BARCO

BARCO Projection Systems

SECTION **P**

service sheet

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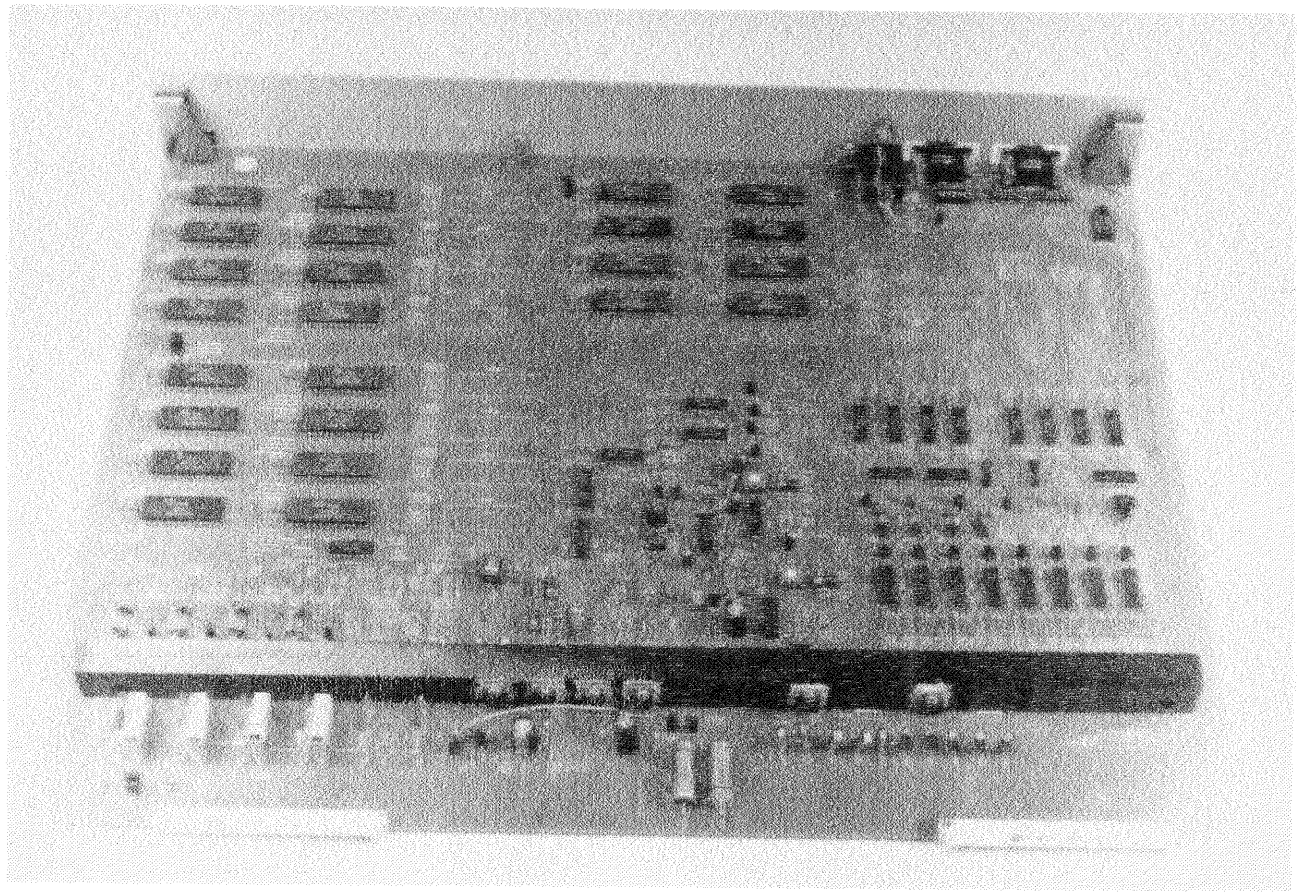
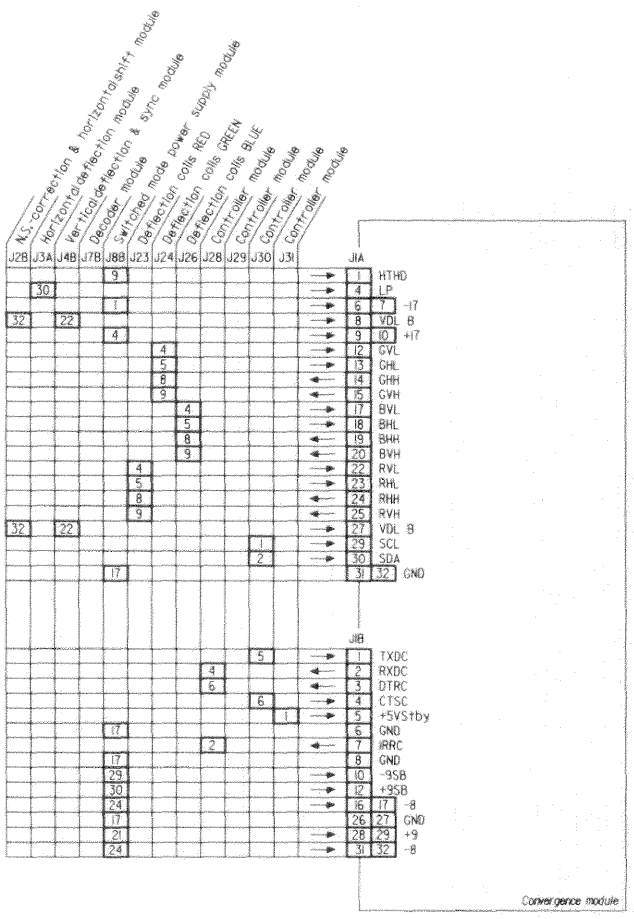
CONVERGENCE MODULE

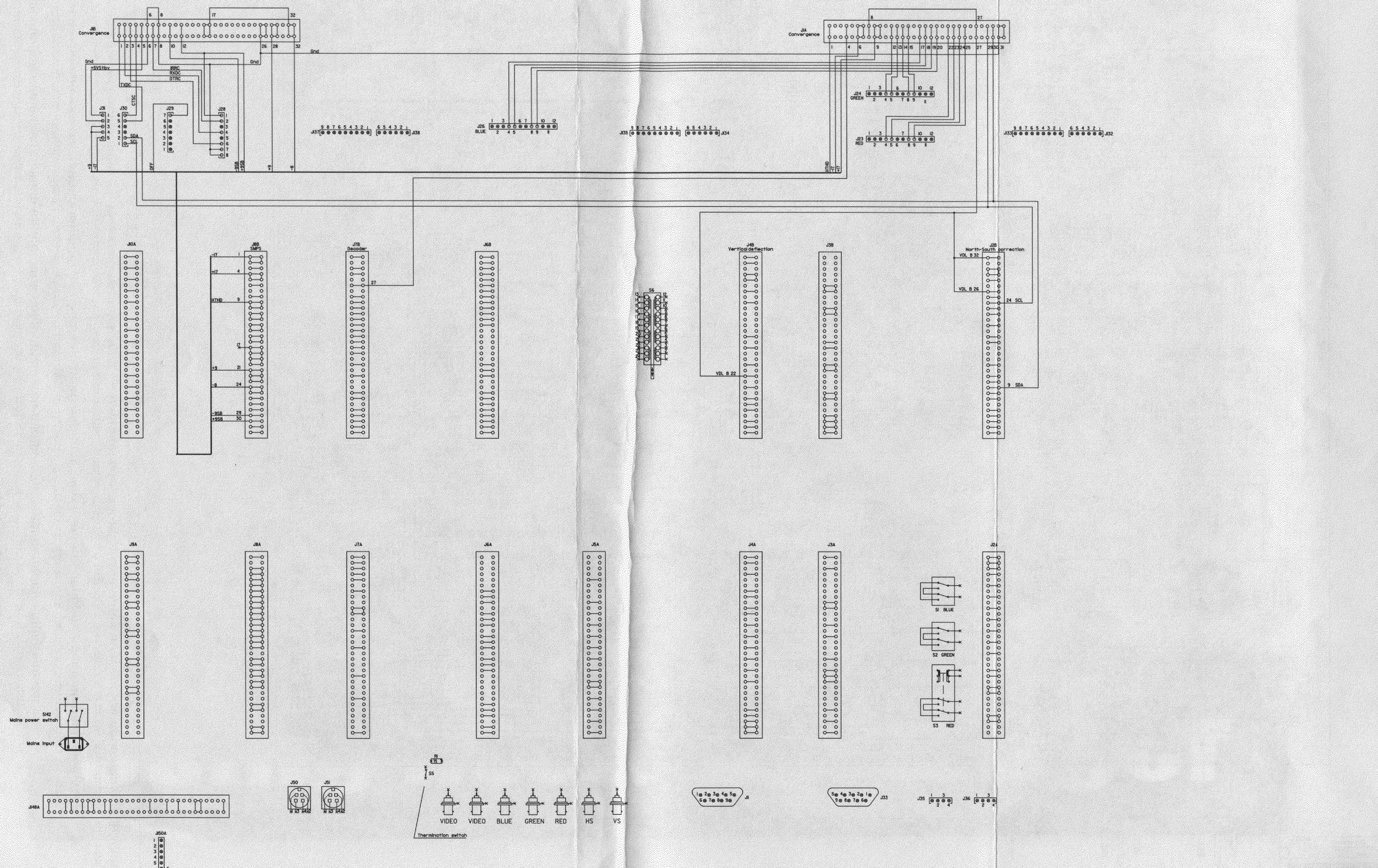
76 1772





Name: Interconnection Convergence module		Article nr.: 76i772
Date: 15/09/1990	Drawn: PG	Checked: GM
BARCO PROJECTION SYSTEMS		

Main frame interconection
Convergence module



Modifications reserved

Name	Interconnection Convergence	Article nr. 76 1772
Date 15/09/1990	Drawn PG	Checked GM
BARCO PROJECTION SYSTEMS		

Amplitude Horizontal parabola

Amplitude Vertical parabola

Strap

Strap

Male (D9)
RS 232 IN

Female (D9)
RS 232 OUT

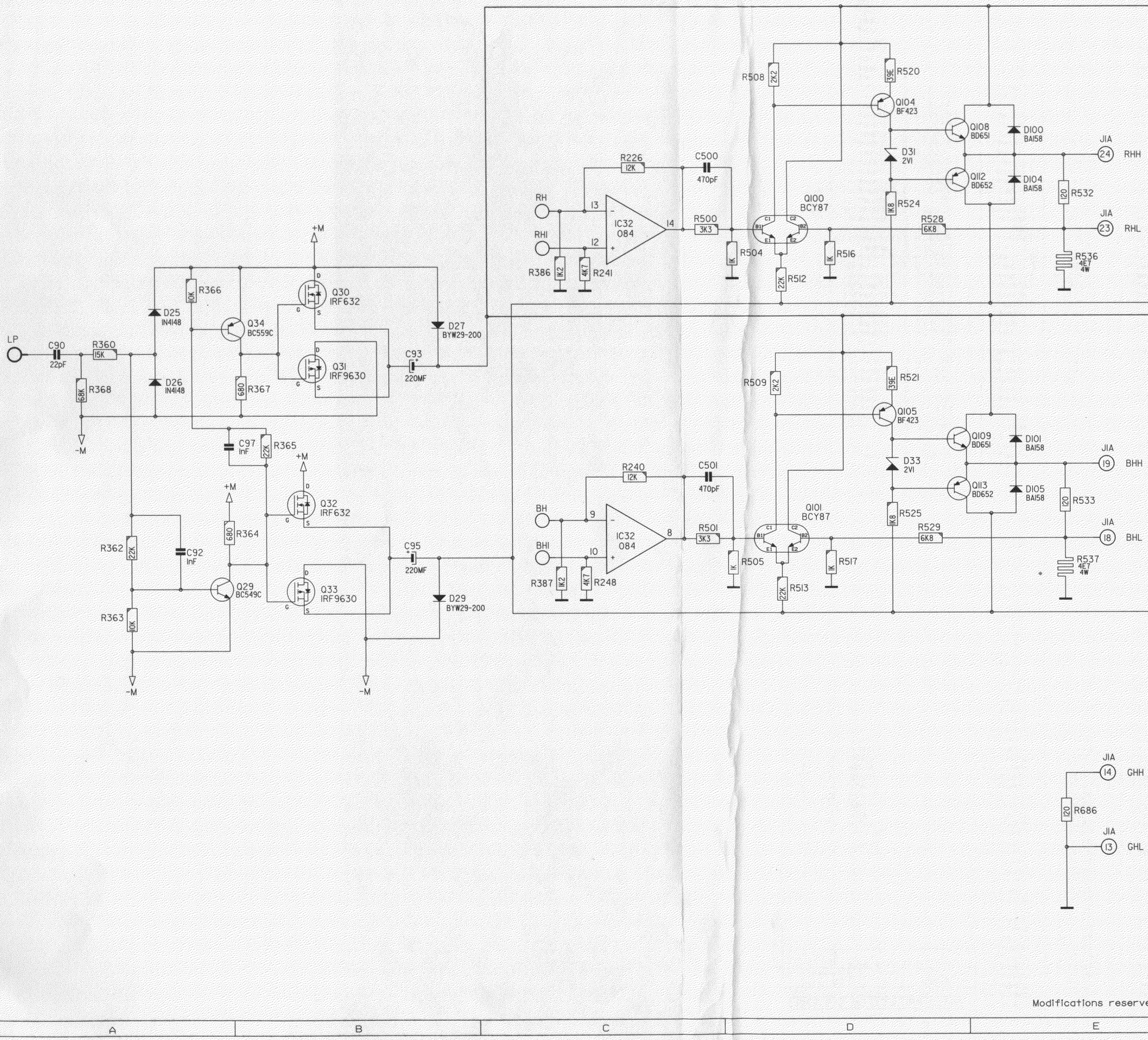
IR

Remote

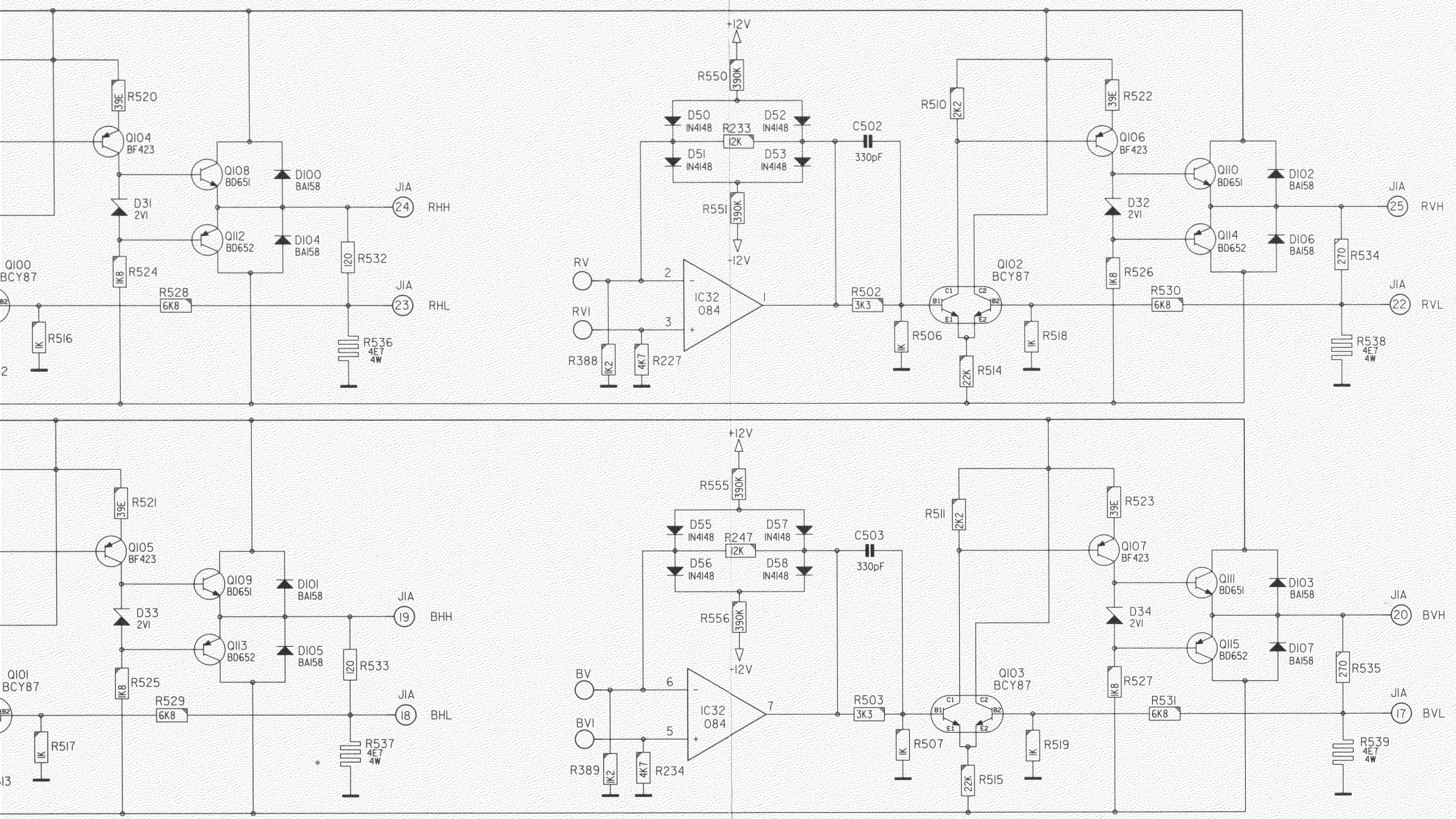
Name	Convergence	Article nr. 76 1772
Date 15/04/1990	Drawn PG	Checked GM

BARCO PROJECTION SYSTEMS

780044-2



Modifications reserved



Modifications reserved

Name	Article nr.
Convergence (final amplifiers)	761772 05
Date: 15/04/1991	Drawn: PGOE / Checked: GM

