

Sennetech

SCT-1060

**CAMERA CONTROL CODE TRANSLATOR
BOSCH BIPHASE to PANASONIC RS-485 Ver. 1.3**

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PRODUCT DESCRIPTION

The SCT-1060 is a Bosch biphaser to Panasonic code translator designed to permit control of Panasonic receivers from Bosch controllers. It receives Bosch biphaser code and transmits the appropriate commands in Panasonic RS-485 format. There are four independent Panasonic outputs.

The code translator is contained in a standard 19" electronic housing (one rack unit high). Input and output connections are made with removable screw terminals. Front panel LEDs indicate status of power, receive, and transmit.

The code translator can be programmed via internal switches to offset the biphaser addresses to 1 of 32 groups. This allows the use of higher biphaser addresses.

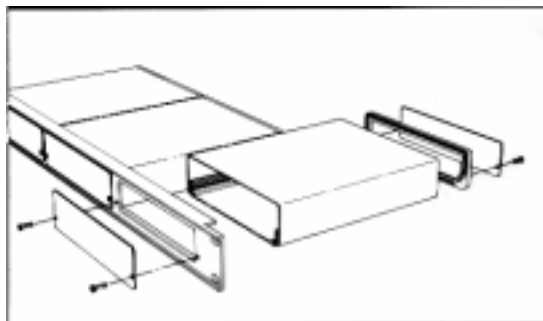
The Panasonic output baud rate can be set from 2400 baud to 19.2k baud.

Version 1.3 adds an Aux1 On/Off command.

SPECIFICATIONS

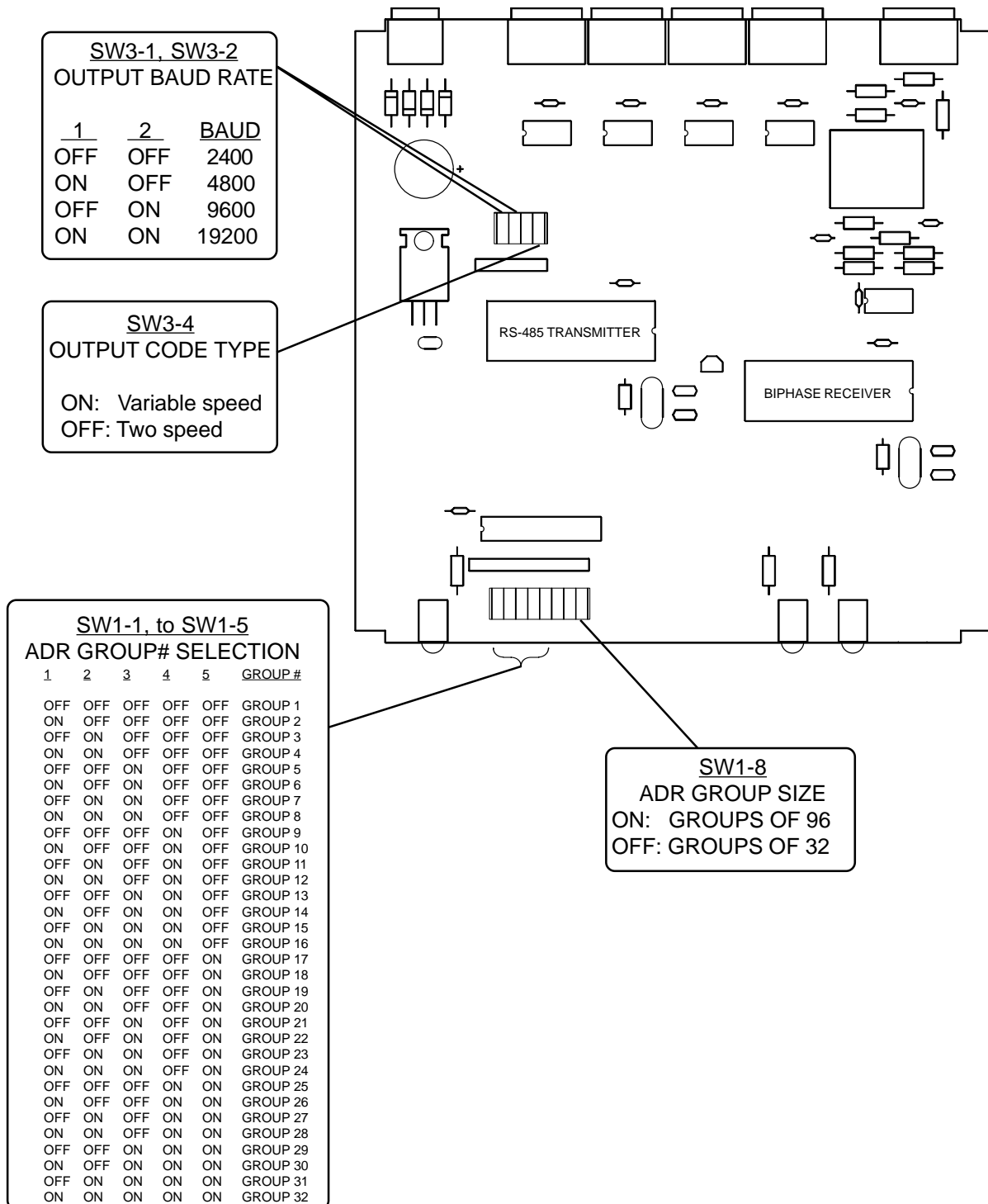
SIZE:	19"W x 1.75H x 5.45D
WEIGHT:	1.5 lbs.
POWER:	9Volt to 18Volt AC or DC at .75 Watts
INDICATORS:	Front panel LEDs: Power, Rx, & Tx
BIPHASE INPUT:	(1) 3-pin mating screw terminal connector
PANASONIC OUTPUTS:	(4) 3-pin mating screw terminal connectors

