



Universal Board Specifications

of PWB Corporation

for CloudTesting™ Station

Supplied by Cloud Testing Service, Inc.

Revision 0.32E

PWB Corporation



Index

1. Preface	1
2. About universal board for CloudTesting™ Station.....	1
3. Advantages of PWB universal boards.....	1
3-1. High flexibility to CloudTesting™ Station	1
3-2. Wide universal area	2
3-3. Flexible relay selection and quick connection of preprinted Relay.....	2
3-4. Smooth docking with other verification system	2
4. Specifications.....	3
4-1. Product name of universal board and applicable CX1000	3
4-2. Detail specifications	3
4-2-1. Circuit specification	3
4-2-2. Dimensions	4
4-2-3. Attachment.....	4
5. Photo of universal boards for CX1000	5
5-1. 32ch universal board.....	5
5-2. 128ch universal board.....	6
5-3. 256ch universal board.....	7
7. Cable junction boards	8
7-1. Applications of cable junction board	8
7-2. Common specifications of cable junction board.....	8
7-3. Specifications.....	8
7-4. Other specification	8
8. Photo of cable junction boards	9
8-1. FUNC cable junction board	9
8-2. CONT cable junction board	9
9. Brand name and Trademarks	10

List of Figures

Fig. 1 Small universal board meets to larger CX1000	1
Fig. 2 Large universal board meets to smaller CX1000.....	2
Fig. 3 32ch universal board.....	5
Fig. 4 128ch universal board.....	6
Fig. 5 256ch universal board.....	7
Fig. 6 FUNC cable junction board	9
Fig. 7 CONT cable junction board	9

List of Tables

Table 1 Product name of universal board	3
Table 2 Circuit specification of universal board	3
Table 3 Dimensions of universal board	4
Table 4 Attachment of universal board	4
Table 5 Cable junction board specifications	8



1. Preface

These specifications define the universal boards of PWB Corporation; those are used for CloudTesting™ Station, supplied by Cloud Testing Service, Inc.

2. About universal board for CloudTesting™ Station

Universal boards specified in this document offer you a quick launch of your device testing setup with CloudTesting™ Station. Connectors for CloudTesting™ Station are preinstalled. Universal area offers you the space of DUT and designated circuits for device testing. By connecting signals and powers for the device in this universal area, you can start device testing with CloudTesting™ station.

3. Advantages of PWB universal boards

Universal board supplied by PWB Corporation (herein after PWB) have following advantages for easy preparation and good performance.

3-1. High flexibility to CloudTesting™ Station

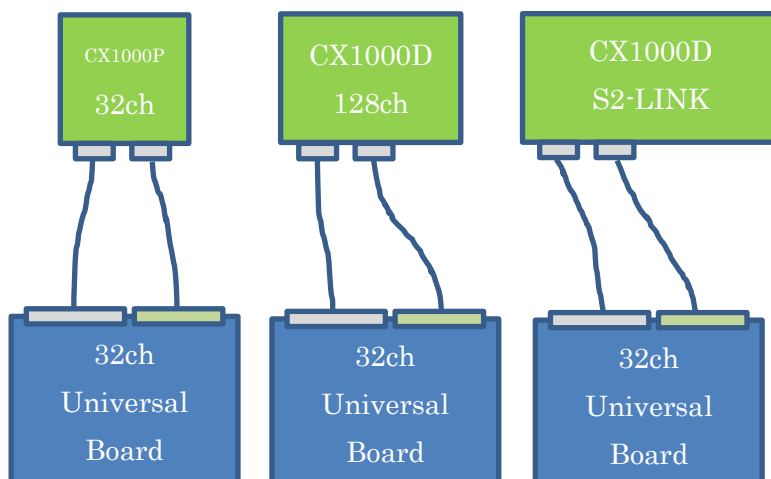
Each FUNC Connectors are same connections on this universal board. And Each CONT connectors are also same connections. This connection on board enable you quite flexible matching with CX1000.

Confirm required spaces for DUT and designated circuits, and select suitable universal board in our products. The universal board is available for testing up to system resources.