BARCO PROJECTION SYSTEMS

BARCO

COMP.	LOC.	SHEET
C1	A 2	sheet 1
C2	D 1	sheet 1
C3	D 1	sheet 1
C4	D 1	sheet 1
C5	D 1	sheet 1
C6	D 2	sheet 1
C7	D 3	sheet 1
C8	D 3	sheet 1
C9	E 3	sheet 1
C10	E 2	sheet 1
C11	F 2	sheet 1
C12	D 5	sheet 1
C13	D 5	sheet 1
C14	D 3	sheet 1
C15	D 4	sheet 1
C16	D 4	sheet 1
C17	E 4	sheet 1
C18	E 4	sheet 1
C19	F 4	sheet 1
C20	F 4	sheet 1
C21	A 1	sheet 3
C22	B 1	sheet 3
C23	A 2	sheet 3
C24	B 2	sheet 3
C25	A 4	sheet 3
C26	B 4	sheet 3
C27	A 5	sheet 3
C28	B 5	sheet 3
C29	A 3	sheet 1
C30	A 6	sheet 1
C31	B 6	sheet 1
C32	A 2	sheet 4
C33	B 2	sheet 4
C34	B 3	sheet 4
C35	B 4	sheet 4
C36	B 5	sheet 4
C37	D 6	sheet 1
C38	D 6	sheet 1
C39	E 6	sheet 1
C40	E 6	sheet 1
C41	C 6	sheet 1
C42	C 6	sheet 1
C43	C 6	sheet 1
C44	D 6	sheet 1
C45	E 6	sheet 1
C46	C 6	sheet 1
C47	E 6	sheet 1
C50	D 1	sheet 1
C51	E 1	sheet 1
C57	B 1	sheet 1
C58	C 1	sheet 1
C59	C 1	sheet 1
C60	B 2	sheet 1
C61	C 2	sheet 1
C62	C 2	sheet 1
C63	B 2	sheet 1
C64	C 2	sheet 1
C65	B 3	sheet 1
C66	C 3	sheet 1
C67	B 5	sheet 1
C68	A 5	sheet 1
C69	B 5	sheet 1
C70	E 6	sheet 1
C71	C 6	sheet 1
C72	E 1	sheet 1
C73	B 3	sheet 1
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C90	A 3	sheet 5
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C93	B 3	sheet 5
C95	B 4	sheet 5
C97	B 3	sheet 5
C120	B 2	sheet 3
C121	B 3	sheet 3
C122	B 4	sheet 3
C123	B 5	sheet 3
C124	C 2	sheet 3
C125	B 2	sheet 4
C126	B 3	sheet 4
C127	B 4	sheet 4
C128	D 2	sheet 2
C129	D 2	sheet 2
C130	F 2	sheet 2
C131	F 2	sheet 2
C132	E 4	sheet 2
C133	E 4	sheet 2
C135	G 4	sheet 2
C136	G 4	sheet 2
C137	E 3	sheet 4
C138	F 3	sheet 4
C139	F 3	sheet 4
C140	F 4	sheet 4
C141	F 4	sheet 4
C142	G 4	sheet 4
C143	G 4	sheet 4
C145	E 3	sheet 4
C150	C 5	sheet 1
C151	C 5	sheet 1
C500	C 2	sheet 5
C501	C 3	sheet 5
C502	F 1	sheet 5
C503	F 3	sheet 5
C700	G 5	sheet 1
C701	G 5	sheet 1
C702	G 5	sheet 1
C703	G 4	sheet 1
C704	G 4	sheet 1
C705	F 4	sheet 1
C706	G 4	sheet 1
C707	G 3	sheet 1

COMP.	LOC.	SHEET
D2	D 1	sheet 1
D4	D 2	sheet 1
D6	F 1	sheet 1
D7	F 1	sheet 1
D8	F 3	sheet 1
D9	F 3	sheet 1
D10	F 3	sheet 1
D11	E 5	sheet 1
D12	E 5	sheet 1
D13	C 1	sheet 2
D14	C 2	sheet 2
D15	C 4	sheet 2
D16	A 3	sheet 4
D25	A 3	sheet 5
D26	A 3	sheet 5
D27	B 3	sheet 5
D29	B 4	sheet 5
D31	D 2	sheet 5
D32	G 2	sheet 5
D33	D 3	sheet 5
D34	G 3	sheet 5
D50	F 1	sheet 5
D51	F 1	sheet 5
D52	F 1	sheet 5
D53	F 1	sheet 5
D55	F 3	sheet 5
D56	F 3	sheet 5
D57	F 3	sheet 5
D58	F 3	sheet 5
D60	C 5	sheet 1
D61	C 5	sheet 1
D100	E 1	sheet 5
D101	E 3	sheet 5
D102	H 1	sheet 5
D103	H 3	sheet 5
D104	E 2	sheet 5
D105	E 4	sheet 5
D106	H 2	sheet 5
D107	H 4	sheet 5
D700	F 4	sheet 1
IC1	D 5	sheet 1
IC1	E 1	sheet 1
IC1	F 4	sheet 1
IC1	F 2	sheet 1
IC1	A 2	sheet 1
IC2	D 5	sheet 1
IC2	F 1	sheet 1
IC2	A 3	sheet 1
IC3	E 3	sheet 1
IC4	E 4	sheet 1
IC5	A 4	sheet 1
IC5	C 3	sheet 2
IC5	C 2	sheet 2
IC5	C 2	sheet 2
IC5	C 1	sheet 2
IC6	A 4	sheet 1
IC6	C 6	sheet 2
IC6	C 5	sheet 2
IC6	C 4	sheet 2
IC6	C 4	sheet 2
IC7	A 2	sheet 1
IC7	A 3	sheet 2
IC8	A 5	sheet 1
IC8	B 3	sheet 2
IC8	B 5	sheet 2
IC8	B 5	sheet 2
IC8	B 4	sheet 2
IC9	A 5	sheet 1
IC9	B 1	sheet 2
IC9	B 2	sheet 2
IC9	B 3	sheet 2
IC9	B 2	sheet 2
IC10	B 1	sheet 3
IC11	B 2	sheet 3
IC12	B 3	sheet 3
IC13	B 4	sheet 3
IC14	B 1	sheet 4
IC15	B 2	sheet 4
IC16	B 4	sheet 4
IC17	B 5	sheet 4
IC18	A 1	sheet 1
IC18	A 1	sheet 1
IC18	C 2	sheet 3
IC19	C 1	sheet 4
IC20	A 2	sheet 1
IC20	C 4	sheet 4
IC21	A 5	sheet 1
IC21	A 5	sheet 1
IC21	D 2	sheet 3
IC21	D 2	sheet 3
IC21	D 1	sheet 3
IC21	D 1	sheet 3
IC22	A 6	sheet 1
IC22	A 6	sheet 1
IC22	D 3	sheet 3
IC22	D 3	sheet 3
IC22	D 3	sheet 3
IC22	D 3	sheet 3
IC23	A 6	sheet 1
IC23	A 6	sheet 1
IC23	D 5	sheet 3
IC23	D 5	sheet 3
IC23	D 4	sheet 3
IC23	D 4	sheet 3
IC24	A 6	sheet 1
IC24	A 6	sheet 1
IC24	D 5	sheet 3
IC24	D 5	sheet 3
IC24	D 6	sheet 3
IC24	D 6	sheet 3

COMP.	LOC.	SHEET
IC25	B 5	sheet 1
IC25	D 2	sheet 4
IC25	D 1	sheet 4
IC25	D 2	sheet 4
IC26	B 6	sheet 1
IC26	D 3	sheet 4
IC26	D 3	sheet 4
IC26	D 3	sheet 4
IC26	D 3	sheet 4
IC27	B 6	sheet 1
IC27	D 5	sheet 4
IC27	D 4	sheet 4
IC27	D 5	sheet 4
IC27	D 4	sheet 4
IC28	B 6	sheet 1
IC28	D 5	sheet 4
IC28	D 6	sheet 4
IC28	D 6	sheet 4
IC28	D 5	sheet 4
IC29	B 6	sheet 1
IC29	A 2	sheet 4
IC29	A 2	sheet 4
IC30	E 6	sheet 1
IC31	C 6	sheet 1
IC32	A 3	sheet 1
IC32	A 3	sheet 1
IC32	C 2	sheet 5
IC32	F 2	sheet 5
IC32	C 4	sheet 5
IC32	F 4	sheet 5
IC37	C 1	sheet 1
IC38	C 2	sheet 1
IC39	C 1	sheet 1
IC40	C 3	sheet 1
IC41	D 1	sheet 2
IC42	E 2	sheet 2
IC43	F 2	sheet 2
IC44	G 2	sheet 2
IC45	D 3	sheet 2
IC46	E 3	sheet 2
IC47	F 3	sheet 2
IC48	G 3	sheet 2
IC49	E 2	sheet 3
IC50	F 2	sheet 3
IC51	F 2	sheet 3
IC52	G 2	sheet 3
IC53	E 3	sheet 3
IC54	F 3	sheet 3
IC55	F 3	sheet 3
IC56	G 3	sheet 3
IC57	E 2	sheet 4
IC58	F 2	sheet 4
IC59	G 2	sheet 4
IC60	G 2	sheet 4
IC61	E 4	sheet 4
IC62	F 4	sheet 4
IC63	G 4	sheet 4
IC64	G 4	sheet 4
IC600	A 3	sheet 1
IC600	A 4	sheet 1
IC700	G 2	sheet 1
IC700	G 5	sheet 1
IC700	G 5	sheet 1
IC700	G 5	sheet 1
IC701	G 5	sheet 1
IC703	H 1	sheet 1
IC703	G 5	sheet 1
IC703	G 5	sheet 1
IC703	G 5	sheet 1
IC704	G 4	sheet 1
IC811	A 3	sheet 1
IC812	A 2	sheet 1
IC816	A 2	sheet 1
IC820	A 5	sheet 1
IC821	A 5	sheet 1
IC823	A 4	sheet 1
IC824	A 4	sheet 1
IC828	A 2	sheet 1
IC832	B 5	sheet 1
IC833	B 6	sheet 1
IC835	B 6	sheet 1
IC838	B 6	sheet 1
IC839	B 6	sheet 1
J100	D 6	sheet 1
J102	C 6	sheet 1
J700	H 1	sheet 1
J701	H 2	sheet 1
L1	D 6	sheet 1
L2	B 6	sheet 1
L700	G 3	sheet 1
P1	E 2	sheet 1
P2	E 4	sheet 1
Q1	D 1	sheet 1
Q2	D 1	sheet 1
Q3	F 1	sheet 1
Q4	F 2	sheet 1
Q5	F 4	sheet 1
Q6	C 1	sheet 2
Q7	C 2	sheet 2
Q8	C 4	sheet 2
Q9	C 5	sheet 2
Q10	B 1	sheet 3
Q11	B 2	sheet 3
Q12	B 2	sheet 3
Q13	B 3	sheet 3
Q14	B 3	sheet 3
Q15	B 4	sheet 3

COMP.	LOC.	SHEET
Q16	B 5	sheet 3
Q17	B 5	sheet 3
Q18	B 2	sheet 4
Q19	C 2	sheet 4
Q20	B 3	sheet 4
Q21	C 3	sheet 4
Q22	B 4	sheet 4
Q23	C 4	sheet 4
Q24	B 5	sheet 4
Q25	C 5	sheet 4
Q29	B 4	sheet 5
Q30	B 2	sheet 5
Q31	B 3	sheet 5
Q32	B 4	sheet 5
Q33	B 4	sheet 5
Q34	B 3	sheet 5
Q50	C 5	sheet 1
Q51	C 5	sheet 1
Q100	D 2	sheet 5
Q101	D 4	sheet 5
Q102	G 2	sheet 5
Q103	G 4	sheet 5
Q104	D 1	sheet 5
Q105	D 3	sheet 5
Q106	G 1	sheet 5
Q107	G 3	sheet 5
Q108	E 1	sheet 5
Q109	E 3	sheet 5
Q110	H 1	sheet 5
Q111	H 3	sheet 5
Q112	E 2	sheet 5
Q113	E 3	sheet 5
Q114	H 2	sheet 5
Q115	H 3	sheet 5
Q700	G 4	sheet 1
Q701	G 3	sheet 1
Q702	G 3	sheet 1
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R2	D 1	sheet 1
R3	D 1	sheet 1
R4	D 2	sheet 1
R5	D 1	sheet 1
R6	E 1	sheet 1
R7	F 1	sheet 1
R8	F 1	sheet 1
R9	F 2	sheet 1
R10	F 2	sheet 1
R11	E 2	sheet 1
R12	D 3	sheet 1
R13	E 2	sheet 1
R14	E 2	sheet 1
R15	D 3	sheet 1
R16	E 3	sheet 1
R17	E 3	sheet 1
R18	E 2	sheet 1
R19	E 3	sheet 1
R20	E 2	sheet 1
R21	E 3	sheet 1
R22	F 3	sheet 1
R23	F 3	sheet 1
R24	F 3	sheet 1
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R26	D 5	sheet 1
R27	D 5	sheet 1
R28	E 5	sheet 1
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R32	E 3	sheet 1
R33	E 4	sheet 1
R34	D 4	sheet 1
R35	E 4	sheet 1
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R37	E 3	sheet 1
R38	E 4	sheet 1
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R40	E 4	sheet 1
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R52	C 3	sheet 2
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R56	C 4	sheet 2
R57	C 4	sheet 2
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R61	C 5	sheet 2
R62	C 5	sheet 2
R63	C 5	sheet 2
R64	B 1	sheet 2
R65	B 1	sheet 2
R66	B 1	sheet 2
R67	B 2	sheet 2
R68	B 3	sheet 2
R69	B 3	sheet 2
R70	B 4	sheet 2
R71	B 4	sheet 2
R72	B 4	sheet 2
R73	B 5	sheet 2
R74	B 5	sheet 2

COMP.	LOC.	SHEET
R75	B 5	sheet 2
R76	A 1	sheet 3
R78	B 1	sheet 3
R79	A 2	sheet 3
R80	B 2	sheet 3
R81	B 2	sheet 3
R82	A 1	sheet 3
R83	B 1	sheet 3
R84	B 1	sheet 3
R85	B 2	sheet 3
R86	B 1	sheet 3
R87	B 1	sheet 3
R88	B 2	sheet 3
R89	B 2	sheet 3
R90	B 2	sheet 3
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R92	B 3	sheet 3
R93	B 3	sheet 3
R94	A 2	sheet 3
R95	B 2	sheet 3
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R97	B 3	sheet 3
R98	B 2	sheet 3
R99	B 3	sheet 3
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R101	B 3	sheet 3
R102	B 4	sheet 3
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R105	B 4	sheet 3
R106	A 4	sheet 3
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R111	B 4	sheet 3
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R114	B 5	sheet 3
R115	A 5	sheet 3
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R118	A 5	sheet 3
R119	B 5	sheet 3
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R122	B 5	sheet 3
R123	B 5	sheet 3
R124	B 5	sheet 3
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R129	B 2	sheet 4
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R132	B 1	sheet 4
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R171	B 5	sheet 4
R172	B 5	sheet 4
R173	B 5	sheet 4
R174	C 1	sheet 3
R175	C 1	sheet 3
R176	D 1	sheet 3
R177	D 1	sheet 3
R178	D 1	sheet 3
R179	D 1	sheet 3
R180	C 3	sheet 3
R181	C 3	sheet 3
R182	D 3	sheet 3
R183	D 3	sheet 3
R184	D 3	sheet 3
R185	D 3	sheet 3
R186	C 4	sheet 3
R187	C 4	sheet 3
R188	D 4	sheet 3
R189	D 4	sheet 3
R190	D 4	sheet 3

COMP.	LOC.	SHEET
R191	D 4	sheet 3
R192	C 5	sheet 3
R193	C 6	sheet 3
R194	D 6	sheet 3
R195	D 5	sheet 3
R196	D 6	sheet 3
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R198	D 1	sheet 4
R199	D 2	sheet 4
R200	D 2	sheet 4
R201	C 1	sheet 4
R202	C 2	sheet 4
R203	D 2	sheet 4
R204	C 3	sheet 4
R205	C 3	sheet 4
R206	D 3	sheet 4
R207	D 3	sheet 4
R208	D 3	sheet 4
R209	D 3	sheet 4
R210	C 4	sheet 4
R211	C 4	sheet 4
R212	D 4	sheet 4
R213	D 4	sheet 4
R214	D 4	sheet 4
R215	D 4	sheet 4
R216	C 5	sheet 4
R217	C 6	sheet 4
R218	D 6	sheet 4
R219	D 5	sheet 4
R220	D 6	sheet 4
R221	D 6	sheet 4
R222	E 6	sheet 1
R223	E 6	sheet 1
R224	C 6	sheet 1
R225	D 6	sheet 1
R226	C 2	sheet 5
R227	F 2	sheet 5
R233	F 1	sheet 5
R234	F 4	sheet 5
R240	C 3	sheet 5
R241	C 2	sheet 5
R247	F 3	sheet 5
R248	C 4	sheet 5
R254	C 1	sheet 1
R255	C 1	sheet 1
R256	C 2	sheet 1
R257	C 3	sheet 1
R258	F 1	sheet 1
R259	E 1	sheet 1
R260	E 2	sheet 2
R261	E 2	sheet 2
R262	E 2	sheet 2
R263	E 2	sheet 2
R264	F 2	sheet 2
R265	F 2	sheet 2
R266	F 2	sheet 2
R267	F 2	sheet 2
R268	G 2	sheet 2
R269	G 2	sheet 2
R270	G 2	sheet 2
R271	G 2	sheet 2
R272	H 2	sheet 2
R273	H 2	sheet 2
R274	H 2	sheet 2
R275	H 2	sheet 2
R276	E 4	sheet 2
R277	E 4	sheet 2
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R282	F 4	sheet 2
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R316	G 4	sheet 3
R317	G 4	sheet 3
R318	G 4	sheet 3
R319	G 4	sheet 3
R320	H 4	sheet 3
R321	H 4	sheet 3