To install the case on the rack mount frame, remove the front panel and the plastic bezel. The rack mount frame takes the place of the bezel as shown below.



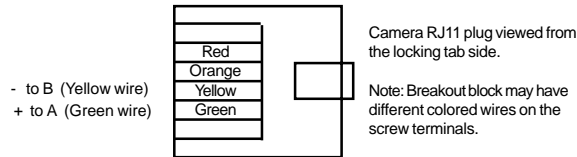
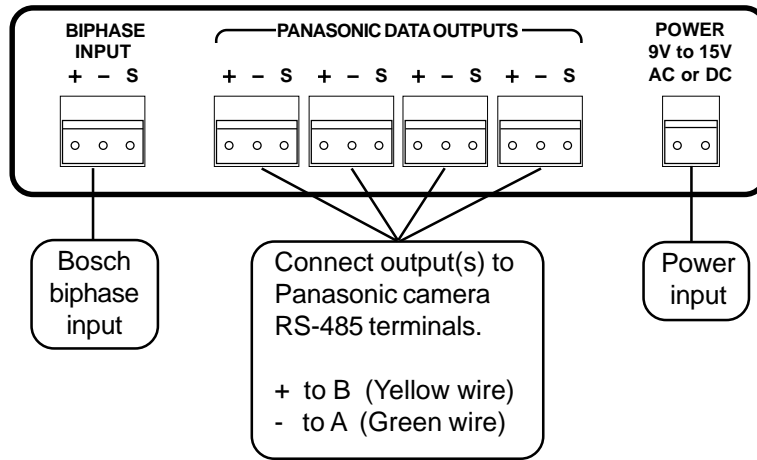
SETTING THE SWITCHES

To set the configuration switches, remove the back panel, which is secured by two screws. Then slide the cover back to expose the switches. The switches can be changed while the code translator is powered up and the new settings will take effect immediately.

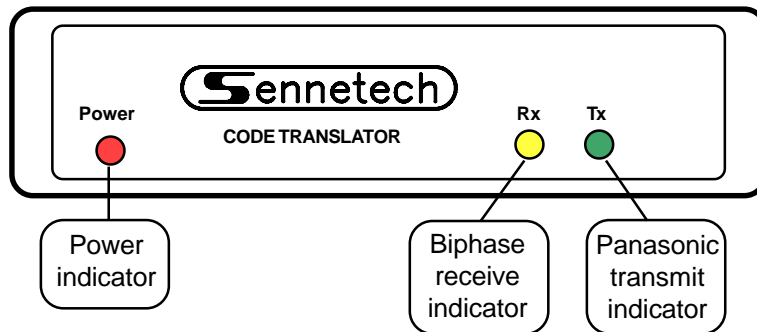


INSTALLATION

REAR PANEL



FRONT PANEL



The Rx indicator will flash while biphase code is being received. Since biphase code is repeating, it will flash continuously while a camera is being moved. Panasonic code is repeated at a slower rate.

If there is no Rx indication, check that the input is indeed Bosch biphase code and that the input wires are not reversed.

If there is Rx but no Tx, possible causes are:

- The incoming biphase code is not camera control code.
- The command is sent to a camera address that is not in the configured address group.

If the indicators show normal operation but the camera does not respond, possible causes are:

- The wires are not connected properly.
- The camera is not set to the proper address.
- The output baud rate does not match the camera's settings.

OPERATION

Bosch Pan, Tilt, Zoom, Focus, and Iris commands are converted to the equivalent Panasonic commands. Additional commands will be converted according to the following table.

