



Atronic
Commboard Manual
for **Commboard 68k Rev. 2.10**

Rev. 1.3

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Atronic Commboard Manual
for commboard 68k Rev. 2.10

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INTRODUCTION

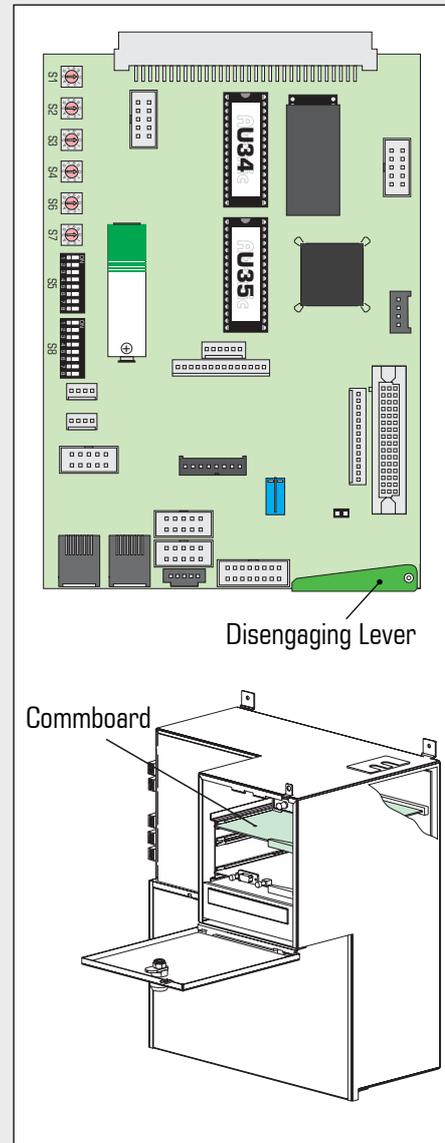
This manual aims to provide qualified technical service staff with detailed information how to connect and configure the Atronic commboard 68k Rev. 2.10.

The Atronic commboard 68k provides connection to various online systems. System addresses, jackpot addresses and SAS channel allocation is set here. Commboard software EPROMs (U34 / U35) are available for various applications and protocols.

Installation Overview

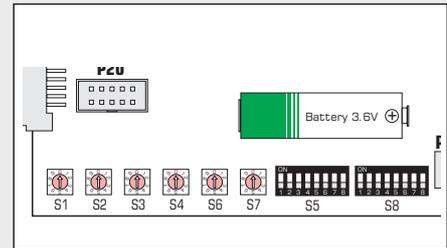
1. Power down the gaming machine and open the logic box door to get access to the commboard.
2. To remove the commboard pull the green disengaging lever.
3. Configure commboard DIP and rotary switch settings as described within this manual.
4. Carry out a RAM Reset / Commboard Clear procedure (if necessary) and install appropriate commboard software EPROMs to sockets U34 and U35.
5. Remove the cable recess cover on top of the logic box and thread the cable(s) to be connected to the commboard into the logic box. Reinstall the cable recess cover.
6. Connect the cable(s) to the commboard and reinstall it. Make sure that the commboard is properly seated all the way into the frame and connected to the backplane.
7. Power up the machine and carry out the Initial Setup (if a RAM Reset has been performed) and configure the Service Menu settings.
8. Carry out necessary communication tests, when communication to the online system is established.

INTRODUCTION



COMMBOARD CONFIGURATION

Commboard configuration is carried out by means of the rotary switches and the DIP switches on the commboard. Check all settings carefully before putting the machine into operation. Any subsequent change of the DIP switch settings requires a Commboard Clear.



Rotary Switches S1 and S2

These two switches determine the APL progressive address if the Atronic Progressive Link (APL) is used. APL™ is also used on Atronic link concepts such as CASH Fever™, King Kong Cash, The Game of Life™, Deal or no Deal™ and other. Each machine in an APL link must have a unique address from 01 to 32. (S1 = tens digit, S2 = units digit). System progressive mode and non-progressive mode does not need a progressive system address set.

Rotary Switches S3, S4 and S6, S7

These four switches determine the accounting system address. This address has to be set if communication to an accounting system is necessary or if a jackpot controller uses the accounting system address (system progressive).

