

# P12 Touch-Interactive Projector Distance and Positioning Calculator

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## Preface

This document provides distance calculation and positioning information for the P12 touch-interactive projector. The distance calculation and positioning information for the pen-interactive and non-interactive P12 models is on a separate document titled “P12 Pen-Interactive Projector Distance Calculator.”

## Introduction

This document enables determining proper wall bracket placement for the several models of P12 projector: WXGA, 16:9, and Ultra-Wide. It is essential to reference the correct table for the projector model and measurement units, millimeters or inches, when placing the wall bracket.

The most critical dimensions are:

- Distance from top of the wall plate to the top of the image (O).
  - Note that complying with the prescribed dimensions will produce a space between the bottom of the laser curtain module and the top of the displayed image.
  - This space is essential for proper touch interactivity.
  - The space is not required for non-interactive or pen-interactive implementations.
- Offset from center – the left edge of the wall bracket must be 0.5 in./13mm to the right of the image center as shown in figure 1 below.

## Mounting Arms

The WallMount-P12U is the wall mount model Boxlight bundles with the P12 Ultra-Wide model because this mount provides the additional arm length required to produce the largest specified diagonal image size.

The WallMount-P12W is the wall mount model bundled with the WXGA and 16:9 model because this mount provides the arm length is sufficient to produce the largest specified diagonal image size.

## Installation process

- Identify the correct version of the “Wall Mount Measurement Chart” below
- Position the wall plate to the wall as shown in Figures 1 below and the appropriate chart
  - Position at the specified height above the top of the projection surface and
  - Position the left edge of the wall bracket offset from the center of the image as shown in Figure 1
- Attach the arm to the wall plate
- Attach the projector to arm
- Alignment
  - Position the projector at the specified distance from the projection surface
  - Adjust focus using the lever at the left edge (the lens side) of projector
  - Adjust physical positioning and alignment as shown in Figures 2 and 3 below



*Step 2 - Vertical, horizontal and size adjustment*

- Adjust the image vertically by turning the hexagon screw head at base of wall bracket.
- Adjust the image horizontally by loosening the screws on the projector bracket to move the projector.
- Adjust the image size by loosening the screws on top of the mounting arm to move the projector.

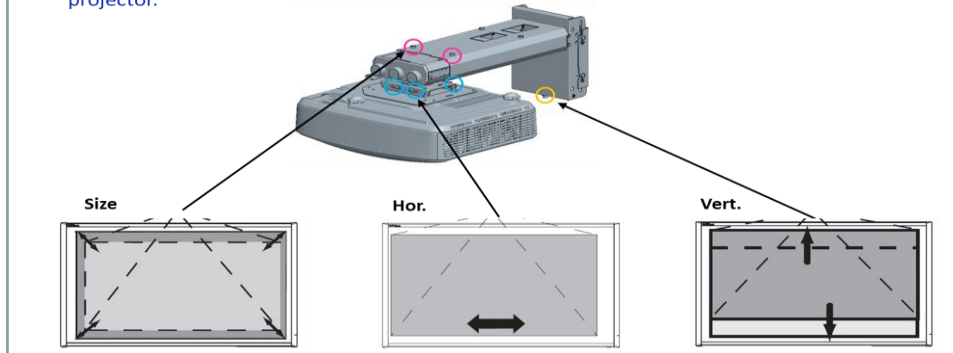


Figure 3



WallMount-P12U



WallMount-P12W

| SPECIFICATIONS            |                                     |
|---------------------------|-------------------------------------|
| Screw Type                | M4                                  |
| Material                  | Steel/Zinc Alloy/Plastic            |
| Dimension(W*H*D)          | 183*230*841.6mm(7.20"x9.06"x33.13") |
| Weight (Net)              | 4.0 (8.82 lbs)                      |
| Swivel                    | +/-5°                               |
| Vertical Tilt             | +/-5°                               |
| Horizontal Tilt           | +/-5°                               |
| Support Max. Weight       | 15kg(33.1lbs)                       |
| Max. Distance To The Wall | 744mm(29.29")                       |
| Horizontal Lateral Move   | +/-40mm(1.57")                      |
| Height Adjustment Range   | +/-38mm(1.50")                      |

