



THOMSON

TV



**SERVICE MANUAL
DOCUMENTATION TECHNIQUE
TECHNISCHE DOKUMENTATION
DOCUMENTAZIONE TECNICA
DOCUMENTACION TECNICA**

LCD03B



WARNING : *Before servicing this chassis please read the safety recommendations.*
ATTENTION : *Avant toute intervention sur ce châssis, lire les recommandations de sécurité.*
ACHTUNG : *Vor jedem Eingriff auf diesem Chassis, die Sicherheitsvorschriften lesen.*
ATTENZIONE : *Prima di intervenire sullo chassis, leggere le norme di sicurezza.*
IMPORTANTE : *Antes de cualquier intervención, leer las recomendaciones de seguridad.*

Code :357 510 10 - 0304 / 6M -LCDB03B Print.



Do not disconnect modules when they are energized!
Repairs on power supply section are to be carried out only with isolating transformer.

Ne pas retirer les modules lorsqu'ils sont sous tension. N'effectuer les travaux de maintenance sur la partie reliée au secteur (Switch Mode) qu'au travers d'un transformateur d'isolement.

Module nicht bei eingeschaltetem Gerät entfernen!
Servicearbeiten am Netzteil nur unter Verwendung eines Regeltrenntrafos durchführen.

Non scollegare le piastre quando sono alimentate!
Per le riparazioni sulla sezione alimentatore, utilizzare un trasformatore isolatore.

No desconectar los módulos cuando están activados. Las reparaciones en la sección de alimentación de energía deben ser ejecutadas solamente con un transformador de separación.



Indicates critical safety components, and identical components should be used for replacement. Only then can the operational safety be guaranteed.

Le remplacement des éléments de sécurité (repérés avec le symbole ) par des composants non homologués selon la Norme CEI 65 entraîne la non-conformité de l'appareil. Dans ce cas, la responsabilité du fabricant n'est plus engagée.

Wenn Sicherheitsteile (mit dem Symbol ) gekennzeichnet) nicht durch Original - Ersatzteile ersetzt werden, erlischt die Haftung des Herstellers.

La sostituzione dei componenti di sicurezza (evidenziati con il segno ) con componenti non omologati secondo la norma CEI 65 comporta la non conformità dell'apparecchio. In tal caso è "esclusa la responsabilità" del costruttore.

La sustitución de elementos de seguridad (marcados con el símbolo ) por componentes no homologados según la norma CEI 65, provoca la no conformidad del aparato. En ese caso, el fabricante cesa de ser responsable.

MEASUREMENT CONDITIONS - CONDITIONS DE MESURES - MESSBEDINGUNGEN
CONDIZIONI DI MISURA - CONDICIONES DE MEDIDAS

RECEIVER :

On UHF, input level : 1 mV, bar test pattern :
- PAL, I standard, 100% white.

Via the scart socket, input level : 1 Vpp, bar test pattern :

Colour, contrast and brightness at mid-position, sound at minimum.
Programme selected : PR 01.

DC voltages measured between the point and earth using a digital voltmeter.

RICEVITORE :

In UHF, livello d'entrata 1 mV, monoscopio barre :
- PAL, norma G. bianco 100%.

Via SCART, livello d'entrata 1 Vpp, monoscopio barre :

Colore, Contrasto, Luminosità media, Suono minimo.
Programma selezionato PR 01.

Tensioni continue rilevate rispetto alla massa con un voltmetro digitale.

RECEPTEUR :

En UHF, niveau d'entrée 1 mV mire de barres
- SECAM, Norm L, Blanc 100%.

Par la prise Péritélévision, niveau d'entrée 1 Vcc, mire de barres .

Couleur, contraste, lumière à mi-course, son minimum.
Programme affecté PR 01.

Tensions continues relevées par rapport à la masse avec un voltmètre numérique.

RECEPTOR :

En UHF, nivel de entrada 1 mV, mira de barras :
- PAL, norma G, blanco 100%.

Por la toma Peritelevision, nivel de entrada 1 Vpp mira de barra.

Color, Contraste, luz a mitad de carrera, Sonido mínimo.
Programa afectado PR 01.

Tensiones continuas marcadas en relacion a la masa con un voltmetro digital.

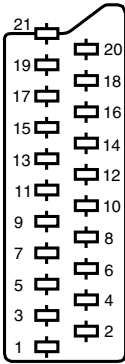
EMPFÄNGER :

Bei UHF Eingangspegel 1 mV, Farbbalken :
- PAL, Norm G, Weiss 100%.

Über die Scartbuchse : Eingangspegel 1 Vss, Farbbalken :

Farbe, Kontrast, Helligkeit in der Mitte des Bereichs, Ton auf Minimum.
Zugeordnetes Programm PR 01.

Gleichspannungen mit einem digitalen Voltmeter zur Masse gemessen.



NOTE : **MAIN** ... etc. identifies each pcb module.

NOTE : **MAIN** ... etc. repères des platines constituant l'appareil.

HINWEIS : **MAIN** ... usw. Kennzeichnung der Platinen, aus denen das Gerät zusammengesetzt ist.

NOTA : **MAIN** ... ecc. sigla delle piastre dell'apparecchio.

NOTA : **MAIN** ... etc. marcas de las placas que constituyen el aparato.

	ENGLISH	FRANÇAIS	DEUTSCH	ITALIANO	ESPAÑOL
1 	AUDIO "R"	AUDIO "D"	AUDIO "R"	AUDIO "D"	AUDIO "D"
2 	AUDIO "R"	AUDIO "D"	AUDIO "R"	AUDIO "D"	AUDIO "D"
3 	AUDIO "L"	AUDIO "G"	AUDIO "L"	AUDIO "S"	AUDIO "I"
4 	AUDIO	AUDIO	AUDIO	AUDIO	AUDIO
5 	"BLUE"	"BLEU"	"BLAU"	"BLU"	"AZUL"
6 	AUDIO "L" MONO	AUDIO "G" MONO	AUDIO "L" MONO	AUDIO "S" MONO	AUDIO "I" MONO
7 	"BLUE"	"BLEU"	"BLAU"	BLU	AZUL
8 	SLOW SWITCH	COMMUT. LENTE	AV UMSCHALTUNG	"COMMUTAZIONE LENTA"	"CONMUTACION LENTA"
9 	"GREEN"	"VERT"	"GRÜN"	"VERDE"	"VERDE"
10 	AV LINK	AV LINK	AV LINK	AV LINK	AV LINK
11 	"GREEN"	"VERT"	"GRÜN"	"VERDE"	"VERDE"
12 NC					
13 	"RED"	"ROUGE"	"ROT"	"ROSSO"	"ROJA"
14 NC					
15 	"RED"	"ROUGE"	"ROT"	"ROSSO"	"ROJA"
16 	FAST SWITCH	COMMUT. RAPIDE	AUSTASTUNG	"COMMUTAZIONE RAPIDA"	"CONMUTACION RAPIDA"
17 	VIDEO	VIDEO	VIDEO	VIDEO	VIDEO
18 	FAST SWITCH	COMMUT. RAPIDE	AUSTASTUNG	"COMMUTAZIONE RAPIDA"	"CONMUTACION RAPIDA"
19 	VIDEO	VIDEO	VIDEO	VIDEO	VIDEO
20 	VIDEO OR "SYNC"	VIDEO SYNCHRO	VIDEO ODER SYNCHRO	VIDEO O SINCRIO	VIDEO O SINCRIO
21 	PLUG SCREEN BOX	BLINDAGE PRISE	ABSCHIRMUNG DES STECKERS	INVOLUCRO METALLICO DELLA PRESA	BLINDAJE DEL ENCHUFE

 : INPUT - ENTRÉE - EINGANG - ENTRATA - ENTRADA •  : OUTPUT - SORTIE - AUSGANG - USCITA - SALIDA •  : EARTH - MASSE - MASSE - MASSA - MASA

INFORMATION - INFORMATIONS - INFORMATIONEN INFORMAZIONE - INFORMACIONES

(EN) Chassis group table

- 1 - The electronic chassis configuration (modules) and schematic diagram page numbers.
- 2 - The chassis configuration.

(FR) Le tableau ci-dessous regroupe :

- 1 - L'environnement électronique de chaque chassis (modules) et le numéro de page où il est décrit.
- 2 - La désignation des chassis

(DE) Die nachstehende Tabelle umfaßt:

- 1 - Die elektronischen Baugruppen (Module) der Chassis varianten und die Seiten auf der sie beschrieben werden
- 2 - Die Chassisbezeichnung

(IT) La tabella qui di seguito contiene:

- 1 - l'ambiente elettronico di ogni telaio (moduli) e il numero di pagina nella quale è descritto.
- 2 - La descrizione dei telai

(ES) El cuadro siguiente agrupa:

- 1 - El entorno electrónico de cada chasis (módulos) y el número de página donde está descrito.
- 2 - La designación de los chasis

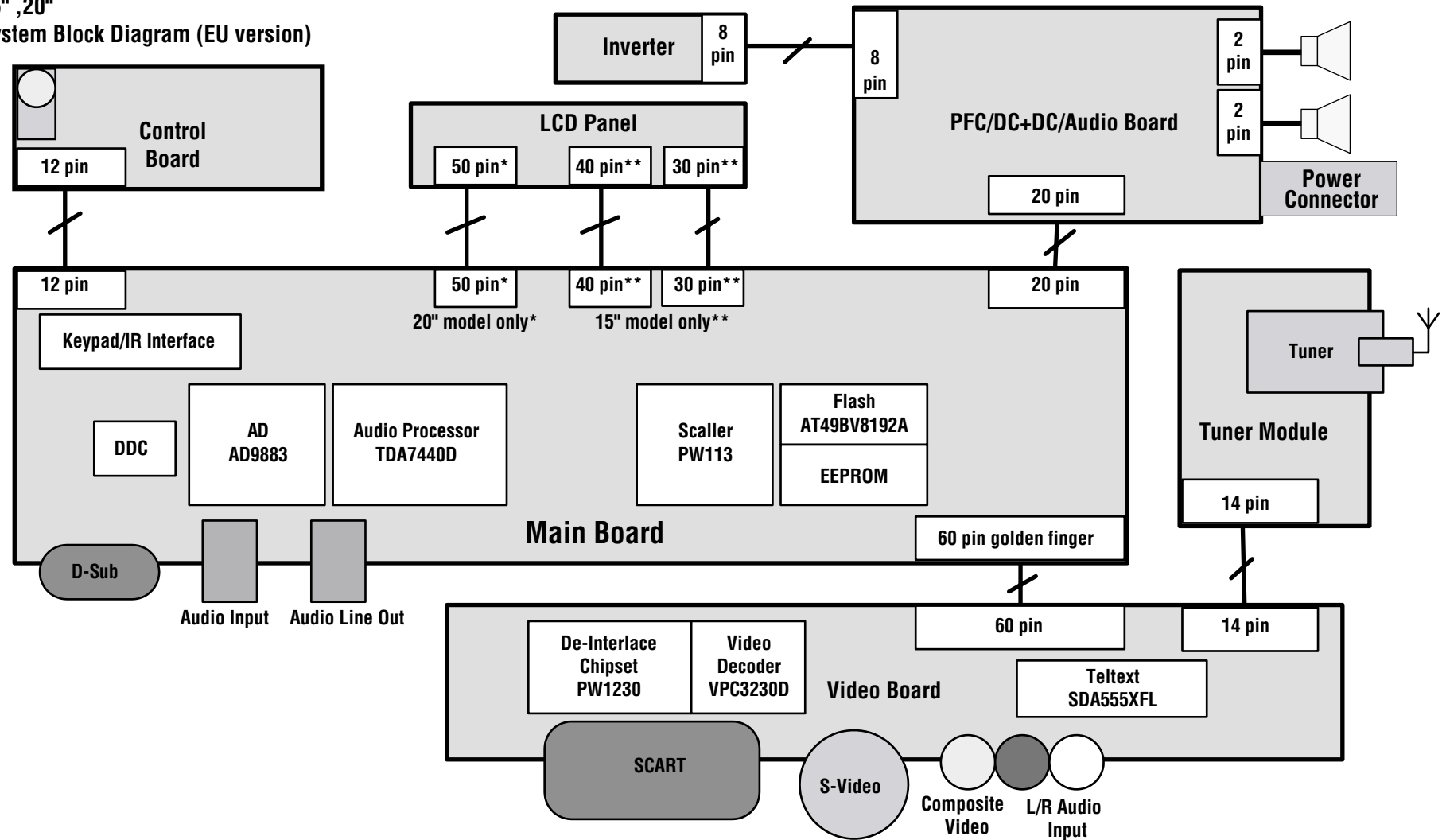
Chassis LCD03B

Reference	Information	Desassembly. -	Service Mode	FCB -	KDB -	Inverter	DC/DC --	Audio Board	Earphone Board	Main	Video
15LCDM03B	3	6to7	10to15	"	16to18	23to24	19to20	25	26	27to41	42to58
20LCDM03B	3	6to7	10to15	"	16to18	23to24	21to22	25	26	27to41	42to58
20LCDB03B	3	8to9	10to15	"	16to18	-	21to22	25	26	27to41	42to58

BLOCK DIAGRAM - SCHEMA SYNOPTIQUE - BLOCKSCHALTBIID - SCHEMA A BLOCCHI - ESQUEMA DE BLOQUES

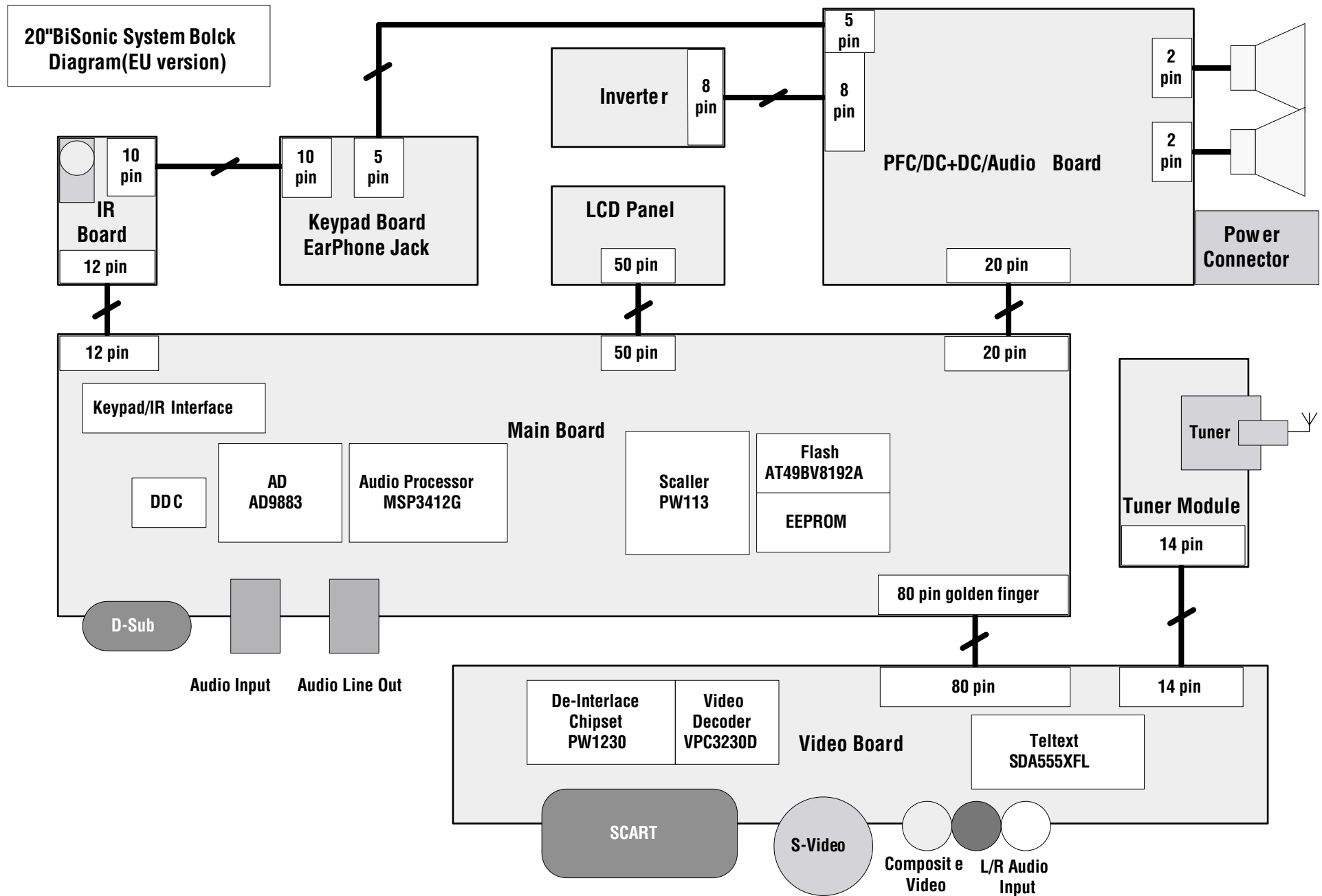
15" ,20"

System Block Diagram (EU version)



BLOCK DIAGRAM - SCHEMA SYNOPTIQUE - BLOCKSCHALTBILD - SCHEMA A BLOCCHI - ESQUEMA DE BLOQUES

20" BI



LCD03B

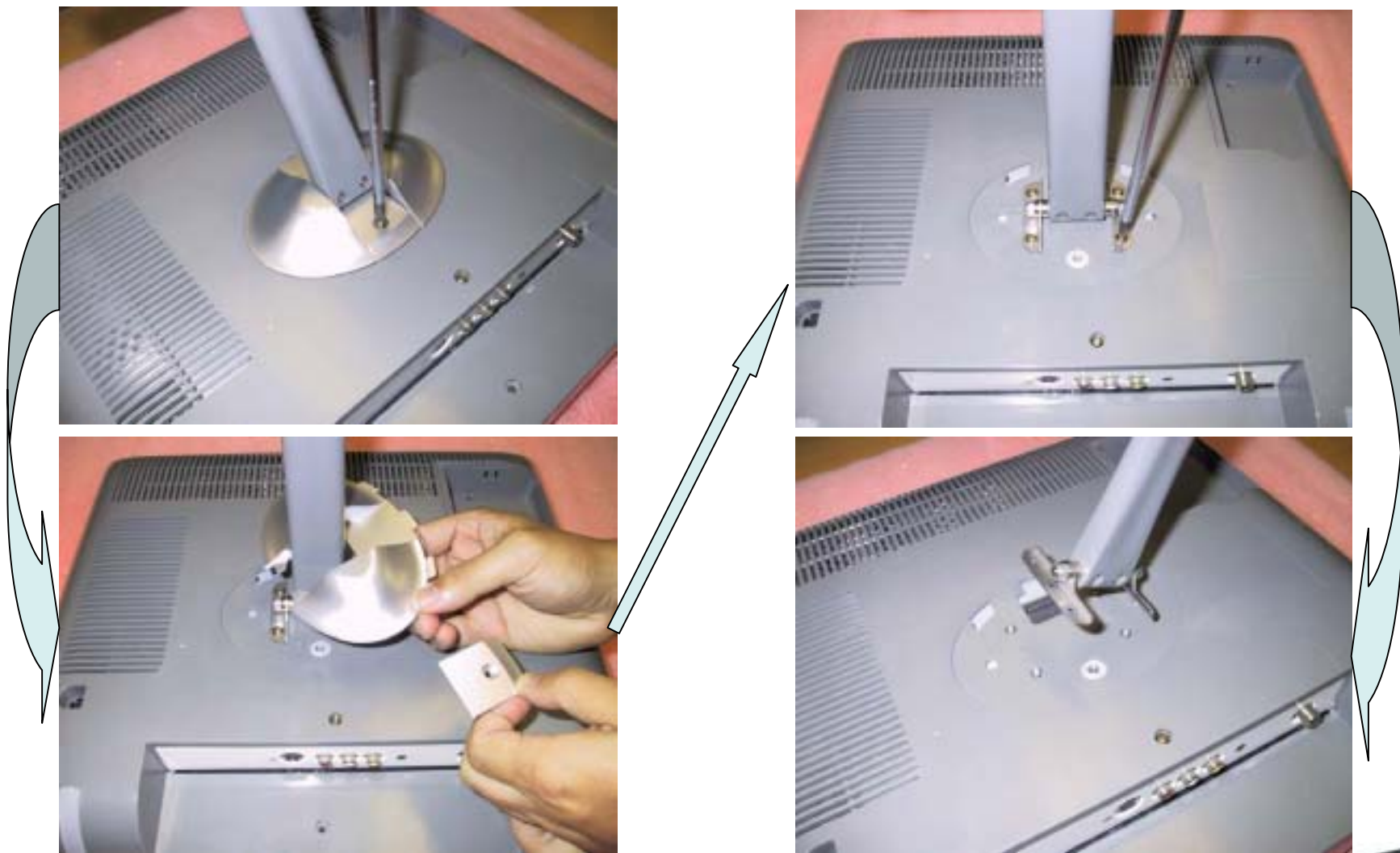
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Disassembly process



