONIC COMPONENT PART LIST

POZ. NO	VESKOD	DESCRIPTION
	1006000000	ANTENNA ROD (W/ADAPTOR)
Q602	3611608081	TR BU808DFI
C801	3011041558	CAP MKT 100NF 250V M AC
C802	3011041558	CAP MKT 100NF 250V M AC
C803	3011041558	CAP MKT 100NF 250V M AC
C609	3032243058	CAP MKP 220NF 250V M
C709	3081020554	CAP EL 1000UF 35V M
C819	3202227458	CAP CER 2.2NF 4KV M
J801	3363380437	RES FUSE 1/4W 0.33R J
R718	3364791137	RES FUSE 1W 4.7R J
R801	3382295130	RES WW 5W 2.2R J RAD.
TH801	3391803000	THERM.PTC DEGAUSS DUAL 250V
D811	3550827200	DIODE BYV27-200
D809	3551500261	DIODE BYM26D
Q601	3611606790	TR BD679A
IC301	3621628220	IC TDA2822M
SW501	4390415000	SWITCH TACT
SW503	4390415000	SWITCH TACT
SW504	4390415000	SWITCH TACT
Z101	3750219630	FILTER SAW G1963
Z103	3760105500	FILTER SER 5.5MHZ SFE 5.5MB
Z107	3780105500	FILTER SER TRAP TPS 5.5MHZ
	3807250050	FUSE 2.5A 250V 5*20MM
IC806	3621678050	IC L7805CV SGS
IC804	3650003170	IC LM317T
R821	3374750237	RES MG 1/2W 4.7M J
D403	3531941480	DIODE 1N4148
D513	3531941480	DIODE 1N4148
D514	3531941480	DIODE 1N4148
D515	3531941480	DIODE 1N4148
D516	3531941480	DIODE 1N4148
D601	3531941480	DIODE 1N4148
D602	3531941480	DIODE 1N4148
D606	3531941480	DIODE 1N4148
D901	3531941480	DIODE 1N4148
D902	3531941480	DIODE 1N4148
D603	3551900330	DIODE BYD33J
D605	3551900330	DIODE BYD33J
D604	3551901570	DIODE BA157
D806	3551901590	DIODE BA159
D808	3551901590	DIODE BA159
D814	3571905100	DIODE ZENER 5.1V ZPD
D810	3571933000	DIODE ZENER 33V UZT 33B
C804	3201021156	CAP CER 1NF 1KV M B
C805	3201021156	CAP CER 1NF 1KV M B
C806	3201021156	CAP CER 1NF 1KV M B
C807	3201021156	CAP CER 1NF 1KV M B
C914	3201021156	CAP CER 1NF 1KV M B
C614	3204094846	CAP CER 4PF 2KV K SL
Q903	3611504210	TR BF421
Q905	3611504210	TR BF421
Q907	3611504210	TR BF421
D201	3531941480	DIODE 1N4148
D202	3531941480	DIODE 1N4148
D203	3531941480	DIODE 1N4148
D501	3531941480	DIODE 1N4148
D505	3531941480	DIODE 1N4148
D506	3531941480	DIODE 1N4148
Q505	3611502400	TR BF240
D006	3531941480	DIODE 1N4148
D805	3531941480	DIODE 1N4148
D508	3531941480	DIODE 1N4148
C606	3034341538	CAP MKP 430NF 250V J
C603	3036827078	CAP MKP 6.8NF 1.6KV 3.5%
	4941412400	POWER CORD 2.4MT 220V VDE
	1007093003	R/C 930 VESTEL (S)
	3971600304	SPEAKER 16R 3W STAR
IC701	3621617710	IC TDA1771
C604	3011041548	CAP MKT 100NF 250V K DL
C809	3034735038	CAP MKP 47NF 630V J
C607	3083301354	CAP EL 33UF 160V M
C821	3084701358	CAP EL 47UF 160V M (HR)
R829	3361001137	RES FUSE 10R 1W J
IC402	3621621800	IC STV2180

POZ. NO	VESKOD	DESCRIPTION
IR501	3660138000	PREAMPLIFIER TFMS1380
X401	3760105030	FILTER SER 503KHZ
X501	3840380010	XTAL 8MHZ
L802	4013150017	COIL CHOKE 150UH 0.82A RAD
TR601	4030001908	TRF FBT 90ø (AK20)
TR801	4060001100	LINE FILTER 2*27MH
L601	4090109000	LINEARITY COIL 50UH (06-06A)
SW801	4390122000	SWITCH ON/OFF PANASONIC
IC101	3621682230	IC STV8223
TU201	3924224314	TUNER WSP (VST)
VL101	4020008000	ADJ COIL VIF 38.9 Q80
IC002	3620670204	IC CF70204
IC001	3623172416	IC CF72416
X001	3840113920	XTAL 13.875
IC501	3621663870	IC ST6387 VES/M15-01
X402	3840144311	XTAL 4.433619 MHZ (AK15)
Q801	3610002600	TR MTA-2N60E
IC805	3620078090	IC AN7809
IC801	3620246030	IC MC44603
TR802	4042003900	TRF SMPS AK20 90' (170-270V)
R606	3372240237	RES MG 1/2W 220K J
D801	3551940070	DIODE 1N4007
D802	3551940070	DIODE 1N4007
D803	3551940070	DIODE 1N4007
D804	3551940070	DIODE 1N4007
L603	4262220027	CHOKE PEAKING COIL 22UH K
Q902	3612024820	TR 2SC2482
Q904	3612024820	TR 2SC2482
Q906	3612024820	TR 2SC2482
R925	3361590237	RES FUSE 1/2W 1.5R J
	4071409013	DEGAUSS COIL&EART CABLE (14)
	5515030001	CABLE HOLDER CRT (I)
	4941412410	POWER CORD ASSY.(2.4MT W/VDE)
	5105135005	SPRING ON/OFF SWITCH
	5501045086	BUTTON ON/OFF 3745 GRAY (S)
	5501045088	BUTTON FUNCTION 3745 (I)
	5513040001	LENS PRE-AMP 8*28.5MM (I)
	5507000139	FRONT 3745 W/H WO/J AKAI (P)
	5509195200	SNOW BOX ASSY.3745/55
	5509195201	SNOW BOX-TOP 3745/55
	5509195202	SNOW BOX-BOTTOM 3745/55

BILL OF MATERIAL LIST										
10002705			3731 TEAC AUSTR TEAC EU-34T							
BOM Date : 05/09/2000										
NO	LEVEL	COMPONENT CODE	MATERIAL	UNIT	QTY	POSITION NUMBER				
1	1	20000514	SPK.& HP08 AS.3710/11/5/6/30/31 1SPK	PC	1,000	.	.	.	.	.
2	2	20000509	SPK.ASSY.3743/53/10/11 W/HP	PC	1,000	.	.	.	.	.
3	3	30001954	SPEAKER 16R 3W 3"	PC	1,000	.	.	.	.	.
4	2	20002320	MD.ASY.HP08-FTZ 3710/11	PC	1,000	.	.	.	.	.
5	3	20002321	MD.RAD.HP08-FTZ	PC	1,000	.	.	.	.	.
6	4	20002322	MD.AXI.HP08-FTZ	PC	1,000	.	.	.	.	.
7	5	20015610	MD.SEQ.HP08-FTZ	PC	1,000	.	.	.	.	.
8	6	30001996	FIXED COIL 22UH Q40 K	PC	3,000	L01	L02	L03	.	.
9	5	30007183	PCB HP08-2	PC	1,000	.	.	.	.	.
10	4	30000330	CAP CER 4.7NF 50V K B	PC	1,000	C01	.	.	.	.
11	3	30001145	RES MO 1W 33R J	PC	1,000	R01	.	.	.	.
12	3	30001904	JACK HEADPHONE (STR-VERTICAL)	PC	1,000	JK01	.	.	.	.
13	3	30002228	CON.ASSY.2/15 R2.6 (HP02)	PC	1,000	PL01	.	.	.	.
14	3	30002276	CABLE 2/40 R2.6 (WO/SOCKET)	PC	1,000	PL02	.	.	.	.
15	1	20000591	CRT KIT (14) AK20 WO/UL	PC	1,000	.	.	.	.	.
16	2	30002113	14 DEG COIL&EARTH CB.	PC	1,000	.	.	.	.	.
17	2	30007298	CONN.ASSY.4/45 R26 (HRZ&VER) IMPROVED	PC	1,000	.	.	.	.	.
18	2	35000014	EARTH SPRING (2CM)	PC	1,000	.	.	.	.	.
19	1	20002366	MD.ASY.FAV20-1- JACK BOARD	PC	1,000	.	.	.	.	.
20	2	30001841	CONN MALE 3P SIDE BLACK	PC	1,000	PL1003	.	.	.	.
21	2	30001843	CONN MALE 3P SIDE YELLOW	PC	1,000	PL1002	.	.	.	.
22	2	30001882	RCA JACK 1P WHITE	PC	1,000	JK1003	.	.	.	.
23	2	30001884	RCA JACK 1P YELLOW	PC	1,000	JK1002	.	.	.	.
24	2	30002220	CONN ASSY 3/10	PC	1,000	PL1003	.	.	.	.