|                                     |                                  |                        |
|-------------------------------------|----------------------------------|------------------------|
| Swivel<br>±5°                       | Height Adjustment<br>Range ±38mm | Horizontal Tilt<br>±5° |
| Horizontal Lateral Move<br>+/- 40mm | Cable Management                 | Hinge Module           |
|                                     | Vertical Tilt<br>±5°             |                        |

| SPECIFICATIONS            |                                     |
|---------------------------|-------------------------------------|
| Screw Type                | M4                                  |
| Material                  | Steel/Zinc Alloy/Plastic            |
| Dimension(W*H*D)          | 183*230*697.6mm(7.20"x9.06"x27.46") |
| Weight (Net)              | 3.6 kg (7.94 lbs)                   |
| Swivel                    | +/-5°                               |
| Vertical Tilt             | +/-5°                               |
| Horizontal Tilt           | +/-5°                               |
| Support Max. Weight       | 15kg(33.1lbs)                       |
| Max. Distance To The Wall | 600mm(23.62")                       |
| Horizontal Lateral Move   | +/-40mm(1.57")                      |
| Height Adjustment Range   | +/-38mm(1.50")                      |

|                                     |                                  |                        |
|-------------------------------------|----------------------------------|------------------------|
| Swivel<br>±5°                       | Height Adjustment<br>Range ±38mm | Horizontal Tilt<br>±5° |
| Horizontal Lateral Move<br>+/- 40mm | Cable Management                 | Hinge Module           |
|                                     | Vertical Tilt<br>±5°             |                        |

## Distance Calculator for the P12 Touch Projector

| P12 WXGA (16:10) Wall mount installation measurement chart - inches |                        |                         |   |  |  |   |  |
|---|------------------------|-------------------------|---|--|--|---|--|
| Diagonal image size (S) in inch                                     | Image width (W) in in. | Image height (H) in in. | Distance from surface of whiteboard to center of projector mount (T) in in. | Distance from surface of whiteboard to back of projector (T1) in in. | Distance from top of image to top of wall plate (O) in in. | Distance from top of image to top of interface boss (O1) in in. | Distance from top of image to top of projector (O2) in in. |
| 85  | 72.1                   | 45.0                    | 14.6  | 9.2  | 13.5   | 10.5  | 9.7  |
| 86  | 72.9                   | 45.6                    | 14.8  | 9.4  | 13.5   | 10.6  | 9.8  |
| 87  | 73.8                   | 46.1                    | 15.0  | 9.6  | 13.6   | 10.6  | 9.8  |
| 88  | 74.6                   | 46.7                    | 15.2  | 9.8  | 13.7   | 10.7  | 10.0   |
| 89  | 75.5                   | 47.2                    | 15.5  | 10.1   | 13.8   | 10.8  | 10.0   |
| 90  | 76.3                   | 47.7                    | 15.7  | 10.3   | 13.9   | 10.9  | 10.1   |
| 91  | 77.2                   | 48.2                    | 15.9  | 10.5   | 14.0   | 11.0  | 10.2   |
| 92  | 78.0                   | 48.8                    | 16.1  | 10.7   | 14.1   | 11.1  | 10.3   |
| 93  | 78.9                   | 49.3                    | 16.4  | 11.0   | 14.2   | 11.2  | 10.4   |
| 94  | 79.7                   | 49.8                    | 16.6  | 11.2   | 14.3   | 11.3  | 10.5   |
| 95  | 80.6                   | 50.4                    | 16.8  | 11.4   | 14.4   | 11.4  | 10.6   |
| 96  | 81.4                   | 50.9                    | 17.0  | 11.7   | 14.5   | 11.5  | 10.7   |
| 97  | 82.2                   | 51.4                    | 17.3  | 11.9   | 14.6   | 11.6  | 10.8   |
| 98  | 83.1                   | 51.9                    | 17.5  | 12.1   | 14.7   | 11.7  | 10.9   |
| 99  | 83.9                   | 52.5                    | 17.7  | 12.3   | 14.8   | 11.8  | 11.0   |
| 100   | 84.8                   | 53.0                    | 18.0  | 12.6   | 14.8   | 11.9  | 11.1   |
| 101   | 85.6                   | 53.5                    | 18.1  | 12.8   | 15.0   | 12.0  | 11.2   |
| 102   | 86.5                   | 54.1                    | 18.4  | 13.0   | 15.0   | 12.0  | 11.3   |
| 103   | 87.4                   | 54.6                    | 18.6  | 13.2   | 15.1   | 12.1  | 11.3   |
| 104   | 88.2                   | 55.1                    | 18.9  | 13.5   | 15.2   | 12.2  | 11.5   |
| 105   | 89.1                   | 55.7                    | 19.1  | 13.7   | 15.3   | 12.3  | 11.5   |
| 106   | 89.9                   | 56.2                    | 19.3  | 13.9   | 15.4   | 12.4  | 11.7   |
| 107   | 90.7                   | 56.7                    | 19.5  | 14.1   | 15.5   | 12.5  | 11.7   |
| 108   | 91.6                   | 57.2                    | 19.7  | 14.3   | 15.6   | 12.6  | 11.8   |
| 109   | 92.4                   | 57.8                    | 20.0  | 14.6   | 15.7   | 12.7  | 11.9   |
| 110   | 93.3                   | 58.3                    | 20.2  | 14.8   | 15.8   | 12.8  | 12.0   |
| 111   | 94.1                   | 58.8                    | 20.4  | 15.0   | 15.9   | 12.9  | 12.1   |
| 112   | 95.0                   | 59.4                    | 20.6  | 15.2   | 16.0   | 13.0  | 12.2   |
| 113   | 95.8                   | 59.9                    | 20.9  | 15.5   | 16.1   | 13.1  | 12.3   |
| 114   | 96.7                   | 60.4                    | 21.1  | 15.7   | 16.2   | 13.2  | 12.4   |
| 115   | 97.5                   | 60.9                    | 21.3  | 15.9   | 16.3   | 13.3  | 12.5   |