15LCDM03B

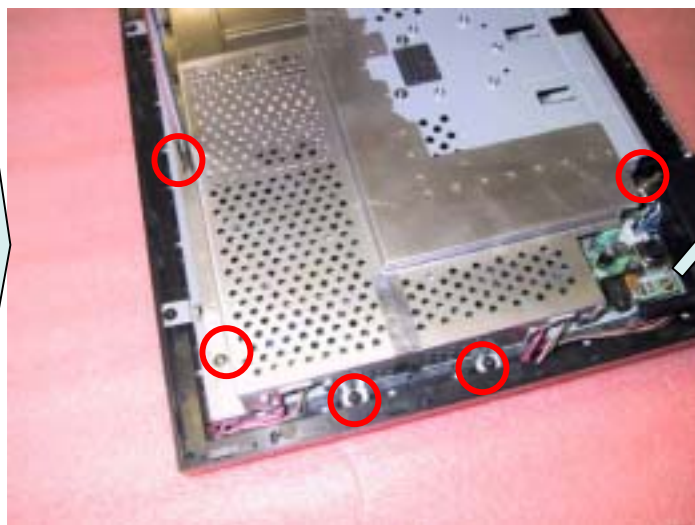
15 " LCD TV



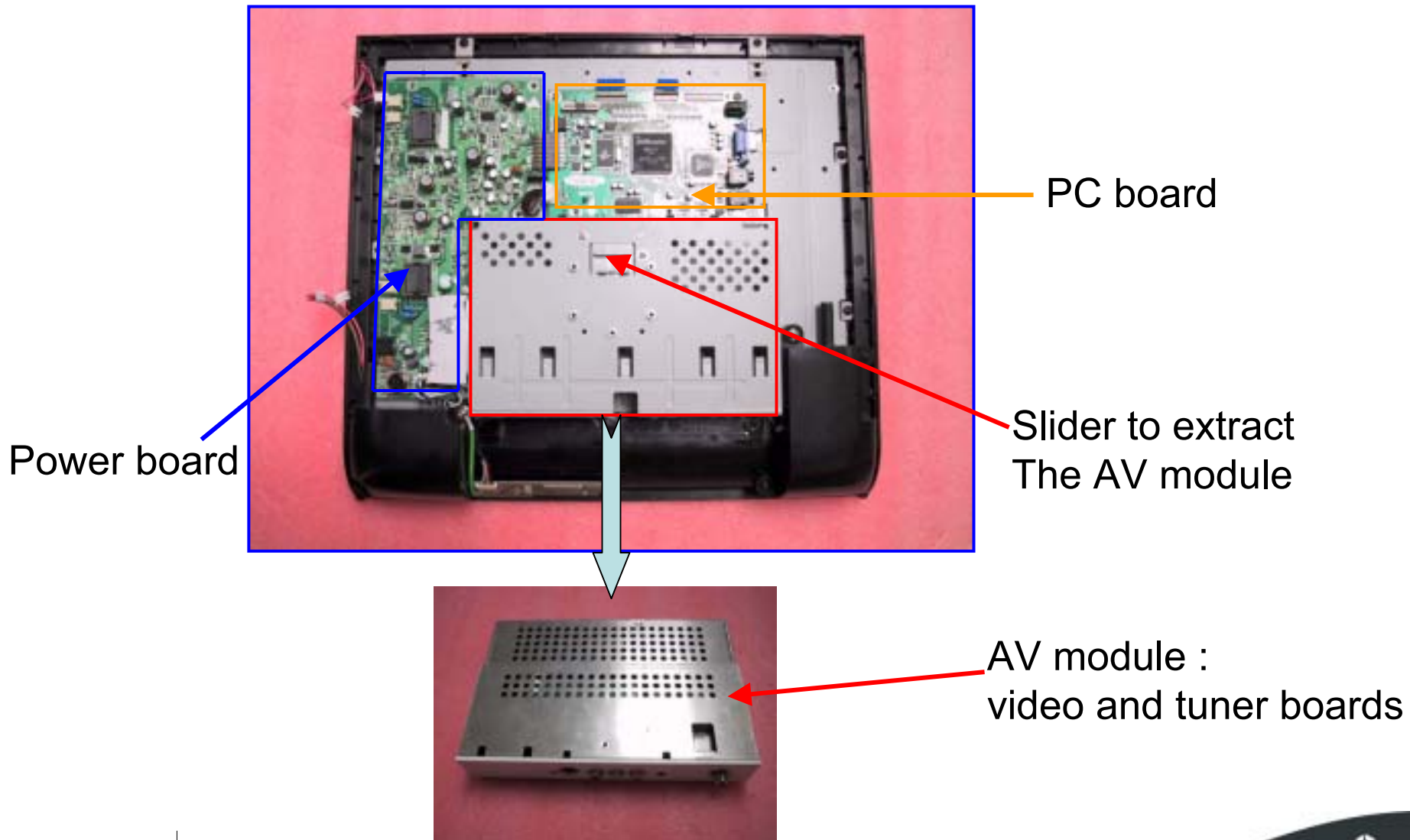
15 " LCD TV



15 " LCD TV



15 " LCD TV



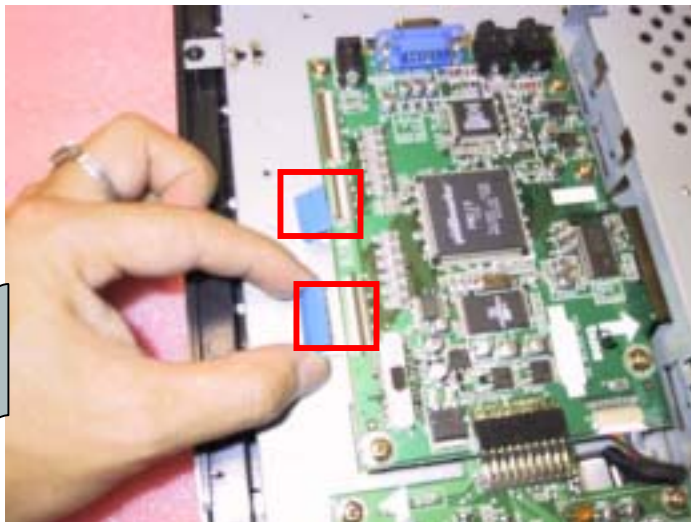
15 " LCD TV



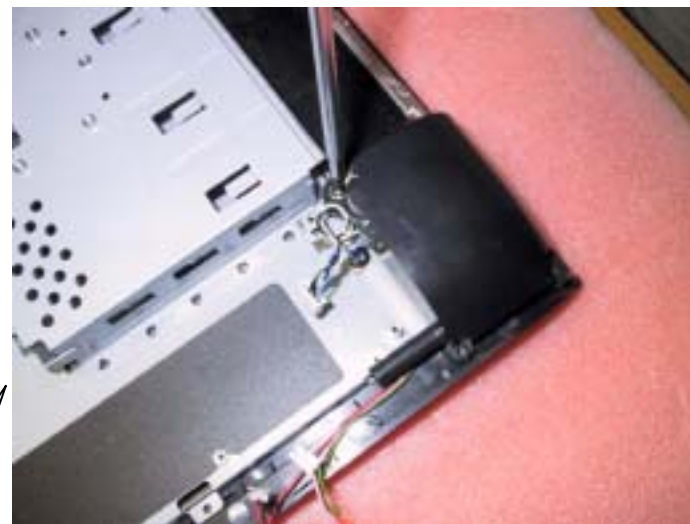
15 " LCD TV



15 " LCD TV



15 " LCD TV



15 " LCD TV



15 " LCD TV



15 " LCD TV

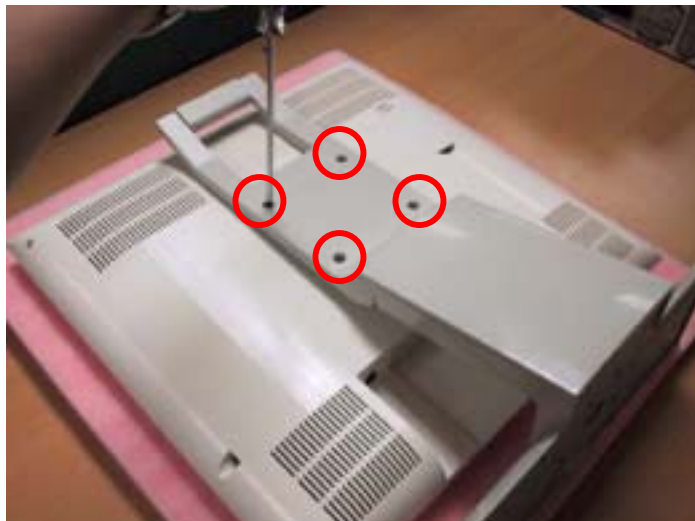


Disassembly process

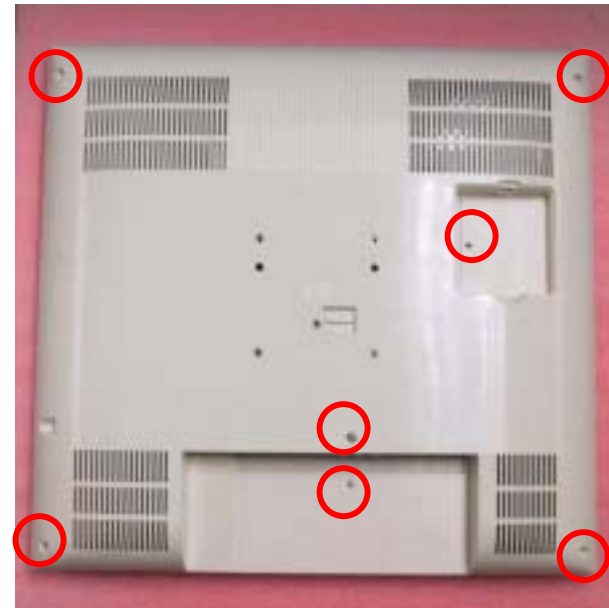
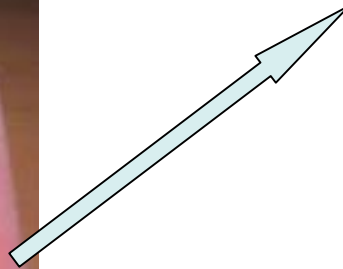


20LCDM03B

20 " LCD TV



20 " LCD TV

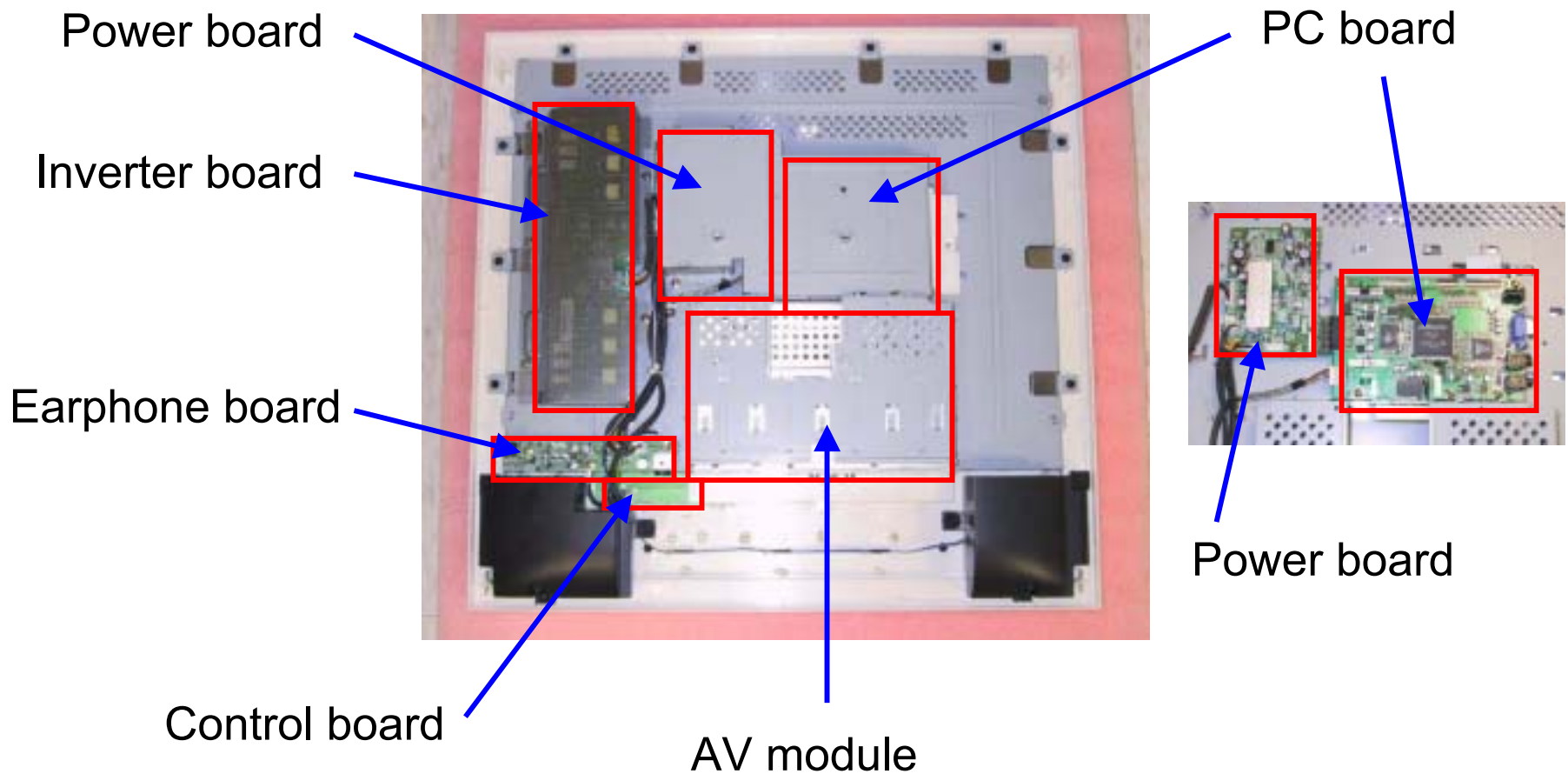


20 " LCD TV



20 " LCD TV

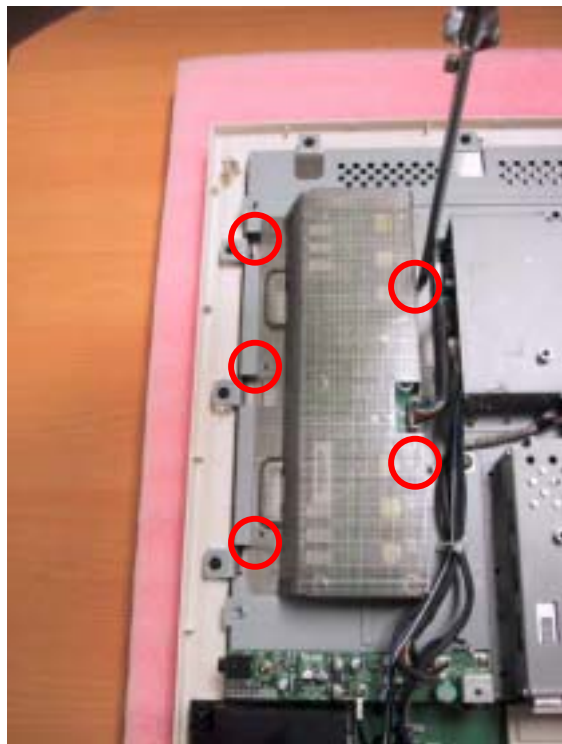
Boards overview



20 " LCD TV



20 " LCD TV



20 " LCD TV



AV module



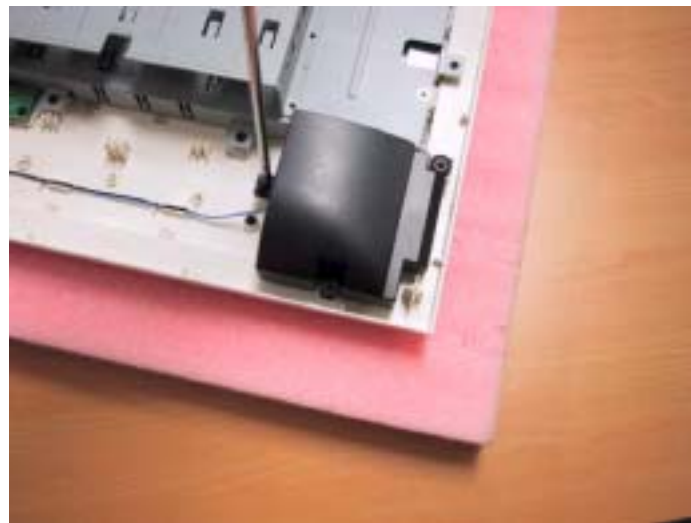
20 " LCD TV



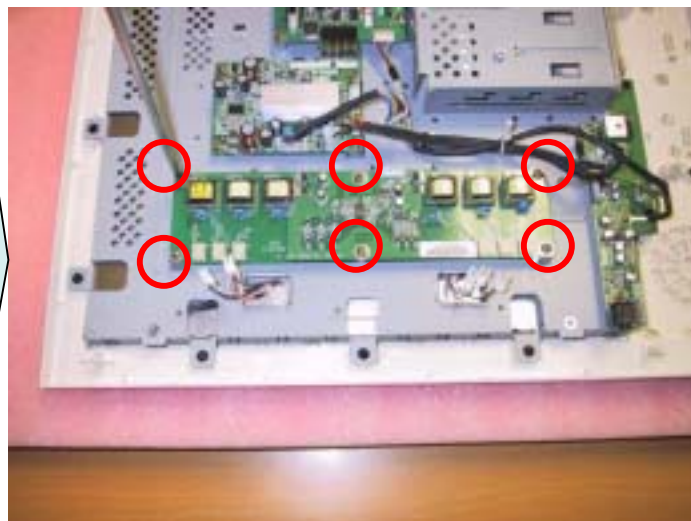
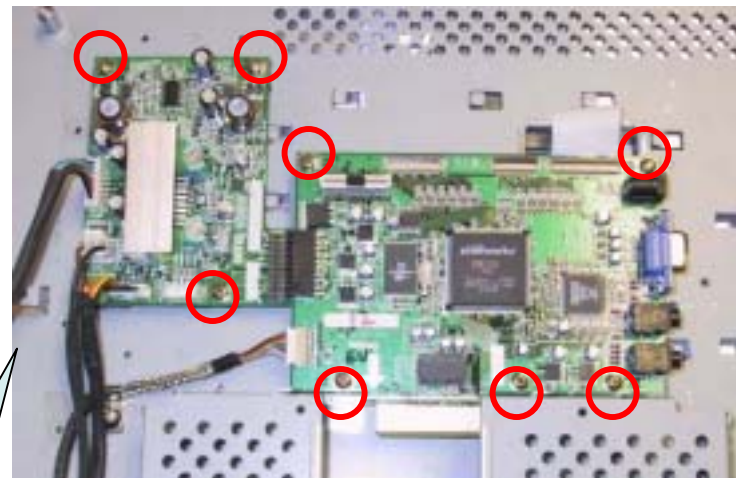
20 " LCD TV



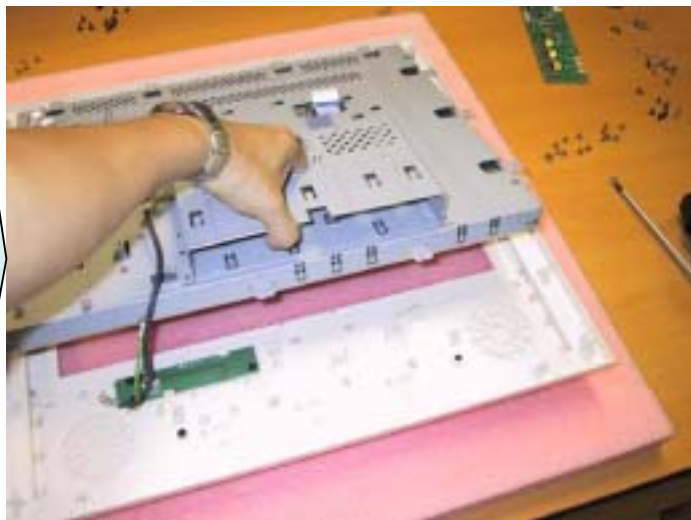
20 " LCD TV



20 " LCD TV



20 " LCD TV



SERVICE MODE - MODE SERVICE - SERVICE-MODE - MODO SERVICIO



Figure Overview OSD

EN

Service Mode Operation Manual

Model support: 15" 20" and 20" bi-sonic

Service Mode

1. Press the "menu" button, and then the screen display will appear "Overview" OSD, below as Figure Overview OSD. Then press the "info" button and "1", "0" and "3" buttons step by step to enter **Service Mode**. And Figure Service mode will appear on the screen display.

FR

Mode Service

1. Presser la touche "Menu" l'écran de selection ci-dessus apparait. Prenez la touche "Info", la touche "1" puis les touches "0" et "3" pour accéder au "Mode Service"

IT

Manuale Procedura Service Mode

Modelli: 15" 20" e 20" bi-colonna

Service Mode

1. Premere il tasto "menu" per far visualizzare il menu "Sommario", vedi pagina OSD.

Poi premere sequenzialmente i tasti "info", "1", "0" e "3" per entrare in Service mode. Il menu di Service mode verrà visualizzata sullo schermo. Per cambiare pagina premere il tasto "Menu".

Menu Sommario

DE

Anleitung Service Mode

Für Modelle: 15", 20" und 20" bi-sonic

Service Mode

1. Drücken sie die „MENU“ – Taste. Es erscheint das „Übersicht“ –Menü (siehe Abbildung 1). Drücken sie dann nacheinander die Tasten „INFO“, „1“, „0“, und „3“. Die erste Seite des **Service-Modes** wird angezeigt (siehe Abbildung 2).

ES

Manual de operación del Modo Servicio

Para modelos de : 15", 20" y 20" bi-columna

Modo Servicio

1. Pulsar la tecla "menú", en la pantalla se mostrará el menú "OVERVIEW (ÍNDICE)", como se muestra en la figura **MENU OVERVIEW (ÍNDICE)**.

A continuación, pulsar las teclas "info", "1", "0" y "3" una tras otra para entrar en Modo Servicio y se mostrará la primera página del Modo Servicio en la pantalla.