			SHL.D.C. BLK							
25	2	30002221	CONN ASSY 3/10 SHL.D.C. YLW	PC	1,000	PL1002	.	.	.	.
26	2	30009646	PCB FAV20-1	PC	1,000	.	.	.	.	.
27	1	20002569	EXP.KIT 08/20- FNL3745/55/30/31	PC	1,000	.	.	.	.	.
28	2	20004519	CABLE HOLDER CRT (I)	PC	1,000	.	.	.	.	.
29	3	60000018	COPOLYMER POLYPROPYLENE	KG	0,002	.	.	.	.	.
30	2	70000331	ADHESIVE TAPE 75MM/660M (4125)	M	1,386	.	.	.	.	.
31	1	20003517	POWER CORD ASSY.(2.2/AV TYPE)	PC	1,000	.	.	.	.	.
32	2	30001793	CONN.FEMALE 2P MLX	PC	1,000	.	.	.	.	.
33	2	30002386	POWER CORD 2.2MT AUST.TYPE	PC	1,000	.	.	.	.	.
34	1	20003568	SCART COVER WO/H (I)	PC	1,000	.	.	.	.	.
35	2	60000001	ABS (NATURAL)	KG	0,003	.	.	.	.	.
36	1	20003733	BUTTON ASSY.3731 (WO/TS)	PC	1,000	.	.	.	.	.
37	2	20000920	BUTTON ON/OFF 3731 (I) (WO/TS)	PC	1,000	.	.	.	.	.
38	3	60000003	ABS BLACK	KG	0,002	.	.	.	.	.
39	2	20003859	BUTTON FUNCTION 3731 (I)	PC	1,000	.	.	.	.	.
40	3	60000003	ABS BLACK	KG	0,006	.	.	.	.	.
41	2	20004332	LENS PRE-AMP 8*24.7MM (I)	PC	1,000	.	.	.	.	.
42	3	60000012	ACRYLIC DIACON CLG 356(SEFFAF)	G	2,550	.	.	.	.	.
43	2	20004646	FOOT RUBBER 3730/31/40/41	PC	2,000	.	.	.	.	.
44	3	60000040	THERMOPLASTIC RUBBER (BLACK)	KG	0,003	.	.	.	.	.
45	2	35000013	SPRING ON/OFF SWITCH	PC	1,000	.	.	.	.	.
46	1	20004287	SNOW BOX ASSY.3730/31	PC	1,000	.	.	.	.	.
47	2	20004295	SNOW BOX ASSY.3745/55	PC	1,000	.	.	.	.	.
48	3	20004296	SNOW BOX-TOP 3745/55	PC	1,000	.	.	.	.	.

49	4	60000011	EPS	KG	0,127	.	.	.	.	.
50	3	20004297	SNOW BOX-BOTTOM 3745/55	PC	1,000	.	.	.	.	.
51	4	60000011	EPS	KG	0,127	.	.	.	.	.
52	2	40000089	SNOW BOX 145*320*16MM(3730/31)	PC	1,000	.	.	.	.	.
53	1	20015243	CHS.ASSY.20- 133853213X1	PC	1,000	.	.	.	.	.
54	2	20003108	CRT DIFF.KIT AK20- 14/CAI	PC	1,000	.	.	.	.	.
55	3	30000167	CAP MKP 560NF 250V J	PC	1,000	C606	.	.	.	.
56	3	30000179	CAP MKP 9.1NF 1600V %3.5	PC	1,000	C603	.	.	.	.
57	3	30001244	RES FUSE 0.47R 1/2W J	PC	1,000	R925	.	.	.	.
58	3	30001857	SOCKET CRT B12-262	PC	1,000	PL903	.	.	.	.
59	2	20015244	CHS.WO/CRT.20- 13385321XX1	PC	1,000	.	.	.	.	.
60	3	20002057	MD.ASY.BAV20-BAV OUT	PC	1,000	.	.	.	.	.
61	4	20011393	PCB BAV20-1	PC	1,000	.	.	.	.	.
62	5	60000047	CCL 1220*1020*1.6 FR2 V0 351	M2	0,009	.	.	.	.	.
63	4	30001837	CONN MALE 3P TOP BLUE	PC	1,000	PL1004	.	.	.	.
64	4	30001877	JACK BAV W/STOPPER	PC	1,000	JK1004	.	.	.	.
65	4	30002222	CONN ASSY 3/10 SHL.D.C. BLU	PC	1,000	PL1004	.	.	.	.
66	4	35000028	BRACKET BAV (14")	PC	1,000	.	.	.	.	.
67	4	35000202	SCREW S C ZN YHDB 2.9*9.5	PC	1,000	.	.	.	.	.
68	3	20006187	M.ASSY.20M-OTO 23382321XX1	PC	1,000	.	.	.	.	.
69	4	20001125	MB.SMD.20-COMMON	PC	1,000	.	.	.	.	.
70	5	20001126	MB.RAD.20-COMMON	PC	1,000	.	.	.	.	.
71	6	20001127	MB.AXI.20-COMMON	PC	1,000	.	.	.	.	.
72	7	20001128	MB.SEQ.20-COMMON	PC	1,000	.	.	.	.	.
73	8	20005425	MB.JUM.20-COMMON	PC	1,000	.	.	.	.	.
74	9	30002583	JUMPER WIRE 0.6MM	G	18,669	J001	J002	J003	J004	J101
.	.	.	.	.	.	J102	J103	J104	J106	J107
.	.	.	.	.	.	J108	J109	J110	J111	J112
.	.	.	.	.	.	J113	J114	J116	J118	J119
.	.	.	.	.	.	J120	J121	J122	J123	J124
.	.	.	.	.	.	J125	J126	J127	J128	J130

.	.	.	.	.	.	J301	J302	J303	J304	J305
.	.	.	.	.	.	J306	J307	J308	J309	J310
.	.	.	.	.	.	J311	J401	J402	J403	J404
.	.	.	.	.	.	J405	J406	J407	J410	J411
.	.	.	.	.	.	J412	J414	J415	J416	J417
.	.	.	.	.	.	J418	J419	J420	J421	J422
.	.	.	.	.	.	J423	J424	J425	J426	J427
.	.	.	.	.	.	J428	J429	J430	J431	J432
.	.	.	.	.	.	J433	J434	J435	J436	J437
.	.	.	.	.	.	J438	J501	J502	J503	J504
.	.	.	.	.	.	J505	J506	J507	J508	J509
.	.	.	.	.	.	J510	J511	J512	J513	J514
.	.	.	.	.	.	J515	J516	J519	J520	J521
.	.	.	.	.	.	J522	J523	J524	J525	J526
.	.	.	.	.	.	J527	J528	J529	J530	J531
.	.	.	.	.	.	J533	J534	J535	J536	J537
.	.	.	.	.	.	J538	J539	J540	J541	J542
.	.	.	.	.	.	J543	J544	J545	J546	J547
.	.	.	.	.	.	J548	J601	J602	J603	J604
.	.	.	.	.	.	J605	J606	J607	J610	J701
.	.	.	.	.	.	J702	J703	J704	J705	J802
.	.	.	.	.	.	J803	J804	J805	J806	J807
.	.	.	.	.	.	J808	J812	J813	J814	R824
.	.	.	.	.	.	R828	S603	.	.	.
75	8	30000459	RES CF 1/4W 100R J	PC	7,000	R113	R417	R418	R540	R541
.	.	.	.	.	.	R616	R823	.	.	.
76	8	30000466	RES CF 1/4W 1K J	PC	1,000	R615	.	.	.	.
77	8	30000471	RES CF 1/4W 10K J	PC	5,000	R504	R537	R549	R831	R832
78	8	30000572	RES CF 1/4W 2K J	PC	1,000	R602	.	.	.	.
79	8	30000590	RES CF 1/4W 2.2K J	PC	3,000	R534	R535	R536	.	.
80	8	30000594	RES CF 1/4W 22K J	PC	2,000	R531	R614	.	.	.
81	8	30000607	RES CF 1/4W 2.2R J	PC	1,000	R708	.	.	.	.
82	8	30000638	RES CF 1/4W 270K J	PC	1,000	R442	.	.	.	.
83	8	30000650	RES CF 1/4W 33R J	PC	1,000	R608	.	.	.	.
84	8	30000655	RES CF 1/4W 330R J	PC	3,000	R116	R424	R603	.	.
85	8	30000706	RES CF 1/4W 47R J	PC	1,000	R605	.	.	.	.
86	8	30000712	RES CF 1/4W 470R J	PC	2,000	R134	R529	.	.	.
87	8	30000756	RES CF 1/4W 560K J	PC	1,000	R412	.	.	.	.
88	8	30000770	RES CF 1/4W 680R J	PC	1,000	R601	.	.	.	.
89	8	30000775	RES CF 1/4W 6.8K J	PC	1,000	R432	.	.	.	.

90	8	30000810	RES CF 1/4W 820R J	PC	1,000	R533	.	.	.	.
91	8	30000815	RES CF 1/4W 8.2K J	PC	1,000	R110	.	.	.	.
92	8	30000820	RES CF 1/4W 82K J	PC	1,000	R717	.	.	.	.
93	8	30000828	RES CF 1/4W 8.2M J	PC	1,000	R719	.	.	.	.
94	8	30000837	RES CF 1/4W 9.1K J	PC	1,000	R612	.	.	.	.
95	8	30000885	RES MF 1/4W 1.5K J	PC	1,000	R712	.	.	.	.
96	8	30000900	RES MF 1/4W 1.8K J	PC	2,000	R711	R713	.	.	.
97	8	30000910	RES MF 1/2W 1.8R G	PC	1,000	R710	.	.	.	.
98	8	30001236	RES FUSE 1/4W 0.33R J	PC	1,000	R851	.	.	.	.
99	8	30001249	RES FUSE 1W 4.7R J	PC	2,000	R718	R829	.	.	.
100	8	30001255	RES MG 1/2W 220K J	PC	1,000	R606	.	.	.	.
101	8	30001257	RES MG 1/2W 4.7M J	PC	1,000	R821	.	.	.	.
102	8	30001284	DIODE 1N4148	PC	9,000	D403	D508	D513	D514	D515
.	.	.	.	.	.	D516	D601	D602	D606	.
103	8	30001314	DIODE BYD33J	PC	2,000	D603	D605	.	.	.
104	8	30001317	DIODE BA157	PC	1,000	D604	.	.	.	.
105	8	30001318	DIODE BA159	PC	1,000	D806	.	.	.	.
106	8	30001329	DIODE 1N4007	PC	5,000	D702	D801	D802	D803	D804
107	8	30001339	DIODE ZENER 3.9V	PC	1,000	D512	.	.	.	.
108	8	30001371	DIODE ZENER 5.1V ZPD	PC	1,000	D814	.	.	.	.
109	8	30001377	DIODE ZENER 33V UZT 33B	PC	1,000	D810	.	.	.	.
110	8	30001979	FIXED COIL 1UH Q45 M-A	PC	1,000	L101	.	.	.	.
111	8	30001986	FIXED COIL 3.3UH Q65 K	PC	1,000	L102	.	.	.	.
112	8	30001987	FIXED COIL 4.7UH Q70 K-A	PC	2,000	L602	L803	.	.	.
113	8	30001996	FIXED COIL 22UH Q40 K	PC	2,000	L301	L302	.	.	.
114	8	30002004	FIXED COIL 56UH Q40 K	PC	1,000	L501	.	.	.	.
115	8	30002171	CHOKE PEAKING COIL 22UH K	PC	1,000	L603	.	.	.	.
116	6	30000071	CAP MKT 10NF 63V J	PC	7,000	C403	C404	C405	C406	C423
.	.	.	.	.	.	C438	C615	.	.	.
117	6	30000074	CAP MKT 100NF 63V J	PC	10,000	C142	C212	C307	C308	C410
.	.	.	.	.	.	C419	C424	C436	C503	C601
118	6	30000088	CAP MKT 2.2NF 63V J	PC	1,000	C437	.	.	.	.
119	6	30000092	CAP MKT 220NF 63V J	PC	1,000	C704	.	.	.	.
120	6	30000099	CAP MKT 33NF 63V J	PC	1,000	C420	.	.	.	.

