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EC990 The Master Display Unit

Case Size:66x15x6.8cm
Display:LED 4"(Color: yellow/green)
Adaptor: Input 100~240VAC
50~60hz
Output: 12DCV/2A
Fundamental Frequency:433.92MHz

EC985: Table Call

Case Size:9x5x2.8cm
Power 12DCV battery
Frequency:433.92MHz

EC988: Table Call With Stand

Case Size:10x52x3cm
Power 12DCV battery
Frequency:433.92MHz
Stand:Many Size Could
be selection

EC981: Answer Call

Case Size:7x3.5x1.5cm
Power 12DCV battery
Frequency:433.92MHz

EC999:Receiver

Case Size: 8.8x6.6x2.6cm
Power: 12DCV By the
master dsplay supply
Transmission:by wire to
the master display

EC995: The Extented Display Unit

Case Size:66x15x6.8cm
Display:LED 4"(Color: yellow/green)
Adaptor: Input 100~240VAC
50~60hz
Output: 12DCV/2A

Index:

A. Introductions:

Table Call Wireless System is a revolutionary product and designed to benefit both customer and restaurant owner:

- Since calling a server is just simply pressing a button on the remote Table Call, which located right at their table, it helps the customers get all the attentions that they deserve and relax when they are visit your establishment.
- The system helps the restaurateurs to increase sales by providing prompt and quick service to the customers and make a faster turn around at your establishment.

Other Features and Benefits:

- **Improve Employees' Productivity**
  Servers will not have to wait around the table while the customer making decision but always know that the customer can reach them whenever they need service. So they can use their time to do something else more productive.
- **Relax Atmosphere**
  No more snapping finger, waving or turn around looking for the server
- **Easy Install and Operate**
  Table Call uses RF technology, which can be easily and quickly installed. System comes with simple and self-explanatory functions (buttons) which easy to operate.
- **Different channels setup in a same restaurant without interference.**
  You can divide the restaurant into different areas (channels), maximum up to 9 channels, depending on the restaurant' s requirements.
- **Plenty of room for expansion**
  In one system, each area could set up to 720 table numbers.

B. General Specifications:

Item	Item No.	Item Name	Description
1	EC990	The master display unit of Table Call Wireless System which receives the signal and show the service request from Table Call and Answer Call	Case Size:66*15*6.8cm Display: LED 4"(Color: yellow/green) Adaptor: Input 100V~240VAC/50HZ~60HZ Output 12DCV/2A Power Input: 12DCV/2A Fundamental Frequency: 433.92MHz With RJ-11 (6P) connector *2
2	EC985 EC988	Table Call: A remote transmitter unit which send table number and service code to master display unit.	Case Size: EC985 - 9*5*2.8cm EC988 - 10.1*5.9*3.05cm Power: 12DCV battery Fundamental Frequency: 433.92MHZ+/- 75khz
3	EC981	Answer Call: A transmitter which sends response to master display unit.	Case Size:7.2*3.6*1.6cm Power: 12DCV battery Fundamental Frequency: 433.92MHZ+/- 75khz
4	EC995	Extended Display: A Display unit as same as the master display without receiver function. It displays the current call via wired through the master display.	Case Size: 66*15*6.8cm Display: LED 4"(Color: yellow/green) Adaptor: Input 100V~240VAC/50~60HZ Output 12DCV/2A Power Input: 12DCV/2A With RJ-11 (6P) connector *2
5	EC999	Receiver: This unit helps to extend the range of the master display to receive signal from Table Call and transmit it to the master by connected wire.	Case Size:8.8*6.6*2.6cm With RJ-11 (6P) connector *2 Power: 12V By the master machine supply.