## Distance Calculator for the P12 Touch Projector

| P12 1080P (16:9) Wall mount installation measurement chart - inches |                        |                         |   |  |  |   |  |
|---|------------------------|-------------------------|---|--|--|---|--|
| Diagonal image size (S) in inch                                     | Image width (W) in in. | Image height (H) in in. | Distance from surface of whiteboard to center of projector mount (T) in in. | Distance from surface of whiteboard to back of projector (T1) in in. | Distance from top of image to top of wall plate (O) in in. | Distance from top of image to top of interface boss (O1) in in. | Distance from top of image to top of projector (O2) in in. |
| 87  | 75.8                   | 42.6                    | 14.6  | 9.2  | 14.3   | 11.3  | 10.6   |
| 88  | 76.7                   | 43.1                    | 14.8  | 9.4  | 14.4   | 11.5  | 10.7   |
| 89  | 77.6                   | 43.6                    | 15.0  | 9.6  | 14.6   | 11.6  | 10.8   |
| 90  | 78.4                   | 44.1                    | 15.2  | 9.8  | 14.6   | 11.7  | 10.9   |
| 91  | 79.3                   | 44.6                    | 15.5  | 10.1   | 14.8   | 11.8  | 11.0   |
| 92  | 80.2                   | 45.1                    | 15.7  | 10.3   | 14.8   | 11.9  | 11.1   |
| 93  | 81.1                   | 45.6                    | 15.9  | 10.5   | 15.0   | 12.0  | 11.2   |
| 94  | 81.9                   | 46.1                    | 16.1  | 10.7   | 15.1   | 12.1  | 11.3   |
| 95  | 82.8                   | 46.6                    | 16.3  | 10.9   | 15.2   | 12.2  | 11.4   |
| 96  | 83.7                   | 47.1                    | 16.6  | 11.2   | 15.3   | 12.3  | 11.5   |
| 97  | 84.5                   | 47.6                    | 16.8  | 11.4   | 15.4   | 12.4  | 11.6   |
| 98  | 85.4                   | 48.0                    | 17.0  | 11.6   | 15.5   | 12.5  | 11.7   |
| 99  | 86.3                   | 48.5                    | 17.2  | 11.8   | 15.6   | 12.6  | 11.8   |
| 100   | 87.2                   | 49.0                    | 17.4  | 12.0   | 15.7   | 12.7  | 11.9   |
| 101   | 88.0                   | 49.5                    | 17.6  | 12.2   | 15.8   | 12.8  | 12.0   |
| 102   | 88.9                   | 50.0                    | 17.9  | 12.5   | 15.9   | 12.9  | 12.1   |