In most cases the accounting system address is provided by a connected slot machine interface board (SMIB) or a machine data controller (MDC). In this case it is not necessary to set unique addresses for each commboard. Just set the address to 01 to activate a channel. You may need to configure unique addresses in an fibre optics driven ticketing environment.

- S6 and S7 sets the accounting system address for SAS channel 1. (S6 = tens digit, S7 = units digit).
- S3 and S4 sets the accounting system address for SAS channel 2. (S3 = tens digit, S4 = units digit).
- Setting the address to 00 disables a channel.

Examples

If a MDC provides the accounting system address:

- To activate SAS channel 1 set rotary switch S7 to "1"
- To activate SAS channel 2 set rotary switch S4 to "1"

If you have to set unique accounting addresses for each commboard:

- To set (for example) address 17 on SAS channel 2, set S3 to "1" and S4 to "7".

COMMBOARD CONFIGURATION

DIP Switch Block S5

S5-1, S5-2 and S5-3 configures the commboard progressive mode.

Switch			Function
S5-1	S5-2	S5-3	
OFF	OFF	OFF	Mikohn MS-10 Progressive
ON	OFF	OFF	Accounting Progressive
OFF	ON	OFF	APL Progressive (if included in eeprom)
ON	ON	OFF	Mikohn MS-27 Mystery
OFF	OFF	ON	Mikohn MS-27 Mystery + Progressive
ON	OFF	ON	Accounting System 3rd Channel
OFF	ON	ON	not supported :10
ON	ON	ON	not used, defaults to Mikohn MS-10

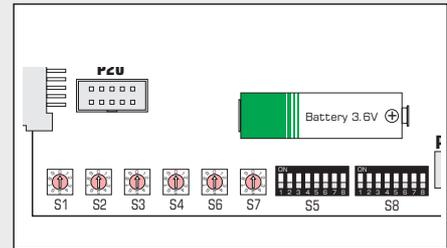
For non-progressive mode set all three switches to OFF.

S5-4 enables/disables the APL™ master mode. When configuring an APL™, define one machine in the link as the APL™ master machine by setting S5-4 to ON.

S5-4	Function
ON	APL EGM act as Master
OFF	APL EGM act as Slave

S5-6 enables/disables the implemented accounting protocol. Set S5-6 to ON if communication to an accounting system is required (typical).

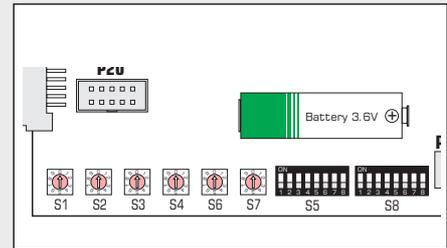
S5-6	Function
ON	Activate implemented Accounting System
OFF	Disable implemented Accounting System



COMMBOARD CONFIGURATION

DIP Switch Block S5

S5-7 and S5-8 defines the handling of the commboard data buffers for handpay and voucher validation. These switches are intended to support older accounting systems that can not handle certain SAS exceptions. Please contact Atronic Technical Service to figure out which is the appropriate setting for a particular system.



SAS 5 commboard software **Q_S5-xx-STD_x-08A**

5-7		
ON		Handpay AND ticket overwritten if not read
5-8		
ON		Ticket info only will be overwritten if not read

SAS 6 commboard software **Q_S6-xx-STD_x-08A**

5-7		
ON		Legacy Handpay Reporting active
OFF		Handpay Queue active on all channels (typical)

Legacy Handpay Reporting active

The host can but must not read the handpay information. The data will be lost or overwritten, if the data is not read. Use this setting with systems that do not answer exception 51 (handpay pending) by a 1B long poll.

*Note: (Applies to dual channel mode only)
Switch setting Legacy Handpay Reporting applies to non "Control" channels only. The SAS channel where the "Control" function is allocated to (by switch S8/5, see also next page) always uses Handpay Queue mode.*

Handpay Queue active

When a handpay occurs the machine stores the pertinent data in the handpay queue and issues exception 51. When long poll 1B is received, the oldest unreported entry in the queue is sent to the host. If the 1B long poll is not received within fifteen seconds, exception 51 is re-issued every fifteen seconds until long poll 1B is received. If the handpay queue buffer is full, the machine will lock with error message "ACCOUNTING SYSTEM DISCONNECTED Hand Pay Buffer Full - Channel X".