C. Standard and Optional Equipment:

- **Standard Equipment:**

1. Master Display Unit: (EC990)

Master Machine	x 1 set
Adaptor ACV100V~240V / 12DCV 2A	x 1 set
Antenna	x 1 set
Screw Parts	x 1 pack
User Manual	x 1 set

2. Table Call (EC985, EC988)

Acrylic Base Holder (include PCB)	x 1 set
Acrylic Cover	x 1 set
12V Alkaline Battery	x 1 pc
Rubber Press Bottom	x 1 pc
Screw Parts	x 1 pack
User Manual	x 1 set

3. Answer Call (EC981)

Answer Call with PCB	x 1 set
12V Alkaline Battery	x 1 pc
Holding Chain	x 1 pc

- **Optional Equipment.**

1). Extended Display Unit (EC995)

Extended Display	x 1 set
Adaptor ACV100V~240V / 12DCV 2A	x 1 set
Screw Parts	x 1 pack
User Manual	x 1 set

2). Receiver unit (EC999)

Receiver with PCB	x 1 set
Screw Parts	x 1 pack
Twin adhesive Tape	x 1 pc

D. Installation Instructions.

1.Master Display unit (EC990)

The Master Display unit ship with the default of CH-1. If you need to change the channel, please refer to the channel code setting chapter.

1).Locate the area that you want to hang the Master Display unit, use a sheet of paper to make an imprint of two holes on the back of the Master Display. Balance the paper on the wall where you want to hang the unit. Drawing the holes or screw it directly through the paper. Then, hang the unit.

2).Connect the antenna to the connector located on the left of the Master Display.

3).Adaptor: AC plug in 100~240ACV socket, DC plug in Master Machine.

5). Adjust the Antenna to suitable angle.

6). Choose sound with dip switch (3 alternatives) and adjust the volume to suite with your environment. Please refer to the System Setup chapter.

Note:

Avoid hanging the Master Display unit on a metal wall because most of RF equipment tends to not working well if they are surrounding by metal.

2. Table Call: (EC 985, EC988)

1). Use a small screw driver to open the top of the Table Call
2). Setting Table Number, Area Number, and Channel Number on the Table Call PCB' s DIP Switch (refer to channel and system setting of Table Call).
3). Install the 12V Battery.
4). Put the rubber buttons back on the top cover.
5). Put the top cover back on the Table Call unit and screw it. Make sure it fit tightly.
6). Stick the table number sticker on any where of the table call.
7). Put the Table Call on the table.
8). Notes:

a. Please avoid putting the Table Call on metal material, because most of RF equipment tends to not working well if they are surrounding by metal.
b. Do not clean the Table Call any chemical solution, it will causes Acrylic to produce crack or color change.
c. Insert menu paper into acrylic menu stand clip, Screw it or not (alternative).

3.Extended Display Unit (EC 995)

1).Locate the area that you want to hang the Extended Display unit, use a sheet of paper to make an imprint of two holes on the back of the Extended Display. Balance the paper on the wall where you want to hang the unit. Drawing the holes or screw it directly through the paper. Than, hang the unit.
2).Adaptor: AC plug in 100~240ACV socket, DC plug in Extended Display unit.
3).Connect the wire to the Master Display unit or the Receiver unit using an RJ-11 (plug of 6P4C).
4).3 kinds of notifying sound to be chosen and volume adjustable.

Notes:

a. The maximum of signal length is 500 M from Master Display .
b. All the connection to Master Displays, Extended Display + Receiver cannot be over 14 units.