## Distance Calculator for the P12 Touch Projector

| P12 UWHD (16:6) Wall mount installation measurement chart - inches |                        |                         |   |  |  |   |  |
|--|------------------------|-------------------------|---|--|--|---|--|
| Diagonal image size (S) in inch                                    | Image width (W) in in. | Image height (H) in in. | Distance from surface of whiteboard to center of projector mount (T) in in. | Distance from surface of whiteboard to back of projector (T1) in in. | Distance from top of image to top of wall plate (O) in in. | Distance from top of image to top of interface boss (O1) in in. | Distance from top of image to top of projector (O2) in in. |
| 120  | 112.4                  | 42.1                    | 23.8  | 18.4   | 18.2   | 15.2  | 14.4   |
| 121  | 113.3                  | 42.5                    | 24.0  | 18.6   | 18.3   | 15.3  | 14.5   |
| 122  | 114.2                  | 42.8                    | 24.3  | 18.9   | 18.4   | 15.4  | 14.6   |
| 123  | 115.2                  | 43.2                    | 24.5  | 19.1   | 18.5   | 15.5  | 14.7   |
| 124  | 116.1                  | 43.5                    | 24.7  | 19.3   | 18.6   | 15.6  | 14.8   |
| 125  | 117.0                  | 43.9                    | 25.0  | 19.6   | 18.7   | 15.7  | 15.0   |
| 126  | 118.0                  | 44.3                    | 25.2  | 19.8   | 18.8   | 15.8  | 15.0   |
| 127  | 118.9                  | 44.6                    | 25.4  | 20.0   | 18.9   | 15.9  | 15.2   |
| 128  | 119.8                  | 44.9                    | 25.7  | 20.3   | 19.1   | 16.1  | 15.3   |
| 129  | 120.8                  | 45.3                    | 25.9  | 20.5   | 19.1   | 16.1  | 15.4   |
| 130  | 121.7                  | 45.6                    | 26.1  | 20.7   | 19.3   | 16.3  | 15.5   |
| 131  | 122.6                  | 46.0                    | 26.4  | 21.0   | 19.4   | 16.4  | 15.6   |
| 132  | 123.6                  | 46.3                    | 26.6  | 21.2   | 19.4   | 16.5  | 15.7   |
| 133  | 124.5                  | 46.7                    | 26.9  | 21.5   | 19.6   | 16.6  | 15.8   |
| 134  | 125.5                  | 47.0                    | 27.1  | 21.7   | 19.7   | 16.7  | 15.9   |
| 135  | 126.4                  | 47.4                    | 27.3  | 21.9   | 19.8   | 16.8  | 16.0   |
| 136  | 127.3                  | 47.8                    | 27.6  | 22.2   | 19.9   | 16.9  | 16.1   |
| 137  | 128.3                  | 48.1                    | 27.8  | 22.4   | 20.0   | 17.0  | 16.2   |
| 138  | 129.2                  | 48.5                    | 28.0  | 22.6   | 20.1   | 17.1  | 16.3   |
| 139  | 130.2                  | 48.8                    | 28.3  | 22.9   | 20.2   | 17.2  | 16.4   |
| 140  | 131.1                  | 49.2                    | 28.5  | 23.1   | 20.3   | 17.3  | 16.5   |

