CLi Interface

Contents

EXV6047110

1. Introduction

This manual explains the basic parts, functions and handling of the CLi interface assembled in a feeder exchange carriage or fixed feeder plate.

1.1 What the CLi interface does

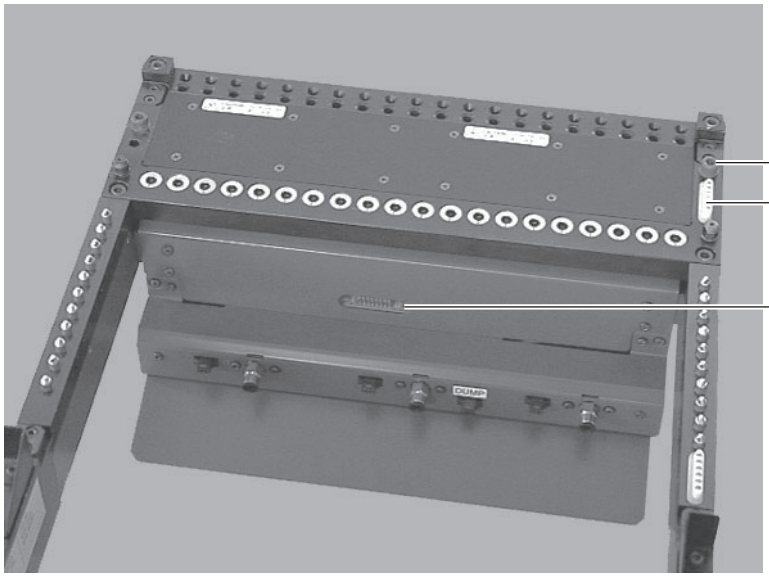
The CLi interface is available in two types. One type is assembled in feeder exchange carriages (FES) and the other is assembled in fixed feeder plates. Each type contains an ID reader board that reads information on the ID tag attached to the installation surface (bottom surface) of YAMAHA CLi feeders. That information is then exchanged with the main machine (surface mounter) through the reader control board allowing instant checks of the feeder setup.

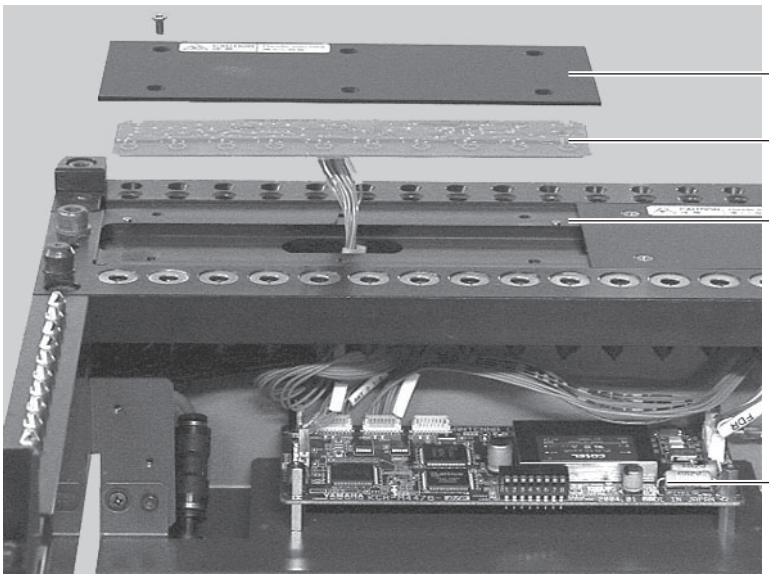
1.2 Part names

Basic parts used in the CLi interface are shown below.