COMMBOARD CONFIGURATION

DIP Switch Block S8

S8-1 enables/disables the dual channel redemption feature. If set to ON the redemption of promotional vouchers issued by a Bally® SDS™ is allocated to SAS channel 1. In this case set S8-6 to ON to allocate cashout vouchers to SAS channel 2. This feature is implemented in certain software versions only.

S8-2 to S8-6 are intended to configure SAS dual channel mode. Certain SAS polls can be allocated to either SAS channel 1 or SAS channel 2 in order to communicate to a dedicated system.

Switch	Description	Affected LongPolls
8-2		
OFF	Prog JP Chann 1	0x80, 0x86
ON	Prog JP Chann 2	
8-3		
OFF	EFT Chann 1	0x22 to 0x26, 0x28, 0x29
ON	EFT Chann 2	0x62 to 0x67, 0x28, 0x29
8-4		
OFF	Bonus Chann 1	0x2E, 0x8A, 0x8B
ON	Bonus Chann 2	
8-5		
OFF	Control Chann 1	0x03 to 0x07, 0x0A to 0x0C
ON	Control Chann 2	0x94, 0xA8
8-6		
OFF	Coupon Chann 1	0x4C, 0x4D, 0x57, 0x58, 0x70, 0x71
ON	Coupon Chann 2	0x7D (Exp 0x3F, 0x57, 0x67, 0x68)

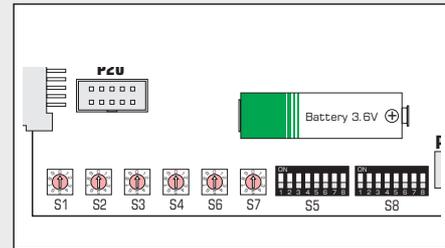
S8-7 is intended to support a special handling required by Bally® systems with a Mastercom™ 250 connected.

Switch	Description	Affected LongPolls
8-7		
OFF		CB sends Total drop meter to host
ON		CB sends Coin drop meter (Bally)

S8-8 defines the handling if the communication to the online system could not be established for more than 15 seconds. If set to ON the machine will immediately lock up and displays an pop-up error message. If set to NO the machine remains playable until the commboard data buffers are full.

Switch	Description	Affected LongPolls
8-8		
ON		Message if accountingsystem isn't connected
OFF		No message if accountingsystem isn't connected

CONFIGURATION

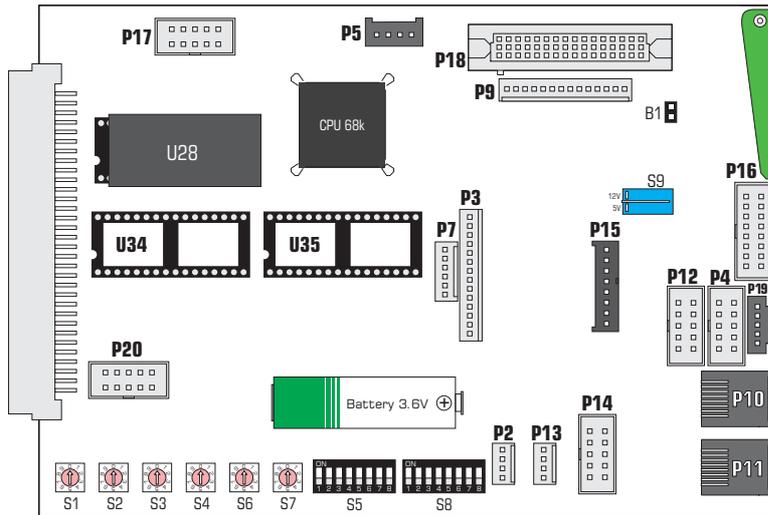


Note:

With GRIPS™ protocol commboard software installed only switch S8-8 is used.

COMMBOARD CONNECTORS

The Atronic commboard 68k Rev. 2.10 features several connectors for different systems and protocols.