## Distance Calculator for the P12 Touch Projector

| P12 WXGA (16:10) Wall mount installation measurement chart - mm |                               |                       |                        |  |   |   |  |   |
|---|-------------------------------|-----------------------|------------------------|--|---|---|--|---|
| Diagonal image size (S) in inch                                 | Diagonal image size (S) in mm | Image width (W) in mm | Image height (H) in mm | Distance from surface of whiteboard to center of projector mount (T) in mm | Distance from surface of whiteboard to back of projector (T1) in mm | Distance from top of image to top of wall plate (O) in mm | Distance from top of image to top of interface boss (O1) in mm | Distance from top of image to top of projector (O2) in mm |
| 85  | 2159                          | 1831                  | 1144                   | 370  | 233   | 342   | 266  | 246   |
| 86  | 2184                          | 1852                  | 1158                   | 376  | 239   | 344   | 268  | 248   |
| 87  | 2210                          | 1874                  | 1171                   | 382  | 245   | 346   | 270  | 250   |
| 88  | 2235                          | 1895                  | 1185                   | 387  | 250   | 349   | 273  | 253   |
| 89  | 2261                          | 1917                  | 1198                   | 393  | 256   | 351   | 275  | 255   |
| 90  | 2286                          | 1939                  | 1212                   | 399  | 262   | 353   | 277  | 257   |
| 91  | 2311                          | 1960                  | 1225                   | 404  | 267   | 356   | 280  | 260   |
| 92  | 2337                          | 1982                  | 1239                   | 410  | 273   | 358   | 282  | 262   |
| 93  | 2362                          | 2003                  | 1252                   | 416  | 279   | 361   | 285  | 265   |
| 94  | 2388                          | 2025                  | 1265                   | 422  | 285   | 363   | 287  | 267   |
| 95  | 2413                          | 2046                  | 1279                   | 427  | 290   | 365   | 289  | 269   |
| 96  | 2438                          | 2068                  | 1292                   | 433  | 296   | 368   | 292  | 272   |
| 97  | 2464                          | 2089                  | 1306                   | 439  | 302   | 370   | 294  | 274   |
| 98  | 2489                          | 2111                  | 1319                   | 444  | 307   | 373   | 297  | 277   |
| 99  | 2515                          | 2132                  | 1333                   | 450  | 313   | 375   | 299  | 279   |
| 100   | 2540                          | 2154                  | 1346                   | 456  | 319   | 377   | 301  | 281   |
| 101   | 2565                          | 2175                  | 1360                   | 461  | 324   | 380   | 304  | 284   |
| 102   | 2591                          | 2197                  | 1373                   | 467  | 330   | 382   | 306  | 286   |
| 103   | 2616                          | 2219                  | 1387                   | 473  | 336   | 384   | 308  | 288   |
| 104   | 2642                          | 2240                  | 1400                   | 479  | 342   | 387   | 311  | 291   |
| 105   | 2667                          | 2262                  | 1414                   | 484  | 347   | 389   | 313  | 293   |
| 106   | 2692                          | 2283                  | 1427                   | 490  | 353   | 392   | 316  | 296   |
| 107   | 2718                          | 2305                  | 1440                   | 496  | 359   | 394   | 318  | 298   |
| 108   | 2743                          | 2326                  | 1454                   | 501  | 364   | 396   | 320  | 300   |
| 109   | 2769                          | 2348                  | 1467                   | 507  | 370   | 399   | 323  | 303   |
| 110   | 2794                          | 2369                  | 1481                   | 513  | 376   | 401   | 325  | 305   |
| 111   | 2819                          | 2391                  | 1494                   | 519  | 382   | 403   | 327  | 307   |
| 112   | 2845                          | 2412                  | 1508                   | 524  | 387   | 406   | 330  | 310   |
| 113   | 2870                          | 2434                  | 1521                   | 530  | 393   | 408   | 332  | 312   |
| 114   | 2896                          | 2455                  | 1535                   | 536  | 399   | 411   | 335  | 315   |
| 115   | 2921                          | 2477                  | 1548                   | 541  | 404   | 413   | 337  | 317   |