CLi interface

Feeder exchange carriage





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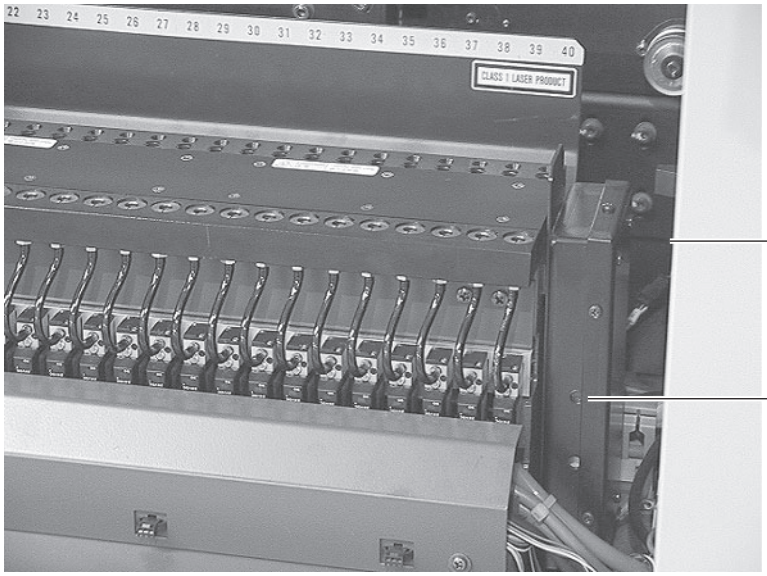
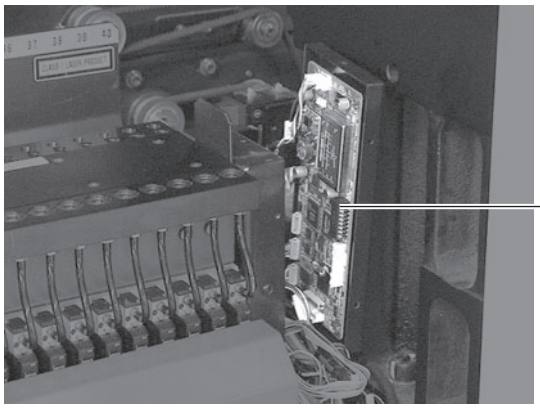
CLi interface

Fixed feeder plate



Reader control board box

Check window
(for LED display check)



Reader control board

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2. Handling precautions

Observe the following precautions to use the CLi interface safely and correctly.

■ Do not apply strong shocks or impacts to the ID reader section (black plastic section)

The ID reader board is protected by the ID reader cover, but might be damaged by strong shocks or impacts applied to the cover. Use caution when handling the CLi interface.

■ Do not apply strong shocks or impacts to the communication contact points (feeder exchange carriage)

The feeder exchange carriage has contact points for signal transfer with the surface mounter.
If these contact points are deformed or dust or debris adheres to the contact points, this may cause signal errors. So handle with care and keep these contact points clean. A contact point protection bolt is installed next to these contact points. Never loosen and/or remove this bolt.

CAUTION

Conventional feeder exchange carriages can be used instead of a CLi interface feeder exchange carriage. However, the CLi interface feeder exchange carriage cannot be used instead of a conventional feeder exchange carriage.

■ Each feeder exchange carriage must have its own ID

Each CLi feeder exchange carriage must have its own ID that differs from all others. Software problems will occur if the same ID is used for two or more feeder exchange carriages..

NOTE

To set the ID, see the next section "Setting the ID for CLi feeder exchange carriages".

NOTE

When using a CLi interface assembled with a fixed feeder plate, set the ID to 0 (zero). The DIP switch (S1) settings are all turned off in this case.

3. Setting the ID for CLi feeder exchange carriages

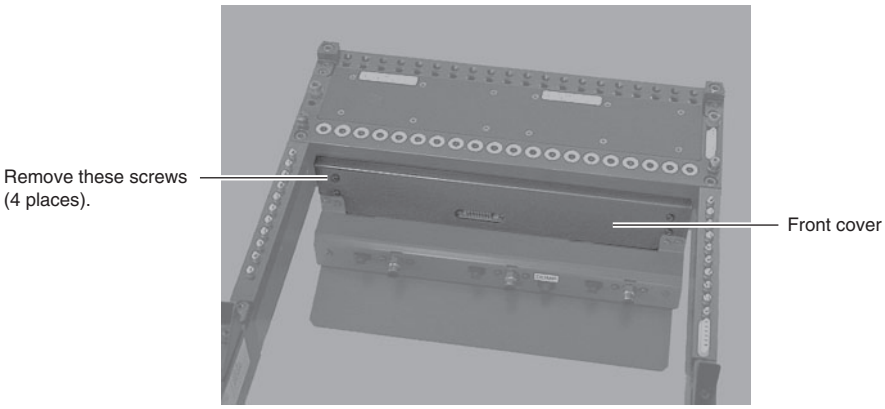
When using CLi feeder exchange carriages, you must set their own ID as explained below. A list of ID settings is also shown.

Step 1 *Disconnect the feeder exchange carriage from the surface mounter.*

Step 2 *Remove the front cover.*

Using a Phillips (+) screwdriver, remove the four screws securing the front cover (with a clear, plastic window).