Connector	Interface	Protocol / Function
P2	TTL	SAS channel 1 (current loop)
P3	-	Cash-Now trigger signals
P4*	RS232	SAS channel 2 or GRIPS™
P5	-	Comm Key (Ticket in dongle)
P7	-	External Display
P9	-	+12V (for MDCs)
P10, P11	RS485	A-LINK™
P12	RS232	SAS channel 1
P13	TTL	Bally® SDS™
P14	TTL	DACOM®
P15	-	not used
P16	RS422	VLC®
P17	-	Manufacturer use
P18	RS422	Overhead Displayboard
P19	TTL	SAS channel 2 (current loop)
P20	-	not used

S9 Close to apply +5V or +12V to pin 1 of connector P2
 B1 Close jumper to bridge electrical (galvanic) isolation of ground connection.

Note: Connectors P10 and P11 are parallel wired.

Note:
Close jumper B1, if an **Atronic Systems MDC** is connected.

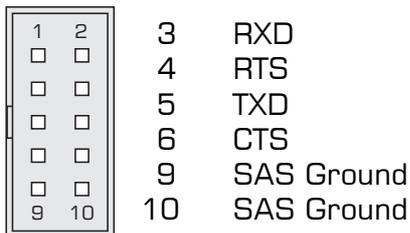
*Connector function depends on commboard software protocol version.

CONNECTORS PINOUT

This chapter describes the connectors pinout of the commboard 68k rev. 2.10.

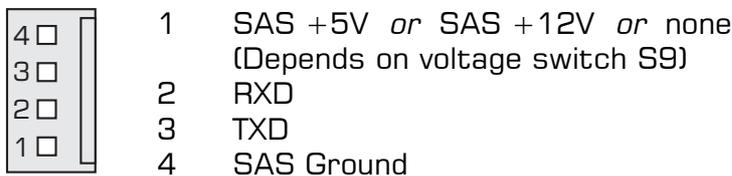
Connector P12

Function: SAS protocol / Channel 1
Interface: RS232



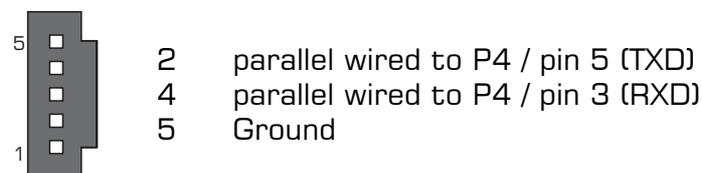
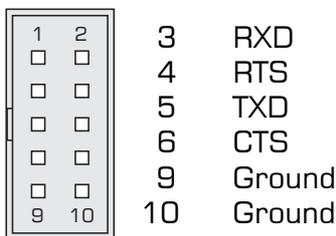
Connector P2

Function: SAS protocol / Channel 1
Interface: Current loop (TTL)



Connector P4 and P19

Function: SAS protocol / Channel 2
or GRIPS™ protocol
Interface: RS232



Note:

Only connector pins with a defined function are described. Other pins are not connected or should not be used.

Note:

Connector function depends on installed software version (SAS or GRIPS™ version).

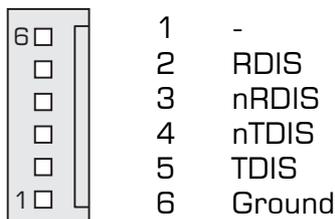
CONNECTORS PINOUT continued

Connector P5 (without pic.)

Connector for Comm Key (Dongle board to enable voucher redemption / Ticket In).

Connector P7

Connector for external overhead display.

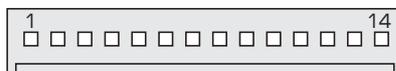


Note:

Display protocol version can be set during jackpot configuration using the A-Link Config application software.

Connector P9

Connector P9 has a 12V output, which can be used to supply a smart interface board (SMIB).



- 9 Ground
- 10 Ground
- 11 +12V
- 12 Ground
- 14 VCC

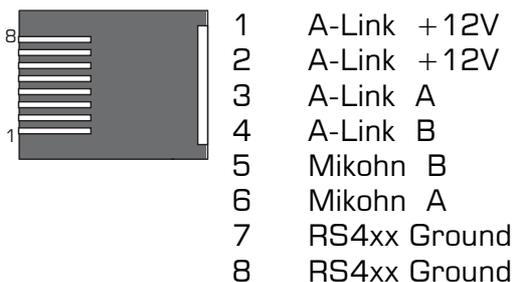
Connectors P10 and P11

Function: Atronic Progressive Link (APL™) or MS10 / MS27 protocol*

Interface: RS485 half duplex

Jack: RJ-45

Connectors P10 and P11 are parallel wired.