## Distance Calculator for the P12 Touch Projector

| P12 1080P (16:9) Wall mount installation measurement chart - mm |                               |                       |                        |  |   |   |  |   |
|---|-------------------------------|-----------------------|------------------------|--|---|---|--|---|
| Diagonal image size (S) in inch                                 | Diagonal image size (S) in mm | Image width (W) in mm | Image height (H) in mm | Distance from surface of whiteboard to center of projector mount (T) in mm | Distance from surface of whiteboard to back of projector (T1) in mm | Distance from top of image to top of wall plate (O) in mm | Distance from top of image to top of interface boss (O1) in mm | Distance from top of image to top of projector (O2) in mm |
| 87  | 2210                          | 1926                  | 1083                   | 370  | 233   | 364   | 288  | 268   |
| 88  | 2235                          | 1948                  | 1096                   | 376  | 239   | 367   | 291  | 271   |
| 89  | 2261                          | 1970                  | 1108                   | 382  | 245   | 370   | 294  | 274   |
| 90  | 2286                          | 1992                  | 1121                   | 387  | 250   | 372   | 296  | 276   |
| 91  | 2311                          | 2015                  | 1133                   | 393  | 256   | 375   | 299  | 279   |
| 92  | 2337                          | 2037                  | 1146                   | 398  | 261   | 377   | 301  | 281   |
| 93  | 2362                          | 2059                  | 1158                   | 404  | 267   | 380   | 304  | 284   |
| 94  | 2388                          | 2081                  | 1171                   | 409  | 272   | 383   | 307  | 287   |
| 95  | 2413                          | 2103                  | 1183                   | 415  | 278   | 385   | 309  | 289   |
| 96  | 2438                          | 2125                  | 1196                   | 421  | 284   | 388   | 312  | 292   |
| 97  | 2464                          | 2147                  | 1208                   | 426  | 289   | 390   | 314  | 294   |
| 98  | 2489                          | 2170                  | 1220                   | 432  | 295   | 393   | 317  | 297   |
| 99  | 2515                          | 2192                  | 1233                   | 437  | 300   | 396   | 320  | 300   |
| 100   | 2540                          | 2214                  | 1245                   | 443  | 306   | 398   | 322  | 302   |
| 101   | 2565                          | 2236                  | 1258                   | 448  | 311   | 401   | 325  | 305   |
| 102   | 2591                          | 2258                  | 1270                   | 454  | 317   | 403   | 327  | 307   |



## Distance Calculator for the P12 Touch Projector

| P12 UWHD (16:6) Wall mount installation measurement chart - mm |                               |                       |                        |  |   |   |  |   |
|--|-------------------------------|-----------------------|------------------------|--|---|---|--|---|
| Diagonal image size (S) in inch                                | Diagonal image size (S) in mm | Image width (W) in mm | Image height (H) in mm | Distance from surface of whiteboard to center of projector mount (T) in mm | Distance from surface of whiteboard to back of projector (T1) in mm | Distance from top of image to top of wall plate (O) in mm | Distance from top of image to top of interface boss (O1) in mm | Distance from top of image to top of projector (O2) in mm |
| 120  | 3048                          | 2854                  | 1070                   | 604  | 467   | 462   | 386  | 366   |
| 121  | 3073                          | 2878                  | 1079                   | 610  | 473   | 465   | 389  | 369   |
| 122  | 3099                          | 2901                  | 1088                   | 616  | 479   | 467   | 391  | 371   |
| 123  | 3124                          | 2925                  | 1097                   | 622  | 485   | 470   | 394  | 374   |
| 124  | 3150                          | 2949                  | 1106                   | 628  | 491   | 473   | 397  | 377   |
| 125  | 3175                          | 2973                  | 1115                   | 634  | 497   | 476   | 400  | 380   |
| 126  | 3200                          | 2997                  | 1124                   | 640  | 503   | 478   | 402  | 382   |
| 127  | 3226                          | 3020                  | 1133                   | 646  | 509   | 481   | 405  | 385   |
| 128  | 3251                          | 3044                  | 1141                   | 652  | 515   | 484   | 408  | 388   |
| 129  | 3277                          | 3068                  | 1150                   | 658  | 521   | 486   | 410  | 390   |
| 130  | 3302                          | 3092                  | 1159                   | 664  | 527   | 489   | 413  | 393   |
| 131  | 3327                          | 3115                  | 1168                   | 670  | 533   | 492   | 416  | 396   |
| 132  | 3353                          | 3139                  | 1177                   | 676  | 539   | 494   | 418  | 398   |
| 133  | 3378                          | 3163                  | 1186                   | 682  | 545   | 497   | 421  | 401   |
| 134  | 3404                          | 3187                  | 1195                   | 688  | 551   | 500   | 424  | 404   |
| 135  | 3429                          | 3211                  | 1204                   | 694  | 557   | 502   | 426  | 406   |
| 136  | 3454                          | 3234                  | 1213                   | 700  | 563   | 505   | 429  | 409   |
| 137  | 3480                          | 3258                  | 1222                   | 706  | 569   | 508   | 432  | 412   |
| 138  | 3505                          | 3282                  | 1231                   | 712  | 575   | 511   | 435  | 415   |
| 139  | 3531                          | 3306                  | 1240                   | 718  | 581   | 513   | 437  | 417   |
| 140  | 3556                          | 3329                  | 1249                   | 724  | 587   | 516   | 440  | 420   |

END