121	6	30000100	CAP MKT 330NF 63V J	PC	1,000	C610	.	.	.	.
122	6	30000104	CAP MKT 4.7NF 100V J	PC	2,000	C409	C418	.	.	.
123	6	30000106	CAP MKT 47NF 100V J	PC	5,000	C125	C411	C412	C413	C703
124	6	30000109	CAP MKT 470NF 63V J	PC	2,000	C143	C144	.	.	.
125	6	30000283	CAP CER 1NF 50V K B	PC	2,000	C141	C312	.	.	.
126	6	30000286	CAP CER 1NF 500V K B	PC	1,000	C612	.	.	.	.
127	6	30000290	CAP CER 10NF 50V Z F	PC	1,000	C414	.	.	.	.
128	6	30000295	CAP CER 100NF 50V Z F	PC	6,000	C427	C429	C829	C831	C834
.	.	.	.	.	.	C838	.	.	.	.
129	6	30000316	CAP CER 220NF 25V Z F	PC	1,000	C827	.	.	.	.
130	6	30000345	CAP EL 10UF 50V M	PC	11,000	C121	C122	C140	C145	C302
.	.	.	.	.	.	C434	C501	C512	C822	C828
.	.	.	.	.	.	C837	.	.	.	.
131	6	30000353	CAP EL 100UF 25V M	PC	2,000	C830	C832	.	.	.
132	6	30000354	CAP EL 100UF 35V M	PC	1,000	C708	.	.	.	.
133	6	30000355	CAP EL 100UF 50V M	PC	1,000	C401	.	.	.	.
134	6	30000362	CAP EL 1UF 50V M	PC	2,000	C108	C439	.	.	.
135	6	30000371	CAP EL 22UF 50V M	PC	2,000	C504	C602	.	.	.
136	6	30000384	CAP EL 2.2UF 50V M	PC	4,000	C309	C408	C502	C701	.
137	6	30000394	CAP EL 3.3UF 160V M	PC	1,000	C605	.	.	.	.
138	6	30000400	CAP EL 47UF 50V M	PC	3,000	C107	C111	C416	.	.
139	6	30000407	CAP EL 470UF 16V M	PC	1,000	C305	.	.	.	.
140	6	30000413	CAP EL 4.7UF 50V M	PC	2,000	C611	C710	.	.	.
141	6	30000433	CAP CER 1NF 1KV M B	PC	4,000	C804	C805	C806	C807	.
142	6	30000443	CAP CER 4PF 2KV K SL	PC	1,000	C614	.	.	.	.
143	6	30001454	TR BC548B	PC	8,000	Q106	Q302	Q506	Q507	Q509
.	.	.	.	.	.	Q603	Q701	Q702	.	.
144	6	30001455	TR BC558B	PC	1,000	Q604	.	.	.	.
145	5	30000189	CAP SMD 100PF 50V J (0805)	PC	2,000	C513	C514	.	.	.
146	5	30000201	CAP SMD 15PF 50V J (08*05)	PC	4,000	C508	C509	C510	C511	.
147	5	30000252	CAP SMD 47PF 50V J (08*05)	PC	2,000	C421	C422	.	.	.
148	5	30000284	CAP SMD 1NF 50V K R (0805)	PC	2,000	C124	C435	.	.	.
149	5	30000289	CAP SMD 10NF 50V K R (0805)	PC	8,000	C110	C126	C131	C137	C138
.	.	.	.	.	.	C201	C304	C425	.	.
150	5	30000294	CAP SMD 100NF 50V K	PC	15,000	C112	C114	C306	C310	C402

			(0805)							
.	.	.	.	.	.	C415	C426	C428	C433	C505
.	.	.	.	.	.	C517	C518	C519	C521	C706
151	5	30000334	CAP SMD 47NF 50V K (0805)	PC	3,000	C109	C303	C311	.	.
152	5	30000341	CAP SMD 68NF 50V K (0805)	PC	1,000	C113	.	.	.	.
153	5	30000457	RES SMD 1/10W 10R J 0805	PC	1,000	R429	.	.	.	.
154	5	30000464	RES SMD 1/10W 100R J	PC	3,000	R415	R416	R419	.	.
155	5	30000469	RES SMD 1/10W 1K J 0805	PC	5,000	R304	R308	R502	R527	R530
156	5	30000475	RES SMD 1/10W 10K J 0805	PC	7,000	R115	R307	R402	R405	R539
.	.	.	.	.	.	R610	R709	.	.	.
157	5	30000480	RES SMD 1/10W 100K J (0805)	PC	1,000	R701	.	.	.	.
158	5	30000503	RES SMD 1/10W 12K J (0805)	PC	1,000	R403	.	.	.	.
159	5	30000539	RES SMD 1/10W 150K J	PC	2,000	R706	R707	.	.	.
160	5	30000567	RES SMD 1/10W 18K J 0805	PC	1,000	R414	.	.	.	.
161	5	30000588	RES SMD 1/10W 220R J 0805	PC	1,000	R514	.	.	.	.
162	5	30000597	RES SMD 1/10W 22K J	PC	2,000	R433	R703	.	.	.
163	5	30000602	RES SMD 1/10W 220K J 0805	PC	1,000	R117	.	.	.	.
164	5	30000631	RES SMD 1/10W 2.7K J 0805	PC	1,000	R704	.	.	.	.
165	5	30000636	RES SMD 1/10W 27K J 0805	PC	3,000	R111	R609	R611	.	.
166	5	30000659	RES SMD 1/10W 330R J (0805)	PC	2,000	R112	R147	.	.	.
167	5	30000664	RES SMD 1/10W 3.3K J (0805)	PC	1,000	R443	.	.	.	.
168	5	30000668	RES SMD 1/10W 33K J 0805	PC	1,000	R411	.	.	.	.
169	5	30000692	RES SMD 1/10W 3.9K J 0805	PC	1,000	R430	.	.	.	.
170	5	30000710	RES SMD 1/10W 47R J (0805)	PC	1,000	R137	.	.	.	.
171	5	30000717	RES SMD 1/10W 470R J (0805)	PC	5,000	R120	R135	R407	R408	R409
172	5	30000721	RES SMD 1/10W 4.7K J	PC	11,000	R303	R309	R501	R503	R507
.	.	.	.	.	.	R515	R516	R528	R538	R542

.	.	.	.	.	.	R702	.	.	.	.
173	5	30000727	RES SMD 1/10W 47K J (0805)	PC	1,000	R406	.	.	.	.
174	5	30000732	RES SMD 1/10W 470K J	PC	1,000	R404	.	.	.	.
175	5	30000735	RES SMD 1/10W 4.7R J (0805)	PC	4,000	R305	R306	R401	R410	.
176	5	30000747	RES SMD 1/10W 560R J (0805)	PC	1,000	R545	.	.	.	.
177	5	30000751	RES SMD 1/10W 5.6K J 0805	PC	1,000	R532	.	.	.	.
178	5	30000778	RES SMD 1/10W 6.8K J 0805	PC	1,000	R431	.	.	.	.
179	5	30000782	RES SMD 1/10W 68K J	PC	1,000	R118	.	.	.	.
180	5	30000787	RES SMD 1/10W 680K J	PC	2,000	R413	R720	.	.	.
181	5	30000797	RES SMD 1/10W 75R J (0805)	PC	1,000	R136	.	.	.	.
182	5	30000807	RES SMD 1/10W 75K J	PC	1,000	R705	.	.	.	.
183	5	30001734	JUMPER SMD (0805)	PC	6,000	J117	J129	J517	J518	J549
.	.	.	.	.	.	R145	.	.	.	.
184	4	20001137	MB.SMD.20-BG IHRAC	PC	1,000	.	.	.	.	.
185	5	20001138	MB.RAD.20-BG IHRAC	PC	1,000	.	.	.	.	.
186	6	20001139	MB.AXI.20-BG IHRAC	PC	1,000	.	.	.	.	.
187	7	20001140	MB.SEQ.20-BG IHRAC	PC	1,000	.	.	.	.	.
188	8	20005429	MB.JUM.20-BG IHRAC	PC	1,000	.	.	.	.	.
189	9	30002583	JUMPER WIRE 0.6MM	G	0,125	D109	.	.	.	.
190	8	30000459	RES CF 1/4W 100R J	PC	1,000	D106	.	.	.	.
191	8	30000590	RES CF 1/4W 2.2K J	PC	1,000	R138	.	.	.	.
192	8	30000706	RES CF 1/4W 47R J	PC	1,000	R140	.	.	.	.
193	8	30000748	RES CF 1/4W 5.6K J	PC	1,000	R201	.	.	.	.
194	8	30001284	DIODE 1N4148	PC	5,000	D201	D202	D203	D507	J532
195	8	30001990	FIXED COIL 6.8UH Q75 K	PC	1,000	L103	.	.	.	.
196	8	30001992	FIXED COIL 10UH Q65 K-A	PC	1,000	L201	.	.	.	.
197	6	30000074	CAP MKT 100NF 63V J	PC	1,000	C209	.	.	.	.
198	6	30000092	CAP MKT 220NF 63V J	PC	1,000	C507	.	.	.	.
199	6	30000100	CAP MKT 330NF 63V J	PC	1,000	C516	.	.	.	.
200	6	30000345	CAP EL 10UF 50V M	PC	3,000	C206	C207	C208	.	.
201	6	30001423	TR BF240	PC	1,000	Q505	.	.	.	.
202	6	30001454	TR BC548B	PC	1,000	Q102	.	.	.	.
203	6	30001455	TR BC558B	PC	3,000	Q201	Q202	Q203	.	.
204	5	30000186	CAP SMD 10PF 50V D	PC	1,000	C149	.	.	.	.