<u>Biphase Command</u>	<u>Panasonic Command</u>
[Shot] [1 ~ 63] [Set] [1 ~ 63]	Store Preset 0 ~ 63 Recall Preset 0 ~ 63
[Set] [101] [Set] [102] [Set] [103]	Set Left Auto Pan Limit Set Right Auto Pan Limit Auto Pan Reverse
[On] [1] [Off] [1]	Aux 1 On Aux 1 Off
[On] [2] [Off] [2]	Auto Pan Stop Auto Pan
[On] [3] [Off] [3]	ALC On Manual Iris
[On] [4]	Auto Focus On
[On] [16] [Off] [16]	Increase Auto Pan Speed Decrease Auto Pan Speed
[On] [43] [Off] [43]	AGC On AGC Off

Set 150 to Set 159 commands are used for the camera setup menu.

[Set] [150]	Menu Off
[Set] [151]	Menu On

The cursor control commands are arrayed around the keypad in the direction the cursor is to move.

[Set] [152]	Cursor UP
[Set] [154]	Cursor Left
[Set] [156]	Cursor Right
[Set] [158]	Cursor Down

Use up/down to navigate and left/right to toggle choices.

Set 157 and Set 159 send the Panasonic Menu Set commands which select menu items.

[Set] [157]	Set 1
[Set] [159]	Set 2

Sending Set 150 will close the menu and save the changes.

ADDRESS GROUPS of 32

Group 1		Group 2		Group 3		Group 4		Group 5		Group 6		Group 7		Group 8	
In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
1	1	33	1	65	1	97	1	129	1	161	1	193	1	225	1
2	2	34	2	66	2	98	2	130	2	162	2	194	2	226	2
3	3	35	3	67	3	99	3	131	3	163	3	195	3	227	3
4	4	36	4	68	4	100	4	132	4	164	4	196	4	228	4
5	5	37	5	69	5	101	5	133	5	165	5	197	5	229	5
6	6	38	6	70	6	102	6	134	6	166	6	198	6	230	6
7	7	39	7	71	7	103	7	135	7	167	7	199	7	231	7
8	8	40	8	72	8	104	8	136	8	168	8	200	8	232	8
9	9	41	9	73	9	105	9	137	9	169	9	201	9	233	9
10	10	42	10	74	10	106	10	138	10	170	10	202	10	234	10
11	11	43	11	75	11	107	11	139	11	171	11	203	11	235	11
12	12	44	12	76	12	108	12	140	12	172	12	204	12	236	12
13	13	45	13	77	13	109	13	141	13	173	13	205	13	237	13
14	14	46	14	78	14	110	14	142	14	174	14	206	14	238	14
15	15	47	15	79	15	111	15	143	15	175	15	207	15	239	15
16	16	48	16	80	16	112	16	145	16	176	16	208	16	240	16
17	17	49	17	81	17	113	17	145	17	177	17	209	17	241	17
18	18	50	18	82	18	114	18	146	18	178	18	210	18	242	18
19	19	51	19	83	19	115	19	147	19	179	19	211	19	243	19
20	20	52	20	84	20	116	20	148	20	180	20	212	20	244	20
21	21	53	21	85	21	117	21	149	21	181	21	213	21	245	21
22	22	54	22	86	22	118	22	150	22	182	22	214	22	246	22
23	23	55	23	87	23	119	23	151	23	183	23	215	23	247	23
24	24	56	24	88	24	120	24	152	24	184	24	216	24	248	24
25	25	57	25	89	25	121	25	153	25	185	25	217	25	249	25
26	26	58	26	90	26	122	26	154	26	186	26	218	26	250	26
27	27	59	27	91	27	123	27	155	27	187	27	219	27	251	27
28	28	60	28	92	28	124	28	156	28	188	28	220	28	252	28
29	29	61	29	93	29	125	29	157	29	189	29	221	29	253	29
30	30	62	30	94	30	126	30	158	30	190	30	222	30	254	30
31	31	63	31	95	31	127	31	159	31	191	31	223	31	255	31
32	32	64	32	96	32	128	32	160	32	192	32	224	32	256	32