Case1) 32ch board is used with CX1000P. 128ch universal board is used with CX1000D and 256ch universal board is used with CX1000D S2-LINK.

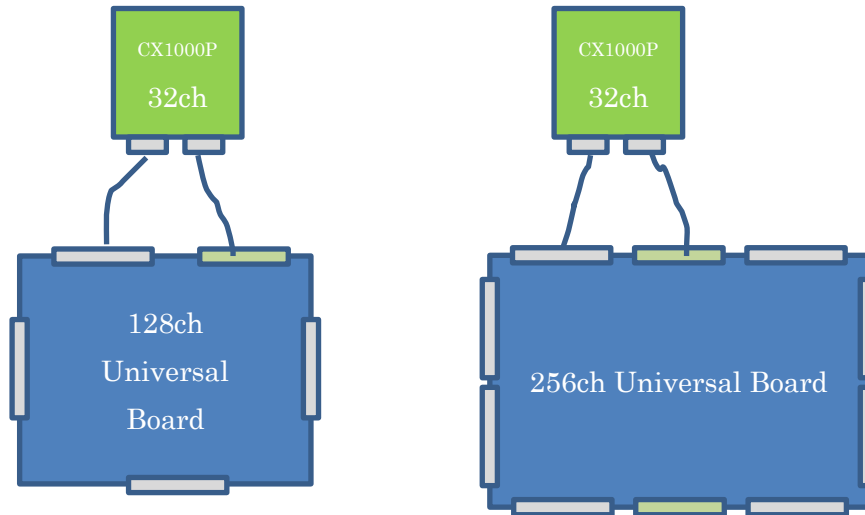
Case2) 32ch universal board is driven by all CX1000 systems when the circuit on board is small enough for 32ch universal board.

Fig. 1 Small universal board meets to larger CX1000



Case 3) For larger circuit (i.e. larger area) is required for device testing, larger universal board such as 128ch or 256ch universal board is available for smaller system, such as CX1000P.

Fig. 2 Large universal board meets to smaller CX1000



3-2. Wide universal area

For easy wiring on universal board, relay circuits and power supply patterns are placed closed to universal area and wide universal area is kept on the universal board. IO channel location is met with device. Incremental number of IO channel is counter clock wise as the numbering of device pin is CCW. Three variety of universal board will support all devices tested on CX1000, with number of IO channels and variety of universal area.

3-3. Flexible relay selection and quick connection of preprinted Relay

Two types of relays are preprinted on universal board. One is conventional mechanical relay (OMRON: G6K-2P-3V) for low contact resistance, and PhotoMOS relay (TOSHIBA: TLP3203) for low drive current. Power supply and control signal of relays are preprinted on universal board. You can start operate just assembling these relay and connect signals. For PhotoMOS relay circuits, coaxial press fit cable enables one touch connection to relays.

3-4. Smooth docking with other verification system

In case of verification system docking, the working distance is limited in many systems such as Emission Microscope, optical micro scopes and so on. As the cable is connected to this universal board from horizontal direction, the height of the setup including universal board can be minimized. Spaces for cables when it is connected in vertical direction, is not necessary to shorten the height of test setup.



4. Specifications

4-1. Product name of universal board and applicable CX1000

Table 1 Product name of universal board

Product name	CloudTesting™ Station
32ch universal board	CX1000P, CX1000D and CX1000D S2-LINK
128ch universal board	CX1000P, CX1000D and CX1000D S2-LINK
256ch universal board	CX1000P, CX1000D and CX1000D S2-LINK

CloudTesting™ Station CX1000 has three different configurations.

Three different universal board products are supplied from PWB, which are listed above.

As mentioned above, these three products are adoptable all CX1000s.

4-2. Detail specifications

4-2-1. Circuit specification

Table 2 Circuit specification of universal board

Universal board	# of FUNC Connectors	# of CONT Connectors	PhotoMOS Relay circuits	Mechanical Relay circuits	Floating Pattern
32ch	1	1	16 CW 16 Transfer	16 CW 32 Transfer	6
128ch	4	1	16 CW 16 Transfer	16 CW 32 Transfer	6
256ch	8	2	32 CW 32 Transfer	32 CW 64 Transfer	8

I/O signal line

Characteristic Impedance 50 Ω

Relay drive current

Relay power supply (PBVCC) in the CX1000 is 500mA. Multi relays works in the range of this supply current.