			COG							
205	5	30000189	CAP SMD 100PF 50V J (0805)	PC	1,000	C506	.	.	.	.
206	5	30000201	CAP SMD 15PF 50V J (08*05)	PC	1,000	C146	.	.	.	.
207	5	30000268	CAP SMD 68PF 50V J (0805)	PC	1,000	C132	.	.	.	.
208	5	30000289	CAP SMD 10NF 50V K R (0805)	PC	3,000	C203	C204	C205	.	.
209	5	30000294	CAP SMD 100NF 50V K (0805)	PC	1,000	C202	.	.	.	.
210	5	30000475	RES SMD 1/10W 10K J 0805	PC	4,000	R204	R205	R206	R523	.
211	5	30000480	RES SMD 1/10W 100K J (0805)	PC	1,000	R548	.	.	.	.
212	5	30000506	RES SMD 1/10W 120K J	PC	1,000	R119	.	.	.	.
213	5	30000529	RES SMD 1/10W 1.5K J	PC	1,000	R526	.	.	.	.
214	5	30000534	RES SMD 1/10W 15K J (0805)	PC	1,000	R524	.	.	.	.
215	5	30000696	RES SMD 1/10W 39K J (0805)	PC	1,000	R547	.	.	.	.
216	5	30000717	RES SMD 1/10W 470R J (0805)	PC	1,000	R139	.	.	.	.
217	5	30000721	RES SMD 1/10W 4.7K J	PC	2,000	R207	R522	.	.	.
218	5	30000751	RES SMD 1/10W 5.6K J 0805	PC	3,000	R202	R203	R525	.	.
219	5	30000774	RES SMD 1/10W 680R J (0805)	PC	1,000	R126	.	.	.	.
220	5	30001734	JUMPER SMD (0805)	PC	2,000	S101	S102	.	.	.
221	4	20001165	MB.SMD.20-EUROTTEXT	PC	1,000	.	.	.	.	.
222	5	20001166	MB.RAD.20-EUROTTEXT	PC	1,000	.	.	.	.	.
223	6	20001167	MB.AXI.20-EUROTTEXT	PC	1,000	.	.	.	.	.
224	7	20001168	MB.SEQ.20-EUROTTEXT	PC	1,000	.	.	.	.	.
225	8	20005434	MB.JUM.20-EUROTTEXT	PC	1,000	.	.	.	.	.
226	9	30002583	JUMPER WIRE 0.6MM	G	0,500	D003	D004	D005	R030	.
227	8	30000583	RES CF 1/4W 220R J	PC	1,000	R018	.	.	.	.
228	8	30000622	RES CF 1/4W 270R J	PC	3,000	R421	R422	R423	.	.
229	8	30001284	DIODE 1N4148	PC	1,000	D006	.	.	.	.
230	8	30001987	FIXED COIL 4.7UH Q70 K-A	PC	2,000	L001	L002	.	.	.
231	6	30000074	CAP MKT 100NF 63V J	PC	1,000	C011	.	.	.	.
232	6	30000345	CAP EL 10UF 50V M	PC	2,000	C001	C002	.	.	.

233	5	30000201	CAP SMD 15PF 50V J (08*05)	PC	2,000	C005	C006	.	.	.
234	5	30000224	CAP SMD 220PF 50V J (08*05)	PC	2,000	C004	C008	.	.	.
235	5	30000252	CAP SMD 47PF 50V J (08*05)	PC	1,000	C019	.	.	.	.
236	5	30000289	CAP SMD 10NF 50V K R (0805)	PC	1,000	C013	.	.	.	.
237	5	30000294	CAP SMD 100NF 50V K (0805)	PC	4,000	C007	C009	C010	C021	.
238	5	30000312	CAP SMD 22NF 50V K (0805)	PC	2,000	C003	C022	.	.	.
239	5	30000464	RES SMD 1/10W 100R J	PC	2,000	R005	R006	.	.	.
240	5	30000469	RES SMD 1/10W 1K J 0805	PC	1,000	R002	.	.	.	.
241	5	30000593	RES SMD 1/10W 2.2K J (0805)	PC	3,000	R012	R021	R033	.	.
242	5	30000668	RES SMD 1/10W 33K J 0805	PC	1,000	R027	.	.	.	.
243	5	30001734	JUMPER SMD (0805)	PC	10,000	R003	R007	S001	S002	S003
.	.	.	.	.	.	S004	S007	S008	S009	S010
244	4	20001193	MB.AXI.20-11AK20M PCB GRUBU	PC	1,000	.	.	.	.	.
245	5	20024203	MB.SEQ.20-11AK20M PCB GRUBU	PC	1,000	.	.	.	.	.
246	6	20024204	MB.JUM.20-11AK20M PCB GRUBU	PC	1,000	.	.	.	.	.
247	7	30002583	JUMPER WIRE 0.6MM	G	0,625	J608	J706	J809	J811	J810
248	6	30000519	RES CF 1/4W 150R J	PC	1,000	R714	.	.	.	.
249	5	30002408	PCB AK20M-6	PC	1,000	.	.	.	.	.
250	4	20001198	MB.SMD.20-BAV	PC	1,000	.	.	.	.	.
251	5	20001199	MB.RAD.20-BAV	PC	1,000	.	.	.	.	.
252	6	30000295	CAP CER 100NF 50V Z F	PC	3,000	C430	C431	C432	.	.
253	5	30000280	CAP SMD 820PF 50V J	PC	1,000	C443	.	.	.	.
254	5	30000464	RES SMD 1/10W 100R J	PC	1,000	R420	.	.	.	.
255	5	30000469	RES SMD 1/10W 1K J 0805	PC	1,000	R439	.	.	.	.
256	5	30000567	RES SMD 1/10W 18K J 0805	PC	1,000	R518	.	.	.	.
257	5	30000797	RES SMD 1/10W 75R J (0805)	PC	5,000	R425	R426	R427	R428	R441
258	5	30000835	RES SMD 1/10W 910R J (0805)	PC	1,000	R440	.	.	.	.
259	5	30001734	JUMPER SMD (0805)	PC	2,000	S404	S405	.	.	.

260	4	20001201	MB.SMD.20-4 SWITCH	PC	1,000	.	.	.	.	.
261	5	30001734	JUMPER SMD (0805)	PC	3,000	S502	S504	S506	.	.
262	4	20001209	MB.SMD.20-90-270V.WIDE WO/LOW POWER	PC	1,000	.	.	.	.	.
263	5	20001210	MB.RAD.20-90-270V WIDE WO/LOW POWER	PC	1,000	.	.	.	.	.
264	6	20001211	MB.AXI.20-90-270V WIDE WO/LOW POWER	PC	1,000	.	.	.	.	.
265	7	20001212	MB.SEQ.20-90-270V WIDE WO/LOW POWER	PC	1,000	.	.	.	.	.
266	8	30000466	RES CF 1/4W 1K J	PC	1,000	R818	.	.	.	.
267	8	30000481	RES CF 1/4W 1M J	PC	1,000	R807	.	.	.	.
268	8	30000519	RES CF 1/4W 150R J	PC	1,000	R817	.	.	.	.
269	8	30000540	RES CF 1/2W 1.5M J (400V)	PC	1,000	R845	.	.	.	.
270	8	30000633	RES CF 1/4W 27K J	PC	1,000	R811	.	.	.	.
271	8	30000660	RES CF 1/4W 3.3K J	PC	1,000	R826	.	.	.	.
272	8	30000683	RES CF 1/4W 390R J	PC	1,000	R827	.	.	.	.
273	8	30000706	RES CF 1/4W 47R J	PC	1,000	R816	.	.	.	.
274	8	30000779	RES CF 1/4W 68K J	PC	1,000	R809	.	.	.	.
275	8	30001004	RES MF 1/2W 0.56R J	PC	2,000	R819	R849	.	.	.
276	8	30001284	DIODE 1N4148	PC	1,000	D805	.	.	.	.
277	8	30001318	DIODE BA159	PC	1,000	D808	.	.	.	.
278	6	30000283	CAP CER 1NF 50V K B	PC	1,000	C823	.	.	.	.
279	6	30000295	CAP CER 100NF 50V Z F	PC	1,000	C825	.	.	.	.
280	6	30000318	CAP CER 270PF 500V K B	PC	1,000	C820	.	.	.	.
281	6	30000355	CAP EL 100UF 50V M	PC	1,000	C818	.	.	.	.
282	6	30000362	CAP EL 1UF 50V M	PC	1,000	C813	.	.	.	.
283	6	30000384	CAP EL 2.2UF 50V M	PC	1,000	C826	.	.	.	.
284	6	30001454	TR BC548B	PC	1,000	Q803	.	.	.	.
285	5	30000189	CAP SMD 100PF 50V J (0805)	PC	1,000	C816	.	.	.	.
286	5	30000265	CAP SMD 560PF 50V J (0805)	PC	1,000	C812	.	.	.	.
287	5	30000280	CAP SMD 820PF 50V J	PC	1,000	C817	.	.	.	.
288	5	30000289	CAP SMD 10NF 50V K R (0805)	PC	1,000	C814	.	.	.	.
289	5	30000294	CAP SMD 100NF 50V K	PC	1,000	C810	.	.	.	.