COMP.	LOC.	SHEET
R322	H 4	sheet 3
R323	H 4	sheet 3
R324	E 3	sheet 4
R325	E 3	sheet 4
R326	E 3	sheet 4
R327	F 3	sheet 4
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R335	G 3	sheet 4
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R339	H 3	sheet 4
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R341	E 4	sheet 4
R342	E 4	sheet 4
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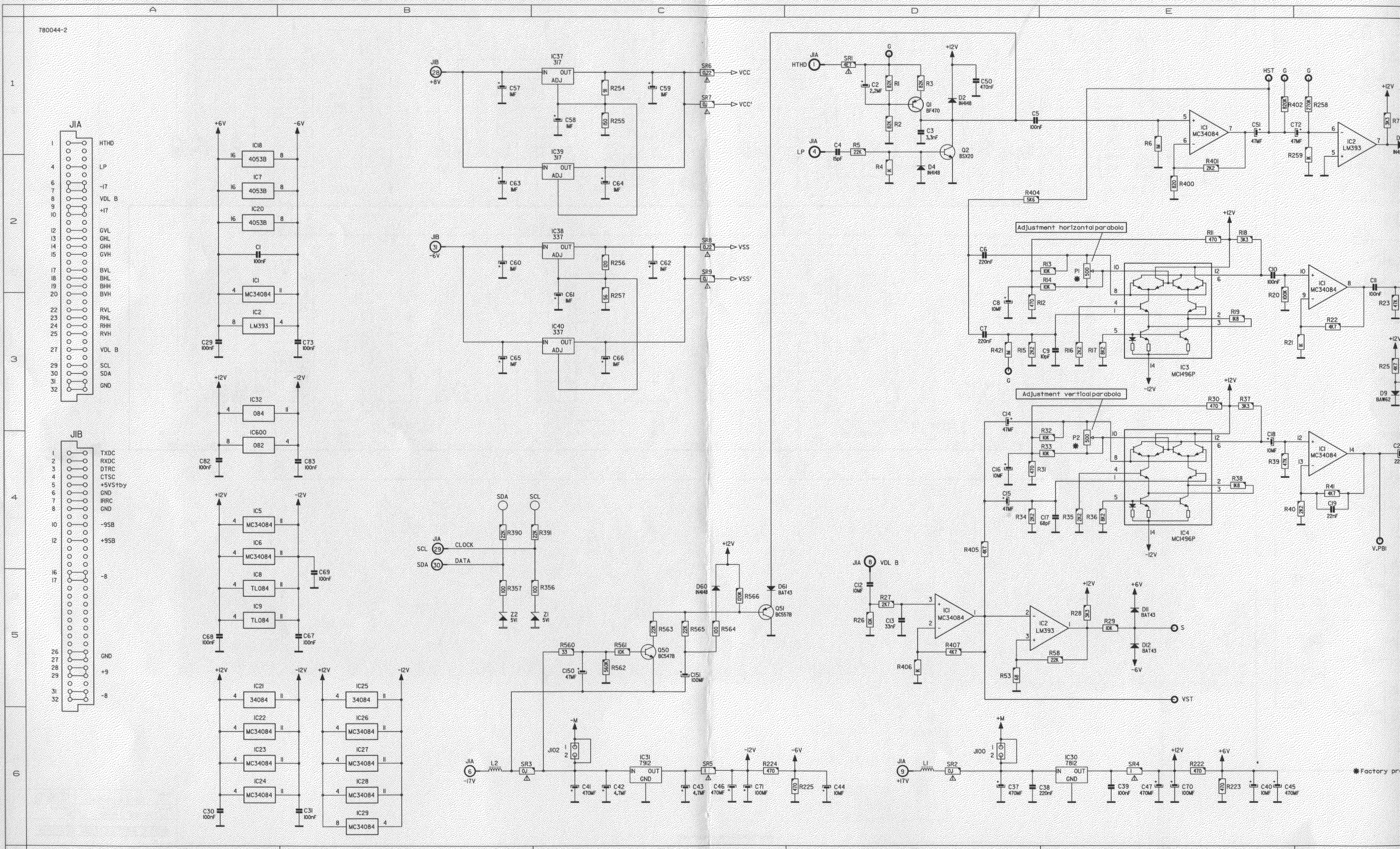
R345	F 4	sheet 4
R346	F 4	sheet 4
R347	F 4	sheet 4
R348	G 4	sheet 4
R349	G 4	sheet 4
R350	G 4	sheet 4
R351	G 4	sheet 4
R352	H 4	sheet 4
R353	H 4	sheet 4
R354	H 4	sheet 4
R355	H 4	sheet 4
R356	C 5	sheet 1
R357	B 5	sheet 1
R358	A 2	sheet 4
R360	A 3	sheet 5
R362	A 4	sheet 5
R363	A 4	sheet 5
R364	B 4	sheet 5
R365	B 3	sheet 5
R366	A 2	sheet 5
R367	B 3	sheet 5
R368	A 3	sheet 3
R370	C 5	sheet 3
R371	D 5	sheet 3
R372	C 4	sheet 3
R373	D 4	sheet 3
R374	C 2	sheet 3
R375	D 2	sheet 3
R376	C 1	sheet 3
R377	D 1	sheet 3
R378	C 5	sheet 4
R379	D 5	sheet 4
R380	C 4	sheet 4
R381	D 4	sheet 4
R382	C 3	sheet 4
R383	D 3	sheet 4
R384	D 1	sheet 4
R385	C 1	sheet 4
R386	C 2	sheet 5
R387	C 4	sheet 5
R388	F 2	sheet 5
R389	F 4	sheet 5
R390	B 4	sheet 1
R391	C 4	sheet 1
R400	E 2	sheet 1
R401	E 2	sheet 1
R402	E 1	sheet 1
R404	D 2	sheet 1
R405	D 4	sheet 1
R406	D 5	sheet 1
R407	D 5	sheet 1
R409	C 1	sheet 2
R410	C 1	sheet 2
R411	C 2	sheet 2
R412	C 2	sheet 2
R413	C 3	sheet 2
R414	C 4	sheet 2
R415	C 5	sheet 2
R416	C 5	sheet 2
R417	A 1	sheet 2
R418	A 2	sheet 2
R419	A 3	sheet 2
R420	A 5	sheet 2
R421	D 3	sheet 1
R423	A 3	sheet 2
R500	C 2	sheet 5
R501	C 4	sheet 5
R502	F 2	sheet 5
R503	F 4	sheet 5
R504	D 2	sheet 5
R505	D 4	sheet 5
R506	G 2	sheet 5
R507	G 4	sheet 5
R508	D 1	sheet 5
R509	D 3	sheet 5
R510	G 1	sheet 5
R511	G 3	sheet 5
R512	D 2	sheet 5
R513	D 4	sheet 5
R514	G 2	sheet 5
R515	G 4	sheet 5
R516	D 2	sheet 5
R517	D 4	sheet 5
R518	G 2	sheet 5
R519	G 4	sheet 5
R520	D 1	sheet 5
R521	D 3	sheet 5
R522	G 1	sheet 5

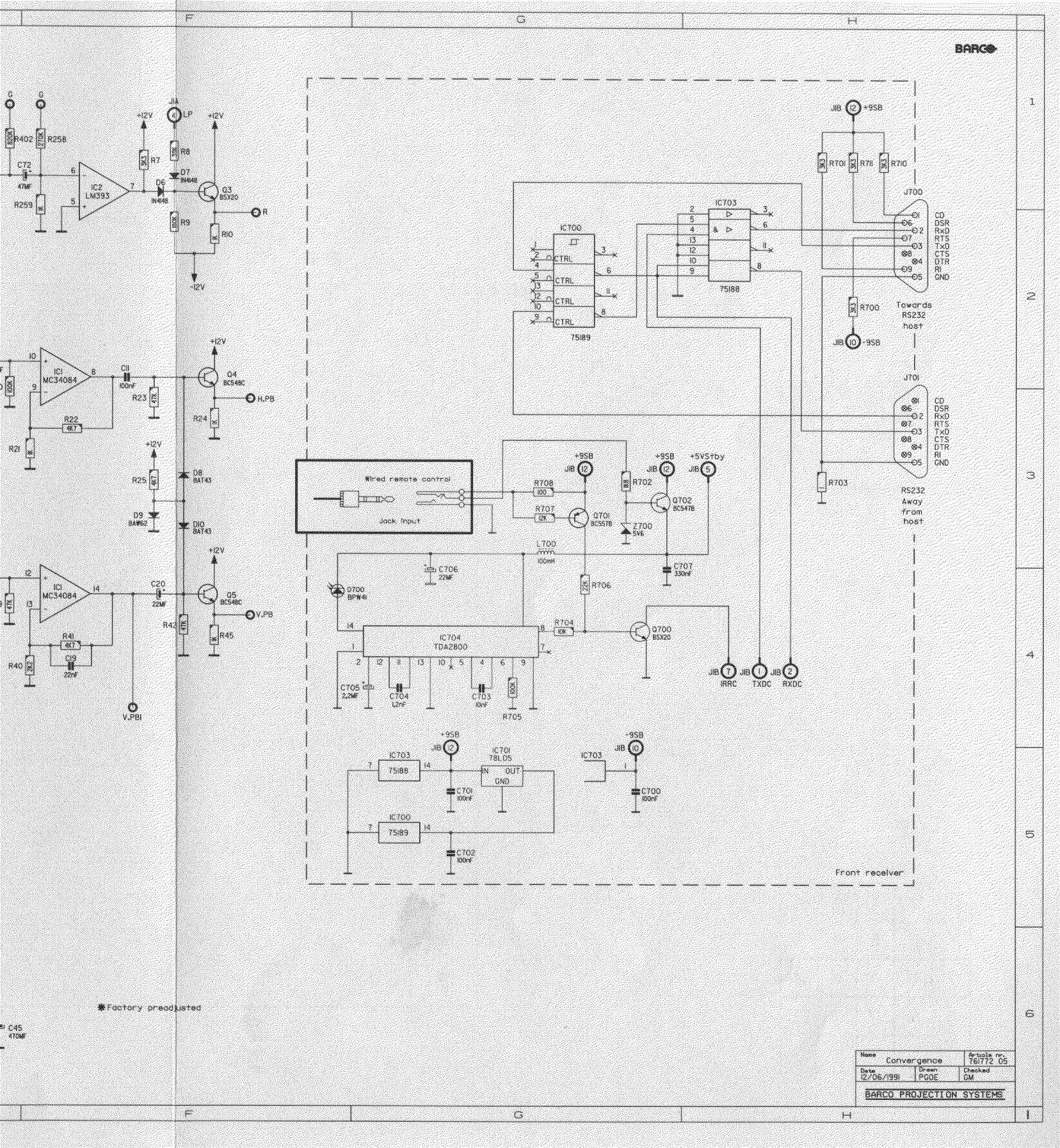
COMP.	LOC.	SHEET
R523	G 3	sheet 5
R524	D 2	sheet 5
R525	D 4	sheet 5
R526	G 2	sheet 5
R527	G 4	sheet 5
R528	D 2	sheet 5
R529	D 4	sheet 5
R530	G 2	sheet 5
R531	G 4	sheet 5
R532	E 2	sheet 5
R533	E 4	sheet 5
R534	H 2	sheet 5
R535	H 4	sheet 5
R536	E 2	sheet 5
R537	E 4	sheet 5
R538	H 2	sheet 5
R539	H 4	sheet 5
R550	F 1	sheet 5
R551	F 2	sheet 5
R555	F 3	sheet 5
R556	F 3	sheet 5
R560	C 5	sheet 1
R561	C 5	sheet 1
R562	C 5	sheet 1
R563	C 5	sheet 1
R564	C 5	sheet 1
R565	C 5	sheet 1
R566	C 5	sheet 1
R686	E 5	sheet 5
R687	H 5	sheet 5
R700	H 2	sheet 1
R701	H 1	sheet 1
R702	G 3	sheet 1
R703	H 3	sheet 1
R704	G 4	sheet 1
R705	G 4	sheet 1
R706	G 4	sheet 1
R707	G 3	sheet 1
R708	G 3	sheet 1
R710	H 1	sheet 1
R711	H 1	sheet 1
SR1	D 1	sheet 1
SR2	D 6	sheet 1
SR3	B 6	sheet 1
SR4	E 6	sheet 1
SR5	C 6	sheet 1
SR6	C 1	sheet 1
SR7	C 1	sheet 1
SR8	C 2	sheet 1
SR9	C 2	sheet 1
Wired	G 3	sheet 1
Z1	C 5	sheet 1
Z2	B 5	sheet 1
Z700	G 3	sheet 1