Group 9		Group 10		Group 11		Group 12		Group 13		Group 14		Group 15		Group 16	
In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
257	1	289	1	321	1	353	1	385	1	417	1	449	1	481	1
258	2	290	2	322	2	354	2	386	2	418	2	450	2	482	2
259	3	291	3	323	3	355	3	387	3	419	3	451	3	483	3
260	4	292	4	324	4	356	4	388	4	420	4	452	4	484	4
261	5	293	5	325	5	357	5	389	5	421	5	453	5	485	5
262	6	294	6	326	6	358	6	390	6	422	6	454	6	486	6
263	7	295	7	327	7	359	7	391	7	423	7	455	7	487	7
264	8	296	8	328	8	360	8	392	8	424	8	456	8	488	8
265	9	297	9	329	9	361	9	393	9	425	9	457	9	489	9
266	10	298	10	330	10	362	10	394	10	426	10	458	10	490	10
267	11	299	11	331	11	363	11	395	11	427	11	459	11	491	11
268	12	300	12	332	12	364	12	396	12	428	12	460	12	492	12
269	13	301	13	333	13	365	13	397	13	429	13	461	13	493	13
270	14	302	14	334	14	366	14	398	14	430	14	462	14	494	14
271	15	303	15	335	15	367	15	399	15	431	15	463	15	495	15
272	16	304	16	336	16	368	16	400	16	432	16	464	16	496	16
273	17	305	17	337	17	369	17	401	17	433	17	465	17	497	17
274	18	306	18	338	18	370	18	402	18	434	18	466	18	498	18
275	19	307	19	339	19	371	19	403	19	435	19	467	19	499	19
276	20	308	20	340	20	372	20	404	20	436	20	468	20	500	20
277	21	309	21	341	21	373	21	405	21	437	21	469	21	501	21
278	22	310	22	342	22	374	22	406	22	438	22	470	22	502	22
279	23	311	23	343	23	375	23	407	23	439	23	471	23	503	23
280	24	312	24	344	24	376	24	408	24	440	24	472	24	504	24
281	25	313	25	345	25	377	25	409	25	441	25	473	25	505	25
282	26	314	26	346	26	378	26	410	26	442	26	474	26	506	26
283	27	315	27	347	27	379	27	411	27	443	27	475	27	507	27
284	28	316	28	348	28	380	28	412	28	444	28	476	28	508	28
285	29	317	29	349	29	381	29	413	29	445	29	477	29	509	29
286	30	318	30	350	30	382	30	414	30	446	30	478	30	510	30
287	31	319	31	351	31	383	31	415	31	447	31	479	31	511	31
288	32	320	32	352	32	384	32	416	32	448	32	480	32	512	32

ADDRESS GROUPS of 32

Group 17		Group 18		Group 19		Group 20		Group 21		Group 22		Group 23		Group 24	
In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
513	1	545	1	577	1	609	1	641	1	673	1	705	1	737	1
514	2	546	2	578	2	610	2	642	2	674	2	706	2	738	2
515	3	547	3	579	3	611	3	643	3	675	3	707	3	739	3
516	4	548	4	580	4	612	4	644	4	676	4	708	4	740	4
517	5	549	5	581	5	613	5	645	5	677	5	709	5	741	5
518	6	550	6	582	6	614	6	646	6	678	6	710	6	742	6
519	7	551	7	583	7	615	7	647	7	679	7	711	7	743	7
520	8	552	8	584	8	616	8	648	8	680	8	712	8	744	8
521	9	553	9	585	9	617	9	649	9	681	9	713	9	745	9
522	10	554	10	586	10	618	10	650	10	682	10	714	10	746	10
523	11	555	11	587	11	619	11	651	11	683	11	715	11	747	11
524	12	556	12	588	12	620	12	652	12	684	12	716	12	748	12
525	13	557	13	589	13	621	13	653	13	685	13	717	13	749	13
526	14	558	14	590	14	622	14	654	14	686	14	718	14	750	14
527	15	559	15	591	15	623	15	655	15	687	15	719	15	751	15
528	16	560	16	592	16	624	16	656	16	688	16	720	16	752	16
529	17	561	17	593	17	625	17	657	17	689	17	721	17	753	17
530	18	562	18	594	18	626	18	658	18	690	18	722	18	754	18
531	19	563	19	595	19	627	19	659	19	691	19	723	19	755	19
532	20	564	20	596	20	628	20	660	20	692	20	724	20	756	20
533	21	565	21	597	21	629	21	661	21	693	21	725	21	757	21
534	22	566	22	598	22	630	22	662	22	694	22	726	22	758	22
535	23	567	23	599	23	631	23	663	23	695	23	727	23	759	23
536	24	568	24	600	24	632	24	664	24	696	24	728	24	760	24
537	25	569	25	601	25	633	25	665	25	697	25	729	25	761	25
538	26	570	26	602	26	634	26	666	26	698	26	730	26	762	26
539	27	571	27	603	27	635	27	667	27	699	27	731	27	763	27
540	28	572	28	604	28	636	28	668	28	700	28	732	28	764	28
541	29	573	29	605	29	637	29	669	29	701	29	733	29	765	29
542	30	574	30	606	30	638	30	670	30	702	30	734	30	766	30
543	31	575	31	607	31	639	31	671	31	703	31	735	31	767	31
544	32	576	32	608	32	640	32	672	32	704	32	736	32	768	32