			(0805)							
290	5	30000469	RES SMD 1/10W 1K J 0805	PC	1,000	R812	.	.	.	.
291	5	30000475	RES SMD 1/10W 10K J 0805	PC	1,000	R810	.	.	.	.
292	5	30000534	RES SMD 1/10W 15K J (0805)	PC	1,000	R850	.	.	.	.
293	5	30000534	RES SMD 1/10W 15K J (0805)	PC	1,000	R846	.	.	.	.
294	5	30000571	RES SMD 1/10W 180K J (0805)	PC	1,000	R847	.	.	.	.
295	5	30000597	RES SMD 1/10W 22K J	PC	1,000	R803	.	.	.	.
296	5	30000692	RES SMD 1/10W 3.9K J 0805	PC	1,000	R808	.	.	.	.
297	5	30000818	RES SMD 1/10W 8.2K J (0805)	PC	1,000	R805	.	.	.	.
298	5	30001734	JUMPER SMD (0805)	PC	1,000	R804	.	.	.	.
299	4	20001238	MB.SMD.20-PS W/NTSC 3.58/4.43	PC	1,000	.	.	.	.	.
300	5	20001239	MB.RAD.20-PS W/NTSC 3.58/4.43	PC	1,000	.	.	.	.	.
301	6	20001240	MB.AXI.20-PS W/NTSC 3.58/4.43	PC	1,000	.	.	.	.	.
302	7	20001241	MB.SEQ.20-PS W/NTSC 3.58/4.43	PC	1,000	.	.	.	.	.
303	8	30000743	RES CF 1/2W 560R J	PC	1,000	R715	.	.	.	.
304	8	30000748	RES CF 1/4W 5.6K J	PC	1,000	R448	.	.	.	.
305	6	30001454	TR BC548B	PC	1,000	Q403	.	.	.	.
306	5	30000209	CAP SMD 18PF 50V J (0805)	PC	1,000	C440	.	.	.	.
307	5	30000259	CAP SMD 4.7PF 50V C CH	PC	1,000	C441	.	.	.	.
308	5	30000721	RES SMD 1/10W 4.7K J	PC	1,000	R505	.	.	.	.
309	5	30000732	RES SMD 1/10W 470K J	PC	1,000	R449	.	.	.	.
310	5	30001734	JUMPER SMD (0805)	PC	1,000	S401	.	.	.	.
311	4	20001248	MB.SMD.20-TEK RENKLI LED	PC	1,000	.	.	.	.	.
312	5	30001734	JUMPER SMD (0805)	PC	1,000	S507	.	.	.	.
313	4	20005447	MB.SEQ.20-PSBG NTSC 3.5/4.4	PC	1,000	.	.	.	.	.
314	5	30001284	DIODE 1N4148	PC	2,000	D505	D506	.	.	.
315	4	20033568	MB.SMD.20-WO/EKR	PC	1,000	.	.	.	.	.
316	5	20033569	MB.RAD.20-WO/EKR	PC	1,000	.	.	.	.	.
317	6	20033570	MB.AXI.20-WO/EKR	PC	1,000	.	.	.	.	.

318	7	20033571	MB.SEQ.20-WO/EKR	PC	1,000	.	.	.	.	.
319	8	20033572	MB.JUM.20-WO/EKR	PC	1,000	.	.	.	.	.
320	9	30002583	JUMPER WIRE 0.6MM	G	0,250	J901	J902	.	.	.
321	8	30000471	RES CF 1/4W 10K J	PC	1,000	R914	.	.	.	.
322	8	30000519	RES CF 1/4W 150R J	PC	1,000	R913	.	.	.	.
323	8	30000525	RES CF 1/2W 1.5K J	PC	3,000	R910	R917	R924	.	.
324	8	30000531	RES CF 1/4W 15K J	PC	1,000	R613	.	.	.	.
325	8	30000728	RES CF 1/2W 470K J	PC	1,000	R926	.	.	.	.
326	8	30001284	DIODE 1N4148	PC	2,000	D901	D902	.	.	.
327	8	30001329	DIODE 1N4007	PC	3,000	D903	D904	D905	.	.
328	6	30000352	CAP EL 100UF 16V M	PC	1,000	C913	.	.	.	.
329	6	30000433	CAP CER 1NF 1KV M B	PC	1,000	C914	.	.	.	.
330	6	30001426	TR BF421	PC	3,000	Q903	Q905	Q907	.	.
331	6	30001455	TR BC558B	PC	1,000	Q901	.	.	.	.
332	6	30001461	TR 2SC2482	PC	3,000	Q902	Q904	Q906	.	.
333	5	30000249	CAP SMD 390PF 50V J (0805)	PC	2,000	C907	C911	.	.	.
334	5	30000256	CAP SMD 470PF 50V J (0805)	PC	4,000	C902	C903	C906	C910	.
335	5	30000265	CAP SMD 560PF 50V J (0805)	PC	3,000	C904	C908	C912	.	.
336	5	30000284	CAP SMD 1NF 50V K R (0805)	PC	3,000	C901	C905	C909	.	.
337	5	30000475	RES SMD 1/10W 10K J 0805	PC	2,000	R907	R921	.	.	.
338	5	30000499	RES SMD 1/10W 1.2K J (0805)	PC	3,000	R922	R908	R915	.	.
339	5	30000524	RES SMD 1/10W 150R J (0805)	PC	3,000	R902	R920	R906	.	.
340	5	30000563	RES SMD 1/10W 1.8K J (0805)	PC	3,000	R905	R912	R919	.	.
341	5	30000653	RES SMD 1/10W 33R J	PC	1,000	R903	.	.	.	.
342	5	30000717	RES SMD 1/10W 470R J (0805)	PC	3,000	R911	R918	R904	.	.
343	5	30000751	RES SMD 1/10W 5.6K J 0805	PC	1,000	R901	.	.	.	.
344	3	20015245	M.ASSY.20-MAN 23385321XX1	PC	1,000	.	.	.	.	.
345	4	20002454	MB.MAN.20-COMMON	PC	1,000	.	.	.	.	.
346	5	20000980	HE.ASY.20-HORIZONTAL	PC	1,000	.	.	.	.	.
347	6	30001448	TR BU808DFI	PC	1,000	Q602	.	.	.	.
348	6	35000110	HEATSINK 20-	PC	1,000	.	.	.	.	.

			HORIZONTAL							
349	6	35000158	NUT C ZN BOTTOM M3	PC	1,000	.	.	.	.	.
350	6	35000165	KNURL WASHER C ZNSY 3*6*04 (M3)	PC	1,000	.	.	.	.	.
351	6	35000190	SCREW C NI YSMB M3*10	PC	1,000	.	.	.	.	.
352	5	30000075	CAP MKT 100NF 250V K (DC)	PC	1,000	C604	.	.	.	.
353	5	30000076	CAP MKT 100NF 275V M AC	PC	1,000	C802	.	.	.	.
354	5	30000146	CAP MKP 220NF 250V M	PC	1,000	C609	.	.	.	.
355	5	30000161	CAP MKP 47NF 630V J	PC	1,000	C809	.	.	.	.
356	5	30000350	CAP EL 10UF 250V M	PC	1,000	C608	.	.	.	.
357	5	30000356	CAP EL 100UF 63V M	PC	1,000	C705	.	.	.	.
358	5	30000360	CAP EL 1000UF 25V M	PC	1,000	C824	.	.	.	.
359	5	30000361	CAP EL 1000UF 35V M	PC	1,000	C709	.	.	.	.
360	5	30000388	CAP EL 33UF 160V M	PC	1,000	C607	.	.	.	.
361	5	30000404	CAP EL 47UF 160V M (HR)	PC	1,000	C821	.	.	.	.
362	5	30000409	CAP EL 470UF 25V M	PC	1,000	C833	.	.	.	.
363	5	30000410	CAP EL 470UF 50V M	PC	2,000	C613	C707	.	.	.
364	5	30001081	RES MO 100R 3W J	PC	1,000	R604	.	.	.	.
365	5	30001105	RES MO 1W 15K J	PC	1,000	R822	.	.	.	.
366	5	30001125	RES MO 2W 2.2K J	PC	1,000	R607	.	.	.	.
367	5	30001146	RES MO 2W 33R J	PC	1,000	R716	.	.	.	.
368	5	30001172	RES MO 2W 47K J	PC	1,000	R802	.	.	.	.
369	5	30001270	PTC 9 OHM	PC	1,000	TH801	.	.	.	.
370	5	30001447	TR BD679A	PC	1,000	Q601	.	.	.	.
371	5	30001606	IC STV2180	PC	1,000	IC402	.	.	.	.
372	5	30001612	IC TDA2822M	PC	1,000	IC301	.	.	.	.
373	5	30001714	FILTER SER 503KHZ	PC	1,000	X401	.	.	.	.
374	5	30001753	XTAL 8MHZ	PC	1,000	X501	.	.	.	.
375	5	30001762	CONN.MALE 2P (2052) GRAY	PC	1,000	PL301	.	.	.	.
376	5	30001792	CONN.MALE 2P MOLEX	PC	1,000	PL801	.	.	.	.
377	5	30001795	CONN.MALE 3P (DEG)	PC	1,000	PL802	.	.	.	.
378	5	30001827	HRZ VRT CONN.(4P)	PC	1,000	PL701	.	.	.	.
379	5	30002011	COIL CHOKE 150UH 0.82A RAD	PC	1,000	L802	.	.	.	.
380	5	30002149	LINEARITY COIL 50UH (06-06A)	PC	1,000	L601	.	.	.	.