Name	Article nr.
Component location	761772 05

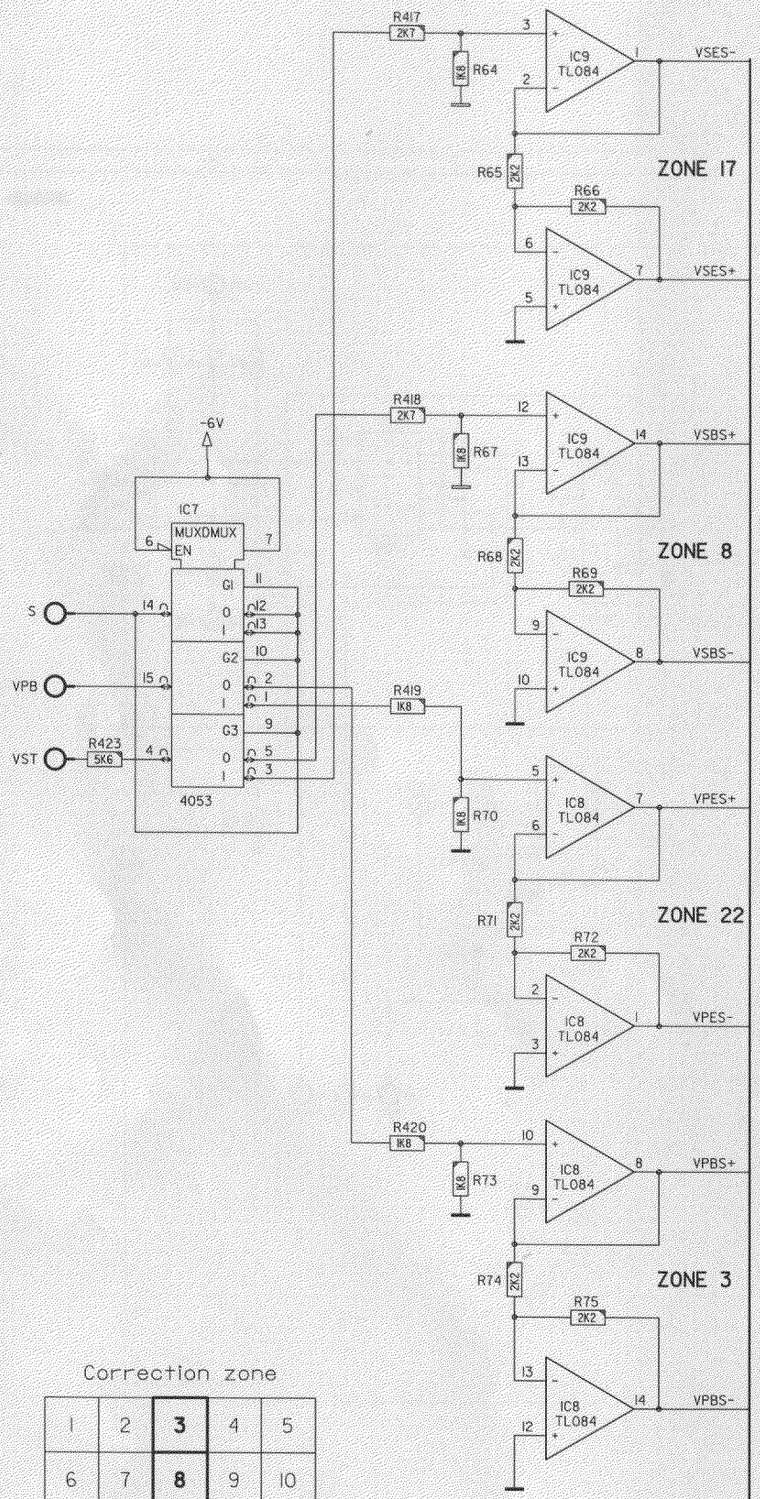
Date	Drawn	Checked
12/06/1991	PGOE	GM

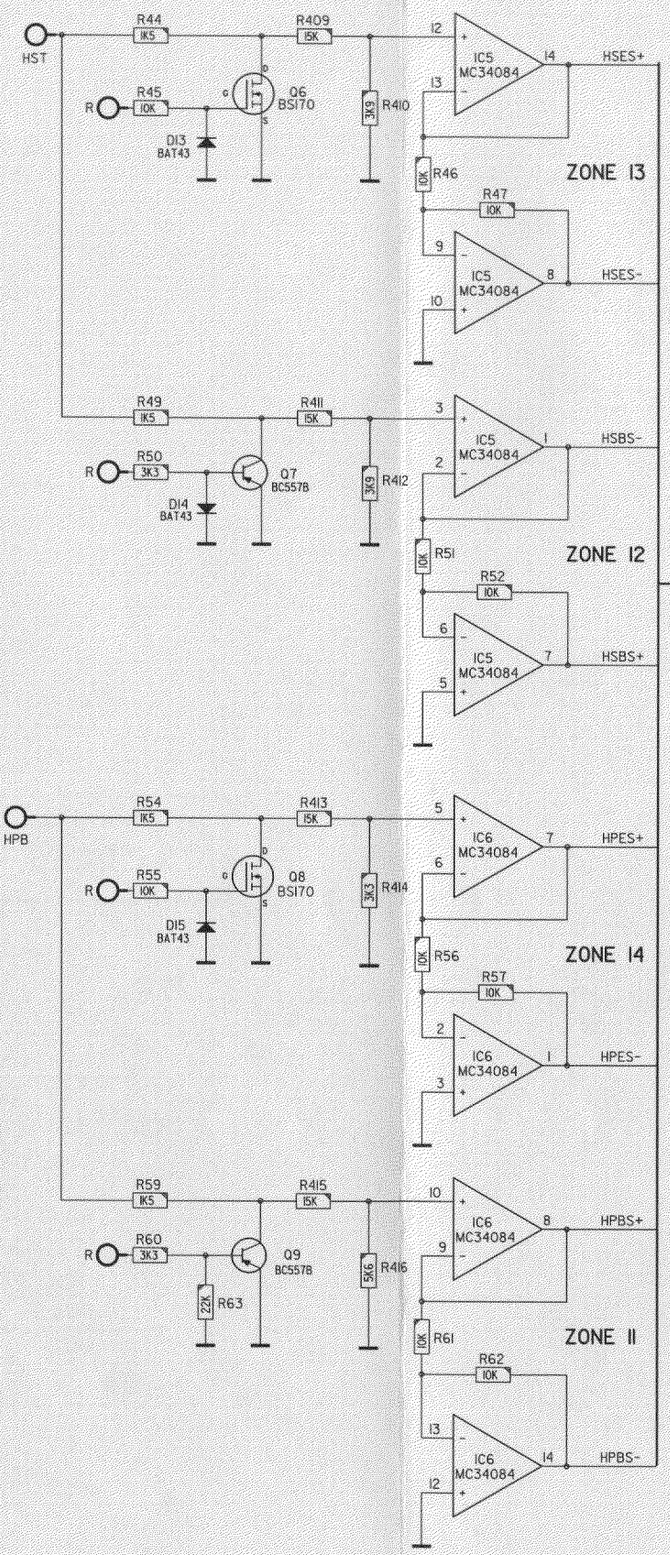
BARCO PROJECTION SYSTEMS

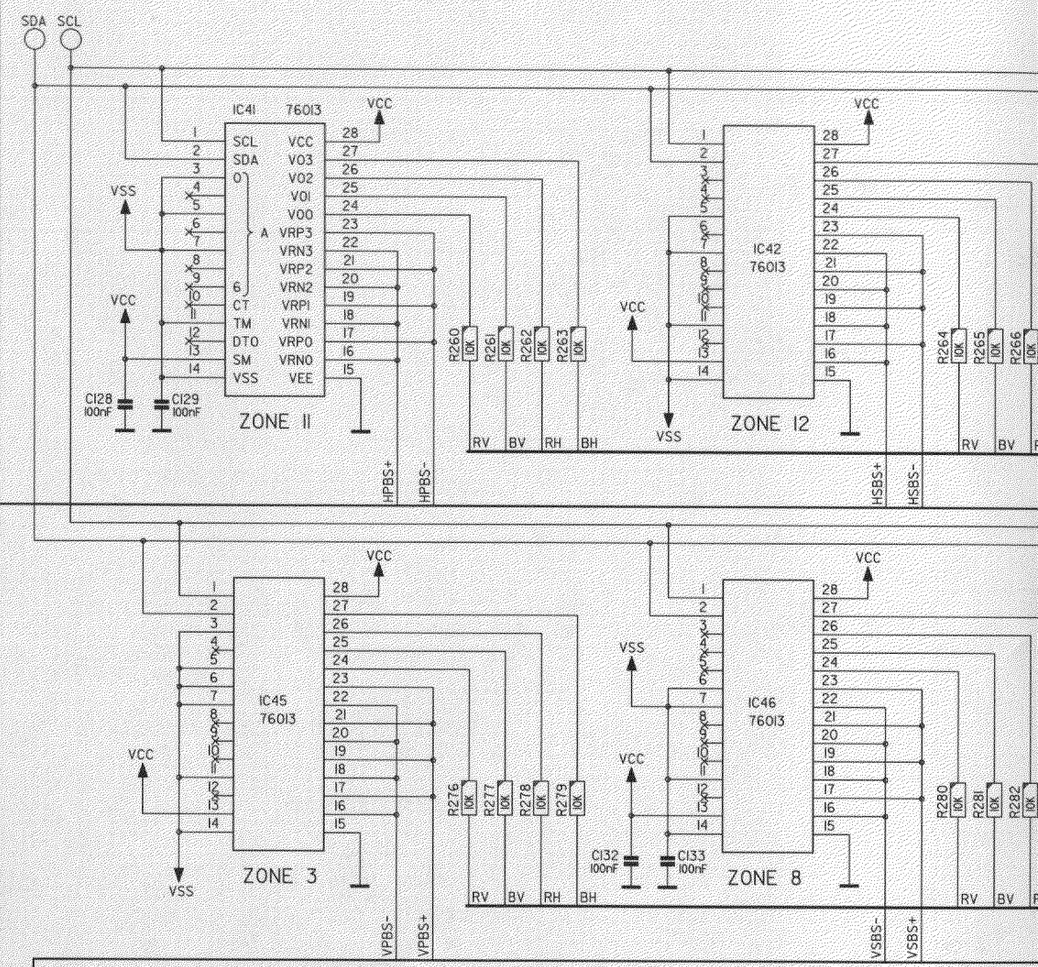

780044-2
A
B
C
D
E
1
2
3
4
5
6
JIA
HTHD
LP
-I7
VDL B
+I7
GVL
GHL
GHH
GVH
BVL
BHL
BHH
BVH
RVL
RHL
RHH
RVH
SCL
SDA
GND
JIB
TXDC
RXDC
DTRC
CTSC
+5VStby
IRRC
-9SB
+9SB
-8
+9
IC18 4053B
IC7 4053B
IC20 4053B
IC1 MC34084
IC2 LM393
IC32 084
IC600 082
IC5 MC34084
IC6 MC34084
IC8 TL084
IC9 TL084
IC21 34084
IC22 MC34084
IC23 MC34084
IC24 MC34084
IC25 34084
IC26 MC34084
IC27 MC34084
IC28 MC34084
IC29 MC34084
IC37 317
IC39 317
IC38 337
IC40 337
IN OUT ADJ
VCC
VCC'
VSS
VSS'
CLOCK
DATA
Q50 BC547B
Q51 BC557B
Q1 BF470
Q2 BSX20
D61 BAT43
D60 IN4148
HST
Adjustment horizontalparabola
Adjustment verticalparabola
IC3 MC1496P
IC4 MC1496P
V.PBI
VST
IC31 7912
IC30 7812
GND
J102
J100
-M
+M
-I7V
+I7V
✱Factory pr


BARCO
Front receiver
Wired remote control
Jack Input
IC2 LM393
IC1 MC34084
IC704 TDA2800
IC703 75188
IC700 75189
IC701 78L05
J700
J701
Towards RS232 host
RS232 Away from host
CD
DSR
RxD
RTS
TxD
CTS
DTR
RI
GND
IRRC
TXDC
RXDC
+12V
-12V
+9SB
-9SB
+5VStby
H.PB
V.PB
V.PBI
R
Factory preadjusted
Name Convergence
Article nr. 761772 05
Date 12/06/1991
Drawn PGOE
Checked GM
BARCO PROJECTION SYSTEMS

78044-2



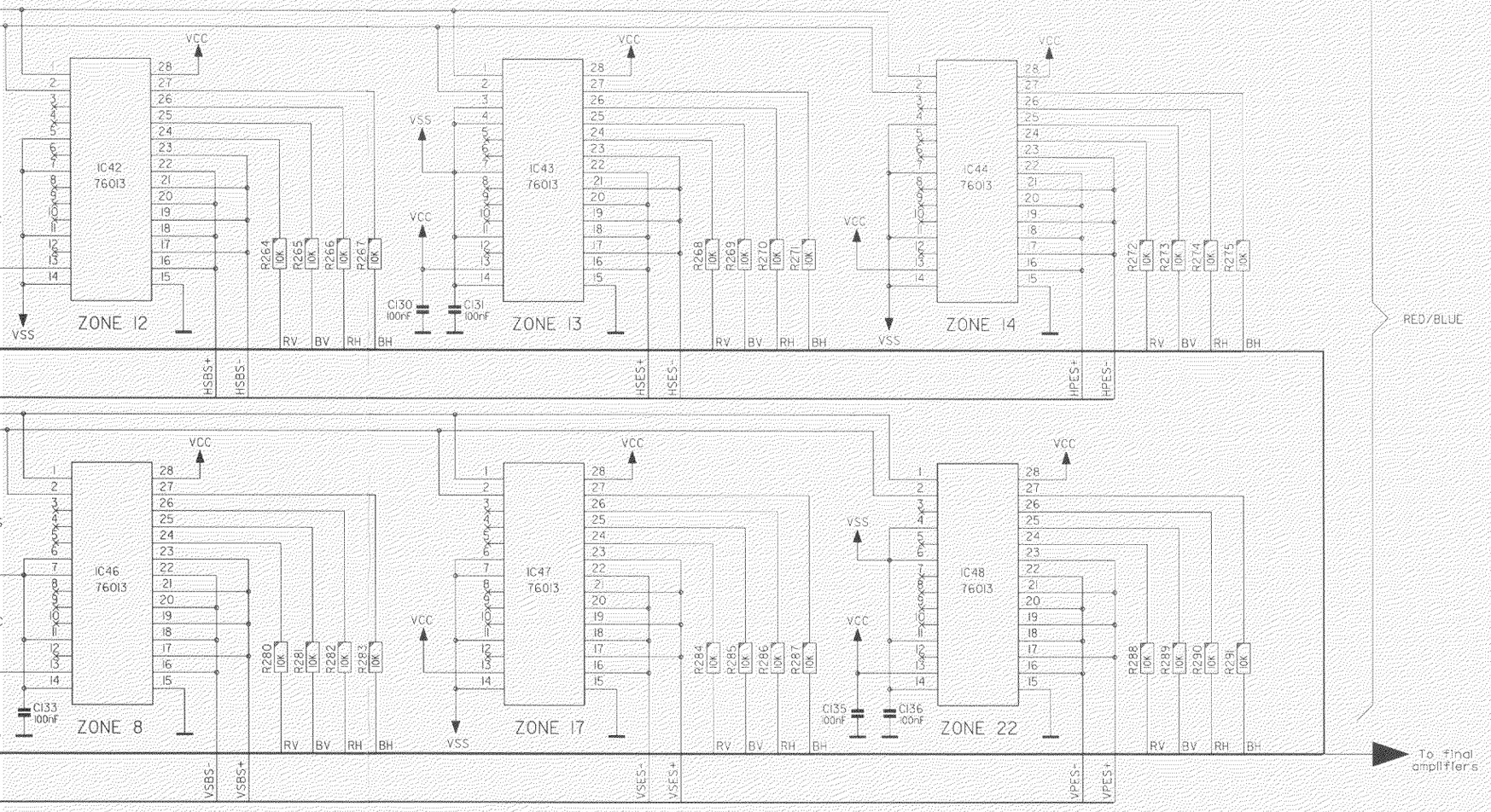




Correction zone

1	2	**3**	4	5
6	7	**8**	9	10
11	**12**		**13**	**14**
15	16	**17**	18	19
20	21	**22**	23	24

Modifications



Name	Convergence	Article nr. 76/172 05
Date 07/06/1991	Drawn PGOE	Checked GM

BARCO PROJECTION SYSTEMS

78044-2

VST

IC10 MC1496P

IC11 MC1496P

IC12 MC1496P

IC13 MC1496P

IC18 MUXDMUX 4053B

RSES+

HSBS-

HPES+

HPBS+

ZONE 18

ZONE 9

ZONE 16

ZONE 7

ZONE 10

ZONE 19

ZONE 6

ZONE 15

IC48 76013

IC49 76013

IC50 76013

IC53 76013

IC54 76013

SDA SCL

ZONE 6

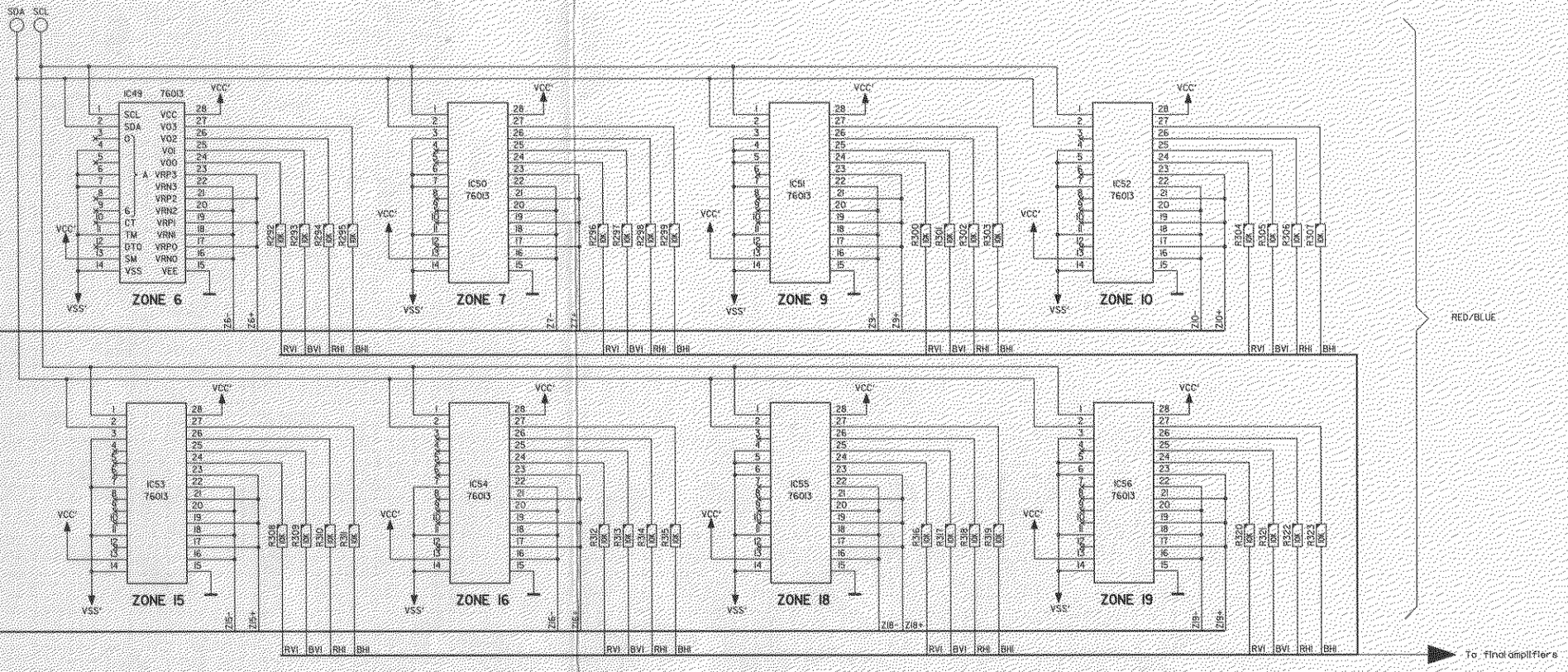
ZONE 7

ZONE 15

ZONE 16

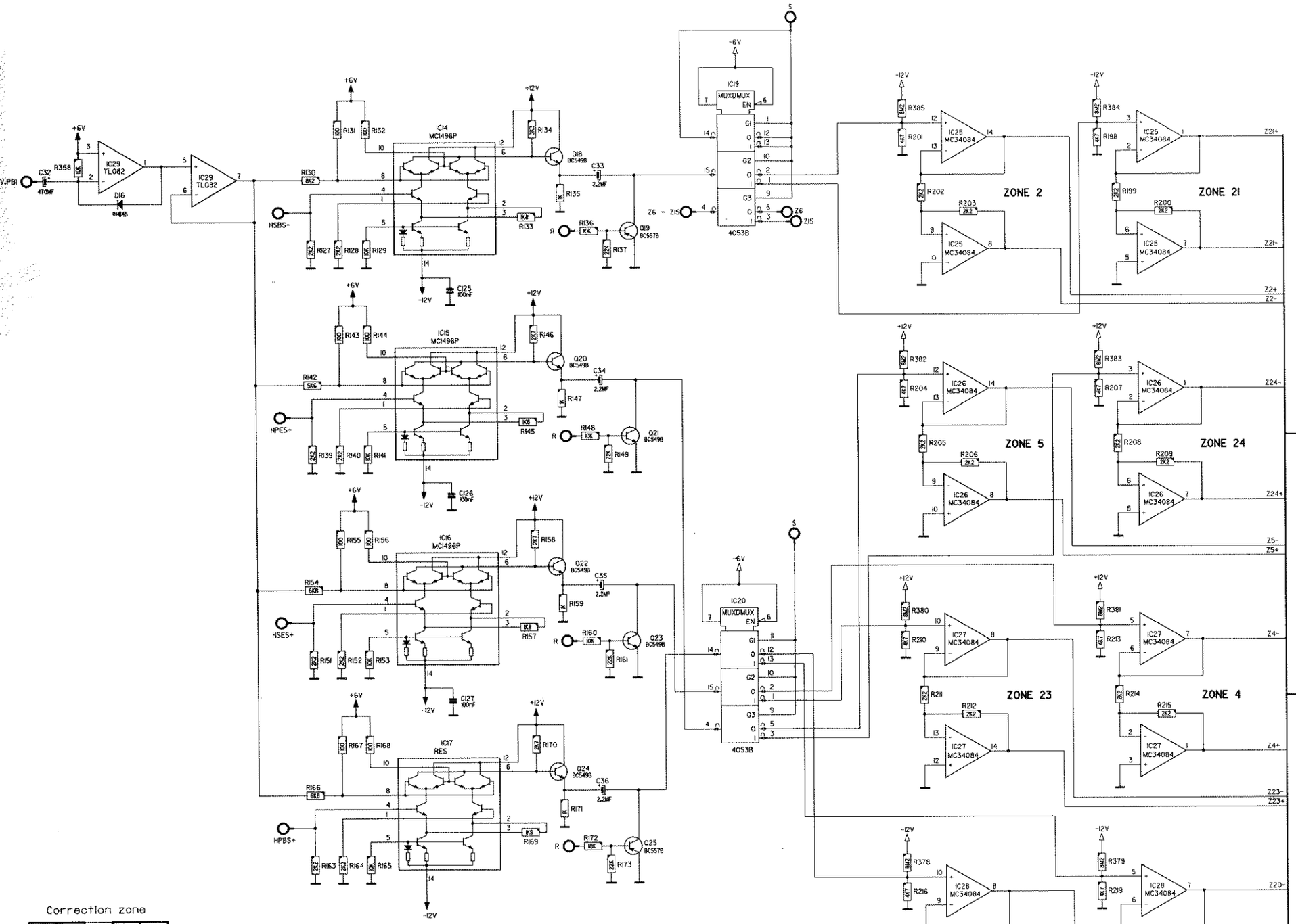
Correction zone

1	2	3	4	5
6	**7**	8	**9**	**10**
11	12		13	14
15	**16**	17	**18**	**19**
20	21	22	23	24



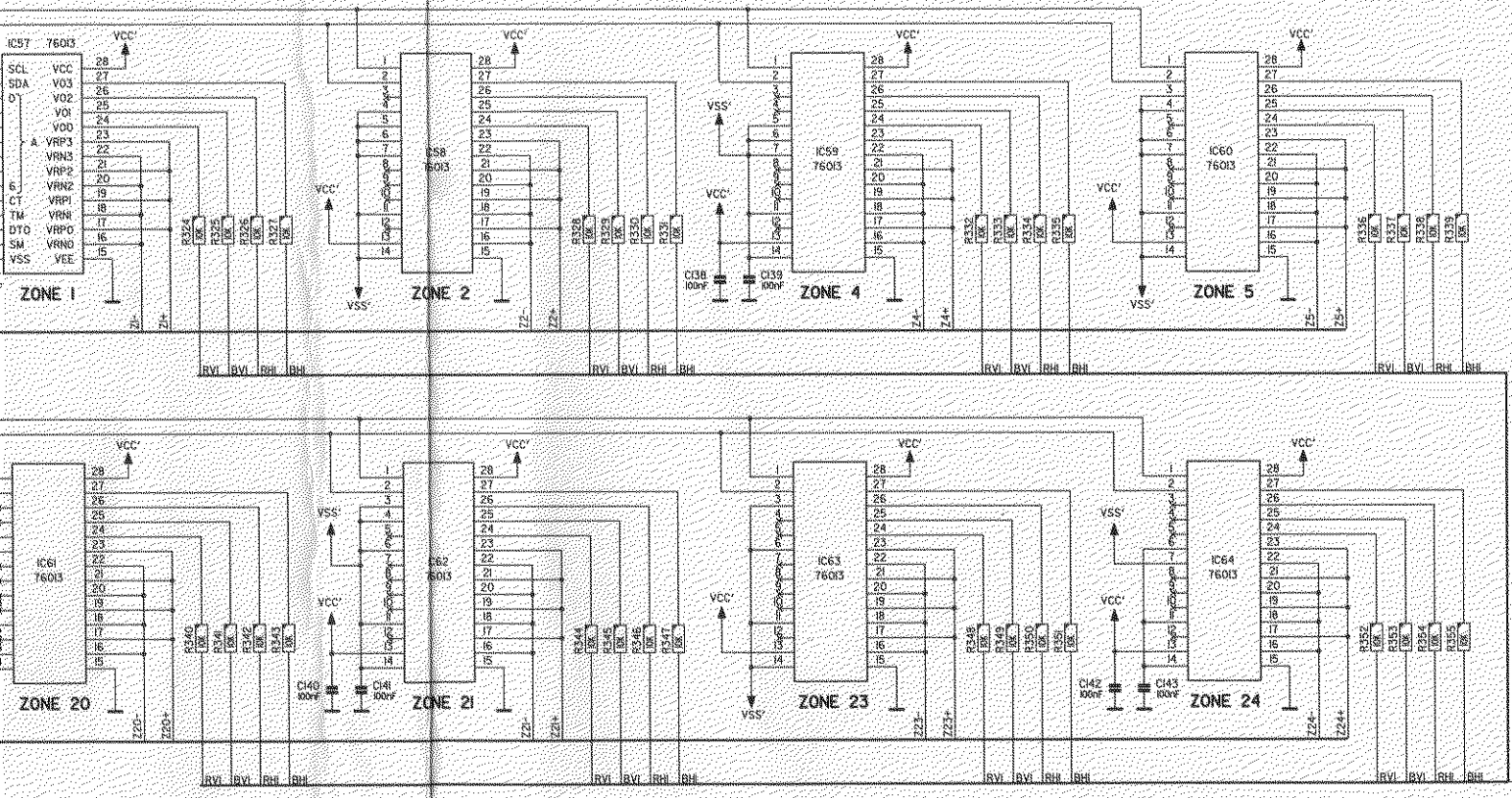
Name	Convergence	Article nr. 761772 05
Date 07/06/1991	Drawn PROE	Checked GM
BARCO PROJECTION SYSTEMS		

780044-2



Correction zone

1	2	3	4	5
6	7	8	9	10
11	12		13	14
15	16	17	18	19
20	21	22	23	24



Modifications reserved

Name	Convergence		Artwork no. 76R172 05
Date 07/06/1991	Drawn PGOE	Checked GM	
BARCO PROJECTION SYSTEMS			

TECHNICAL DESCRIPTION "CONVERGENCE MODULE".