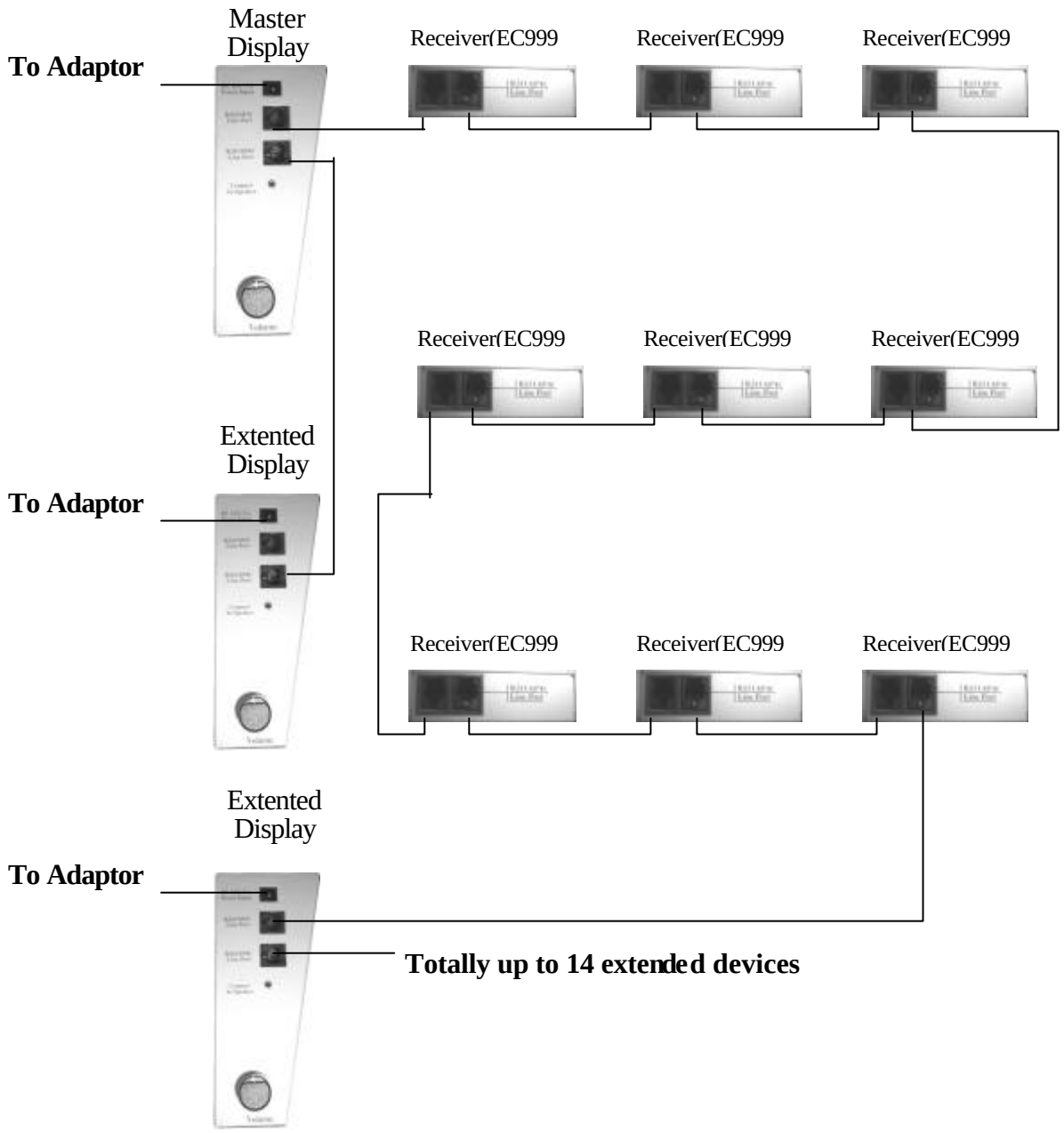
4.Receiver Unit (EC 999):

1). Setup the Receiver' s unit number (refer to the DIP switch setting chapter).
2). Stick with twin adhesive or make the holes with screw on the wall.
3). Connect the antenna and adjust it to suitable position.
4). Wire it to the nearest Master Display, Extended Display or other Receiver by RJ-11 connector.

Notes:

a. For all additional equipment, the total wire length must be within 500M.
b. All the connection to Master Displays, Extended Display + Receiver cannot be over 14 units.

5. Connection Diagram



E . Product Function and Features:

1. The Master Display of Table Call Wireless System (EC990):

- 1 receiver with 4 LED message indicators showing the 1 digit area number, 2 digits table number, and 1 digit service code.
- Every TCWS can manage up to 720 table numbers
- Every TCWS can stores up to 15 message codes in its memory at same time. It cannot receive the second message from a same table until the first message from that table is cleared. This prevents messages from a table fill up the memory.
- When the TCWS received the message from Table Call then indicates message by flashing digits on the indicator. The signal flashing sequence and signal staying time is adjustable by VR"L" & VR"H" (refer to the system setup chapter).
- The TCWS can also notify the restaurant' s staff with sound which volume could be adjusted according to the restaurant' s requirements (3 notifying sounds alternatives, please refer to the system setup chapter).
- The TCWS has 4 relays, which can switch on differently depending on the message codes; which can be used to notify different areas in your restaurants. For example: the Drink button will notify the bartender area while the Bill button will notify the Cashier.
- The TCWS can be operated with rechargeable batteries (optional).
- The TCWS has two RJ-11 connectors, which can connect to Receiver and/or Extended Display unit. Maximum connection is up to 14 units.
- The TCWS has one connector, which can connect to a speaker when user wants the sound at somewhere else.
- If more than 2 sets of TCWS work in same restaurant or same space, need to adjust different channel per set to avoid across interface. TC & AC should be adjusted accordingly as well. There are maximum 9 channels for chosen. (please refer the system setup chapter)