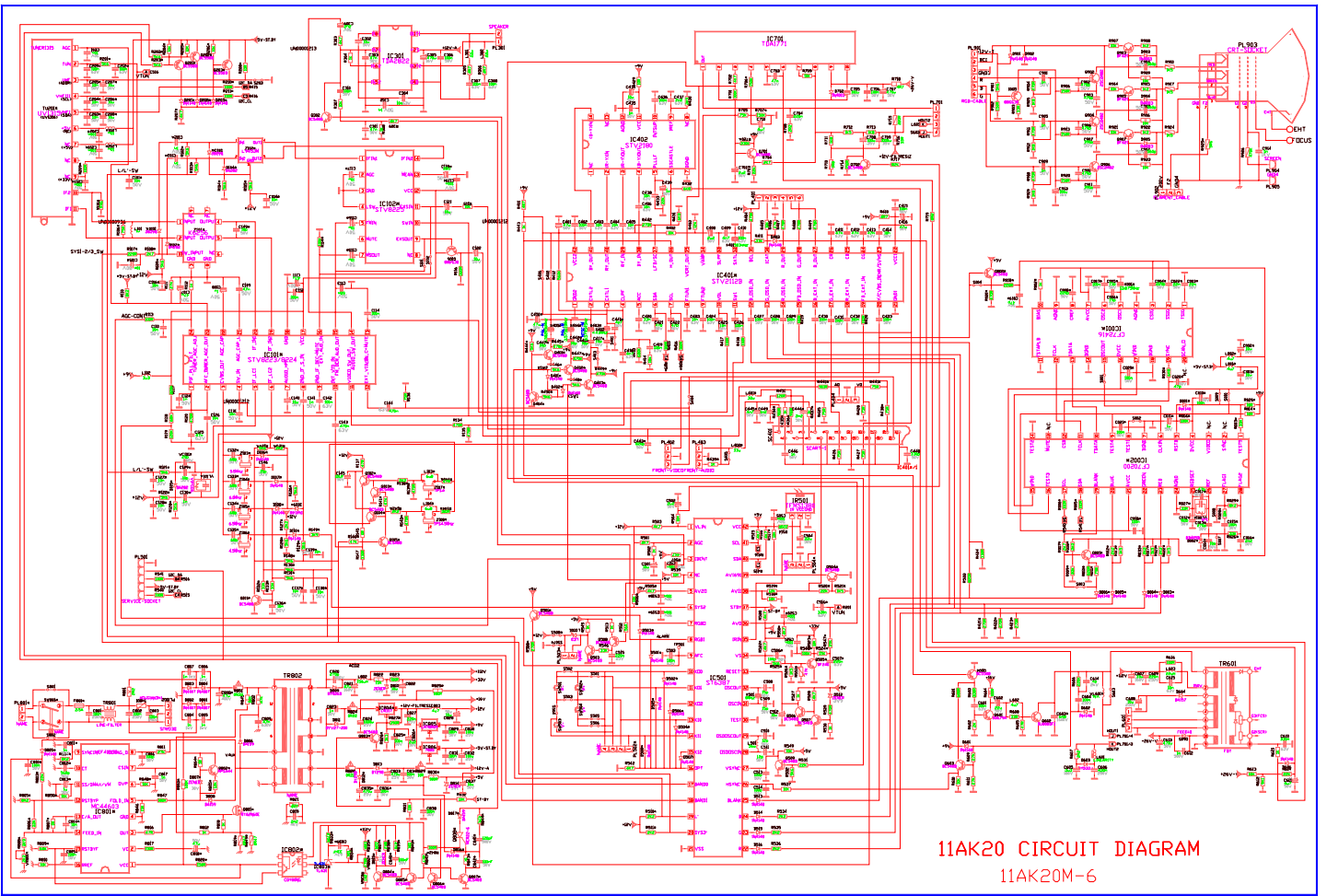
381	5	30002175	SWITCH ON/OFF 2.5A/100A	PC	1,000	SW801	.	.	.	.
382	5	35000060	SHIELD MAIN BOARD W/PVC AK20	PC	1,000	.	.	.	.	.
383	4	20003262	MB.MAN.20-BG IHRAC	PC	1,000	.	.	.	.	.
384	5	30000084	CAP MKT 150NF 275V M AC P=15	PC	2,000	C801	C803	.	.	.
385	5	30000400	CAP EL 47UF 50V M	PC	1,000	CX011	.	.	.	.
386	5	30000447	CAP CER 4.7NF 4KV M E	PC	1,000	C819	.	.	.	.
387	5	30001624	IC STV8223	PC	1,000	IC101	.	.	.	.
388	5	30001681	FILTER SAW G1963	PC	1,000	Z101	.	.	.	.
389	5	30001716	FILTER SER 5.5MHZ SFE 5.5MB	PC	1,000	Z103	.	.	.	.
390	5	30001724	FILTER SER TRAP TPS 5.5MHZ	PC	1,000	Z107	.	.	.	.
391	5	30001930	TUNER WSP (VST)	PC	1,000	TU201	.	.	.	.
392	5	30002037	ADJ COIL VIF 38.9 Q80	PC	1,000	VL101	.	.	.	.
393	5	30009834	CABLE 0.6MM BLUE (6CM)	PC	2,000	A-A	G-G	.	.	.
394	5	30009846	CABLE 0.6MM BLUE (4CM)	PC	1,000	X-->X	.	.	.	.
395	5	30009850	CABLE 1P R2.6 (6CM)	PC	1,000	XXX	.	.	.	.
396	5	30009851	CABLE 1P R2.6 (35CM)	PC	1,000	EMC	.	.	.	.
397	4	20003279	MB.MAN.20- EUROTEXT	PC	1,000	.	.	.	.	.
398	5	30001489	IC CF70204	PC	1,000	IC002	.	.	.	.
399	5	30001666	IC CF72416	PC	1,000	IC001	.	.	.	.
400	5	30001738	XTAL 13.875	PC	1,000	X001	.	.	.	.
401	4	20003294	MB.MAN.20-3710/30-31 CABINET	PC	1,000	.	.	.	.	.
402	5	20004003	BRACKET LED HOLDER 3743	PC	1,000	.	.	.	.	.
403	6	60000008	HIPS (NATURAL)	KG	0,001	.	.	.	.	.
404	6	60000022	MASTERBATCH (BLACK)	KG	0,001	.	.	.	.	.
405	5	30001669	PREAMPLIFIER TFMS1380	PC	1,000	IR501	.	.	.	.
406	5	30002181	SWITCH TACT	PC	4,000	SW501	SW502	SW503	SW504	.
407	4	20003371	MB.MAN.20-FAV IN/BAV OUT	PC	1,000	.	.	.	.	.
408	5	30001836	CONN MALE 3P TOP BLACK	PC	1,000	PL403	.	.	.	.
409	5	30001837	CONN MALE 3P TOP	PC	1,000	PL404	.	.	.	.

			BLUE							
410	5	30001838	CONN MALE 3P TOP YELLOW	PC	1,000	PL402	.	.	.	.
411	4	20003405	MB.MAN.20-PAL-NTSC 3.58/4.43	PC	1,000	.	.	.	.	.
412	5	30001603	IC STV2116A	PC	1,000	IC401	.	.	.	.
413	5	30001617	IC ST6387 VES/M20-02	PC	1,000	IC501	.	.	.	.
414	5	30001745	XTAL 3.579545	PC	1,000	X403	.	.	.	.
415	5	30001749	XTAL 4.433619 MHZ (AK15)	PC	1,000	X402	.	.	.	.
416	4	20003426	MB.MAN.20-WO/UL	PC	1,000	.	.	.	.	.
417	5	30002051	TRF FBT COM.FOC.(AK19- AK20)90°	PC	1,000	TR601	.	.	.	.
418	5	30002100	LINE FILTER 2*27MH	PC	1,000	TR801	.	.	.	.
419	4	20003448	MB.MAN.20-TEK RENKLI LED	PC	1,000	.	.	.	.	.
420	5	30001274	LED RED	PC	1,000	LD501	.	.	.	.
421	4	20015608	MB.MAN.20-90- 270V.WIDE WO/LOW POWER TEAC	PC	1,000	.	.	.	.	.
422	5	20000848	FUSE ASSY.TK79-A (2.5A)	PC	1,000	T801	.	.	.	.
423	6	30001731	FUSE 2.5A 250V 5*20MM	PC	1,000	.	.	.	.	.
424	6	35000136	FUSE HOLDER TK79-A (GRAY)	PC	1,000	F801	.	.	.	.
425	5	20000979	HE.ASY.20-SMPS WIDE (PLASTIK)	PC	1,000	.	.	.	.	.
426	6	30001386	TR MTP6N60E (PLASTIC)	PC	1,000	Q801	.	.	.	.
427	6	35000158	NUT C ZN BOTTOM M3	PC	1,000	.	.	.	.	.
428	6	35000165	KNURL WASHER C ZNSY 3*6*04 (M3)	PC	1,000	.	.	.	.	.
429	6	35000190	SCREW C NI YSMB M3*10	PC	1,000	.	.	.	.	.
430	6	35000466	HEATSINK SMPS AK20S	PC	1,000	.	.	.	.	.
431	5	20044891	HE.ASY.20-REG W/EU- WO/WID (WASHER)	PC	1,000	.	.	.	.	.
432	6	30001475	IC AN7809	PC	1,000	IC805	.	.	.	.
433	6	30001622	IC 7805 (1A)	PC	1,000	IC806	.	.	.	.
434	6	30001668	IC LM317T	PC	1,000	IC804	.	.	.	.
435	6	35000113	HEATSINK 20- REGULATOR	PC	1,000	.	.	.	.	.

436	6	35000158	NUT C ZN BOTTOM M3	PC	3,000	.	.	.	.	.
437	6	35000165	KNURL WASHER C ZNSY 3*6*04 (M3)	PC	3,000	.	.	.	.	.
438	6	35000183	SCREW C ZN YSMB M3*12	PC	1,000	.	.	.	.	.
439	6	35000190	SCREW C NI YSMB M3*10	PC	2,000	.	.	.	.	.
440	6	40000020	TR HOLDER TR-06A	PC	1,000	.	.	.	.	.
441	6	40000146	INSULATOR SILICON PAD (15*20)	PC	1,000	.	.	.	.	.
442	5	30000418	CAP EL 100UF 400V M	PC	1,000	C808	.	.	.	.
443	5	30001057	RES ADJ 2.2K 0.1W VER (MAN)	PC	1,000	VR801	.	.	.	.
444	5	30001112	RES MO 1W 180R J	PC	1,000	R825	.	.	.	.
445	5	30001155	RES MO 33K 2W J	PC	1,000	R813	.	.	.	.
446	5	30001260	RES WW 5W 2.2R J RAD.	PC	1,000	R801	.	.	.	.
447	5	30001288	DIODE BYV27-200	PC	1,000	D811	.	.	.	.
448	5	30001301	DIODE BYM26D	PC	1,000	D809	.	.	.	.
449	5	30001321	DIODE BY298 (AK06)	PC	1,000	D813	.	.	.	.
450	5	30001478	IC MC44603	PC	1,000	IC801	.	.	.	.
451	5	30002086	TRF SMPS AK20 90' (90- 270)	PC	1,000	TR802	.	.	.	.
452	5	30007308	CAP CER 220PF 1KV K (PULSE)	PC	1,000	CX020	.	.	.	.
453	4	20024214	MB.MAN.20-AK20M ve AK20D PCB GRUBU	PC	1,000	.	.	.	.	.
454	5	20000977	HE.ASY.20- VERTICAL(AK20M- AK20S)	PC	1,000	.	.	.	.	.
455	6	30001600	IC TDA1771	PC	1,000	IC701	.	.	.	.
456	6	35000111	HEATSINK 20- VERTICAL	PC	1,000	.	.	.	.	.
457	6	35000158	NUT C ZN BOTTOM M3	PC	1,000	.	.	.	.	.
458	6	35000165	KNURL WASHER C ZNSY 3*6*04 (M3)	PC	1,000	.	.	.	.	.
459	6	35000189	SCREW C NI YSMB M3*6	PC	1,000	.	.	.	.	.
460	4	20033573	MB.MAN.20-WO/EKR	PC	1,000	.	.	.	.	.
461	5	30001086	RES MO 2W 10K J	PC	3,000	R909	R916	R923	.	.
462	5	30013511	CABLE 3/36 FC (W/CABLE HOLDER)	PC	1,000	PL902	.	.	.	.
463	5	30013512	CABLE 6/38 FC (RGB) (W/CABLE HOLDER)	PC	1,000	PL901	.	.	.	.