Introduction

The convergence values are stored separately for each source in the EEPROM of the controller board.
The convergence subroutine displays an internal crosshatch at the same frequency of the video source. This crosshatch is divided into 25 zones and a box is drawn around that zone that is being converged. There are two convergence subroutines available: guided and random access.
In the *guided* mode the box is advanced to the next zone by the microprocessor every time the ENTER key is pushed.
In the *random access mode*, the box may be positioned anywhere on the screen with the ARROW keys.
During the convergence alignment the three colours must be properly aligned on top of each other.

When the box is in the center of the picture, the entire pattern is shifted up or downwards, left or right. These alignments are in fact the horizontal and vertical shifts and do not happen on the convergence module but on the North-South and Vertical Deflection boards respectively.

The vertical lines of the crosshatch can be moved in either direction with a variable current at line frequency flowing in the convergence coils. The shape of this current is a sawtooth or a parabola, and can even be modulated on a carrier that is equally a sawtooth or parabola one.

When a sawtooth waveform at line frequency is clamped at ground level during one half (eg. the second half of the scanning) the resulting signal affects only the first part of the scan.

For that clamping purpose rectangular waveforms at line and vertical frequencies must be generated as well.

A sawtoothes waveform (ramp) at line frequency moves the vertical lines of the crosshatch in a linear way. The border lines move much more than the inner lines as the waveform is linearly increasing towards the border.
When on the other hand a parabola shaped current flows in the convergence coils, the border lines move heavily, whereas the inner lines do not move, or, very little.

Pure sawtooths or parabolas are the waveforms used for the zones at the central axises

For either of the four zones in the corners, the signal is **modulated on a carrier**, a sawtooth or parabola.

Each zone can be considered as the cross section of a vertical and a horizontal zone.

As shown at Fig. 1 zone "a" is the cross section of the extreme left zone and the second last horizontal zone. Thus, the signal for that zone is *a horizontal parabola* (= extreme left zone) *modulated on a vertical sawtooth* (second last horizontal zone).

A similar explanation applies on the other three zones of this corner and equally on the other corner zones of the picture.

The description below refers to the sheets 1 - 10 for the first edition and 1 - 5 for the new edition. When a circuit is located on a diferrent page it will be mentionned.

A. GENERATION OF THE WAVEFORMS (sheet 1 of the schematics):

a) At line frequency :

A relaxation sawtooth generator is built up with the aid of the current generator Q1 charging C3.
To keep the amplitude of the sawtooth constant, thus, independent on the line frequency, the HTHD voltage is used. The value of this HTHD voltage is indeed linearly proportional with the horizontal frequency.

The sawtooth is synchronised with the scanning as C3 is discharged through Q2 as soon a line pulse LP is applied to the base of the latter.
Note that the sawtooth is limited to +12 volts with the clipping diode D2, in case the LP pulses are absent.

At starting up, the sawtooth is delayed with the "**Slow Start**" circuit that is connected to the collector of Q2. The schematic of this SLOW START can be found on sheet 5, around Q50 / Q51. On the new schematics (date 12/06/91) on same sheet.

This circuit has a double function:

1. Delay of the sawtooth at starting up:

When the projector is switched on, transistor Q51 is fully conducting. The capacitor C151 means indeed a short at the start and the base of Q51 is biased from the -17V and the +12V with the resistors R565/R566.
However, C151 is gradually charged up and Q51 is cut off after a while.
At switching off R564 / D60 provides a quick discharge path.

2. Inhibition of the ramp generator at an excessive load on the -17volts line :

When on the other hand there exists a heavy load on the -17 volts (absence of the +17 volts) the current through the safety resistor SR3 increases. Q50 now gets in conduction, lowering the base voltage of Q51and thus introducing the conduction of the latter. The ramp generator is inhibited and protects the safety resistor by lowering the load on the - 17 volts supply line.

The sawtooth signal is now passing a non-inverting OPAMP in IC1 and is available as HST (Horizontal SawTooth).

This HST is sent to a rectangular waveform generator:
Pin 5 of IC2 (Level Detector) is at ground level (=reference level). The sawtooth is passing a DC blocking capacitor C72 and reaches then the other input pin 6.
The output is a rectangular signal, passing D5 and the buffer Q3.
Line pulses are added via D7/R8 to speed up the transitions of the signal.

Finally, the rectangular signal "**R**" that will be used further for clamping is got available.

The HST is also sent to a multiplier IC3 to generate a parabolic waveform by multiplying two sawtooths. The parabolic signal is amplified in an OPAMP and capacitively coupled to a buffer. The clamping diodes D8 / D30, together with the coupling capacitor C11 install the minimum DC level of this waveform.

b) At vertical frequency :

VDL (vertical sawtooth of the blue output) passes a non-inverting amplifier behaving also as a buffer. A level detector in IC2 converts the ramp to a rectangular signal limited between +6 and -6 volts with D11/D12. The top/bottom clamping signal **"S"** is born for further use.

The multiplier IC4 delivers a parabola by multiplying two ramps (similar to what happened at line frequency, see a.).

The correct amplitude and shape (speed up in the feedback) is made in an OPAMP of IC1. The V.PBI signal is sent to the corner modulators (see sheet 4) where it undergoes first a clamping before it can be used in the modulators(see sheet 4).

Also, identical to the line parabola, it is buffered with Q5 and is now called V.PB.

As a conclusion we have :

* a HST , HPB and clamping signal "R" at line frequency.
* a VST, VPBI(only for the mosulators), VPB and a clamping "S" signal at vertical frequency.

B. WAVEFORMS FOR THE CENTRAL ZONES (sheet 2, see also fig.2):

a) Vertical axis :

IC7 is a multiplexer/demultiplexer. It comprises three analog controlable switchers,only two are in use. The inputs VPB and VST (Vertical Sawtooth and Vert. Parabola) are switched to one of the outputs identified by "0" and "1" depending on the DC level of the G2, G3 pins.
As the top/bottom rectangular signal "S" is applied to these inputs, the waveforms are sent to the "top" or the "bottom" outputs.
For example output pin 3 of IC7 is a VST for the END of the scanning, or, the bottom and is allocated to zone 17 as it concerns a sawtooth.

Each time the outputs are buffered and inverted in polarity as to get two opposite phased signals.

The same applies on the other zones of the vertical axis (zones 3, 8, 22).

b) Horizontal axis:

In this case clampers are used because the MUXDMUX is not fast enough for the higher scanning frequencies. The HST and HPB waveforms are clamped with switching transistors Q6/Q7/Q8/Q9 during one part of the horizontal scanning (left / right) with the R signal, and again a buffer and inverter deliver the signals for the digital potentiometers.

C. CORNER CONVERGENCE (modulation on a carrier) :

a) Modulation of a waveform at line frequency on a carrier : (sheet 3)

As a rule, the left/right split is got with clamping transistors and the top/bottom split with a MUXDMUX.

To generate a waveform for a corner, the corresponding signal is modulated on a sawtooth or a parabola. Then left / right clamped and finally sent through a switcher for the top/bottom split. Out of the 16 possible combinations, we just pick one as an example.

*** Zone 15 :**

As seen in fig.2 the signal is a horizontal parabola modulated on a vertical sawtooth.

HPBS+ (Horizontal Parabola for the Begin of the Scanning) is modulated on the VST carrier in IC13.

Q17 clamps the output of the buffer at ground level during the second half of the horizontal scan. The Z6+Z15 signal is now sent to the top/bottom splitter IC19 (see sheet 4) and is there available as Z6 (top) and Z15 (bottom). The 4 OPAMP in IC24 (on sheet 3) behave as buffer or as inverter.

The outputs serve the digital potentiometer IC53.

b) Modulation on a parabola carrier : (sheet 4)

The bottom of the vertical parabola V.PBI is first clamped at 6 volts before it reaches the modulators.The above clamper with a diode in the feedback is a *precision clamper* to guarantee a correct +6 volts level for the "bottom" of the parabola required for the modulator. The respective outputs of the modulators are buffered.

Switching transistors clamp now during one half of the scanning the signal at ground before being sent to the top/bottom splitters.

Similar to the former explanation in a) the signals are each time buffered and inverted for the digital potentiometers.

D. ALIGNMENT OF THE WAVEFORMS WITH THE DIGITAL POTENTIOMETERS.

One chip comprises 4 potentiometers. Per zone there are 4 alignments, two for the red and two for the blue color. Thus, one chip is assigned to one zone as showed on the schematics.

Each chip has its own hard wired address got by leaving an address pin open (= "1") or connect it to the VSS (= "0"). The output is variable in 128 steps.

The corresponding pins of a potentiometer are eg. **VRN0** and **VRP0** with **VO0** as output.

E. POWER AMPLIFIERS (sheet 5).

a) Horizontal coils :

We find two identical amplifiers for the red and blue horizontal coils.

The RH (non modulated) and RHI (modulated) signals from the digital potentio-

meters are added in a TL084 OPAMP.
Via a speed up network (to compensate the integration in the convergence coils) the mixed signal is then sent to one base of the differential amplifier Q100. On the other base arrives a feedback from the convergence coils via R536 to stabilise the gain and prevent dc shifts.
A complementary transistor pair feeds the coils. The biasing is got with a zener and the outputs are protected with two diodes.

b) Vertical coils :

Here we find a small difference in this circuit related to the switching from top to bottom.

This switching happens preferably very smoothly to prevent a visible line in the center and therefor a "dead band amplifier" is used.

In the feedback of the OPAMP we find a diode bridge installing a small dead zone just at the moment the signal passes the middle of the screen, where the top/ bottom switching occurs.

c) Dynamic power supply for the power stages. (sheet 10, or sheet 5 in the new schematics).

To improve the slew rate (speed of variation of the output voltage, closely related to the full-power bandwidth) of the power amplifiers , a high supply voltage is necessary.

In reality, this high voltage is only required during the flyback time. The energy stocked in the convergence coils at the end of the scanning needs to vary very rapidly (in about 2 uS) to a new value at the begin of the scanning.
If the latter is not fully realised, there is too much influence from the end of the scanning on the start of the scanning. This causes problems in the convergence alignment.

The symmetrical power supply of + / - 17 volts is boosted up during the retrace time.
On sheet 5 (sheet 1 in the new scheamatics, 12/06/91) we find the power supplies . The +17 volts is called **+M** behind the safety resistor and the strap J100, the -17 volts is called **-M.**
Line pulses LP , limited to +M and -M with D25/D26 are amplified and inverted in Q29. These pulses are now applied to the gates of Q32 / Q33.
These pulses are once more inverted and applied to Q30 / Q31, an N- and an P-channel Mosfet repectively. We explain the boosting up of the +M voltage.

During the scanning time Q30 is OFF and Q31 obviously ON. Via D27 the +M is found at +MD. As Q31 is ON , the "-" of the capacitor C93 is at a voltage "-M" (or -17 volts).
In the retrace time Q30 somes on and Q31 gets OFF. This means that the "-" side of the capacitor jumps from -M to +M, or a jump of 2x17volts. As the capacitor cannot follow this jump we have the same voltage jump at the output +MD.

Finally, it means that the +MD voltage is theoretically rised to 17 + (2X17) volts = **51 volts.**
Practically the voltage is not that high because of the loss over the Mosfets.
The same axplanation applies on the -MD.

F. RS232 INTERFACING : (sheet 9, or sheet 1 in the new schematics)

For practical reasons only the RS-232-C interfacing circuits are located on this convergence board.
Via J700 (D9 connector) the connection with the serial communication port of the computer is realised and with J701 a loop-through with other projectors is possible.

IC700 comprises four line receivers. As this circuit must be operative in the standby mode, the standby voltage "Vhrs" is used (in reality it is the +9 Volts Stdby which is dropped and stabilised to +5 volts with IC701).

IC703 is a qudruple line drivers chip supplied with the Vhrs (+9 volts Stdby).

The control terminals (CTRL) of the receiver chip , allowing an input threshold shifting or input filtering, are left open (unused).

The TxD line of the RS232 host (serial port of the computer) is, via a receiver, connected with the RxD of the microprocessor. Note that the oputput pin 6 of the receiver IC700 is also connected to a line driver in IC703 and leaves the projector , for loop through purposes, via the connector J701 (RS232 Away from host).

The TxD line of the microprocessor is connected to one of the inputs of the line driver and leaves the propjector to the RxD line of the RS232 communication port.

G.INFRA RED RECEIVER : (sheet 9, or 1)

The PPM coded signals are capted by the infra-red diode D700 and amplified in the TBA2800. Amplitude variations are compensated with an automatic gain control in the chip.
The PPM output is then sent to Q700. Note that the collector resistor of that amplifier is on the microprocessor or controller board.

Remote control :

The +9V stby (Vhrs) arrives on the remote plug via a 100 Ohm. As long the remote cable is not plugged in, this voltage arrives on the base of the switching transistor Q702 where it is stabilised to 5V6 with Z700. The switched voltage feeds the TBA2800 and leaves the convergence board as **"Vsb"** to supply the infra-red receiver in the back of the projector.

When the remote jack is plugged in, Q702 is switched off ; disabling both infrared receivers in the projector.

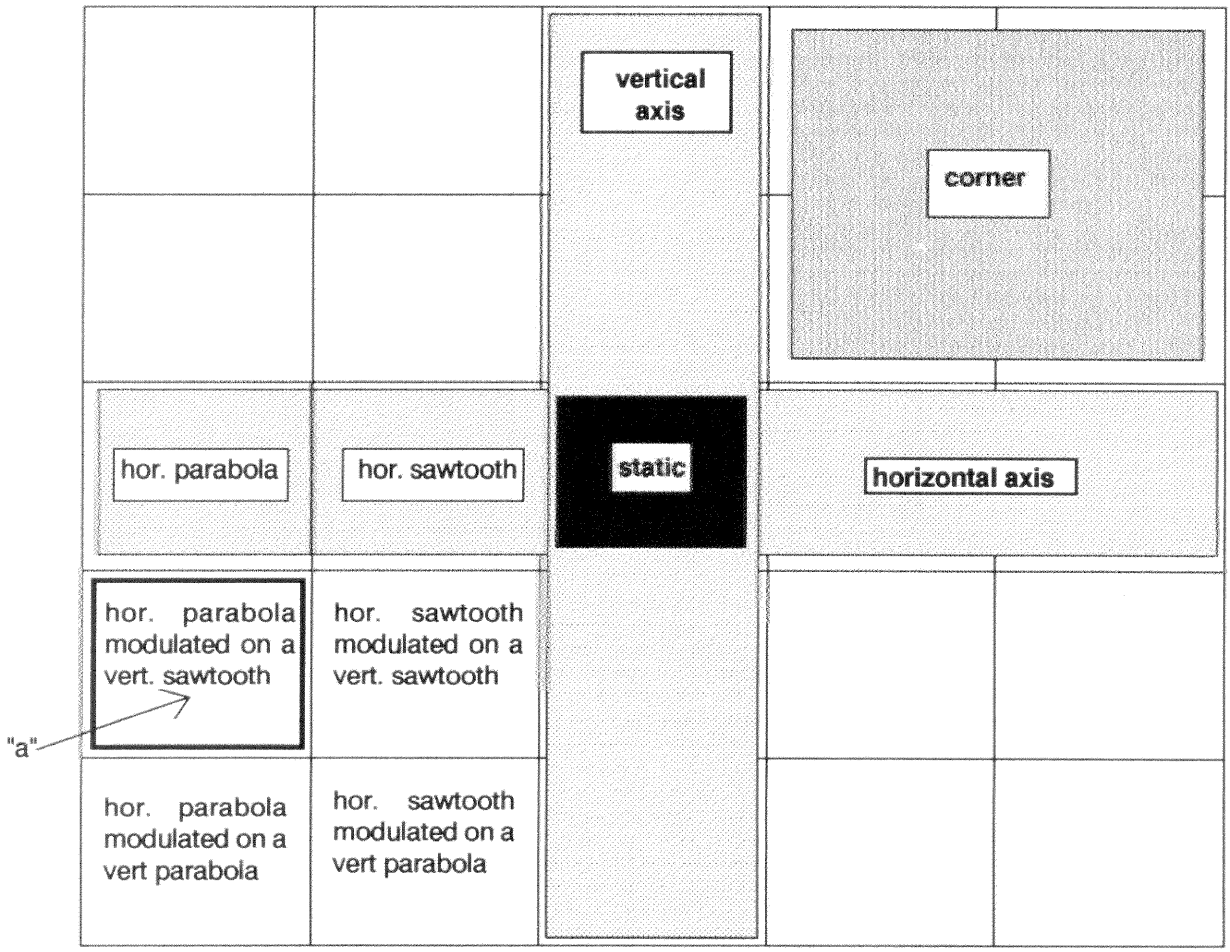

vertical axis
corner
hor. parabola
hor. sawtooth
static
horizontal axis
hor. parabola modulated on a vert. sawtooth
hor. sawtooth modulated on a vert. sawtooth
"a"
hor. parabola modulated on a vert parabola
hor. sawtooth modulated on a vert parabola