For the reference, drive currents are around 37mA and 5mA for mechanical relay and PhotoMOS relay.

Relay control signals (Control word: CW)

Relay control signals are preprinted form Control word signal in CONT Connector to mechanical relays and PhotoMOS relays.

(32ch, 128ch: CW0-CW15, 256ch: CW0-CW31)

Power supply for mechanical relays and PhotoMOS relays are also preprinted.

Wiring on universal board

PWB supply coaxial cable set together with universal board products. In this cable set, terminal of coaxial cable are prepared to press fit to through holes at FUNC connector, PhotoMOS relays and universal area as the pitch is 2.54mm. This cable helps you soldering on the board.

Connection to CX1000

Internal wirings of the universal board for FUNC connectors are identical in same connectors. This is also same as CONT connectors. So it is no need to connect all connectors of CX1000, but connect necessary signals for device testing.

Cable extraction

Cables to universal board are connected from side of the board, as all the connectors on universal board are rectangular type.

FUNC connector: Mounted on soldering side of universal board.

CONT connector: Mounted on DUT socket side of universal board.

Floating pattern

For example, the intermediate voltage is generated on floating pattern.



4-2-2. Dimensions

Table 3 Dimensions of universal board

Universal board	Board size (mm)	Universal area(mm)	Hole pitch for pillar(mm)	Hole pitch for daughter board (mm)
32ch	180x155	124.46x86.36	170x130	85x62
128ch	235x190	152.4x88.9	225x165	85x62
256ch	360x230	233.68x96.52	350x220	85x62, 85x62 Spacing:35 mm

Hole pitch for daughter board

This hole pitch is corresponding to Commercial available universal board supplied by Sunhayato Corp. (ICB-93S etc.) <http://www.sunhayato.co.jp/index.php>

4-2-3. Attachment

Table 4 Attachment of universal board

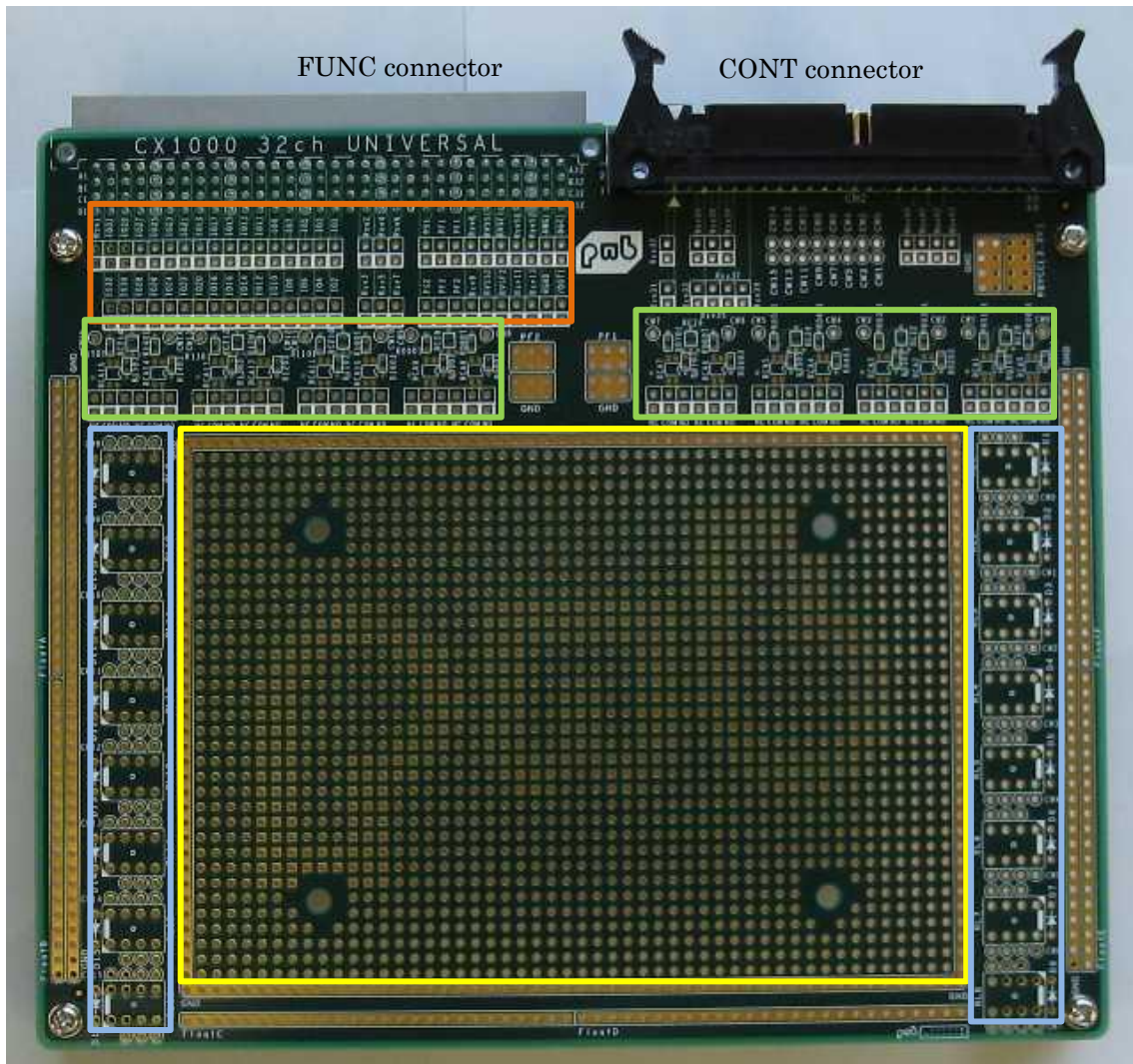
Universal board	Pillar (length:30 mm) with rubber stopper
32ch	4sets
128ch	4sets
256ch	6sets