464	5	35000135	TEST PIN 1.1MM	PC	1,000	PL904	.	.	.	.
465	1	20015476	LBL.BCK.CVR.TEAC EU-34T	PC	1,000	.	.	.	.	.
466	2	20013018	LBL.BCK.CVR.ASSY (TV) (WO/UL)	PC	1,000	.	.	.	.	.
467	3	50004065	LABEL LOT W/BARCODE (3)	PC	1,050	.	.	.	.	.
468	3	70000321	RIBBON T13506 ZA 110MM*335MM	PC	1,050	.	.	.	.	.
469	1	20015528	SCREW ASSY 3731 HP/FAV/BAV (1SP)	PC	1,000	.	.	.	.	.
470	2	35000212	SCREW S C ZNSY YSMB 2.9*13	PC	2,000	.	.	.	.	.
471	2	35000216	SCREW S C ZNSY YSMB 3.9*19	PC	5,000	.	.	.	.	.
472	2	35000224	SCREW C SK ZN YFMB 2.9*9.5	PC	1,000	.	.	.	.	.
473	2	35000231	SCREW SK C NI YFMB 2.9*6.5	PC	2,000	.	.	.	.	.
474	2	35001777	SCREWSCZNORYAKB 5x30 WITH RUBBER WASHER	PC	4,000	.	.	.	.	.
475	2	40000173	ISOLATION COTTON 71*78*0.5	PC	1,000	.	.	.	.	.
476	1	20015835	F CARTON BOX TEAC EU-34T	PC	1,000	.	.	.	.	.
477	2	50005982	CARTON BOX TEAC EU-34T	PC	1,000	.	.	.	.	.
478	2	50006050	CARTON BOX 3745/55/43/10/11 CRF&TV EMPTY	PC	1,000	.	.	.	.	.
479	1	20016399	LENS 3731 W/AV (-V+- P+)TEAC- TXT.PN429C(S	PC	1,000	.	.	.	.	.
480	2	20000891	LENS 3731 W/AV (I)	PC	1,000	.	.	.	.	.
481	3	60000016	POLYCARBONAT GRAY (PC) (SMOK)	KG	0,031	.	.	.	.	.
482	1	20016696	FRONT 3731 W/H&J AKAI (CB) (P)	PC	1,000	.	.	.	.	.
483	2	20016697	FRONT 3731 W/H&J (CB) (I)	PC	1,000	.	.	.	.	.
484	3	60000009	FR-HIPS NATR.V-0 6335	KG	0,761	.	.	.	.	.
485	3	60000022	MASTERBATCH (BLACK)	KG	0,008	.	.	.	.	.
486	2	60000054	PAINT AKAI METALLIC	KG	0,002	.	.	.	.	.

487	1	20016703	BACK COVER 3730/31 AK20(CB)MAT BL.(P)	PC	1,000	.	.	.	.	.
488	2	20016700	BACK COVER 3730/31 AK20 CB (I)	PC	1,000	.	.	.	.	.
489	3	60000009	FR-HIPS NATR.V-0 6335	KG	1,017	.	.	.	.	.
490	3	60000022	MASTERBATCH (BLACK)	KG	0,010	.	.	.	.	.
491	2	60000055	PAINT DARK BLACK (MAT)	KG	0,030	.	.	.	.	.
492	1	20024691	ARTWORK TEAC AUSTR TEAC EU-34T	PC	1,000	.	.	.	.	.
493	2	30000001	ANTENNA ROD (W/ADAPTOR)	PC	1,000	.	.	.	.	.
494	2	30002391	BATTERY AAA UM4 1.5V GREEN	PC	2,000	.	.	.	.	.
495	2	30007399	R/C 930 TEAC (ÖZEL/S) (AKAI/P) RC-734	PC	1,000	.	.	.	.	.
496	2	50005981	I/B TEAC EU-34T 930/ENG (3731)	PC	1,000	.	.	.	.	.
497	2	50016146	WARRANTY CARD TEAC (ENG) (2)	PC	1,000	.	.	.	.	.
498	1	30007058	14" CPT TUBE - AUSTRALIA	PC	1,000	.	.	.	.	.
499	1	40000113	PLASTIZOTE BAG (14)	PC	1,000	.	.	.	.	.
500	1	40001938	LOGO TEAC (SMALL)(GRAY W/P)	PC	1,000	.	.	.	.	.
501	1	50005980	LBL.SCREEN TEAC EU-34T	PC	1,000	.	.	.	.	.
502	1	50015845	LBL.SERVICE TEAC (2)	PC	1,000	.	.	.	.	.



11AK20 CIRCUIT DIAGRAM
11AK20M-6

PRDJE	11AK20M4/N4	DEĞİŞİKLİK		
DİZEN	M.SARPEL / UKURU	TARİH	İNDE	YAPAN
PRDJE MÜH	UKURU / M.SARPEL			DNAY İNDİTLER
TARİH	20/03/1998			
DNAY	MAKBAS			

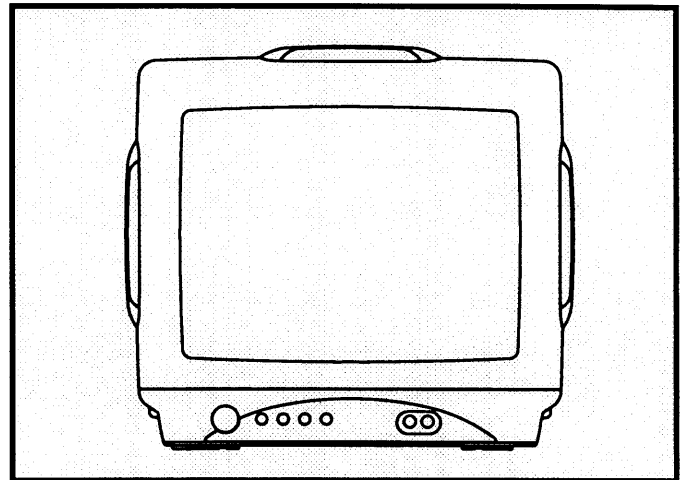
TEAC®

APPENDIX

SERVICE DATA

EU - 34T

Colour Television with Remote Control



SERVICE MANUAL



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock of persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

APPLICATION NOTE - 1

AFC & AGC SETTING PROCEDURE FOR 11AK20 (14") CHASSIS:

1-) FOR AFC SETTING :

- Apply a 38.9 MHz. / 80 dB μ V standart PAL B/G signal to the terminals of L101 fixed coil via a pattern generator.
- Adjust coil VL101 (VIF) until you get min. 2.2V – max. 2.8V on the AFC pin (Pin 9 of IC501).

2-) FOR AGC SETTING :

- Apply a standart e.g: 224.25 MHz. / 60 dB μ V standart PAL B/G signal to the antenna input via a pattern generator.
- Enter the service mode (on page 5 of Service Manuel) and select the AGC Adjustment item by using P+/P- buttons on the remote control unit.
- Measure the voltage on AGC pin (J119) via a voltmeter.
- Adjust AGC level by means of the V-/V+ buttons on the remote control unit until you obtain the max. voltage value on the AGC pin (J119).
- When you get the max. voltage on that pin, adjust this voltage to 1 Volt lower than the max. value. (The max. voltage is approx. 3.7 V, so you have to adjust AGC voltage to 3.7-1=2.7V).
- Then store this adjustment in the memory.

APPROPRIATE SETTING VALUES:				
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">AFC VOLTAGE (at Pin 9 of IC501)</td> <td style="text-align: right;">: 2.5V</td> </tr> <tr> <td>AGC VOLTAGE (at AGC pin – J119)</td> <td style="text-align: right;">: 2.7V</td> </tr> </table>	AFC VOLTAGE (at Pin 9 of IC501)	: 2.5V	AGC VOLTAGE (at AGC pin – J119)	: 2.7V
AFC VOLTAGE (at Pin 9 of IC501)	: 2.5V			
AGC VOLTAGE (at AGC pin – J119)	: 2.7V			

APPLICATION NOTE – 2

11AK20 SERVICE ADJUSTMENT VALUES		
1	54	FIXED
2	48	FIXED
3	48	FIXED
4	24-31	SUGGESTED RANGE
5	50-63	SUGGESTED RANGE
6	28-45	SUGGESTED RANGE
7	40-50	SUGGESTED RANGE
8	13-20	SUGGESTED RANGE
9	27-31	SUGGESTED RANGE
10	04	SUGGESTED RANGE
11	20-30	SUGGESTED RANGE
12	2	FIXED
13	6	FIXED
14	57	FIXED
15	44	FIXED