NAVIGATION INSIDE THE SERVICE MODE - DEPLACEMENT DANS LE MODE SERVICE SUCHE IN SERVICE MODE - OPZIONI NEL SERVICE MODE - BUSQUEDA EN MODO SERVICIO

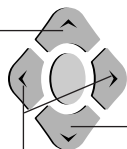
REMOTE CONTROL - TELECOMMANDE - FERNBEDIENUNG TELECOMANDO - MANDO A DISTANCIA

Changing page - Changement de page
Seitenwechsel - Cambiare Pagina - Cambio de página

- Press "Menu" button
- Appuyer sur la touche "Menu"
- Taste "Menu"
- Premere " Menu"
- Pulse "Menu"

Choosing a setting from the menu / setting e value
Choix d'un réglage dans un menu / Réglage d'une valeur
Wahl einer einstellung in einem menü / Einstellung eines wertes
Scegliere una Regolazione dal Menu / Selezione di un valore
Eleccion de un Ajuste en un menu / Ajuste de un valor

Color temp	P-W	P-N	P-C	V-N	V-C
Red Drive	-				-123
Green Drive	-				-123
Blue Drive	-				-123
Red Offset	-				-123
Green Offset	-				-123
Blue Offset	-				-123
Reset To Default					190247
Calibration					Eu 20LOBI
Auto Turn	on	on	off		Ver 091711

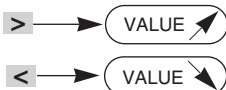


Color temp	P-W	P-N	P-C	V-N	V-C
Red Drive	-				-123
Green Drive	-				-123
Blue Drive	-				-123
Red Offset	-				-123
Green Offset	-				-123
Blue Offset	-				-123
Reset To Default					190247
Calibration					Eu 20LOBI
Auto Turn	on	on	off		Ver 091711

Naviagation up

Naviagation down

- "Change" value
- Réglage de la valeur
- Wert "ändern"
- "Cambiare" valore
- "Cambiar" valor



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Color temp	P-W	P-N	P-C	V-N	V-C
Red Drive	-		+	- 123 -	
Green Drive	-		+	- 123 -	
Blue Drive	-		+	- 123 -	
Red Offset	-		+	- 123 -	
Green Offset	-		+	- 123 -	
Blue Offset	-		+	- 123 -	
Reset To Default	190247				
Calibration...	Tuner	1D	Eu 20L0BI		
Auto Turn	on	on	off	Ver 09171I	

Page1 on service mode

EN

- Color Temp:** P-N means "Normal" on YpbPr, V-N means "Normal" on Video mode. Each item decide different gamma curve.
- Red drive, Green drive and blue drive** means gamma RGB gain. Control by scaler
- Red offset, Green offset and blue offset** means gamma RGB offset. Control by scaler
- Reset To Default:** press OK will load all default value on User OSD
- Calibration:** press this botton guide to calibrate A/D converter white and black level on PC input. Also guide to calibrate A/D converter PbPr offset on YpbPr input
- Auto Turn On:** toggle on/off control auto turn on . this function for factory burn-in sets . Only active on selection PC input then main power off.
- Green lable:** Tuner s/w version, time while compiling s/w, model name, main s/w version.

FR

- Color Temp:** Temperature des couleurs.
P-N correspond à un réglage "Normal" /YpPr
V-N correspond à un réglage "normal" / mode vidéo
chaque item permet de régler la courbe de gamma.
- Red drive, Green drive and blue drive:** green drive et Bleu drive correspond aux réglages de gain du gamma RVB (contrôlé par le scaler).
- Red offset, green offset et blue offset:** correspond aux réglage d'offset du gamma RVB (contrôlé par le scaler).
- Reset To Default:** Appuyer sur "OK".
Charger les valeurs par défaut sur le menu OSD.
- Calibration:** Appuyer sur "OK" pour valider.
Etalonne les niveaux blanc et noir du convertisseur A/D de l' entrée PC
Etalonne également les offset Pb/Pr du convertisseur A/D sur l' entrée Ypb Pr
- Auto Turn On:** Option On/OFF valide le réglage usine, le démarrage automatique. Seulement active sur l'entrée PC.
- Green lable** Indication dans les fenêtres vertes: Version software tuner, temps de compilation software , nom du modele, version, version du software principal.

DE

Seite 1 des Service-Modes

- Color Temp:** P-W steht für „Warm im YPbPr-Mode, P-N steht für „Neutral“ bei YPbPr-Mode, P-C steht für „Kalt“ im YPbPr-Mode, V-W steht für „Warm“ im Video-Mode, V-N steht für „Neutral“ im Video-Mode, V-C steht für „Kalt“ im Video-Mode. Alle Modi haben unterschiedliche Gamma-Kennlinien.
- Red Drive, Green Drive und Blue Drive:** Einstellung der RGB-Verstärkung
- Red Offset, Green Offset und Blue Offset:** Einstellung des RGB-Offsets
- Reset to Default:** Durch Drücken der "OK"-Taste werden die Benutzerdaten gelöscht und die Defaultwerte geladen.
- Calibration:** Kalibrieren der Schwarz- und Weißpegel des AD-Wandlers des PC-Eingangs
- Auto Turn On:** Aktivierung des automatischen Einschalten des Gerätes über den PC-Eingang. (nur für den Burn-In in der Farbrük vorgesehen).
- Grün markierte Felder:** Software-Version Tuner, Compiler-Daten, interne Modellbezeichnung, Version der Hauptsoftware.

IT

- Color Temp:** P-N significa "Normale" in funzione YPbPr, V-N significa "Normale" in funzione Video. Ogni selezione determina una differente curva di risposta.
- Red Drive, Green Drive** e Blue Drive significa guadagno gamma RGB. Controllato da una scala.
- Red Offset, Green Offset** e Blue Offset significa Offset gamma RGB. Controllato da una scala.
- Reset To Default:** premendo OK verranno caricati tutti i valori di Default nel Menu Utente.
- Calibration:** premere questo tasto guida per calibrare il livello Bianco /Nero del convertitore A/D dell'ingresso PC. Calibra anche l'offset del convertitore A/D PbPr dell'ingresso YpbPr.
- Auto Turn On:** Commutatore controllo automatico On/Off. Funzione utile per le prove di bruciatura in fabbrica. Attivando On si attiva lo spegnimento automatico in base al segnale di ingresso PC.
- Caselle in Verde:** Versione Software Tuner, Data compilazione Software, Nome modello, Versione software Main.

ES

- Color Temp:** P-N significa "Normal" en modo YpbPr, V-N significa "Normal" en modo Video. Cada elemento tiene una curva de gamma distinta.
- Red drive, Green drive** y Blue drive ajustan la ganancia de la gamma RGB.
- Red offset, Green offset** y Blue offset ajustan el offset de la gamma RGB.
- Reset To Default:** Al pulsar OK se cargarán todos los valores por defecto del menú de usuario
- Calibration:** Pulsando este botón ayuda a calibrar el convertidor A/D de nivel de blanco y negro para la entrada de PC. También sirve para calibrar el offset del convertidor A/D PbPr en la entrada YpbPr
- Auto Turn On:** Selecciona el control del autoencendido. Sólo activo en la selección de entrada de PC y desconexión de red.
- Casillas en verde:** versión de software del sintonizador, datos de compilación del s/w, modelo, versión del s/w principal

OSD Position	
Factory Save...	
Auto Adjustment	
Video Int Gain	- + - 123 -
Colour	- + - 123 -
Tuner Set V-Level	
Tuner Get V-Level	
Set First INstallation	NotEnabled...
Tuner Set Factory Programs	
Exit	

Page2 on service mode

EN

- 8. OSD position:** OSD position selection.
- 9. Factory Save:** press **OK** save all parameters on service mode.
- 10. Auto Adjustment:** auto adjustment new timing(position ,phase...etc). Only active on PC mode.
- 11. Video int Gain:** this slider bar used to align brightness spec of Video mode. Larger value bring to brighter. Control by Video decoder VPC3230
- 12. Colour:** adjust color saturation. Same function on User OSD. Control by Video decoder VPC3230.
- 13. Tuner Set V-Level:** not used
- 14. Tuner Get V-Level:** not used.
- 15. Set First Installation:** "Enable" means TV will pop-up installation OSD at next power-on.
- 16. Tuner Set Factory Programs:** not used.
- 17. EXIT:** exit service mode.

FR

- 8. OSD position:** Selection de la position OSD.
- 9. Factory Save:** pressez la touche "OK" pour sauvegarder tous les paramètres du mode service
- 10. Auto Adjustment:** Actif seulement en mode PC. Auto réglage des nouveaux paramètres de temps (Position, phase..).
- 11. Video int Gain:** Réglage de la lumière en mode vidéo. Contrôle par le décodeur vidéo VP°C 3230. La position élevée du curseur augmente la lumière.
- 12. Colour:** Régle la saturation de la couleur.
- 13. Tuner Set V-Level:** Pas utilisé.
- 14. Tuner Get V-Level:** Pas utilisé.
- 15. Set First Installation:** Signifie que la TV à la prochaine mise sous tension affichera le menu d'installation.
- 16. Tuner Set Factory Programs:** Pas utilisé.
- 17. EXIT:** Sortie du mode Service.

DE

Seite 2 des Service-Modes

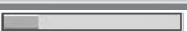
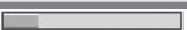
- 8. OSD Position:** Wahl der Menü-Position auf dem Bildschirm
- 9. Factory Save:** Drücken der „OK“-Taste speichert alle Einstellungen des Service-Modes ab.
- 10. Auto Adjustment:** Automatischer Abgleich von Timing, Lage, Phase usw. im PC-Mode
- 11. Video Int Gain:** Helligkeitsvoreinsteller für den Video-Mode. Steuerung über den Videodecoder VPC3230.
- 12. Colour:** Einstellung der Farbsättigung; gleiche Funktion wie die Benutzersteuerung. Steuerung über den Videodecoder VPC3230.
- 13. Tuner Set V-Level:** nicht benutzt
- 14. Tuner Get V-Level:** nicht benutzt
- 15. Set First Installation:** „Enable“ lässt beim nächsten Einschalten des Gerätes nach einer Netztrennung das Installationsmenü erscheinen.
- 16. Tuner Set Factory Programs:** nicht benutzt.
- 17. Exit:** Verlassen des Service-Modes.

IT

- 8. OSD position:** Selezione posizione OSD.
- 9. Factory Save:** Premere **OK** per salvare tutti i parametri del service Mode.
- 10. Auto Adjustment:** Auto regolazione nuove temporizzazioni (posizione, fase ... etc). Attivo solo in funzione PC.
- 11. Video int Gain:** Regola il livello di luminosità in funzione Video. Più alto è il valore più l'immagine è luminosa. Controllo tramite il Decoder Video VPC3230.
- 12. Colour:** Regola la saturazione del colore. Stessa funzione del Menu utente. Controllo tramite Video Decoder VPC3230.
- 13. Tuner Set V-Level:** Non utilizzato.
- 14. Tuner Get V-level:** Non utilizzato.
- 15. Set First Installation:** "Enable" significa abilitazione, all'accensione, del menu di prima installazione.
- 16. Tuner Set factory Programs:** Non utilizzato.
- 17. EXIT:** Uscita dal Service Mode.

ES

- 8. OSD position:** Selecciona la posición del OSD.
- 9. Factory Save:** Al pulsar OK, se guardan todos los parámetros del modo servicio.
- 10. Auto Adjustment:** Autoajuste de nuevo timing (posición, fase...etc). Sólo activo en modo PC.
- 11. Video int Gain:** Esta barra deslizante se utiliza para ajustar las especificaciones del brillo en el modo Video. Cuanto mayor sea el valor, más brillante. Control por el descodificador de Video VPC3230
- 12. Colour:** ajusta la saturación del color. Es la misma función que el menú de usuario. Control por el descodificador de Video VPC3230.
- 13. Tuner Set V-Level:** no utilizado.
- 14. Tuner Get V-Level:** no utilizado.
- 15. Set First Installation:** "Enable" significa que la próxima vez que se conecte el TV aparecerá el menú de primera instalación.
- 16. Tuner Set Factory Programs:** no utilizado.
- 17. EXIT:** Salida del Modo Servicio.

Pw Gamma	Automatic
Scale Mode	
VPC AGC ON	
VPC AGC OFF	
HV Lock Sensitivity	-  + - 123 -
Color Delay	-  + - 123 -
Audio Gain	-  + - 123 -
Pb Offset	-  + - 123 -
Pr Offset	-  + - 123 -
Enter PW1230 Adjustment Page...	

EN

Page3 on service mode

- 18. PW Gamma:** gamma curve selection. "Automatic" means pick-up proper gamma curve automatically when user choose Normal, Warm and Cool. Value change is not recommended.
- 19. Scale Mode:** screen ratio selection.
- 20. VPC AGC ON:** turn on Video decoder "Auto gain control" (analog input level adjustment.).
- 21. VPC AGC OFF:** turn off Video decoder "Auto gain control".
- 22. HV Lock Sensitivity:** Tuner HV sync sensitivity. Value change is not recommended. Fake programme be detected or Real programme be skipped.
- 23. Color Delay:** Color timing delay which only impact on Video mode. For development only. Value change is not recommended
- 24. Audio gain:** not used.
- 25. Pb offset:** adjust Pb offset on YpbPr input.
- 26. Pr offset:** adjust Pr offset on YpbPr input.
- These 2(25,26) Functions above could be automatically done by "Calibration" page1.*
- 27. Enter PW1230 Adjustment page:** Deinterlacer parameters control. For development only. Value change is not recommended.

FR

- 18. PW Gamma:** Selection de la courbe de gamma "Automatic" correspond à l'option de la courbe de gamma appropriée quand l'utilisateur choisit la position froide, neutre, chaude ou le rendu des couleurs est meilleur.
- il est déconseillé de sélectionner la position "value Change".
- 19. Scale Mode:** Selection format d'écran.
- 20. VPC AGC ON:** Active le Vidéo décodeur. Sélectionnez " Auto gain Control" (réglage du niveau d'entrée analogique).
- 21. VPC AGC OFF:** Désactive le Vidéo décodeur. Sélectionnez " Auto gain Control".
- 22. HV Lock Sensitivity:** Sensibilité de la Synch. HV tuner. Il est impératif de ne pas modifier sa valeur.
- Le tuner détectera les mauvais programmes ou passera les programmes correctes.
- 23. Color Delay:** Réglage du "délai" couleur en mode vidéo. Réglage usine, ne pas modifier.
- 24. Audio gain:** Non utilisé.
- 25. Pb offset:** Réglage de l'offset Pb sur l' entrée Ypb Pr.
- 26. Pr offset:** Réglage de l'offset Pr sur l'entée Ypb Pr.
- Ces 2 réglages (25, 26) sont automatiquement effectués par "calibration" de la page 1 du mode service.*
- 27. Enter PW1230 Adjustment page:** Ne pas modifier. Réglage usine Contrôle les paramètres " Deinterlacer".

DE

- 18. PW Gamma:** Auswahl der Gamma-Kennlinie: Bei Einstellung „Automatic“ wird automatisch die jeweilige Kennlinie gewählt, wenn der Benutzer zwischen Warm, Neutral oder Kalt umschaltet. Eine Änderung dieser Grundeinstellung ist nicht empfehlenswert.
- 19. Scale Mode:** Wahl des Bildformates
- 20. VPC AGC ON:** Aktiviert die automatische Verstärkungsregelung des Videodecoders (Anpassung der Pegel der Analogeingänge)
- 21. VPC AGC OFF:** Deaktiviert die automatische Verstärkungsregelung des Videodecoders.
- 22. HV Lock Sensitivity:** Empfindlichkeit des Synchrondetektors im Tuner. Eine Änderung dieser Grundeinstellung ist nicht empfehlenswert, da sonst der Sendersuchlauf falsche Ergebnisse liefern könnte.
- 23. Color Delay:** Einstellung Farbversatz. Eine Änderung dieser Grundeinstellung ist nicht empfehlenswert.
- 24 Audio Gain:** nicht benutzt
- 25. Pb Offset:** Einstellung des Pb Offsets bei YPbPr.
- 26. Pr Offset:** Einstellung des Pr Offsets bei YPbPr.
- Zu 26 und 26: Der Abgleich dieser Funktionen kann automatisch mit der Funktion „Calibration“ auf der Service-Mode Seite 1 durchgeführt werden.*
- 27. Enter PW1230 Adjustment Page:** Abgleich der Parameter des Deinterlacers. Eine Änderung dieser Grundeinstellungen ist nicht empfehlenswert.

IT

- 18. PW Gamma:** Selezione curva gamma. In "Automatic" viene selezionata automaticamente la curva gamma ideale, in base alla scelta utente Calda, Fredda o Neutra, nella funzione Tonalità . Si consiglia di non cambiare valore.
- 19. Scale Mode:** Selezione Rapporto schermo.
- 20. VPC AGC ON:** Attiva, nel Decoder Video, il Controllo automatico del Guadagno (Regolazione livello ingresso analogico).
- 21. VPC AGC OFF:** Disabilita, nel Decoder Video, il Controllo Automatico del Guadagno.
- 22. HV Lock Sensitivity:** Sensibilità Sync HV Tuner. Si consiglia di non cambiare valore. Livello soglia per saltare eventuali emittenti con segnale debole.
- 23. Color Delay:** Regola il ritardo colore rispetto al segnale video. Utilizzato per la fabbrica. Si consiglia di non cambiare valore.
- 24. Audio Gain:** Non utilizzato.
- 25. Pb offset:** Regola l'offset Pb sul segnale YpbPr in ingresso.
- 26. Pr offset:** Regola l'offset Pr sul segnale YpbPr in ingresso.
- Le regolazioni menzionate nei punti 25 e 26 possono essere eseguite automaticamente come indicato nella riga "Calibration" di pagina 1.*
- 27. Enter PW Adjustment page:** Controllo parametric Deinterlacer. Utilizzato in fabbrica. Si consiglia di non cambiare valore.

ES

- 18. PW Gamma:** Selección de la curva de gamma. "Automatic" quiere decir que recuperará automáticamente la curva ideal de gamma cuando el usuario seleccione Normal, Cálido o Frio. No se recomienda cambiar este valor.
- 19. Scale Mode:** selecciona la relación de pantalla.
- 20. VPC AGC ON:** activa el "control automático de ganancia" del descodificador de video (ajuste del nivel de entrada analógica).
- 21. VPC AGC OFF:** desactiva el "control automático de ganancia" del descodificador de video.
- 22. HV Lock Sensitivity:** Sensibilidad de los sincronismos HV del sintonizador para la búsqueda de emisoras. No se aconseja cambiar este valor. Los canales reales pueden ser ignorados o los falsos memorizados.
- 23. Color Delay:** Retardo del color en modo Video. No se recomienda cambiar este valor
- 24. Audio gain:** no utilizado.
- 25. Pb offset:** ajuste del offset de Pb en la entrada YpbPr.
- 26. Pr offset:** ajuste del offset de Pr en la entrada YpbPr.
- Estas 2 funciones anteriores (25,26) serán hechas automáticamente en "Calibration" de la página 1.*
- 27. Enter PW1230 Adjustment page:** control de los parámetros de Deinterlacer. No se recomienda cambiar este valor.
- 36. V. Position:** ajusta la posición Vertical sobre la entrada PC.

Video Format	NTSC-M	
Scale Mode		
RGB Filter		
Video Filter		
Monitor Sync	On	Off
Reset All Nvram		
Test Pattern	-  +	- 123 -
H.position	-  +	- 123 -
V.position		

Page4 on service mode

EN

- 28. Video Format:** select Video standard. Force to "Auto".
- 29. Default Language:** set default language. Same function on User OSD.
- 30. RGB filter:** sharpness filter of PC port of scaler. Impact on PC and YpbPr input
- 31. Video filter:** sharpness filter of Video of scaler. Impact on TV Video and YcbCr.
- 32. Monitor Sync:** force to "On". So that Video format can auto detection.
- 33. Reset All Nvram:** press "OK" will reset all parameters on service mode, including color temp settings, brightness setting....etc.
- 34. Test Pattern:** display test-pattern which generate by scaler. Only active on PC source.
- 35. H.Position:** adjust horizontal position while PC source in
- 36. V.Position:** adjust Vertical position while PC source in

IT

- 28. Video Format:** Seleziona lo standard Video. Forzato su "Auto".
- 29. Default language:** Seleziona la lingua. Stessa funzione del Menu Utente.
- 30. RGB Filter:** Definizione filtro del demoltiplicatore (scaler) della porta PC. Influisce sugli ingressi PC e YpbPr.
- 31. Video Filter:** Definizione filtro del demoltiplicatore del segnale Video. Influisce sui segnali TV Video e YcbCr.
- 32. Monitor Sync:** Forzato su "On". In questo modo può essere rilevato automaticamente il Formato Video.
- 33. Reset All Nvram:** Premendo "OK" verranno resettati tutti i parametri del Service Mode, inclusi regolazione Temp. Colore, Regolazione Luminosità, ... ecc.).
- 34. Test Pattern:** Attivazione serie di segnali test. Attivo solo con ingresso PC.
- 35. H. Position:** Regola la posizione Orizzontale in ingresso PC.
- 36. V. Position:** Regola la posizione Verticale in ingresso PC.

FR

- 28. Video Format:** selectionne le standard Vidéo. Forcer à "Auto".
- 29. Default Language:** Selectionne la langue par défaut. Même fonction que le réglage utilisateur.
- 30. RGB filter:** Filtre Contour RGB du Port PC. Agit sur les entrées PC et Ypb Pr.
- 31. Video filter:** filtre contour Vidéo. Agit sur les entrées TV Vidéo et Ye bCr.
- 32. Monitor Sync:** Forcé à ON Auto détection du format Vidéo.
- 33. Reset All Nvram:** Appui sur "OK". Reset De tous les paramètres du "MODE SERVICE" incluant la température de couleur, Contour... etc.
- 34. Test Pattern:** Affichage de la mire interne. Actif seulement en mode PC
- 35. H.Position:** Réglage Horizontal en mode PC.
- 36. V.Position:** Réglage Vertical en mode PC.

ES

- 28. Video Format:** selecciona el estándar de Video. "Auto" fuerza a modo automático.
- 29. Default Language:** selecciona el idioma por defecto. Hace la misma función que el menú "Usuario".
- 30. RGB filter:** filtro de nitidez. Válido para las entradas de PC e YpbPr.
- 31. Video filter:** filtro de nitidez. Válido para las entradas de TV, Video e YcbCr.
- 32. Monitor Sync:** forzado a "On". El formato de video puede ser autodetectado.
- 33. Reset All Nvram:** pulsando "OK" se borrarán todos los parámetros del Modo Servicio, incluyendo los ajustes de temperatura de color, ajustes de brillo y contraste....., etc.
- 34. Test Pattern:** muestra unas cartas de ajuste generadas internamente. Activo solamente en modo PC.
- 35. H. Position:** ajusta la posición horizontal sobre la entrada PC.
- 36. V. Position:** ajusta la posición Vertical sobre la entrada PC.