Removing the front cover



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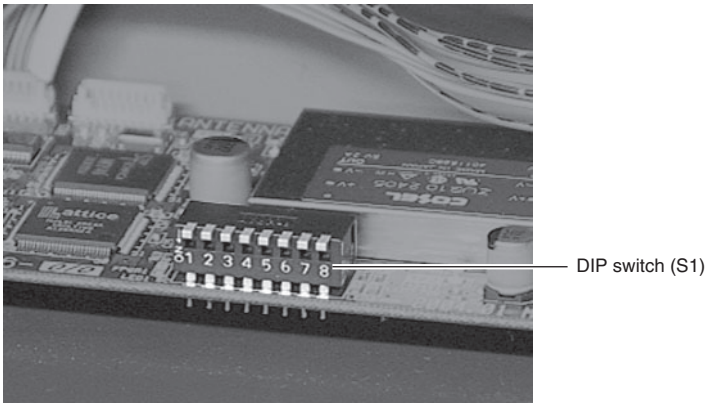
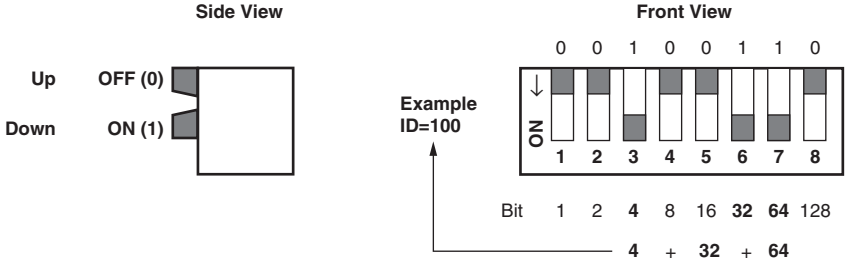
Step 3 *Set the ID for the feeder exchange carriage.*

Use the DIP switch (S1) to set the ID while referring to the table on the next page. Reattach the front cover after setting the ID.

DIP switch (S1)





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CLi feeder exchange carriage

ID setting table

ID	S1 setting	ID	S1 setting	ID	S1 setting	ID	S1 setting	ID	S1 setting	ID	S1 setting
1	10000000	51	11001100	101	10100110	151	11101001	201	10010011	251	11011111
2	01000000	52	00101100	102	01100110	152	00011001	202	01010011	252	00111111
3	11000000	53	10101100	103	11100110	153	10011001	203	11010011	253	10111111
4	00100000	54	01101100	104	00010110	154	01011001	204	00110011	254	01111111
5	10100000	55	11101100	105	10010110	155	11011001	205	10110011	255	11111111
6	01100000	56	00011100	106	01010110	156	00111001	206	01110011		
7	11100000	57	10011100	107	11010110	157	10111001	207	11110011		
8	00010000	58	01011100	108	00110110	158	01111001	208	00001011		
9	10010000	59	11011100	109	10110110	159	11111001	209	10001011		
10	01010000	60	00111100	110	01110110	160	00000101	210	01001011		
11	11010000	61	10111100	111	11110110	161	10000101	211	11001011		
12	00110000	62	01111100	112	00001110	162	01000101	212	00101011		
13	10110000	63	11111100	113	10001110	163	11000101	213	10101011		
14	01110000	64	00000010	114	01001110	164	00100101	214	01101011		
15	11110000	65	10000010	115	11001110	165	10100101	215	11101011		
16	00001000	66	01000010	116	00101110	166	01100101	216	00011011		
17	10001000	67	11000010	117	10101110	167	11100101	217	10011011		
18	01001000	68	00100010	118	01101110	168	00010101	218	01011011		
19	11001000	69	10100010	119	11101110	169	10010101	219	11011011		
20	00101000	70	01100010	120	00011110	170	01010101	220	00111011		
21	10101000	71	11100010	121	10011110	171	11010101	221	10111011		
22	01101000	72	00010010	122	01011110	172	00110101	222	01111011		
23	11101000	73	10010010	123	11011110	173	10110101	223	11111011		
24	00011000	74	01010010	124	00111110	174	01110101	224	00000111		
25	10011000	75	11010010	125	10111110	175	11110101	225	10000111		
26	01011000	76	00110010	126	01111110	176	00001101	226	01000111		
27	11011000	77	10110010	127	11111110	177	10001101	227	11000111		
28	00111000	78	01110010	128	00000001	178	01001101	228	00100111		
29	10111000	79	11110010	129	10000001	179	11001101	229	10100111		
30	01111000	80	00001010	130	01000001	180	00101101	230	01100111		
31	11111000	81	10001010	131	11000001	181	10101101	231	11100111		
32	00000100	82	01001010	132	00100001	182	01101101	232	00010111		
33	10000100	83	11001010	133	10100001	183	11101101	233	10010111		
34	01000100	84	00101010	134	01100001	184	00011101	234	01010111		
35	11000100	85	10101010	135	11100001	185	10011101	235	11010111		
36	00100100	86	01101010	136	00010001	186	01011101	236	00110111		
37	10100100	87	11101010	137	10010001	187	11011101	237	10110111		
38	01100100	88	00011010	138	01010001	188	00111101	238	01110111		
39	11100100	89	10011010	139	11010001	189	10111101	239	11110111		
40	00010100	90	01011010	140	00110001	190	01111101	240	00001111		
41	10010100	91	11011010	141	10110001	191	11111101	241	10001111		
42	01010100	92	00111010	142	01110001	192	00000011	242	01001111		
43	11010100	93	10111010	143	11110001	193	10000011	243	11001111		
44	00110100	94	01111010	144	00001001	194	01000011	244	00101111		
45	10110100	95	11111010	145	10001001	195	11000011	245	10101111		
46	01110100	96	00000110	146	01001001	196	00100011	246	01101111		
47	11110100	97	10000110	147	11001001	197	10100011	247	11101111		
48	00001100	98	01000110	148	00101001	198	01100011	248	00011111		
49	10001100	99	11000110	149	10101001	199	11100011	249	10011111		
50	01001100	100	00100110	150	01101001	200	00010011	250	01011111		