2. Table Call (EC985 , EC988):

- 1 transmitter with 5 buttons and a LED indicator, made from acrylic.
- Functions of the TC buttons:
  1) Order
  2) Drink/Refill
  3) Bill
  4) Service
  5) Cancel
- The TC is acrylic design. User could purchase the menu stand clip additionally to screw it on the back of TC for daily menu changing conveniently.
- When customer keep pressing any button over 5 seconds then it will stop to transmission automatically. This prevents it from continuous sending the signal which blocking other calls because the system was designed to transmit the signal within 5 seconds.
- The TC is a wireless product which makes it so easy to install.
- The TC can be setup to 720 table numbers.

3. AC (Answer Call) (EC 981):

- Allow restaurant' s staff to confirm and remove calls from the Master Display, than, serving the table immediately.
- When pressing the button on the Answer Call it removes the current display message.

4. Extended Display Unit: (EC 995):

- Has the same shape as the Master Display unit but without receiving function.
- Connection with Master Display by wired, the Extended Display unit will receive the signal at the same time when the Master Display received the signal. It displays same service screen as the Master Display.
- The maximum wire length of all connections is 500M, all the connection to Master Displays : Extended Displays + Receivers cannot be over 14 units.

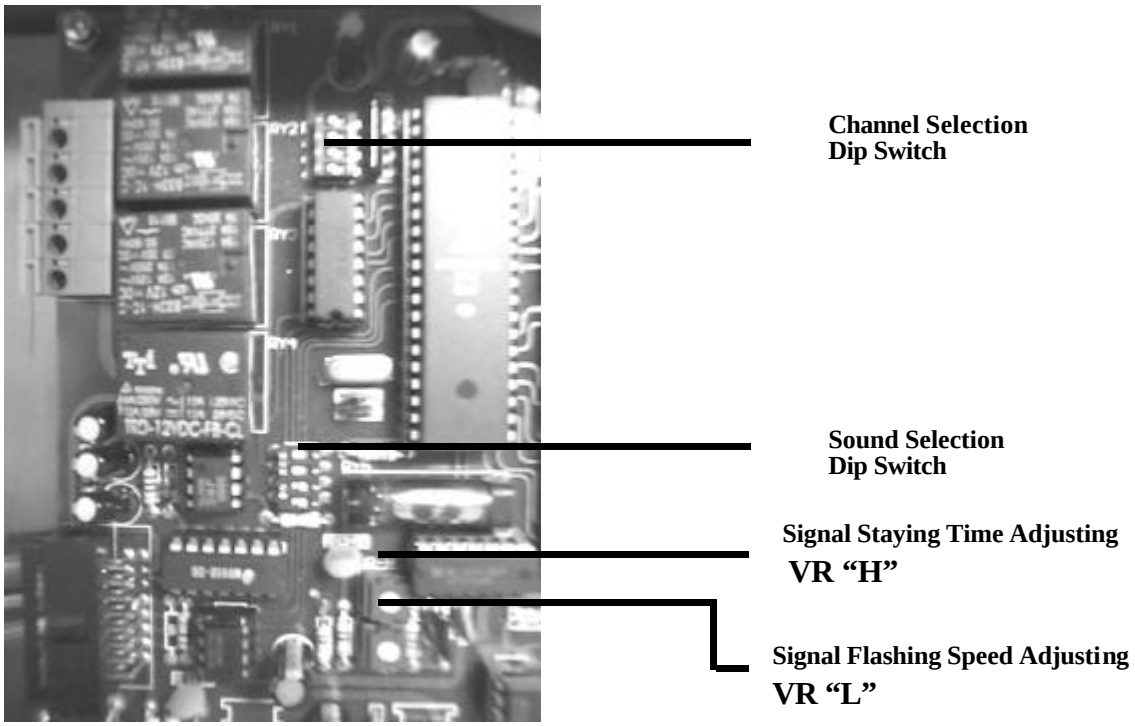
5. Receiver Unit: (EC999):