DE

- 28. Video Format:** Auswahl des Videostandards. Sollte auf „Auto“ stehen.
- 29. Default Language:** Auswahl der Menüsprache; gleiche Funktion wie die Benutzersteuerung.
- 30. RGB Filter:** Abgleich des Schärfefilters des Scalers für PC-Mode und YPbPr.
- 31. Video Filter:** Abgleich des Schärfefilters des Scalers für den Video-Mode.
- 32. Monitor Sync:** Sollte immer auf „On“ stehen damit das Videoformat automatisch erkannt wird.
- 33. Reset All Nvram:** Drücken der „OK“-Taste setzt alle Parameter im Service-Mode (auch Farbtemperatur, Helligkeit usw.) zurück.
- 34. Test Pattern:** Zeigt ein vom Scaler erzeugtes Testmuster auf dem Bildschirm. Nur im PC-Mode.
- 35. H.Position:** Horizontallage für PC-Eingang.
- 36. V.Position:** Vertikallage für PC-Eingang.

Life Time	00034:10	00033:35
Project Code	EU20L03B	
Panel Resolution	800 X 600	
NvRam Ver.	OC / 14	
HXV Res / HFreq	649 X 548	15,52
HXV Total	864 X 625	
Mode Num	55	
DCLK	41.0 M	

Factory Save...

Tuner: 1D

Page5 on service mode

EN

- 37. Life Time:** The left item means the time added by stand by + TV on. The right item display the time of TV-on only.
- 38. Project Code:** as title
- 39. Panel Resolution:** as title
- 40. NvRam Ver.** Display EEPROM data veriosn.
- 41. HXV Res / Hfreq:** timing information. Resolution and H clock
- 42. HXV Total:** timing information.
- 43. Mode Num:** timing information. Sequence of Timing chart.
- 44. DCLK:** timing information. Data clock
These 4(41,42,43,and 44) items above are for development check only.
- 45. Factory save:** save factory parameters.
- 46. Green label:** display tuner s/w version.

IT

- 37. Life Time:** Il contatore a sinistra indica il tempo totale di funzionamento in Stand By + apparecchio acceso. Il contatore a destra indica il tempo totale di funzionamento ad apparecchio acceso (**ON**).
- 38. Project code:** Codice progetto.
- 39. Panel Resolution:** Risoluzione pannello.
- 40. NvRam Ver:** Versione EEPROM.
- 41. HXV res / Hfreq:** Informazione timing. Risoluzione e Clock H.
- 42. HXV Total:** Informazioni timing.
- 43. Mode Num:** Informazioni Timing. Sequenza carta tempi.
- 44. DCLK:** Informazioni Timing. Clock Data.
I valori menzionati nei punti 41, 42 43 e 44 sono solo per la fabbrica
- 45. Factory save:** Parametri memorizzati in fabbrica.
- 46. Casella verde:** Versione software Tuner

FR

- 37. Life Time:**
-Indication de gauche:
indique le temps fonctionnement total du TV: On+ Stand by.
-Indication de droite:
Indique le temps de fonctionnement du TV en On seulement.
- 38. Project Code:** Info code.
- 39. Panel Resolution:** Resolution du panneau d'écran.
- 40. NvRam Ver.** Version EEPROM.
- 41. HXV Res / Hfreq:** Information de temps resolution et Horloge H.
- 42. HXV Total:** Information de temps.
- 43. Mode Num:** Information de temps
- 44. DCLK:** Information de temps.
Data clock.
Ces 4 lignes d'information sont utilisées en développement.
- 45. Factory save:** Sauvegarde les paramètres usine.
- 46. Green label:** Affiche la version de Software du tuner.

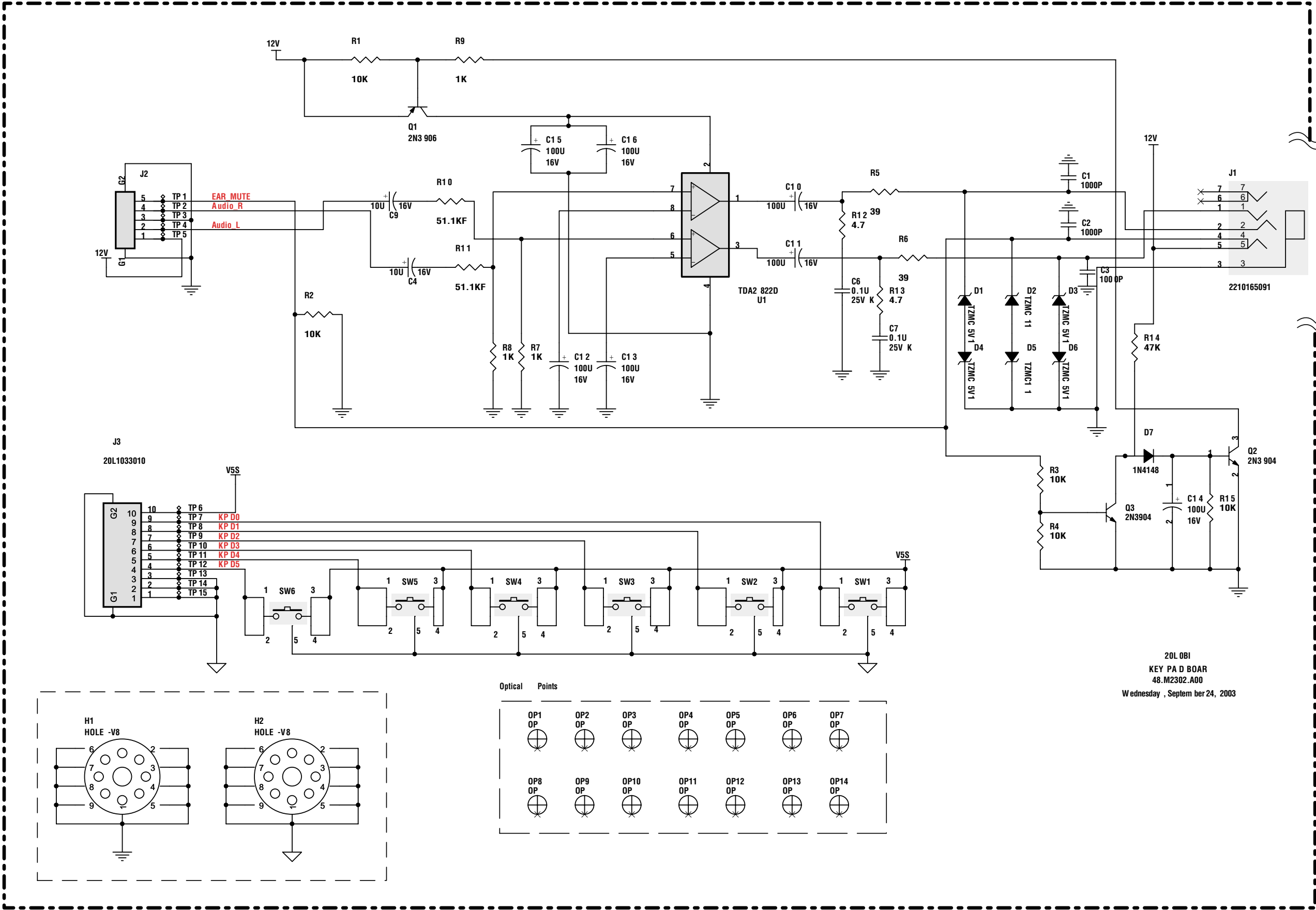
ES

- 37. Life Time:** Los números de la izquierda muestran la suma de las horas en stand-by + TV encendido. Los de la derecha indican sólo las horas de TV encendido.
- 38. Project Code:** informativo
- 39. Panel Resolution:** informativo
- 40. NvRam Ver.** Indica la versión de la EEPROM.
- 41. HXV Res / Hfreq:** información de timing. Resolución y frecuencia H.
- 42. HXV Total:** información de timing.
- 43. Mode Num:** información de timing.
- 44. DCLK:** información de timing. Frecuencia del reloj.
Estas 4 funciones anteriores (41,42,43,y 44) son informativas. Sólo son para comprobación.
- 45. Factory save:** memoriza los valores de fábrica.
- 46. Casilla en verde:** indica la versión de software del sintonizador.

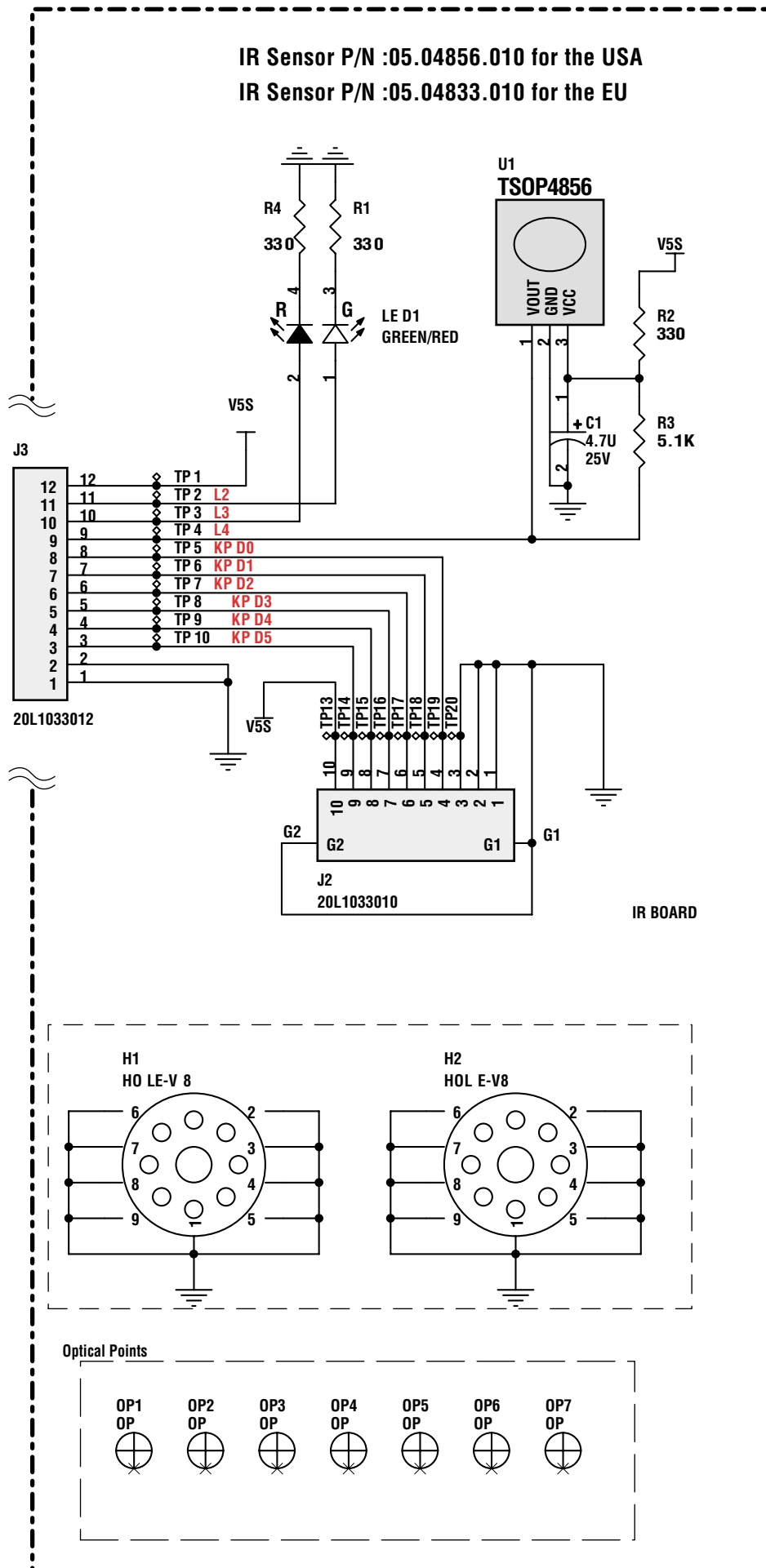
DE

- Seite 5 des Service-Modes
- 37. Life Time:** Betriebsstundenzähler, links: Summe Standby-Zeit und TV-Ein, rechts: nur TV-Ein-Zeit.
- 38. Project Code:**
- 39. Panel Resolution:** Auflösung der LCD-Panels
- 40. NvRam Ver. :** Version EEPROM-Daten
- 41. HXV Res / HFreq:**Timing-Information (Auflösung und H-Clock)
- 42. HXV Total:** Timing Information
- 43. Mode Num** Timing Information
- 44. DCLK:** Timing Information Data Clock
- 45. Factory Save:** Daten des Service-Modes speichern.
- 46. Grün hinterlegtes Feld:** Version Tuner-Software

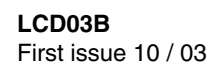
CONTROL 20" BI)



(IR PREAMPLIFIER 20"BI)

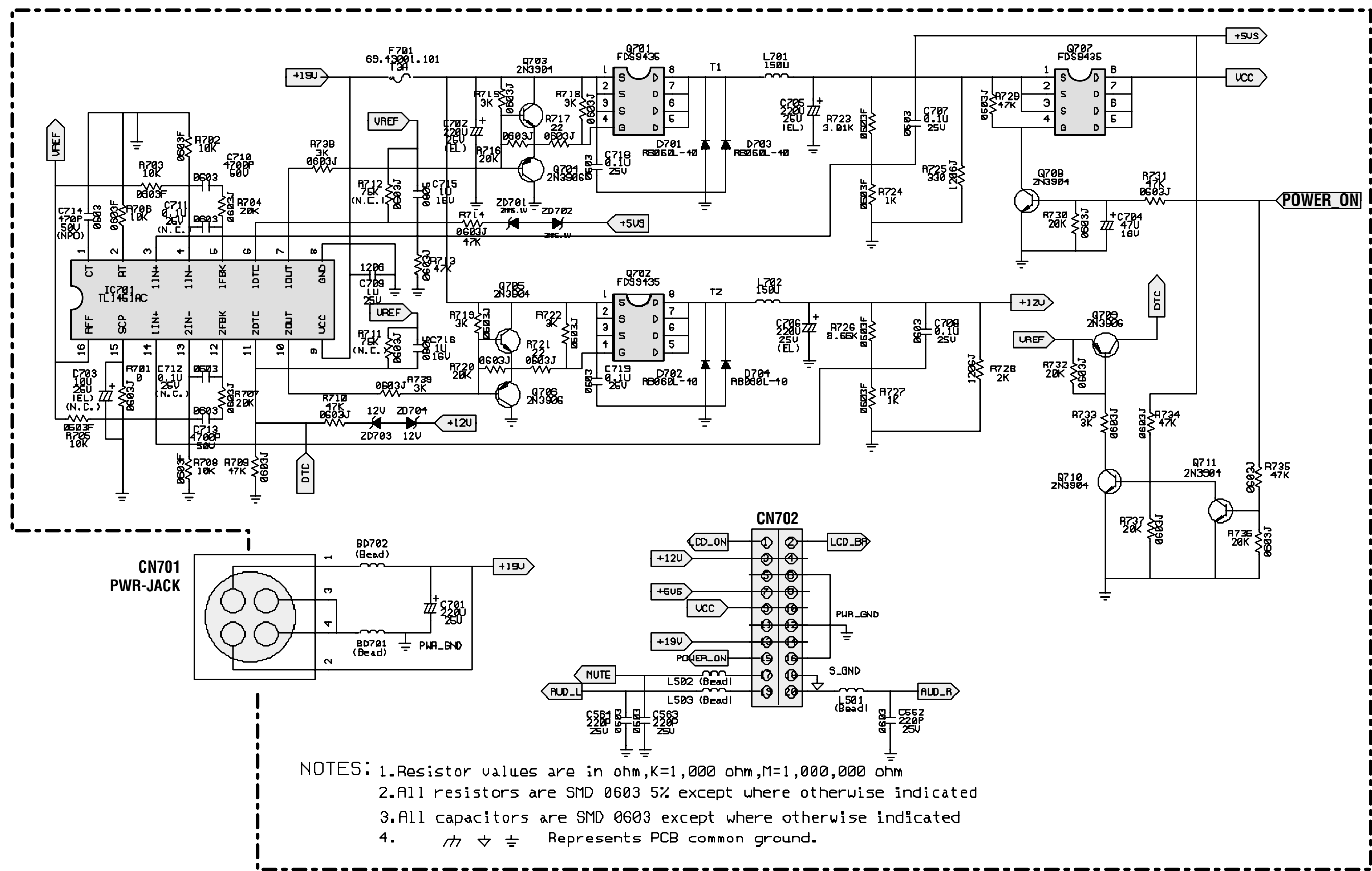


(AUDIO 20" BI)

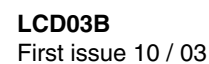


DC - DC CONVERTER SCHEMATIC DIAGRAM - SCHEMA CONVERTISSEUR DC -DC -SCHALTBILD GLEICHSTROMUMFORMER - SCHEMA CONVERTITORE CC - CC
ESQUEMA CONVERTIDOR CC - CC

(DC/DC 15")

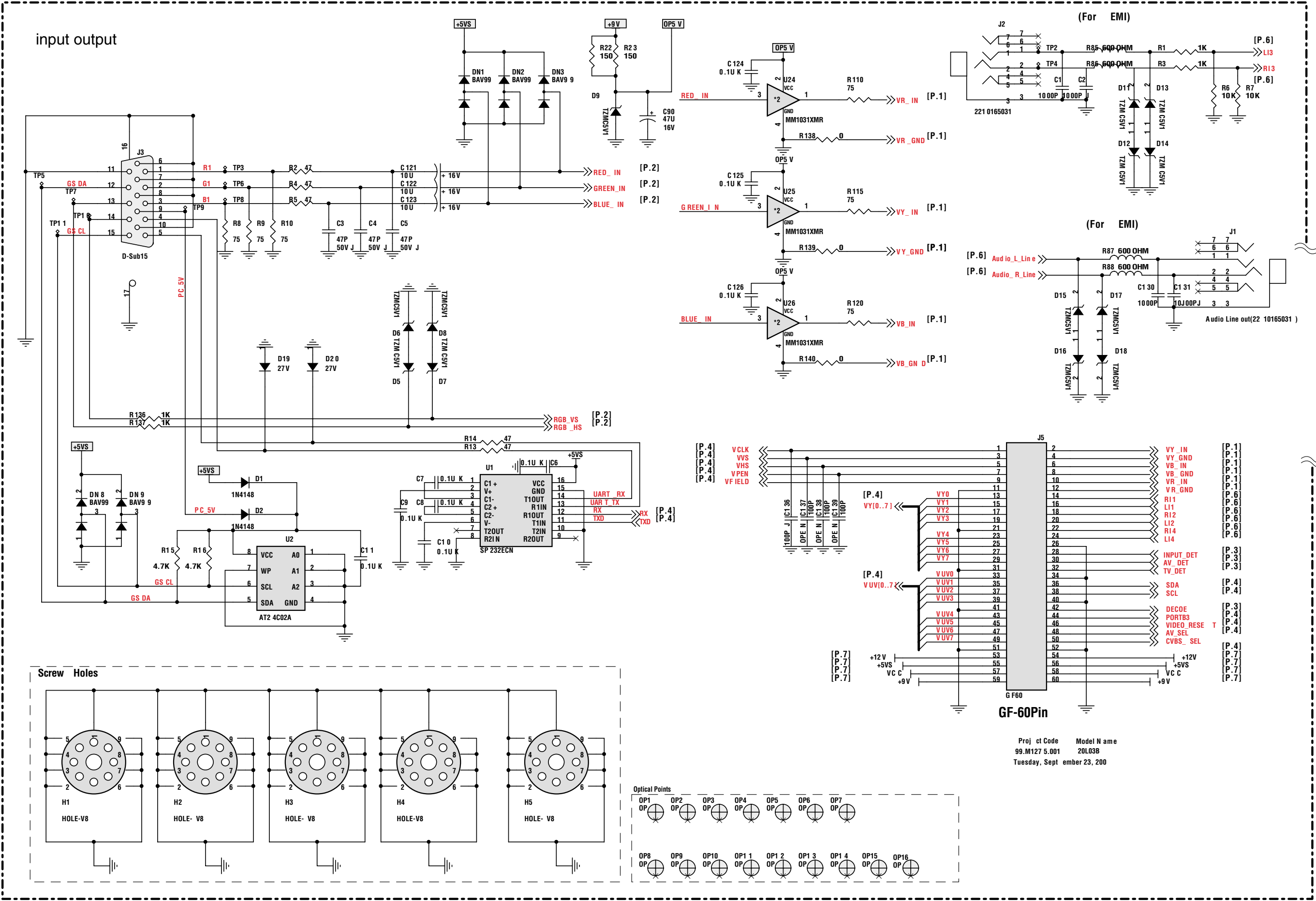


(INVERTER 15" / 20")