OPTIONAL COMPONENTS LIST

10002705 EU-34T

VESTEL CODE	DESCRIPTION	UNIT	QTY	POSITION NUMBER					
SYTEM PAL BG	30000085	CAP MKT 150NF 275V M AC	ADT	2,000	C801	C803			
	30000400	CAP EL 47UF 50V M	ADT	1,000	CX011				
	30000447	CAP CER 4.7NF 4KV M E	ADT	1,000	C819				
	30001624	IC STV8223	ADT	1,000	IC101				
	30001681	FILTER SAW G1963	ADT	1,000	Z101				
	30001716	FILTER SER 5.5MHZ SFE 5.5MB	ADT	1,000	Z103				
	30001724	FILTER SER TRAP TPS 5.5MHZ	ADT	1,000	Z107				
	30001935	TUNER WSP VST(THM)	ADT	1,000	TU201				
	30002037	ADJ COIL VIF 38.9 Q80	ADT	1,000	VL101				
	30002215	CABLE 1P R2.6	M	0,410	EMC	XXX			
	30002388	CABLE 0.6MM BLUE	CM	14,000	A-->A				
	30001603	IC STV2116A	ADT	1,000	IC401				
	30001617	IC ST6387 VES/M20-02	ADT	1,000	IC501				
	30001745	XTAL 3.579545	ADT	1,000	X403				
	30001749	XTAL 4.433619 MHZ (AK15)	ADT	1,000	X402				
	30002583	JUMPER WIRE 0.6MM	GR	0,125	D109				
	30000459	RES CF 1/4W 100R J	ADT	1,000	D106				
	30000590	RES CF 1/4W 2.2K J	ADT	1,000	R138				
	30000706	RES CF 1/4W 47R J	ADT	1,000	R140				
	30000748	RES CF 1/4W 5.6K J	ADT	1,000	R201				
	30001284	DIODE 1N4148	ADT	5,000	D201	D202	D203	D507	J532
	30001990	FIXED COIL 6.8UH Q75 K	ADT	1,000	L103				
	30001992	FIXED COIL 10UH Q65 K-A	ADT	1,000	L201				
	30000074	CAP MKT 100NF 63V J	ADT	1,000	C209				
	30000092	CAP MKT 220NF 63V J	ADT	1,000	C507				
	30000100	CAP MKT 330NF 63V J	ADT	1,000	C516				
	30000345	CAP EL 10UF 50V M	ADT	3,000	C206	C207	C208		
	30001423	TR BF240	ADT	1,000	Q505				
	30001454	TR BC548B	ADT	1,000	Q102				
	30001455	TR BC558B	ADT	3,000	Q201	Q202	Q203		
	30000186	CAP SMD 10PF 50V D COG	ADT	1,000	C149				
	30000189	CAP SMD 100PF 50V J (0805)	ADT	1,000	C506				
	30000201	CAP SMD 15PF 50V J (08*05)	ADT	1,000	C146				
	30000268	CAP SMD 68PF 50V J (0805)	ADT	1,000	C132				
	30000289	CAP SMD 10NF 50V K R (0805)	ADT	3,000	C203	C204	C205		
	30000294	CAP SMD 100NF 50V K (0805)	ADT	1,000	C202				
	30000475	RES SMD 1/10W 10K J 0805	ADT	4,000	R204	R205	R206	R523	
	30000480	RES SMD 1/10W 100K J (0805)	ADT	1,000	R548				
	30000506	RES SMD 1/10W 120K J	ADT	1,000	R119				
	30000529	RES SMD 1/10W 1.5K J	ADT	1,000	R526				
	30000534	RES SMD 1/10W 15K J (0805)	ADT	1,000	R524				
	30000696	RES SMD 1/10W 39K J (0805)	ADT	1,000	R547				
	30000717	RES SMD 1/10W 470R J (0805)	ADT	1,000	R139				
	30000721	RES SMD 1/10W 4.7K J	ADT	2,000	R207	R522			
	30000751	RES SMD 1/10W 5.6K J 0805	ADT	3,000	R202	R203	R525		
	30000774	RES SMD 1/10W 680R J (0805)	ADT	1,000	R126				
	30000743	RES CF 1/2W 560R J	ADT	1,000	R715				
	30000748	RES CF 1/4W 5.6K J	ADT	1,000	R448				
	30001454	TR BC548B	ADT	1,000	Q403				
	30000209	CAP SMD 18PF 50V J (0805)	ADT	1,000	C440				
	30000259	CAP SMD 4.7PF 50V C CH	ADT	1,000	C441				
	30000721	RES SMD 1/10W 4.7K J	ADT	1,000	R505				
	30000732	RES SMD 1/10W 470K J	ADT	1,000	R449				
	30001734	JUMPER SMD (0805)	ADT	1,000	S401				
	30001284	DIODE 1N4148	ADT	2,000	D505	D506			

TELETEXT										
30001487	IC CF70095	ADT	1,000	IC002						
30001666	IC CF72416	ADT	1,000	IC001						
30001738	XTAL 13.875	ADT	1,000	X001						
30002033	ADJ.COIL 113CNS-K1763HM (T3)	ADT	1,000	VL001						
30000526	RES CF 1/4W 1.5K J	ADT	2,000	R017	R022					
30000551	RES CF 1/4W 18R J	ADT	2,000	R014	R020					
30000583	RES CF 1/4W 220R J	ADT	1,000	R018						
30000665	RES CF 1/4W 33K J	ADT	1,000	R009						
30000712	RES CF 1/4W 470R J	ADT	3,000	R421	R422	R423				
30000775	RES CF 1/4W 6.8K J	ADT	1,000	R030						
30000810	RES CF 1/4W 820R J	ADT	1,000	R010						
30001282	DIODE VAR CAPBB405	ADT	1,000	D002						
30001284	DIODE 1N4148	ADT	5,000	D001	D003	D004	D005	D006		
30001987	FIXED COIL 4.7UH Q70 K-A	ADT	2,000	L001	L002					
30000088	CAP MKT 2.2NF 63V J	ADT	1,000	C016						
30000345	CAP EL 10UF 50V M	ADT	2,000	C001	C002					
30000362	CAP EL 1UF 50V M	ADT	1,000	C011						
30001454	TR BC548B	ADT	1,000	Q001						
30000186	CAP SMD 10PF 50V D COG	ADT	1,000	C014						
30000189	CAP SMD 100PF 50V J (0805)	ADT	1,000	C012						
30000201	CAP SMD 15PF 50V J (08*05)	ADT	2,000	C005	C006					
30000224	CAP SMD 220PF 50V J (08*05)	ADT	2,000	C004	C008					
30000232	CAP SMD 270PF 50V J (0805)	ADT	1,000	C013						
30000252	CAP SMD 47PF 50V J (08*05)	ADT	3,000	C017	C019	C020				
30000294	CAP SMD 100NF 50V K (0805)	ADT	5,000	C007	C009	C010	C015	C018		
30000312	CAP SMD 22NF 50V K (0805)	ADT	2,000	C003	C022					
30000464	RES SMD 1/10W 100R J	ADT	2,000	R005	R006					
30000469	RES SMD 1/10W 1K J 0805	ADT	4,000	R002	R012	R021	R033			
30000475	RES SMD 1/10W 10K J 0805	ADT	1,000	R028						
30000480	RES SMD 1/10W 100K J (0805)	ADT	1,000	R004						
30000529	RES SMD 1/10W 1.5K J	ADT	1,000	R013						
30000631	RES SMD 1/10W 2.7K J 0805	ADT	1,000	R007						
30000664	RES SMD 1/10W 3.3K J (0805)	ADT	1,000	R008						
30000668	RES SMD 1/10W 33K J 0805	ADT	2,000	R003	R026					
30000797	RES SMD 1/10W 75R J (0805)	ADT	1,000	R011						
30000818	RES SMD 1/10W 8.2K J (0805)	ADT	1,000	R029						
30001734	JUMPER SMD (0805)	ADT	1,000	S004						

POWER SUPPLY										
20000848	FUSE ASSY.TK79-A (2.5A)	ADT	1,000	T801						
30001731	FUSE 2.5A 250V 5*20MM	ADT	1,000							
35000136	FUSE HOLDER TK79-A (GRAY)	ADT	1,000	F801						
20000979	HEATSINK ASY.20-SMPS WIDE	ADT	1,000							
30001386	TR MTP6N60E	ADT	1,000	Q801						
35000015	SPRING TR.HOLDER (BIG)	ADT	1,000							
35000466	HEATSINK SMPS AK20S	ADT	1,000							
40000145	INSULATOR SILICON PAD(20*30MM)	ADT	1,000							
20000981	HEATSINK AS.20-REG W/EU-WO/WID	ADT	1,000							
30001475	IC AN7809	ADT	1,000	IC805						
30001622	IC 7805 (1A)	ADT	1,000	IC806						
30001668	IC LM317T	ADT	1,000	IC804						
35000016	SPRING TR.HOLDER (MEDIUM)	ADT	1,000							
35000113	HEATSINK 20-REGULATOR	ADT	1,000							
35000158	NUT C ZN BOTTOM M3	ADT	2,000							
35000165	KNURL WASHER C ZNSY 3*6*04	ADT	2,000							
35000190	SCREW C NI YSMB M3*10	ADT	2,000							
40000146	INSULATOR SILICON PAD (15*20)	ADT	1,000							
30000355	CAP EL 100UF 50V M	ADT	1,000	C818						
30000418	CAP EL 100UF 400V M	ADT	1,000	C808						
30001057	RES ADJ 2.2K 0.1W VER (MAN	ADT	1,000	VR801						
30001112	RES MO 1W 180R J	ADT	1,000	R825						
30001155	RES MO 33K 2W J	ADT	1,000	R813						
30001260	RES WW 5W 2.2R J RAD.	ADT	1,000	R801						
30001478	IC MC44603	ADT	1,000	IC801						
30002086	TRF SMPS AK20 90' (90-270)	ADT	1,000	TR802						
30000481	RES CF 1/4W 1M J	ADT	1,000	R807						
30000540	RES CF 1/2W 1.5M J (400V)	ADT	1,000	R845						
30000660	RES CF 1/4W 3.3K J	ADT	1,000	R826						
30000683	RES CF 1/4W 390R J	ADT	1,000	R827						
30000779	RES CF 1/4W 68K J	ADT	1,000	R809						
30001004	RES MF 1/2W 0.56R J	ADT	2,000	R819	R849					

30001284	DIODE 1N4148	ADT	1,000	D805	
30000295	CAP CER 100NF 50V Z F	ADT	1,000	C825	
30000318	CAP CER 270PF 500V K B	ADT	1,000	C820	
30000362	CAP EL 1UF 50V M	ADT	1,000	C813	
30000384	CAP EL 2.2UF 50V M	ADT	1,000	C826	
30001454	TR BC548B	ADT	1,000	Q803	
30000265	CAP SMD 560PF 50V J (0805)	ADT	1,000	C812	
30000289	CAP SMD 10NF 50V K R (0805)	ADT	1,000	C814	
30000294	CAP SMD 100NF 50V K (0805)	ADT	1,000	C810	
30000534	RES SMD 1/10W 15K J (0805)	ADT	1,000	R850	
30000597	RES SMD 1/10W 22K J	ADT	1,000	R803	
30000692	RES SMD 1/10W 3.9K J 0805	ADT	1,000	R808	
30000818	RES SMD 1/10W 8.2K J (0805)	ADT	1,000	R805	
30001734	JUMPER SMD (0805)	ADT	1,000	R804	
30000743	RES CF 1/2W 560R J	ADT	1,000	R715	
30000748	RES CF 1/4W 5.6K J	ADT	1,000	R448	
30001454	TR BC548B	ADT	1,000	Q403	
30000209	CAP SMD 18PF 50V J (0805)	ADT	1,000	C440	
30000259	CAP SMD 4.7PF 50V C CH	ADT	1,000	C441	
30000721	RES SMD 1/10W 4.7K J	ADT	1,000	R505	
30000732	RES SMD 1/10W 470K J	ADT	1,000	R449	
30001734	JUMPER SMD (0805)	ADT	1,000	S401	
PICTURE TUBE	IRICO 37SX110Y22-DC05				
30000167	CAP MKP 560NF 250V J	ADT	1,000	C606	
30000179	CAP MKP 9.1NF 1600V %3.5	ADT	1,000	C603	
30001244	RES FUSE 0.47R 1/2W J	ADT	1,000	R925	
30001857	SOCKET CRT B12-262	ADT	1,000	PL903	