Group 25		Group 26		Group 27		Group 28		Group 29		Group 30		Group 31		Group 32	
In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
769	1	801	1	833	1	865	1	897	1	929	1	961	1	993	1
770	2	802	2	834	2	866	2	898	2	930	2	962	2	994	2
771	3	803	3	835	3	867	3	899	3	931	3	963	3	995	3
772	4	804	4	836	4	868	4	900	4	932	4	964	4	996	4
773	5	805	5	837	5	869	5	901	5	933	5	965	5	997	5
774	6	806	6	838	6	870	6	902	6	934	6	966	6	998	6
775	7	807	7	839	7	871	7	903	7	935	7	967	7	999	7
776	8	808	8	840	8	872	8	904	8	936	8	968	8	1000	8
777	9	809	9	841	9	873	9	905	9	937	9	969	9	1001	9
778	10	810	10	842	10	874	10	906	10	938	10	970	10	1002	10
779	11	811	11	843	11	875	11	907	11	939	11	971	11	1003	11
780	12	812	12	844	12	876	12	908	12	940	12	972	12	1004	12
781	13	813	13	845	13	877	13	909	13	941	13	973	13	1005	13
782	14	814	14	846	14	878	14	910	14	942	14	974	14	1006	14
783	15	815	15	847	15	879	15	911	15	943	15	975	15	1007	15
784	16	816	16	848	16	880	16	912	16	944	16	976	16	1008	16
785	17	817	17	849	17	881	17	913	17	945	17	977	17	1009	17
786	18	818	18	850	18	882	18	914	18	946	18	978	18	1010	18
787	19	819	19	851	19	883	19	915	19	947	19	979	19	1011	19
788	20	820	20	852	20	884	20	916	20	948	20	980	20	1012	20
789	21	821	21	853	21	885	21	917	21	949	21	981	21	1013	21
790	22	822	22	854	22	886	22	918	22	950	22	982	22	1014	22
791	23	823	23	855	23	887	23	919	23	951	23	983	23	1015	23
792	24	824	24	856	24	888	24	920	24	952	24	984	24	1016	24
793	25	825	25	857	25	889	25	921	25	953	25	985	25	1017	25
794	26	826	26	858	26	890	26	922	26	954	26	986	26	1018	26
795	27	827	27	859	27	891	27	923	27	955	27	987	27	1019	27
796	28	828	28	860	28	892	28	924	28	956	28	988	28	1020	28
797	29	829	29	861	29	893	29	925	29	957	29	989	29	1021	29
798	30	830	30	862	30	894	30	926	30	958	30	990	30	1022	30
799	31	831	31	863	31	895	31	927	31	959	31	991	31	1023	31
800	32	832	32	864	32	896	32	928	32	960	32	992	32	1024	32

ADDRESS GROUPS of 96

Group 1		Group 2		Group 3		Group 4									
In	Out	In	Out	In	Out	In	Out								
1	1	49	49	97	1	145	49	193	1	241	49	289	1	337	49
2	2	50	50	98	2	146	50	194	2	242	50	290	2	338	50
3	3	51	51	99	3	147	51	195	3	243	51	291	3	339	51
4	4	52	52	100	4	148	52	196	4	244	52	292	4	340	52
5	5	53	53	101	5	149	53	197	5	245	53	293	5	341	53
6	6	54	54	102	6	150	54	198	6	246	54	294	6	342	54
7	7	55	55	103	7	151	55	199	7	247	55	295	7	343	55
8	8	56	56	104	8	152	56	200	8	248	56	296	8	344	56
9	9	57	57	105	9	153	57	201	9	249	57	297	9	345	57
10	10	58	58	106	10	154	58	202	10	250	58	298	10	346	58
11	11	59	59	107	11	155	59	203	11	251	59	299	11	347	59
12	12	60	60	108	12	156	60	204	12	252	60	300	12	348	60
13	13	61	61	109	13	157	61	205	13	253	61	301	13	349	61
14	14	62	62	110	14	158	62	206	14	254	62	302	14	350	62
15	15	63	63	111	15	159	63	207	15	255	63	303	15	351	63
16	16	64	64	112	16	160	64	208	16	256	64	304	16	352	64
17	17	65	65	113	17	161	65	209	17	257	65	305	17	353	65
18	18	66	66	114	18	162	66	210	18	258	66	306	18	354	66
19	19	67	67	115	19	163	67	211	19	259	67	307	19	355	67
20	20	68	68	116	20	164	68	212	20	260	68	308	20	356	68
21	21	69	69	117	21	165	69	213	21	261	69	309	21	357	69
22	22	70	70	118	22	166	70	214	22	262	70	310	22	358	70
23	23	71	71	119	23	167	71	215	23	263	71	311	23	359	71
24	24	72	72	120	24	168	72	216	24	264	72	312	24	360	72
25	25	73	73	121	25	169	73	217	25	265	73	313	25	361	73
26	26	74	74	122	26	170	74	218	26	266	74	314	26	362	74
27	27	75	75	123	27	171	75	219	27	267	75	315	27	363	75
28	28	76	76	124	28	172	76	220	28	268	76	316	28	364	76
29	29	77	77	125	29	173	77	221	29	269	77	317	29	365	77
30	30	78	78	126	30	174	78	222	30	270	78	318	30	366	78
31	31	79	79	127	31	175	79	223	31	271	79	319	31	367	79
32	32	80	80	128	32	176	80	224	32	272	80	320	32	368	80
33	33	81	81	129	33	177	81	225	33	273	81	321	33	369	81
34	34	82	82	130	34	178	82	226	34	274	82	322	34	370	82
35	35	83	83	131	35	179	83	227	35	275	83	323	35	371	83
36	36	84	84	132	36	180	84	228	36	276	84	324	36	372	84
37	37	85	85	133	37	181	85	229	37	277	85	325	37	373	85
38	38	86	86	134	38	182	86	230	38	278	86	326	38	374	86
39	39	87	87	135	39	183	87	231	39	279	87	327	39	375	87
40	40	88	88	136	40	184	88	232	40	280	88	328	40	376	88
41	41	89	89	137	41	185	89	233	41	281	89	329	41	377	89
42	42	90	90	138	42	186	90	234	42	282	90	330	42	378	90
43	43	91	91	139	43	187	91	235	43	283	91	331	43	379	91
44	44	92	92	140	44	188	92	236	44	284	92	332	44	380	92
45	45	93	93	141	45	189	93	237	45	285	93	333	45	381	93
46	46	94	94	142	46	190	94	238	46	286	94	334	46	382	94
47	47	95	95	143	47	191	95	239	47	287	95	335	47	383	95
48	48	96	96	144	48	192	96	240	48	288	96	336	48	384	96