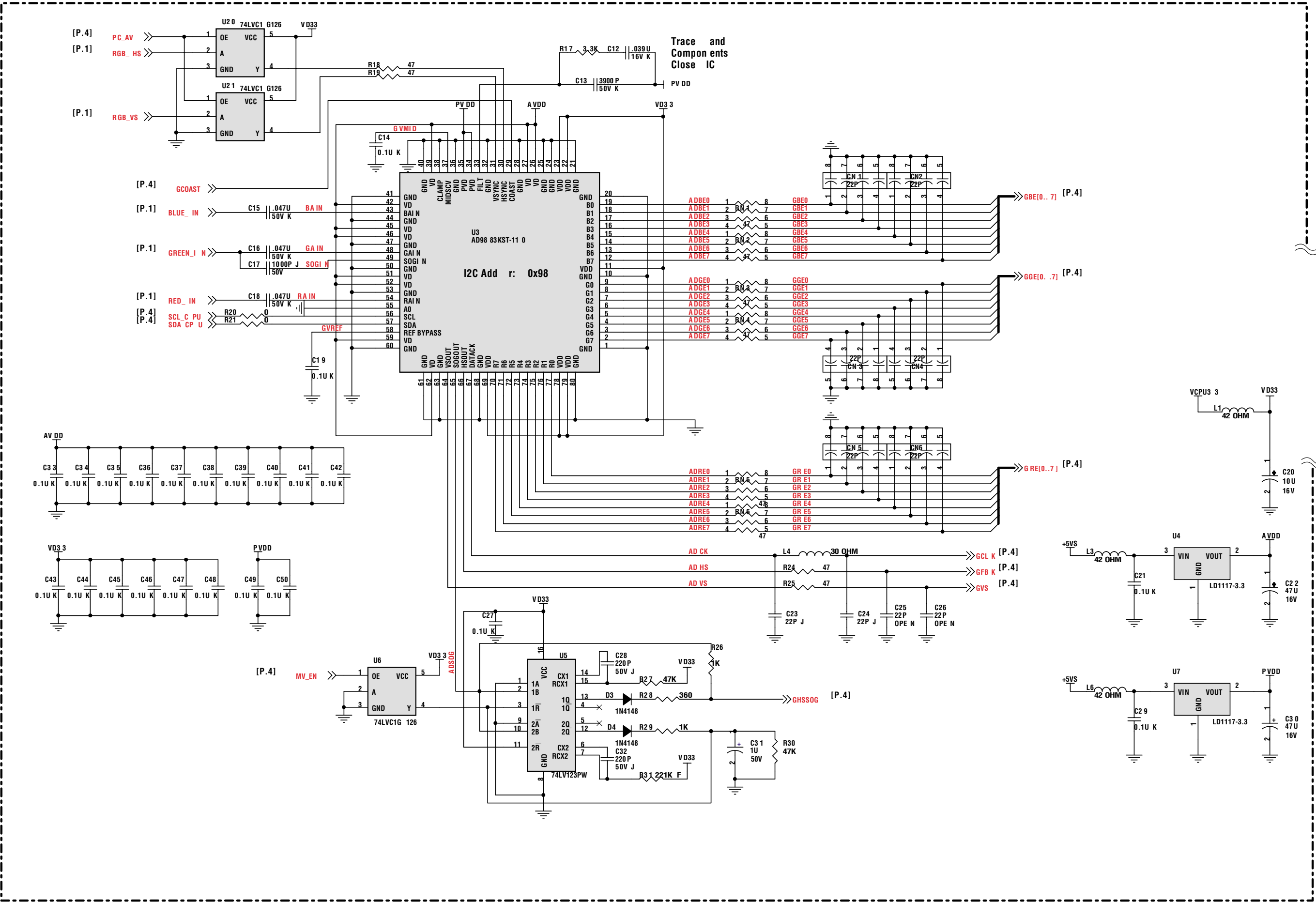
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(PC BOARD 1/7)

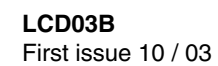


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(PC BOARD 2/7)

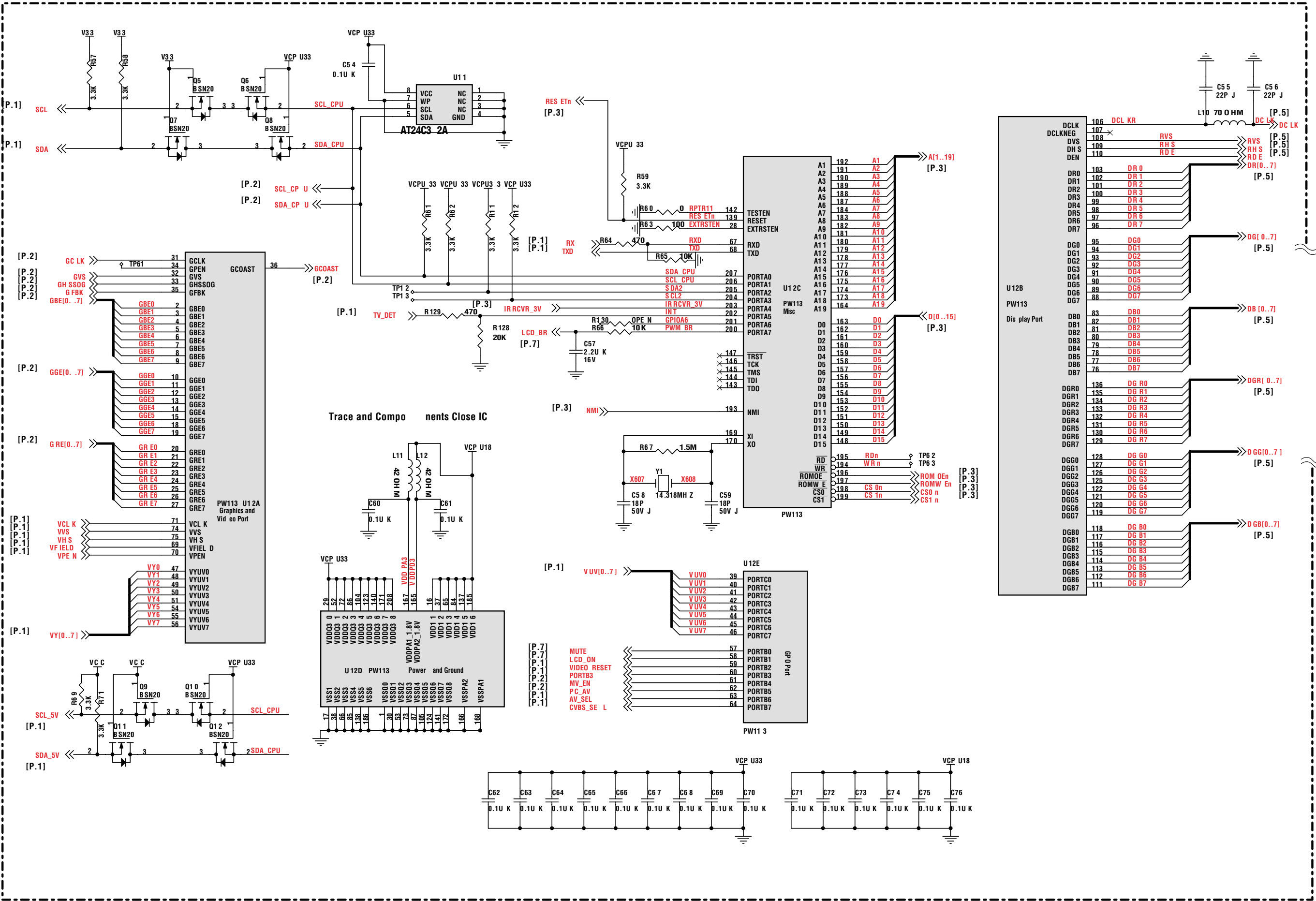


(PC BOARD 3/7)



PC BOARD INTERFACE - INTERFACE PC BOARD - SCHALTBILD PC BOARD - SCHEMA DELLA PC BOARD INTERFAZ PC BOARD

(PC BOARD 4/7)



(PC BOARD 5/7)

15"

SWAPRGB:
Display Data Swap
RGB Or der.
When SWA PBO=1,
RGB will be BGR.

SWAPEO:
Display Data Swap
Even Odd Pixels.
When SWAPEO=1,
the even and odd pixel
data will be swapped
at the package pins.
DGR, DGG, DGB : First Pixels
DR, DG, DB : Second Pixels

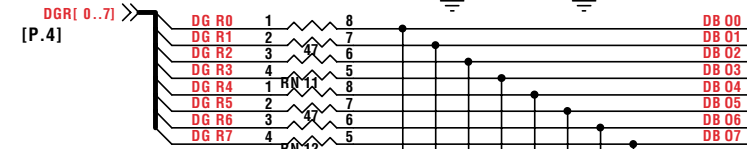
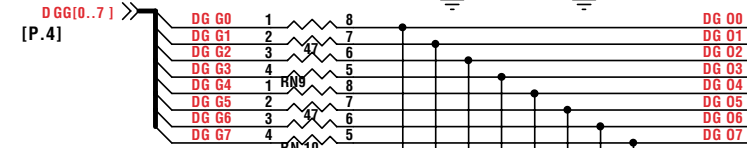
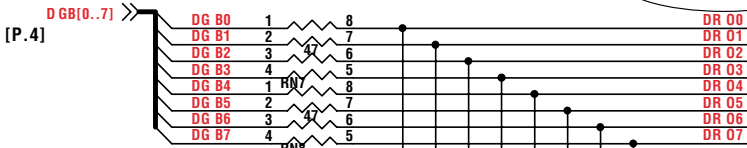
20"

SWAPRGB:
Display Data Swap
RGB Or der.
When SWA PBO=1,
RGB will be BGR.

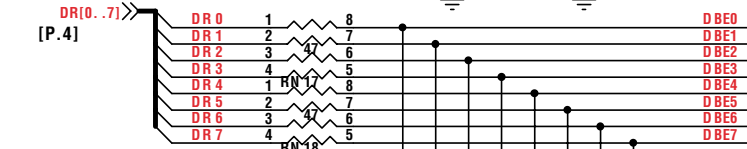
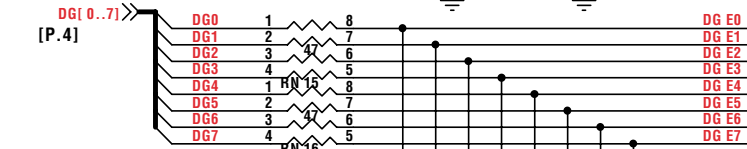
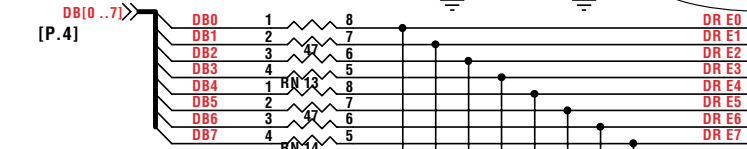
SWAPEO:
Display Data Swap
Even Odd Pixels.
When SWAPEO=0,
DR, DG, DB : First Pixels



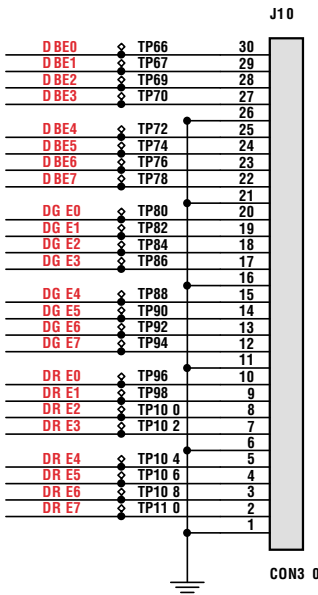
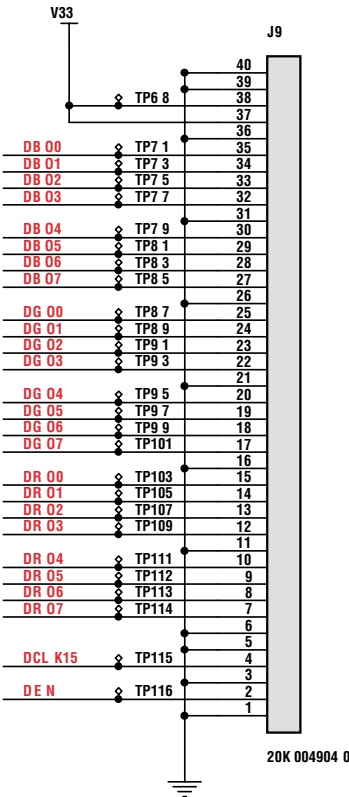
First Pixel



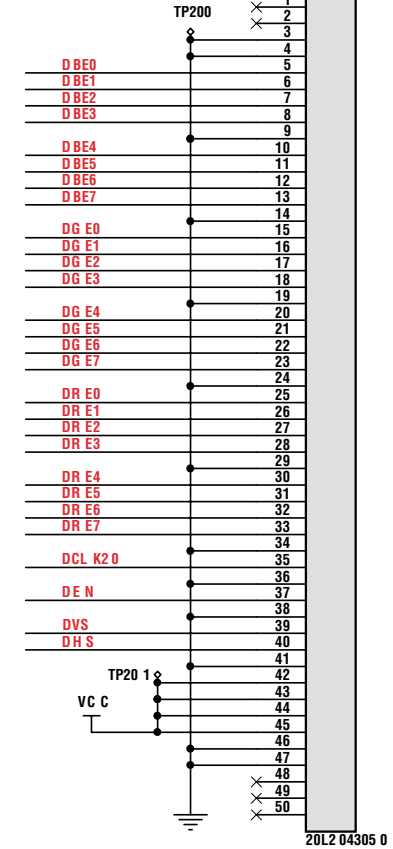
Second Pixel



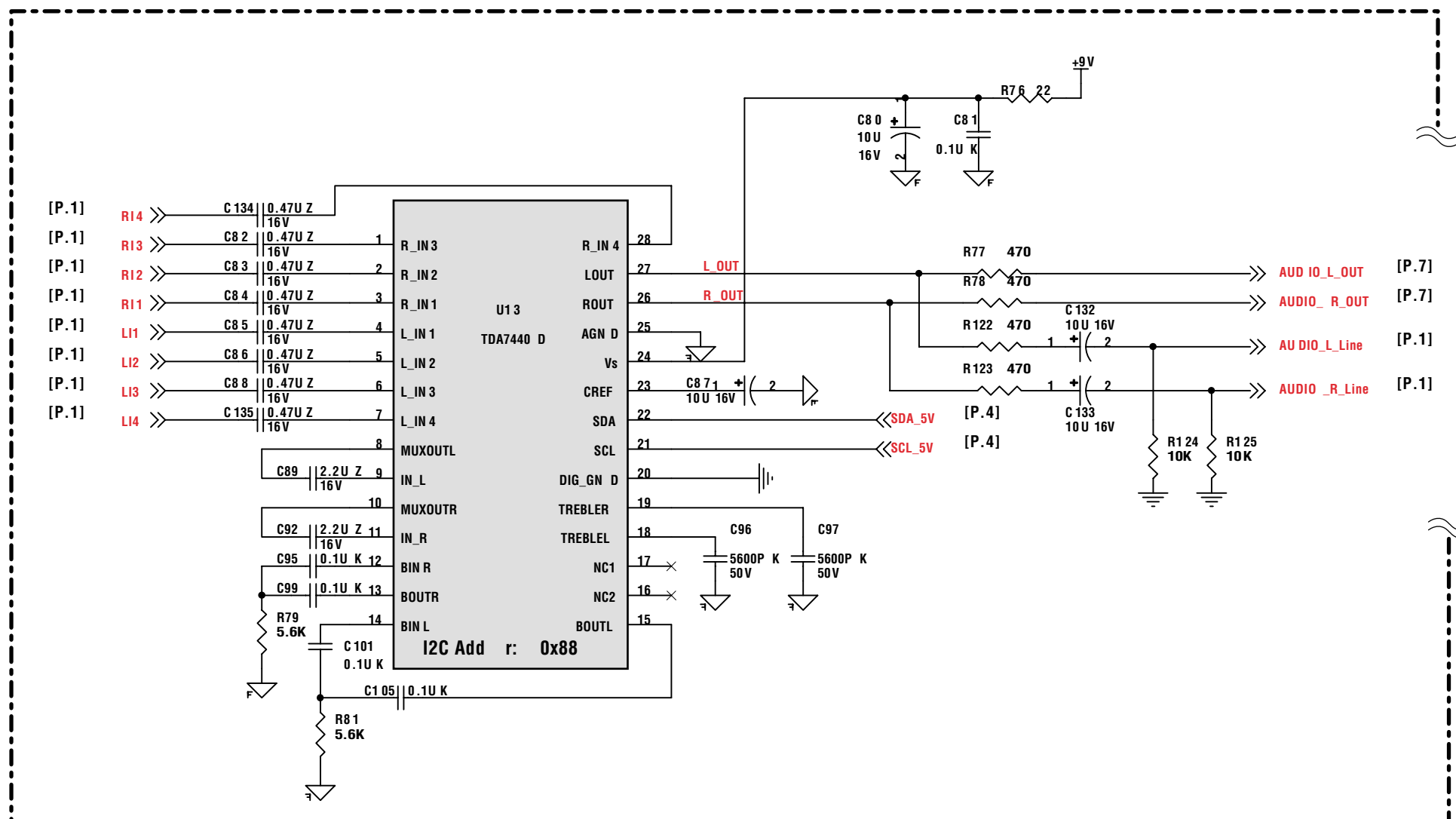
15"



20"

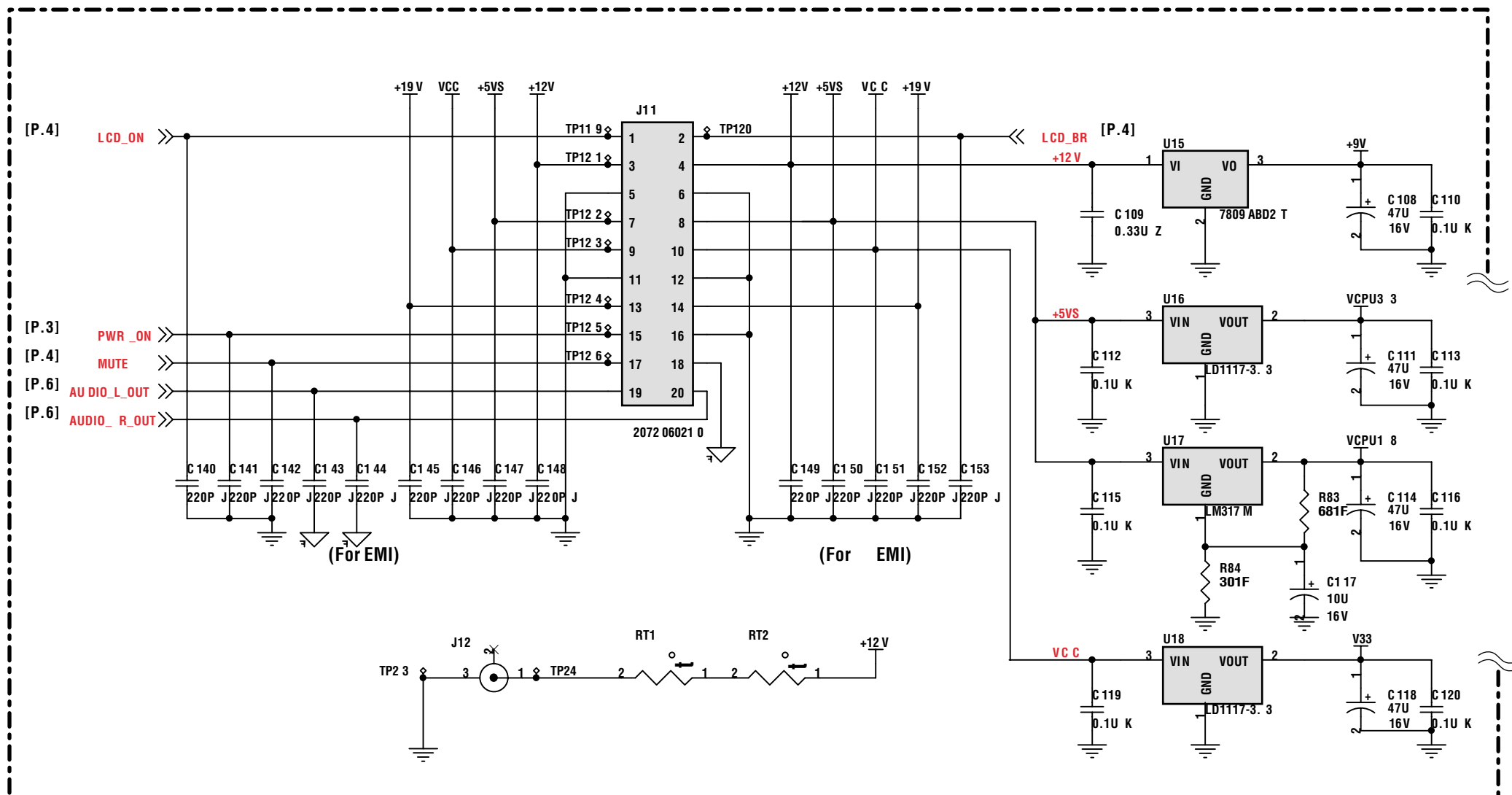


(PC BOARD 6/7)



PC BOARD INTERFACE - INTERFACE PC BOARD - SCHALTBILD PC BOARD - SCHEMA DELLA PC BOARD INTERFAZ PC BOARD

(PC BOARD 7/7)