- Receiver can improve the receiving signal tremendously when it' s installing in a wide spread restaurant, too many different rooms, cross floor or any reason that effecting the receiving signal from the Table Call.
- The power is supplied from Master Display directly, so it does not need a power adapter of itself, which make it convenient to install.
- It main function is to receive the signal from a Table Call or answer call and send back the message to Master Display via connection wire. It can extend the service distance of the Master Display receiving function.
- It comes with 4 LED guide lights: (1. Power 2.Environment Scanned 3. Receiver 4. Transmission)
- The maximum wire length of all connections is 500M, all the connection to Master Displays : Extended Displays + Receivers cannot be over 14 units.

F. System Setup.

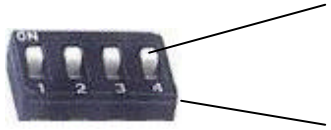
1. Setup for Master Display unit.

Master Display PCB



1) Channel setup

Use a screwdriver to open the cover on back of the Master Display unit. Locate the channel Dip Switch. Master Machine, Table Call and Answer Call must setup at same channel to prevent them from interfering with others when using another TCWS in a same restaurant. Please see the channel code setting list as follows:



1→Turn to up

0→Turn to down

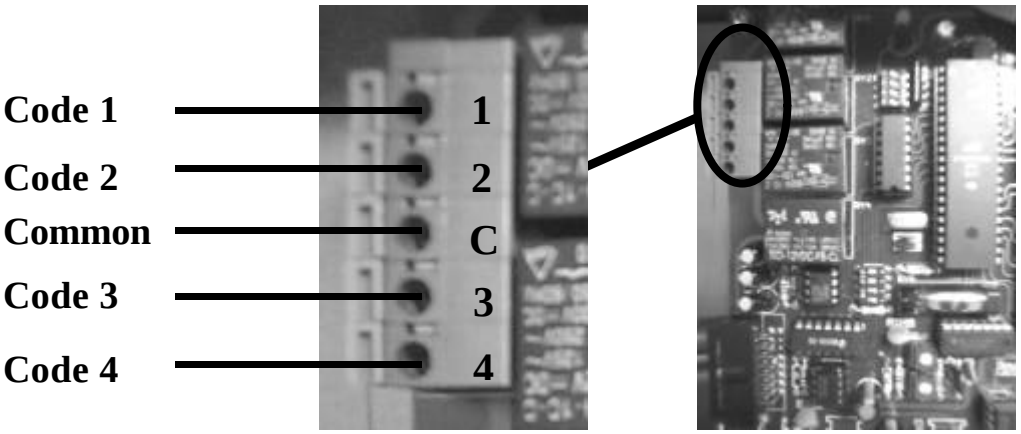
(Channel selection DIP Switch)

DIP / CH	Master Machine 1	2	3	4	DIP / CH	Master Machine 1	2	3	4	DIP / CH	Master Machine 1	2	3	4
1	0	0	0	0	**4**	0	1	0	0	**7**	1	1	0	0
2	0	0	0	1	**5**	0	1	0	1	**8**	1	1	0	1
3	0	0	1	1	**6**	0	1	1	1	**9**	1	1	1	1

2) Sound setup

Use a screwdriver to open the cover on back of the Master Display unit. Select and locate the sound selection Dip Switch up. There are 3 sounds alternative. Switch "1" is for "ding ding sound", Switch "2" is for " ding dong sound", Switch "3" is for "west minister sound".

3) Service code output connect



Max load : 1 Amp

When user tend to transfer every service code to assigned place. This device could according to the flashing code which is indicated on Master Display to connect the contrast code point and the common point for restauranter' s certain conjunction operation.

For example : Code 3 will connect with common ;point immediately when service code "3" is indicated on Master Display.