Fig. 1

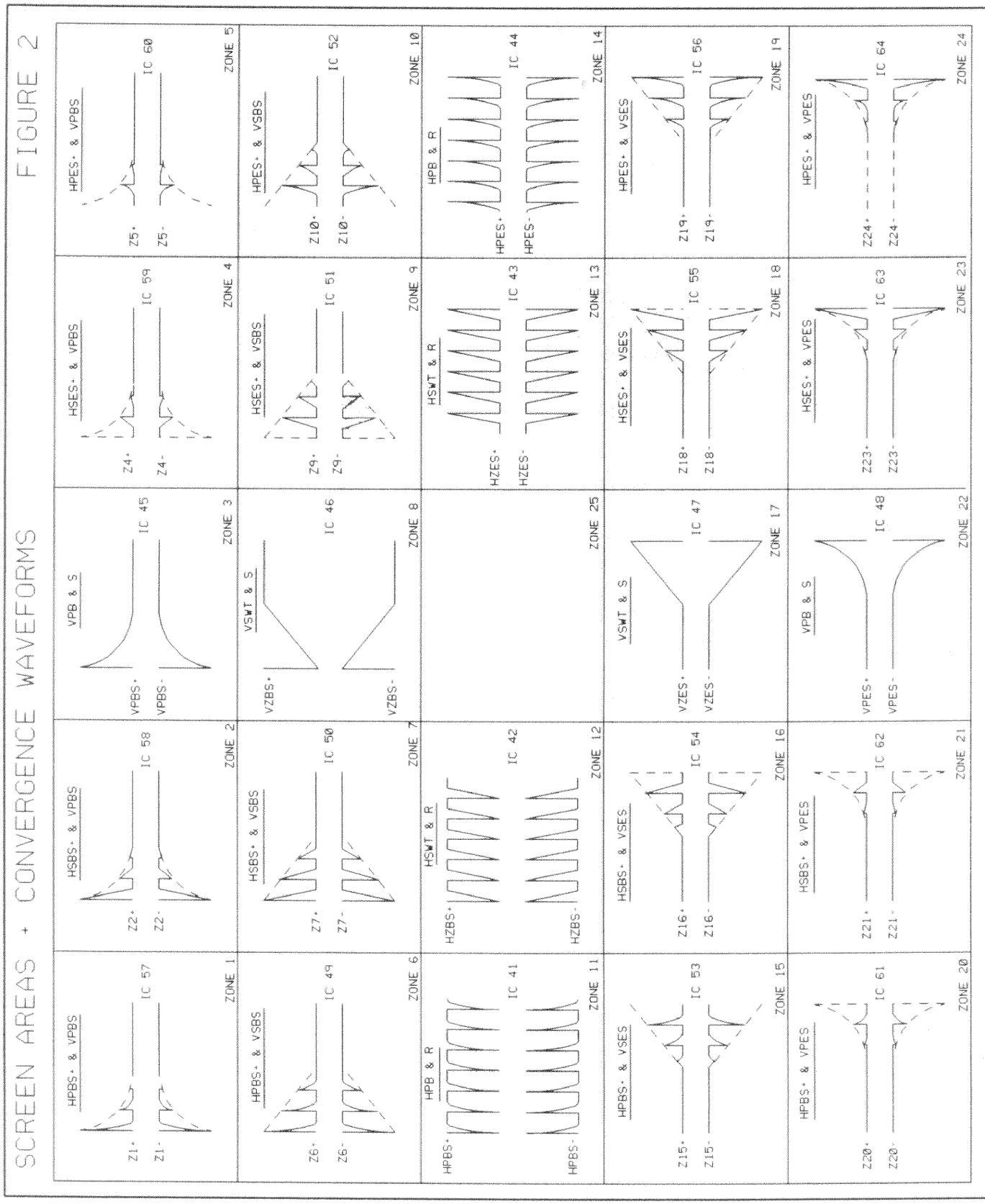


FIGURE 2
SCREEN AREAS + CONVERGENCE WAVEFORMS
HPBS- & VPBS
IC 57
Z1+
Z1-
ZONE 1
HSBS- & VPBS
IC 58
Z2+
Z2-
ZONE 2
VPB & S
IC 45
VPBS+
VPBS-
ZONE 3
HSES- & VPBS
IC 59
Z4+
Z4-
ZONE 4
HPES- & VPBS
IC 60
Z5+
Z5-
ZONE 5
HPBS- & VSBS
IC 49
Z6+
Z6-
ZONE 6
HSBS- & VSBS
IC 50
Z7+
Z7-
ZONE 7
VSWT & S
IC 46
VZBS+
VZBS-
ZONE 8
HSES- & VSBS
IC 51
Z9+
Z9-
ZONE 9
HPES- & VSBS
IC 52
Z10+
Z10-
ZONE 10
HPB & R
IC 41
HPBS+
HPBS-
ZONE 11
HSWT & R
IC 42
HZBS+
HZBS-
ZONE 12
HSWT & R
IC 43
HZES+
HZES-
ZONE 13
HPB & R
IC 44
HPES+
HPES-
ZONE 14
HPBS- & VSES
IC 53
Z15+
Z15-
ZONE 15
HSBS- & VSES
IC 54
Z16+
Z16-
ZONE 16
VSWT & S
IC 47
VZES+
VZES-
ZONE 17
HSES- & VSES
IC 55
Z18+
Z18-
ZONE 18
HPES- & VSES
IC 56
Z19+
Z19-
ZONE 19
HPBS- & VPES
IC 61
Z20+
Z20-
ZONE 20
HSBS- & VPES
IC 62
Z21+
Z21-
ZONE 21
VPB & S
IC 48
VPES+
VPES-
ZONE 22
HSES- & VPES
IC 63
Z23+
Z23-
ZONE 23
HPES- & VPES
IC 64
Z24+
Z24-
ZONE 24
ZONE 25

Fig 2.

ITEM NO.	SIT.	DESCRIPTION
11 2368	C...	C N750MI 330P J5 63
11 2735	C...	C CE MI 470P K5 63
11 27741	C...	C CE MI 100K U5 63
11 2774	C..1	C CE MI 100K U5 63
11 1571	C..2	C ELPR 2M2 M5 350
11 5928	C..3	C PP RA 3K3 J5 63
11 2681	C..4	C N750MI 15P G5 500
11 3724	C..5	C POMEFF 100K K5 63
11 3728	C..6	C POMEFF 220K K5 63
11 3728	C..7	C POMEFF 220K K5 63
11 11565	C..8	C ELAX 10M Z 25
11 2230	C..9	C NPO MI 10P G5 63
11 3724	C.10	C POMEFF 100K K5 63
11 3724	C.11	C POMEFF 100K K5 63
11 1678	C.12	C ELPRBI 10M M5 25
11 37181	C.13	C POMEFF 33K K5 100
11 1500	C.14	C ELPRMI 47M M5 10
11 1500	C.15	C ELPRMI 47M M5 10
11 11565	C.16	C ELAX 10M Z 25
11 2240	C.17	C NPO MI 68P J5 63
11 1531	C.18	C ELPRMI 10M M5 35
11 37161	C.19	C POMEFF 22K K5 100
11 1532	C.20	C ELPRMI 22M M5 35
11 1531	C.21	C ELPRMI 10M M5 35
11 1548	C.22	C ELPRMI 2M2 M5 50
11 1531	C.23	C ELPRMI 10M M5 35
11 1548	C.24	C ELPRMI 2M2 M5 50
11 1531	C.25	C ELPRMI 10M M5 35
11 1548	C.26	C ELPRMI 2M2 M5 50
11 1531	C.27	C ELPRMI 10M M5 35
11 1548	C.28	C ELPRMI 2M2 M5 50
11 2774	C.29	C CE MI 100K U5 63
11 2774	C.30	C CE MI 100K U5 63
11 2774	C.31	C CE MI 100K U5 63
11 1479	C.32	C ELPR 470M Z5 25
11 1548	C.33	C ELPRMI 2M2 M5 50
11 1548	C.34	C ELPRMI 2M2 M5 50
11 1548	C.35	C ELPRMI 2M2 M5 50
11 1548	C.36	C ELPRMI 2M2 M5 50
11 1163	C.37	C ELAX 470M T 25
11 3728	C.38	C POMEFF 220K K5 63
11 3724	C.39	C POMEFF 100K K5 63
11 11565	C.40	C ELAX 10M Z 25
11 1163	C.41	C ELAX 470M T 25
11 1550	C.42	C ELPRMI 4M7 M5 50
11 1550	C.43	C ELPRMI 4M7 M5 50
11 11565	C.44	C ELAX 10M Z 25
11 1479	C.45	C ELPR 470M Z5 25
11 1479	C.46	C ELPR 470M Z5 25
11 1479	C.47	C ELPR 470M Z5 25
11 3732	C.50	C POMEFF 470K K5 63
11 1500	C.51	C ELPRMI 47M M5 10
11 1546	C.57	C ELPRMI 1M M5 50
11 1546	C.58	C ELPRMI 1M M5 50
11 1546	C.59	C ELPRMI 1M M5 50
11 1546	C.60	C ELPRMI 1M M5 50
11 1546	C.61	C ELPRMI 1M M5 50
11 1546	C.62	C ELPRMI 1M M5 50
11 2774	C.67	C CE MI 100K U5 63
11 2774	C.68	C CE MI 100K U5 63
11 2774	C.69	C CE MI 100K U5 63
11 1161	C.70	C ELAX 100M T 25
11 1161	C.71	C ELAX 100M T 25
11 1500	C.72	C ELPRMI 47M M5 10
11 2774	C.73	C CE MI 100K U5 63
11 2774	C.82	C CE MI 100K U5 63
11 2774	C.83	C CE MI 100K U5 63
11 2683	C.90	C N750MI 22P G5 500

ITEM NO.	SIT.	DESCRIPTION
11 2739	C.92	C CE MI 1K K5 63
11 14885	C.93	C ELPR 220M Z5 40
11 14885	C.95	C ELPR 220M Z5 40
11 2739	C.97	C CE MI 1K K5 63
11 27741	C120	C CE MI 100K U5 63
11 27741	C121	C CE MI 100K U5 63
11 27741	C122	C CE MI 100K U5 63
11 27741	C123	C CE MI 100K U5 63
11 2739	C124	C CE MI 1K K5 63
11 27741	C125	C CE MI 100K U5 63
11 27741	C126	C CE MI 100K U5 63
11 27741	C127	C CE MI 100K U5 63
11 27741	C128	C CE MI 100K U5 63
11 27741	C129	C CE MI 100K U5 63
11 27741	C130	C CE MI 100K U5 63
11 27741	C131	C CE MI 100K U5 63
11 27741	C132	C CE MI 100K U5 63
11 27741	C133	C CE MI 100K U5 63
11 27741	C135	C CE MI 100K U5 63
11 27741	C136	C CE MI 100K U5 63
11 27741	C137	C CE MI 100K U5 63
11 27741	C138	C CE MI 100K U5 63
11 27741	C139	C CE MI 100K U5 63
11 27741	C140	C CE MI 100K U5 63
11 27741	C141	C CE MI 100K U5 63
11 27741	C142	C CE MI 100K U5 63
11 27741	C143	C CE MI 100K U5 63
11 27741	C145	C CE MI 100K U5 63
11 1476	C150	C ELPR 47M Z5 25
11 1487	C151	C ELPR 100M Z5 40
11 2774	C700	C CE MI 100K U5 63
11 2774	C701	C CE MI 100K U5 63
11 2774	C702	C CE MI 100K U5 63
11 5940	C703	C PP RA 10K J5 63
11 59181	C704	C PP RA 1K2 J5 100
11 1548	C705	C ELPRMI 2M2 M5 50
11 1510	C706	C ELPRMI 22M M5 25
11 3730	C707	C POMEFF 330K K5 63
13 1621	D..2	D 1N4148 SWITCH
13 1621	D..4	D 1N4148 SWITCH
13 1621	D..6	D 1N4148 SWITCH
13 1621	D..7	D 1N4148 SWITCH
13 1636	D..8	D BAT43,(85) SCHOTTKY
13 1628	D..9	D BAW62 SWITCH
13 1636	D.10	D BAT43,(85) SCHOTTKY
13 1636	D.11	D BAT43,(85) SCHOTTKY
13 1636	D.12	D BAT43,(85) SCHOTTKY
13 1636	D.13	D BAT43,(85) SCHOTTKY
13 1636	D.14	D BAT43,(85) SCHOTTKY
13 1636	D.15	D BAT43,(85) SCHOTTKY
13 1621	D.16	D 1N4148 SWITCH
13 1621	D.25	D 1N4148 SWITCH
13 1621	D.26	D 1N4148 SWITCH
13 1954	D.27	D BYW29-200
13 1954	D.29	D BYW29-200
13 1733	D.31	D ZENER 2V1 0W4 C
13 1733	D.32	D ZENER 2V1 0W4 C
13 1733	D.33	D ZENER 2V1 0W4 C
13 1733	D.34	D ZENER 2V1 0W4 C
13 1621	D.50	D 1N4148 SWITCH
13 1621	D.51	D 1N4148 SWITCH
13 1621	D.52	D 1N4148 SWITCH
13 1621	D.53	D 1N4148 SWITCH
13 1621	D.55	D 1N4148 SWITCH
13 1621	D.56	D 1N4148 SWITCH
13 1621	D.57	D 1N4148 SWITCH
13 1621	D.58	D 1N4148 SWITCH

ITEM NO.	SIT.	DESCRIPTION
13 1621	D.60	D 1N4148 SWITCH
13 1636	D.61	D BAT43,(85) SCHOTTKY
13 1637	D100	D BA158 SWITCH
13 1637	D101	D BA158 SWITCH
13 1637	D102	D BA158 SWITCH
13 1637	D103	D BA158 SWITCH
13 1637	D104	D BA158 SWITCH
13 1637	D105	D BA158 SWITCH
13 1637	D106	D BA158 SWITCH
13 1637	D107	D BA158 SWITCH
13 1681	D700	D BPW41 PHOTO
13 4125	I..1	U 34084 DIP14 POPAMP
13 4114	I..2	U 393 DIP8 PV_COM
13 27655	I..3	U 1496 MC DIL14 PBAL_M
13 27655	I..4	U 1496 MC DIL14 PBAL_M
13 4125	I..5	U 34084 DIP14 POPAMP
13 4125	I..6	U 34084 DIP14 POPAMP
13 7391	I..7	U 4053B DIL16 PM/DEM
13 4113	I..8	U 084 DIP14 POPAMP
13 4113	I..9	U 084 DIP14 POPAMP
13 27655	I.10	U 1496 MC DIL14 PBAL_M
13 27655	I.11	U 1496 MC DIL14 PBAL_M
13 27655	I.12	U 1496 MC DIL14 PBAL_M
13 27655	I.13	U 1496 MC DIL14 PBAL_M
13 27655	I.14	U 1496 MC DIL14 PBAL_M
13 27655	I.15	U 1496 MC DIL14 PBAL_M
13 27655	I.16	U 1496 MC DIL14 PBAL_M
13 27655	I.17	U 1496 MC DIL14 PBAL_M
13 7391	I.18	U 4053B DIL16 PM/DEM
13 7391	I.19	U 4053B DIL16 PM/DEM
13 7391	I.20	U 4053B DIL16 PM/DEM
13 4125	I.21	U 34084 DIP14 POPAMP
13 4125	I.22	U 34084 DIP14 POPAMP
13 4125	I.23	U 34084 DIP14 POPAMP
13 4125	I.24	U 34084 DIP14 POPAMP
13 4125	I.25	U 34084 DIP14 POPAMP
13 4125	I.26	U 34084 DIP14 POPAMP
13 4125	I.27	U 34084 DIP14 POPAMP
13 4125	I.28	U 34084 DIP14 POPAMP
13 4124	I.29	U 082 DIP8 POPAMP
13 4002	I.30	U 7812 TO220 PSTAB
13 4016	I.31	U 7912 TO220 PSTAB
13 4125	I.32	U 34084 DIP14 POPAMP
13 4026	I.37	U 317T TO220 PSTAB
13 4027	I.38	U 337T TO220 PSTAB
13 2833	I.41	U 76013 SC DIP28 PD_POT
13 2833	I.42	U 76013 SC DIP28 PD_POT
13 2833	I.43	U 76013 SC DIP28 PD_POT
13 2833	I.44	U 76013 SC DIP28 PD_POT
13 2833	I.45	U 76013 SC DIP28 PD_POT
13 2833	I.46	U 76013 SC DIP28 PD_POT
13 2833	I.47	U 76013 SC DIP28 PD_POT
13 2833	I.48	U 76013 SC DIP28 PD_POT
13 2833	I.49	U 76013 SC DIP28 PD_POT
13 2833	I.50	U 76013 SC DIP28 PD_POT
13 2833	I.51	U 76013 SC DIP28 PD_POT
13 2833	I.52	U 76013 SC DIP28 PD_POT
13 2833	I.53	U 76013 SC DIP28 PD_POT
13 2833	I.54	U 76013 SC DIP28 PD_POT
13 2833	I.55	U 76013 SC DIP28 PD_POT
13 2833	I.56	U 76013 SC DIP28 PD_POT
13 2833	I.57	U 76013 SC DIP28 PD_POT
13 2833	I.58	U 76013 SC DIP28 PD_POT
13 2833	I.59	U 76013 SC DIP28 PD_POT
13 2833	I.60	U 76013 SC DIP28 PD_POT
13 2833	I.61	U 76013 SC DIP28 PD_POT
13 2833	I.62	U 76013 SC DIP28 PD_POT