ADDRESS GROUPS of 96

Group 5		Group 6		Group 7		Group 8									
In	Out	In	Out	In	Out	In	Out								
385	1	433	49	481	1	529	49	577	1	625	49	673	1	721	49
386	2	434	50	482	2	530	50	578	2	626	50	674	2	722	50
387	3	435	51	483	3	531	51	579	3	627	51	675	3	723	51
388	4	436	52	484	4	532	52	580	4	628	52	676	4	724	52
389	5	437	53	485	5	533	53	581	5	629	53	677	5	725	53
390	6	438	54	486	6	534	54	582	6	630	54	678	6	726	54
391	7	439	55	487	7	535	55	583	7	631	55	679	7	727	55
392	8	440	56	488	8	536	56	584	8	632	56	680	8	728	56
393	9	441	57	489	9	537	57	585	9	633	57	681	9	729	57
394	10	442	58	490	10	538	58	586	10	634	58	682	10	730	58
395	11	443	59	491	11	539	59	587	11	635	59	683	11	731	59
396	12	444	60	492	12	540	60	588	12	636	60	684	12	732	60
397	13	445	61	493	13	541	61	589	13	637	61	685	13	733	61
398	14	446	62	494	14	542	62	590	14	638	62	686	14	734	62
399	15	447	63	495	15	543	63	591	15	639	63	687	15	735	63
400	16	448	64	496	16	544	64	592	16	640	64	688	16	736	64
401	17	449	65	497	17	545	65	593	17	641	65	689	17	737	65
402	18	450	66	498	18	546	66	594	18	642	66	690	18	738	66
403	19	451	67	499	19	547	67	595	19	643	67	691	19	739	67
404	20	452	68	500	20	548	68	596	20	644	68	692	20	740	68
405	21	453	69	501	21	549	69	597	21	645	69	693	21	741	69
406	22	454	70	502	22	550	70	598	22	646	70	694	22	742	70
407	23	455	71	503	23	551	71	599	23	647	71	695	23	743	71
408	24	456	72	504	24	552	72	600	24	648	72	696	24	744	72
409	25	457	73	505	25	553	73	601	25	649	73	697	25	745	73
410	26	458	74	506	26	554	74	602	26	650	74	698	26	746	74
411	27	459	75	507	27	555	75	603	27	651	75	699	27	747	75
412	28	460	76	508	28	556	76	604	28	652	76	700	28	748	76
413	29	461	77	509	29	557	77	605	29	653	77	701	29	749	77
414	30	462	78	510	30	558	78	606	30	654	78	702	30	750	78
415	31	463	79	511	31	559	79	607	31	655	79	703	31	751	79
416	32	464	80	512	32	560	80	608	32	656	80	704	32	752	80
417	33	465	81	513	33	561	81	609	33	657	81	705	33	753	81
418	34	466	82	514	34	562	82	610	34	658	82	706	34	754	82
419	35	467	83	515	35	563	83	611	35	659	83	707	35	755	83
420	36	468	84	516	36	564	84	612	36	660	84	708	36	756	84
421	37	469	85	517	37	565	85	613	37	661	85	709	37	757	85
422	38	470	86	518	38	566	86	614	38	662	86	710	38	758	86
423	39	471	87	519	39	567	87	615	39	663	87	711	39	759	87
424	40	472	88	520	40	568	88	616	40	664	88	712	40	760	88
425	41	473	89	521	41	569	89	617	41	665	89	713	41	761	89
426	42	474	90	522	42	570	90	618	42	666	90	714	42	762	90
427	43	475	91	523	43	571	91	619	43	667	91	715	43	763	91
428	44	476	92	524	44	572	92	620	44	668	92	716	44	764	92
429	45	477	93	525	45	573	93	621	45	669	93	717	45	765	93
430	46	478	94	526	46	574	94	622	46	670	94	718	46	766	94
431	47	479	95	527	47	575	95	623	47	671	95	719	47	767	95
432	48	480	96	528	48	576	96	624	48	672	96	720	48	768	96