Note :

a. Sound function won' t work if locate 2 switches on "up" position at the same time.
b. Switch "4" is for service code no. setup, the "up" position is for no. "4" and "down" position is for no. "5". Normally, switch "4" is located on "up" position for service code "4" to get the service code no. in order (from 1~4). Please do not snap switch "4" unless need special order of 1,2,3,5.

3) Adjust Signal Staying Time and Signal Flashing Sequence

Use a screwdriver to open the cover on back of the Master Display unit. Screw and turn VR "H" for signal staying time adjusting and VR "L" for signal flashing sequence.

2. Setup for Table Call:

Use a small screwdriver to open the top cover of Table Call unit, user can adjust the DIP Switch by requirement; total are 8 codes there, 3 positions on each code (2-up position, 1-middle position, 0-down position). Please adjust to according the table number or area number codes that user needs.

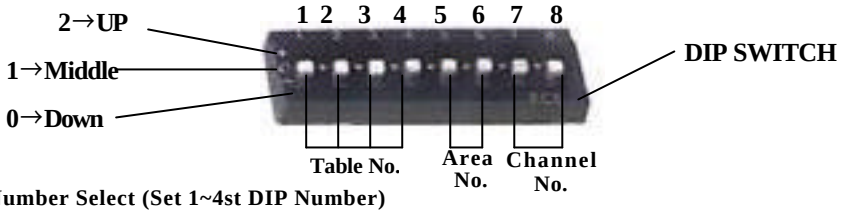


Table Number Select (Set 1~4st DIP Number)

Table No.	DIP Set	Table No.	DIP Set	Table No.	DIP Set	Table No.	DIP Set	Table No.	DIP Set	Table No.	DIP Set	Table No.	DIP Set	Table No.	DIP Set
1	0111	11	2101	21	1021	31	0010	41	2000	51	1220	61	0212	71	2202
2	2111	12	1001	22	0021	32	2010	42	1200	52	0220	62	2212	72	1122
3	1011	13	0001	23	2021	33	1210	43	0200	53	2220	63	1102	73	0122
4	0011	14	2001	24	1221	34	0210	44	2200	54	1112	64	0102	74	2122
5	2011	15	1201	25	0221	35	2210	45	1120	55	0112	65	2102	75	1022
6	1211	16	0201	26	2221	36	1100	46	0120	56	2112	66	1002	76	0022
7	0211	17	2201	27	1110	37	0100	47	2120	57	1012	67	0002	77	2022
8	2211	18	1121	28	0110	38	2100	48	1020	58	0012	68	2002	78	1222
9	1101	19	0121	29	2110	39	1000	49	0020	59	2012	69	1202	79	0222
10	0101	20	2121	30	1010	40	0000	50	2020	60	1212	70	0202	80	2222

Area Number Select
(Set 5~6st DIP Number)

Area No.	DIP Set	Area No	DIP Set	Area No	DIP Set
1	11	4	10	7	12
2	01	5	00	8	02
3	21	6	20	9	22

Channel Number Select
(Set 7~8st DIP Switch)

CH NO	DIP SET	CH NO	DIP SET	CH NO	DIP SET
1	00	4	01	7	02
2	10	5	11	8	12
3	20	6	21	9	22

3.Setup for Answer Call:

(Keep 1~6st DIP Numbers to 0)

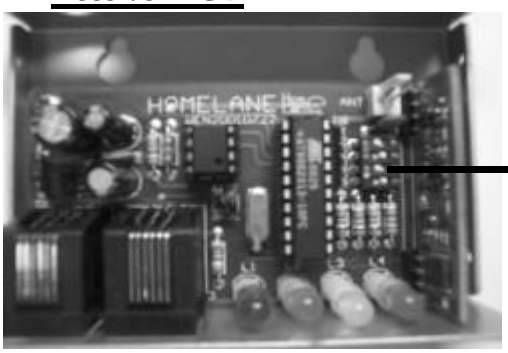
DIP Code	1	2	3	4	5	6
DIP SET	1	1	1	1	2	2

Channel Number Select
(Set 7~8st DIP Switch)