ITEM NO.	SIT.	DESCRIPTION
13 2833	I.63	U 76013 SC DIP28 PD_POT
13 2833	I.64	U 76013 SC DIP28 PD_POT
13 7207	I700	U 75189(1489) DIP14 PL_REC
13 4032	I701	U 78L05 TO92 PSTAB
13 7206	I703	U 75188(1488) DIP14 PL_DRI
13 2824	I704	U 2800 TDA DIP14 PIRREC
31 35251	J1..	J EURO MBS P 64
36 7435	J1.A	RIVET P AL AL AD34ABS D2,4
31 3276	J100	J MODU MBT P 10 R2,5
31 3276	J101	J MODU MBT P 10 R2,5
31 3276	J102	J MODU MBT P 10 R2,5
31 3276	J103	J MODU MBT P 10 R2,5
31 3276	J104	J MODU MBT P 10 R2,5
31 3276	J105	J MODU MBT P 10 R2,5
31 3276	J106	J MODU MBT P 10 R2,5
31 3276	J111	J MODU MBT P 10 R2,5
31 35251	J2..	J EURO MBS P 64
36 7435	J2.A	RIVET P AL AL AD34ABS D2,4
31 35010	J700	J DE09 FBS P 9 4.4 2.84
31 35000	J701	J DE09 MBS P 9 4.4 2.84
77 5164	L..1	SPO CHOKE HOR.DEFL.
77 5164	L..2	SPO CHOKE HOR.DEFL.
30 6169	L700	CHOKE AX MS 100 MH
10 6725	P..1	R TCE H500E K 0W5 S10TS3386P
10 6725	P..2	R TCE H500E K 0W5 S10TS3386P
78 0044	PC..	PCB PJ 49 CONV *800 761772
13 2515	Q..1	Q BF470 ,870 P SS TO126 25030
13 1491	Q..2	Q BSX20 ,2369 N SS TO18 015A2
13 1491	Q..3	Q BSX20 ,2369 N SS TO18 015A2
13 1428	Q..4	Q BC548C,238C N SS TO92 030A1
13 1428	Q..5	Q BC548C,238C N SS TO92 030A1
13 2910	Q..6	Q BS170 FN SS TO92 060A5
13 14131	Q..7	Q BC557B,307B P SS TO92 045A1
13 2910	Q..8	Q BS170 FN SS TO92 060A5
13 14131	Q..9	Q BC557B,307B P SS TO92 045A1
13 14295	Q.10	Q BC549B N SS TO92 030A1
13 14295	Q.11	Q BC549B N SS TO92 030A1
13 14295	Q.12	Q BC549B N SS TO92 030A1
13 14131	Q.13	Q BC557B,307B P SS TO92 045A1
13 14295	Q.14	Q BC549B N SS TO92 030A1
13 14295	Q.15	Q BC549B N SS TO92 030A1
13 14295	Q.16	Q BC549B N SS TO92 030A1
13 14131	Q.17	Q BC557B,307B P SS TO92 045A1
13 14295	Q.18	Q BC549B N SS TO92 030A1
13 14131	Q.19	Q BC557B,307B P SS TO92 045A1
13 14295	Q.20	Q BC549B N SS TO92 030A1
13 14295	Q.21	Q BC549B N SS TO92 030A1
13 14295	Q.22	Q BC549B N SS TO92 030A1
13 14295	Q.23	Q BC549B N SS TO92 030A1
13 14295	Q.24	Q BC549B N SS TO92 030A1
13 14131	Q.25	Q BC557B,307B P SS TO92 045A1
13 1411	Q.29	Q BC549C,239C N SS TO92 030A1
13 2941	Q.30	Q IRF632 FN P TO220 20008
13 2942	Q.31	Q IRF9630 FP P TO220 20005
13 2941	Q.32	Q IRF632 FN P TO220 20008
13 2942	Q.33	Q IRF9630 FP P TO220 20005
13 14182	Q.34	Q BC559C,309C P SS TO92 030A1
13 14071	Q.50	Q BC547B,237B N SS TO92 045A1
13 14131	Q.51	Q BC557B,307B P SS TO92 045A1
13 2944	Q100	Q BCY87 2N SS TO71 040A2
13 2944	Q101	Q BCY87 2N SS TO71 040A2
13 2944	Q102	Q BCY87 2N SS TO71 040A2
13 2944	Q103	Q BCY87 2N SS TO71 040A2

ITEM NO.	SIT.	DESCRIPTION
13 2552	Q104	Q BF423 P SS TO92 25050
13 2552	Q105	Q BF423 P SS TO92 25050
13 2552	Q106	Q BF423 P SS TO92 25050
13 2552	Q107	Q BF423 P SS TO92 25050
13 2579	Q108	Q BD651 DN P TO220 12008
13 2579	Q109	Q BD651 DN P TO220 12008
13 2579	Q110	Q BD651 DN P TO220 12008
13 2579	Q111	Q BD651 DN P TO220 12008
13 2909	Q112	Q BD652 P P TO220 12008
13 2909	Q113	Q BD652 P P TO220 12008
13 2909	Q114	Q BD652 P P TO220 12008
13 2909	Q115	Q BD652 P P TO220 12008
13 1491	Q700	Q BSX20 ,2369 N SS TO18 015A2
13 14131	Q701	Q BC557B,307B P SS TO92 045A1
13 14071	Q702	Q BC547B,237B N SS TO92 045A1
10 1133	R...	R CF H560E J 0W25
10 1145	R...	R CF H 5K6 J 0W25
10 1159	R..1	R CF H 82K J 0W25
10 1159	R..2	R CF H 82K J 0W25
10 1159	R..3	R CF H 82K J 0W25
10 1136	R..4	R CF H 1K J 0W25
10 1152	R..5	R CF H 22K J 0W25
10 1172	R..6	R CF H 1M J 0W25
10 1142	R..7	R CF H 3K3 J 0W25
10 1155	R..8	R CF H 39K J 0W25
10 1163	R..9	R CF H180K J 0W25
10 1236	R.10	R CF H 1K J 0W5
10 1132	R.11	R CF H470E J 0W25
10 1132	R.12	R CF H470E J 0W25
10 1148	R.13	R CF H 10K J 0W25
10 1148	R.14	R CF H 10K J 0W25
10 1140	R.15	R CF H 2K2 J 0W25
10 1140	R.16	R CF H 2K2 J 0W25
10 1147	R.17	R CF H 8K2 J 0W25
10 1142	R.18	R CF H 3K3 J 0W25
10 1139	R.19	R CF H 1K8 J 0W25
10 1160	R.20	R CF H100K J 0W25
10 1136	R.21	R CF H 1K J 0W25
10 1144	R.22	R CF H 4K7 J 0W25
10 1156	R.23	R CF H 47K J 0W25
10 1136	R.24	R CF H 1K J 0W25
10 1144	R.25	R CF H 4K7 J 0W25
10 1148	R.26	R CF H 10K J 0W25
10 1141	R.27	R CF H 2K7 J 0W25
10 1142	R.28	R CF H 3K3 J 0W25
10 1148	R.29	R CF H 10K J 0W25
10 1132	R.30	R CF H470E J 0W25
10 1132	R.31	R CF H470E J 0W25
10 1148	R.32	R CF H 10K J 0W25
10 1148	R.33	R CF H 10K J 0W25
10 1140	R.34	R CF H 2K2 J 0W25
10 1140	R.35	R CF H 2K2 J 0W25
10 1147	R.36	R CF H 8K2 J 0W25
10 1142	R.37	R CF H 3K3 J 0W25
10 1139	R.38	R CF H 1K8 J 0W25
10 1156	R.39	R CF H 47K J 0W25
10 1140	R.40	R CF H 2K2 J 0W25
10 1144	R.41	R CF H 4K7 J 0W25
10 1156	R.42	R CF H 47K J 0W25
10 1136	R.43	R CF H 1K J 0W25
10 1138	R.44	R CF H 1K5 J 0W25
10 1148	R.45	R CF H 10K J 0W25
10 1148	R.46	R CF H 10K J 0W25
10 1148	R.47	R CF H 10K J 0W25
10 1138	R.49	R CF H 1K5 J 0W25
10 1142	R.50	R CF H 3K3 J 0W25
10 1148	R.51	R CF H 10K J 0W25

ITEM NO.	SIT.	DESCRIPTION
10 1148	R.52	R CF H 10K J 0W25
10 1122	R.53	R CF H 68E J 0W25
10 1138	R.54	R CF H 1K5 J 0W25
10 1148	R.55	R CF H 10K J 0W25
10 1148	R.56	R CF H 10K J 0W25
10 1148	R.57	R CF H 10K J 0W25
10 1152	R.58	R CF H 22K J 0W25
10 1138	R.59	R CF H 1K5 J 0W25
10 1142	R.60	R CF H 3K3 J 0W25
10 1148	R.61	R CF H 10K J 0W25
10 1148	R.62	R CF H 10K J 0W25
10 1152	R.63	R CF H 22K J 0W25
10 1139	R.64	R CF H 1K8 J 0W25
10 1140	R.65	R CF H 2K2 J 0W25
10 1140	R.66	R CF H 2K2 J 0W25
10 1139	R.67	R CF H 1K8 J 0W25
10 1140	R.68	R CF H 2K2 J 0W25
10 1140	R.69	R CF H 2K2 J 0W25
10 1139	R.70	R CF H 1K8 J 0W25
10 1140	R.71	R CF H 2K2 J 0W25
10 1140	R.72	R CF H 2K2 J 0W25
10 1139	R.73	R CF H 1K8 J 0W25
10 1140	R.74	R CF H 2K2 J 0W25
10 1140	R.75	R CF H 2K2 J 0W25
10 1147	R.76	R CF H 8K2 J 0W25
34 8100	R.78	WIRE JUMPER 0,6 M AUTOM
10 1140	R.79	R CF H 2K2 J 0W25
10 1140	R.80	R CF H 2K2 J 0W25
10 1148	R.81	R CF H 10K J 0W25
10 1136	R.82	R CF H 1K J 0W25
10 1152	R.83	R CF H 22K J 0W25
10 1152	R.84	R CF H 22K J 0W25
10 1139	R.85	R CF H 1K8 J 0W25
10 1141	R.86	R CF H 2K7 J 0W25
10 1136	R.87	R CF H 1K J 0W25
10 1148	R.88	R CF H 10K J 0W25
10 1152	R.89	R CF H 22K J 0W25
34 8100	R.90	WIRE JUMPER 0,6 M AUTOM
10 1140	R.91	R CF H 2K2 J 0W25
10 1140	R.92	R CF H 2K2 J 0W25
10 1148	R.93	R CF H 10K J 0W25
10 1136	R.94	R CF H 1K J 0W25
10 1152	R.95	R CF H 22K J 0W25
10 1152	R.96	R CF H 22K J 0W25
10 1139	R.97	R CF H 1K8 J 0W25
10 1141	R.98	R CF H 2K7 J 0W25
10 1136	R.99	R CF H 1K J 0W25
10 1148	R100	R CF H 10K J 0W25
10 1152	R101	R CF H 22K J 0W25
34 8100	R102	WIRE JUMPER 0,6 M AUTOM
10 1140	R103	R CF H 2K2 J 0W25
10 1140	R104	R CF H 2K2 J 0W25
10 1148	R105	R CF H 10K J 0W25
10 1136	R106	R CF H 1K J 0W25
10 1152	R107	R CF H 22K J 0W25
10 1152	R108	R CF H 22K J 0W25
10 1139	R109	R CF H 1K8 J 0W25
10 1141	R110	R CF H 2K7 J 0W25
10 1136	R111	R CF H 1K J 0W25
10 1148	R112	R CF H 10K J 0W25
10 1152	R113	R CF H 22K J 0W25
34 8100	R114	WIRE JUMPER 0,6 M AUTOM
10 1140	R115	R CF H 2K2 J 0W25
10 1140	R116	R CF H 2K2 J 0W25
10 1148	R117	R CF H 10K J 0W25
10 1136	R118	R CF H 1K J 0W25
10 1152	R119	R CF H 22K J 0W25
10 1152	R120	R CF H 22K J 0W25

ITEM NO.	SIT.	DESCRIPTION
10 1139	R121	R CF H 1K8 J 0W25
10 1141	R122	R CF H 2K7 J 0W25
10 1136	R123	R CF H 1K J 0W25
10 1148	R124	R CF H 10K J 0W25
10 1152	R125	R CF H 22K J 0W25
34 8100	R126	WIRE JUMPER 0,6 M AUTOM
10 1140	R127	R CF H 2K2 J 0W25
10 1140	R128	R CF H 2K2 J 0W25
10 1148	R129	R CF H 10K J 0W25
10 1147	R130	R CF H 8K2 J 0W25
10 1124	R131	R CF H100E J 0W25
10 1124	R132	R CF H100E J 0W25
10 1139	R133	R CF H 1K8 J 0W25
10 1142	R134	R CF H 3K3 J 0W25
10 1136	R135	R CF H 1K J 0W25
10 1148	R136	R CF H 10K J 0W25
10 1152	R137	R CF H 22K J 0W25
34 8100	R138	WIRE JUMPER 0,6 M AUTOM
10 1140	R139	R CF H 2K2 J 0W25
10 1140	R140	R CF H 2K2 J 0W25
10 1148	R141	R CF H 10K J 0W25
10 1145	R142	R CF H 5K6 J 0W25
10 1124	R143	R CF H100E J 0W25
10 1124	R144	R CF H100E J 0W25
10 1139	R145	R CF H 1K8 J 0W25
10 1141	R146	R CF H 2K7 J 0W25
10 1136	R147	R CF H 1K J 0W25
10 1148	R148	R CF H 10K J 0W25
10 1152	R149	R CF H 22K J 0W25
34 8100	R150	WIRE JUMPER 0,6 M AUTOM
10 1140	R151	R CF H 2K2 J 0W25
10 1140	R152	R CF H 2K2 J 0W25
10 1148	R153	R CF H 10K J 0W25
10 1146	R154	R CF H 6K8 J 0W25
10 1124	R155	R CF H100E J 0W25
10 1124	R156	R CF H100E J 0W25
10 1139	R157	R CF H 1K8 J 0W25
10 1141	R158	R CF H 2K7 J 0W25
10 1136	R159	R CF H 1K J 0W25
10 1148	R160	R CF H 10K J 0W25
10 1152	R161	R CF H 22K J 0W25
34 8100	R162	WIRE JUMPER 0,6 M AUTOM
10 1140	R163	R CF H 2K2 J 0W25
10 1140	R164	R CF H 2K2 J 0W25
10 1148	R165	R CF H 10K J 0W25
10 1146	R166	R CF H 6K8 J 0W25
10 1124	R167	R CF H100E J 0W25
10 1124	R168	R CF H100E J 0W25
10 1139	R169	R CF H 1K8 J 0W25
10 1141	R170	R CF H 2K7 J 0W25
10 1136	R171	R CF H 1K J 0W25
10 1148	R172	R CF H 10K J 0W25
10 1152	R173	R CF H 22K J 0W25
10 1144	R174	R CF H 4K7 J 0W25
10 1140	R175	R CF H 2K2 J 0W25
10 1140	R176	R CF H 2K2 J 0W25
10 1144	R177	R CF H 4K7 J 0W25
10 1140	R178	R CF H 2K2 J 0W25
10 1140	R179	R CF H 2K2 J 0W25
10 1144	R180	R CF H 4K7 J 0W25
10 1140	R181	R CF H 2K2 J 0W25
10 1140	R182	R CF H 2K2 J 0W25
10 1144	R183	R CF H 4K7 J 0W25
10 1140	R184	R CF H 2K2 J 0W25
10 1140	R185	R CF H 2K2 J 0W25
10 1144	R186	R CF H 4K7 J 0W25
10 1140	R187	R CF H 2K2 J 0W25
10 1140	R188	R CF H 2K2 J 0W25

ITEM NO.	SIT.	DESCRIPTION
10 1144	R189	R CF H 4K7 J 0W25
10 1140	R190	R CF H 2K2 J 0W25
10 1140	R191	R CF H 2K2 J 0W25
10 1144	R192	R CF H 4K7 J 0W25
10 1140	R193	R CF H 2K2 J 0W25
10 1140	R194	R CF H 2K2 J 0W25
10 1144	R195	R CF H 4K7 J 0W25
10 1140	R196	R CF H 2K2 J 0W25
10 1140	R197	R CF H 2K2 J 0W25
10 1144	R198	R CF H 4K7 J 0W25
10 1140	R199	R CF H 2K2 J 0W25
10 1140	R200	R CF H 2K2 J 0W25
10 1144	R201	R CF H 4K7 J 0W25
10 1140	R202	R CF H 2K2 J 0W25
10 1140	R203	R CF H 2K2 J 0W25
10 1144	R204	R CF H 4K7 J 0W25
10 1140	R205	R CF H 2K2 J 0W25
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10 1144	R207	R CF H 4K7 J 0W25
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10 1140	R211	R CF H 2K2 J 0W25
10 1140	R212	R CF H 2K2 J 0W25
10 1144	R213	R CF H 4K7 J 0W25
10 1140	R214	R CF H 2K2 J 0W25
10 1140	R215	R CF H 2K2 J 0W25
10 1144	R216	R CF H 4K7 J 0W25
10 1140	R217	R CF H 2K2 J 0W25
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10 1144	R219	R CF H 4K7 J 0W25
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10 1140	R221	R CF H 2K2 J 0W25
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10 1132	R223	R CF H470E J 0W25
10 1132	R224	R CF H470E J 0W25
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10 1144	R227	R CF H 4K7 J 0W25
10 1149	R233	R CF H 12K J 0W25
10 1144	R234	R CF H 4K7 J 0W25
10 1149	R240	R CF H 12K J 0W25
10 1144	R241	R CF H 4K7 J 0W25
10 1149	R247	R CF H 12K J 0W25
10 1144	R248	R CF H 4K7 J 0W25
10 28241	R254	R MF H 91E G 0W6
10 1126	R255	R CF H150E J 0W25
10 1125	R256	R CF H120E J 0W25
10 1121	R257	R CF H 56E J 0W25
10 1165	R258	R CF H270K J 0W25
10 1136	R259	R CF H 1K J 0W25
10 1148	R260	R CF H 10K J 0W25
10 1148	R261	R CF H 10K J 0W25
10 1148	R262	R CF H 10K J 0W25
10 1148	R263	R CF H 10K J 0W25
10 1148	R264	R CF H 10K J 0W25
10 1148	R265	R CF H 10K J 0W25
10 1148	R266	R CF H 10K J 0W25
10 1148	R267	R CF H 10K J 0W25
10 1148	R268	R CF H 10K J 0W25
10 1148	R269	R CF H 10K J 0W25
10 1148	R270	R CF H 10K J 0W25
10 1148	R271	R CF H 10K J 0W25
10 1148	R272	R CF H 10K J 0W25
10 1148	R273	R CF H 10K J 0W25
10 1148	R274	R CF H 10K J 0W25
10 1148	R275	R CF H 10K J 0W25
10 1148	R276	R CF H 10K J 0W25