ADDRESS GROUPS of 96

Group 9		Group 9		Group 10		Group 10		Group 11		Group 11		Group 12		Group 12	
In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
769	1	817	49	865	1	913	49	961	1	1009	49	1057	1	1105	49
770	2	818	50	866	2	914	50	962	2	1010	50	1058	2	1106	50
771	3	819	51	867	3	915	51	963	3	1011	51	1059	3	1107	51
772	4	820	52	868	4	916	52	964	4	1012	52	1060	4	1108	52
773	5	821	53	869	5	917	53	965	5	1013	53	1061	5	1109	53
774	6	822	54	870	6	918	54	966	6	1014	54	1062	6	1110	54
775	7	823	55	871	7	919	55	967	7	1015	55	1063	7	1111	55
776	8	824	56	872	8	920	56	968	8	1016	56	1064	8	1112	56
777	9	825	57	873	9	921	57	969	9	1017	57	1065	9	1113	57
778	10	826	58	874	10	922	58	970	10	1018	58	1066	10	1114	58
779	11	827	59	875	11	923	59	971	11	1019	59	1067	11	1115	59
780	12	828	60	876	12	924	60	972	12	1020	60	1068	12	1116	60
781	13	829	61	877	13	925	61	973	13	1021	61	1069	13	1117	61
782	14	830	62	878	14	926	62	974	14	1022	62	1070	14	1118	62
783	15	831	63	879	15	927	63	975	15	1023	63	1071	15	1119	63
784	16	832	64	880	16	928	64	976	16	1024	64	1072	16	1120	64
785	17	833	65	881	17	929	65	977	17	1025	65	1073	17	1121	65
786	18	834	66	882	18	930	66	978	18	1026	66	1074	18	1122	66
787	19	835	67	883	19	931	67	979	19	1027	67	1075	19	1123	67
788	20	836	68	884	20	932	68	980	20	1028	68	1076	20	1124	68
789	21	837	69	885	21	933	69	981	21	1029	69	1077	21	1125	69
790	22	838	70	886	22	934	70	982	22	1030	70	1078	22	1126	70
791	23	839	71	887	23	935	71	983	23	1031	71	1079	23	1127	71
792	24	840	72	888	24	936	72	984	24	1032	72	1080	24	1128	72
793	25	841	73	889	25	937	73	985	25	1033	73	1081	25	1129	73
794	26	842	74	890	26	938	74	986	26	1034	74	1082	26	1130	74
795	27	843	75	891	27	939	75	987	27	1035	75	1083	27	1131	75
796	28	844	76	892	28	940	76	988	28	1036	76	1084	28	1132	76
797	29	845	77	893	29	941	77	989	29	1037	77	1085	29	1133	77
798	30	846	78	894	30	942	78	990	30	1038	78	1086	30	1134	78
799	31	847	79	895	31	943	79	991	31	1039	79	1087	31	1135	79
800	32	848	80	896	32	944	80	992	32	1040	80	1088	32	1136	80
801	33	849	81	897	33	945	81	993	33	1041	81	1089	33	1137	81
802	34	850	82	898	34	946	82	994	34	1042	82	1090	34	1138	82
803	35	851	83	899	35	947	83	995	35	1043	83	1091	35	1139	83
804	36	852	84	900	36	948	84	996	36	1044	84	1092	36	1140	84
805	37	853	85	901	37	949	85	997	37	1045	85	1093	37	1141	85
806	38	854	86	902	38	950	86	998	38	1046	86	1094	38	1142	86
807	39	855	87	903	39	951	87	999	39	1047	87	1095	39	1143	87
808	40	856	88	904	40	952	88	1000	40	1048	88	1096	40	1144	88
809	41	857	89	905	41	953	89	1001	41	1049	89	1097	41	1145	89
810	42	858	90	906	42	954	90	1002	42	1050	90	1098	42	1146	90
811	43	859	91	907	43	955	91	1003	43	1051	91	1099	43	1147	91
812	44	860	92	908	44	956	92	1004	44	1052	92	1100	44	1148	92
813	45	861	93	909	45	957	93	1005	45	1053	93	1101	45	1149	93
814	46	862	94	910	46	958	94	1006	46	1054	94	1102	46	1150	94
815	47	863	95	911	47	959	95	1007	47	1055	95	1103	47	1151	95
816	48	864	96	912	48	960	96	1008	48	1056	96	1104	48	1152	96