Pillars are shipped with boards, not assembled. Please install when you need.

5. Photo of universal boards for CX1000

5-1. 32ch universal board

Fig. 3 32ch universal board



Universal Area

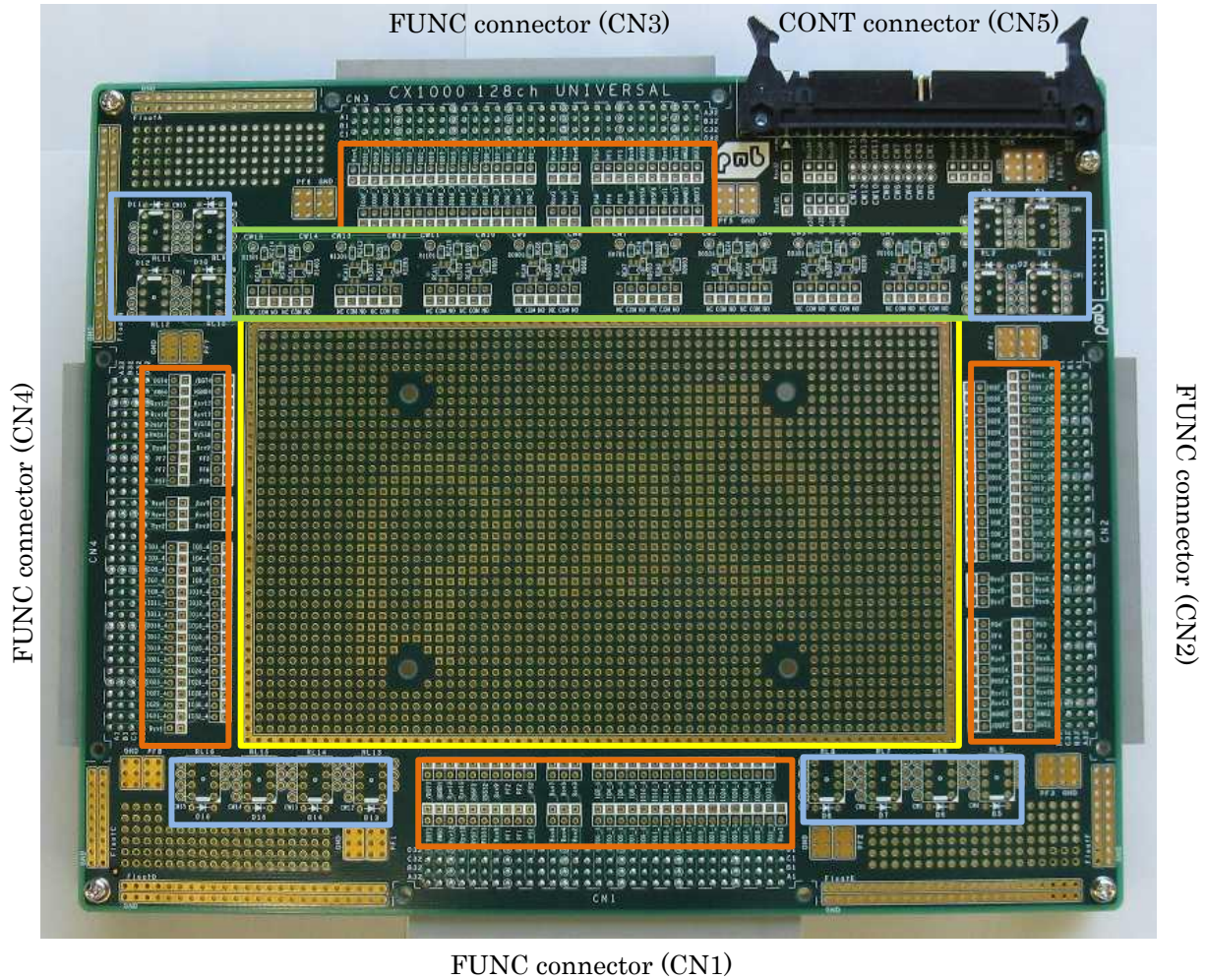
Preprinted PhotoMOS Relay area

FUNC Connector connection area

Preprinted Mechanical Relay area

5-2. 128ch universal board

Fig. 4 128ch universal board



Universal Area

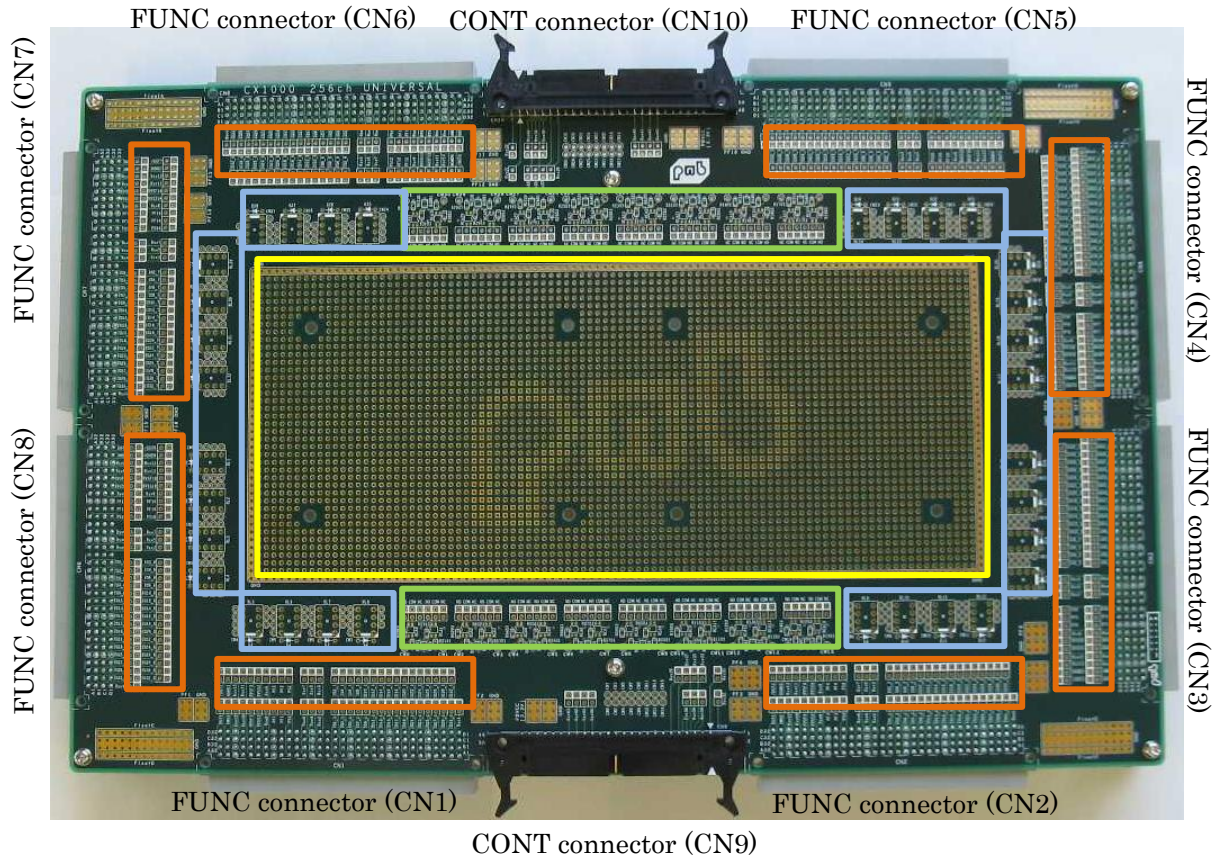
Preprinted PhotoMOS Relay area

FUNC Connector connection area

Preprinted Mechanical Relay area

5-3. 256ch universal board

Fig. 5 256ch universal board



Universal Area

Preprinted PhotoMOS Relay area

FUNC Connector connection area

Preprinted Mechanical Relay area



6. Cable junction boards

Besides of universal board, PWB also supply cable junction boards for FUNC connector and CONT connector.