ITEM NO.	SIT.	DESCRIPTION
10 1148	R277	R CF H 10K J 0W25
10 1148	R278	R CF H 10K J 0W25
10 1148	R279	R CF H 10K J 0W25
10 1148	R280	R CF H 10K J 0W25
10 1148	R281	R CF H 10K J 0W25
10 1148	R282	R CF H 10K J 0W25
10 1148	R283	R CF H 10K J 0W25
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10 1148	R288	R CF H 10K J 0W25
10 1148	R289	R CF H 10K J 0W25
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10 1148	R291	R CF H 10K J 0W25
10 1148	R292	R CF H 10K J 0W25
10 1148	R293	R CF H 10K J 0W25
10 1148	R294	R CF H 10K J 0W25
10 1148	R295	R CF H 10K J 0W25
10 1148	R296	R CF H 10K J 0W25
10 1148	R297	R CF H 10K J 0W25
10 1148	R298	R CF H 10K J 0W25
10 1148	R299	R CF H 10K J 0W25
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10 1148	R301	R CF H 10K J 0W25
10 1148	R302	R CF H 10K J 0W25
10 1148	R303	R CF H 10K J 0W25
10 1148	R304	R CF H 10K J 0W25
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10 1148	R306	R CF H 10K J 0W25
10 1148	R307	R CF H 10K J 0W25
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10 1148	R311	R CF H 10K J 0W25
10 1148	R312	R CF H 10K J 0W25
10 1148	R313	R CF H 10K J 0W25
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10 1148	R320	R CF H 10K J 0W25
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10 1148	R322	R CF H 10K J 0W25
10 1148	R323	R CF H 10K J 0W25
10 1148	R324	R CF H 10K J 0W25
10 1148	R325	R CF H 10K J 0W25
10 1148	R326	R CF H 10K J 0W25
10 1148	R327	R CF H 10K J 0W25
10 1148	R328	R CF H 10K J 0W25
10 1148	R329	R CF H 10K J 0W25
10 1148	R330	R CF H 10K J 0W25
10 1148	R331	R CF H 10K J 0W25
10 1148	R332	R CF H 10K J 0W25
10 1148	R333	R CF H 10K J 0W25
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10 1148	R335	R CF H 10K J 0W25
10 1148	R336	R CF H 10K J 0W25
10 1148	R337	R CF H 10K J 0W25
10 1148	R338	R CF H 10K J 0W25
10 1148	R339	R CF H 10K J 0W25
10 1148	R340	R CF H 10K J 0W25
10 1148	R341	R CF H 10K J 0W25
10 1148	R342	R CF H 10K J 0W25
10 1148	R343	R CF H 10K J 0W25
10 1148	R344	R CF H 10K J 0W25

ITEM NO.	SIT.	DESCRIPTION
10 1148	R345	R CF H 10K J 0W25
10 1148	R346	R CF H 10K J 0W25
10 1148	R347	R CF H 10K J 0W25
10 1148	R348	R CF H 10K J 0W25
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10 1148	R350	R CF H 10K J 0W25
10 1148	R351	R CF H 10K J 0W25
10 1148	R352	R CF H 10K J 0W25
10 1148	R353	R CF H 10K J 0W25
10 1148	R354	R CF H 10K J 0W25
10 1148	R355	R CF H 10K J 0W25
10 1124	R356	R CF H100E J 0W25
10 1124	R357	R CF H100E J 0W25
10 1148	R358	R CF H 10K J 0W25
10 1150	R360	R CF H 15K J 0W25
10 1152	R362	R CF H 22K J 0W25
10 1148	R363	R CF H 10K J 0W25
10 1234	R364	R CF H680E J 0W5
10 1152	R365	R CF H 22K J 0W25
10 1148	R366	R CF H 10K J 0W25
10 1234	R367	R CF H680E J 0W5
10 1158	R368	R CF H 68K J 0W25
10 1183	R370	R CF H 8M2 J 0W25
10 1183	R371	R CF H 8M2 J 0W25
10 1183	R372	R CF H 8M2 J 0W25
10 1183	R373	R CF H 8M2 J 0W25
10 1183	R374	R CF H 8M2 J 0W25
10 1183	R375	R CF H 8M2 J 0W25
10 1183	R376	R CF H 8M2 J 0W25
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10 1183	R380	R CF H 8M2 J 0W25
10 1183	R381	R CF H 8M2 J 0W25
10 1183	R382	R CF H 8M2 J 0W25
10 1183	R383	R CF H 8M2 J 0W25
10 1183	R384	R CF H 8M2 J 0W25
10 1183	R385	R CF H 8M2 J 0W25
10 1137	R386	R CF H 1K2 J 0W25
10 1137	R387	R CF H 1K2 J 0W25
10 1137	R388	R CF H 1K2 J 0W25
10 1137	R389	R CF H 1K2 J 0W25
10 1152	R390	R CF H 22K J 0W25
10 1152	R391	R CF H 22K J 0W25
10 1135	R400	R CF H820E J 0W25
10 1140	R401	R CF H 2K2 J 0W25
10 1171	R402	R CF H820K J 0W25
10 1145	R404	R CF H 5K6 J 0W25
10 1144	R405	R CF H 4K7 J 0W25
10 1136	R406	R CF H 1K J 0W25
10 1144	R407	R CF H 4K7 J 0W25
10 1150	R409	R CF H 15K J 0W25
10 1143	R410	R CF H 3K9 J 0W25
10 1150	R411	R CF H 15K J 0W25
10 1143	R412	R CF H 3K9 J 0W25
10 1150	R413	R CF H 15K J 0W25
10 1142	R414	R CF H 3K3 J 0W25
10 1150	R415	R CF H 15K J 0W25
10 1145	R416	R CF H 5K6 J 0W25
10 1141	R417	R CF H 2K7 J 0W25
10 1141	R418	R CF H 2K7 J 0W25
10 1139	R419	R CF H 1K8 J 0W25
10 1139	R420	R CF H 1K8 J 0W25
10 1172	R421	R CF H 1M J 0W25
10 1142	R500	R CF H 3K3 J 0W25
10 1142	R501	R CF H 3K3 J 0W25
10 1142	R502	R CF H 3K3 J 0W25
10 1142	R503	R CF H 3K3 J 0W25

ITEM NO.	SIT.	DESCRIPTION
10 1136	R504	R CF H 1K J 0W25
10 1136	R505	R CF H 1K J 0W25
10 1136	R506	R CF H 1K J 0W25
10 1136	R507	R CF H 1K J 0W25
10 1140	R508	R CF H 2K2 J 0W25
10 1140	R509	R CF H 2K2 J 0W25
10 1140	R510	R CF H 2K2 J 0W25
10 1140	R511	R CF H 2K2 J 0W25
10 1152	R512	R CF H 22K J 0W25
10 1152	R513	R CF H 22K J 0W25
10 1152	R514	R CF H 22K J 0W25
10 1152	R515	R CF H 22K J 0W25
10 1136	R516	R CF H 1K J 0W25
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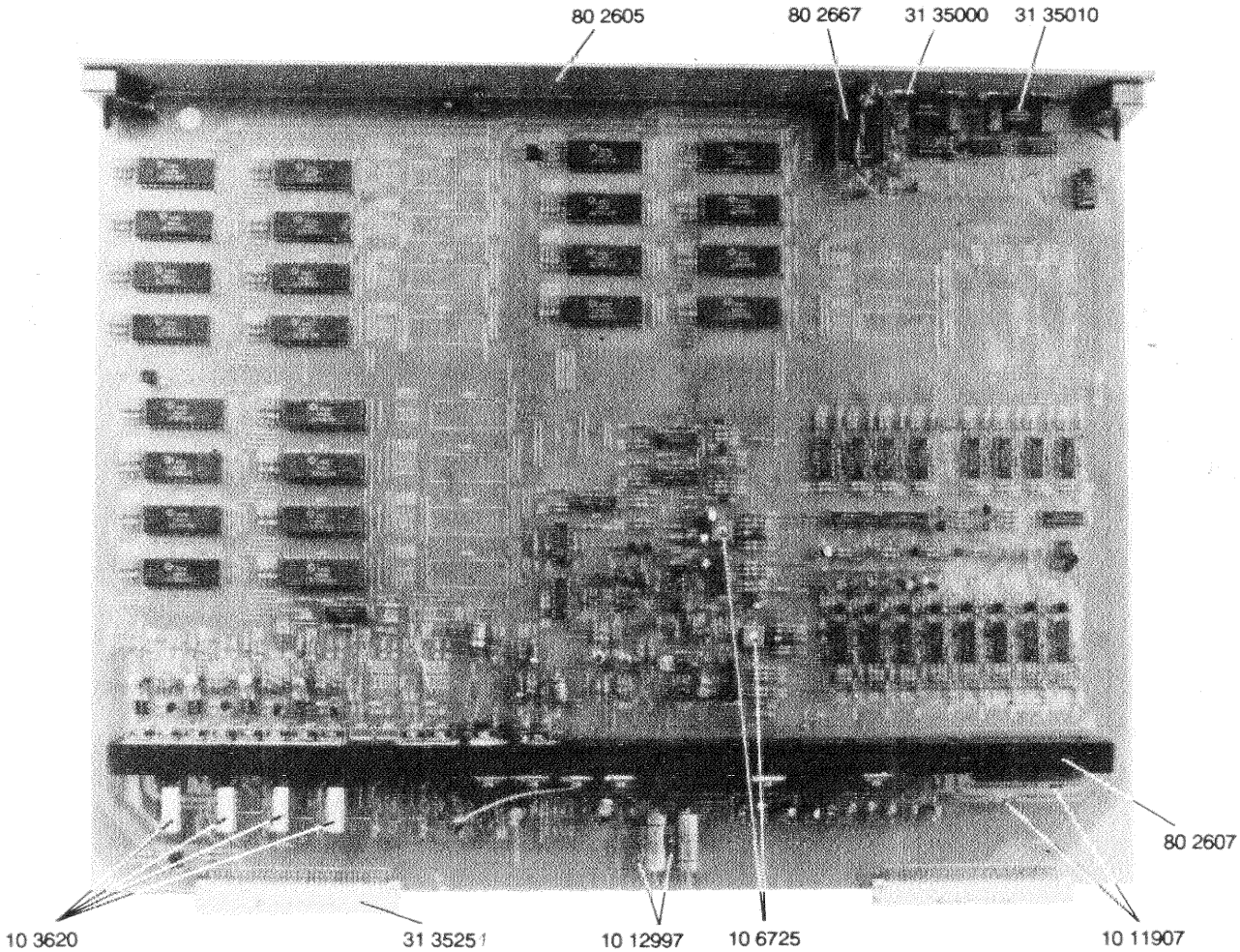
10 1136	R518	R CF H 1K J 0W25
10 1136	R519	R CF H 1K J 0W25
10 1119	R520	R CF H 39E J 0W25
10 1119	R521	R CF H 39E J 0W25
10 1119	R522	R CF H 39E J 0W25
10 1119	R523	R CF H 39E J 0W25
10 1139	R524	R CF H 1K8 J 0W25
10 1139	R525	R CF H 1K8 J 0W25
10 1139	R526	R CF H 1K8 J 0W25
10 1139	R527	R CF H 1K8 J 0W25
10 1146	R528	R CF H 6K8 J 0W25
10 1146	R529	R CF H 6K8 J 0W25
10 1146	R530	R CF H 6K8 J 0W25
10 1146	R531	R CF H 6K8 J 0W25
10 1325	R532	R CF H120E J 1W
10 1325	R533	R CF H120E J 1W
10 1229	R534	R CF H270E J 0W5
10 1229	R535	R CF H270E J 0W5
10 3620	R536	R WW H 4E7 K 4W
10 3620	R537	R WW H 4E7 K 4W
10 3620	R538	R WW H 4E7 K 4W
10 3620	R539	R WW H 4E7 K 4W
10 1167	R550	R CF H390K J 0W25
10 1167	R551	R CF H390K J 0W25
10 1167	R555	R CF H390K J 0W25
10 1167	R556	R CF H390K J 0W25
10 1118	R560	R CF H 33E J 0W25

ITEM NO.	SIT.	DESCRIPTION
10 1148	R561	R CF H 10K J 0W25
10 1169	R562	R CF H560K J 0W25
10 1152	R563	R CF H 22K J 0W25
10 1124	R564	R CF H100E J 0W25
10 1152	R565	R CF H 22K J 0W25
10 1161	R566	R CF H120K J 0W25
10 1325	R686	R CF H120E J 1W
10 1325	R687	R CF H120E J 1W
10 1142	R700	R CF H 3K3 J 0W25
10 1142	R701	R CF H 3K3 J 0W25
10 1139	R702	R CF H 1K8 J 0W25
10 11908	R703	R CFFH 1E J 0W35
10 1148	R704	R CF H 10K J 0W25
10 1160	R705	R CF H100K J 0W25
10 1152	R706	R CF H 22K J 0W25
10 1149	R707	R CF H 12K J 0W25
10 1124	R708	R CF H100E J 0W25
10 1142	R710	R CF H 3K3 J 0W25
10 1142	R711	R CF H 3K3 J 0W25
10 2708	SR.1	R MF H 4E7 G 0W5
10 12997	SR.2	R CFFH E10K 0W7
10 12997	SR.3	R CFFH E10K 0W7
10 11917	SR.6	R CFFH E22J 0W4
10 11907	SR.7	R CFFH E10J 0W4
10 11917	SR.8	R CFFH E22J 0W4
10 11907	SR.9	R CFFH E10J 0W4
34 8108	W.17	WIRE JUMPER 0,6 M 22,5
34 8108	W.18	WIRE JUMPER 0,6 M 22,5
34 8103	W.19	WIRE JUMPER 0,6 M 10
34 8102	W.46	WIRE JUMPER 0,6 M 7,5
34 8101	W412	WIRE JUMPER 0,6 M 5
34 8103	W452	WIRE JUMPER 0,6 M 10
13 1716	Z..1	D ZENER 5V1 0W5 C
13 1716	Z..2	D ZENER 5V1 0W5 C
13 1744	Z700	D ZENER 5V6 0W5 C

CONVERGENCE MODULE

76 1772

ART.NO.	DESCRIPTION	QUANTITY
10 11907	R CFFH E10J 0W4	*2
10 11908	R CFFH 1E J 0W35	1
10 11917	R CFFH E22J 0W4	2
10 1229	R CF H270E J 0W5	2
10 12997	R CFFH E10K 0W7	*2
10 28241	R MF H 91E G 0W6	1
10 3620	R WW H 4E7 K 4W	*4
10 6725	R TCE H500E K 0W5 S10TS3386	*2
11 1571	C ELPR 2M2 M5 350	1
11 2681	C N750MI 15P G5 500	1
11 2683	C N750MI 22P G5 500	1
13 14071	Q BC547B,237B N SS TO92 045A	2
13 1411	Q BC549C,239C N SS TO92 030A	1
13 14131	Q BC557B,307B P SS TO92 045A	8
13 14182	Q BC559C,309C P SS TO92 030A	1
13 1428	Q BC548C,238C N SS TO92 030A	2
13 14295	Q BC549B N SS TO92 030A	12
13 1491	Q BSX20 ,2369 N SS TO18 015A	3



13 1621	D 1N4148	SWITCH	16	13 1954	D BYW29-200	2
13 1628	D BAW62	SWITCH	1	13 2515	Q BF470 ,870 P SS TO126 2503	1
13 1636	D BAT43,(85)	SCHOTTKY	8	13 2552	Q BF423 P SS TO92 2505	4
13 1637	D BA158	SWITCH	8	13 2579	Q BD651 DN P TO220 1200	4
13 1681	D BPW41	PHOTO	1	13 27655	U 1496 MC DIL14 PBAL	10
13 1716	D ZENER 5V1 0W5 C		2	13 2824	U 2800 TDA DIP14 PIRRE	1
13 1733	D ZENER 2V1 0W4 C		4	13 2833	U 76013 SC DIP28 PD_PO	24
13 1744	D ZENER 5V6 0W5 C		1	13 2909	Q BD652 P P TO220 1200	4

ART.NO.	DESCRIPTION	QUANTITY
13 2910	Q BS170 FN SS TO92 060A	2
13 2941	Q IRF632 FN P TO220 2000	2
13 2942	Q IRF9630 FP P TO220 2000	2
13 2944	Q BCY87 2N SS TO71 040A	4
13 30291	Q ACC INSUL MICA TO220	17
13 30292	Q ACC INSUL BUSH TO220	17
13 3039	SPACER L 8 D 4 D1,2 CE	6
13 4002	U 7812 TO220 PSTAB	1
13 4016	U 7912 TO220 PSTAB	1
13 4026	U 317T TO220 PSTAB	1
13 4027	U 337T TO220 PSTAB	1
13 4032	U 78LO5 TO92 PSTAB	1
13 4113	U 084 DIP14 POPAM	2
13 4114	U 393 DIP8 PV_CO	1
13 4124	U 082 DIP8 POPAM	1
13 4125	U 34084 DIP14 POPAM	12
13 7206	U 75188(1488) DIP14 PL_DR	1
13 7207	U 75189(1489) DIP14 PL_RE	1
13 7391	U 4053B DIL16 PM/DE	4
30 6169	CHOKE AX MS 100 MH	1
31 30421	J PHONE FBS D 2,5 MONO	1
31 3248	J U0.3 FBT P 14 R2,54	1
31 3276	J MODU MBT P 10 R2,5	8
31 33921	J JUMP FMT P 2 0.1	8
31 35000	J DE09 MBS P 9 4.4 2.84	*1
31 35010	J DE09 FBS P 9 4.4 2.84	*1
31 35251	J EURO MBS P 64	*2
31 53151	J RIVET MBT D 2,3L13	1
36 2022	SCREW DIN84 M 3 X 8 MP-	6
36 20226	SCREW DIN84 M 3 X 8 MP-	18
36 2122	SCREW DIN7985 M 3 X 8 MP+	14
36 7322	CIRCLIPS DIN6799 GROOVE 4	2
36 7435	RIVET P AL AL AD34ABS D2,	8
36 7455	RIVET P AL FE TAP/D/BS46 D3,	11
36 75256	WASHER DIA 3,1 X 6,2 T0,6	18
36 7600	FIXING BLOC UNIVERSEL M3	2
71 23024	WASHER DIA 3,25X 7 T1 BA	2
76 1772A	UN CONV PJ 49 GR800	1
77 5164	SPO CHOKE HOR.DEFL.	2
80 2605	FRAME PJ 49 CONV FRONT PLATE	*1
80 2607	HEATSINK PJ 49 CONV	*1
80 2609	FRAME PJ 49 CONV SPRING	3
80 2635	CONV PJ DCP SCREW CTRL PANEL	2
80 2636	FRAME PJ 49 CONV FIX FRF L	1
80 2667	CAN REC PJ DCP IR	*1
80 2676	FRAME PJ 49 CONV FIX FRF RIGH	1
80 2959	FRAME PJ 49 CONV WASHER	2
80 2960	FRAME PJ 49 CONV FIX FRONT	2

*NUMBERS REFERRING TO PICTURE