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4. Control board and status display

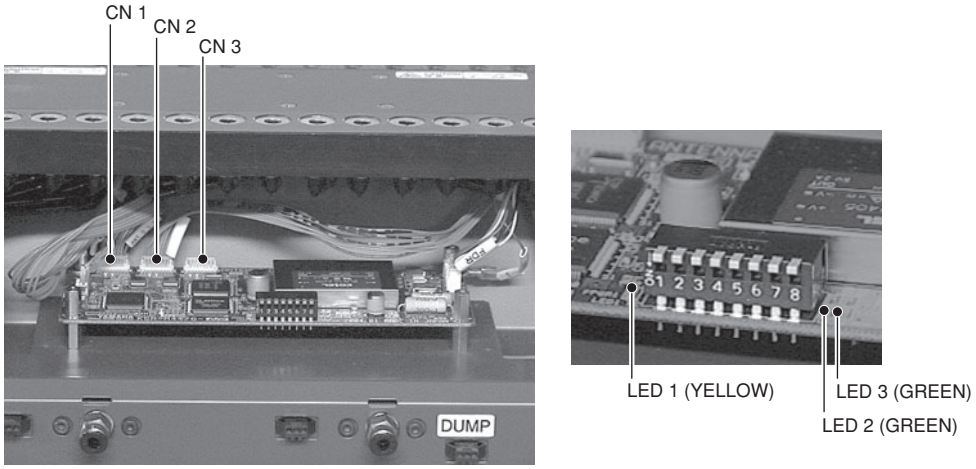
The control board (reader control board assy) controls the ID reader boards. Up to 3 reader boards can be used with one control board. The control board also sends information obtained with the reader boards to the controller in the main machine (surface mounter).

■ Hooking up the connectors

The wire harness from the ID reader boards should be hooked up to CN1 to CN3 on the control board. Use CN1 for smaller feeder set numbers. For example, when using a 20-feeder exchange carriage, the ID reader board for feeder set numbers 1 to 10 should be hooked up to CN1 and the ID reader board for feeder set numbers 11 to 20 to CN2. In this case, CN3 is left unused.

Control board

Connector positions and LED display



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CAUTION

Make sure each reader board is connected correctly. If misconnected, the feeder position settings will be wrong and cause faulty operation.

NOTE

There are two types of ID reader boards: one for 10 feeders and one for 8 feeders. The ID reader board for 8 feeders is used for fixed feeder plates having 16, 24 or 32 feeder set positions.

■ Status display LED

Status display LEDs are located on both sides of the DIP switch (S1) of the control board. You can view these LEDs through the check window (clear, plastic window) of the front cover. These LEDs indicate the following status.

Status display

LED display

LED	Display color	Lighting pattern	Status
LED 1	YELLOW	Quick flashing Cycle: 250ms	Communicating correctly with ID reader board.
		Slow flashing Cycle: 3 sec.	Not communicating correctly with ID reader board.
LED 2	GREEN	ON	Link established with mounter controller.
		OFF	Link not established with mounter controller.
LED 3	GREEN	ON	Power is ON.

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FCC Statement

NOTICE

FCC Part 15 Subpart B Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user s authority to operate the equipment.

FCC Part 15 Subpart C

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.