ADDRESS GROUPS of 96

Group 13		Group 14		Group 15		Group 16									
In	Out	In	Out	In	Out	In	Out								
1153	1	1201	49	1249	1	1297	49	1345	1	1393	49	1441	1	1489	49
1154	2	1202	50	1250	2	1298	50	1346	2	1394	50	1442	2	1490	50
1155	3	1203	51	1251	3	1299	51	1347	3	1395	51	1443	3	1491	51
1156	4	1204	52	1252	4	1300	52	1348	4	1396	52	1444	4	1492	52
1157	5	1205	53	1253	5	1301	53	1349	5	1397	53	1445	5	1493	53
1158	6	1206	54	1254	6	1302	54	1350	6	1398	54	1446	6	1494	54
1159	7	1207	55	1255	7	1303	55	1351	7	1399	55	1447	7	1495	55
1160	8	1208	56	1256	8	1304	56	1352	8	1400	56	1448	8	1496	56
1161	9	1209	57	1257	9	1305	57	1353	9	1401	57	1449	9	1497	57
1162	10	1210	58	1258	10	1306	58	1354	10	1402	58	1450	10	1498	58
1163	11	1211	59	1259	11	1307	59	1355	11	1403	59	1451	11	1499	59
1164	12	1212	60	1260	12	1308	60	1356	12	1404	60	1452	12	1500	60
1165	13	1213	61	1261	13	1309	61	1357	13	1405	61	1453	13	1501	61
1166	14	1214	62	1262	14	1310	62	1358	14	1406	62	1454	14	1502	62
1167	15	1215	63	1263	15	1311	63	1359	15	1407	63	1455	15	1503	63
1168	16	1216	64	1264	16	1312	64	1360	16	1408	64	1456	16	1504	64
1169	17	1217	65	1265	17	1313	65	1361	17	1409	65	1457	17	1505	65
1170	18	1218	66	1266	18	1314	66	1362	18	1410	66	1458	18	1506	66
1171	19	1219	67	1267	19	1315	67	1363	19	1411	67	1459	19	1507	67
1172	20	1220	68	1268	20	1316	68	1364	20	1412	68	1460	20	1508	68
1173	21	1221	69	1269	21	1317	69	1365	21	1413	69	1461	21	1509	69
1174	22	1222	70	1270	22	1318	70	1366	22	1414	70	1462	22	1510	70
1175	23	1223	71	1271	23	1319	71	1367	23	1415	71	1463	23	1511	71
1176	24	1224	72	1272	24	1320	72	1368	24	1416	72	1464	24	1512	72
1177	25	1225	73	1273	25	1321	73	1369	25	1417	73	1465	25	1513	73
1178	26	1226	74	1274	26	1322	74	1370	26	1418	74	1466	26	1514	74
1179	27	1227	75	1275	27	1323	75	1371	27	1419	75	1467	27	1515	75
1180	28	1228	76	1276	28	1324	76	1372	28	1420	76	1468	28	1516	76
1181	29	1229	77	1277	29	1325	77	1373	29	1421	77	1469	29	1517	77
1182	30	1230	78	1278	30	1326	78	1374	30	1422	78	1470	30	1518	78
1183	31	1231	79	1279	31	1327	79	1375	31	1423	79	1471	31	1519	79
1184	32	1232	80	1280	32	1328	80	1376	32	1424	80	1472	32	1520	80
1185	33	1233	81	1281	33	1329	81	1377	33	1425	81	1473	33	1521	81
1186	34	1234	82	1282	34	1330	82	1378	34	1426	82	1474	34	1522	82
1187	35	1235	83	1283	35	1331	83	1379	35	1427	83	1475	35	1523	83
1188	36	1236	84	1284	36	1332	84	1380	36	1428	84	1476	36	1524	84
1189	37	1237	85	1285	37	1333	85	1381	37	1429	85	1477	37	1525	85
1190	38	1238	86	1286	38	1334	86	1382	38	1430	86	1478	38	1526	86
1191	39	1239	87	1287	39	1335	87	1383	39	1431	87	1479	39	1527	87
1192	40	1240	88	1288	40	1336	88	1384	40	1432	88	1480	40	1528	88
1193	41	1241	89	1289	41	1337	89	1385	41	1433	89	1481	41	1529	89
1194	42	1242	90	1290	42	1338	90	1386	42	1434	90	1482	42	1530	90
1195	43	1243	91	1291	43	1339	91	1387	43	1435	91	1483	43	1531	91
1196	44	1244	92	1292	44	1340	92	1388	44	1436	92	1484	44	1532	92
1197	45	1245	93	1293	45	1341	93	1389	45	1437	93	1485	45	1533	93
1198	46	1246	94	1294	46	1342	94	1390	46	1438	94	1486	46	1534	94
1199	47	1247	95	1295	47	1343	95	1391	47	1439	95	1487	47	1535	95
1200	48	1248	96	1296	48	1344	96	1392	48	1440	96	1488	48	1536	96