***Note:**

Function depends on commboard progressive mode set with DIP switches S5-1 to S5-3.

CONNECTORS PINOUT continued

Connector P13

Function: Bally Systems
Interface: Current loop (TTL)

4	□	1	Blackout
3	□	2	Bally RXD
2	□	3	Bally TXD
1	□	4	SAS Ground

Connector P14

Function: DACOM
Interface: Current loop (TTL)

1	□	2	□	1	DACOM 5000 RXD
□	□	□	□	2	DACOM 5000 RXD
□	□	□	□	3	SAS Ground
□	□	□	□	4	SAS Ground
□	□	□	□	5	DACOM 5000 TXD
□	□	□	□	6	DACOM 5000 TXD
9	□	10	□	7	SAS Ground
				8	SAS Ground
				9	DACOM 5000 RXD
				10	DACOM 5000 RXD

Connector P16

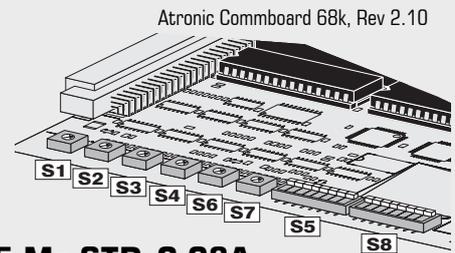
Function: VLC
Interface: RS422

1	□	2	□	2	VLC TXDB
□	□	□	□	3	VLC TXDA
□	□	□	□	4	VLC RTSB
□	□	□	□	5	VLC RTSA
□	□	□	□	6	VLC RXDB
□	□	□	□	7	VLC RXDA
□	□	□	□	13	VLC Ground
15	□	16	□		

SWITCH SETTINGS

DIP SWITCH TABLE - SAS 5

Use the tables below to set up progressive system address, accounting system address, progressive mode, APL mode and SAS channel allocation on the commboard, before you carry out the RAM Reset.



Settings for Commboard software version HCB-Q_S5-Mx-STD_C-08A

Rotary Switches

Switch	Function
S1	EGMs APL Progressive System Address x10
S2	EGMs APL Progressive System Address x01 (Address "00" disables APL progressive address)
S3	EGMs Accounting System Address Channel 2 x10
S4	EGMs Accounting System Address Channel 2 x01 (Address "00" disables channel)
S6	EGMs Accounting System Address Channel 1 x10
S7	EGMs Accounting System Address Channel 1 x01 (Address "00" disables channel)

Note: Set commboard system address on channel 1 to 01, if a slot machine interface board (SMIB) or a machine data controller (MDC) provides the system address.

DIP Switch S5

Switch	Function
1	Mikohn MS-10 Progressive (use this setting for non-progressive mode) Accounting System Progressive APL Progressive / APL Cashfever™ (if included in eprom) Mikohn MS-27 Mystery Mikohn MS-27 Mystery + Progressive Accounting System 3rd Channel APL EGM act as Master APL EGM act as Slave none - (APL 1 only supported) none - (APL 1 only supported)
2	
3	
4	
5	
6	
7	
8	

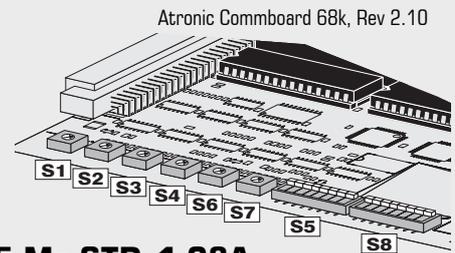
DIP Switch S8

Switch	Function	Affected LongPolls
1	2 Channel Coupon Redemption (Channel 1 = Bally Promotional, Channel 2 = EZPay)	
2		
3	Prog JP Chan 1	0x80, 0x86
4	Prog JP Chan 2	
5	EFT Chan 1	0x22 to 0x26, 0x28, 0x29
6	EFT Chan 2	0x62 to 0x67, 0x28, 0x29
7	Bonus Chan 1	0x2E, 0x8A, 0x8B
8	Bonus Chan 2	
9	Control Chan 1	0x03 to 0x07, 0x0A to 0x0C
10	Control Chan 2	0x94, 0xA8
11	Coupon Chan 1	0x4C, 0x4D 0x57, 0x58, 0x70, 0x71
12	Coupon Chan 2	0x7D (Exp 0x3F, 0x57, 0x67, 0x68)
13	CB sends Total drop meter to host	
14	CB sends Coin drop meter **	
15	Message if accountingsystem isn't connected	
16	No message if accountingsystem isn't connected	

SWITCH SETTINGS

DIP SWITCH TABLE - SAS 5 ADL

Use the tables below to set up progressive system address, accounting system address, progressive mode, APL mode and SAS channel allocation on the commboard, before you carry out the RAM Reset.