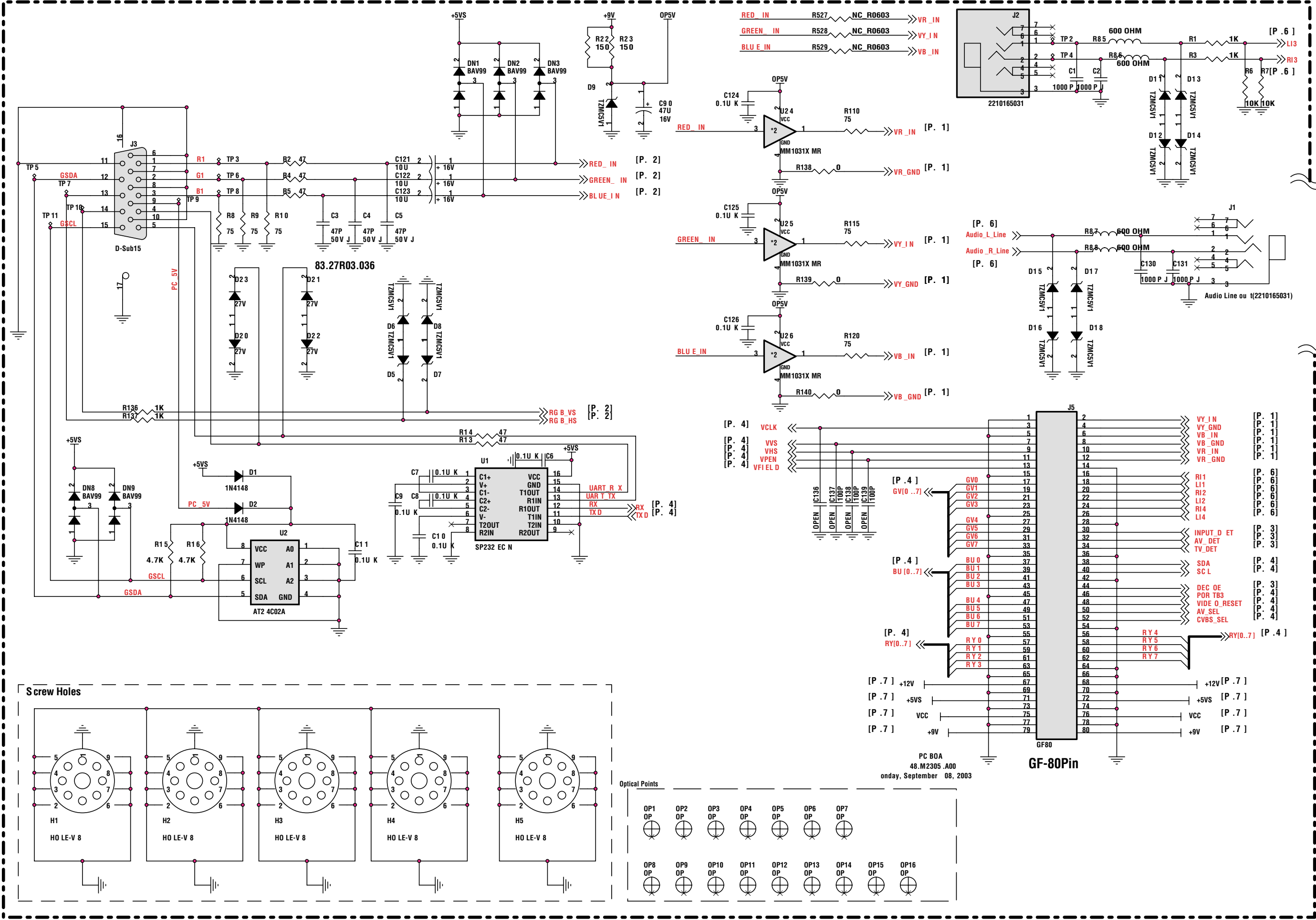


LCD03B

First issue 10 / 03

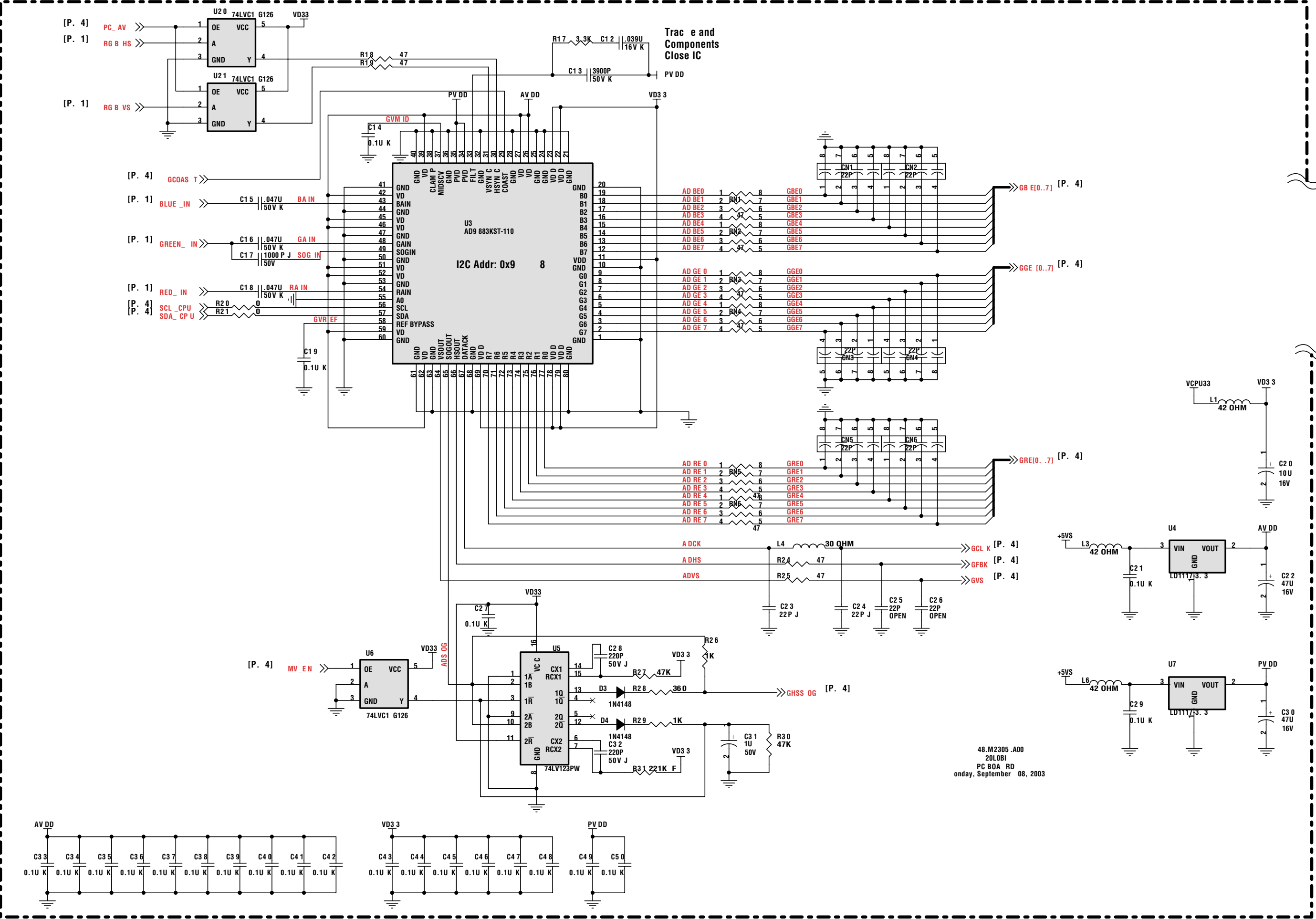
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(PC BOARD 1/7, 20"BI)

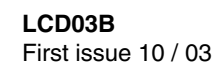


PC BOARD INTERFACE - INTERFACE PC BOARD - SCHALTBILD PC BOARD - SCHEMA DELLA PC BOARD INTERFAZ PC BOARD

(PC BOARD 2/7, 20"BI)

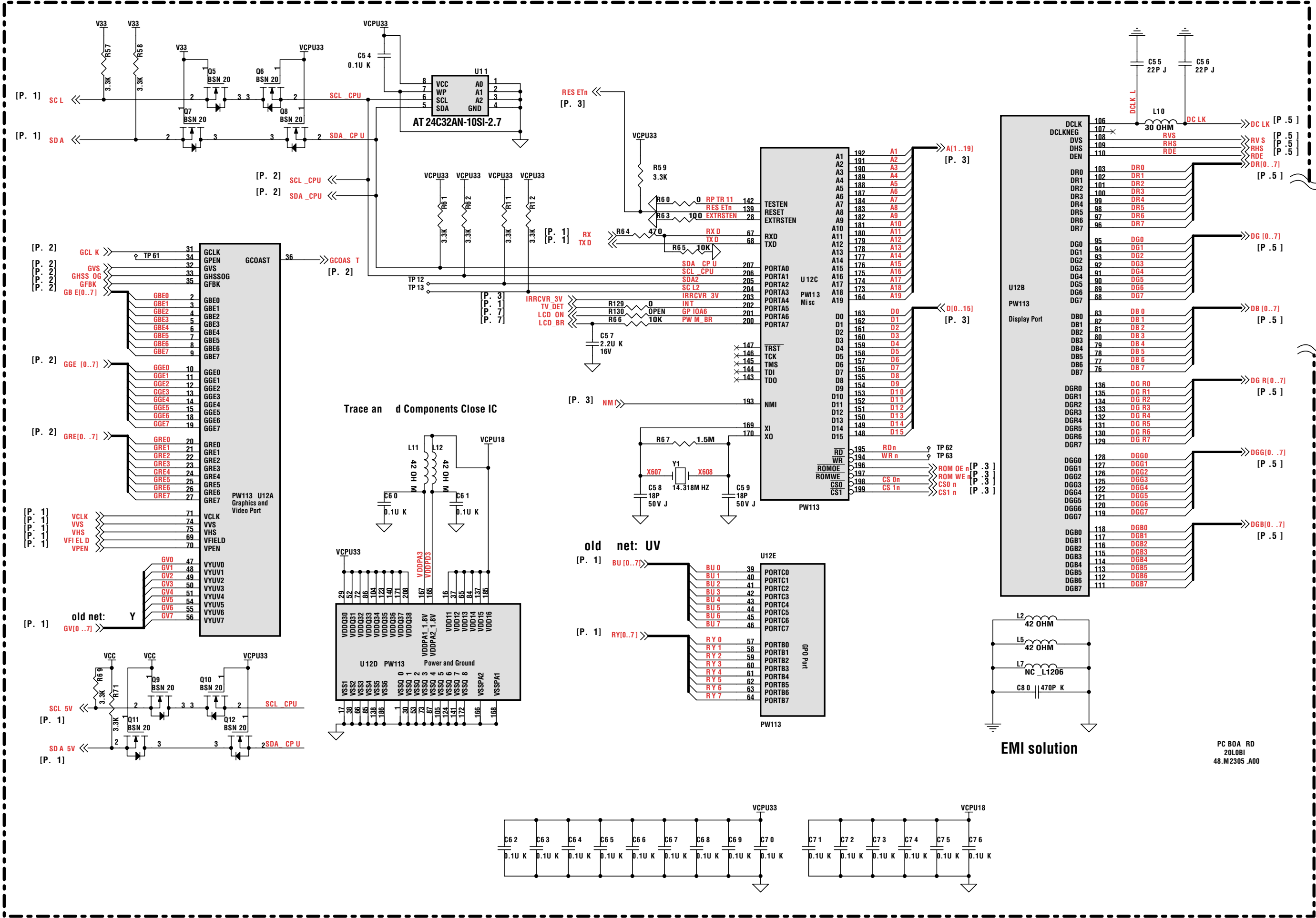


(PC BOARD 3/7, 20"BI)



PC BOARD INTERFACE - INTERFACE PC BOARD - SCHALTBILD PC BOARD - SCHEMA DELLA PC BOARD INTERFAZ PC BOARD

(PC BOARD 4/7, 20"BI)



PC BOARD INTERFACE - INTERFACE PC BOARD - SCHALTBILD PC BOARD - SCHEMA DELLA PC BOARD INTERFAZ PC BOARD

(PC BOARD 5/7, 20"BI)

15"

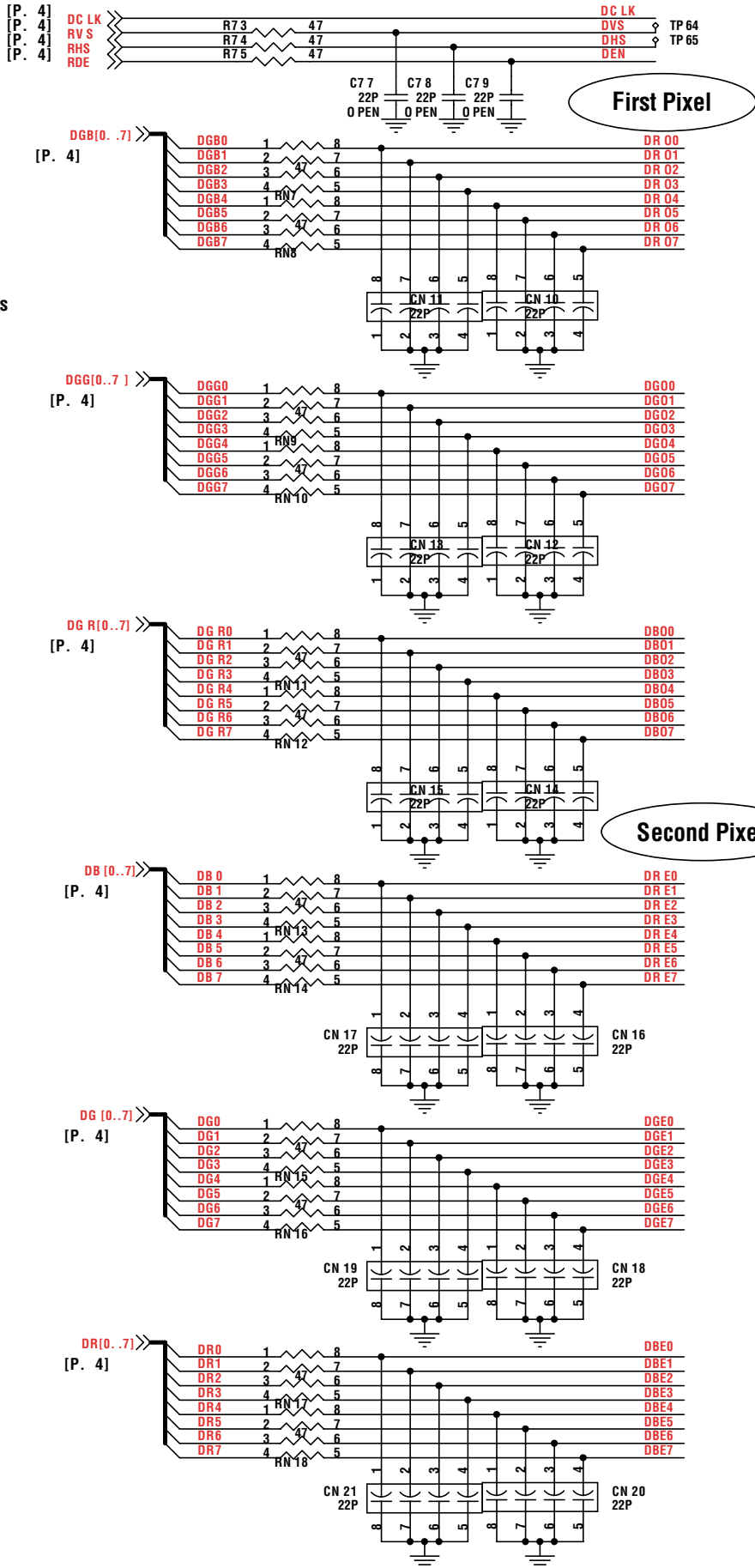
SWAPRGB:
Display Data Swap
RGB Order.
When SWAPO=1,
RGB will be BGR.

SWAPE0:
Display Data Swap
Even Odd Pixels.
When SWAPE0=1,
the even and odd pixel
data will be swapped
at the package pins
DGR, DGG, DGB : First Pixels
DR, DG, DB : Second Pixels

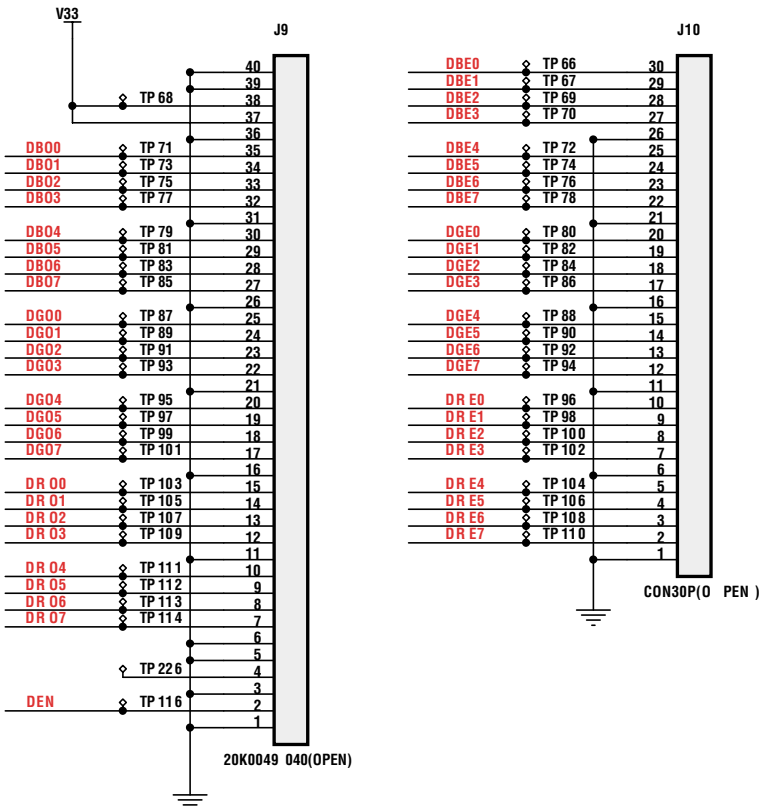
AU 20"

SWAPRGB:
Display Data Swap
RGB Order.
When SWAPO=1,
RGB will be BGR.

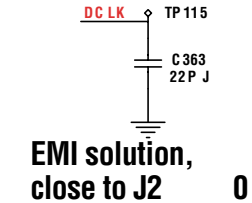
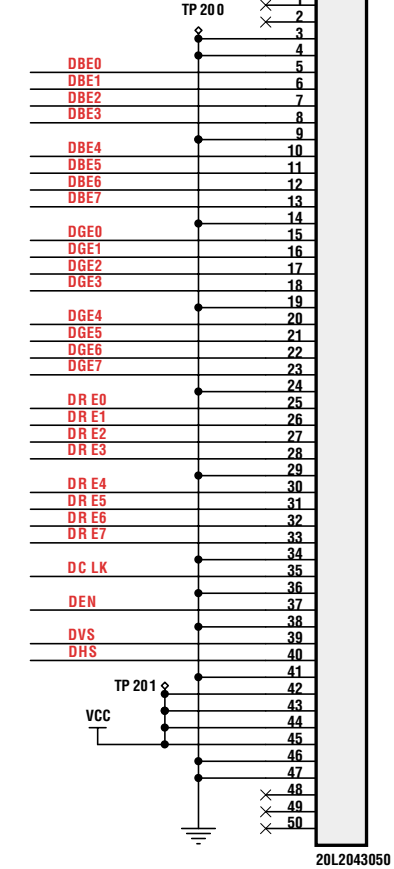
SWAPE0:
Display Data Swap
Even Odd Pixels.
When SWAPE0=0,
DR, DG, DB : First Pixels



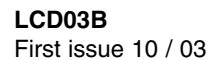
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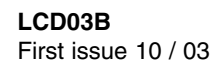
20"



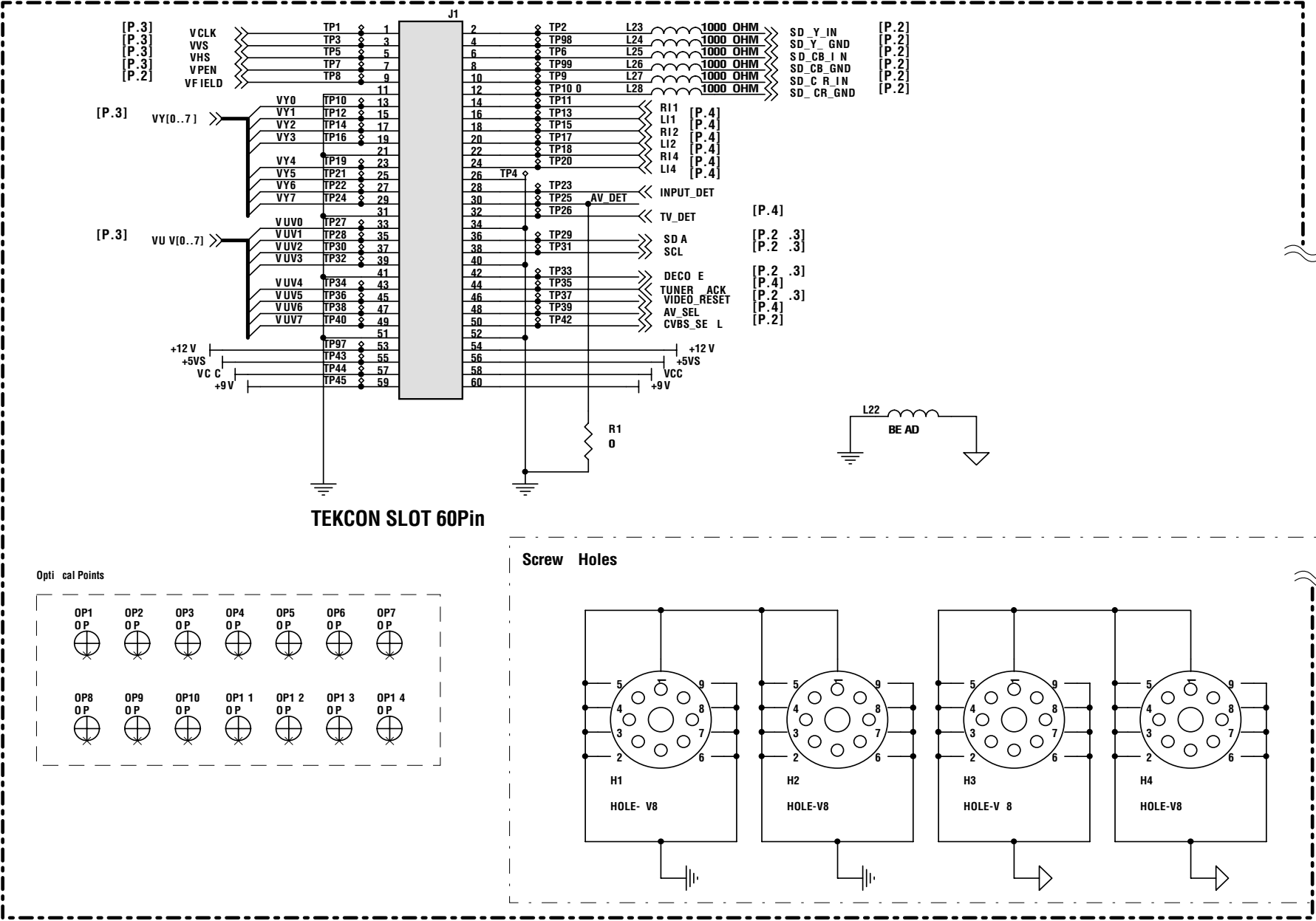
(PC BOARD 6/7, 20"BI)