6-1. Applications of cable junction board

1. Cable junction boards have through holes of all signals in the cables. So signals is supplied from this junction board to test setup, which is prepared not on universal board. In this case, wiring form junction board to test setup is required by customer side.
2. One connector is mounted on cable junction board. On the other side of board, connector area is preprinted. This additional connector enables to extend signals between test setup and CX1000. This cable is not listed as PWB standard products. Please consult your local sales engineer.

6-2. Common specifications of cable junction board

Docking to CX1000

Connector is assembled on cable junction board for docking to CX1000

Signal connection from junction board

Through holes are placed in center of the junction board to extract signals from cables to test setup. These through holes are also meet to coaxial cables of cable set with GND through holes for easy setup.

6-3. Specifications

Product name	Dimension	Hole pitch for pillar (mm)	Mounted connector
FUNC cable junction board	106x56	96	1
CONT cable junction board	88x38	78	1

Table 5 Cable junction board specifications

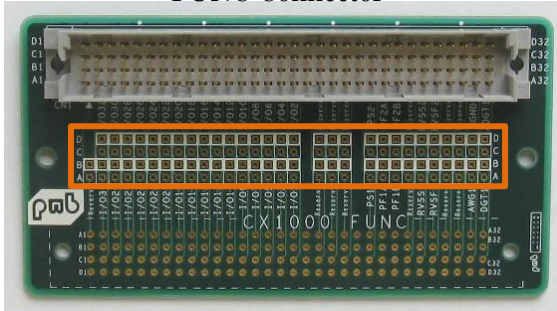
6-4. Other specification

Additional connector is preprinted for cable extraction on each junction board in future use.

7. Photo of cable junction boards

7-1.FUNC cable junction board

FUNC Connector

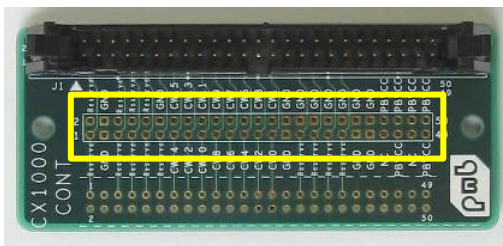


FUNC Connector connection area

Fig. 6 FUNC cable junction board

7-2.CONT cable junction board

CONT Connector



CONT Connector connection area

Fig. 7 CONT cable junction board



8. Brand name and Trademarks

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