Settings for Commboard software version HCB-Q_S5-Mx-STD_1-08A

Rotary Switches

Switch	Function
S1	EGMs APL Progressive System Address x10
S2	EGMs APL Progressive System Address x01 (Address "00" disables APL progressive address)
S3	EGMs Accounting System Address Channel 2 x10
S4	EGMs Accounting System Address Channel 2 x01 (Address "00" disables channel)
S6	EGMs Accounting System Address Channel 1 x10
S7	EGMs Accounting System Address Channel 1 x01 (Address "00" disables channel)

Note: Set commboard system address on channel 1 to 01, if a slot machine interface board (SMIB) or a machine data controller (MDC) provides the system address.

DIP Switch S5

Switch	Function
1	Mikohn MS-10 Progressive Accounting System Progressive APL Progressive / APL Cashfever™ Mikohn MS-27 Mystery Mikohn MS-27 Mystery + Progressive Accounting System 3rd Channel SAS Progressive with ADL
2	
3	
4	
5	
6	
7	
8	
Off	Mikohn MS-10 Progressive (use this setting for non-progressive mode) Accounting System Progressive APL Progressive / APL Cashfever™ (if included in eprom) Mikohn MS-27 Mystery Mikohn MS-27 Mystery + Progressive Accounting System 3rd Channel SAS Progressive with ADL (for system based link solutions) APL EGM act as Master APL EGM act as Slave none - (APL 1 only supported)) none - (APL 1 only supported)) Activate communication to accounting system Disable communication to accounting system Handpay and ticket data overwritten, if not read Ticket data overwritten if not read (prevent buffer overrun)
On	
Off	
On	
Off	
On	
Off	
On	

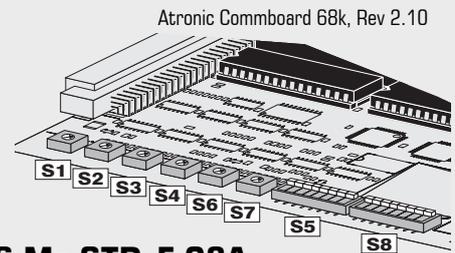
DIP Switch S8

Switch	Function	Affected LongPolls
1	2 Channel Coupon Redemption (Channel 1 = Bally Promotional, Channel 2 = EZPay)	
2		
3	Prog JP Chan 1 0x80, 0x86 Prog JP Chan 2	
4		
5	EFT Chan 1 0x22 to 0x26, 0x28, 0x29 EFT Chan 2 0x62 to 0x67, 0x28, 0x29	
6		
7	Bonus Chan 1 0x2E, 0x8A, 0x8B Bonus Chan 2	
8		
Off	Control Chan 1 0x03 to 0x07, 0x0A to 0x0C Control Chan 2 0x94, 0xA8	
On		
Off	Coupon Chan 1 0x4C, 0x4D 0x57, 0x58, 0x70, 0x71 Coupon Chan 2 0x7D (Exp 0x3F, 0x57, 0x67, 0x68)	
On		
Off	CB sends Total drop meter to host CB sends Coin drop meter **	
On		
Off	Message if accountingsystem isn't connected No message if accountingsystem isn't connected	
On		

SWITCH SETTINGS

DIP SWITCH TABLE - SAS 6

Use the tables below to set up progressive system address, accounting system address, progressive mode, APL mode and SAS channel allocation on the commboard, before you carry out the RAM Reset.