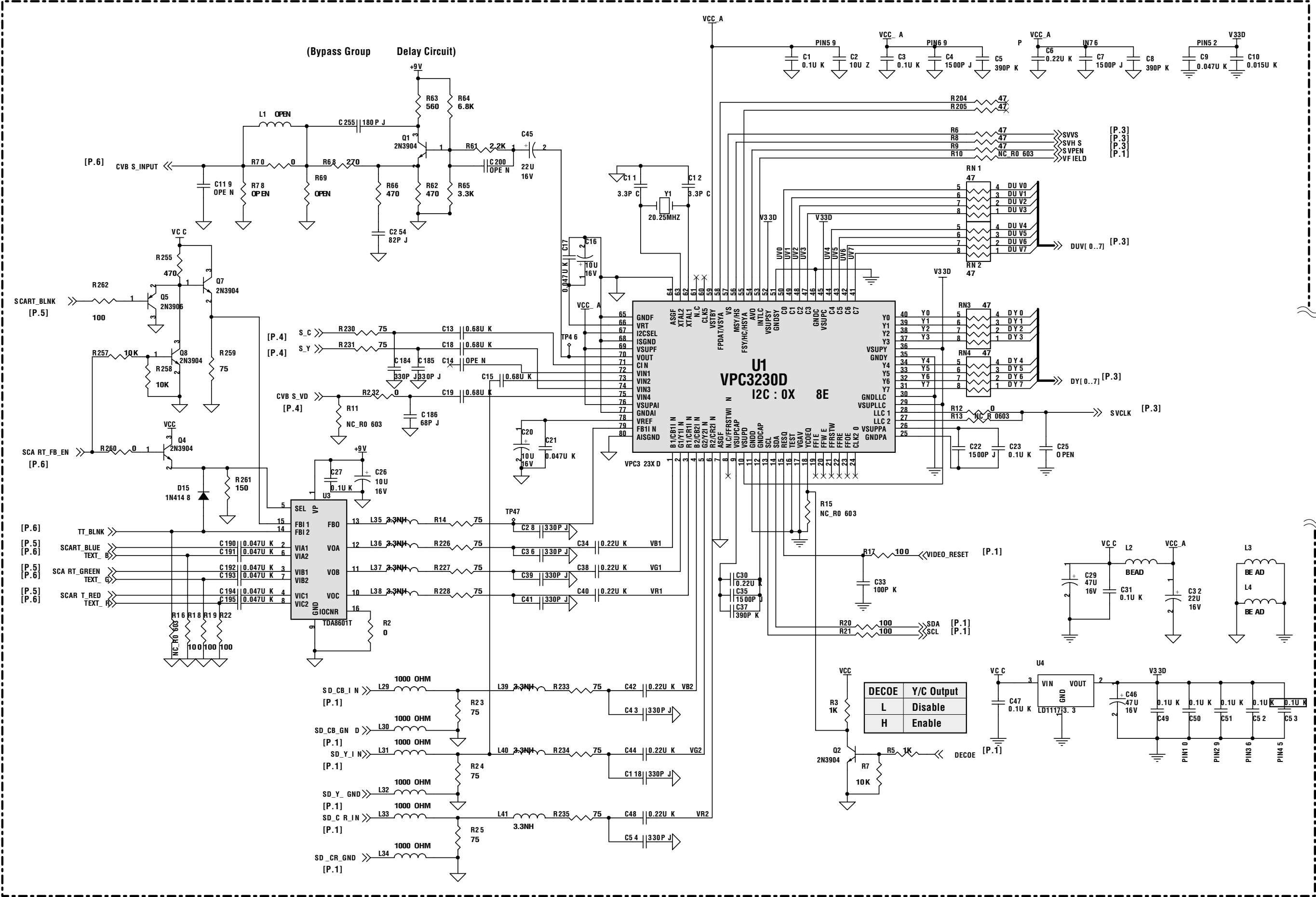


(PC BOARD 7/7, 20"BI)

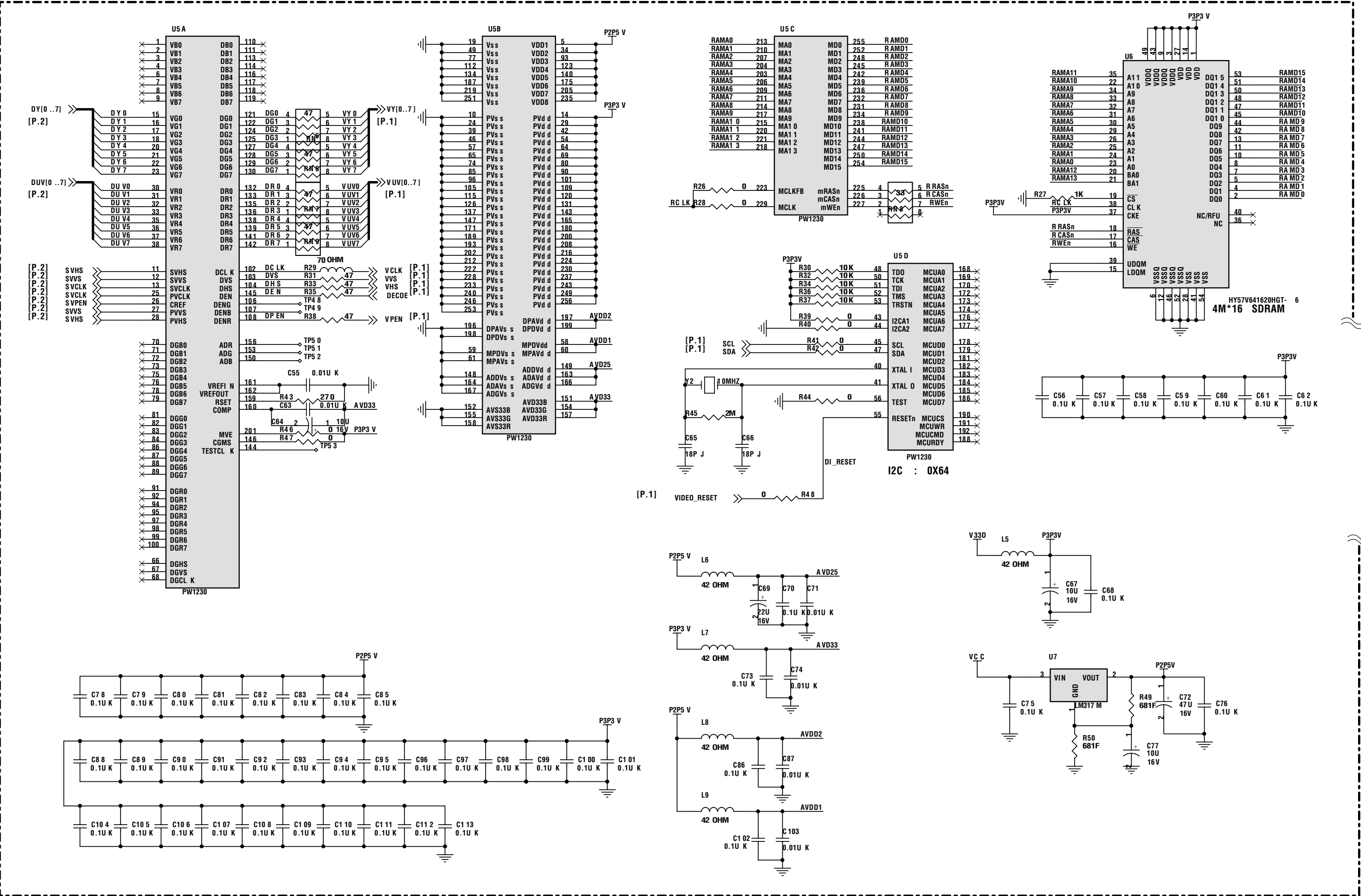


(VIDEO BOARD 1/6)

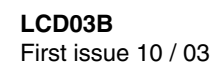




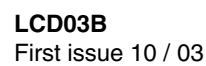
(VIDEO BOARD 3/6)



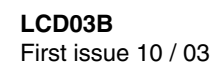
(VIDEO BOARD 4/6)



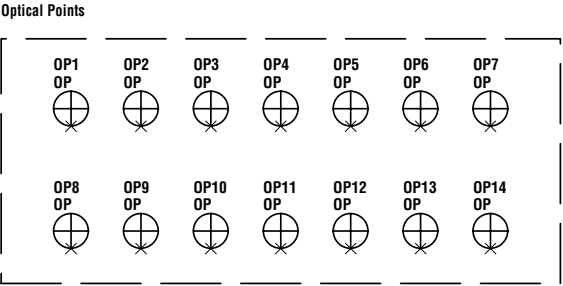
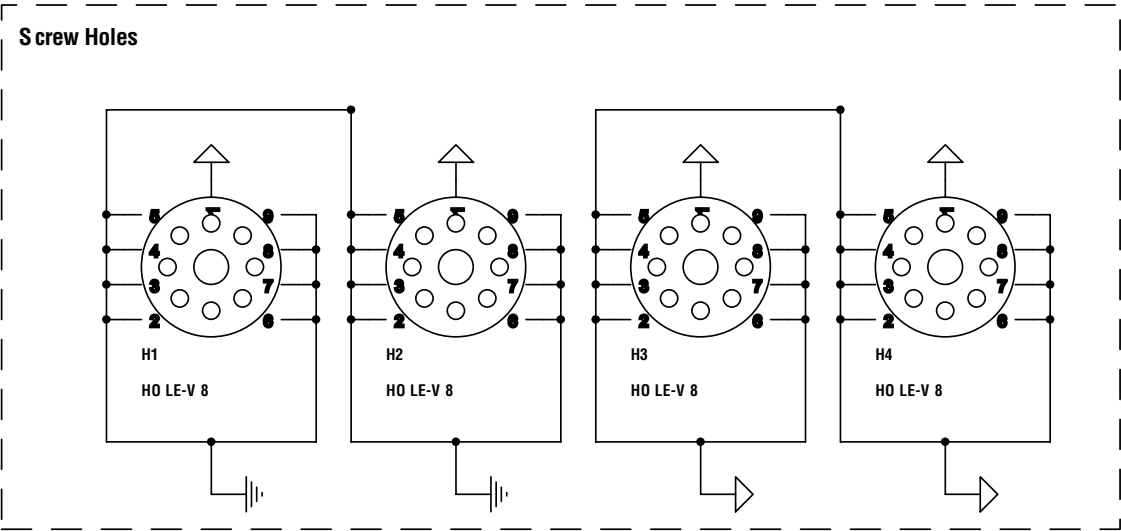
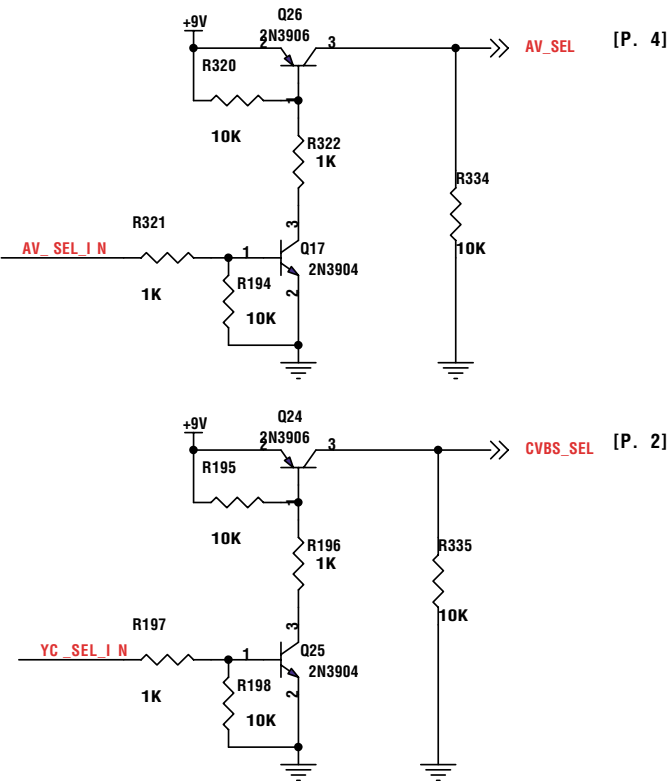
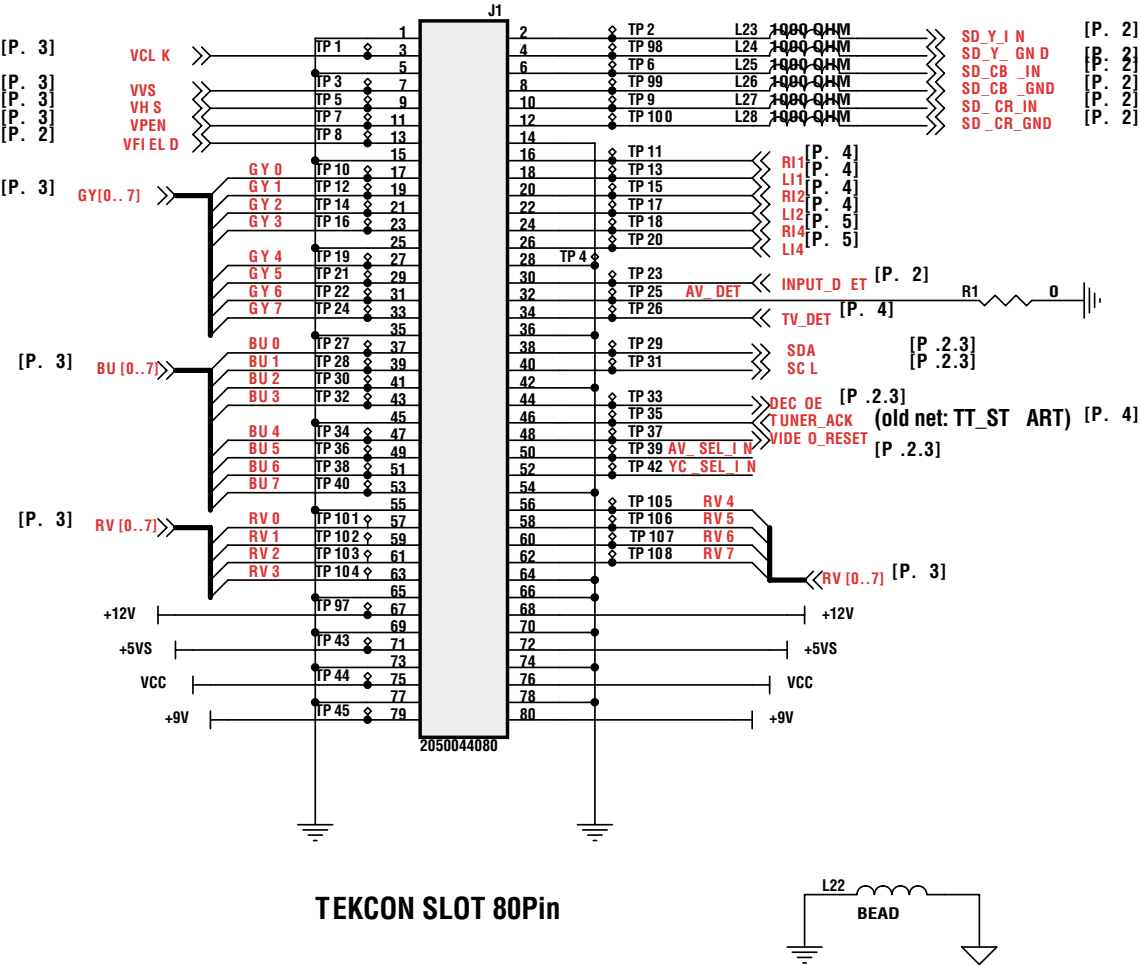
(VIDEO BOARD 5/6)



(VIDEO BOARD 6/6)



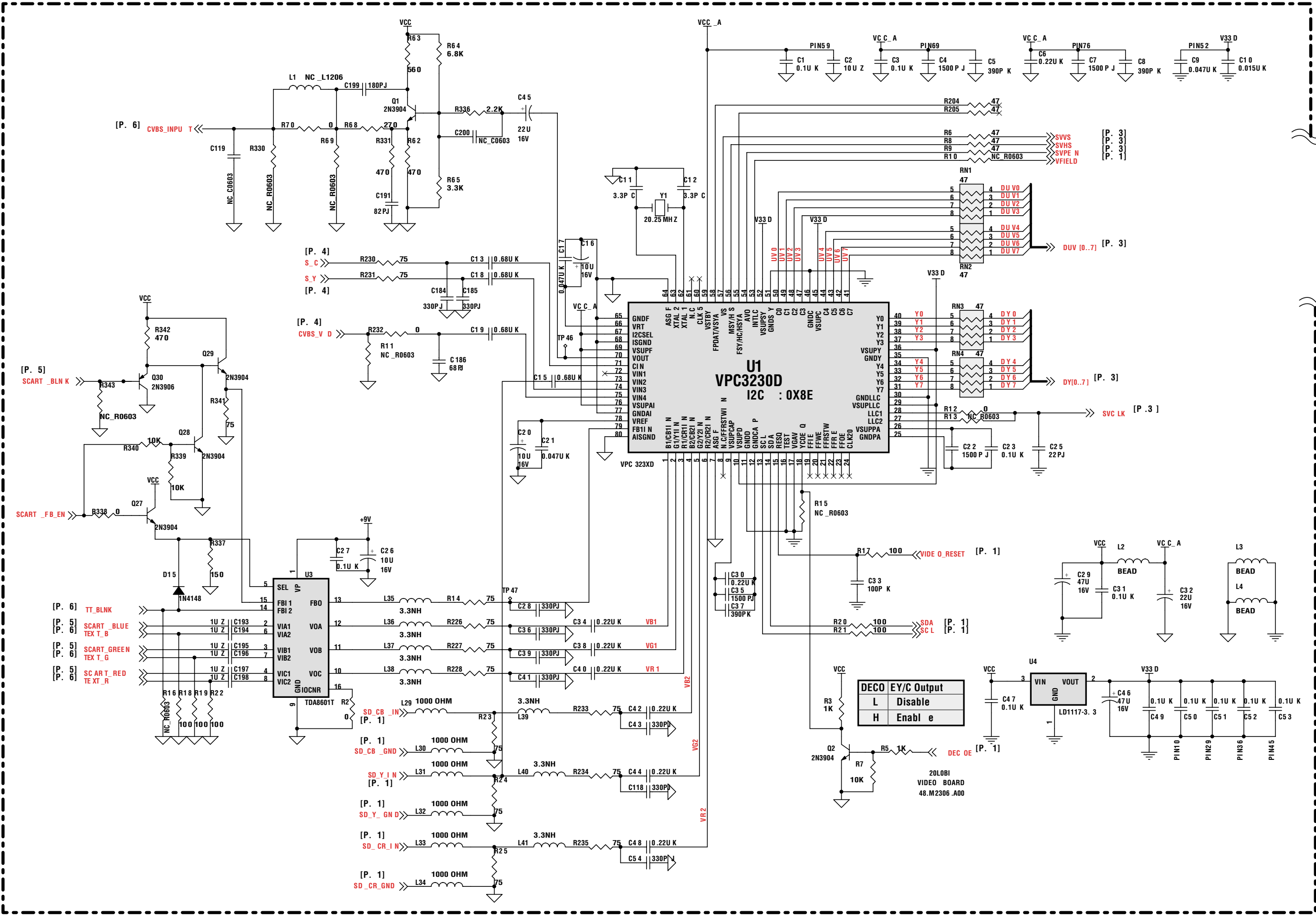
(VIDEO BOARD 1/6, 20"BI)



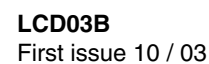
20L0B1
VIDEO BOARD
48.M2306.A00

VIDEO SIGNAL PROCSSING - TRAITEMENT VIDEO - VIDEO SIGNALVERARBEITUNG - ELABORAZIONE VIDEO - TRATAMIENTO VIDEO

(VIDEO BOARD 2/6, 20"BI)

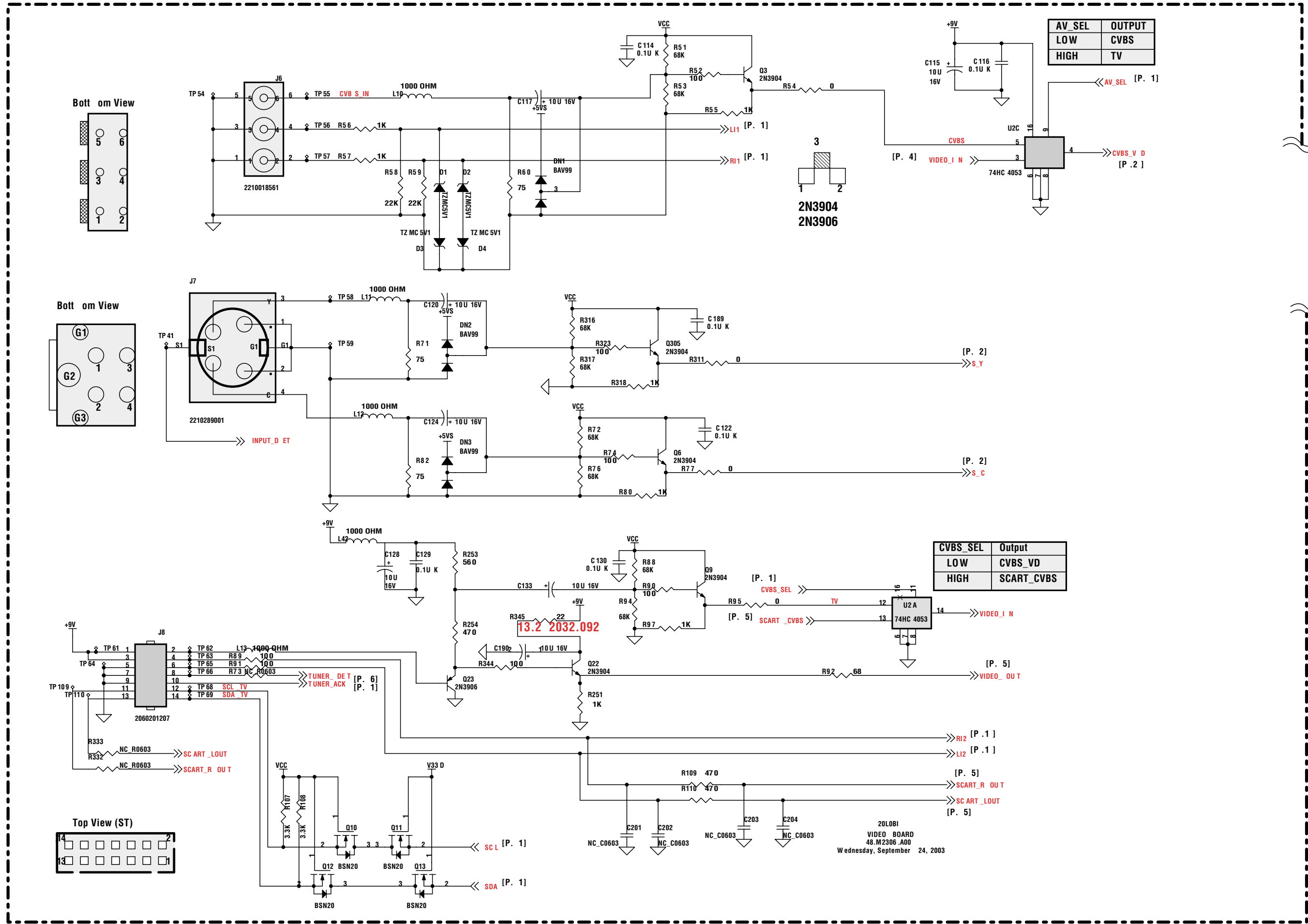


(VIDEO BOARD 3/6, 20"BI)