CH NO	DIP SET	CH NO	DIP SET	CH NO	DIP SET
1	00	4	01	7	02
2	10	5	11	8	12
3	20	6	21	9	22

4. Setup for Receiver unit:

Receiver PCB



Address setting Dip Switch

Set up address

Use a screwdriver to open the cover on back of the Receiver unit. Located the address setting dip switch according by requirement; total are 14 codes there, 2 positions on each code (0-down position, 1-up position). Please see the address code setting list as follows:

DIP / Add	Receiver Dip				DIP / Add	Receiver Dip				DIP / Add	Receiver Dip			
	1	**2**	**3**	**4**		**1**	**2**	**3**	**4**		**1**	**2**	**3**	**4**
1	0	0	0	0	**6**	1	0	0	0	**11**	0	1	1	0
2	0	0	0	1	**7**	1	0	0	1	**12**	1	1	0	1
3	0	0	1	1	**8**	1	0	1	1	**13**	1	1	0	0
4	0	1	1	1	**9**	0	1	0	0	**14**	1	1	1	0
5	1	1	1	1	**10**	0	1	0	1					

Note : Every receiver should set one address for discrimination.

5. Set up for Extended Display

Extended display PCB

Address setting Dip Switch

Sound Selection Dip Switch

Signal Flashing Sequence Adjusting

VR " L"

1) Set up address

Use a screwdriver to open the cover on back of the Extended Display unit. Located the address setting dip switch according by requirement; total are 14 codes there, 2 positions on each code (0-down position, 1-up position). The address code setting list is same as Receiver.

2) Sound setup

Use a screwdriver to open the cover on back of the Extended Display unit. Select and locate the sound selection Dip Switch up. There are 3 sounds alternative. Switch "1" is for "ding ding sound", Switch "2" is for " ding dong sound", Switch "3" is for "west minister sound".

Note :

a. Sound function won't work if locate 2 switches on "up" position at the same time.
b. Switch "4" is for service item no. set, the "up" position is for no. "4" and "down" position is for no. "5". Normally, switch "4" is located on "up" position for service no. "4" to get the service item no. in order (from 1~4). Please do not snap switch "4" unless need special order of 1,2,3,5.
c. Every Extended display should set one address for discrimination.

3) Adjust Signal Flashing Sequence

Use a screwdriver to open the cover on back of the Extended Display unit. Screw and turn VR "L" for signal flashing sequence.

G. Operation Guide:

Function:

>>Place TC on every table. Preset the area and number code in advance. Every Master Display could manage up to 720 table numbers (Please read the setup for details.).

>>Functions of the TC buttons:

1) Order
2) Drink/Refill
3) Bill
4) Service
5) Cancel

>>When customers need any help, they could press the relevant button, and the message will be sent to the Master Display. As soon as got the message, the Master Display will indicate message by flashing digits (flashing sequence and stop flashing time are adjustable) on the indicator, showing the area number, table number and message code.

>>There are 3 notifying sounds for alternative and volume could be adjusted according to the restaurant's requirements.

>>When the server sees the message, they press the Answer Call's button for confirmation and advance to the next table call.

>>If other customers press for service at the same time, the Master Display will store the information and display the message in order it has received. After the server pressed the Answer Call's button, Master Display will show the next message in line (stores up to 15 message codes).

>>After the Master Display received the message from the Answer Call, it will stop flashing (stop flashing time is adjustable), and then shows the next message (Holds the message for seconds to allow the servers to confirm the table number).

>>When the server arrives at the table, they can press the Cancel button on the Table Call to remove the message. This is to avoid another server from servicing the same table.

>>The Master Display will only show the message from the same table once, therefore pressing button on the same table for several times there will be of no effect until server press the Cancel button to renew the function for next service call.

>>Difference of cancel button between Answer Call and Table Call –the Answer Calls cancel button confirms and removes the flashing message while the Table Calls cancel button cancels all messages from that table (including those in memory of master machine).

>>The Master Display has 4 relays, which could switch on differently depending on the message codes; which can be used to notify different areas in your restaurants. For example : the Drink button will notify the bartender area while the Bill button will notify the Cashier.

>>The Master Display can be operated with rechargeable batteries (optional).