Settings for Commboard software version HCB-Q_S6-Mx-STD_F-08A

Rotary Switches

Switch	Function
S1	EGMs APL Progressive System Address x10
S2	EGMs APL Progressive System Address x01 (Address "00" disables APL progressive address)
S3	EGMs Accounting System Address Channel 2 x10
S4	EGMs Accounting System Address Channel 2 x01 (Address "00" disables channel)
S6	EGMs Accounting System Address Channel 1 x10
S7	EGMs Accounting System Address Channel 1 x01 (Address "00" disables channel)

Note: Set commboard system address on channel 1 to 01, if a slot machine interface board (SMIB) or a machine data controller (MDC) provides the system address.

DIP Switch S5

Switch	Function
1	Mikohn MS-10 Progressive Accounting System Progressive APL Progressive / APL Cashfever™ (if included in eprom) Mikohn MS-27 Mystery Mikohn MS-27 Mystery + Progressive Accounting System 3rd Channel APL EGM act as Master APL EGM act as Slave APL 1 (overtaking progressive meters) APL 2 (non-overtaking progressive meters)
2	
3	
4	
5	
6	
7	
8	
Off	Activate communication to accounting system Disable communication to accounting system
On	
Off	Legacy Handpay Reporting (data overwritten, if not read) Handpay Queue (typical) (machine locks, if buffer is full)
On	
Off	Ticket data overwritten if not read (prevent buffer overrun)
On	

DIP Switch S8

Switch	Function	Affected LongPolls
1	2 Channel Coupon Redemption (Channel 1 = Bally Promotional, Channel 2 = EZPay)	
2		
3	Prog JP Chan 1 0x80, 0x86 Prog JP Chan 2	
4		
5	EFT Chan 1 0x22 to 0x26, 0x28, 0x29 EFT Chan 2 0x62 to 0x67, 0x28, 0x29	
6		
7	Bonus Chan 1 0x2E, 0x8A, 0x8B Bonus Chan 2	
8		
Off	Control Chan 1 0x03 to 0x07, 0x0A to 0x0C Control Chan 2 0x94, 0xA8	
On		
Off	Coupon Chan 1 0x4C, 0x4D 0x57, 0x58, 0x70, 0x71 Coupon Chan 2 0x7D (Exp 0x3F, 0x57, 0x67, 0x68)	
On		
Off	CB sends Total drop meter to host CB sends Coin drop meter **	
On		
Off	Message if accountingsystem isn't connected No message if accountingsystem isn't connected	
On		

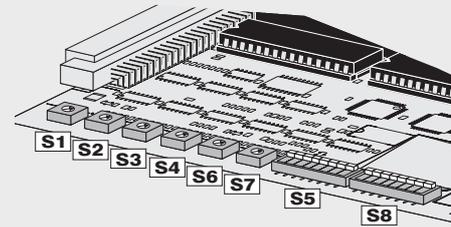
SWITCH SETTINGS

DIP SWITCH TABLE - GRIPS

for commboard software HCB-Q_G4-Mx-xxx
(GRIPS 4.x Protocol)

Rotary Switches

<i>Switch</i>	<i>Function</i>
S1	EGMs Progressive System Address
S2	EGMs Progressive System Address
S3	EGMs Accounting System Address
S4	EGMs Accounting System Address
S6	EGMs Accounting System Address
S7	EGMs Accounting System Address



DIP Switch Block **S5**

<i>Switch</i>			<i>Function</i>
5-1	5-2	5-3	
OFF	OFF	OFF	Mikohn MS-10 Progressive
ON	OFF	OFF	Accounting Progressive
OFF	ON	OFF	APL Progressive (if included in eprom)
ON	ON	OFF	Mikohn MS-27 Mystery
OFF	OFF	ON	Mikohn MS-27 Mystery + Progressive
ON	OFF	ON	not used, defaults to Mikohn MS-10
OFF	ON	ON	not used, defaults to Mikohn MS-10
ON	ON	ON	not used, defaults to Mikohn MS-10
5-4			
ON			APL EGM act as Master
OFF			APL EGM act as Slave
5-6			
ON			Activate implemented Accounting System
OFF			Disable implemented Accounting System
5-7	5-8		
ON	OFF		Not used
OFF	ON		Not used

DIP Switch Block **S8**

<i>Switch</i>	<i>Description</i>	<i>Function</i>
8-1		Not used
8-2		Not used
8-3		Not used
8-4		Not used
8-5		Not used
8-6		Not used
8-7		Not used
8-8		
ON		Message if accountingsystem isn't connected
OFF		No message if accountingsystem isn't connected