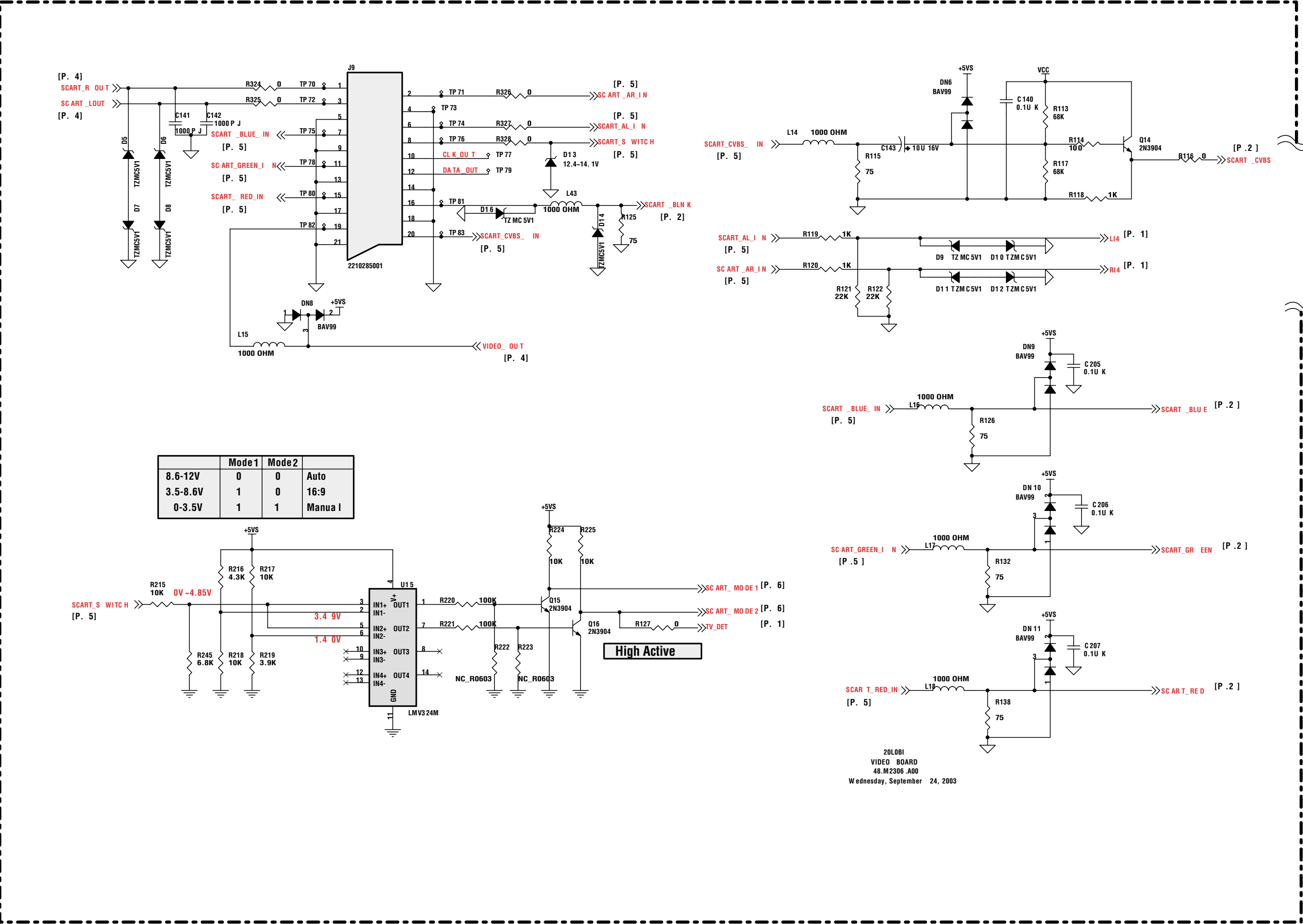


VIDEO SIGNAL PROCSSING - TRAITEMENT VIDEO - VIDEO SIGNALVERARBEITUNG - ELABORAZIONE VIDEO - TRATAMIENTO VIDEO

(VIDEO BOARD 4/6, 20"BI)

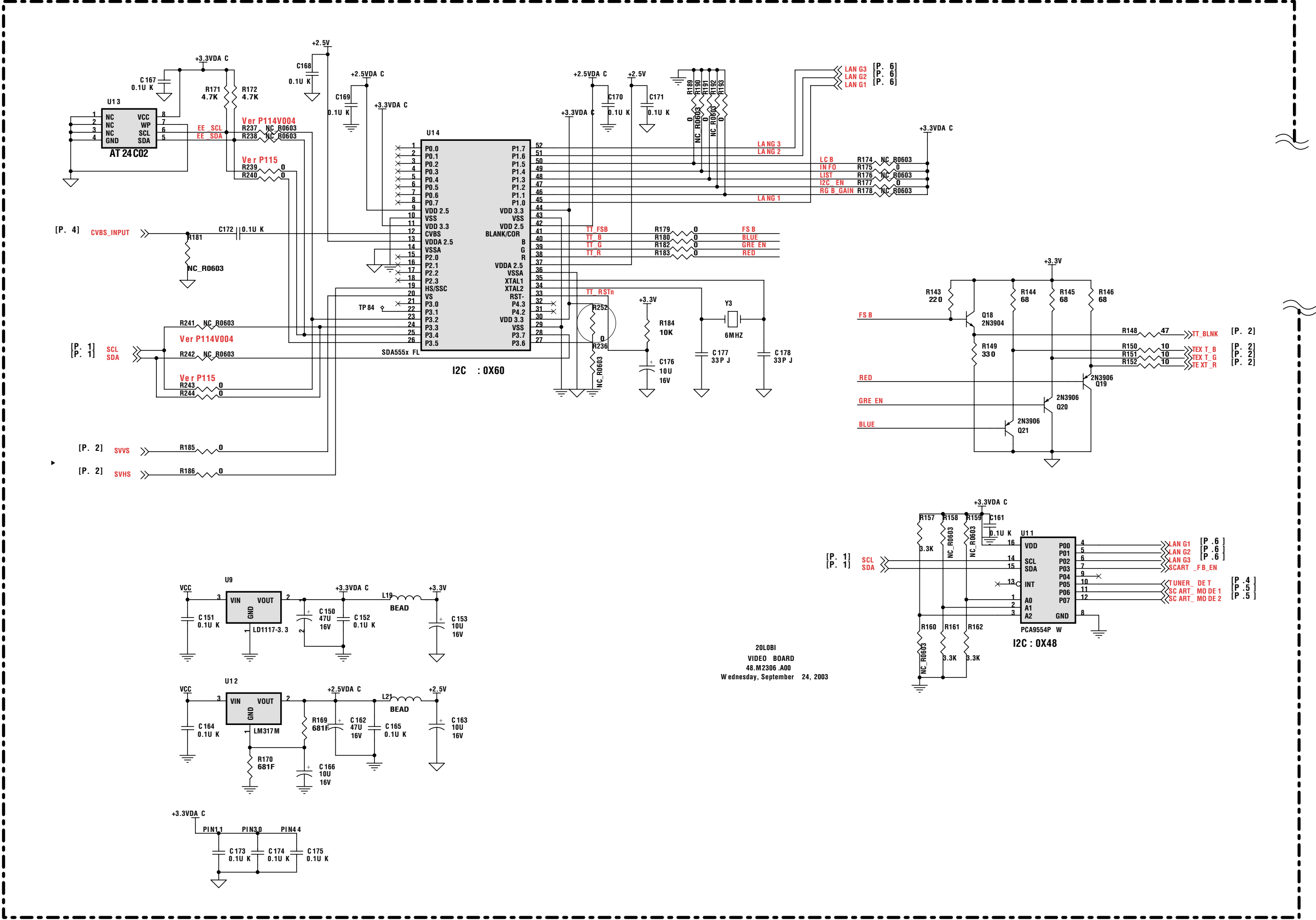


(VIDEO BOARD 5/6, 20"BI)

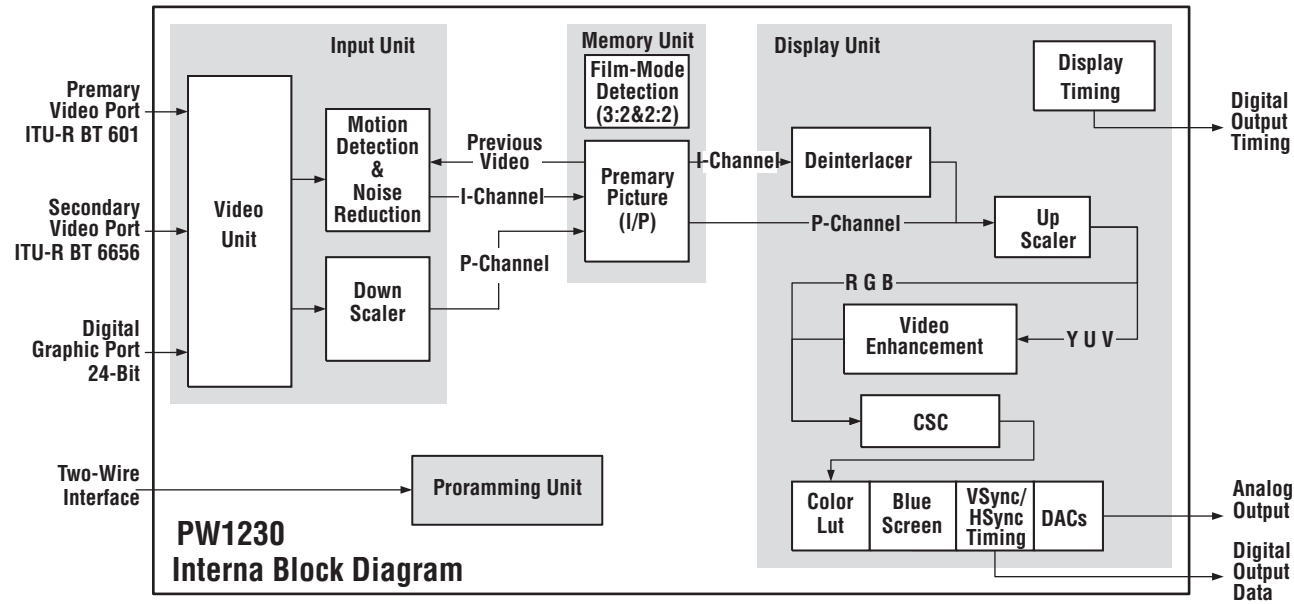
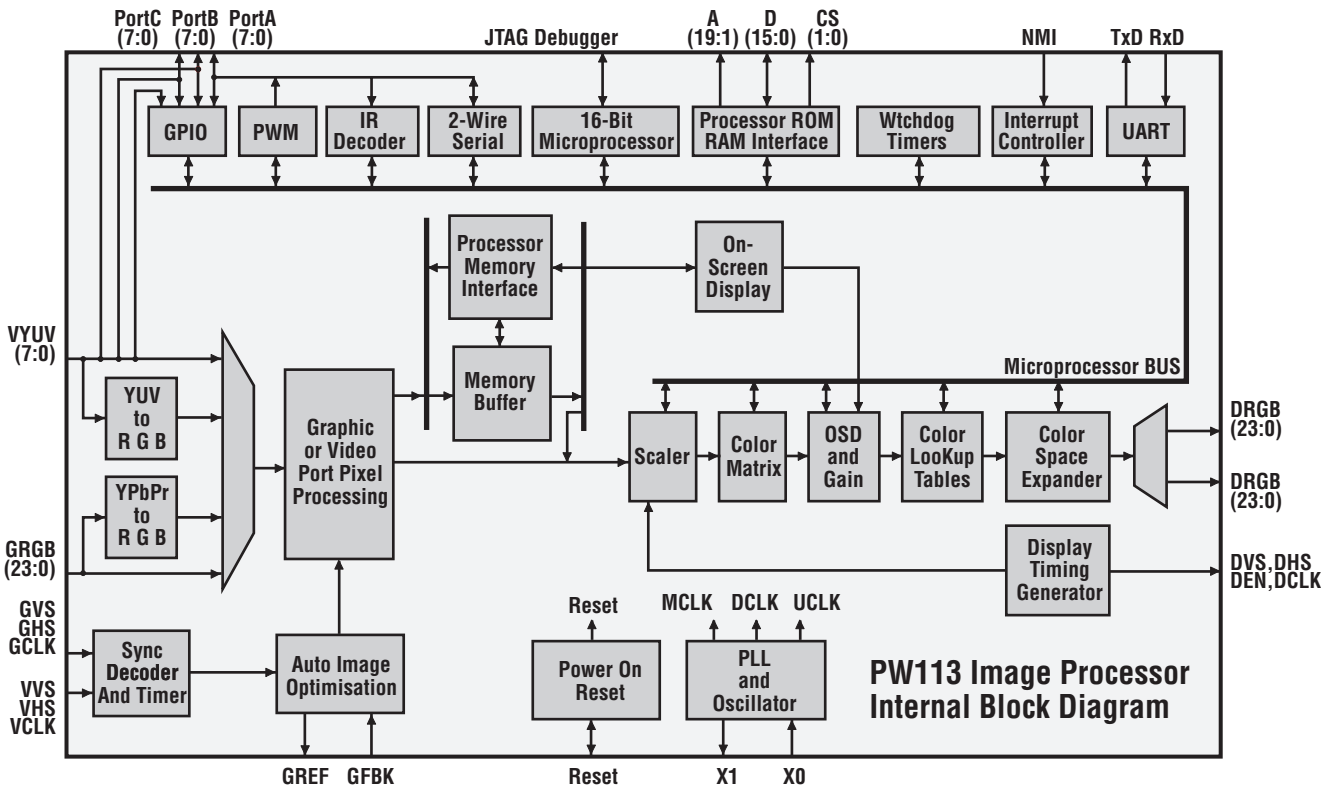


VIDEO SIGNAL PROCSSING - TRAITEMENT VIDEO - VIDEO SIGNALVERARBEITUNG - ELABORAZIONE VIDEO - TRATAMIENTO VIDEO

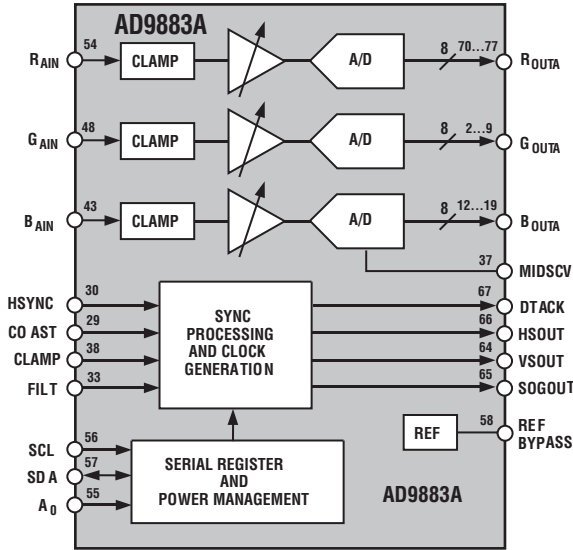
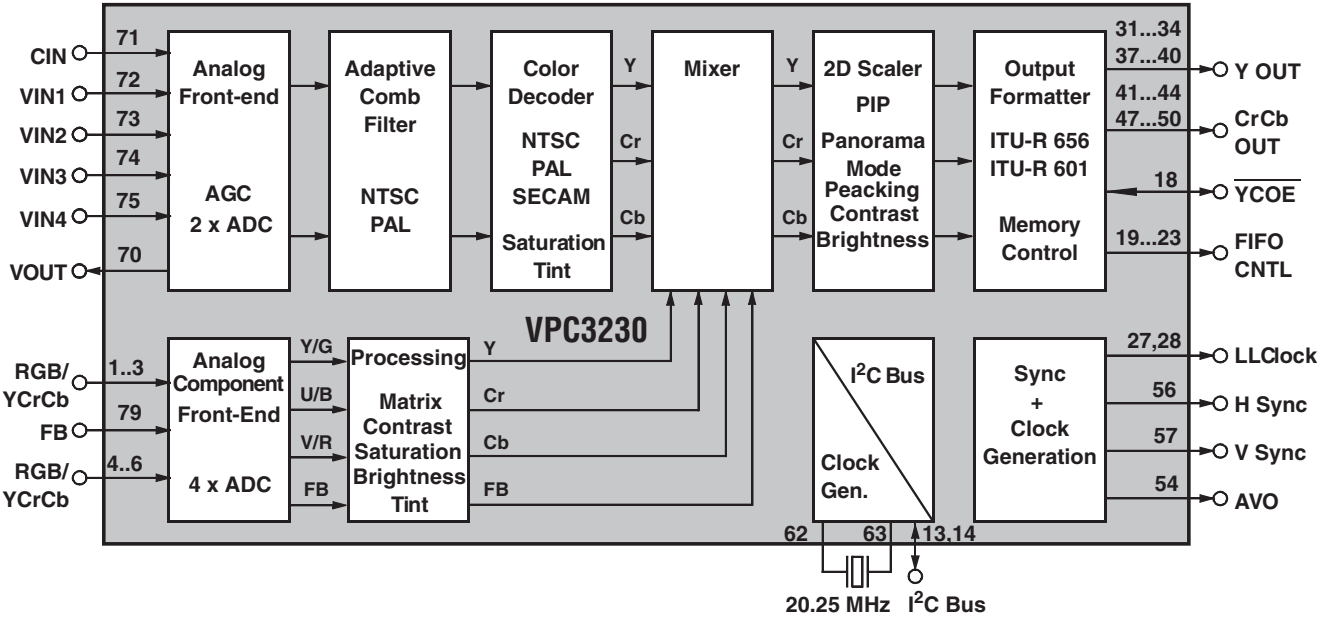
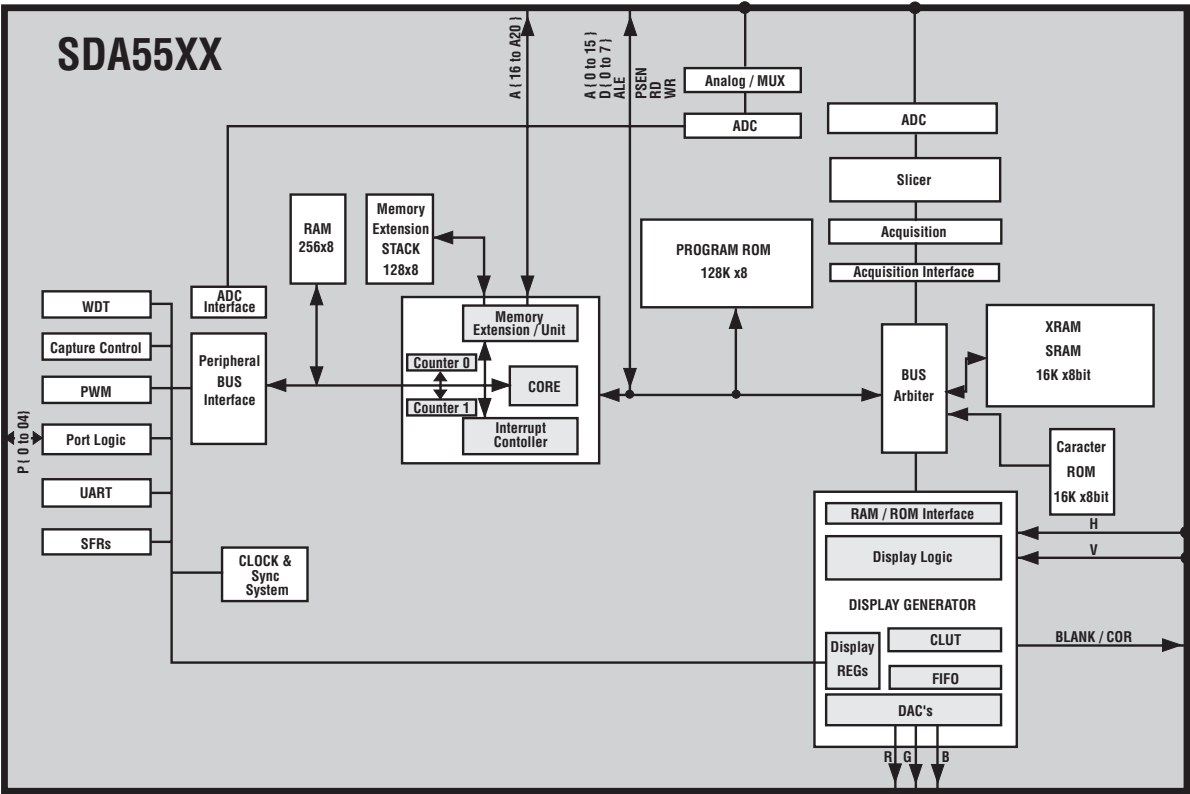
(VIDEO BOARD 6/6, 20"BI)



INTEGRATED CIRCUITS BLOCK DIAGRAM



INTEGRATED CIRCUITS BLOCK DIAGRAM



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